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Hitachi Compute Blade 500 Series
System Service Manual

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Hitachi Data Systems

MK-91CB500004-30

Contents

Preface

This document describes how to use the Compute Blade 500 series.

This preface includes the following information:

Notice: The use of Compute Blade 500 series and all other Hitachi Data Systems products is governed by the terms of your agreement(s) with Hitachi Data Systems.

Safety Symbols

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.
 Note	Note	This indicates notes not directly related to injury or severe damage to equipment.
 Tip	Tip	This indicates advice on how to make the best use of the equipment.
	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, and fully understand, the following safety instructions:

- When operating the equipment, follow the instructions and procedures 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 cords

Always use the power cords shipped with the equipment, and follow the instructions below: Failure to follow the correct handling practices lead to damaging the power cords 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 cords.
- Do not use the power cords near heat-generating appliances.
- Do not heat the power cords.
- Do not bundle the power cords.
- Do not subject the power cords to ultraviolet or strong visible light continuously.
- Keep the power cords from contact with alkali, acid, fat and oil, or humidity.
- Do not use the power cords in a high-temperature environment.
- Do not use the power cords above their specified rating.
- Do not use the power cords 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 cords.

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 module, do not insert your hand or tool inside the power slot. After removing a power supply module, 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 cords of the equipment (maximum of 4) from the electrical outlets.

 Removal of the cover or bracket

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


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 module.


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.


High temperature at the 10GBASE-R transceiver

The 10GBASE-R transceiver in the 10Gb LAN switch module gets hot in operation. To remove the transceiver, therefore, allow at least approximately 5 minutes after the power supply for the 10Gb LAN switch module is turned off from the management module. Failure to do so can cause you to 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.


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.

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.

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.

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 workbench. A heavy object placed on top of the system unit on the cabinet may fall, resulting in injury.

Locking the rail into place

Be sure to pull out the equipment until it locks into place. If not, the equipment may move unexpectedly, which causes you to get injured such as your finger caught in the gap.

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

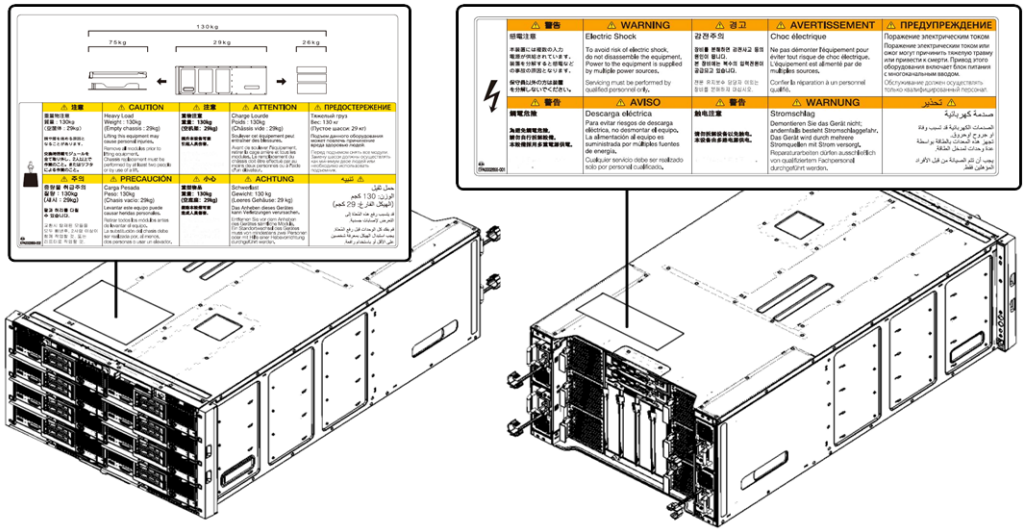
  Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing

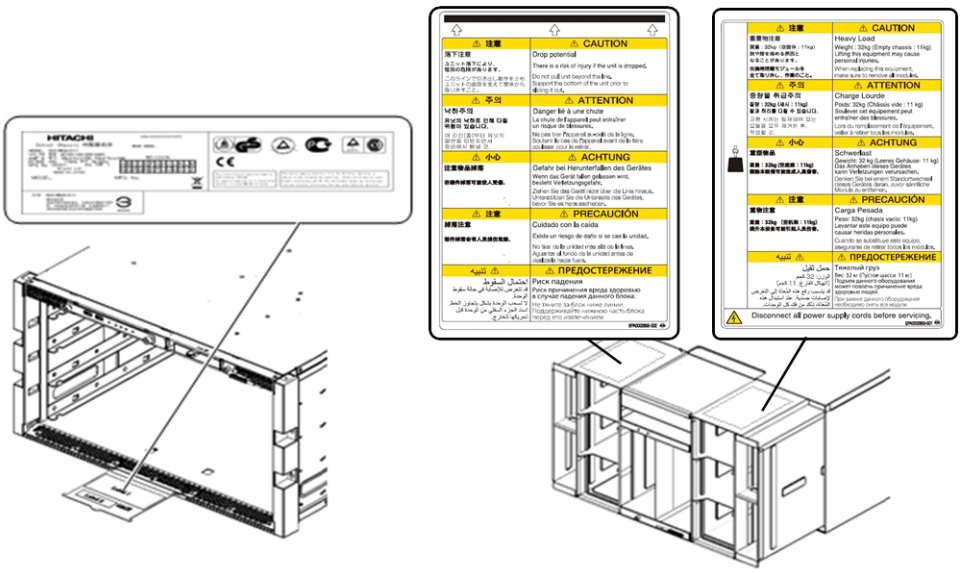
  Reliable earthing of rack-mounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Safety and warning labels

Server chassis

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

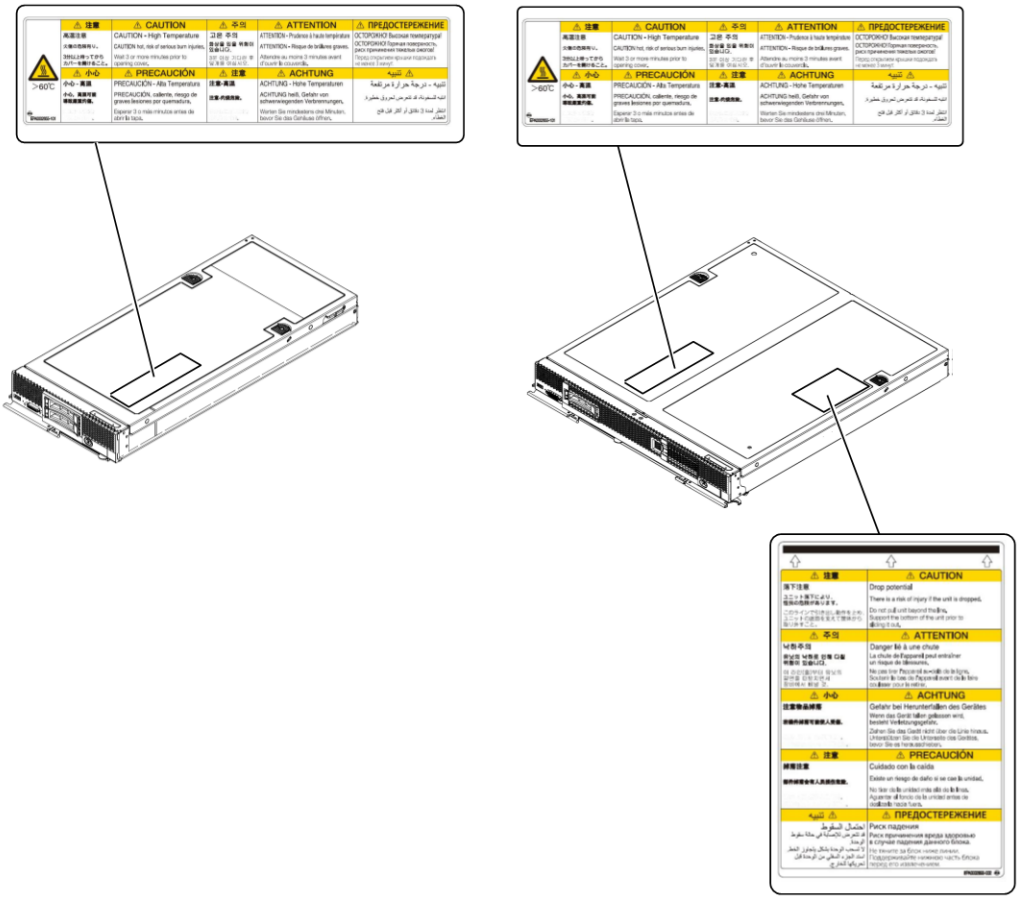




Server blade

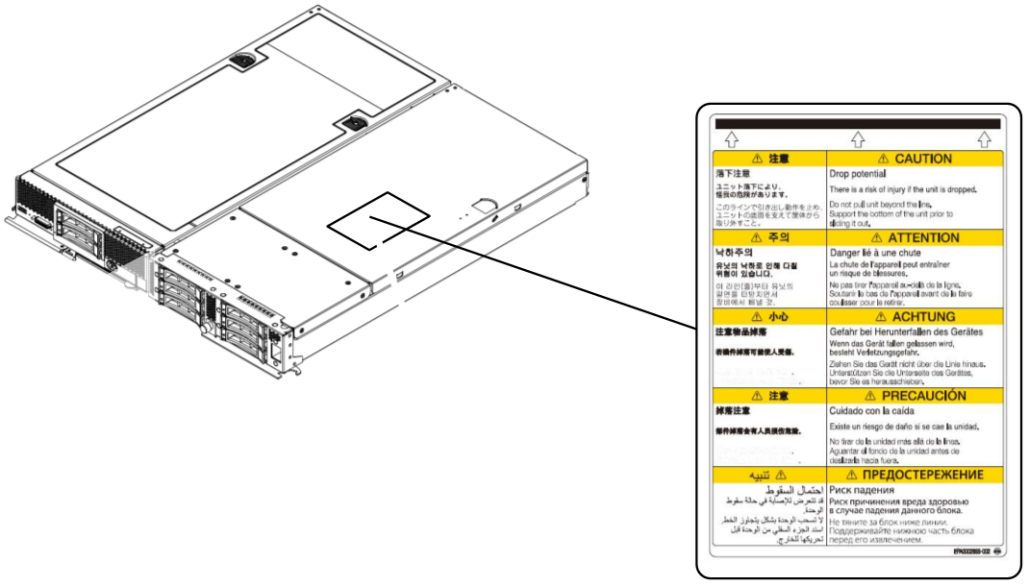
The following figures show the location and content of the safety and warning label on the server blade.

Half-wide server blade / Full-wide server blade

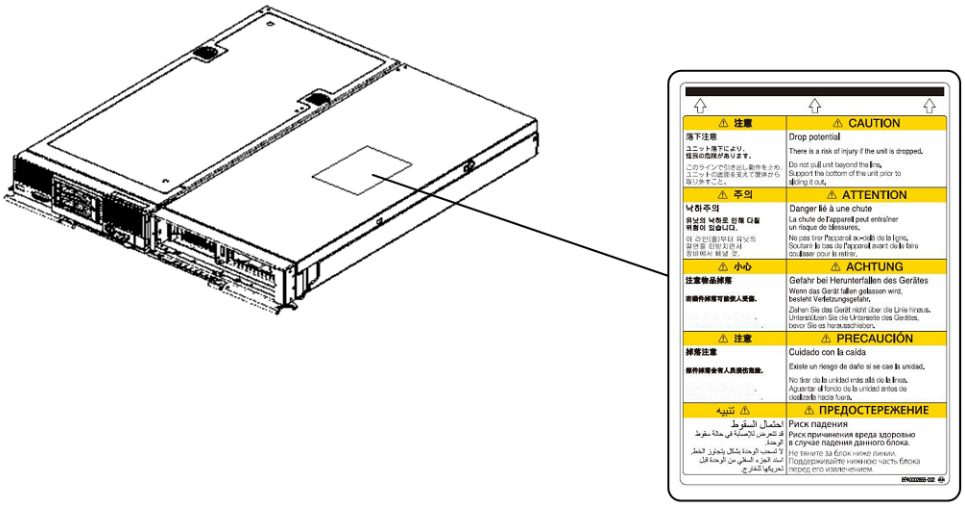


The following shows the location and content of the safety and warning label on the expansion blade.

Storage expansion blade



PCI expansion 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 CB 520X 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
Chapter 1, Introduction	Describes the overview of user maintenance and troubleshooting tasks for the Hitachi Compute Blade 500 Series.
Chapter 2, Replaceable parts	Describes the replaceable parts for Hitachi Compute Blade 500 Series.
Chapter 3, Basic knowledge for replacement	Describes how to verify a failed part and how to order a failed part.
Chapter 4, Common process for replacement	Describes the common processes before replacing part.
Chapter 5, Replacing parts	Describes how to remove and install parts on the Hitachi Compute Blade 500 Series.
Chapter 6, Identifying RAID rebuild status	Describes how to confirm the rebuild progress after HDD replacement.
Chapter 7, Configuring Emulex mezzanine card	Describes how to configure Emulex mezzanine card after replacement.
Chapter 8, Diagnosing server blade	Describes how to diagnosing the server blade.
Chapter 9, Updating firmware	Describes how to update firmware.
Chapter 10, Change LOM configuration	Describes how to change LOM configuration.
Chapter 11, Troubleshooting	Describes how to troubleshoot the Hitachi Compute Blade 500 Series.

Document conventions

This 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
Italic	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 output, user input
< > (angle brackets)	Variable (used when italic is not enough to identify variable)
[ ] (square brackets)	Optional value
{ } (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.
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	This indicates notes not directly related to injury or severe damage to equipment.
Tip	Tip	This indicates advice on how to make the best use of the equipment.

Getting help

If you purchased this product from an authorized HDS reseller, contact that reseller for support. For the name of your nearest HDS authorized reseller, refer to the HDS support web site for locations and contact information. To

contact the Hitachi Data Systems Support Center, please visit the HDS website for current telephone numbers and other contact information: http://support.hds.com.

Before calling the Hitachi Data Systems Support Center, please provide as much information about the problem as possible, including:

- The circumstances surrounding the error or failure.
- The exact content of any error message(s) displayed on the host system(s).

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 Corporation.

Thank you!

1

Introduction

This chapter provides an overview of user maintenance and troubleshooting tasks for the Hitachi Compute Blade system. This chapter covers the following key topics:

- ☐ User replacement guidelines
- ☐ User maintenance tasks
- ☐ When a failure occurs
- ☐ System overview
- ☐ Server blade
- ☐ Location
- ☐ Hot-swappable components
- ☐ Indicators and connectors
- ☐ Color code for maintenance

User replacement guidelines

The Hitachi Compute Blade system is designed with many customer replaceable units (CRUs) to allow for greater flexibility in performing defective parts replacement. However, you should consult with Hitachi Data Systems Support about the failed parts before replacement. After consultation, Hitachi Data Systems Support will ship the spare part directly to you for replacement.

Each module contains several LEDs that light when certain problems occur, making it easy for users to quickly find the source of these problems. The LEDs are described in this chapter. In addition, the web console generates system messages that identify the failed parts and notifies users the procedures that should be performed to keep the performance. The web console can be configured to send E-mail messages to specified email addresses, notifying users of failed parts or reminding them of scheduled tasks. You can order and install the parts or perform the procedures.

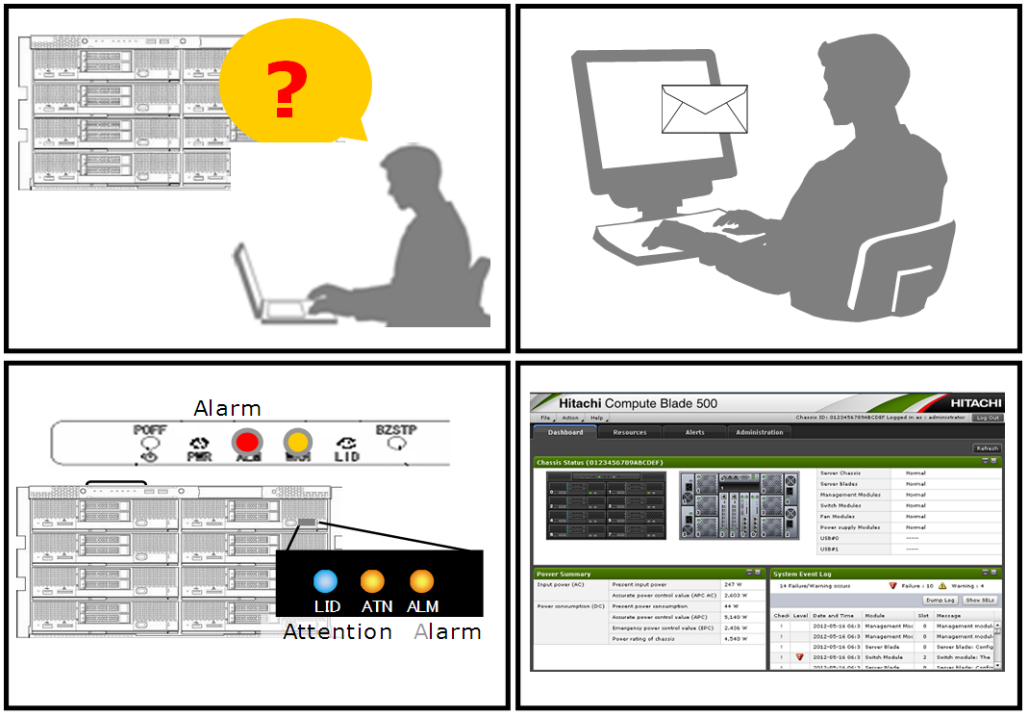


Figure 1-1 Identifying a failed part

User maintenance tasks

The maintenance tasks described in this manual follow the Hitachi Data Systems Customer Support program.

- The Hitachi Data Systems self-service program allows users to perform allowable installation and configuration tasks and maintenance tasks on the Hitachi Compute Blade System.

When a failure occurs

The following is an overview of the maintenance tasks you can perform when a failure occurs on your system.

1. Failure detection in the subsystem. (1)
2. Failure notification (E-mail, SNMP, LED). (2)
3. Determining the failed parts using the web console. (3)
4. Contacting Hitachi Data Systems Technical Support and ordering the parts. (4)
5. Replacing the parts after the spare parts arrive and checking the recovery from the failure. (5), (6)
6. Return the replaced parts (7).

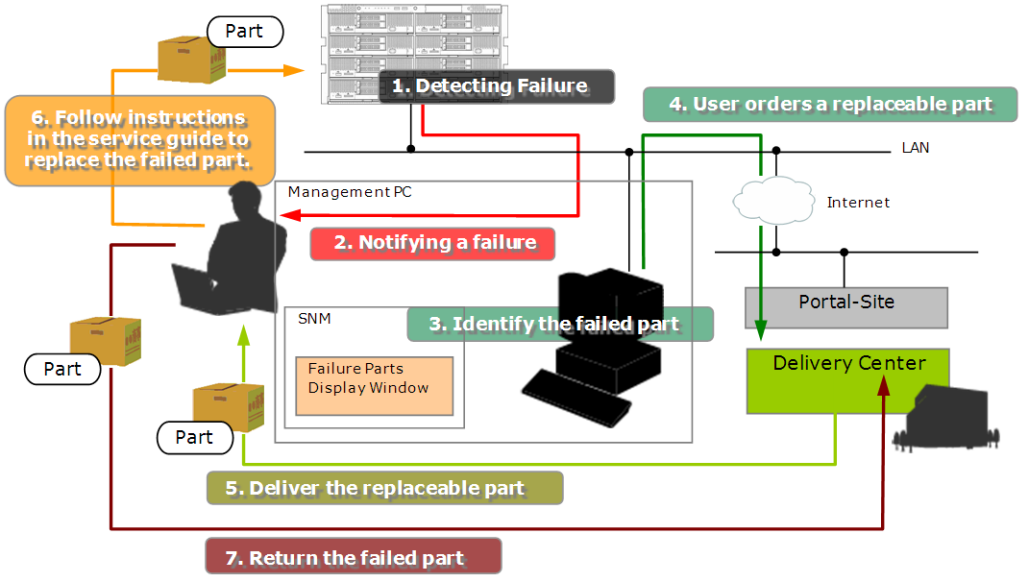


Figure 1-2 User maintenance process

System overview

The Hitachi Compute Blade 500 series system can contain up to eight server blades and four switch modules. Compared with a 1U server chassis that contains a rack mount network switch and a FC switch, the 6U height Hitachi Compute Blade 500 server chassis offers improved features such as less space, fewer cables, and decreased weight. The system has the ability for replacing existing PC server systems, consolidating servers, and for operating servers in a data center. Suitable switch modules can be selected from the available interfaces according to the customer demands. The management modules, switch modules, power supply modules, and cooling fan modules provide a redundant configuration. The system can continue to operate because of the redundant configuration even if one of the modules experiences a failure.

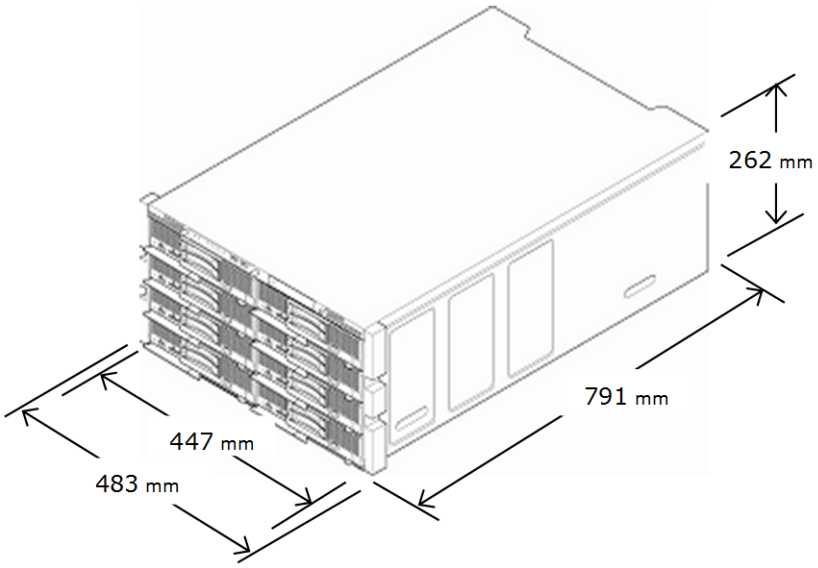


Figure 1-3 Server chassis overview

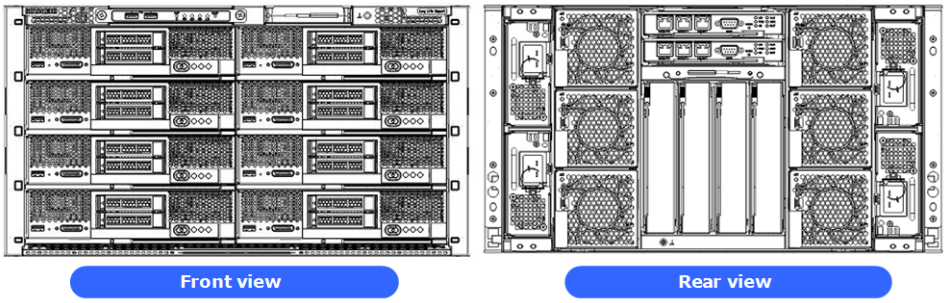


Figure 1-4 Front/rear view of server chassis

Server blade

The CB 500 server blade offers the following key features:

- High-performance Intel multi-core processor with QPI technology for high-throughput and low-latency.
- High operability through the high- reliability, availability, and serviceability features of processor, memory, and HDD, such as memory scrubbing (self-error-correcting), memory mirroring function (memory duplication), and integrated Hardware RAID 1.
- High density, high performance optimized for enterprise data center, virtualization, high-speed computing, and flexible IO capability.

A server blade contains processors, memory, HDDs, and other components, and is available in either one of four form factors: the "Half-wide server blade", "Full-wide server blade", "Storage expansion blade" for HDD, and "PCI expansion blade" for PCIe card, expanded with a "Half-wide blade".

Table 1-1 Form factor and model names

Form factor	Model Name	Number of processors	Size (W x D x H: mm)	Available
Half-wide blade	CB 520A A1 (Standard model) CB 520H A1/B1/B2/B3 / B4(High-end model)	2	215.4 x 492.7 x 51.1	Yes
Full-wide blade	CB 540A A1/B1	4	435.3 x 492.7 x 55.5	Yes
	CB 520X B1/B2/B3	2		
Expansion blade	Storage expansion blade	0	435.3 x 492.7 x 55.5	Yes
	PCI expansion blade	0	215.4 x 492.7 x 55.5	Yes

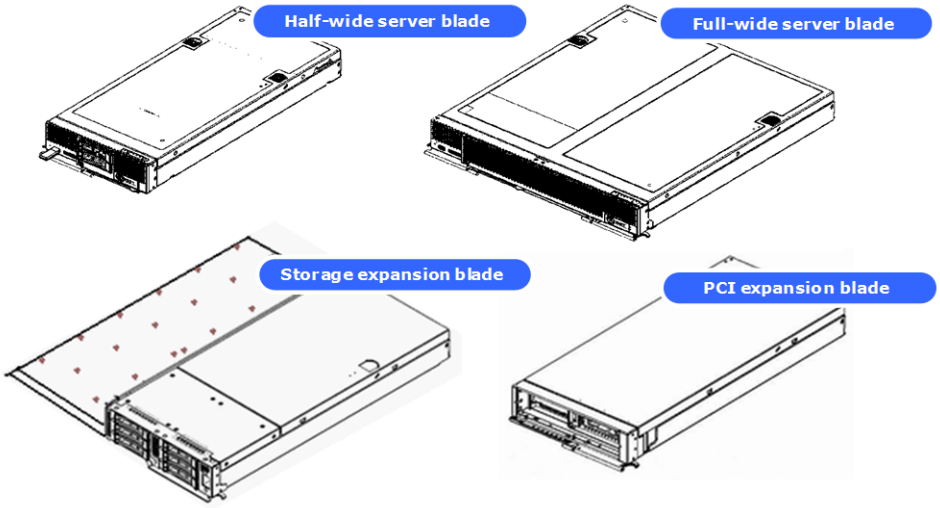


Figure 1-5 Server blades

Location

Server blade numbering

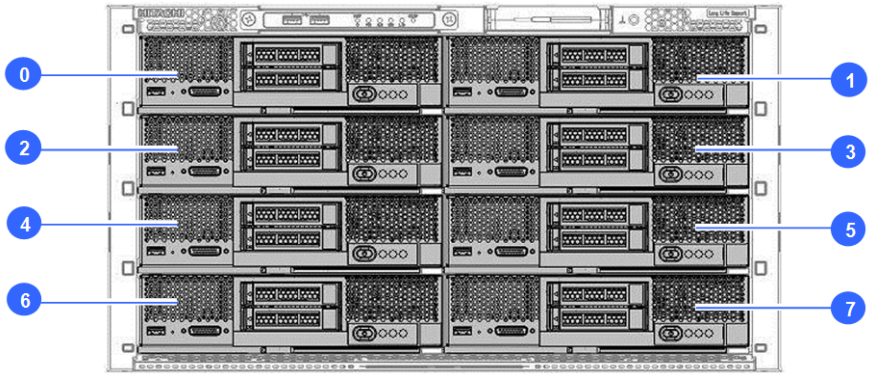


Figure 1-6 Blade location in server chassis

Table 1-2 Location of installable blades

Symbol	Component	Symbol	Component
0	Server blade #0	4	Server blade #4
1	Server blade #1	5	Server blade #5
2	Server blade #2	6	Server blade #6
3	Server blade #3	7	Server blade #7

Management module numbering

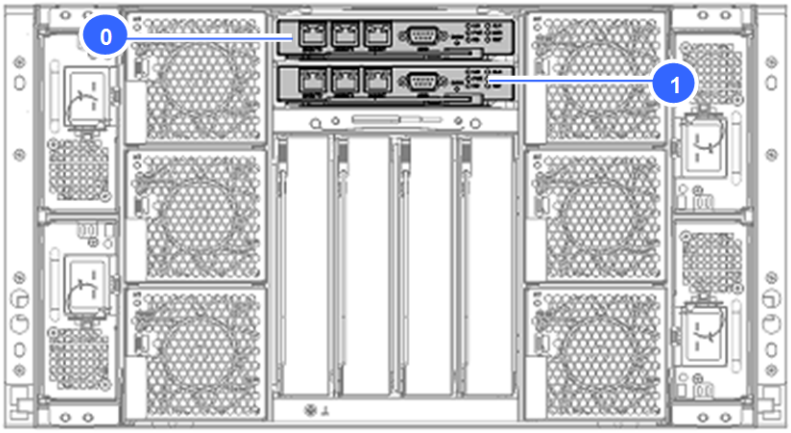


Figure 1-7 Location in server chassis

Table 1-3 Location of installable components

Symbol	Component
0	Management module #0

Symbol	Component
1	Management module #1

Switch module numbering

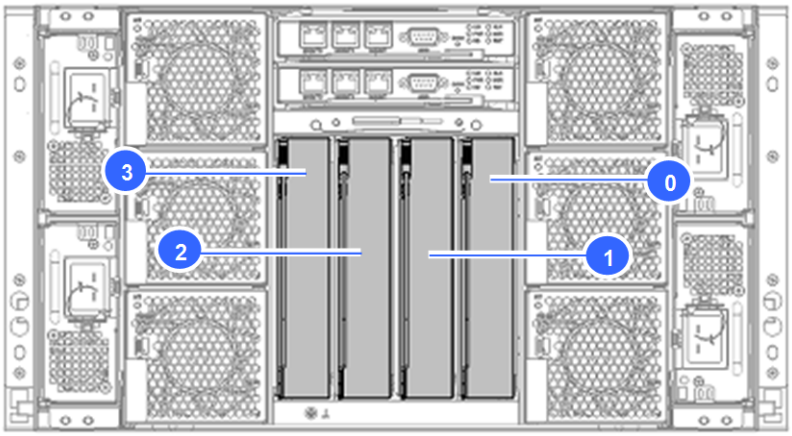


Figure 1-8 Location in server chassis

Table 1-4 Location of installable components

Symbol	Component	Symbol	Component
0	Switch module #0	2	Switch module #2
1	Switch module #1	3	Switch module #3

Power supply module numbering

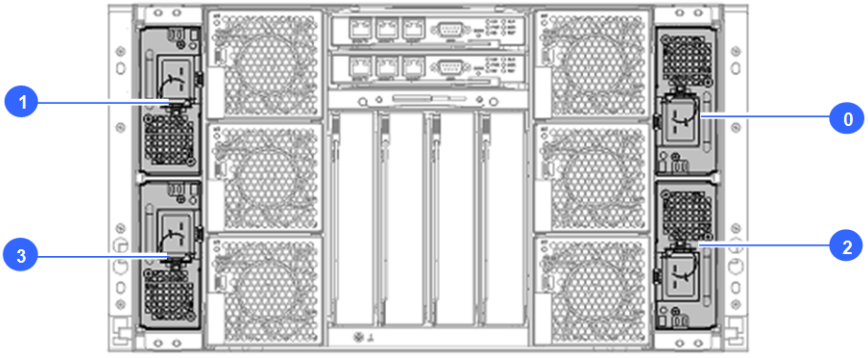


Figure 1-9 Location in server chassis

Table 1-5 Location of installable components

Symbol	Component	Symbol	Component
0	Power supply module #0	2	Power supply module #2

Symbol	Component	Symbol	Component
1	Power supply module #1	3	Power supply module #3

Cooling fan module numbering

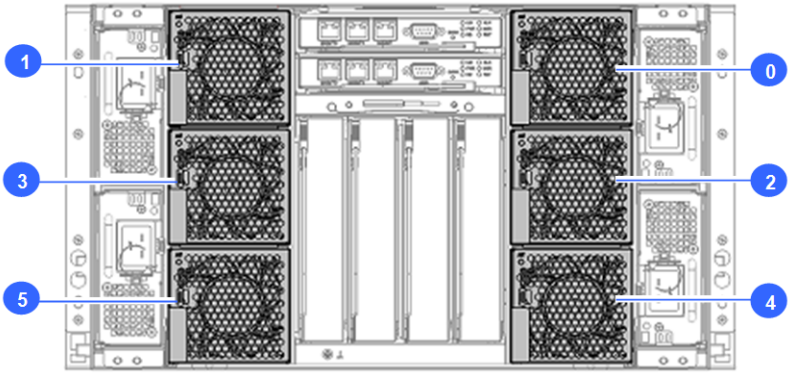


Figure 1-10 Location in server chassis

Table 1-6 Location of installable components

Symbol	Component	Symbol	Component
0	Fan module #0	3	Fan module #3
1	Fan module #1	4	Fan module #4
2	Fan module #2	5	Fan module #5

Disk drive numbering: CB 520A A1, CB 520H A1/B1/B2/B3/B4

The disk drive numbering in a server blade is #0 to #1 from the bottom to top, as viewed from the front of the server blade. The same numbering applies to all server blades in the server chassis.

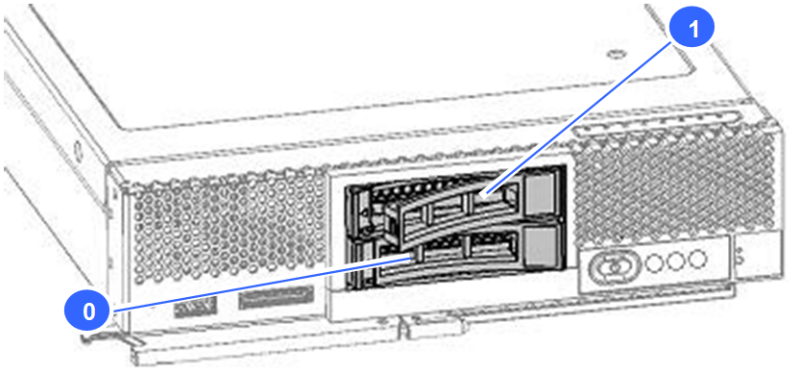


Figure 1-11 Disk drive location

Table 1-7 Location of installable components

Symbol	Component
0	HDD #0
1	HDD #1

Disk drive numbering: CB 540A A1/B1

The disk drive numbering in a server blade is #0 to #1/2 from the left to right, as viewed from the front of the server blade. The same numbering applies to all server blades in the server chassis.

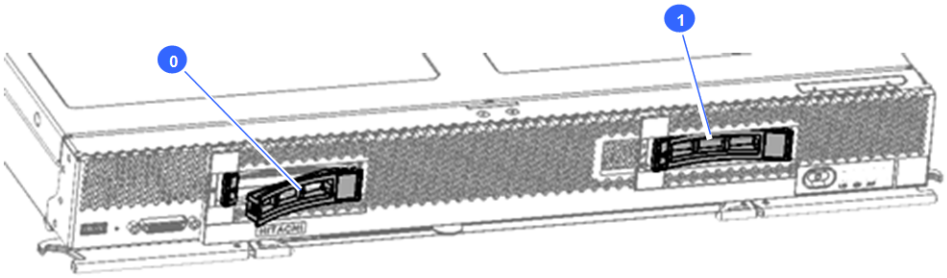


Figure 1-12 Disk drive location

Table 1-8 Location of installable components

Symbol	Component
0	HDD #0
1	HDD #1 (Using the RAID Mezzanine or Combo Mezzanine) / HDD #2 (Using the Onboard RAID)

Disk drive numbering: CB 520X B1/B2/B3

The disk drive numbering in a server blade is #0 to #2 from the left to right, as viewed from the front of the server blade. The same numbering applies to all server blades in the server chassis.

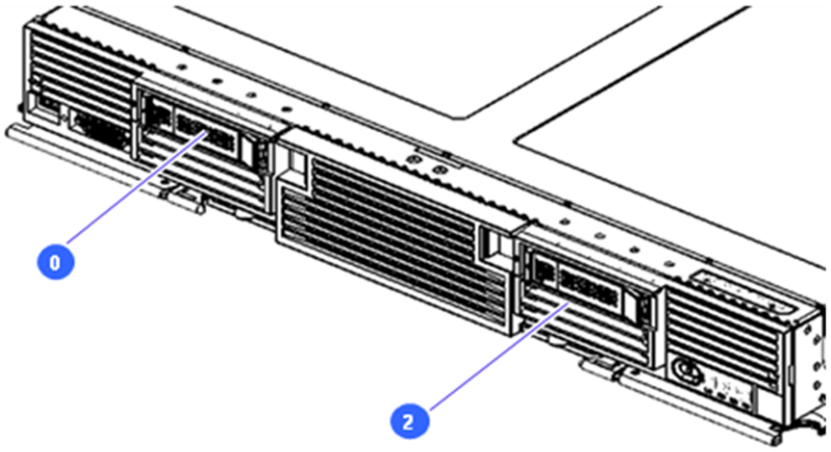


Figure 1-13 Disk drive location

Table 1-9 Location of installable components

Symbol	Component
0	HDD #0
2	HDD #2

Disk drive numbering: Storage expansion blade

The disk drive numbering in a storage expansion blade is #0 to #6 from the bottom to top, as viewed from the front of the storage expansion blade. Numbering applies to all blades in the server chassis.

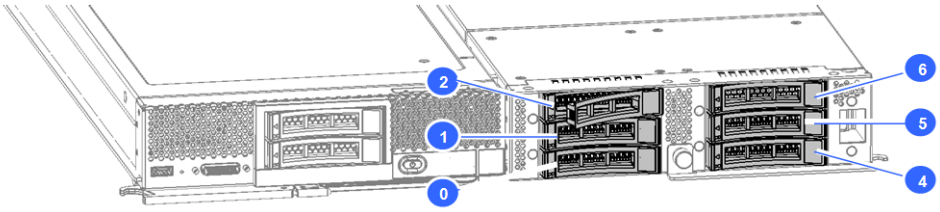


Figure 1-14 Disk drive location

Table 1-10 Location of installable components

Symbol	Component	Symbol	Component
0	HDD #0	4	HDD #4
1	HDD #1	5	HDD #5
2	HDD #2	6	HDD #6

Processor numbering: CB 520A A1

The processor numbering in a server blade is #1 to #2 from the rear to front, as viewed from the front of the server blade.

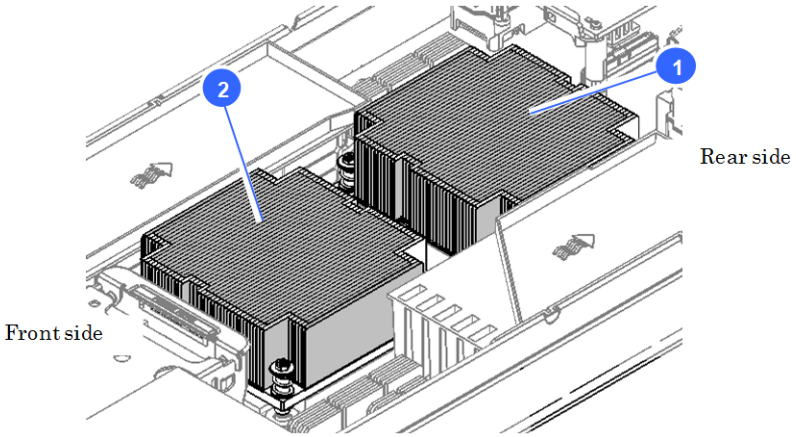


Figure 1-15 Processor location

Table 1-11 Location of processors

Symbol	Component
1	CPU #1
2	CPU #2

Processor numbering: CB 520H A1/B1/B2/B3/B4

The processor numbering in a server blade is #1 to #2 from the rear to front, as viewed from the front of the server blade.

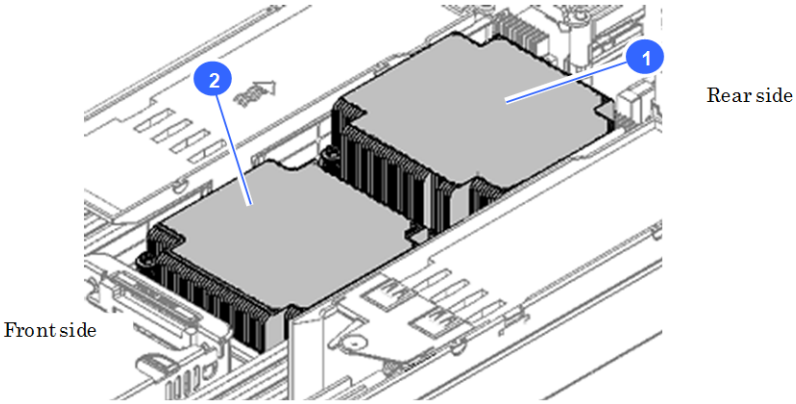


Figure 1-16 Processor location

Table 1-12 Location of processors

Symbol	Component
1	CPU #1

Symbol	Component
2	CPU #2

Processor numbering: CB 540A A1/B1

The processor numbering in a server blade is #1 to #4 from the rear to front, as viewed from the front of the server blade.

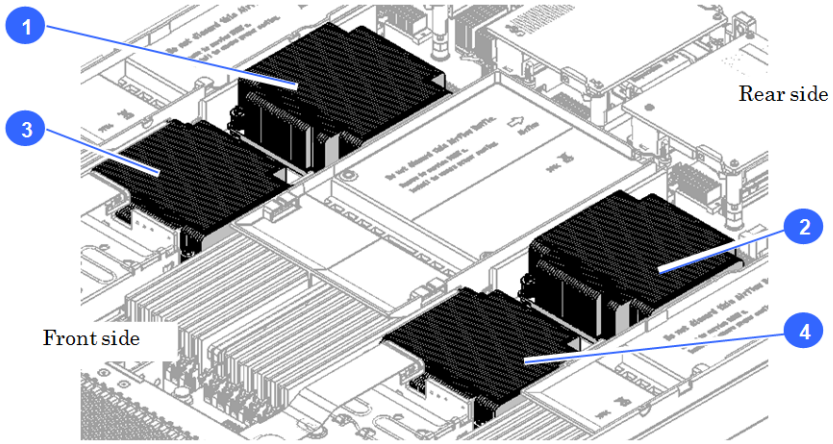


Figure 1-17 Processor location

Table 1-13 Location of processors

Symbol	Component	Symbol	Component
1	CPU #1	3	CPU #3
2	CPU #2	4	CPU #4

Processor numbering: CB 520X B1/B2/B3

The processor numbering in a server blade is #1 to #2 from the left to right, as viewed from the front of the server blade.

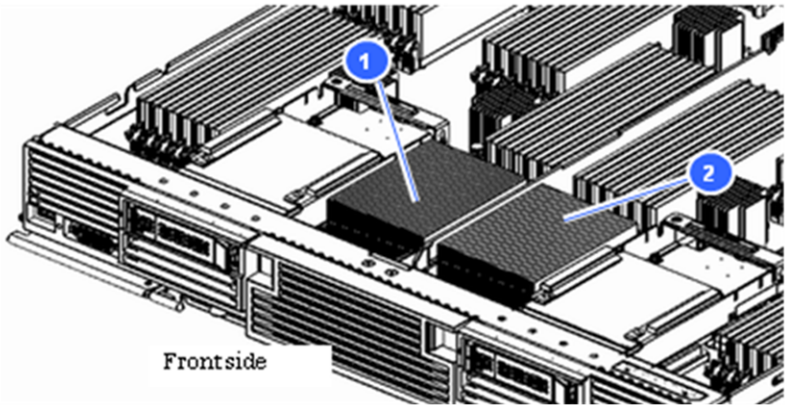


Figure 1-18 Processor location

Table 1-14 Location of processors

Symbol	Component
1	CPU #1
2	CPU #2

DIMM numbering: CB 520A A1

The DIMM numbering in CB 520A A1 is #1 to #12 shown as following figure.

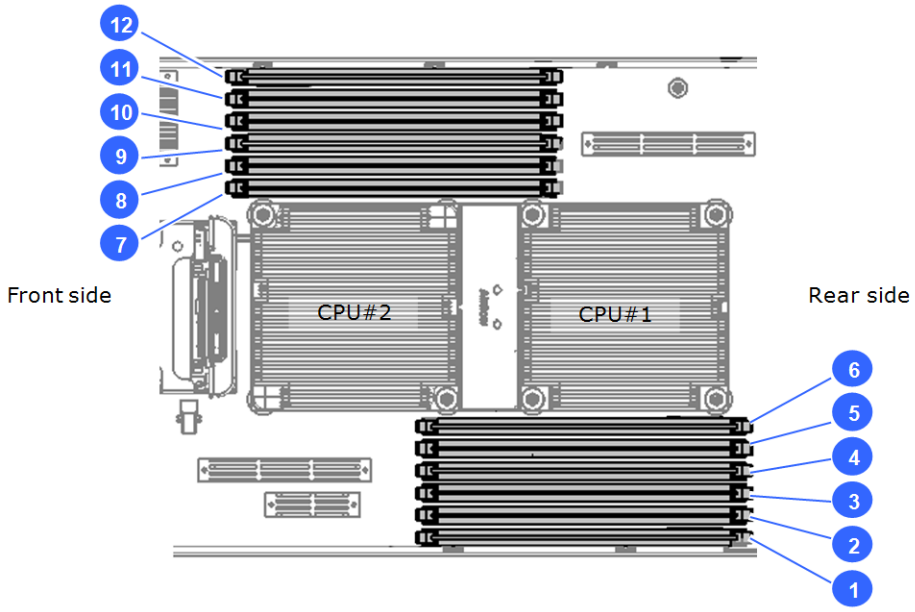


Figure 1-19 DIMM in CB 520A A1

Table 1-15 Location of DIMMs in CB 520A A1

Symbol	Component	Symbol	Component
1	DIMM #1	7	DIMM #7
2	DIMM #2	8	DIMM #8
3	DIMM #3	9	DIMM #9
4	DIMM #4	10	DIMM #10
5	DIMM #5	11	DIMM #11
6	DIMM #6	12	DIMM #12

DIMM numbering: CB 520H A1/B1/B2/B3/B4

The DIMM numbering in CB 520H A1/B1/B2/B3/B4 is #1 to #24 shown as following figure.

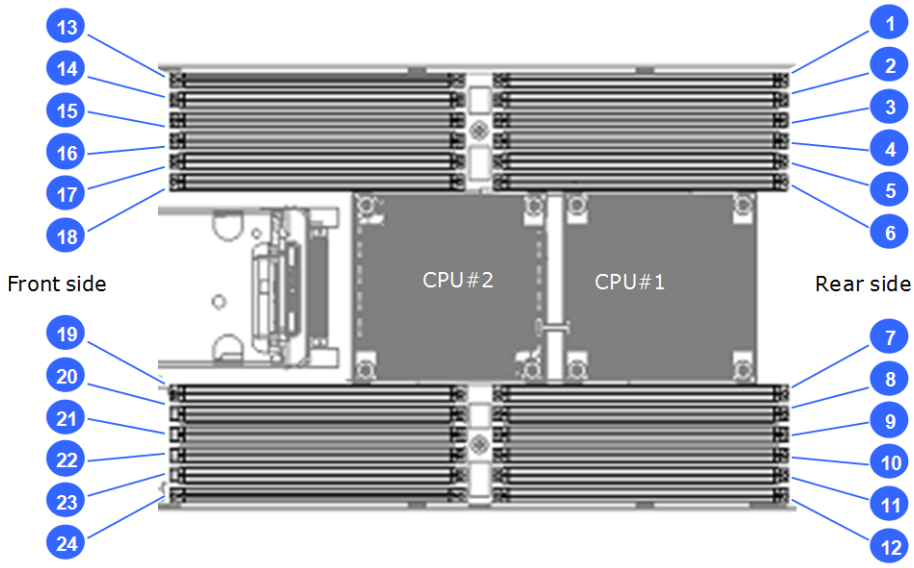


Figure 1-20 DIMM in CB 520H A1/B1/B2/B3/B4

Table 1-16 Location of DIMMs in CB 520H A1/B1/B2/B3/B4

Symbol	Component	Symbol	Component
1	DIMM #1	13	DIMM #13
2	DIMM #2	14	DIMM #14
3	DIMM #3	15	DIMM #15
4	DIMM #4	16	DIMM #16
5	DIMM #5	17	DIMM #17
6	DIMM #6	18	DIMM #18
7	DIMM #7	19	DIMM #19
8	DIMM #8	20	DIMM #20
9	DIMM #9	21	DIMM #21
10	DIMM #10	22	DIMM #22
11	DIMM #11	23	DIMM #23
12	DIMM #12	24	DIMM #24

DIMM numbering: CB 540A A1/B1

The DIMM numbering in CB 540A A1/B1 is #1 to #48 shown as following figure.

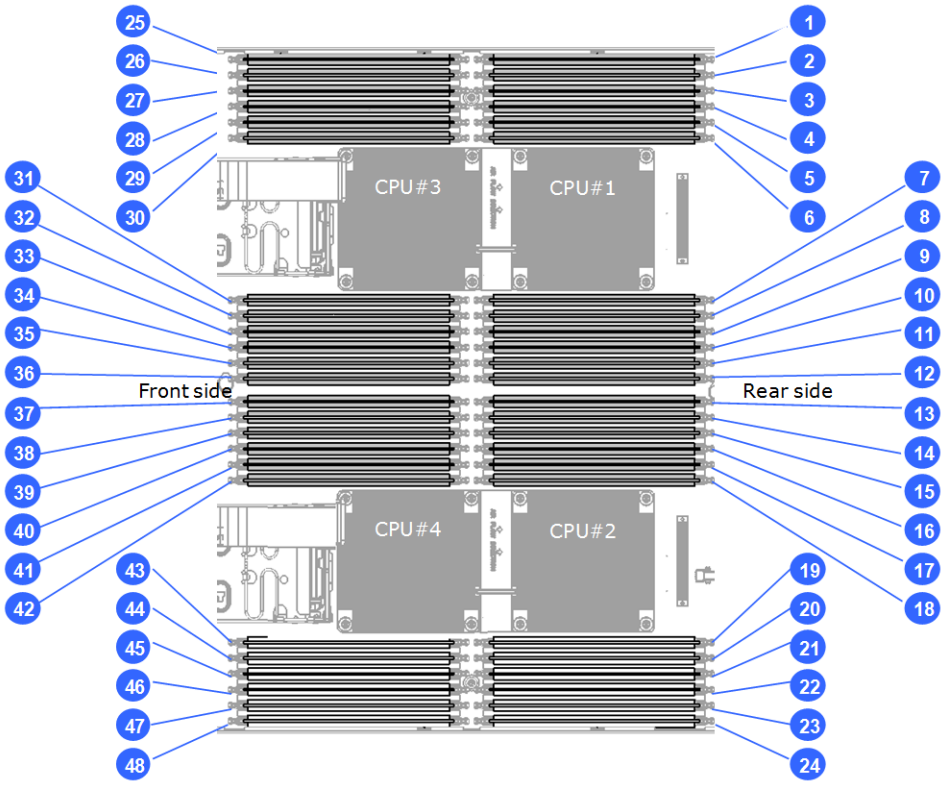


Figure 1-21 DIMM in CB 540A A1/B1

Table 1-17 Location of DIMMs in CB 540A A1/B1

Symbol	Component	Symbol	Component	Symbol	Component	Symbol	Component
1	DIMM #1	13	DIMM #13	25	DIMM #25	37	DIMM #37
2	DIMM #2	14	DIMM #14	26	DIMM #26	38	DIMM #38
3	DIMM #3	15	DIMM #15	27	DIMM #27	39	DIMM #39
4	DIMM #4	16	DIMM #16	28	DIMM #28	40	DIMM #40
5	DIMM #5	17	DIMM #17	29	DIMM #29	41	DIMM #41
6	DIMM #6	18	DIMM #18	30	DIMM #30	42	DIMM #42
7	DIMM #7	19	DIMM #19	31	DIMM #31	43	DIMM #43
8	DIMM #8	20	DIMM #20	32	DIMM #32	44	DIMM #44
9	DIMM #9	21	DIMM #21	33	DIMM #33	45	DIMM #45
10	DIMM #10	22	DIMM #22	34	DIMM #34	46	DIMM #46
11	DIMM #11	23	DIMM #23	35	DIMM #35	47	DIMM #47
12	DIMM #12	24	DIMM #24	36	DIMM #36	48	DIMM #48

DIMM numbering: CB 520X B1/B2/B3

The DIMM numbering in CB 520X B1/B2/B3 is #1 to #48 shown as following figure.

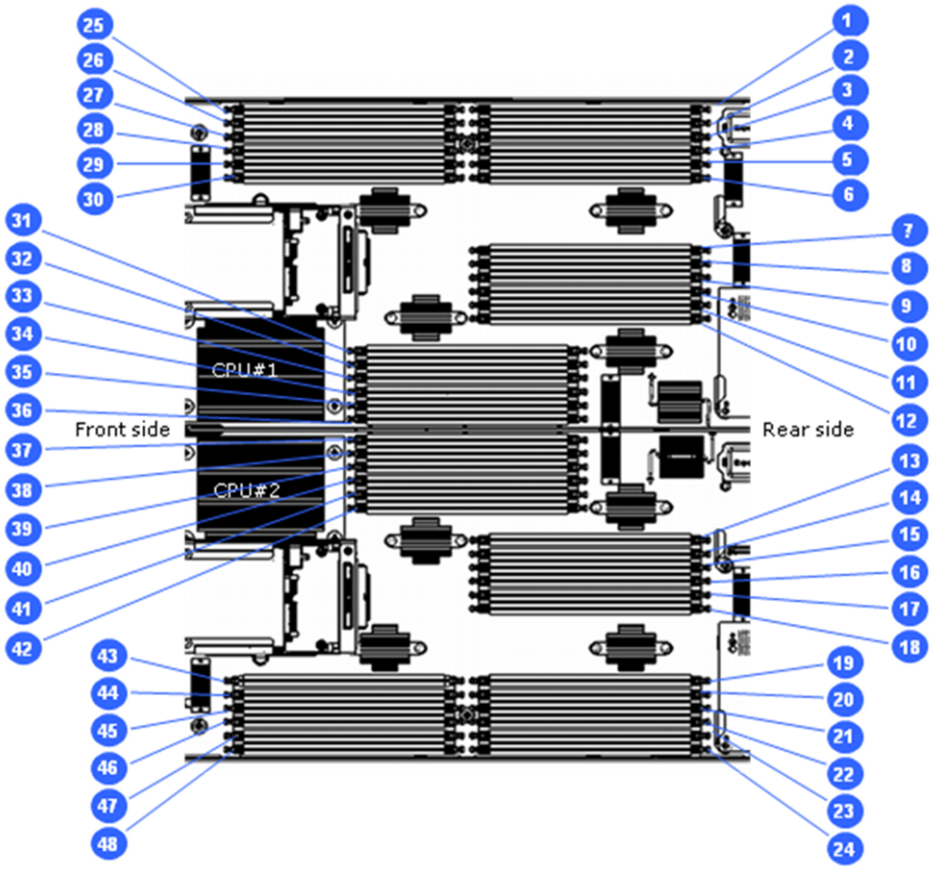


Figure 1-22 DIMM in CB 520X B1/B2/B3

Table 1-18 Location of DIMMs in CB 520X B1/B2/B3

Symbol	Component	Symbol	Component	Symbol	Component	Symbol	Component
1	DIMM #1	13	DIMM #13	25	DIMM #25	37	DIMM #37
2	DIMM #2	14	DIMM #14	26	DIMM #26	38	DIMM #38
3	DIMM #3	15	DIMM #15	27	DIMM #27	39	DIMM #39
4	DIMM #4	16	DIMM #16	28	DIMM #28	40	DIMM #40
5	DIMM #5	17	DIMM #17	29	DIMM #29	41	DIMM #41
6	DIMM #6	18	DIMM #18	30	DIMM #30	42	DIMM #42
7	DIMM #7	19	DIMM #19	31	DIMM #31	43	DIMM #43
8	DIMM #8	20	DIMM #20	32	DIMM #32	44	DIMM #44
9	DIMM #9	21	DIMM #21	33	DIMM #33	45	DIMM #45
10	DIMM #10	22	DIMM #22	34	DIMM #34	46	DIMM #46

Symbol	Component	Symbol	Component	Symbol	Component	Symbol	Component
11	DIMM #11	23	DIMM #23	35	DIMM #35	47	DIMM #47
12	DIMM #12	24	DIMM #24	36	DIMM #36	48	DIMM #48

Mezzanine card numbering: CB 520A A1

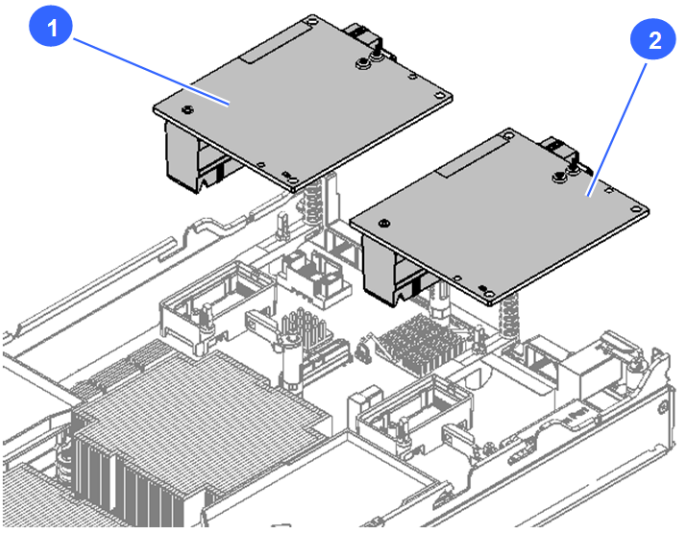


Figure 1-23 Mezzanine card in server blade

Table 1-19 Location of installable components

Symbol	Component
1	Mezzanine #1
2	Mezzanine #2

Mezzanine card numbering: CB 520H A1/B1/B2/B3/B4

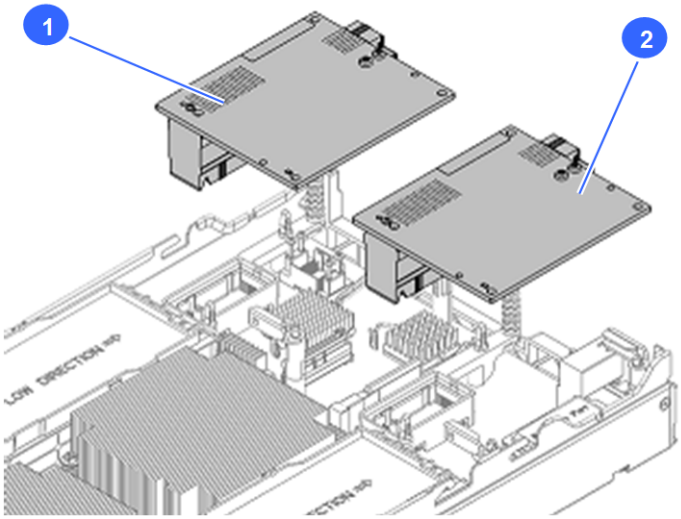


Figure 1-24 Mezzanine card in server blade without LOM (CB 520H A1)

Table 1-20 Location of installable components

Symbol	Component
1	Mezzanine #1
2	Mezzanine #2

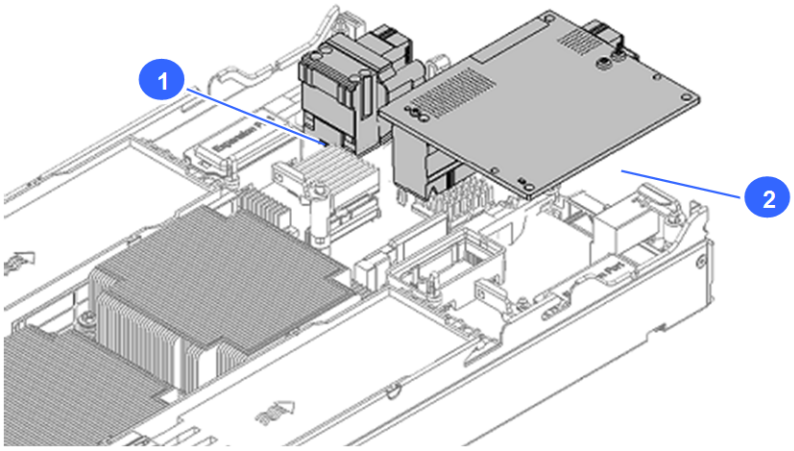


Figure 1-25 Mezzanine card in server blade with LOM (CB 520H B1/B2/B3/B4)

Table 1-21 Location of installable components

Symbol	Component
1	LOM pass through connector
2	Mezzanine #2

Mezzanine card numbering: CB 540A A1/B1

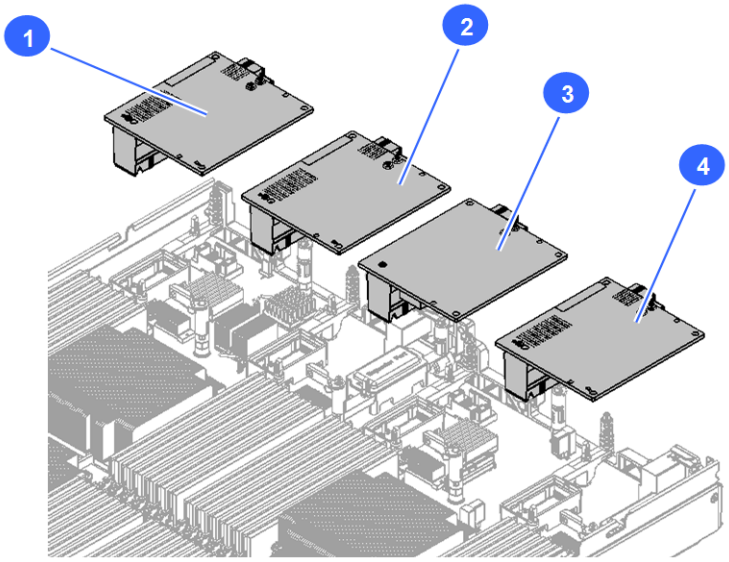


Figure 1-26 Mezzanine card in server blade without LOM (CB 540A A1)

Table 1-22 Location of installable components

Symbol	Component	Symbol	Component
1	Mezzanine #1	3	Mezzanine #3
2	Mezzanine #2	4	Mezzanine #4

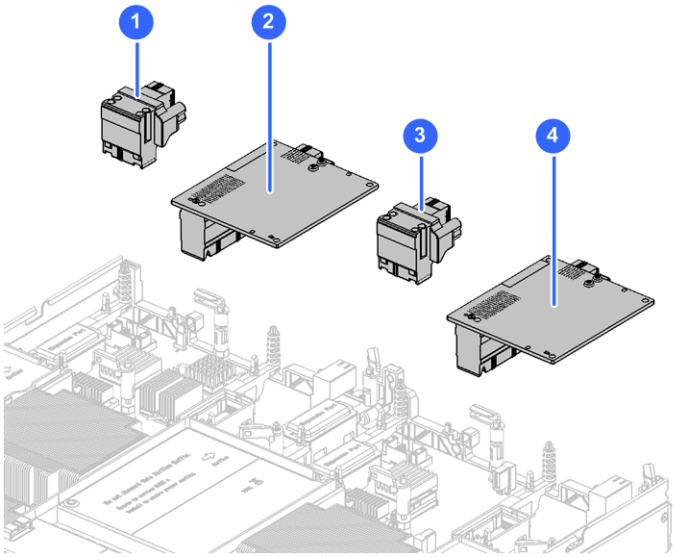


Figure 1-27 Mezzanine card in server blade with LOM (CB 540A B1)

Table 1-23 Location of installable components

Symbol	Component	Symbol	Component
1	LOM pass through connector	3	LOM pass through connector
2	Mezzanine #2	4	Mezzanine #4

Mezzanine card numbering: CB 520X B1/B2/B3

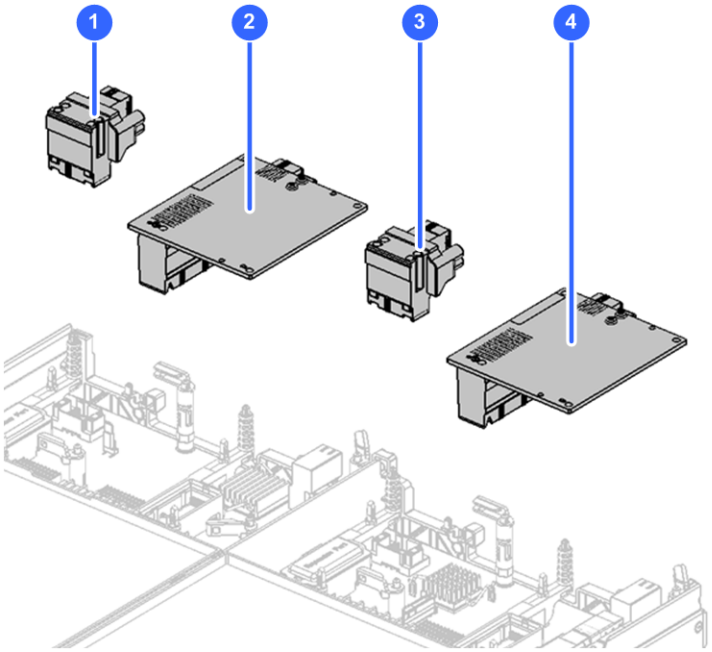


Figure 1-28 Mezzanine card in server blade with LOM (CB 520X B1/B2/B3)

Table 1-24 Location of installable components

Symbol	Component	Symbol	Component
1	LOM pass through connector	3	LOM pass through connector
2	Mezzanine #2	4	Mezzanine #4

Mezzanine card numbering: Storage expansion blade

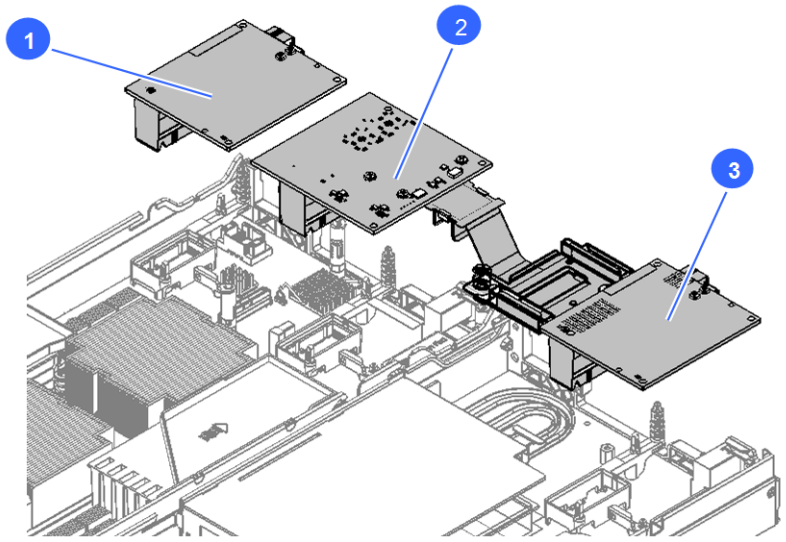


Figure 1-29 Mezzanine card in server (storage expansion blade)

Table 1-25 Location of installable components

Symbol	Component
1	Mezzanine #1
2	Mezzanine #2 (Pass through mezzanine)
3	Mezzanine #4

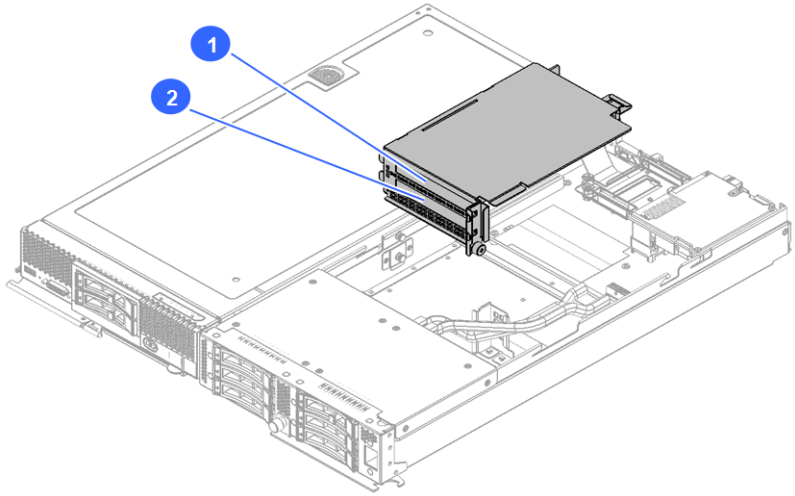


Figure 1-30 PCI card in storage expansion blade

Table 1-26 Location of installable components

Symbol	Component
1	PCI card #0

Symbol	Component
2	PCI card #1

Mezzanine card numbering: PCI expansion blade

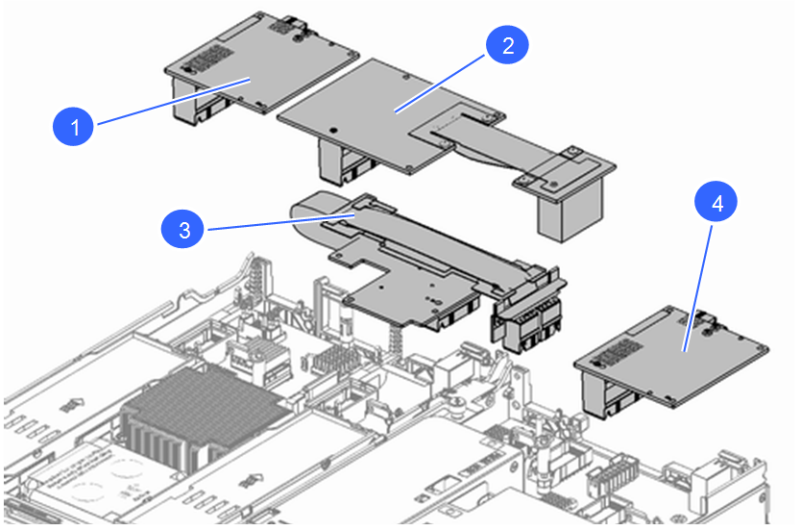


Figure 1-31 Mezzanine card in server/PCI expansion blade

Table 1-27 Location of installable components

Symbol	Component
1	Mezzanine #1
2	Mezzanine #2 (PCI blade connection kit F/H)
3	Mezzanine #0 (PCI blade connection kit L/P)
4	Mezzanine #4

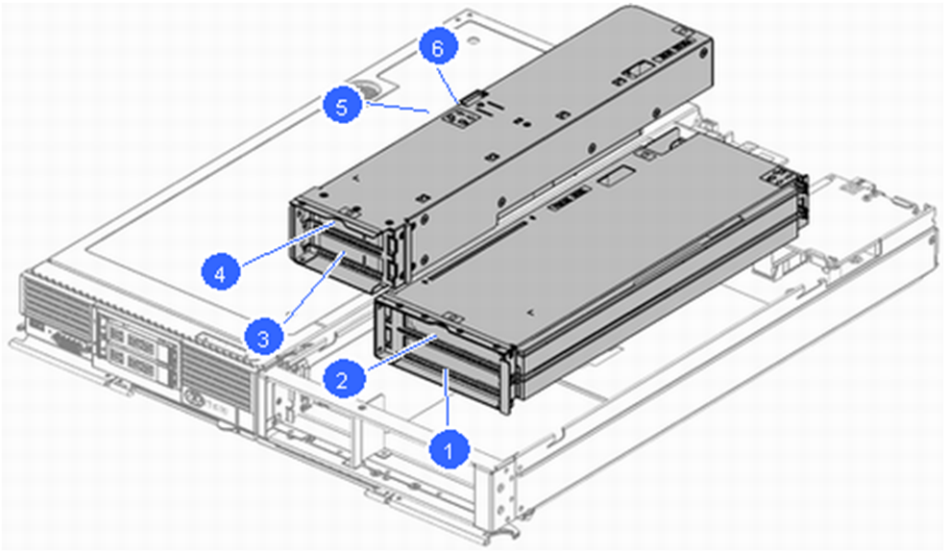


Figure 1-32 PCI card in PCI expansion blade

Table 1-28 Location of installable components

Symbol	Component	Symbol	Component
1	PCI card #0	4	PCI card #3
2	PCI card #1	5	PCI card #4
3	PCI card #2	6	PCI card #5

Hot-swappable components

All installed modules or units are designed to be hot-swappable from the front or rear of the chassis. The following shows the hot-swap direction for each module or unit.

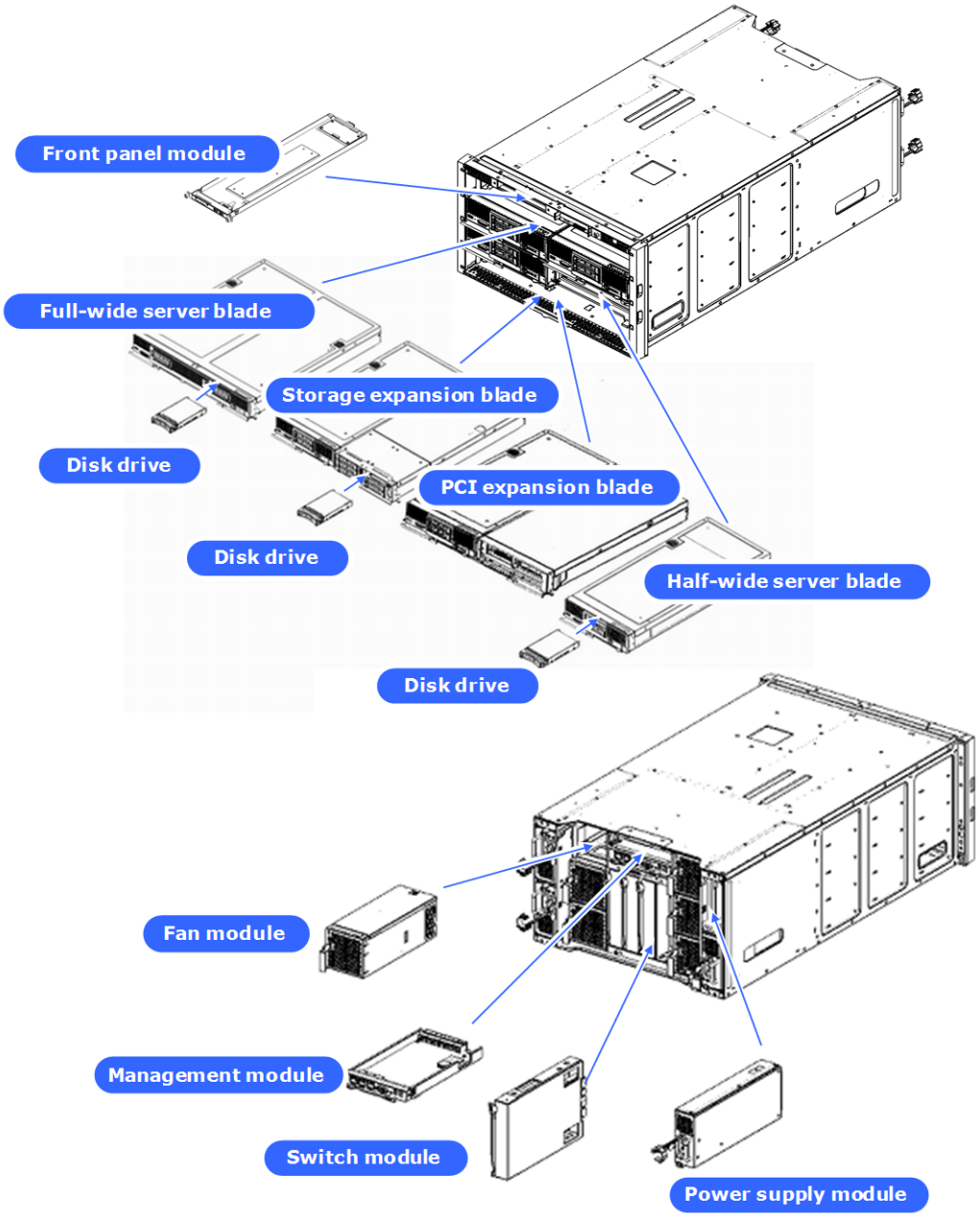


Figure 1-33 Hot-swappable components

Indicators and connectors

This section describes the switches, connectors, and LEDs on the Hitachi Compute Blade 500 series system.

Server chassis

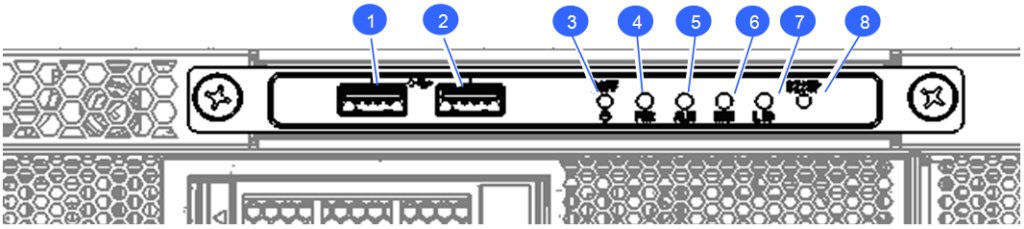


Figure 1-34 Front panel in server chassis

Table 1-29 LEDs, switches, and connectors on front panel

No.	Name	State	Description
1	USB port 0 (USB0)	-	• Shared USB ports in the chassis • Supported device: - LCD touch console - USB Memory and USB DVD-ROM drive
2	USB port 1 (USB1)	-	
3	Forced power off switch (POFF)	-	Press and hold it for four seconds or more, then the main power is turned off.
4	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; - The management module is booting. - The server blade is initializing - The switch module is booting.
		Off	Power is not supplied to the server chassis.
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 section in the Preface of this manual.
		Off	Normal operation
6	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 section in the Preface of this manual.
		Off	Normal operation
7	Identify LED (LID)	Blue-On	The chassis is identified. This LED is controlled by the Web console, Blade Server Manager, or the Server Conductor
		Off	The chassis is not identified.

No.	Name	State	Description
8	Buzzer stop switch (BZSTP)	-	Stops the buzzer

Server blade

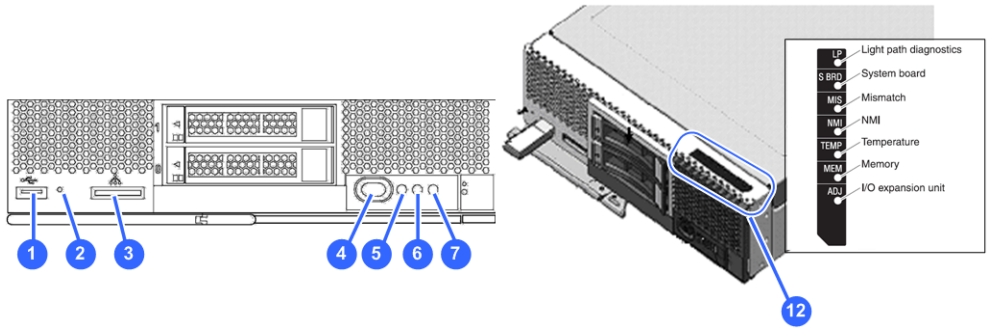


Figure 1-35 Half-wide Server blade (CB 520A A1, CB 520H A1/B1/B2)

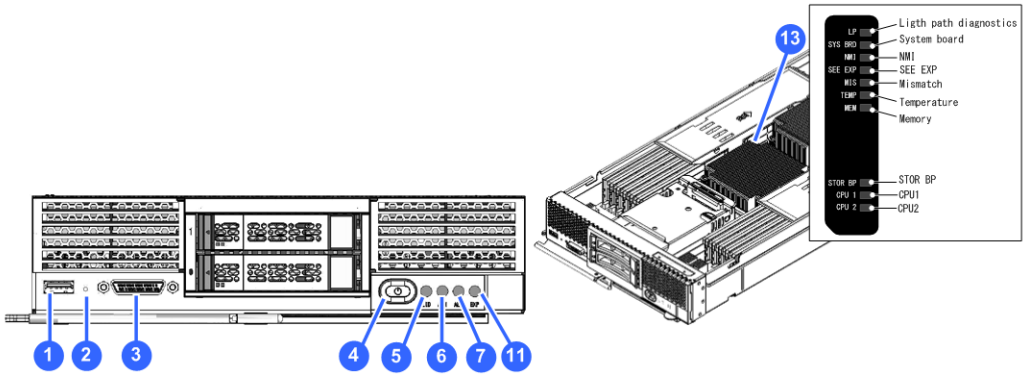


Figure 1-36 Half-wide Server blade (CB 520H B3/B4)

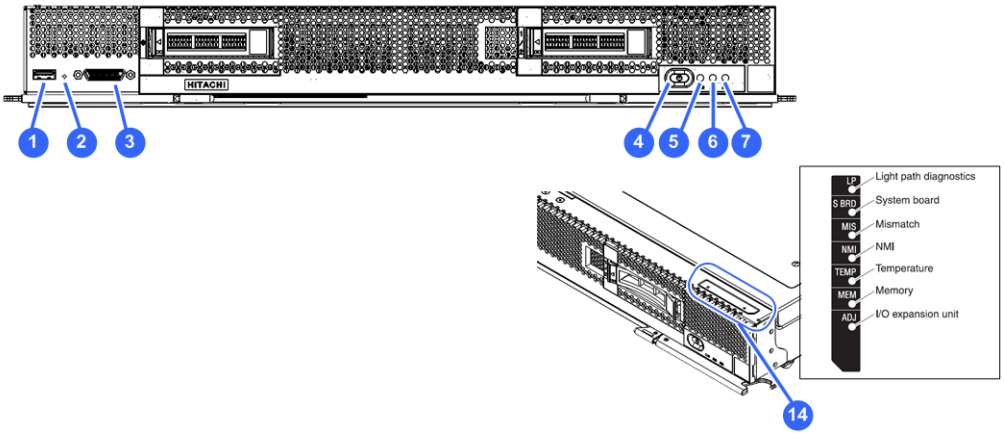


Figure 1-37 Full-wide Server blade (CB 540A A1/B1)

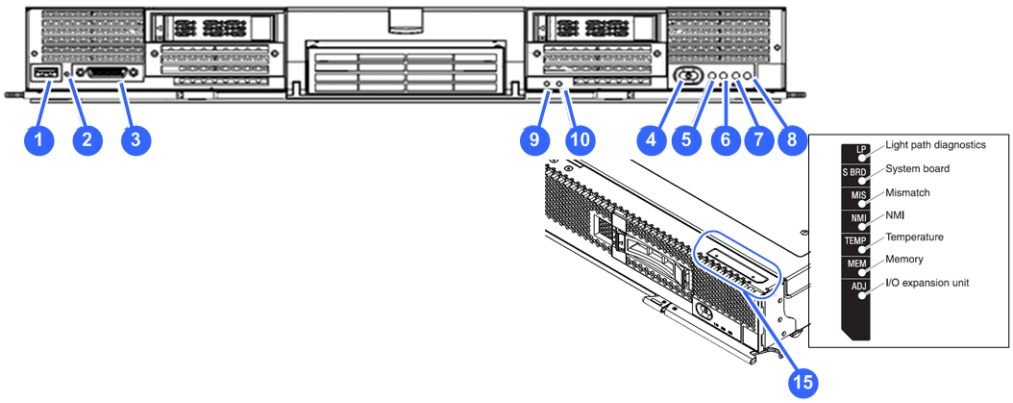


Figure 1-38 Full-wide Server blade (CB 520X B1/B2/B3)

Table 1-30 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.
		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 SMP CB 520X B1/B2/B3)
9	QPI Link Fault LED[2]	Amber-On	An error is detected on QPI link in SMP configuration. (Only for SMP CB 520X B1/B2/B3)
10	QPI Link Status LED[2]	Green-On	QPI Link is linked up in SMP configuration. (Only for SMP CB 520X B1/B2/B3)

No.	Name		State	Description
11	Expansion LED		Amber-On	Indicates a fault that requires an expansion blade to be exchanged was detected.
12	Diagnostic Panel	LP	Green-On	The LED panel is active.
		S BRD	Amber-On	The motherboard needs to be replaced.
		MIS	Amber-On	Unsupported combination of the DIMM, CPU, and HDD.
		NMI	Amber-On	A Non-Maskable Interrupt (NMI) was generated.
		TEMP	Amber-On	The maximum temperature limit was exceeded.
		MEM	Amber-On	A memory failure was detected.
		ADJ	-	Not supported.
13	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.
14	Diagnostic Panel	LP	Green-On	The LED panel is active.
		S BRD	Amber-On	The motherboard needs to be replaced.
		MIS	Amber-On	Unsupported combination of the DIMM, CPU, and HDD.
		NMI	Amber-On	A Non-Maskable Interrupt (NMI) was generated.
		TEMP	Amber-On	The maximum temperature limit was exceeded.
		MEM	Amber-On	A memory failure was detected.
		ADJ	-	Not supported.
15	Diagnostic Panel	LP	Green-On	The LED panel is active.
		S BRD	Amber-On	The motherboard needs to be replaced.

No.	Name		State	Description
		MIS	Amber-On	Unsupported combination of the DIMM, CPU, and HDD.
		NMI	Amber-On	A Non-Maskable Interrupt (NMI) was generated.
		TEMP	Amber-On	The maximum temperature limit was exceeded.
		MEM	Amber-On	A memory failure was detected.
		ADJ	-	Not supported.

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 B1/B2/B3.

Disk drive

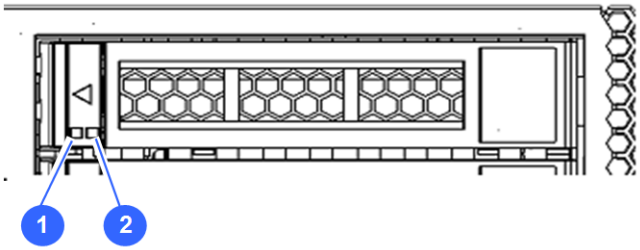


Figure 1-39 Disk drive

Table 1-31 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

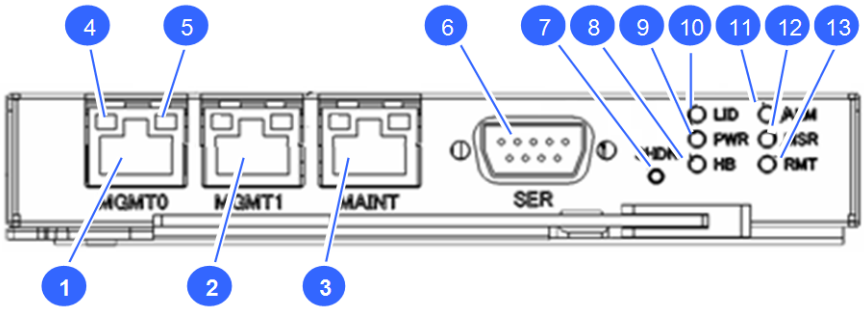


Figure 1-40 Management module

Table 1-32 LEDs, switches, and connectors on management module

No.	Name	State	Description
1	Management LAN Port #0 (MGMT0)	-	-
2	Management LAN Port #1 (MGMT1)	-	-
3	Maintenance LAN Port (MAINT)	-	For maintenance personnel.
4	LAN Link Speed LED	Amber-On	1000BASE-T
		Green-On	100BASE-TX
		Off	10BASE-T
5	LAN Status LED	Green-On	LAN link is established.
		Green-Blink	LAN is under transmission.
6	Serial Port (SER)	-	Serial port is for the management console PC.
7	Shutdown switch (SHDN)	-	Press it for four seconds or more to turn off the power.
8	Heartbeat LED (HB)	Green-Blink	F/W is activated. If this LED is not blinking, the management module does not work properly.
		Green-On Off	F/W is not activated.
9	Power LED (PWR)	Green-On	Normal operation.
		Green-Blink	The system is shutting down or booting
		Off	Power is not supplied to the server blade.
10	Identify LED (LID)	Blue-On	The management module is identified.
11	Alarm LED (ALM)	Red-On	A serious error has occurred in the management module.

No.	Name	State	Description
12	Primary LED (MSR)	Green-On	The management module operated as primary
		Off	The management module is under standby condition as secondary.
13	Remote LED (RMT)	Green-On	The management module is being accessed remotely.

1Gb/sec LAN pass through module

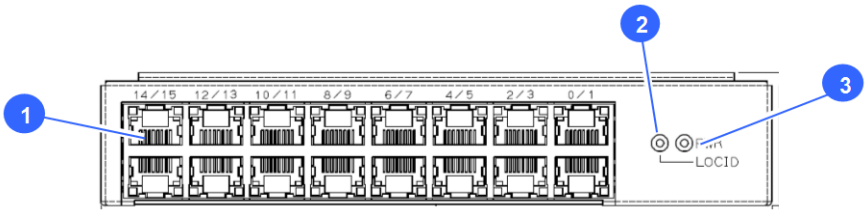


Figure 1-41 LAN pass through module

Table 1-33 LEDs and connectors on LAN pass through module

No.	Name	State	Description
1	LAN ports 0 to 15	Green-On	A link is established.
		Green-Blink	Under communication.
		Amber-On	A link is not established
2	Identify LED (LOCID)	Blue-On	The LAN pass through module is identified
		Off	The LAN pass through module is not identified
3	Power LED (PWR)	Green-On	Power-on and normal operation.
		Off	The power fails or no power supplied.

1Gb LAN switch module (20 ports)

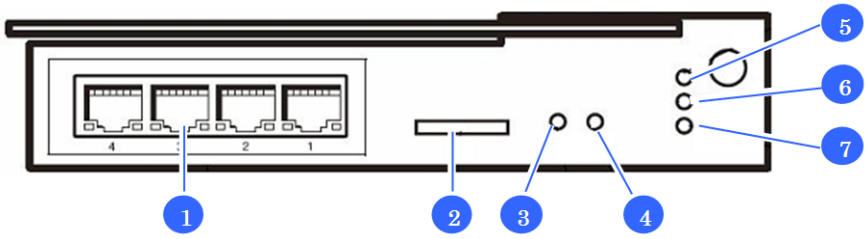


Figure 1-42 1Gb LAN switch module

Table 1-34 LEDs and connectors on 1Gb LAN switch module

No.	Name	State	Description
1	LAN ports 1 to 4	Green-On	Link is established
		Green-Blink	Link activity. Port is sending or receiving data.
		Amber-On	Link failed.
2	Memory card slot (MC)	-	Slot for SD memory card.
3	Access LED (ACC)	Green-On	The SD memory card is accessed
4	Reset switch (RST)	-	Press and hold it for five seconds or more, reset the module.
5	Power LED (PWR)	Green-On	Power-on and normal operation.
		Off	The power fails or no power supplied.
6	Status1 LED (ST1)	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or booting software.
		Red-Blink	The over temperature threshold or any warning conditions.
		Red-On	A serious error is detected
7	Identify LED (LOCID)	Blue-On	The switch module is identified.
		Off	The switch module is not identified

1Gb LAN switch module (40 ports)

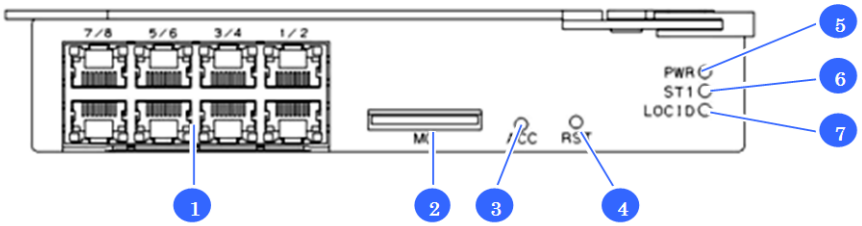


Figure 1-43 1Gb LAN switch module

Table 1-35 LEDs and connectors on 1Gb LAN switch module

No.	Name	State	Description
1	LAN ports 1 to 8	Green-On	Link is established.
		Green-Blink	Link activity. Port is sending or receiving data.
		Amber-On	Link failed.
2	Memory Card slot (MC)	-	Slot for an SD memory card.
3	Access LED (ACC)	Green-On	The SD memory card is accessed.

No.	Name	State	Description
4	Reset switch (RST)	-	Press and hold for five seconds to reset the LAN switch module.
5	Power LED (PWR)	Green-On	Powered-on, normal operation.
6	Status1 LED (ST1)	Green-On	Normal operation.
		Green-Blink	Power-on diagnosis or software activation.
		Red-Blink	Fault. Maximum temperature limit exceeded or other warning.
		Red-On	Alarm.
7	Identify LED (LOCID)	Blue-On	The switch module is identified.

1/10Gb LAN switch module

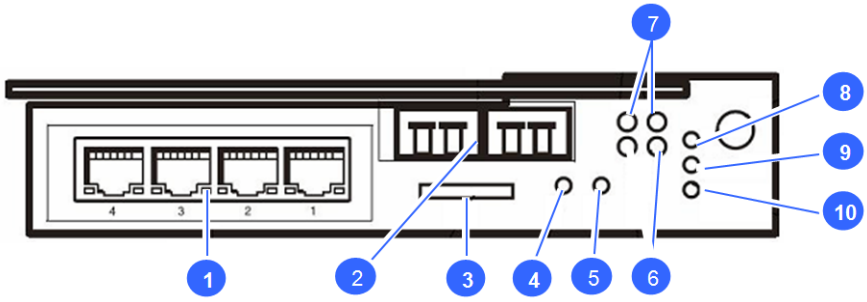


Figure 1-44 1/10Gb LAN switch module

Table 1-36 LEDs and connectors on 1/10Gb LAN switch module

No.	Name	State	Description
1	LAN ports 1 to 4	Green-On	Link is established
		Green-Blink	Link activity. Port is sending or receiving data.
		Amber-On	Link failed.
2	10GBASE-R slots	-	Slots for 10GBASE-LR or 10GBASE-SR transceiver: Each slot has a link LED on the upper right and a TX/RX LED on the lower right.
3	Memory Card slot (MC)	-	Slot for SD memory card.
4	Access LED (ACC)	Green-On	The SD memory card is accessed
5	Reset switch (RST)	-	Press and hold it for about five seconds or more, reset the module.
6	TX/RX LED for XFP	Green-On	A link is established on 10BASE-R and the port is sending or receiving data.
		Off	The port is neither sending nor receiving data.
7	LINK LED for XFP	Green-On	A link is established on 10BASE-R.

No.	Name	State	Description
		Amber-On	Link failed.
8	Power LED (PWR)	Green-On	Power-on and normal operation.
		Off	The power fails or no power supplied.
9	Status1 LED (ST1)	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or booting software.
		Red-Blink	The over temperature threshold or any warning conditions.
		Red-On	A serious error is detected
10	Identify LED (LOCID)	Blue-On	The switch module is identified
		Off	The switch module is not identified

Brocade 8Gb fibre channel switch module

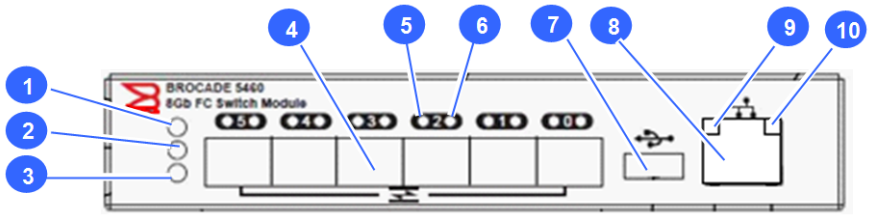


Figure 1-45 8Gb Fibre Channel switch module

Table 1-37 LEDs and connectors on 8Gb Fibre Channel switch module

No.	Name	State	Description
1	Identify LED (LOCID)	Blue-On	The switch module is identified
		Off	The switch module is not identified
2	Power LED (PWR)	Green-On	Power-On and normal operation.
		Off	The power fails or no power supplied.
3	Status LED	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or booting software.
		Amber-Blink	The over temperature threshold or any warning conditions.
		Amber-On	An alarm state is detected
4	FC ports 0- 5	-	These connectors are equipped with optical modules (SFP+). Connect a fibre channel cable to this optical module.
5	FC port diagnosis LED	Amber-On	Signal is received but not on line.

No.	Name	State	Description
		Amber-Blink	Blink slowly: The port is disabled.
			Blink rapidly: The port fails.
6	FC port status LED	Green-On	FC port online.
		Green Blink	Blink slowly: The FC port is online but segmented
			Blink rapidly: The port is diagnosed with the internal loop-back.
7	USB port	-	Port for USB memory devices.
8	Management LAN port	-	LAN for managing fibre channel switch modules. This LAN port is disabled at the shipment.
9	Management LAN port status LED1	Amber-On	LAN interface online.
10	Management LAN port status LED2	Green-On	100 Mbps full duplex.

Brocade 16Gb fibre channel switch module/16Gb fibre channel switch module2

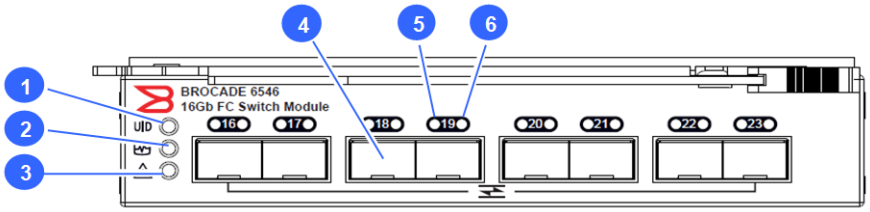


Figure 1-46 16Gb Fibre Channel switch module/16Gb Fibre Channel switch module2

Table 1-38 LEDs and connectors on Fibre Channel switch module

No.	Name	State	Description
1	Identify LED (LOCID)	Blue-On	The switch module is identified
		Off	The switch module is not identified
2	Power LED (PWR)	Green-On	Power-On and normal operation.
		Off	The power fails or no power supplied.
3	Status LED	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or booting software.
		Amber-Blink	The over temperature threshold or any warning conditions.

No.	Name	State	Description
		Amber-On	An alarm state is detected
4	FC ports 16- 23	-	These connectors are equipped with optical modules (SFP+). Connect a fibre channel cable to this optical module.
5	FC port status LED	Green-On	FC port online.
		Green Blink	Blink slowly: The FC port is online but segmented
			Blink rapidly: The port is diagnosed with the internal loop-back.
6	FC port diagnosis LED	Amber-On	Signal is received but not on line.
		Amber-Blink	Blink slowly: The port is disabled.
			Blink rapidly: The port fails.

Brocade 10Gb DCB switch module

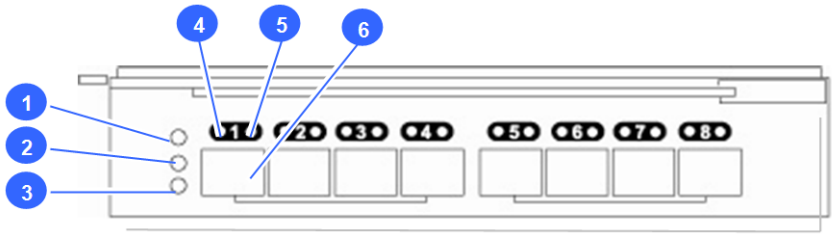


Figure 1-47 Brocade 10Gb DCB switch module

Table 1-39 LEDs and connectors on 10Gb DCB switch module

No.	Name	State	Description
1	Status LED	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or software activation.
		Amber-On	A serious failure detected. (Flashing during LED test of power-on diagnosis, it is not a failure.)
		Amber-Blink	The warning detected. (The switch operates, but the function is reconfigured and the temperature threshold is exceeded.)
		Off	The power fails or no power is supplied.
2	Power LED (PWR)	Green-On	Power-on and normal operation.
		Off	The power fails or no power supplied.
3	Identify LED (LOCID)	Blue-On	The switch module is identified
		Off	The switch module is not identified

No.	Name	State	Description
4	Uplink port status LED1	Amber-On	A signal or communication received, but not on line.
		Amber-Blink	Blink slowly: LAN interface disabled.
			Blink rapidly: LAN interface fail.
		Off	No signal and communication are received.
5	Uplink port status LED2	Green-On	LAN interfaces online.
		Green-Blink	Blink irregularly: A link active.
			Blink slowly: LAN interfaces online, but segmented.
			Blink rapidly: Diagnosing internal loop-back.
		Off	No signal and communication are received.
6	Uplink ports 1- 8	-	By default these ports do not have transceivers installed. The type of transceiver varies according to usage.

10Gb LAN pass through module/10Gb LAN pass through module2

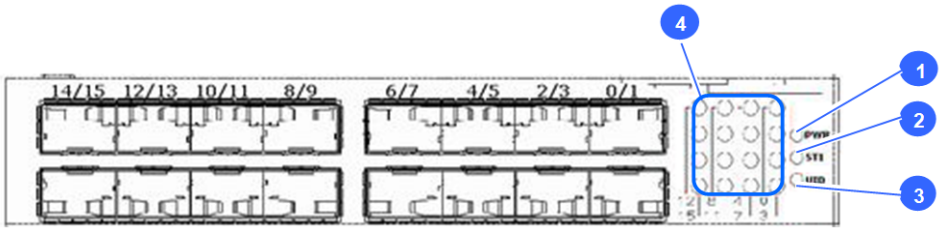


Figure 1-48 10Gb LAN pass through module/10Gb LAN pass through module2

Table 1-40 LEDs and connectors on 10Gb LAN pass through module/10Gb LAN pass through module2

No.	Name	State	Description
1	Power LED (PWR)	Green-On	Power-On and normal operation.
		Off	Abnormal power state (Power failure or no power is supplied).
2	Status1 LED (ST1)	Green-On	Normal operation.
		Green-Blink	During power-on diagnosis or software activation.
		Amber-On	A serious failure detected. (Flashing during LED test of power-on diagnosis, it is not a failure.)
		Amber-Blink	The warning detected. (The switch operates, but the function is reconfigured

No.	Name	State	Description
			and the temperature threshold is exceeded.)
		Off	The power fails or no power is supplied.
3	Identify LED (UID)	Blue-On	The switch module is identified
		Off	The switch module is not identified
4	Port status LED (Port No.)	Green-On	LAN interfaces online.
		Green-Blink	Link has been established and also transmitting and receiving signals are under way.
		Amber-On	A signal or communication received, but not on line.
		Green-On /Amber-On alternatively	Initial diagnosis or initial setting is in progress.
		Off	Abnormal power state (Power failure or no power is supplied).

Power supply module

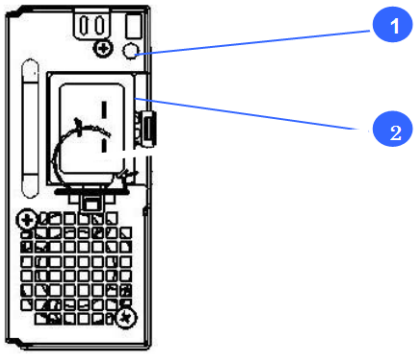


Figure 1-49 Power supply module

Table 1-41 LED and connector on power supply module

No.	Name	State	Description
1	Power LED (PWR)	Green-On	Output main power (12V) properly.
		Green-Blink	Standby condition (input power is OK).
		Amber-On	Failures or shutdown the system
		Amber-Blink	No input power to this power supply, but input power is supplied to others.
		Off	No power supplied.
2	Inlet	-	IEC60320-C20

Cooling fan module

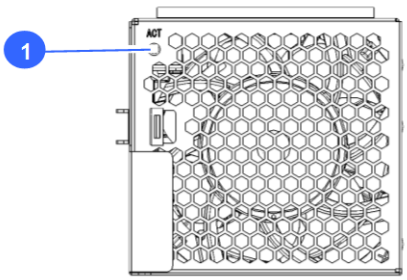


Figure 1-50 Cooling fan module

Table 1-42 LED on cooling fan module

No.	Name	State	Description
1	Status LED	Green-On	Normal operation.
		Amber-On	Failure.
		Off	No power supplied.

Color code for maintenance

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

Table 1-43 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.	• Server blade • Management module • Switch module • Fan module • Power supply • Front panel module • Disk drive

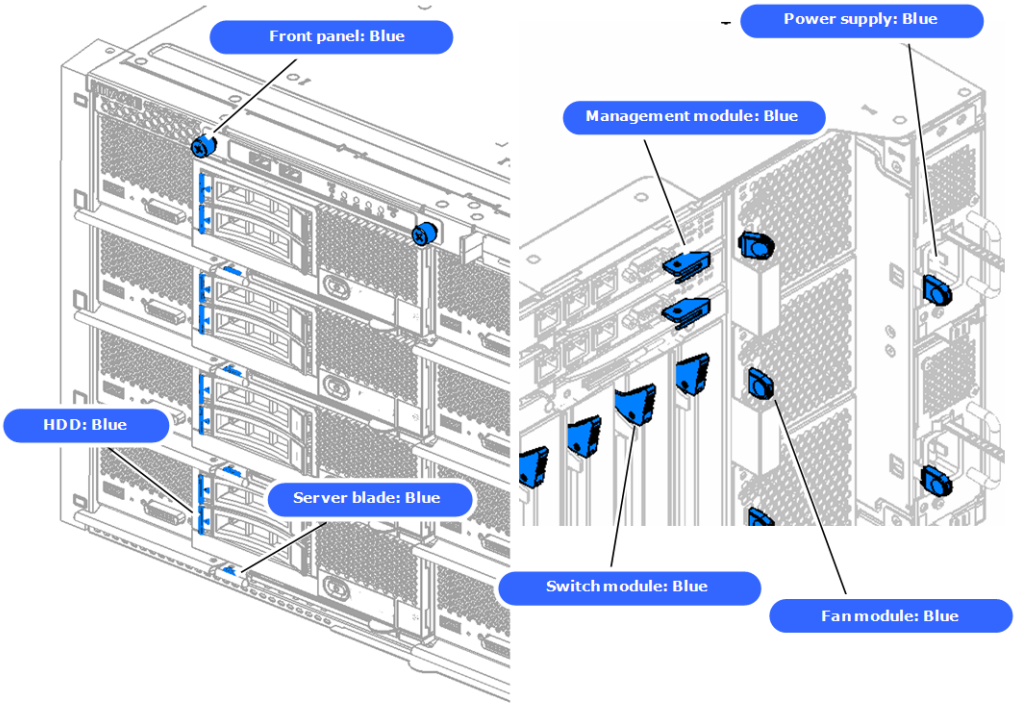


Figure 1-51 Color code for maintenance

2

Replaceable parts

The replaceable parts for the Hitachi Compute Blade System are described in this chapter. They can be replaced with the power turned on. This chapter covers the following key topics:

- Overview
- Server chassis
- Server blade
- Expansion blade
- Management module
- Switch module

Overview

The following parts in the Hitachi Compute Blade system are replaceable. These are illustrated and described on the following pages.

Table 2-1 Replaceable parts overview

No	Description		Customer replaceable		No customer replaceable parts (FE only)
	Module/Unit	Parts	parts.	F/W update	
1	Server chassis	Chassis	-	-	Yes
2		Rear cage + Backplane	-	-	Yes
3		Front panel	Yes	-	-
4		USB memory(Front panel)	Yes	-	-
5		Fan module	Yes	-	-
6		Power supply module	Yes	-	-
7		LCD touch console	Yes	-	-
8		KVM/USB cable	Yes	-	-
9	Server blade	Server blade	Yes	Yes	-
10		Main board	-	-	Yes
11		Processor	-	-	Yes
12		Processor heat sink	-	-	Yes
13		DIMM	Yes	-	-
14		HDD	Yes	-	-
15		SAS kit	Yes	-	-
16		Mezzanine card	Yes	Yes	-
17		Internal RAID card	Yes	Yes	-
18		Lithium battery	Yes	-	-
19		USB enablement kit (for CB 520H A1/B1/B2)	Yes	-	-
20		USB memory (for CB 520H A1/B1/B2, CB 520X B1/B2/B3)	Yes	-	-
21		SD card enablement kit (for CB 520H B3/B4)	Yes	-	-
22		SD card (for CB 520H B3/B4)	Yes	-	-
23	Storage expansion blade	Storage expansion blade	-	-	Yes
24		Storage blade connection kit	Yes	-	-
25		LSI SAS internal RAID board	-	Yes	Yes
26		i-PASS cable for LSI2208	-	-	Yes

No	Description		Customer replaceable		No customer replaceable parts (FE only)
	Module/Unit	Parts	parts.	F/W update	
27		6Gb 1-port SAS adapter	-	Yes	Yes[1]
28		SAS adapter connect cable	-	-	Yes
29		Flash drive	Yes	-	-
30		HDD/SSD	Yes	-	-
31	PCI expansion blade	PCI expansion blade	Yes	-	-
32		PCI blade connection kit F/H	Yes	-	-
33		PCI blade connection kit L/P	Yes	-	-
34		PCI blade card adapter F/H	Yes	-	-
35		PCI blade card adapter L/P	Yes	-	-
36		PCI blade optional power cable	Yes	-	-
37		NVIDIA GPU adapter	Yes	-	-
38		Flash drive	-	-	Yes[2]
39	Switch module	Switch module	Yes	Yes	-
40		SFP+ module/ cable	Yes	-	-
41	Management module	Management module	Yes	Yes	-
42		Lithium battery	Yes	-	-
43	Mechanical component	Dummy server blade	Yes	-	-
44		Dummy management module	Yes	-	-
45		Dummy switch module	Yes	-	-
46		Dummy power supply module	Yes	-	-
47		Shelf for half wide server blade	Yes	-	-
48		Shelf for PCI expansion module	Yes	-	-

Notes:

1. If no "LSI SAS internal RAID board" is installed, the "6Gb 1-port SAS adapter" is the "Customer replaceable parts".
2. If the "Flash drive" is installed in "PCI blade card adapter F/H", the "Flash drive" is the "Customer replaceable. parts".

Server chassis

This section displays the replaceable parts on the base unit.

Replaceable parts- front side

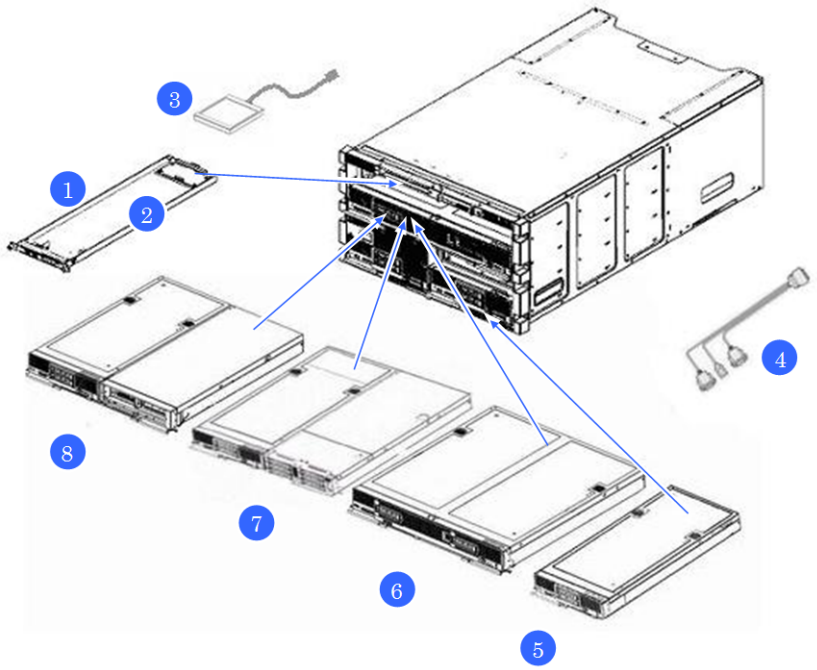


Figure 2-1 Server chassis replaceable parts-front side

Table 2-2 Server chassis replaceable parts- front side

No.	Part Name		Spare Part No.
1	Front panel module		GG-RE3NNN0003-R
2	USB memory in front panel module		GG-RE3NNN0004-R
3	LCD touch console		GG-DT3LCD1X1-R
4	KVM cable		GG-LR3KVM1X1-R
5	Half-wide server blade	CB 520A A1	-
		CB 520H A1/B1/B2/B3/B4	-
6	Full-wide server blade	CB 540A A1/B1	-
		CB 520X B1/B2/B3	-
7	Storage expansion blade		-
8	PCI expansion blade		-

Replaceable parts- rear side

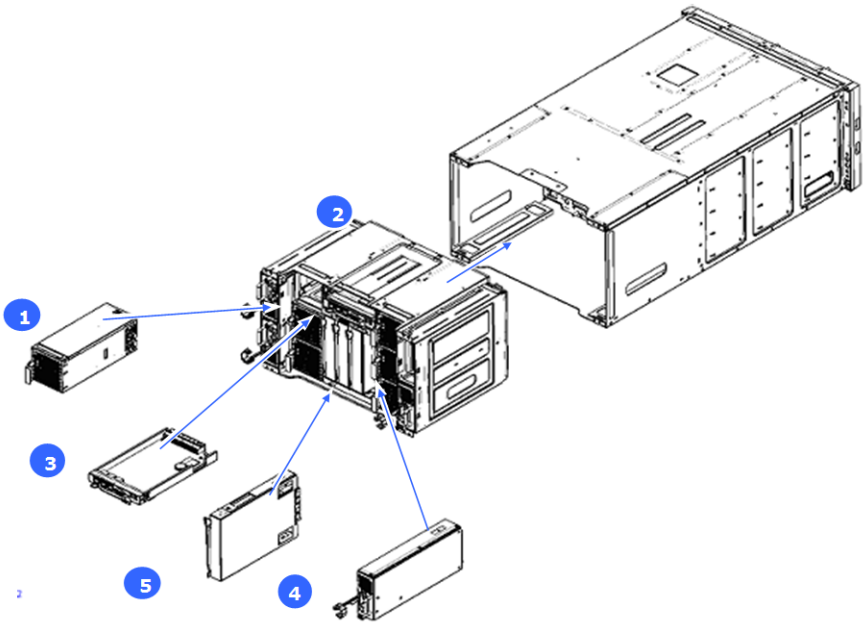


Figure 2-2 Server chassis replaceable parts- rear side

Table 2-3 Server chassis replaceable parts- rear side

No.	Part Name		Spare Part No.
1	Fan module		GG-RE3NNN0002-R
2	Backplane		-
3	Management module		GG-BE3SVP1X1-R
4	Power supply module		GG-BP3PWS1X1-R
5	Switch module	1Gb LAN switch module (20 ports)	GV-BE2LSW1X1-R GV-BE2LSW1XR-R
		1Gb LAN switch module (40 ports)	GG-BE3LSW4X1-R
		1/10Gb LAN switch module	GV-BE2LSW2X1-R GV-BE2LSW2XR-R
		1Gb LAN pass-through module	GV-BE2LPS1X1-R GV-BE2LPS1XR-R
		8Gb fibre channel switch module	GV-BE2FSW1X1-R
		16Gb fibre channel switch module	GV-BE2FSW3X1-R
		10Gb DCB switch module	GG-BE3LSW3X1-R GV-BE2LSW3X1-R
		10Gb LAN pass through module	GG-BE3LPS2X1-R
		10Gb LAN pass through module2	GG-BE3LPS2X2-R

Replaceable parts – mechanical components

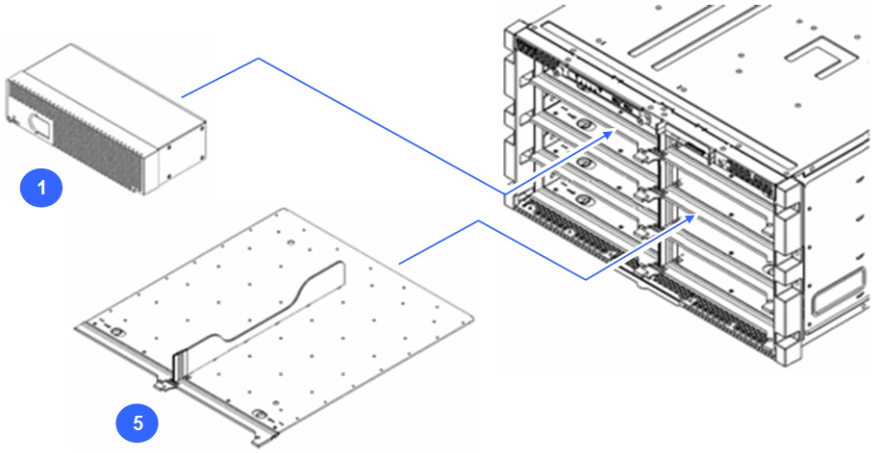


Figure 2-3 Mechanical components- front

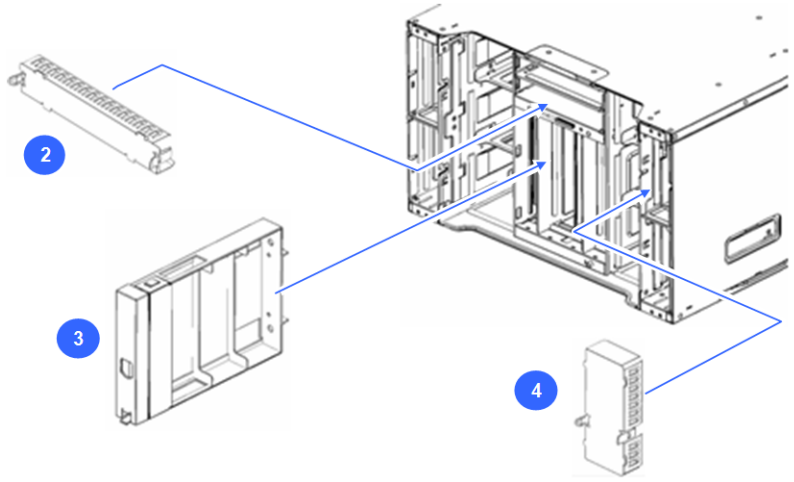


Figure 2-4 Mechanical components- rear

Table 2-4 Mechanical components

No.	Product Name		Product code
1	Dummy server blade		GG-BE3SVMDX1-Y
2	Dummy management module		GG-BE3SVPDX1-Y
3	Dummy switch module		GG-BE3SWMDX1-Y
4	Dummy power supply module		GG-BE3PSMDX1-Y
5	Shelf	Shelf for half-wide server blade	GG-BE3SHL1X1-Y
		Shelf for PCI expansion blade	GG-BE3SHL2X1-Y

Server blade

CB 520A A1

This section shows the replaceable parts on the CB 520A A1.

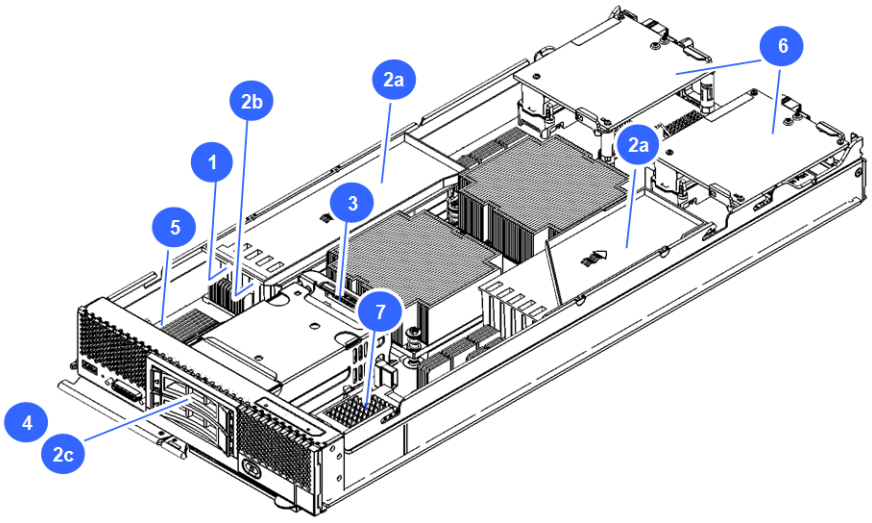


Figure 2-5 Replaceable components- CB 520A A1

CB 520H A1/B1/B2/B3/B4

This section shows the replaceable parts on the CB 520H A1.

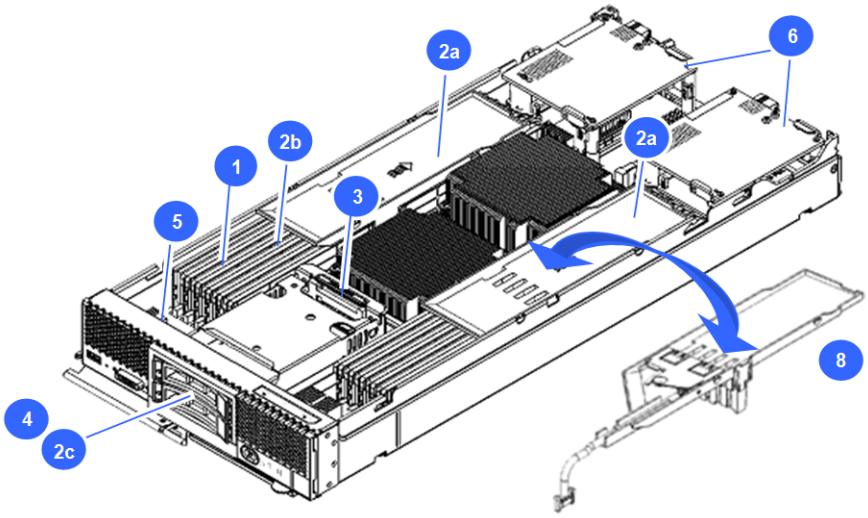


Figure 2-6 Replaceable components- CB 520H A1 without LOM

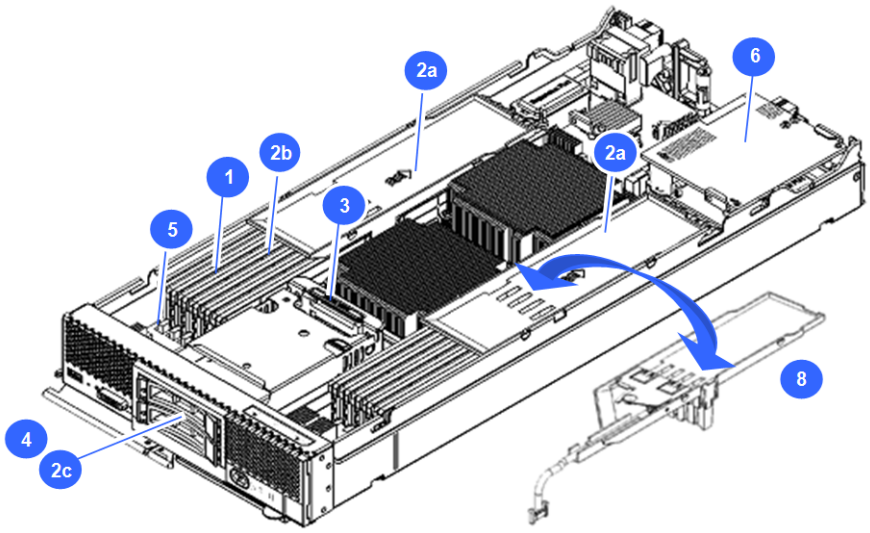


Figure 2-7 Replaceable components- CB 520H B1/B2

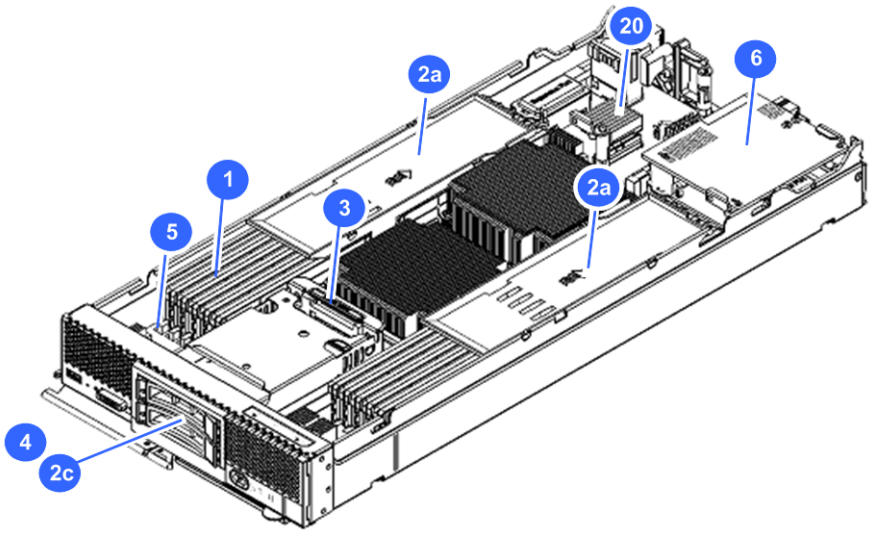


Figure 2-8 Replaceable components- CB 520H B3/B4

CB 540A A1/B1

This section shows the replaceable parts on the CB 540A A1/B1.

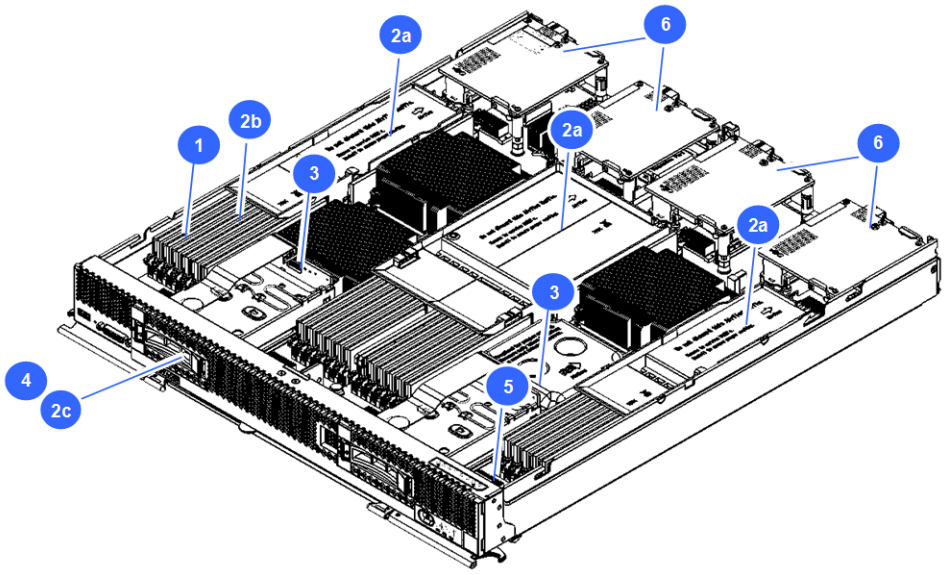


Figure 2-9 Replaceable components- CB 540A A1

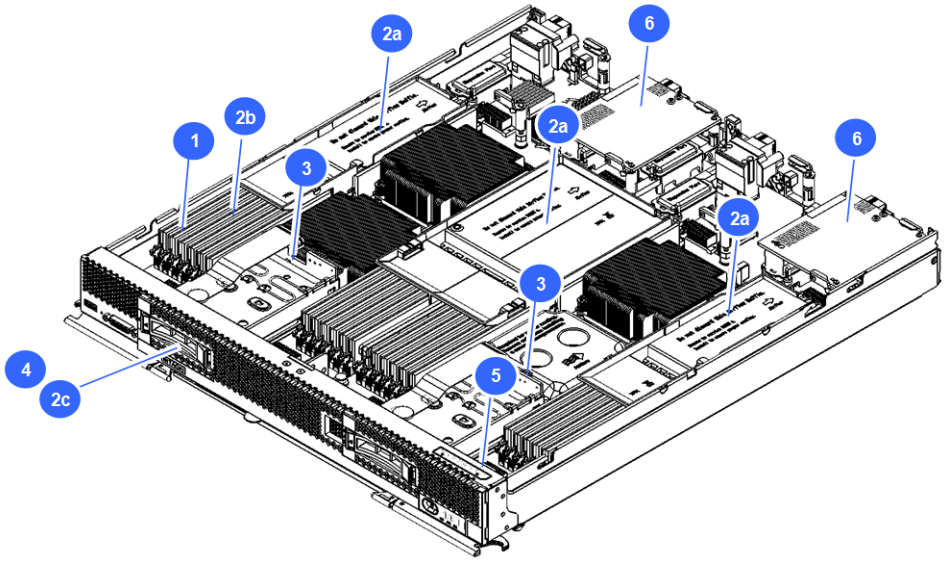


Figure 2-10 Replaceable components- CB 540A B1

CB 520X B1/B2/B3

This section shows the replaceable parts on the CB 520X B1/B2/B3.

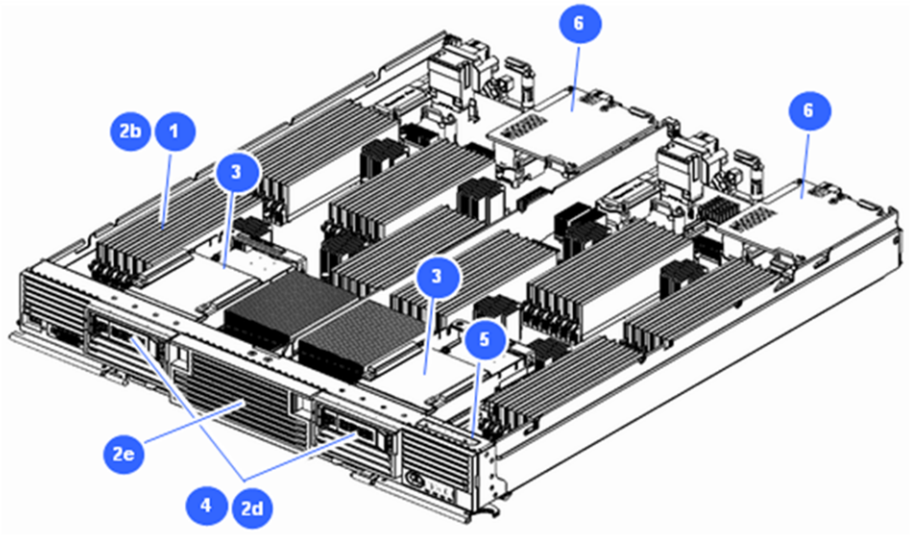


Figure 2-11 Replaceable components- CB 520X B1/B2/B3

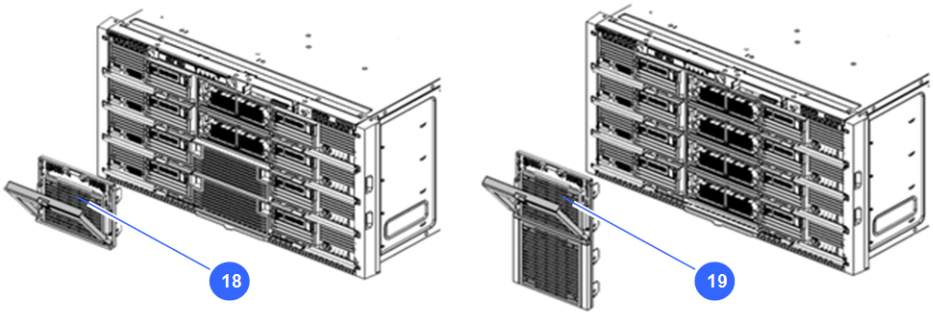


Figure 2-12 Replaceable components- CB 520X B1/B2/B3 for SMP

Expansion blade

Storage expansion blade

This section shows the replaceable parts on the storage expansion blade.

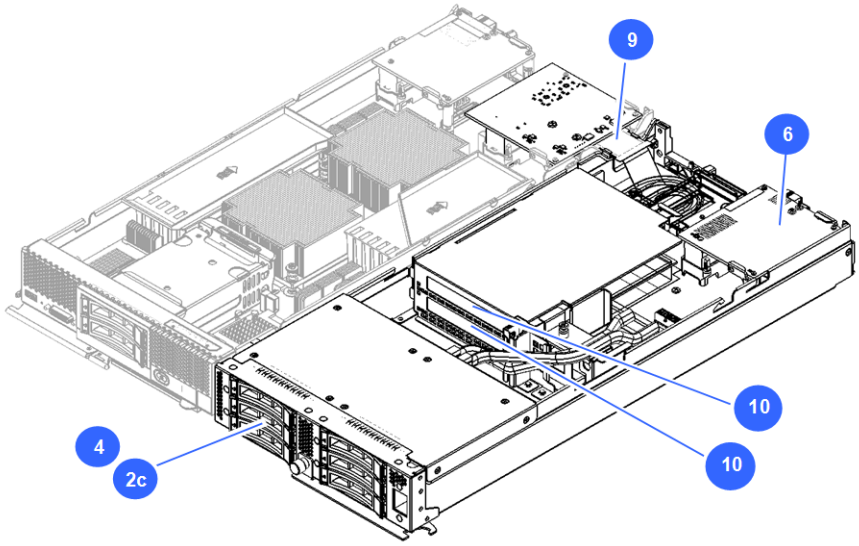


Figure 2-13 Replaceable components-Storage expansion blade

PCI expansion blade

This section shows the replaceable parts on the PCI expansion blade.

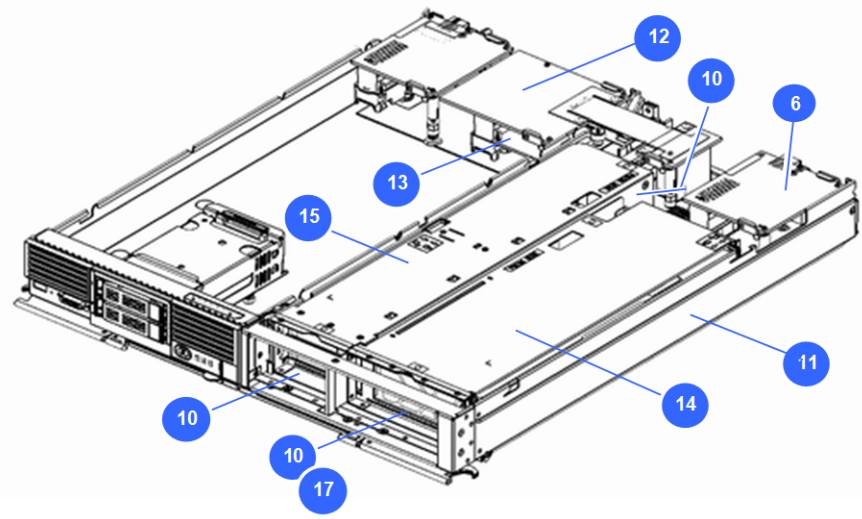


Figure 2-14 Replaceable components-PCI expansion blade

Table 2-5 Replaceable components- Server blade and expansion blade

No.	Part Name		Spare Part No.
1	DIMM	4 GB DDR3 1R RDIMM 1333 MHz	GG-MJ3N4G1X1-R
		8 GB DDR3 2R RDIMM 1333 MHz	GG-MJ3N8G1X1-R
		16 GB DDR3 2R RDIMM 1333 MHz	GG-MJ316G1X1-R
		32 GB DDR3 4R RDIMM 1333 MHz	GG-MJ332G1X1-R

No.	Part Name		Spare Part No.
		4 GB DDR3 1R RDIMM 1600 MHz	GG-MJ3N4G1X2-R
		8 GB DDR3 2R RDIMM 1600 MHz	GG-MJ3N8G1X2-R
		8 GB DDR3 1R RDIMM 1600 MHz	GG-MJ3N8G1X3-R
		16 GB DDR3 2R RDIMM 1600 MHz	GG-MJ316G1X2-R
		32 GB DDR3 4R RDIMM 1600 MHz	GG-MJ332G2X2-R
		8 GB DDR3 1R RDIMM 1866 MHz	GG-MJ3N8G1X4-R
		16 GB DDR3 2R RDIMM 1866 MHz	GG-MJ316G1X3-R
		32 GB DDR3 4R LRDIMM 1333 MHz	GG-MJ332G2X1-R
		8 GB DDR4 1R RDIMM 2133 MHz	GG-MJ3N8G3X1-R
		16 GB DDR4 2R RDIMM 2133 MHz	GG-MJ316G3X1-R
		32 GB DDR4 4R LRDIMM 2133 MHz	GG-MJ332G4X1-R
		32 GB DDR4 2R RDIMM 2133 MHz	GG-MJ332G3X1-R
		64 GB DDR4 4R LRDIMM 2133 MHz	GG-MJ364G4X1-R
		16 GB DDR4 1R RDIMM 2400 MHz	GG-MJ316G5X1-R
		32 GB DDR4 2R RDIMM 2400 MHz	GG-MJ332G5X1-R
		64GB DDR4 4R RDIMM 2400MHz	GG-MJ364G5X1-Y
2	Dummy	a) Air duct	-
		b) Memory socket dummy	-
		c) HDD slot dummy	-
		d) Dummy HDD module, type2	-
		e) Dummy SMP connection module	-
3	SAS kit1 for on-board RAID	For CB 520A A1, CB 520H A1/B1/B2	GG-UH3HDK1X1-R
		For CB 540A A1/B1	GG-UH3HDK3X1-R
	SAS kit2 for RAID mezzanine	For CB 520A A1, CB 520H A1/B1/B2	GG-UH3HDK2X1-R
		For CB 540A A1/B1	GG-UH3HDK4X1-R
	SAS HDD kit for type2	For CB 520X B1/B2/B3	GG-UH3HDK5X1-R
	SAS HDD kit	For CB 520H B3/B4	GG-UH3HDK6X1-R
4	Hard disk drive	SAS canister unit, 147 GB 15000 rpm	GG-UH31472X1-R
		SAS canister unit, 147 GB 15000 rpm, w/o BNST	GG-UH31472X1C-R
		SAS canister unit, 300 GB 10000 rpm	GG-UH33001X1-R
		SAS canister unit, 300 GB 10000 rpm, w/o BNST	GG-UH33001X1C-R
		SAS canister unit, 300 GB 15000 rpm	GG-UH33002X1-R
		SAS canister unit, 300 GB 15000 rpm, w/o BNST	GG-UH33002X1C-R
		SAS canister unit, 600 GB 10000 rpm	GG-UH36001X1-R

No.	Part Name		Spare Part No.
		SAS canister unit, 600 GB 10000 rpm, w/o BNST	GG-UH36001X1C-R
		SAS canister unit, 900 GB 10000 rpm	GG-UH39001X1-R
		SAS canister unit, 900 GB 10000 rpm, w/o BNST	GG-UH39001X1C-R
		SAS canister unit, 1.2 TB 10000 rpm	GG-UH31T21X1-R
		SAS canister unit, 1.2 TB 10000 rpm, w/o BNST	GG-UH31T21X1C-R
		SSD canister unit, 200 GB	GG-UH32003X1-R
		SSD canister unit, 400 GB	GG-UH34003X1-R
		SATA canister unit, 500 GB 7200 rpm	GG-UH35005X1-R
		SATA canister unit, 500 GB 7200 rpm, w/o BNST	GG-UH35005X1C-R
		SATA canister unit, 1 TB 7200 rpm	GG-UH3N1T5X1-R
		SATA canister unit, 1 TB 7200 rpm, w/o BNST	GG-UH3N1T5X1C-R
		SAS HDD, 147 GB, 15000 rpm, type2	GG-UH31472X6-R
		SAS HDD, 300 GB, 15000 rpm, type2	GG-UH33002X6-R
		SAS HDD, 600 GB, 10000 rpm, type2	GG-UH36001X6-R
		SAS HDD, 900 GB, 10000 rpm, type2	GG-UH39001X6-R
		SAS HDD, 1.2 TB, 10000 rpm, type2	GG-UH31T21X6-R
		SAS HDD, 1.8 TB, 10000 rpm, type2	GG-UH31T81X6-R
		SAS SSD, 200 GB, type2	GG-UH32003X6-R
		SAS SSD, 400 GB, type2	GG-UH34003X6-R
		SAS SSD, 800 GB, type2	GG-UH38003X6-R
		SAS HDD, 147 GB, 15000 rpm, type2, w/o BNST	GG-UH31472X6C-R
		SAS HDD, 300 GB, 15000 rpm, type2, w/o BNST	GG-UH33002X6C-R
		SAS HDD, 600 GB, 10000 rpm, type2, w/o BNST	GG-UH36001X6C-R
		SAS HDD, 900 GB, 10000 rpm, type2, w/o BNST	GG-UH39001X6C-R
		SAS HDD, 1.2 TB, 10000 rpm, type2, w/o BNST	GG-UH31T21X6C-R
		SAS HDD, 300 GB, 15000 rpm, 12G, type2	GG-UH33002X8-R
		SAS HDD, 600 GB, 10000 rpm, 12G, type2	GG-UH36001X8-R
		SAS HDD, 600 GB, 15000 rpm, type2	GG-UH36002X6-R
5	Lithium battery		GV-RV2A550004-R
6	Mezzanine card	1Gb 4 port Ethernet	GG-CN3M1G2X1-R
		1Gb 8 port Ethernet	GG-CN3M1G3X1-R
		10Gb 4 port CNA	GG-CN3MXG2X1-R
		10Gb 4 port LAN	GG-CN3MXG2X2-R
		Hitachi 8Gb 2 port fibre channel	GG-CC3M8G2X1-R

No.	Part Name		Spare Part No.
		Hitachi 8Gb 4 port fibre channel	GG-CC3M8G2X2-R
		Emulex 8Gb 2 port fibre channel	GG-CC3M8G1X1-R
		LSI RAID, SAS2008	GG-CA3RCD2x1-R
		LSI RAID w/ 1Gb 4p LAN, SAS2008	GG-CA3RCD3x1-R
		LSI RAID w/ 1Gb 8p LAN, SAS2008	GG-CA3RCD4x1-R
		Hitachi 16Gb 2 port fibre channel	GG-CC3M162X1-R
		Hitachi 16Gb 4 port fibre channel	GG-CC3M162X2-R
		Emulex 16Gb 2 port fibre channel	GG-CC3M161X1-R
7	RAID card	Internal RAID card for CB 520A A1	GG-CA3RCD1X1-R
8	USB	a) USB enablement kit	GG-CH3UEK1X1-R
		b) USB	GG-MC3USB2X1-R
9	Storage expansion blade connection kit with cable		GG-CB3MPT1X1-R
10	PCI card (Flash drive)	365 GB Flash drive	GG-CG3NFD1X1-R
		785 GB Flash drive	GG-CG3NFD2X1-R
		1.2 TB Flash drive	GG-CG3NFD3X1-R
		1.1 TB Flash drive	GG-CG4VFD1X1-R
		2.2 TB Flash drive	GG-CG4VFD2X1-R
		4.8 TB Flash drive	GG-CG4VFD3X1-R
11	PCI expansion blade		GG-ES3PCB1X1-R
12	PCI blade connection kit F/H		GG-CB3MPT2X1-R
13	PCI blade connection kit L/P		GG-CB3MPT3X1-R
14	PCI blade card adapter x16 F/H		GG-CB3RAK1X1-R
	PCI blade card adapter x8 F/H		GG-CB3RAK2X1-R
15	PCI blade card adapter x8 L/P		GG-CB3RAK3X1-R
	PCI blade card adapter x4 L/P		GG-CB3RAK4X1-R
16	PCI blade optional power cable		GG-LG3GPC1X1-R
17	PCI card (GPU adapter)	NVIDIA GRID K2 GPU adapter	GG-CV3GPU2X1-R
		NVIDIA TESLA K10 GPGPU adapter	GG-CV3GPU4X1-R
18	2-blade SMP connection board		GG-EZ3SMB4X1-R
19	4-blade SMP connection board		GG-EZ3SMB8X1-R
20	SD card	SD card enablement kit	GG-CH3SEK1X1-R
		SD card	GG-MC3SDC1X1-R

Management module

This section shows the replaceable parts in the management module.

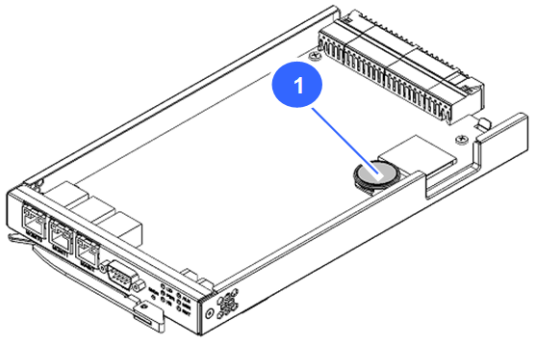


Figure 2-15 Replaceable components- lithium battery

Table 2-6 Replaceable components- lithium battery

No.	Part Name	Spare Part No.
1	Lithium battery	GV-RV2A550004-R

Switch module

This section shows the replaceable parts in the switch module.

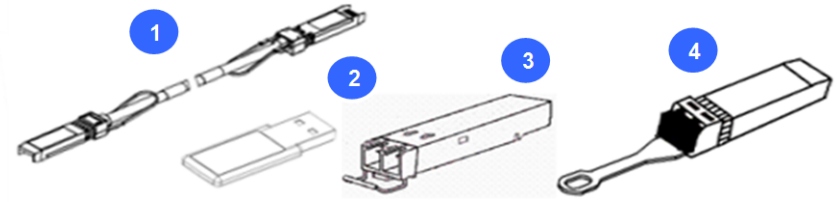


Figure 2-16 Replaceable components- SFP+ module

Table 2-7 Replaceable components- SFP+ module

No.	Part Name		Spare Part No.
1	10 Gb SFP+ twinax cable	1 m	GG-LN3TWC1X1-R
		3 m	GG-LN3TWC2X1-R
		5 m	GG-LN3TWC3X1-R
2	Memory	Memory card for 1Gb, 1/10Gb LAN switch	GG-MC3LSC1X1-R
		USB memory for 8Gb fibre channel switch	GV-MC2USB1X1-R

No.	Part Name		Spare Part No.
3	SFP+ module	Optic 10GBASE-SR, 1/10Gb LAN switch	GV-CN2XFP1X1-R GV-CN2XFP1XR-R
		Optic 8 Gbps, 8Gb fibre channel switch	GV-BE2SFP1X1-R
		Optic 10 Gbps, 10GBASE-SR, 10Gb DCB switch	GG-BE3SFP2X1-R
		RJ45 1000BASE-T, 10Gb DCB switch	GG-BE3SFP3X1-R
		Optic 10GBASE-SR, 10Gb LAN pass through	GG-BE3SFP4X1-R
4	SFP+ module for 16Gb FC switch	16Gb FC SFP+, SWL for FC Switch	GV-BE2SFP6X1-R
		16Gb FC SFP+, LWL, 10 km	GV-BE2SFP7X1-R
		16Gb FC SFP+, ELWL, 25 km	GV-BE2SFP8X1-R

3

Basic knowledge for replacement

This chapter describes how to verify a failed part and how to order a failed part. The following key topics are covered:

This chapter provides an overview. Details are found in chapters 4 and 5.

- ☐ Basic replacement procedure
- ☐ Management monitor for maintenance
- ☐ Preventing electrostatic charge

Basic replacement procedure

Server blade/ Management module/ Switch module

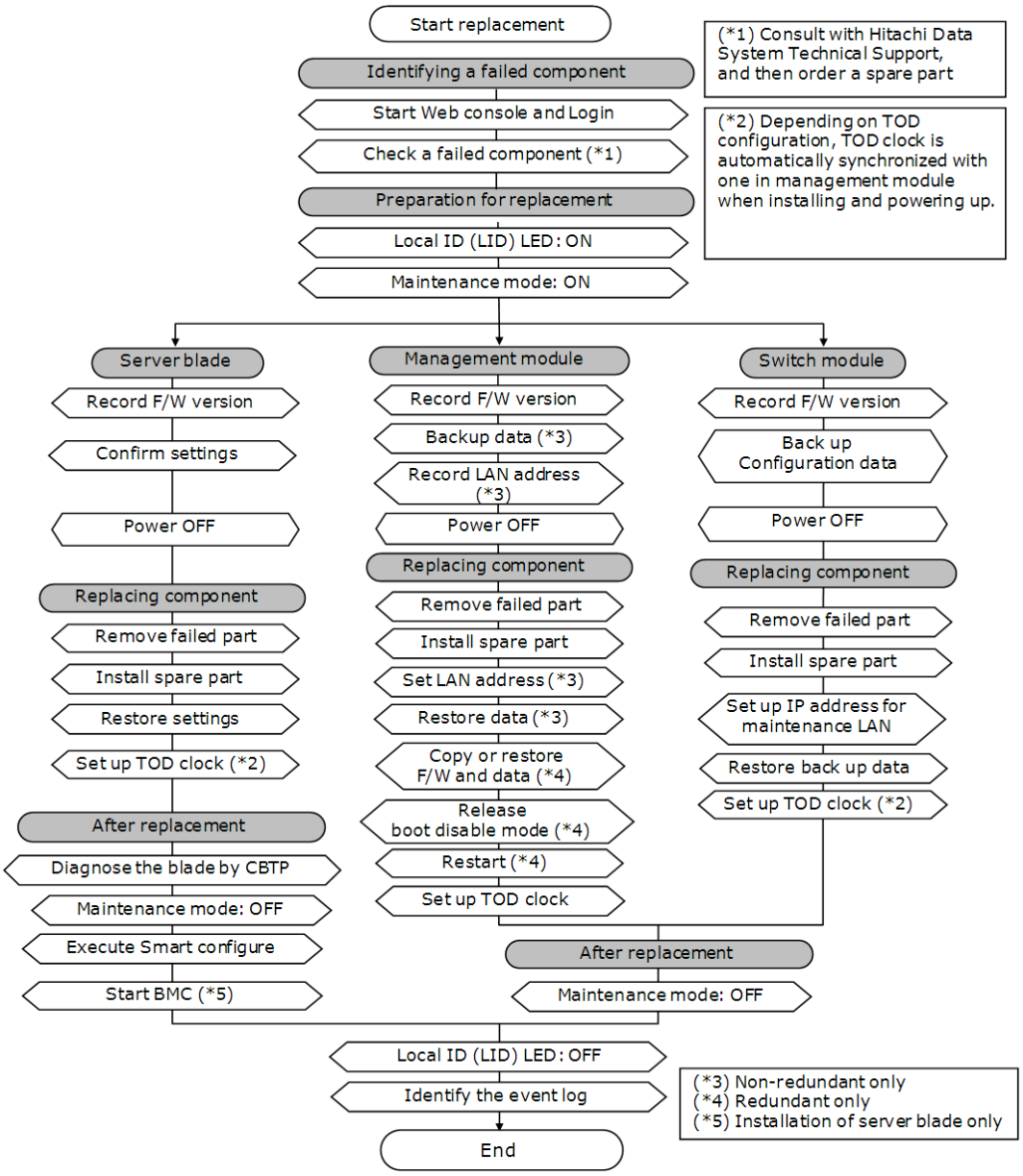


Figure 3-1 Basic procedure 1

Disk drive/ Power supply module/ Fan module

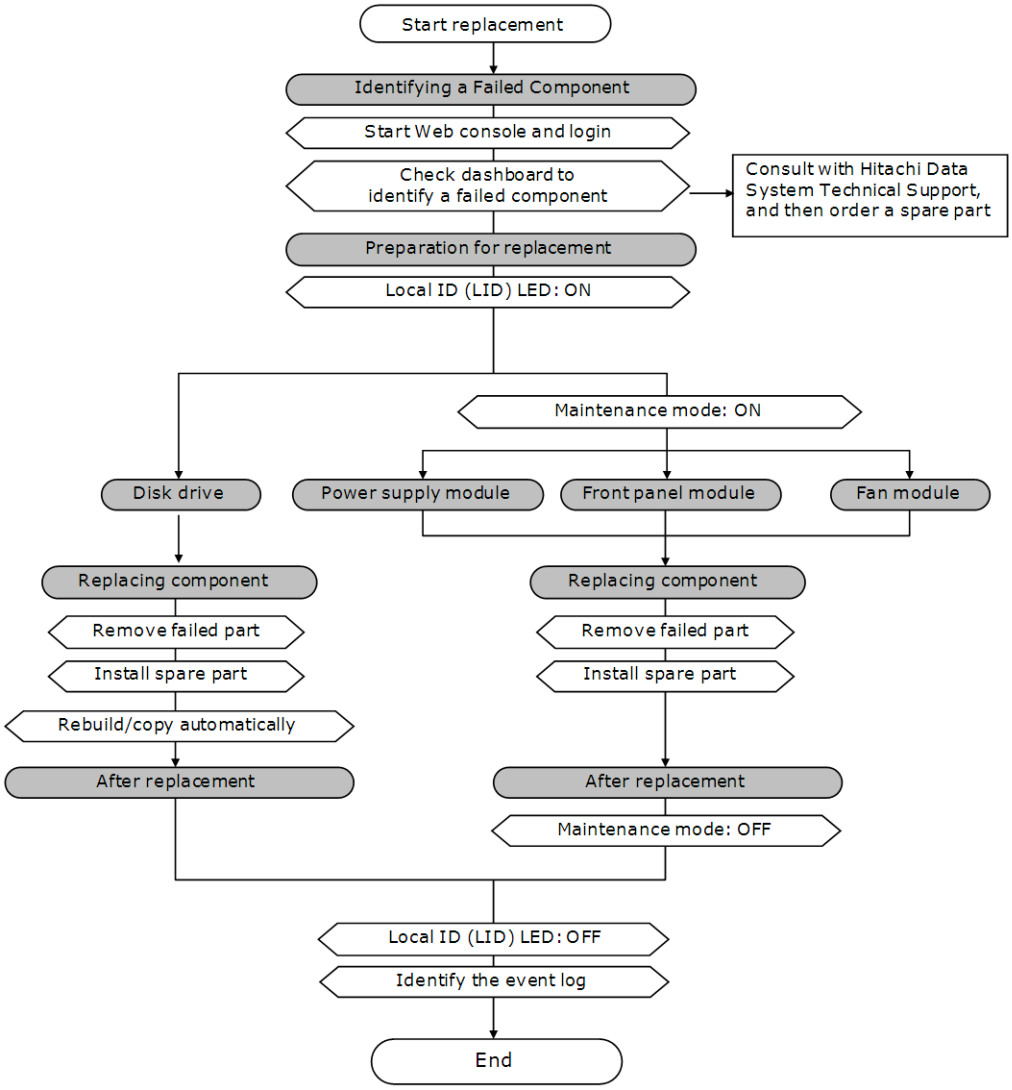


Figure 3-2 Basic procedure 2

Management monitor for maintenance

The Hitachi Compute Blade system prepares the two types of management monitor.

- Web console
- LCD touch console (option)

Web Console

A Web console is the general application to control or manage the Hitachi Compute Blade system. Connecting between management modules installed in the system and the user console PC on the network, you can display the system status and the failed part, and also set up the configuration.

For more information about the web console application, see *Hitachi Compute Blade 500 Web Console User's Guide*.

The web console is basically connected to the management port #0 on management module. The management LAN port #0 is a standard RJ45 connector and accepts both a cross-over cable and straight-through cable.

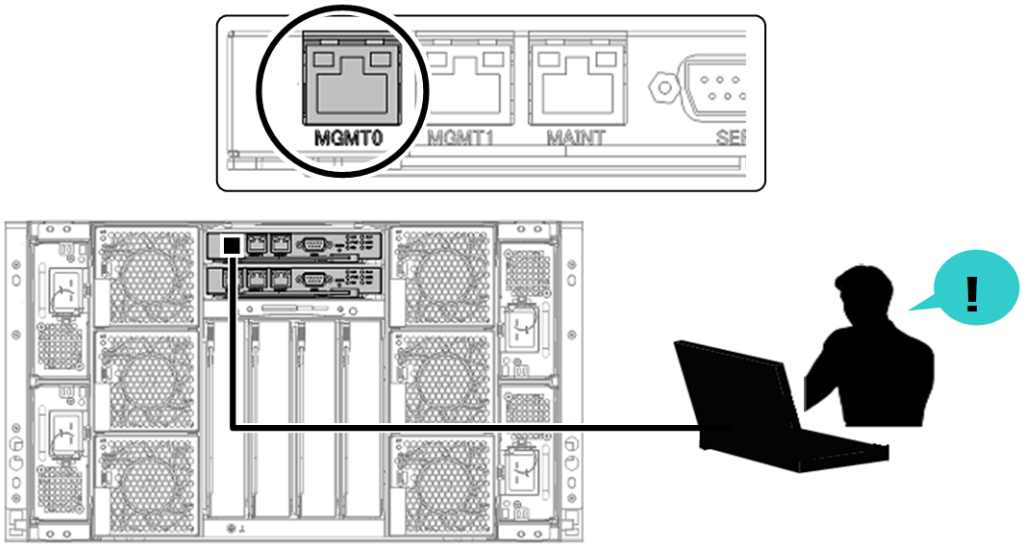


Figure 3-3 Connecting the console PC

LCD touch console

An LCD touch console unit is optional. Connecting it to the USB port of the front panel in a server chassis makes it easy to display the system status and the failed part, and also to set up the configuration without a console PC and web console application.

For more information about the LCD application, see *Hitachi Compute Blade 500 LCD Touch Console User's Guide*.

Hitachi recommends that the LCD touch console is available as the secondary maintenance application.

The LCD touch console is directly connected to the USB port #0 or 1 on the front panel module. The USB port #0 is a standard USB connector.

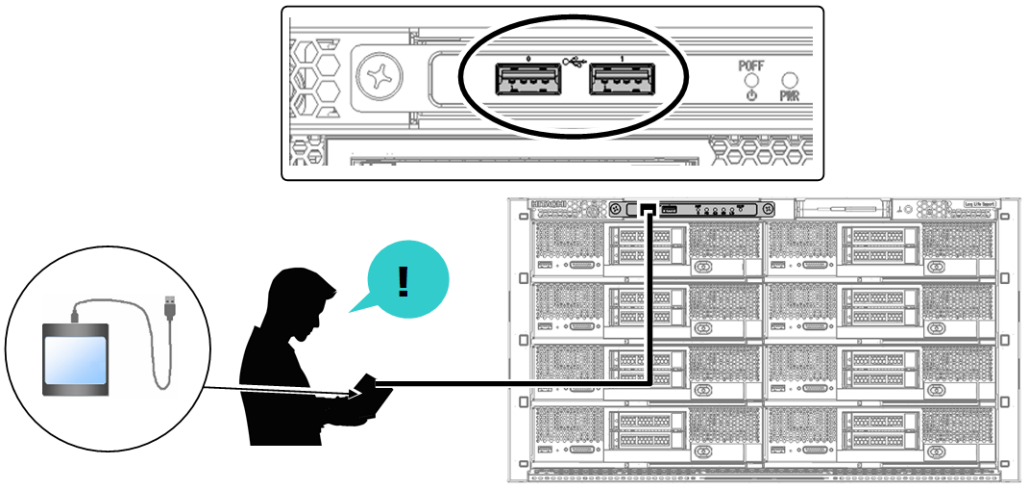


Figure 3-4 Connecting the LCD touch console

Preventing electrostatic charge

You can attach the anti-static strap to the server chassis at the front and rear side of chassis. Before performing maintenance, connect the strap between your wrist and the server chassis, as shown below.

Notice:

To prevent electrostatic damage, put on an anti-static wrist strap before handling components.

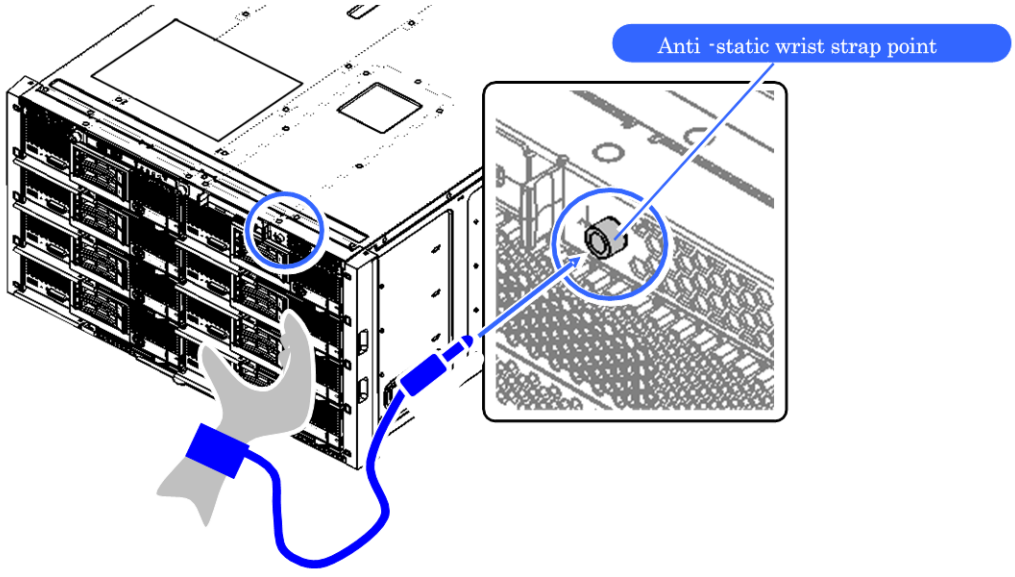


Figure 3-5 Anti-static attachment at the front of the server chassis

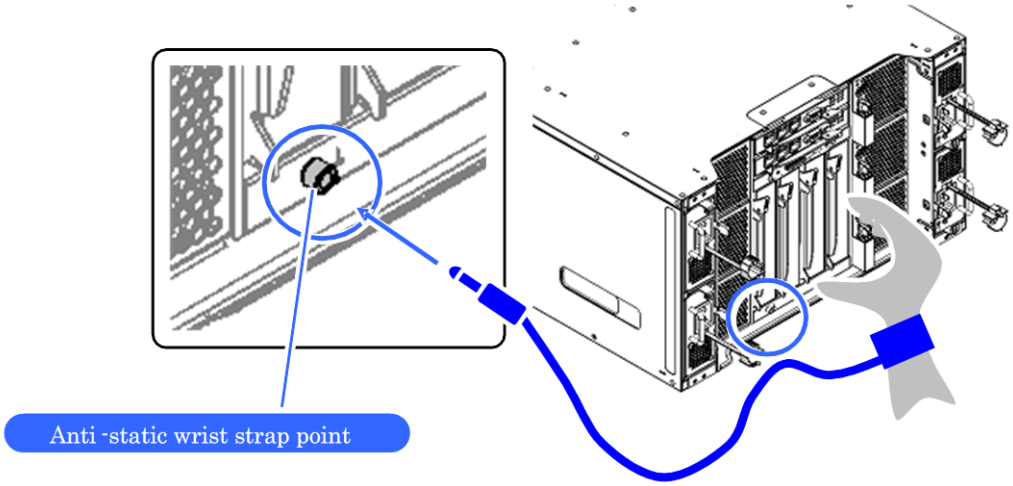


Figure 3-6 Anti-static attachment at the rear of the server chassis

4

Common process for replacement

This chapter describes the common processes before replacing part. The following key topics are covered:

- ☐ Preparation for replacement
- ☐ Web console login procedure
- ☐ Alert information identification procedure
- ☐ Identify LED (LID) on/off procedure
- ☐ Maintenance mode on/off procedure
- ☐ Internal IP address setup procedure for switch module
- ☐ F/W version identification procedure
- ☐ Confirming switch mode of FC switch module
- ☐ Restoring switch mode of FC switch module
- ☐ Restoring MAPS action settings of 16Gb FC switch module
- ☐ Backup/restore procedure
- ☐ Time of Day (TOD) clock setup procedure
- ☐ Smart configure procedure for server blade
- ☐ Restarting BMC procedure

- ☐ Power down procedure

Preparation for replacement

Even if you are an experienced server administrator or technician, please take the time to read the instructions before performing any procedure. The few minutes you spend ahead of time can save you a lot of time later.

Observe the following guidelines when working on Hitachi Compute Blade. Ignorance or violation of these guidelines may result in bodily injury or damage to the server chassis or parts. In addition to these safety guidelines and the safety guidelines in each set of instructions, read and follow the warnings and instructions in the safety section at the beginning of this manual.

Tool request

- Anti-static wrist strap
- Anti-static mat
- Web console PC (IIS FTP is available)
- Test program (CBTP) CD-ROM for server blade

Unpack a spare component

1. Remove the spare component from its anti-static container.
2. Verify that the spare component is the correct model number.
3. Return the spare component to the container or place it on an antistatic mat until you are ready to install it.

Web console login procedure

Perform the following procedure to log in to the web console.

1. Connect the LAN cable to management port #0 (MGMT0) of the primary management module.

Tip: Applicable LAN cable type:
A cross-over LAN cable or a straight-through LAN cable.

Tip: Primary management module:
The primary LED (MSR) emits in green.

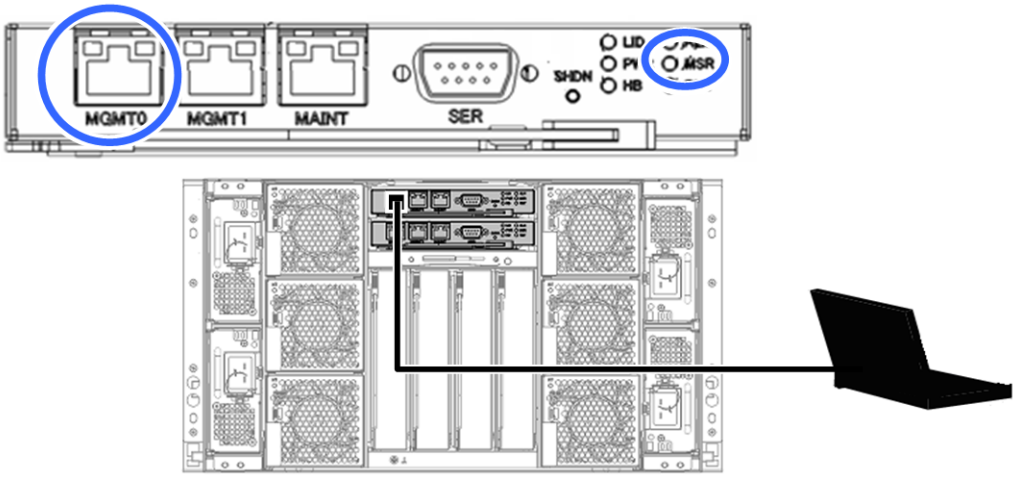


Figure 4-1 Preparation for Login

2. Start a web browser on a console PC.
3. Enter the following URL in the address field:
   `https://192.168.0.1` (management module0)
   `https://192.168.0.2` (management module1)
   The URLs above are the default IP addresses of the management modules connecting the console PC.

Tip: The IP address may be different from 192.168.0.1 or 192.168.0.2 in the production environment. You should communicate with the server and network IP administrator to identify the actual IP address in advance.

4. The web console portal is displayed on the screen.
   Enter <*User ID*> and <*Password*>, and then click **Login**.
5. When the login process is successful, the dashboard is displayed.

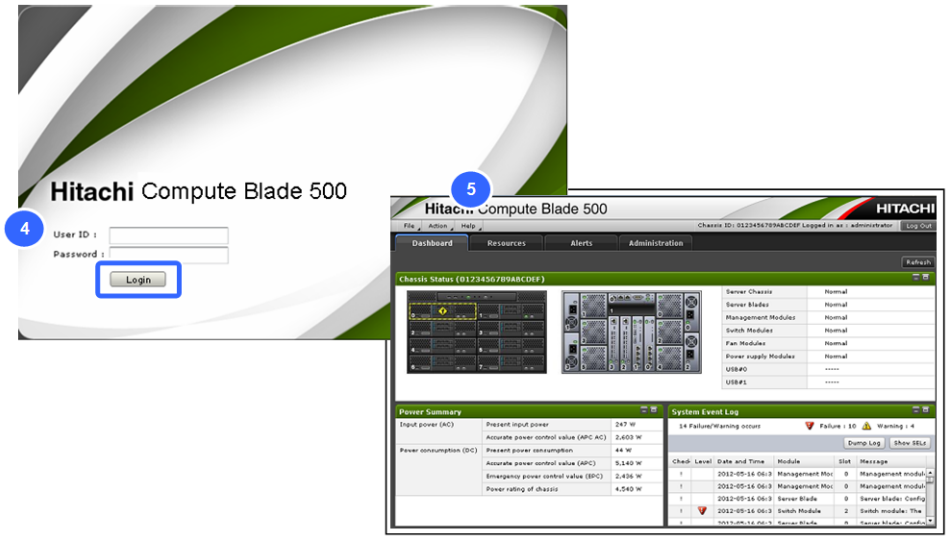


Figure 4-2 Web console Login screen

Note: To log in to the web console for maintenance, you need an administrator account. The initial user ID and password are as follows.
Initial User ID: `administrator`
Initial Password: `password`
If you are an administrator, you should change the password for security reason as soon as possible.

Alert information identification procedure

Verify that the component has failed through the System Event log and Maintenance Action Report log (MAR log).

This procedure describes how to identify the alert information for verifying the failure component.

To identify the system event log

1. Select **Alerts** tab and select **All Logs > System Event Log**.
2. Click **Refresh** to identify the latest information.
3. Select the event log that you need to get the detail.
4. Click **Show details**.
5. The show details dialog box will appear.
6. See the Failure information and Action plan columns for maintenance.

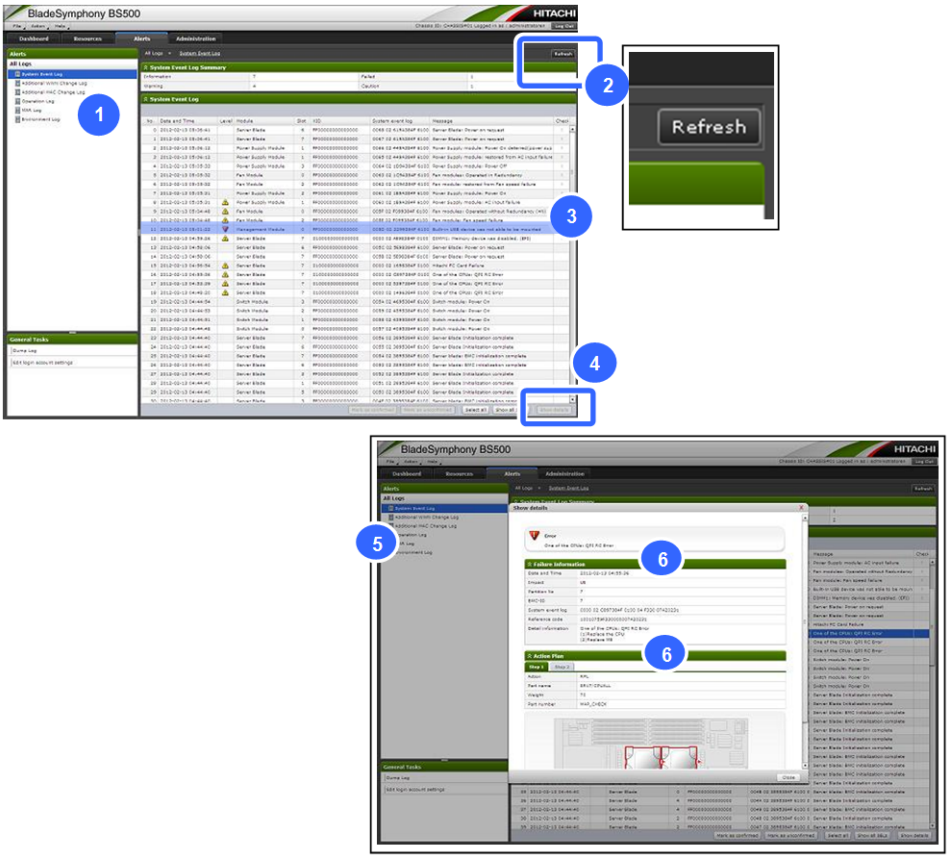


Figure 4-3 Failure information from System Event Log

To identify the MAR log

1. Select **Alerts** tab and select **All Logs > MAR log**.
2. Click **Refresh** to identify the latest information.
3. Select the event log that you need to get the detail.
4. Click **Show details**.
5. The show details dialog box will appear.
6. See the Failure information and Action plan columns for maintenance.

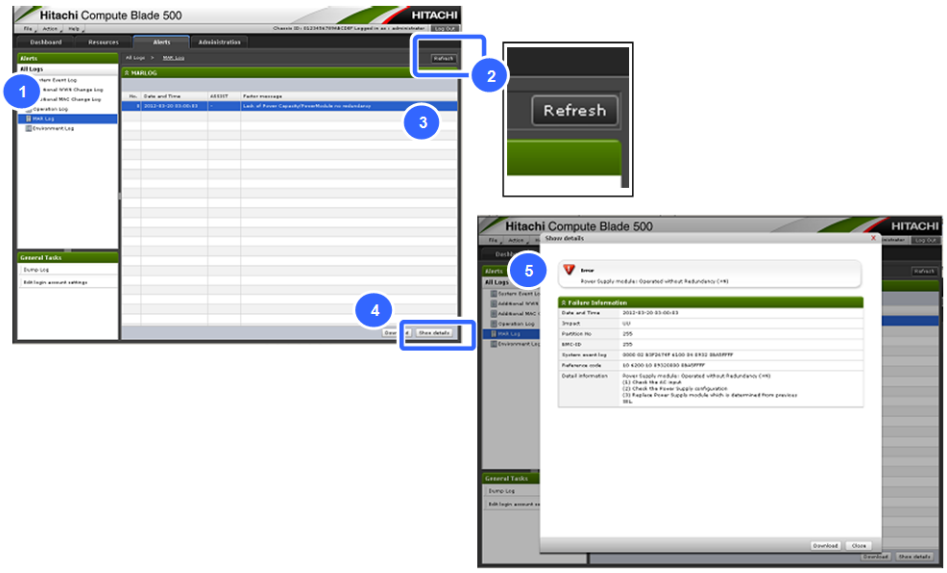


Figure 4-4 Failure information from MAR log

To download the MAR log

1. Click **Download** in the show details dialog box.

Identify LED (LID) on/off procedure

Server blade, management module, and switch module have an indicator called Identify LED (LID LED) and the color is blue. Before performing the replacement procedure, lighting LID LED is useful to visualize the target module, which you should replace, and to reduce the risk of incorrect removal.

This procedure describes how to set up the system to Local ID LED on or off for replacement.

Server blade

LID ON

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Modules > *a target blade*** that you should replace.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Modules > Server Blade n of the SMP configuration > *a target blade*** that you should replace.
2. Select **Condition** tab, and then click **LID ON**.
3. The confirmation dialog box appears. Click **OK**.

LID: OFF

1. Select **Condition** tab, and then click **LID OFF**.
2. The confirmation dialog box appears. Click **OK**.

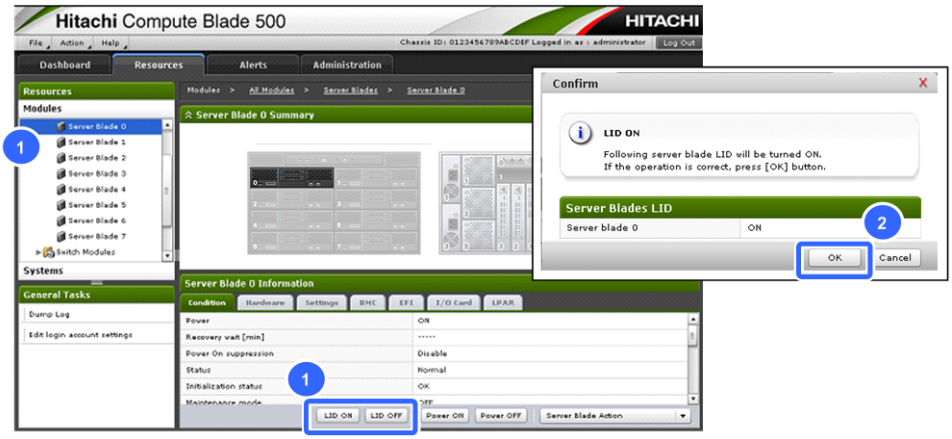


Figure 4-5 LID on/off for server blade

Management module

LID ON

1. Select **Resources** tab and select **Modules > All Modules > Management Modules > *a target module*** that you should replace.
2. Select **Condition** tab, and then click **LID ON**.
3. The confirmation dialog box appears. Click **OK**.

LID: OFF

1. Select **Condition** tab, and then click **LID OFF**.
2. The confirmation dialog box appears. Click **OK**.

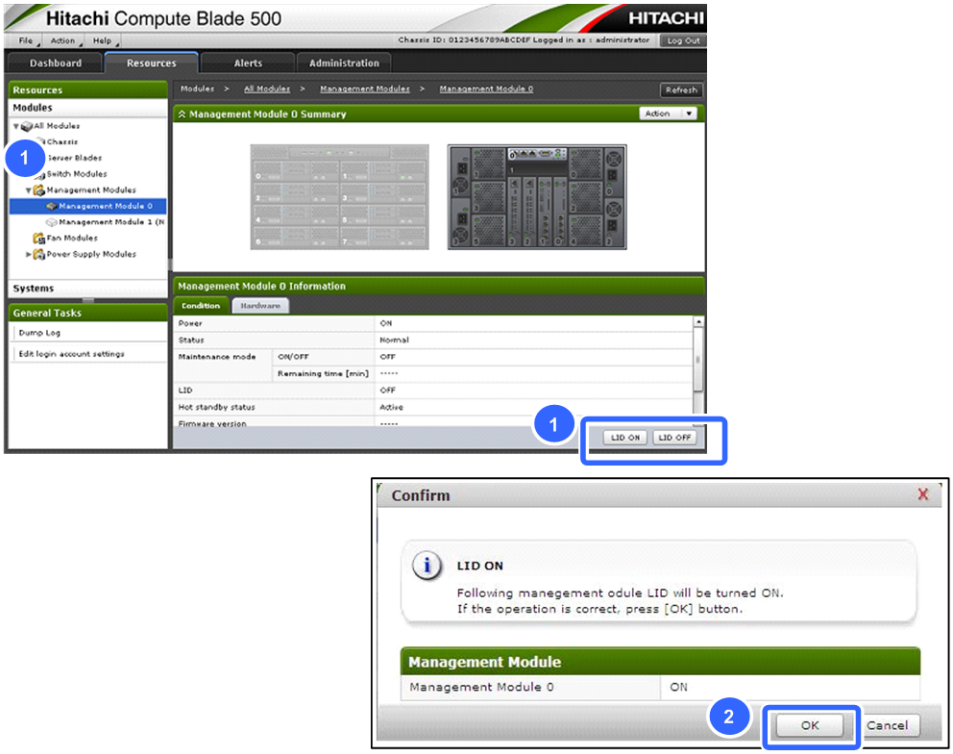


Figure 4-6 LID on/off for management module

Switch module

LID ON

1. Select **Resources** tab and select **Modules > All Modules > Switch Modules > *a target module*** that you should replace.
2. Select **Condition** tab, and then click **LID ON**.
3. The confirmation dialog box appears. Click **OK**.

LID: OFF

1. Select **Condition** tab, and then click **LID OFF**.
2. The confirmation dialog box appears. Click **OK**.

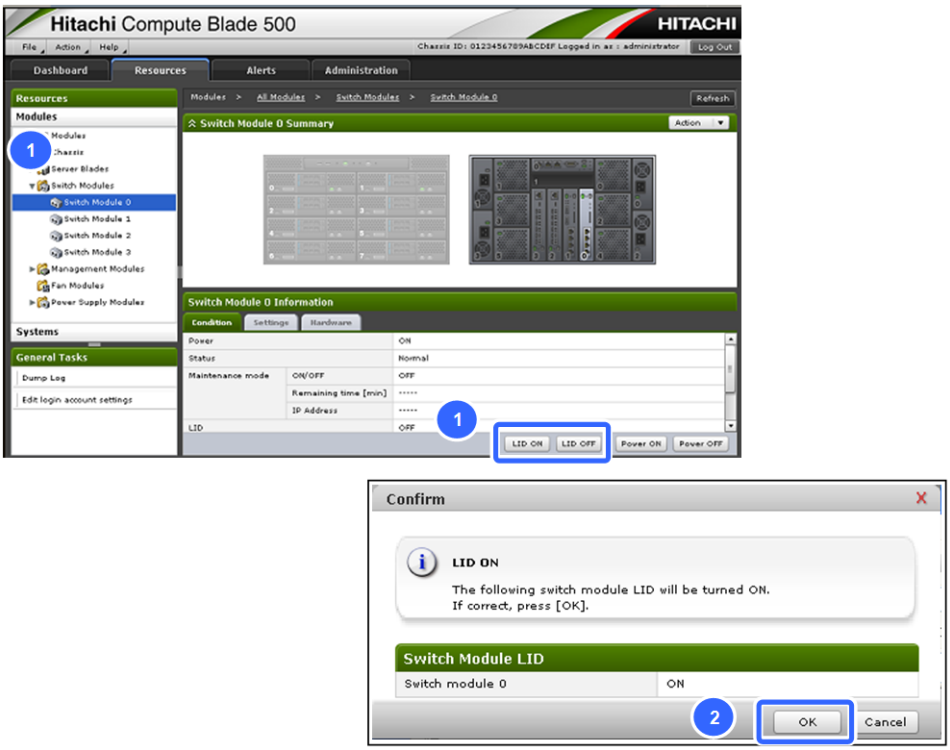


Figure 4-7 LID on/off for switch module

Maintenance mode on/off procedure

Maintenance mode is a function that a user performs when replacing a component. When setting to Maintenance mode, the system deters unnecessary notifications that might be logged when the component is removed or installed.

This procedure describes how to activate the system to Maintenance mode ON or OFF for component replacement.

Notice:

Only perform the replacement procedure during the maintenance mode is ON.

Notice:

The maintenance mode ON is valid for two hours. You should perform the maintenance work within two hours from the start of the Maintenance mode ON. If you need to do maintenance for more than two hours, you MUST activate Maintenance mode again.

Server blade

Maintenance mode ON for CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades > *a target blade*** that should be changed into maintenance mode.
2. Click **Action**, and then select **Maintenance mode ON**.
3. The current setting condition will be displayed. Click **Confirm**.
4. The confirmation dialog box appears. Click **OK**.

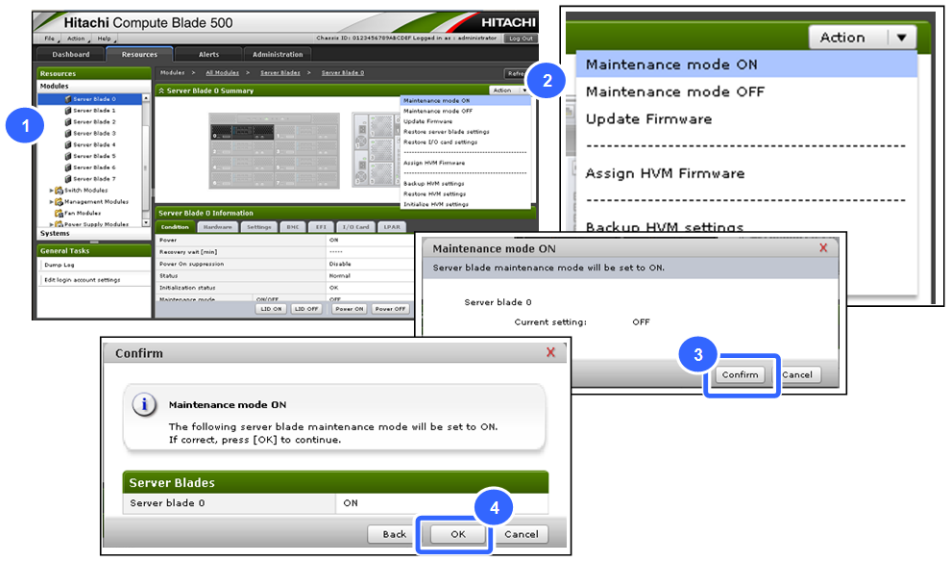


Figure 4-8 Maintenance mode on

5. Confirm that the selected module is highlighted and the message is displayed.

Figure 4-9 Highlighting the activated module

Maintenance mode OFF for CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades > *a target blade*** that should be changed into maintenance mode.
2. Click **Action**, and then select **Maintenance mode OFF**.
3. The current setting condition will be displayed. Click **Confirm**.
4. The confirmation dialog box appears. Click **OK**.
5. Confirm that the highlight of the selected module goes out and the message is off.

Note: The server blade cannot boot OS as long as Maintenance mode ON is activated.

Maintenance mode ON for SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades**.
2. Click **Action**, and then select **Maintenance mode ON**.
3. Click **check boxes** of the **SMP blades** that should be changed to maintenance mode, and then click **Confirm**.
4. In **Confirm** dialog box, click **OK**.
5. Confirm that the selected blades highlighted and a symbol is indicated.

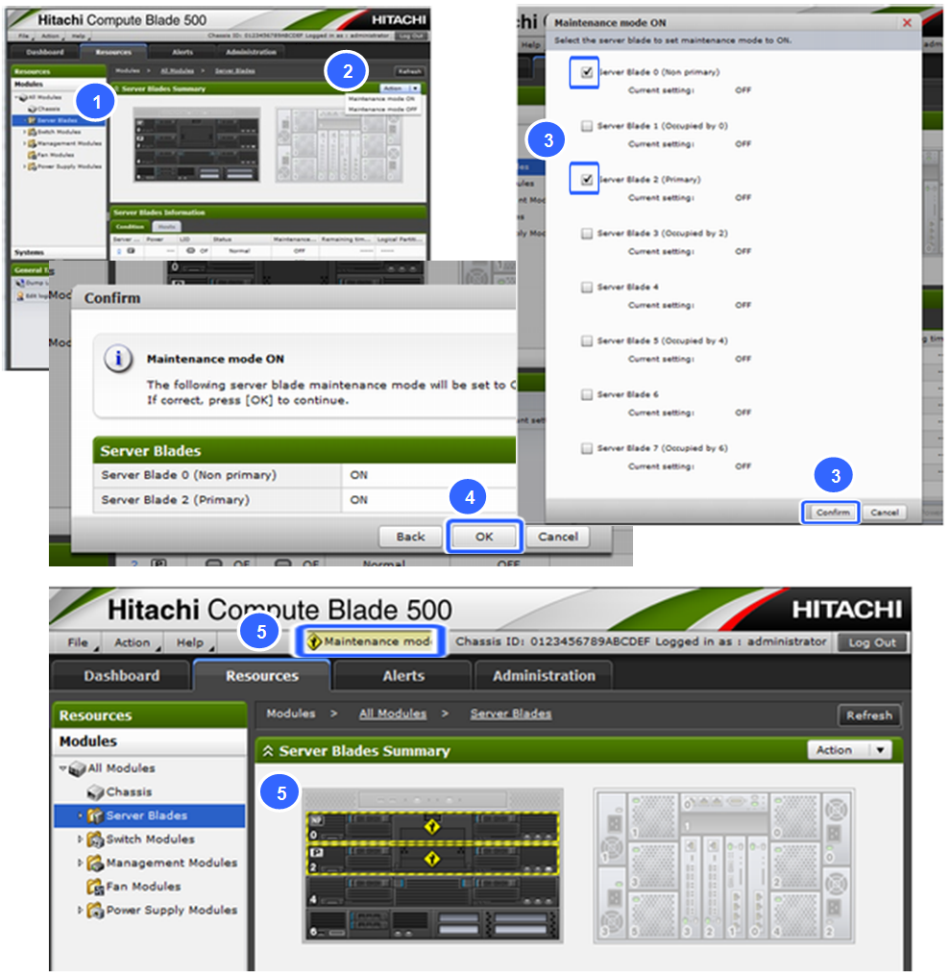


Figure 4-10 Maintenance mode on

Maintenance mode OFF for SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades**.
2. Click **Action**, and then select **Maintenance mode OFF**.
3. Click **check boxes** of the **SMP blades** that should be changed to maintenance mode off, and then click **Confirm**.
4. The confirmation dialog box appears. Click **OK**.
5. Confirm that the highlights of the selected blades go out and the symbol disappears.

Figure 4-11 Maintenance mode OFF

Management module

Maintenance mode ON

1. Select **Resources** tab and select **Modules > All Modules > Management modules >** ***a target module*** that should be changed into maintenance mode.
2. Click **Action**, and then select **Maintenance mode ON**.
3. The confirmation dialog box appears. Click **OK**.

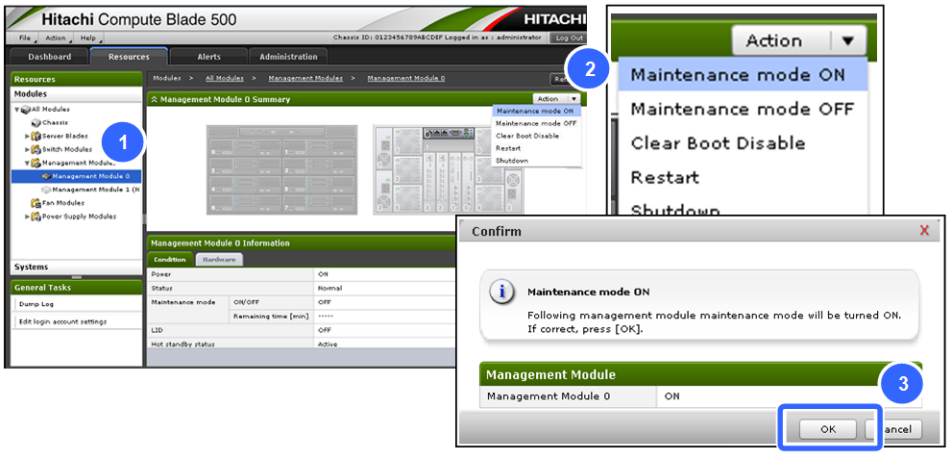


Figure 4-12 Maintenance mode on

4. Confirm that the selected module is highlighted and the message is displayed.

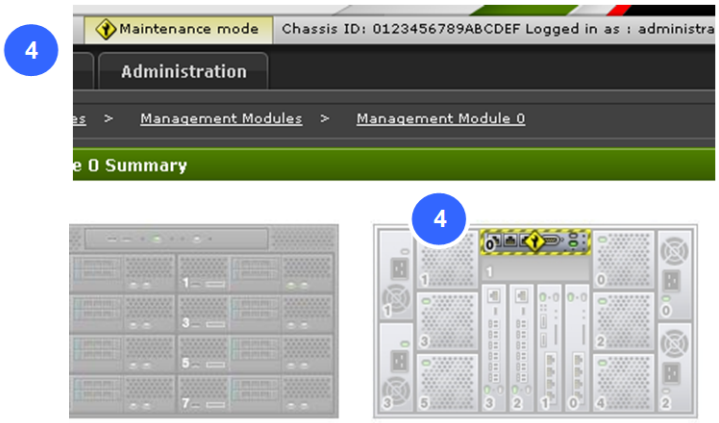


Figure 4-13 Highlighting the activated module

Maintenance mode OFF

1. Click **Action**, and then select **Maintenance mode OFF**.
2. The confirmation dialog box appears. Click **OK**.
3. Confirm that the highlight of the selected module goes out and the message is off.

Switch module

Maintenance mode ON

1. Select **Resources** tab and select **Modules > All Modules > Switch modules > *a target module*** that should be changed into maintenance mode.
2. Click **Action**, and then select **Maintenance mode ON**.
3. The current setting condition will be displayed. Click **Confirm**.

4. The confirmation dialog box appears. Click **OK**.

Figure 4-14 Maintenance mode on

5. Confirm that the selected module is highlighted and the message is displayed.

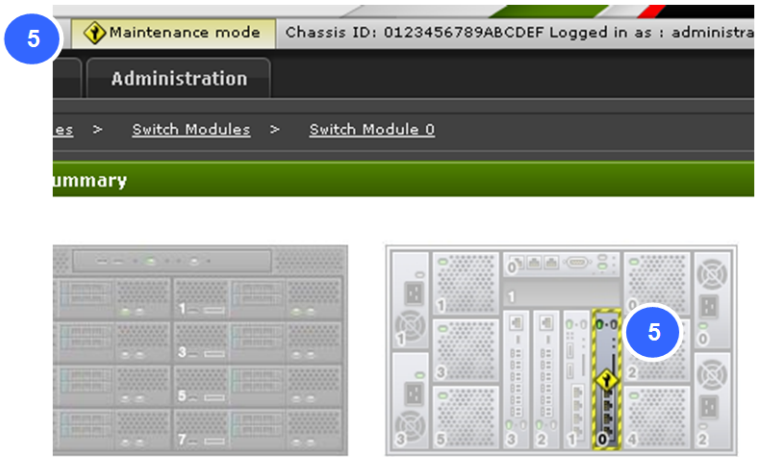


Figure 4-15 Highlighting the activated module

Maintenance mode OFF

1. Click **Action**, and then select **Maintenance mode OFF**.
2. The confirmation dialog box appears. Click **OK**.
3. Confirm that the highlight of the selected module goes out and the message is off.

Server chassis

Maintenance mode ON

1. Select **Resources** tab and select **Modules > All Modules > Chassis**.
2. Click **Action**, and then select **Chassis Maintenance mode ON** if replacing a fan module or power supply module, or select **Front Panel Maintenance mode ON** if replacing the front panel.
3. The confirmation dialog box appears. Click **OK**.

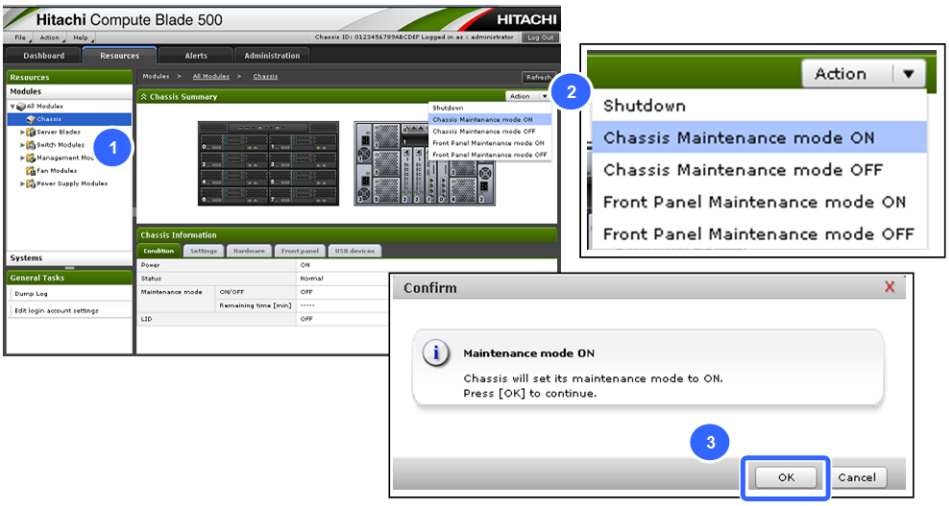


Figure 4-16 Maintenance mode on

4. Confirm that the chassis or front panel is highlighted and the message is displayed.

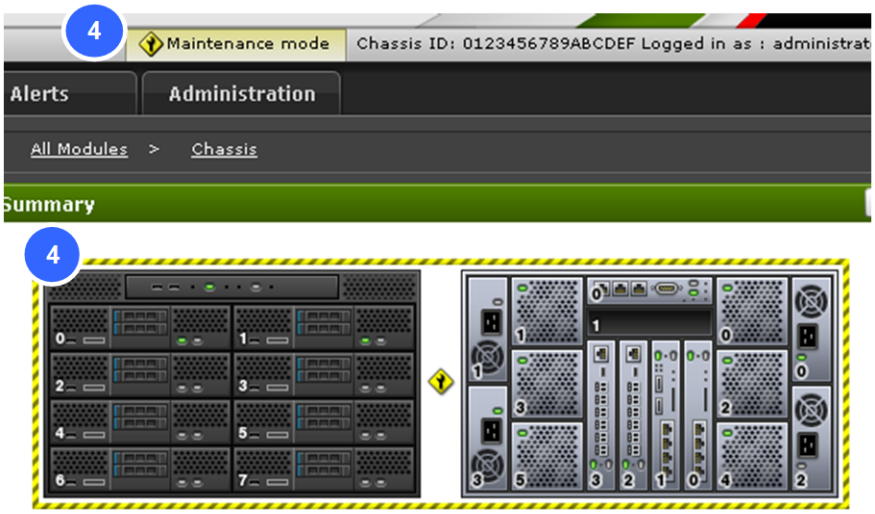


Figure 4-17 Highlighting the activated module

Maintenance mode OFF

1. Click **Action**, and then select **Chassis Maintenance mode OFF** or **Front panel Maintenance mode OFF**.
2. The confirmation dialog box appears. Click **OK**.
3. Confirm that the highlight of the chassis goes out and the message is off.

Internal IP address setup procedure for switch module

When replacing switch module, you should connect the console PC to the switch module through the management LAN port of the management module. To connect the console PC to the switch module through the management LAN port of the management module, you need to confirm or set up the IP address for the switch module in advance.

This procedure describes how to confirm and set up the internal IP address for the switch module.

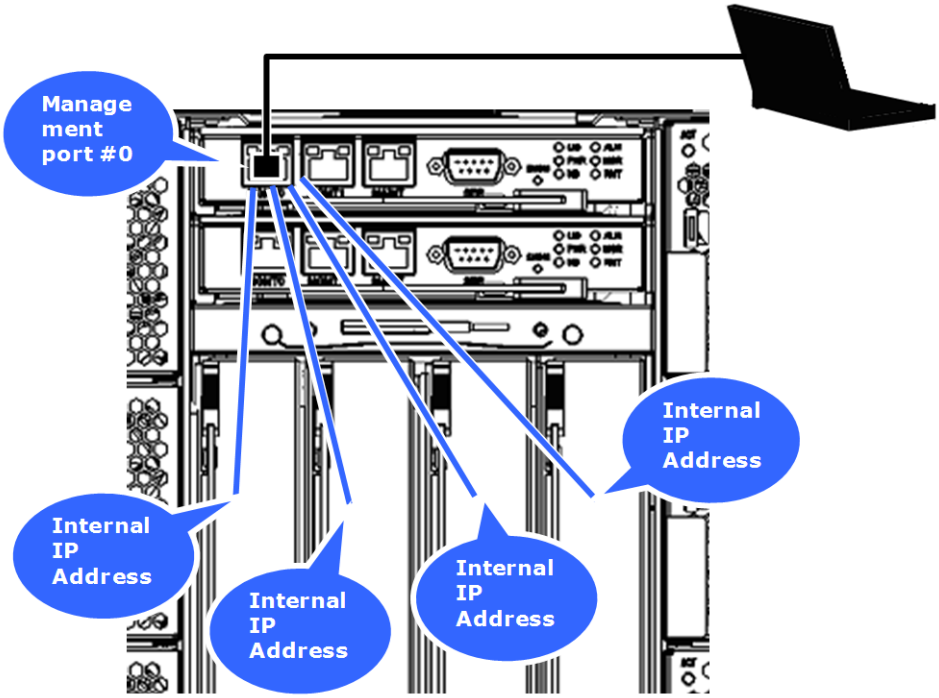


Figure 4-18 Connecting to switch module through management module

Identify internal IP address for switch module

1. Select **Resources** tab on the web console and select **Systems > Network > Management LAN** that should identify the IP address.
2. Select **IP Address** tab.
3. Check and record the internal IP address, Subnet Mask, and Default Gateway for the switch module.

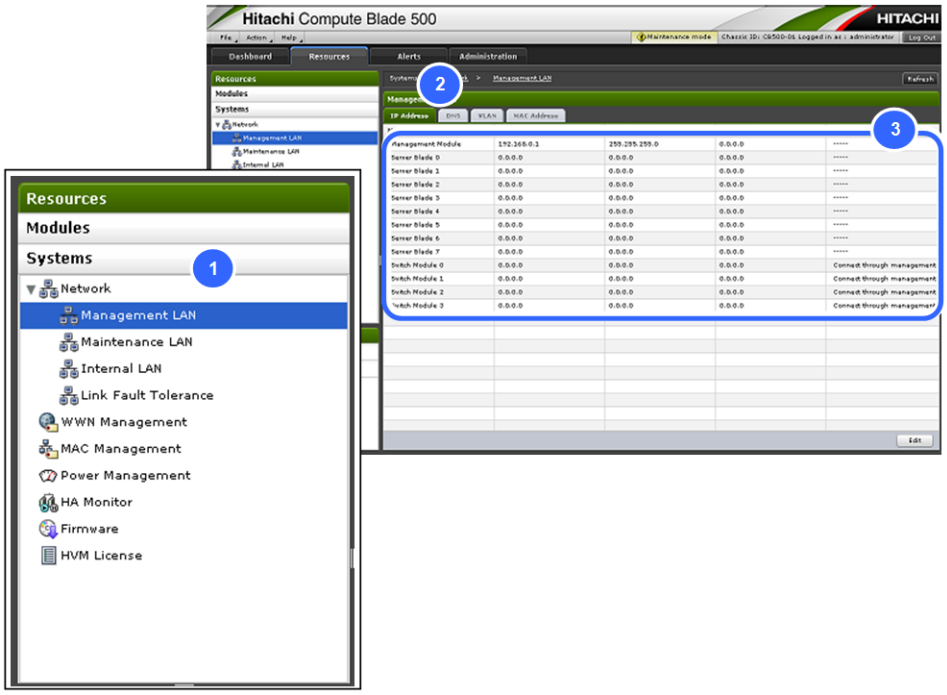


Figure 4-19 Identifying IP address for switch module

Edit internal IP address for switch module

1. Select **Resources** tab on the web console and select **Systems > Network > Management LAN** that should identify the IP address.
2. Select **IP Address** tab.
3. Click **Edit**.

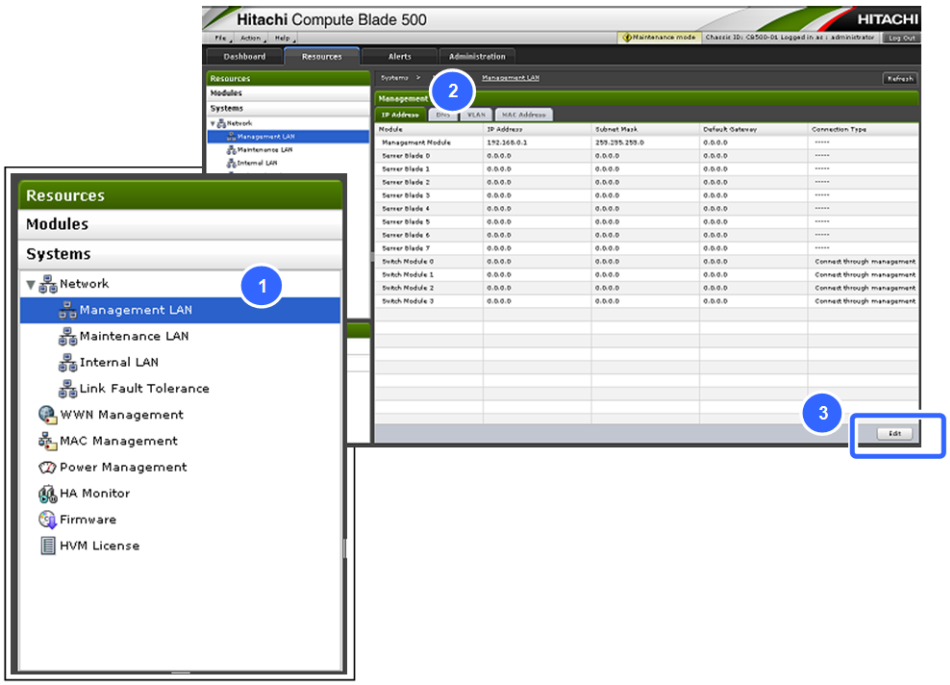


Figure 4-20 Editing IP address for switch module

4. **Edit address** window is displayed.
   Scroll up/down until you get to the **Switch Modules** section
5. For the switch module you are working on, select **Connect through management LAN port**.
6. Enter the switch module's **IP Address**, **Subnet Mask**, and **Default Gateway** that conforms to the internal CB 500 network environment.
7. Click **Confirm**.

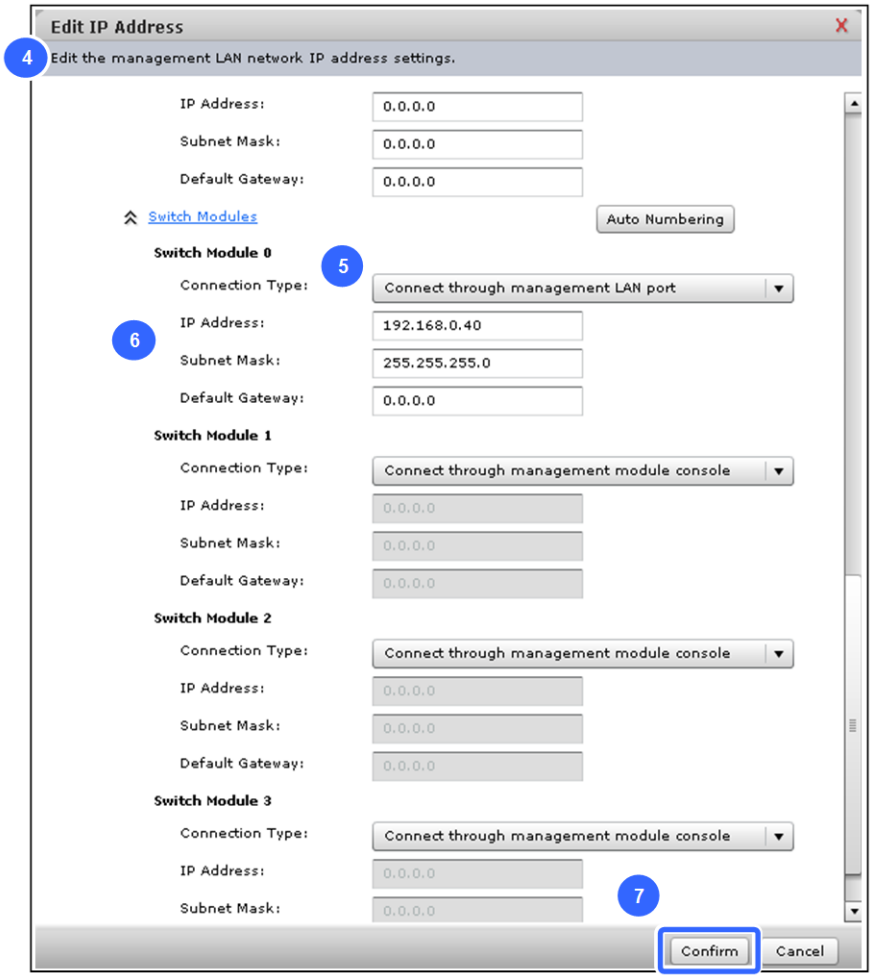


Figure 4-21 Edit IP Address window

8. **Confirmation** window is displayed. Click **OK**.

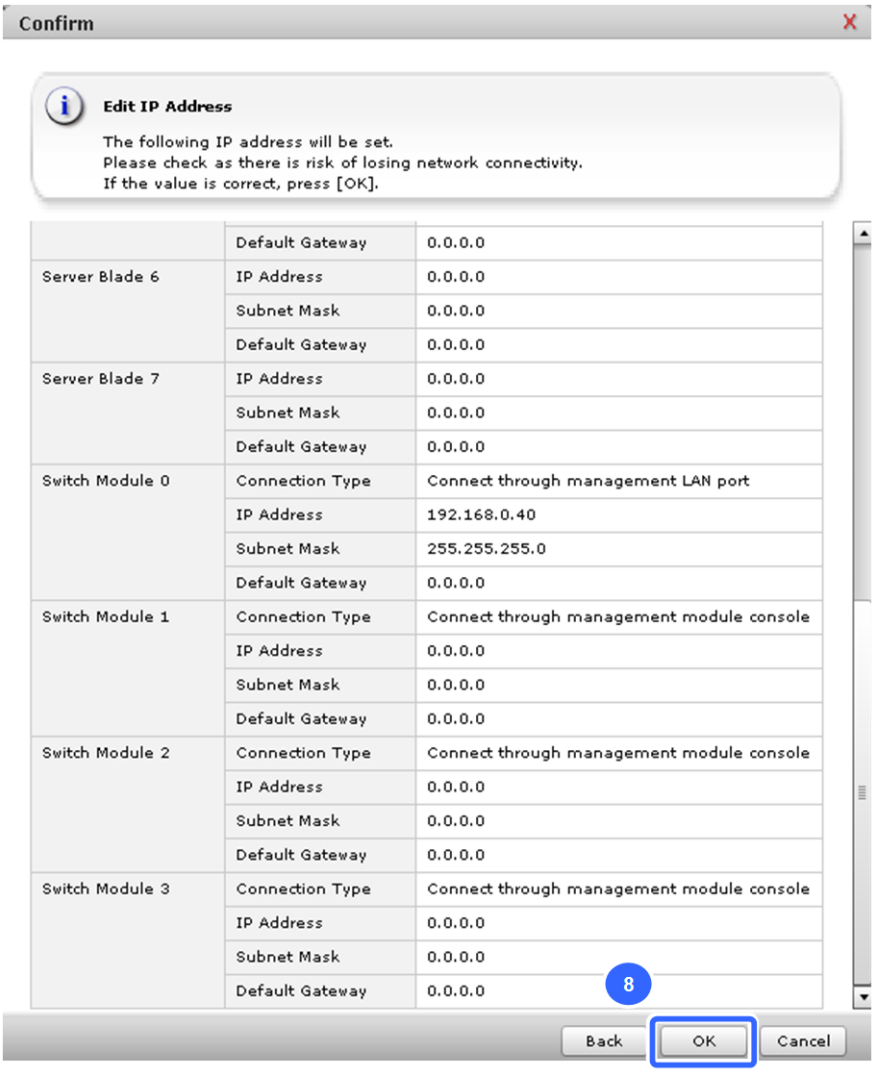


Figure 4-22 Confirmation window

9. After replacement, reset the IP address setting to **Connect through management module console** while returning the above procedure from step 1 to step 8.

Figure 4-23 Reset the IP address setting

F/W version identification procedure

You should identify the firmware version before replacing the failed component even if the configuration data such as firmware, FRU information and so on is backed up automatically.

This procedure describes how to identify F/W version of each component before replacing the failed component.

Server blade

To identify BMC/ EFI /LPAR manager version

1. Select **Resources** tab on the web console and click **System > Firmware**.
2. Select **Server blade** tab.
3. Check and record the **Total version**, **BMC**, **EFI**, and **LP** if LPAR manager is available for maintenance.

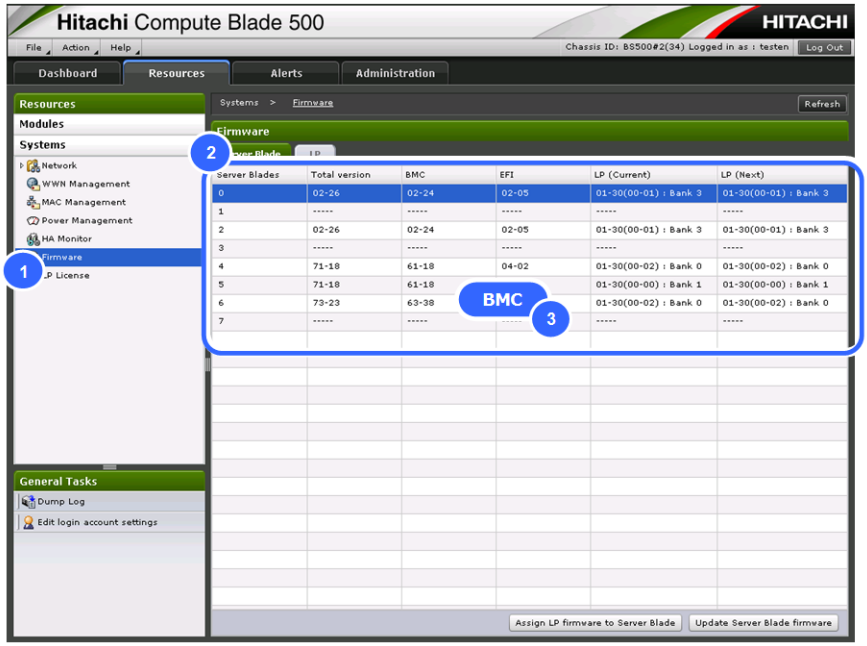


Figure 4-24 Identifying the firmware version for server blade

Management module

To identify F/W version, Dictionary version, and Parameter version

1. Select **Resources** tab on the web console and select **Modules > All Modules > Management Module > *target module*** that should identify the version.
2. Select **Condition** tab.
3. Check and record the **Firmware version**, **Dictionary version**, and **Equipment parameter version** for maintenance.

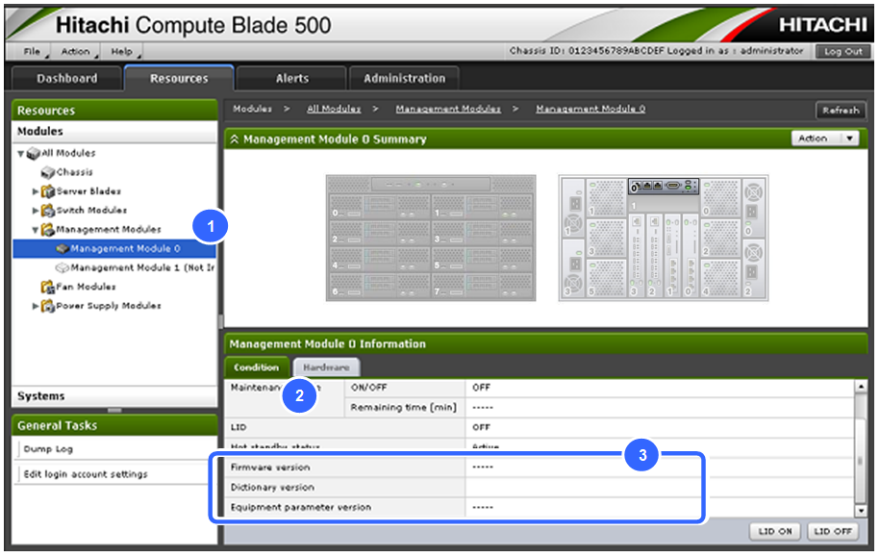


Figure 4-25 Identifying F/W, dictionary, and parameter version

Switch module

To identify F/W version

1. Select **Resources** tab on the web console and select **Modules > All Modules > Switch Modules > *target module*** that should identify the version.
2. Select **Condition** tab.
3. Check and record the **Firmware version** for maintenance.

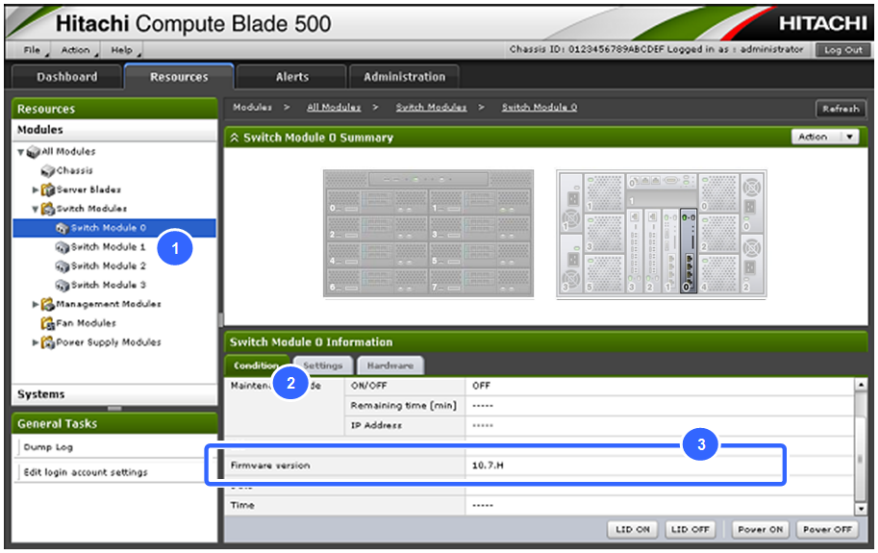


Figure 4-26 Identifying F/W version

Confirming switch mode of FC switch module

To confirm the switch mode

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the **Host address** box, and then click **OK**.

   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

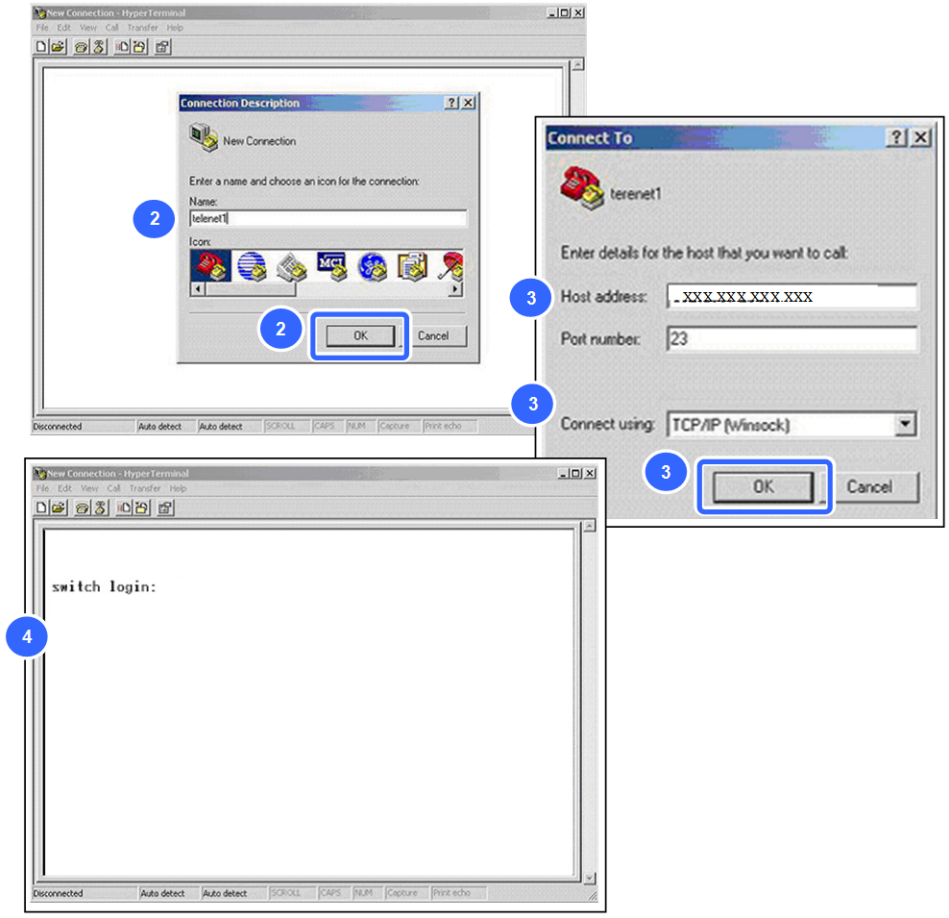


Figure 4-27 Connecting to FC switch module

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Enter `ag --modeshow`, and then press **Enter** key. Confirm the message and identify the switch operation mode.

Message	Switch operation mode
Access Gateway mode is NOT enabled	Native
Access Gateway mode is enabled	Access Gateway

```
BR6546:admin> ag --modeshow   (Enter)

Access Gateway mode is NOT enabled.    ←Confirm the mode indicated in this line.

BR5460:admin>
```

8. Skip this step when the switch is 8Gb FC switch module.

   Enter `mapspolicy --show -summary`, and then press **Enter** key. Confirm the message and identify the switch monitor mode.

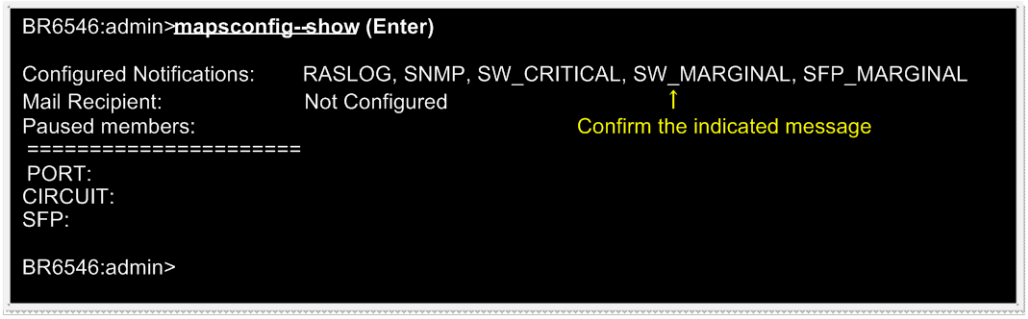
Message	Switch monitor mode
MAPS is not enabled yet.	Fabric Watch
Active Policy is '*xxxx*_policy'	Access Gateway

```
BR6546:admin> mapspolicy --show -summary   (Enter)

          Policy Name                              Number of Rules
------------------------------------------------------------------------------------------
dflt_aggressive_policy           :                 159
dflt_conservative_policy         :                 161
dflt_moderate_policy             :                 161

MAPS is not enabled yet.   ←Confirm the indicated message.

BR6546:admin>
```

9. Skip this step when the switch is 8Gb FC switch module or monitor mode is **Fabric Watch**.

   Enter `mapsconfig --show`, and then press **Enter** key. Confirm the message in **Configured Notification** line and identify the MAPS action settings.

   The MAPS action settings are **RASLOG**, **SNMP**, **SW_CRITICAL**, **SW_MARGINAL**, and **SFP_MARGINAL**, at the maximum.



Restoring switch mode of FC switch module

To restore the switch mode

When you have already connected to the FC switch remote console, skip from step 1 to step 6.

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the **Host address** box, and then click **OK**.

   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

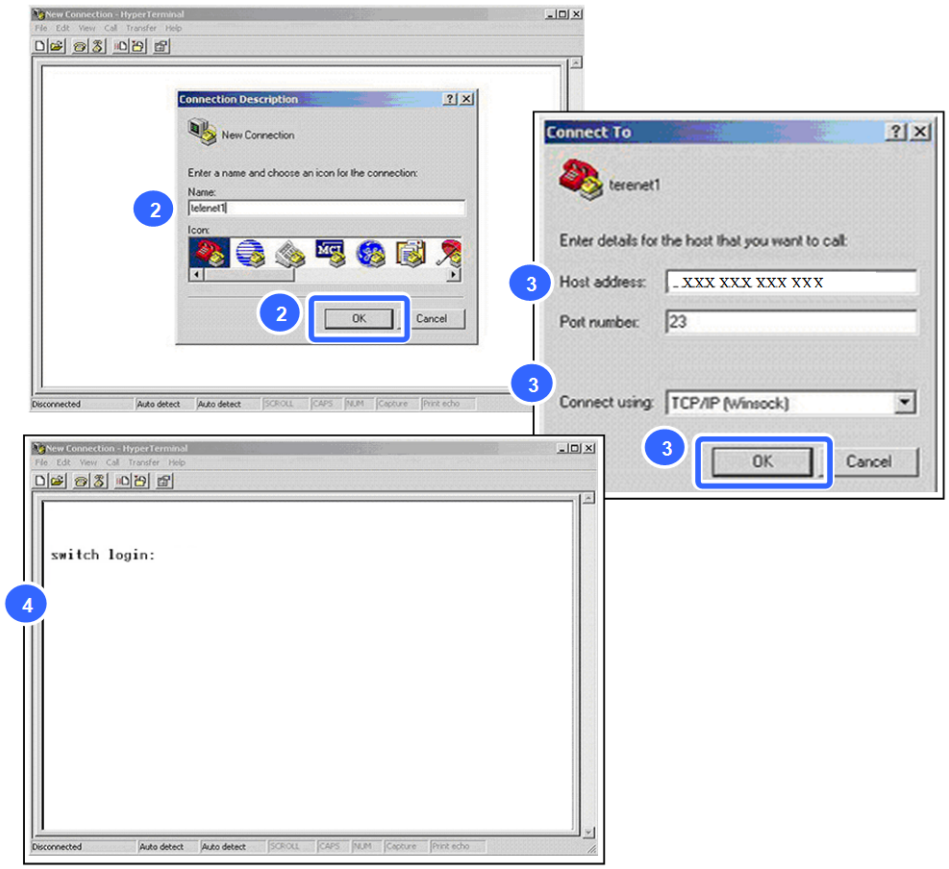


Figure 4-28 Connecting to FC switch module

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_____ (Enter)
```

7. Skip from this step 7 to step 12 when the switch operation mode of failed FC switch was **Native**.

   Enter `switchdisable`, and then press **Enter** key.

   Enter `ag --modeenable`, and then press **Enter** key.

   Enter `y` when "**Do you want to continue? (yes, y, no, n): [no]**" is indicated, and then press **Enter** key.

```
BR6546:admin> switchdisable  (Enter)
BR6546:admin> ag --modeenable  (Enter)
WARNING: Access Gateway mode changes the standard behavior of the switch. Please
check Access Gateway Administrator's Guide before proceeding. Enabling agmode will
remove all the configuration data on the switch including zoning configuration and
security database.
Please backup your configuration using configupload.
This operation will reboot the switch.
Do you want to continue? (yes, y, no, n): [no]  y  (Enter)   ← Enter [y]
Access Gateway mode was enabled successfully. Switch is being rebooted..    .
```

8. Wait about three minutes, and then confirm that Power LED and Status LED of the FC switch module emit in green.
9. Press **Enter** key to display login prompt of FC switch module.

```
Switch is being rebooted···
BR6546:admin>  (Enter)

 Fabric OS (BR6546)

Fabos Version   7.2.0_hit

Login:
```

10. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin  (Enter)
```

11. Enter `password` as password, and then press **Enter** key.

```
Password:_______  (Enter)
```

12. Enter `ag --modeshow`, and then press **Enter** key.

    Confirm that a message "**Access Gateway mode is enabled.**" is indicated.

```
BR6546:admin> ag --modeshow  (Enter)

Access Gateway mode is enabled .   ← Confirm the indicated message.

BR6546:admin>
```

13. Skip from this step 13 when the switch monitor mode of failed FC switch was **Fabric** mode.

    Enter `mapsconfig --enablemaps -policy dflt_conservative_policy`, and then press **Enter** key to set **MAPS** mode.

    Enter `y` when "**Do you want to continue? (yes, y, no, n): [no]**" is indicated, and then press **Enter** key.

```
BR6546:admin> mapsconfig --enablemaps -policy dflt_conservative_policy   (Enter)
WARNING:
This command enables MAPS and replaces all Fabric Watch configurations and monitoring.
Once MAPS is enabled, the Fabric Watch configuration can't be converted to MAPS.
If you wish to convert your Fabric Watch configuration into MAPS policies, select NO to this
prompt and first issue the "mapsconfig  --fwconvert" command.
Once the Fabric Watch configuration is concerted into MAPS policies, you may reissue the
"mapsconfig  --enablemaps" command to continue this process.
If you do not use Fabric Watch or need the configuration, then select YES to enable MAPS
now.
Do you want to continue? (yes, y, no, n): [no]  y  (Enter)   ← Enter [y]
Enabled dflt_conservative_policy policy.
```

Restoring MAPS action settings of 16Gb FC switch module

To restore the MAPS action settings

1. Skip this step when the switch is 8Gb FC switch module or monitor mode is **Fabric** mode.

   Enter `mapsconfig --actions` followed by a space and ***MAPS action settings*** separating with commas indicated by `mapsconfig --show` command before the replacement, and then press **Enter** key.

   Enter `mapsconfig --show`, and then press **Enter** key.

   Confirm that displayed ***MAPS action settings*** are as same as the ones before the replacement.

   The MAPS action settings are **RASLOG**, **SNMP**, **SW_CRITICAL**, **SW_MARGINAL**, and **SFP_MARGINAL**, at the maximum.

```
BR6546:admin>mapsconfig –actions -RASLOG,SNMP,SW_CRITICAL,SW_MARGINAL,SFP_MARGINAL

BR6546:admin> mapsconfig --show (Enter)

Configured Notifications:   RASLOG, SNMP, SW_CRITICAL,  SW_MARGINAL,  SFP_MARGINAL
Mail Recipient:             Not Configured                    ↑
Paused members:                                   Confirm the indicated message
 ======================
 PORT:
CIRCUIT:
SFP:

BR6546:admin>
```

Backup/restore procedure

The configuration data of sever blade and management module is automatically backed up to the local storages in the system.

The configuration data of switch module is NOT automatically backed up. Hitachi strongly recommends that you should back up the data of the switch module before starting replacement procedure.

This procedure describes how to back up and restore the configuration data.

Server blade

To back up the configuration data

The configuration data in server blade is automatically backed up every time the server blade turns on or F/Ws are updated.

To restore the configuration data

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades >** *a target module* that the data should be restored.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades > Server Blade *n* of the SMP configuration >** *a target module* that the data should be restored.

2. Click **Action** and then select **Restore server blade settings**.

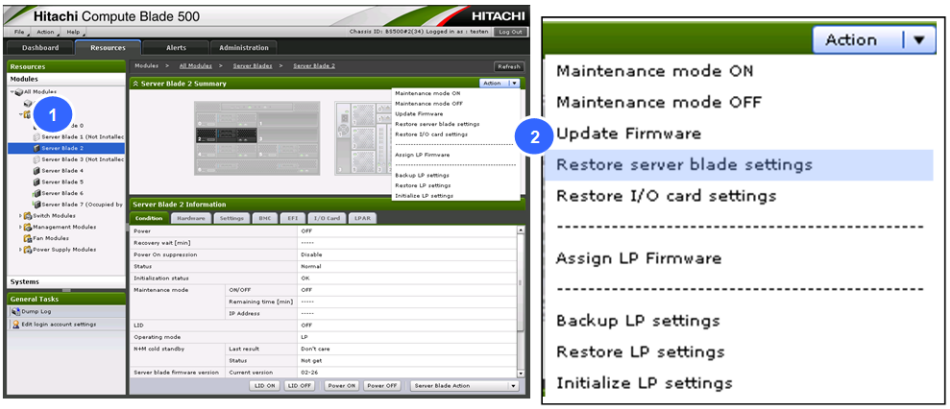


Figure 4-29 Restore configuration data for server blade

3. The restore dialog box appears. Check **Restore all with latest backup** check box.
4. Click **Confirm**.
5. The confirmation dialog box appears. Click **OK** and then the firmware restore process will be started.
6. After the firmware restore process has completed, the successful message dialog box appears. Click **Close**.

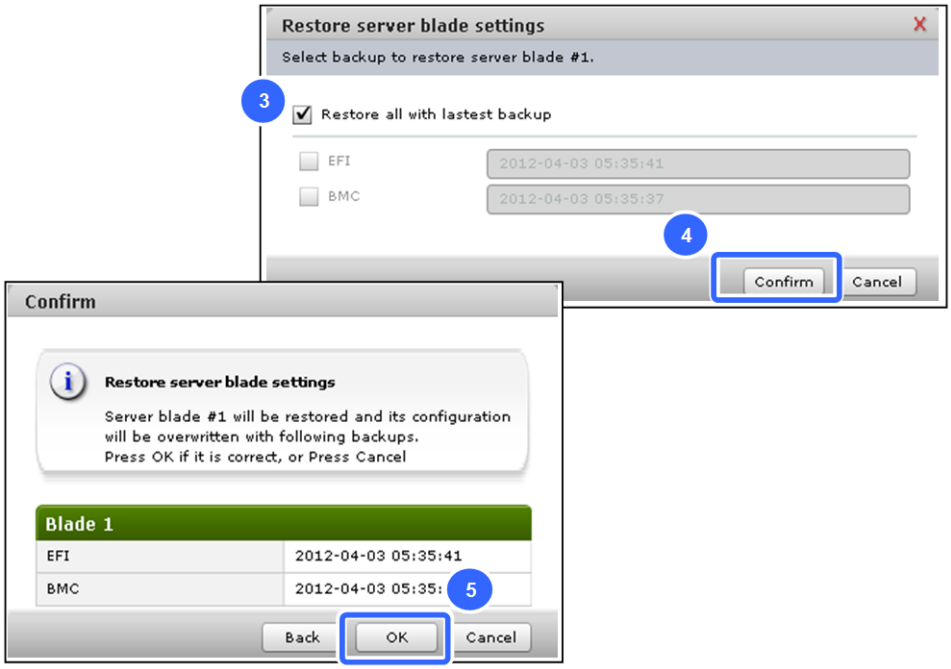


Figure 4-30 Restore Firmware and FRU for server blade

Management module

To back up the configuration data

In redundant configuration, the configuration data of management module is automatically backed up every time the management module turns on or F/Ws are updated.

In non-redundant configuration, the configuration data of management module is automatically backed up too.

When replacing a management module in a non-redundant configuration, or if you optionally want to back up configuration data in redundant configuration, perform the following backup procedures.

1. Select **Resources** tab and select **Modules > All Modules > Management modules**.
2. Click **Action** and then select **Backup Settings**.
3. The **Confirmation** window appears.
4. Click **Backup**.
5. The **progress** window is displayed.

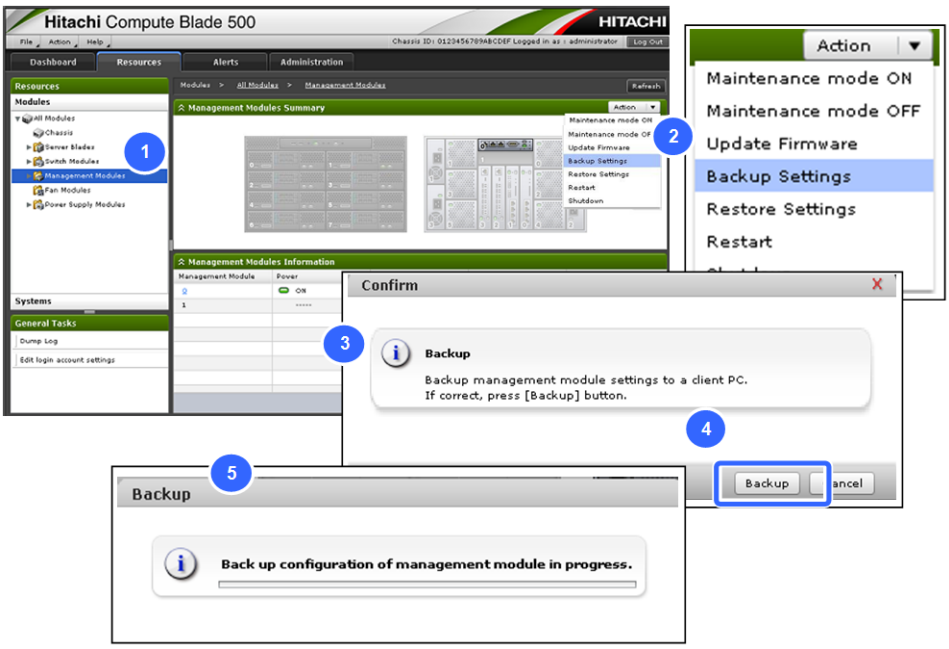


Figure 4-31 Backup configuration data for management module

6. The configuration data is backed up to the USB memory in the front panel first.

   After the backup process to the USB memory is completed, the **Save as** window is displayed.

7. Select the backup location (folder) and enter the file name, and then click **Save**.

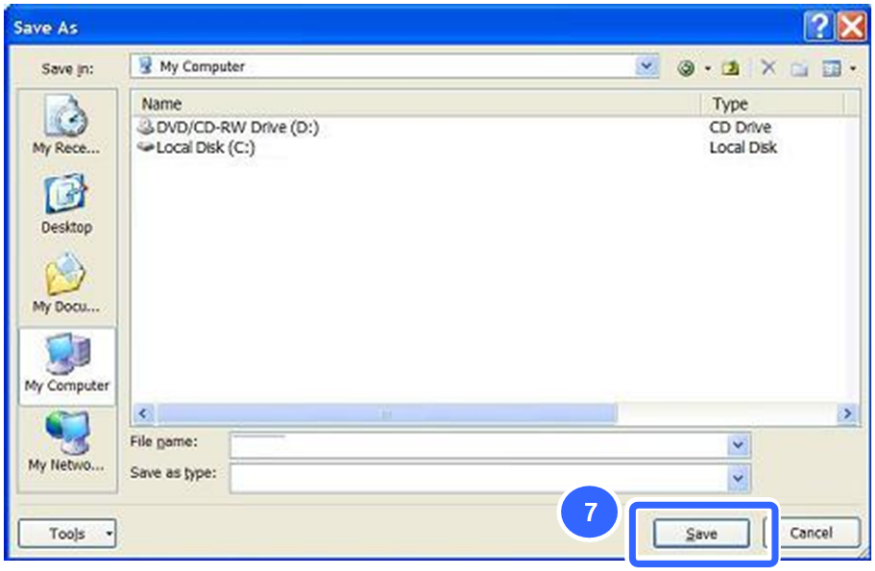


Figure 4-32 Backup configuration data for management module

Tip: If you do not need to back up the configuration data to the local PC, click Cancel in step 7. In this case, the configuration data is backed up just into the USB memory in the front panel.

To restore the configuration data

1. Select **Resources** tab and select **Modules > All Modules > Management modules**.
2. Click **Action** and then select **Restore Settings**.
3. The restore dialog box appears. Check **Specify backup file** and browse the backup file name, or check **Use backup in storage made on following date and time**.
4. Click **Confirm**.
5. The confirmation dialog box appears. Click **OK**. The firmware restore process will start.

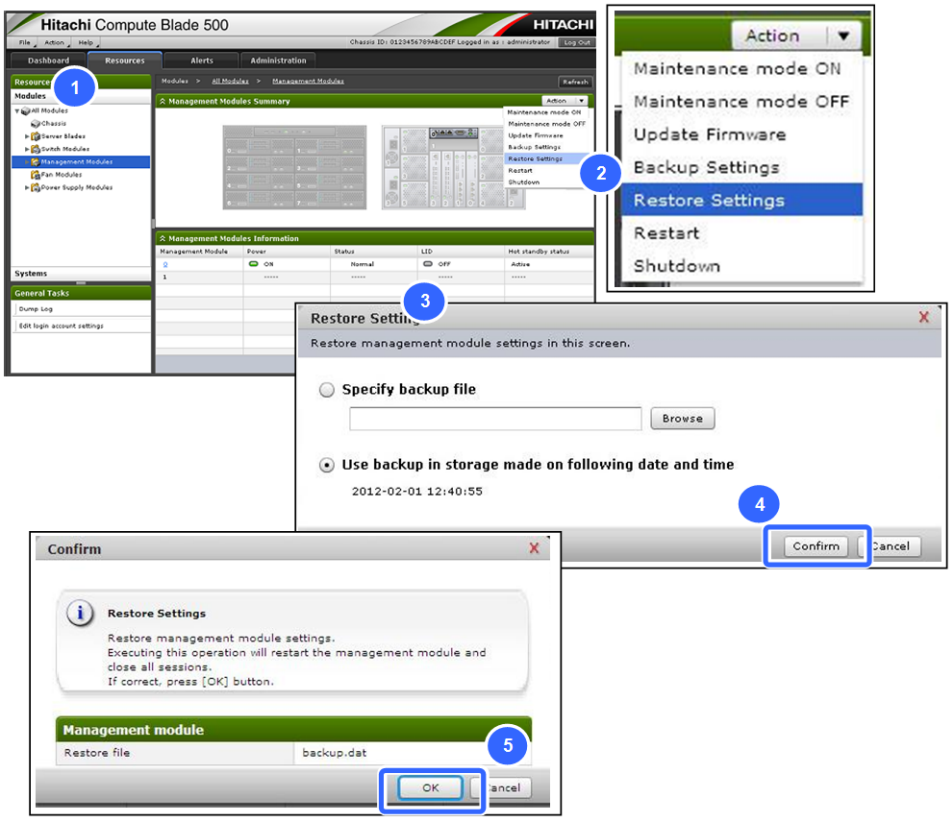


Figure 4-33 Restore the configuration data for management module

6. After the firmware restore process has completed, the successful message dialog box appears. Click **Close**.
7. The management module will reboot automatically.

Figure 4-34 Restore process is successful

Tip: If you select **Use backup in storage made on following date and time** in step 3, the configuration data is restored from the USB memory in the front panel.

Switch module

The configuration data in switch module is NOT automatically backed up. You should back up the configuration data manually before replacement.

You will need to know the switch module's IP address. See section Identify internal IP address for switch module on page 4-18 when you want to backup or restore the settings.

1Gb LAN switch module, 1/10Gb LAN switch module

To back up the configuration data

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the **Host address** box, and then click **OK**.

   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

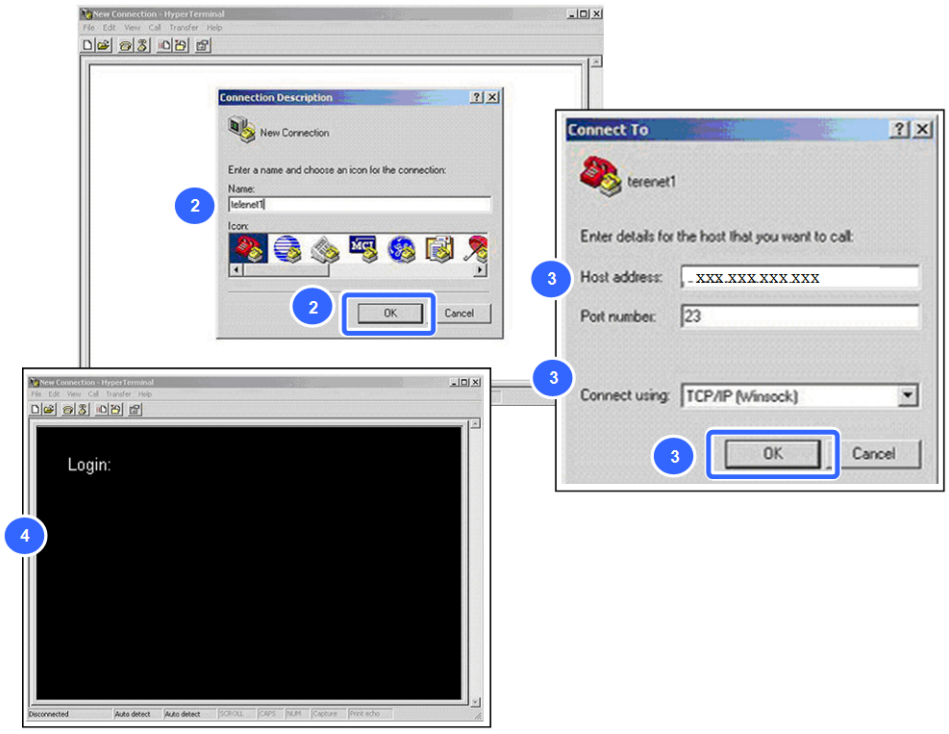


Figure 4-35 Connecting to LAN switch module

5. Enter `operator` as login name, and then press **Enter** key.

```
login: operator(Enter)
```

6. Confirm that the command prompt is indicated.

```
login: operator(Enter)
Copyright (c) 2005-2009 ALAXALA Networks Corporation. All rights
reserved.

>
```

7. Enter `enable`, and then press **Enter** key.

```
>enable(Enter)

#
```

8. Enter `backup ftp < IP Address > < backup file name.dat> no-software`, and then press **Enter** key.

```
# backup  ftp  maintenance PC IP address  MCbackup.dat  no-software(Enter)
```

9. Enter `upload`, and then press **Enter** key.

```
Backup information to Mcbackup.dat in FTP(ftpserver).
Input username:upload(Enter)
```

10. Enter `password`, and then press **Enter** key.

```
Input password:password(Enter)
```

11. The following message is displayed.

```
ftp transfer start.

Executing.....................................................
.............................................................
..................(Omitted)..................................
.............................................................
Operation normal end.
ftp transfer succeeded.
Backup information success!
```

Note: The data transfer will be successful even if the **Error. EPSV not implemented** message was indicated during the data transfer.

To restore the configuration data

1. Start the terminal software and connect the target switch module.
2. Enter `operator` as login name, and then press **Enter** key.

```
login: operator(Enter)
```

3. Confirm that the command prompt is indicated.

```
login: operator(Enter)
Copyright (c) 2005-2009 ALAXALA Networks Corporation. All rights
reserved.

>
```

4. Enter `enable`, and then press **Enter** key.

```
>enable(Enter)

#
```

5. Enter `restore ftp < IP Address > < backup file name.dat> no-software`, and then press **Enter** key.

```
# restore ftp IP address of console PC MCbackup.dat no-software (Enter)
```

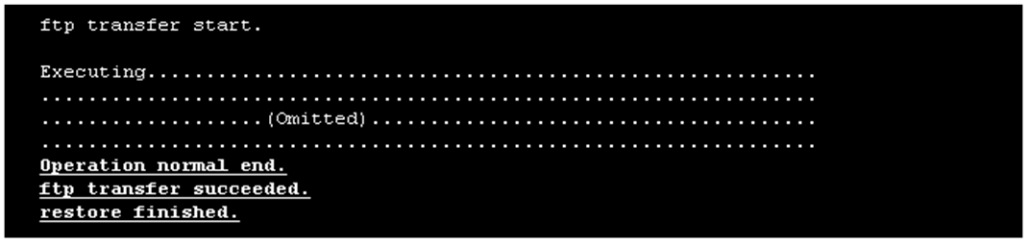
6. Enter `upload`, and then press **Enter** key.

```
Backup information from Mcbackup.dat in FTP (IP address of
maintenance PC) MCbackup.dat
Input username:upload(Enter)
```

7. Enter `password`, and then press **Enter** key.

```
Input password:password(Enter)
```

8. The following message is displayed.



Note: The data transfer will be successful even if the **Error. EPSV not implemented** message was indicated during the data transfer.

8Gb FC switch module/16Gb FC switch module

To back up the configuration data

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the **Host address** box, and then click **OK**.
   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

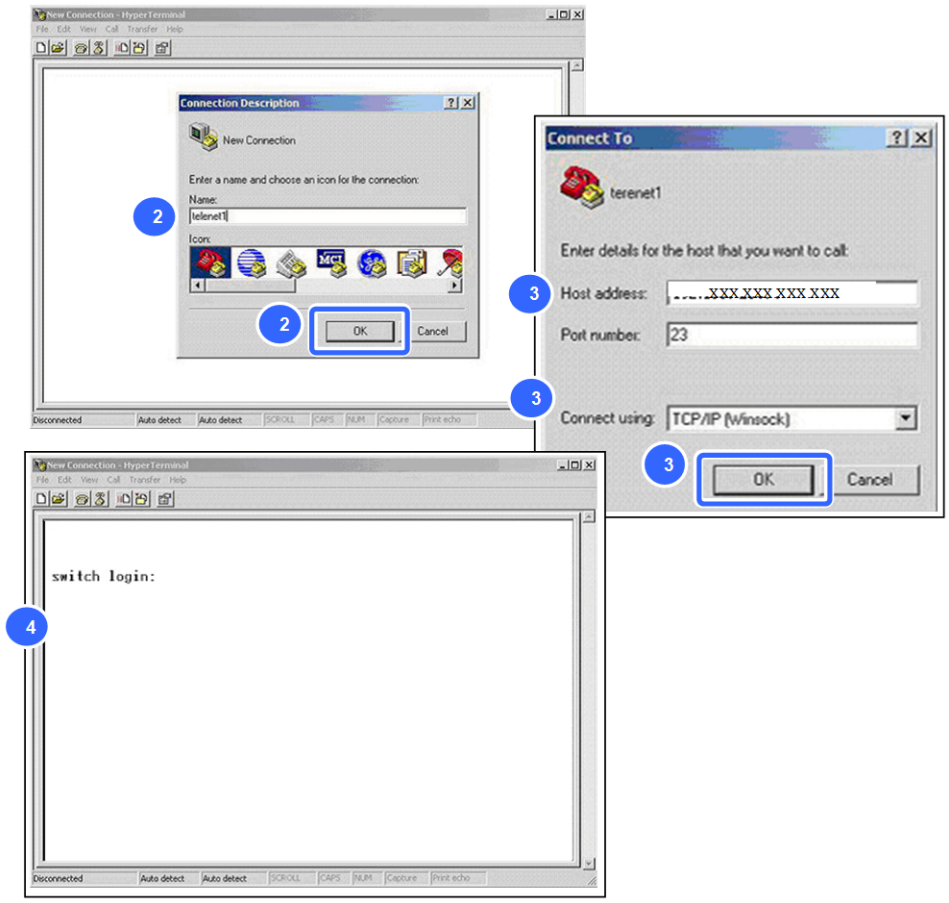


Figure 4-36 Connecting to FC switch module

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Confirm that the command prompt is indicated.

```
Fabric OS (switch)

switch login: admin
Password:
switch:admin>
```

8. Enter `configupload`, and then press **Enter** key.

```
switch:admin> configupload (Enter)
```

9. Enter `ftp`, and then press **Enter** key.

```
Protocol (scp, ftp, local) [ftp]: ftp (Enter)
```

10. Enter < *IP Address* > for console PC, and then press **Enter** key.

```
Server Name or IP Address [host]: 192.168.0.70 (Enter)
```

11. Enter `upload`, and then press **Enter** key.

```
User Name [user]: upload (Enter)
```

12. Enter < *backup file name*.txt>, and then press **Enter** key.

```
File Name [config.txt]: Config SWname Date.txt  (Enter)
```

13. Enter `all`, and then press **Enter** key.

```
Section (all|chassis [all]): all (Enter)
```

14. Enter `password`, and then press **Enter** key.

```
Password: password (Enter)
```

15. The following message is displayed.

```
configUpload complete: All config parameters are uploaded
switch:admin>
```

Tip: The backup configuration file is stored in the following folder.
`C:\inetpub\ftproot`

To restore the configuration data

1. Start the terminal software and connect the target switch module.
2. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

3. Enter `password` as password, and then press **Enter** key.

```
Password:_____ (Enter)
```

4. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

5. Enter `switchdisable`, and then press **Enter** key.

```
switch:admin> switchdisable(Enter)
switch:admin>
```

6. Enter `configdownload`, and then press **Enter** key.

```
switch:admin> configdownload (Enter)
```

7. Enter `ftp`, and then press **Enter** key.

```
Protocol (scp, ftp, local) [ftp]: ftp (Enter)
```

8. Enter < *IP Address* > for console PC, and then press **Enter** key.

```
Server Name or IP Address [host]: 192.168.0.70 (Enter)
```

9. Enter `upload`, and then press **Enter** key.

```
User Name [user]: upload (Enter)
```

10. Enter < *download file name*`.txt`>, and then press **Enter** key.

```
File Name [config.txt]: Config SWname Date.txt  (Enter)
```

11. Enter `all`, and then press **Enter** key.

```
Section (all|chassis [all]): all (Enter)
```

12. The **CAUTION** message is displayed.

```
                *** CAUTION ***

This command is used to download a backed-up configuration
for a specific switch.  If using a file  from a  different
switch, this file's configuration  settings will  override
any current switch settings.   Downloading a configuration
file, which was uploaded  from a different type of switch,
may cause this switch to fail.  A switch reboot might be
required for some parameter changes to take effect.

configDownload operation may take several minutes
to complete for large files.
```

13. Enter `y`, and then press **Enter** key.

```
Do you want to continue [y/n]: y (Enter)
```

14. Enter `password`, and then press **Enter** key.

```
Password: password (Enter)
```

15. The following message is displayed.

```
configDownload complete: All config parameters are downloaded
switch:admin>
```

10Gb DCB switch module

To back up the configuration data;

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < `IP address` > in the **Host address** box, and then click **OK**.

< IP address >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.

4. The login prompt is displayed in the terminal.

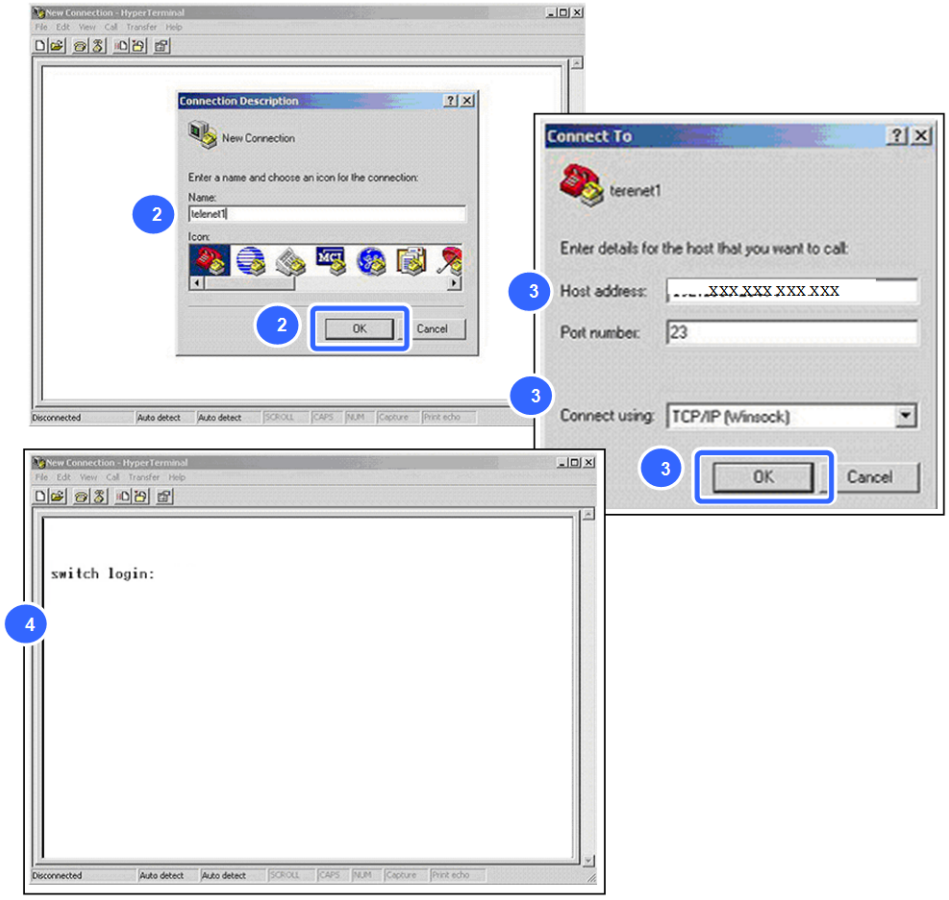


Figure 4-37 Connecting to 10Gb DCB switch module

5. Enter admin as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter password as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

8. Enter copy startup-config ftp://upload:password@< *IP Address for console PC* >/<*backup data file name* >, and then press **Enter** key.

```
# copy startup-config ftp://upload:password@xxx.xxx.xxx.xxx/Backup_config_SW2_20110723 (Enter)
```

To restore the configuration data;

1. Start the terminal software and connect the target switch module.
2. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

3. Enter `password` as password, and then press **Enter** key.

```
Password:_____ (Enter)
```

4. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

5. Enter `copy ftp://upload:password@< IP Address for console PC >/<download data file name > startup-config`, and then press **Enter** key.

```
# copy ftp://upload:password@xxx.xxx.xxx.xxx/Backup_config_SW2_20110723 startup-config (Enter)
```

6. Enter `y`, and then press **Enter** key.

```
This operation will modify your startup configuration. Do you want to continue? [y/n]: y (Enter)
Startup configuration file was copied successfully.
```

7. Enter `reload`, and then press **Enter** key.

```
# reload (Enter)
```

8. Enter `y`, and then press **Enter** key.

```
Warning: Unsaved configuration will be lost.

Are you sure you want to reload the switch? [y/n]: y (Enter)
```

9. The following message is displayed.

```
The system is going down for reload NOW !!

Broadcast message from root Sat Jul 30 05:55:19 2011...

The system is going down for reboot NOW !!
```

10. Enter **show license**, and press **Enter** to confirm VCS/FCoE licenses. Confirm whether the indicated licenses include the authorized licenses which confirmed in the procedure of **Confirming NOS version and VCS/FCoE license of 10Gb DCB switch module** before the replacement.

```
# show license (Enter)
```

Note: Switch id number in the actual DCB switch may differ from the following example depending on the system environment.

[Output example when no license is authorized]

```
# show license
No entries available for Switch id 1
```

[Output example when only VCS license is authorized]

```
# show license
Switch id: 1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
        VCS Fabric license
        Feature name:VCS_FABRIC
```

[Output example when only FCoE license is authorized]

```
# show license
Switch id: 1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
        FCoE Base license
        Feature name:FCOE_BASE
```

[Output example when VCS and FCoE licenses are authorized]

```
# show license
Switch id: 1
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
        FCoE Base license
        Feature name:FCOE_BASE
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
        VCS Fabric license
        Feature name:VCS_FABRIC
```

11. Transfer the licenses from the failed DCB switch module to the installed DCB switch module.

Note: For detail about transferring license procedure, consult with Hitachi Data System Support team.

Time of Day (TOD) clock setup procedure

The TOD (Time Of Day) clock setting is critical to the integrity of the error log and event log. The TOD clock is also critical to the proper function of system unit. The NTP (Network Time Protocol) server can be useful for the TOD clock.

The features are following;

- If the management module is connected to the NTP server, the TOD clock in it is always synchronized with the NTP according to the user configuration.
- The TOD clock in server blade can be synchronized with one in management module according to the user configuration.

- The TOD clock in switch module is always synchronized with one in management module according to the user configuration.

This procedure describes how to set up and identify TOD clock of both the CB500 management module and the BMC in a server blade.

Management Module

To identify TOD;

1. Select **Administration** tab on the web console and select **Date and Time**.
2. Select **Local Time** tab, **Time Zone** tab, and **NTP** tab.
3. Check and record the information for maintenance.

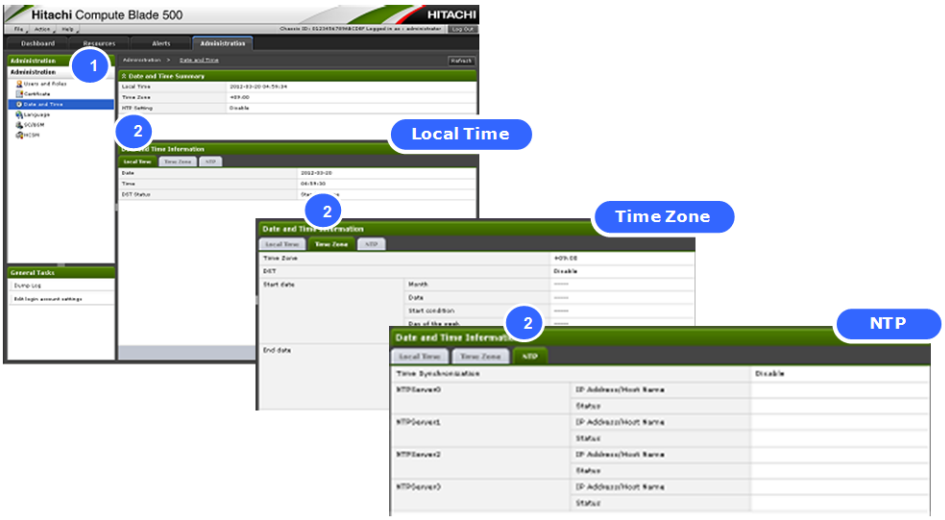


Figure 4-38 Identifying TOD clock information in management module

To edit Local Time;

1. Select **Administration** tab on the web console and select **Date and Time**.
2. Select **Local Time** tab and then click **Edit**.
3. The dialog box for edit appears. Input local time in your environment.
4. Click **Submit**.

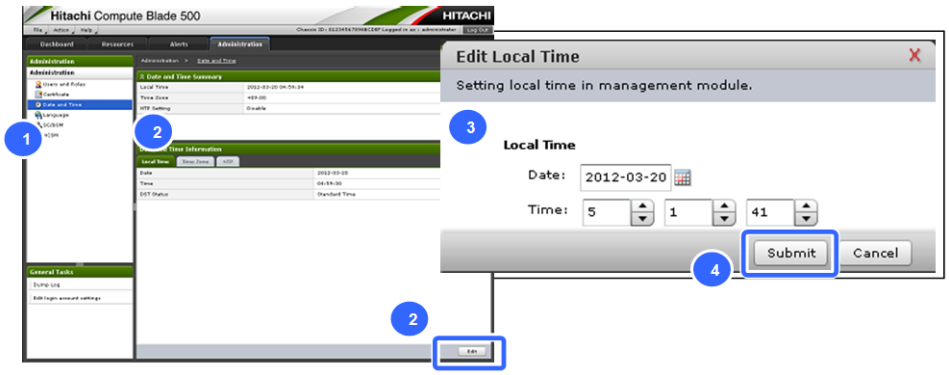


Figure 4-39 Editing local time

To edit Time Zone;

1. Select **Administration** tab on the web console and select **Date and Time**.
2. Select **Time Zone** tab and then click **Edit**.
3. The dialog box for edit appears. Input time zone in your environment.
4. Click **Confirm**.
5. The confirmation dialog box appears. Click **OK**.

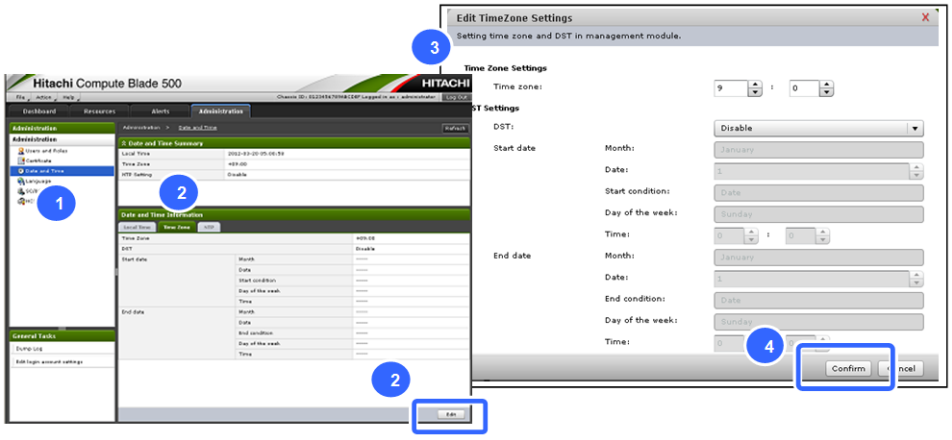


Figure 4-40 Editing time zone

To edit NTP;

1. Select **Administration** tab on the web console and select **Date and Time**.
2. Select **NTP** tab and then click **Edit**.
3. The dialog box for edit appears. Input NTP in your environment.
4. Click **Confirm**.
5. The confirmation dialog box appears. Click **OK**.

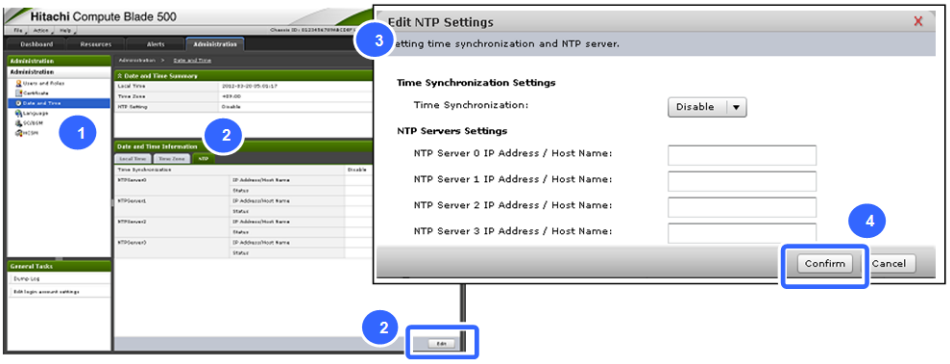


Figure 4-41 Editing NTP

Server blade

To identify TOD;

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades > *a target module*** that should identify TOD.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades > Sever Blade *n* of SMP configuration > *a target module*** that should identify TOD
2. Select **BMC** tab.
3. Check and record the some information for maintenance.

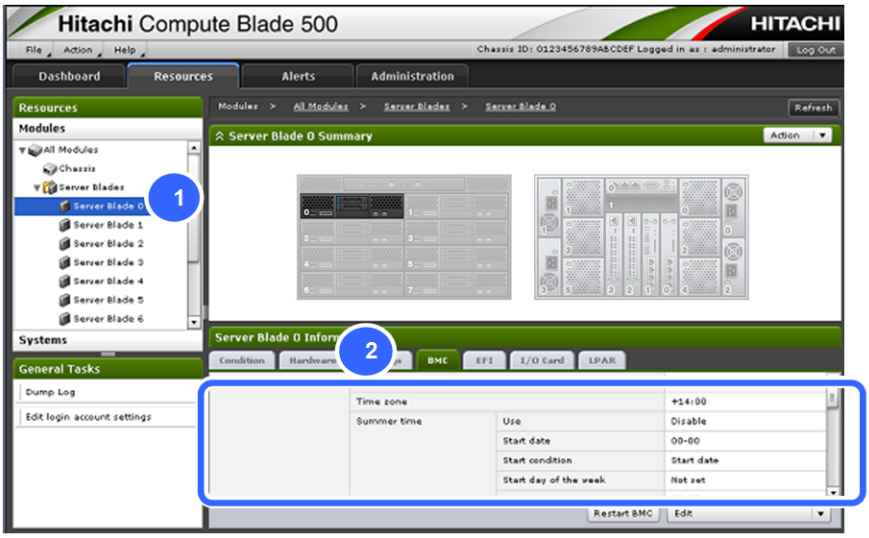


Figure 4-42 Identifying TOD clock information in BMC

To edit TOD;

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab on the web console and select **Modules > All Modules > Server Blades > *a target module*** that should set up TOD.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades > Sever Blade *n* of the SMP configuration > *a target module*** that should set up TOD.
2. Select **BMC** tab.
3. Click **Edit**, and select **BMC time**.
4. The dialog box for editing appears. Input local time in your environment.
5. Click **Confirm**.
6. The confirmation dialog box appears. Click **OK**.

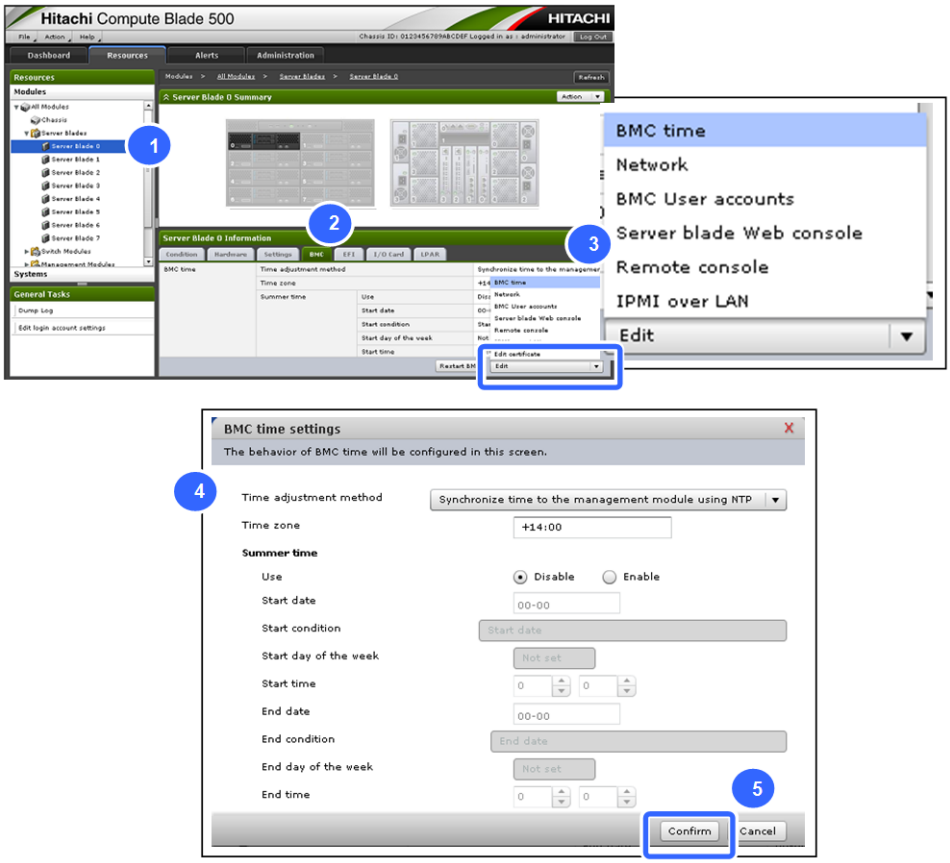


Figure 4-43 Editing local time

Switch module

1Gb LAN switch module, 1/10Gb LAN switch module

To identify TOD;

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < `IP address` > in the **Host address** box, and then click **OK**.

   < `IP address` >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

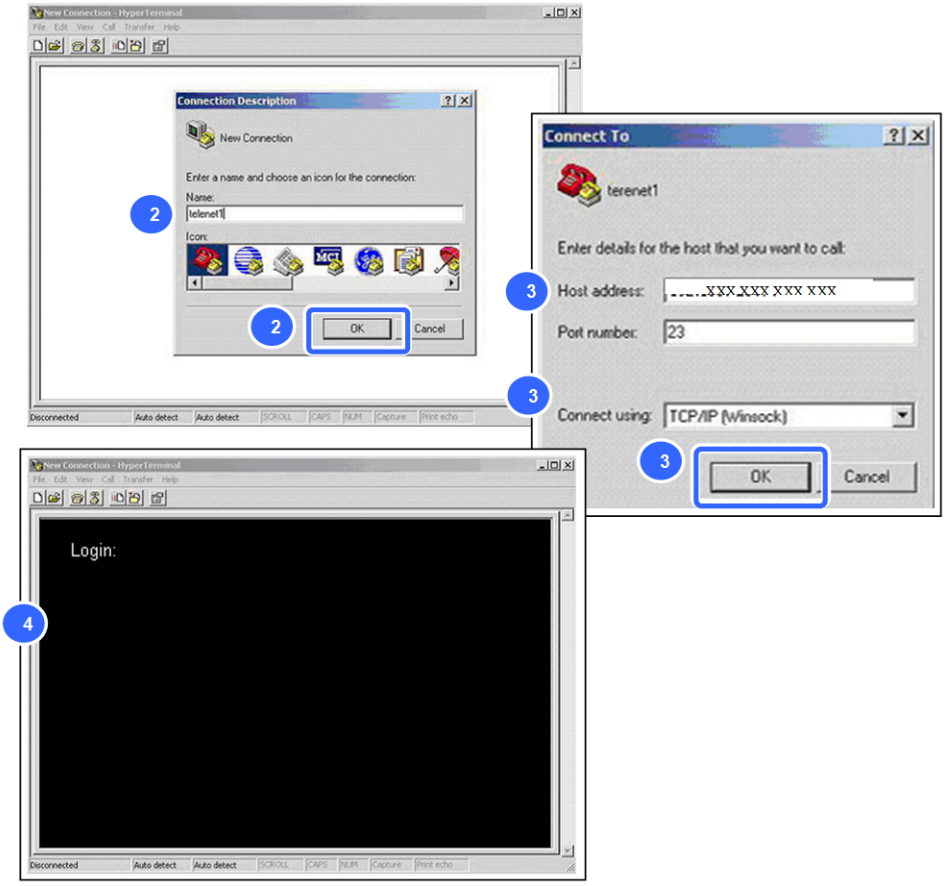


Figure 4-44 Login to the terminal software

5. Enter `operator` as login name, and then press **Enter** key.

```
login: operator(Enter)
```

6. Confirm that the command prompt is indicated.

```
login: operator(Enter)
Copyright (c) 2005-2009 ALAXALA Networks Corporation. All rights
reserved.

>
```

7. Enter `show version`, and then press **Enter** key.

```
> show  version(Enter)
```

8. Confirm the time and date in the **Date** line.

```
Date 2009/03/08 08:30:05 UTC
Model: GVX-BE2LSW1X1
S/W: OS-L3A Ver. 10.7.C
H/W: GVX-BE2LSW1X1 [JD0BSA24T001S0A00111041:80330300:301:1B510]
```

To edit TOD;

1. Enter `set clock < yymmddhhmm.ss >`, and then press **Enter** key.
   yy/mm/dd/hh/mm/ss :year/month/ day/ hour/ minute/ second

```
> set clock 0901141530
Wed Jan 14  15:30:00 UTC 2009
>
```

Tip: All type of LAN switch modules automatically download the time and date information from one of the management module and reconfigure to the latest time and date whenever the LAN switch modules are power on. Basically, you do not need to edit the time and date of the LAN switch module directly.

8Gb FC switch module / 16Gb FC switch module / 10Gb DCB switch module

To identify TOD;

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < `IP address` > in the **Host address** box, and then click **OK**.
   < `IP address` >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

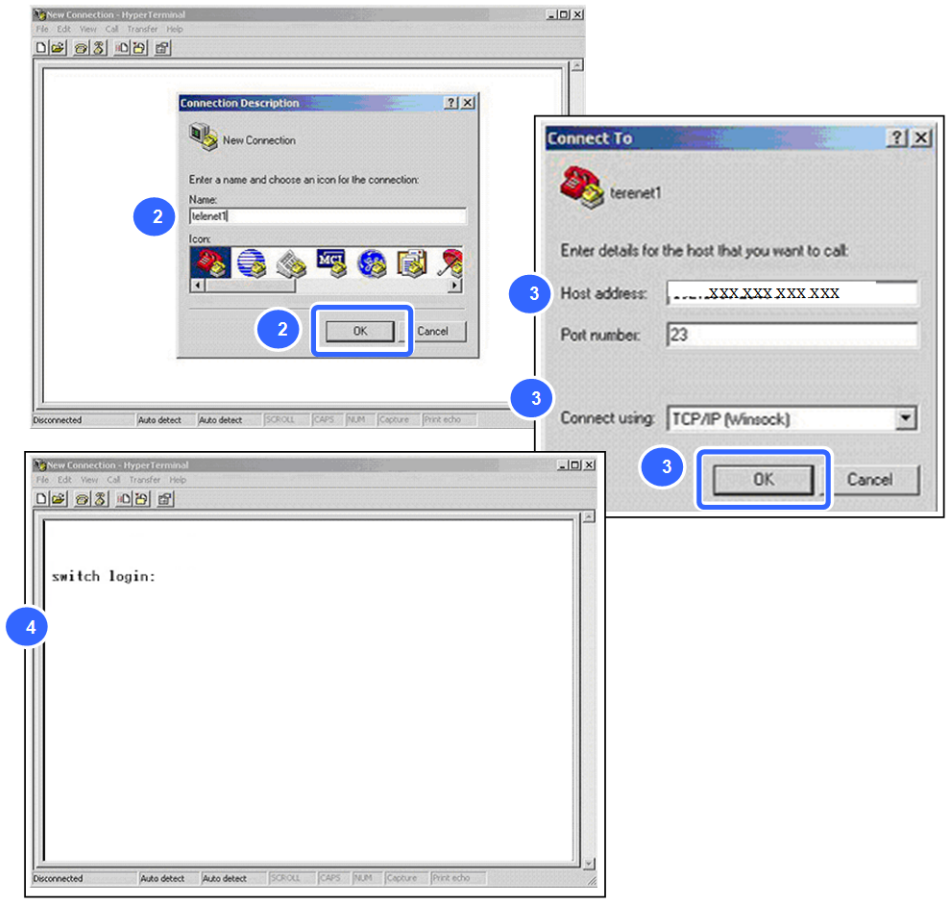


Figure 4-45 Login to the terminal software

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

8. Enter `date`, and then press **Enter** key.

```
switch:admin> date
Mon Jun 20 17:01:48 UTC 2005
```

To edit TOD;

1. Enter `date "< mmddhhmmyy >"`, and then press **Enter** key.
   mm/dd/hh/mm/yy :month/ day/ hour/ minute/ year

```
switch:admin> date  "0623170205"
Thu Jun 23 17:02:00 UTC 2005
switch:admin>
```

Tip: If you set up NTP or time zone, refer to the user's guide of the FC switch module that you should set up.

Smart configure procedure for server blade

When the server blade was replaced, you need to perform the smart configure process. The smart configure process is important for the server blade replacement because starting the configuration data backup. This section describes how to perform the smart configure process.

Smart configure for CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades > *target server blade***.
2. Select **Condition** tab.
3. Click **Server Blade Action** and then select **Run Smart configure**.
4. The confirmation dialog box appears. Click **OK**. Smart configure process will be started.

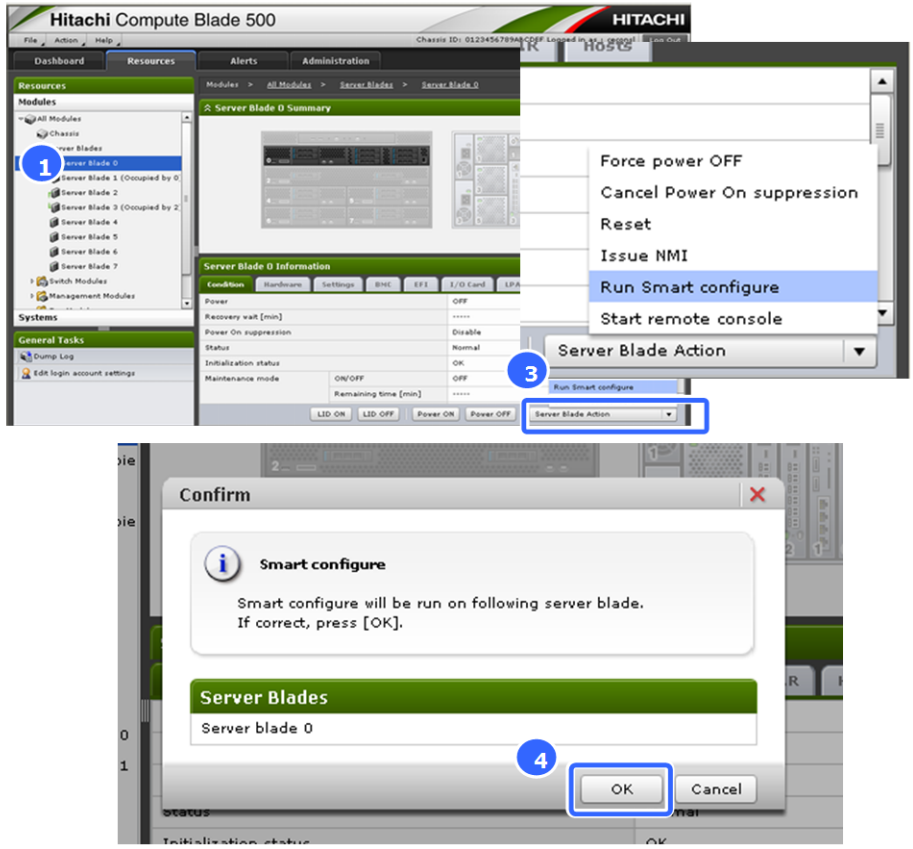


Figure 4-46 Smart configure process for server blade

5. Wait for about 5 minutes.
   Select **Settings** tab.
6. Click **Refresh**.
7. Confirm that the **Status** in **Smart configure** column got to **Configured**.
   If it is still displayed as **In Progress**, repeat the procedure step 6 and step 7.
   When it was displayed as **Configured**, the smart configure process is completed.

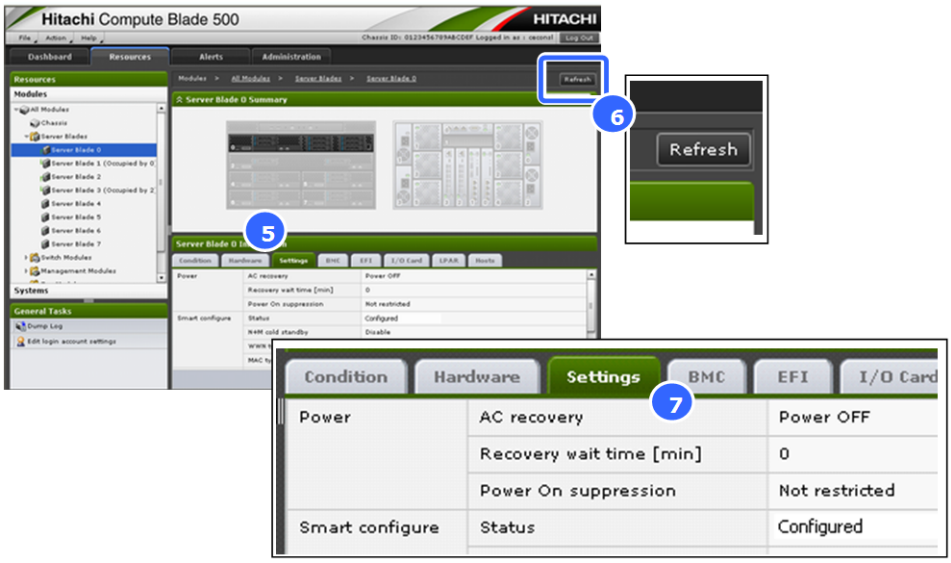


Figure 4-47 Confirming the smart configure status

Smart configure for SMP CB 520X B1/B2/B3

1. Select **Resources** tab and select **Modules > All Modules > Server blades > Server Blade *n* of the SMP configuration > *primary blade***.
2. Select **Condition** tab.
3. Click **Server Blade Action** and then select **Run Smart configure**.
4. The confirmation dialog box appears. Click **OK**. Smart configure process will be started.

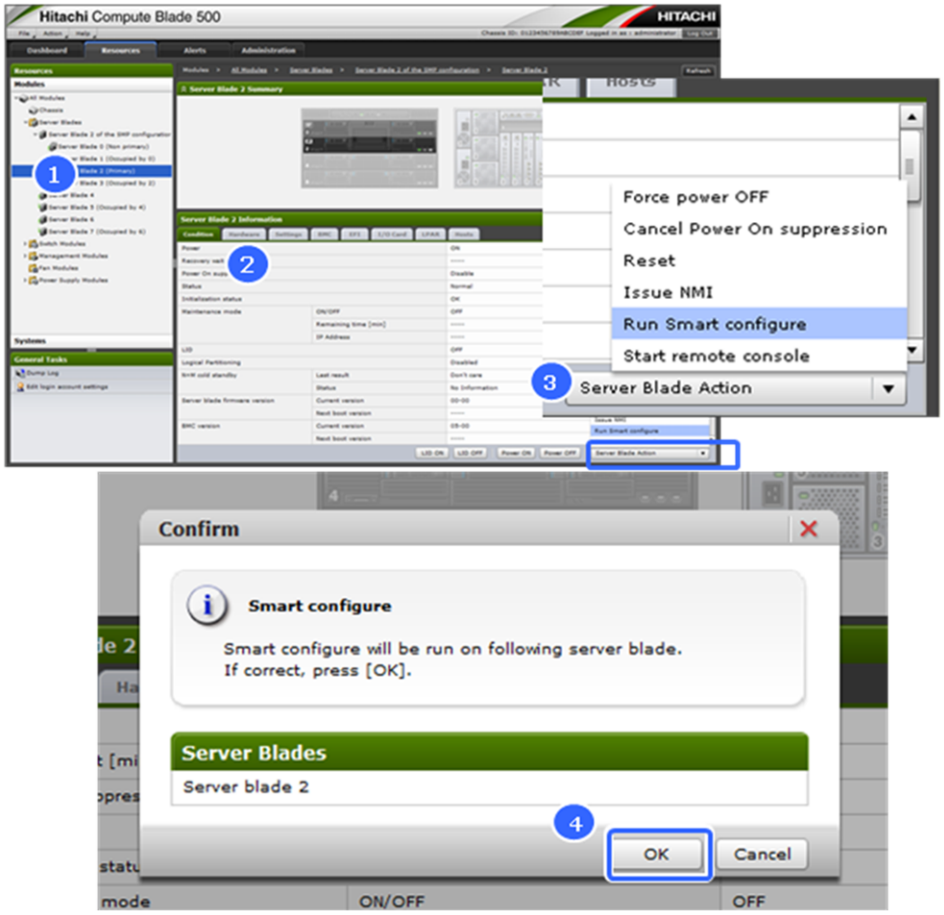


Figure 4-48 Smart configure process for SMP blade

5. Wait for about 20 minutes.
   Select **Settings** tab.
6. Click **Refresh**.
7. Confirm that the **Status** in **Smart configure** column got to **Configured**.
   If it is still displayed as **In Progress**, repeat the procedure step 6 and step 7.
   When it was displayed as **Configured**, the smart configure process is completed.

Figure 4-49 Confirming the smart configure status

Restarting BMC procedure

When you installed a new server blade, restart BMC.

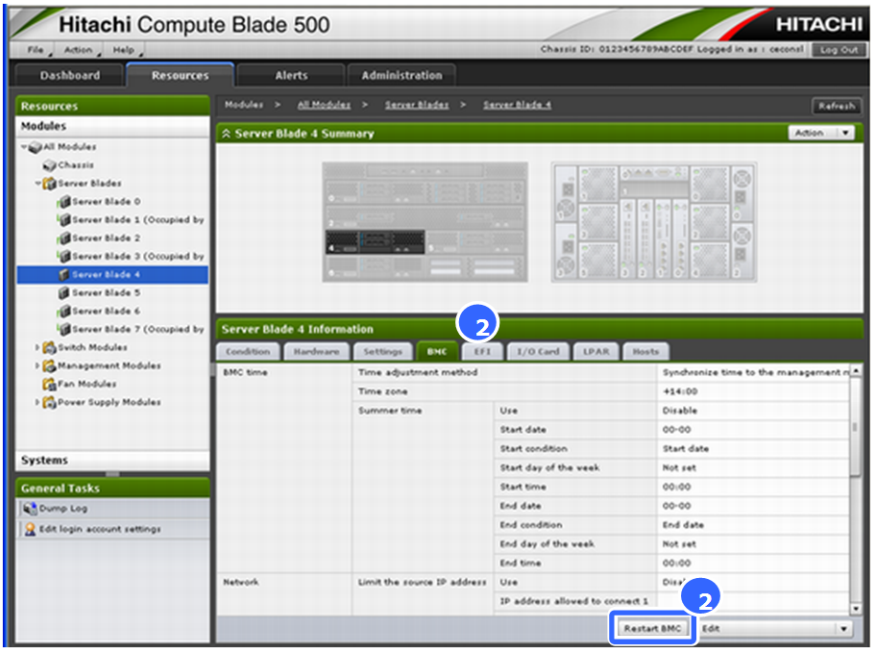
1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server blades > *target server blade***.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > All Modules > Server Blades > Server Blade *n* of the SMP configuration > Server Blade *n* (Primary)**.

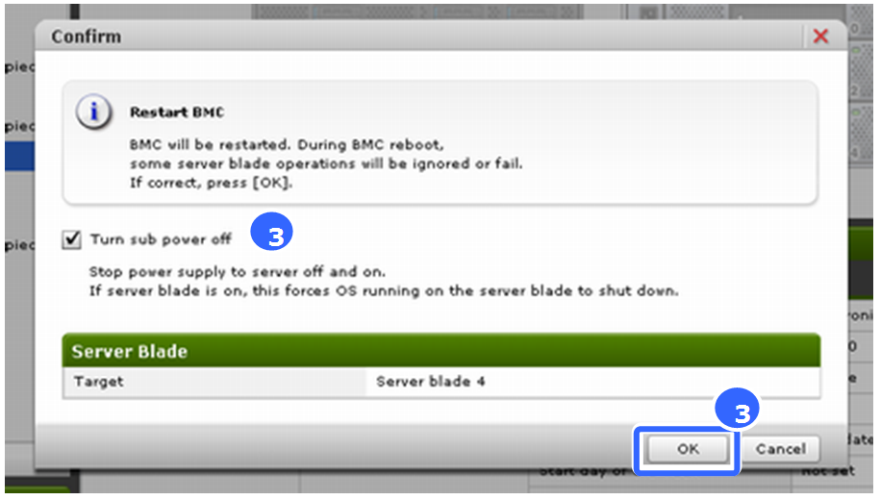
2. Click **BMC** > **Restart BMC** in lower right pane.



3. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Click **Turn sub power off** > **OK** in **Confirm** dialog box.

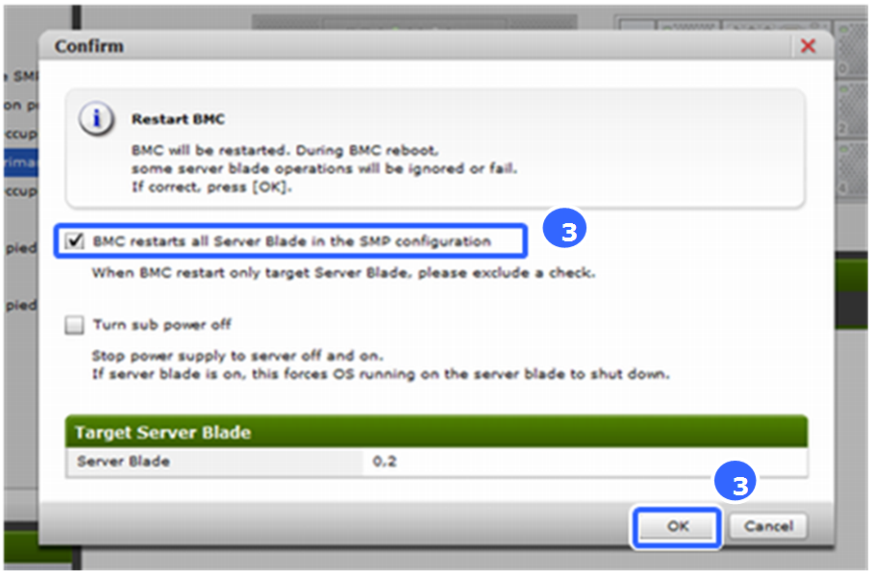
   BMC initialization starts and Power LED blinks quickly with 0.3 second intervals.



   [For SMP CB 520X B1/B2/B3]

   Click **BMC restarts all Server Blade in the SMP configuration** > **OK** in **Confirm** dialog box.

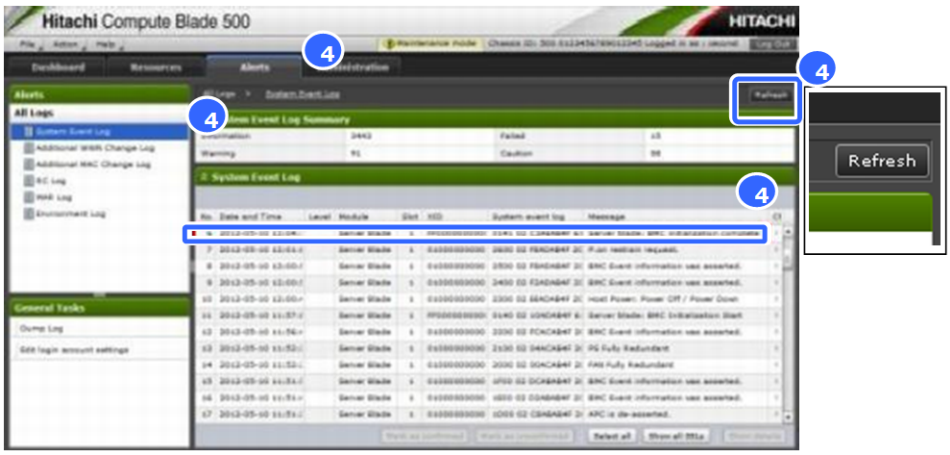
   BMC initialization starts and Power LED blinks quickly with 0.3 second intervals.



4. Wait about 15 minutes.

   Click **Alert** > **System Event Log**, and then confirm that **Server blade : BMC initialization complete** is indicated in **Message** column with the **Date and Time**, which indicates the firmware update completing time, in lower right **System Event Log** pane.

   Click **Refresh** whenever you want to display the latest **System Event Log**.



Power down procedure

Some replaceable components require a power down as part of upgrade or replacement procedures. This section describes how to power down the replaceable components.

Notice:

Before powering down the failed components, ensure that a back up data exists. If a back up of data does not exist or is old, perform the backup procedure first.

Server Blade

There are three ways to power down a blade; listed in order of priority (A) to (C).

Use one of the following procedures to power down the server blade.

(A) Use web console

This procedure initiates a remote shutdown of applications and OS before the server blade becomes standby mode.

(A)-1 For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, Non-SMP CB 520X B1/B2/B3

1. Ensure that Power LED lights in green.
2. Logon to the web console and select **Resource**.
3. Select **Modules > All Modules > Server blades > *the failed server blade***.
4. Select **Condition** tab.
5. Click **Power OFF**.

6. Ensure that the shutdown was completed and the Power LED blinks in green.

Figure 4-50 Power off procedure of failed server blade

(A)-2 For SMP CB 520X B1/B2/B3

1. Ensure that Power LED lights in green.
2. Logon to the web console and select Resource.
3. **Select Modules > All Modules > Server blades >Server Blade *n* of the SMP configuration**.
   (Note: "*n*" indicates the slot number of the primary blade.)
4. Select Condition tab.
5. Click Power OFF.
6. Ensure that the shutdown was completed and the Power LED blinks in green.

Figure 4-51 Power off procedure for SMP blade

(B) Press and release the Power switch within one second

This procedure initiates a remote shutdown of applications and OS before the server blade becomes standby mode.

1. Ensure that Power LED lights in green.
2. Press and release the Power switch within one second. The OS starts the shutdown.
3. Ensure that the shutdown was completed and Power LED blinks in green.

(C) Press and hold the Power switch for four seconds or more

This procedure forces the server blade to move to standby mode without shutdown of applications and OS. You should perform this procedure when the server blade stopped responding only.

1. Ensure that Power LED lights in green.
2. Press and hold the Power switch for four seconds or more. The Power LED turns blink in green.
3. Release the Power switch.

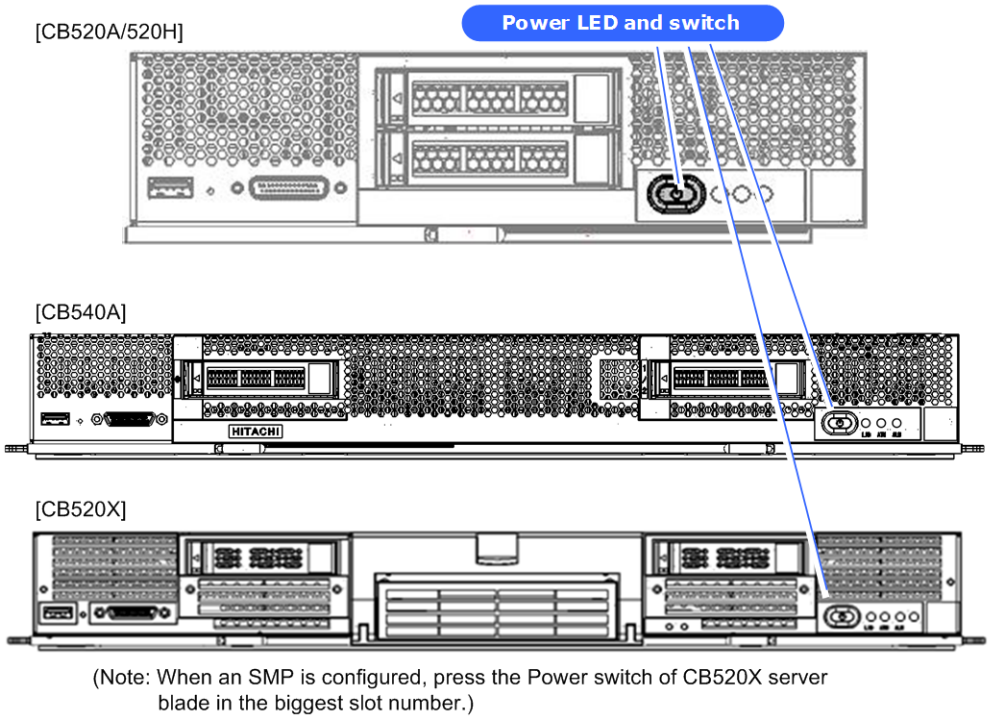


Figure 4-52 Power LED and switch

Management module

There are two ways to power down a management module; listed in order of priority (A) to (B).

Use one of the following procedures to power down the management module.

(A) Use web console

This procedure initiates a remote power off for the failed management module.

1. Ensure that Power LED lights in green.
2. Logon to the web console and select **Resource**.
3. Select **Modules > All Modules > Management modules > *the failed module***.
4. Click **Action** and then select **Shutdown**.
5. Ensure that the shutdown was completed and Power LED lights in amber.

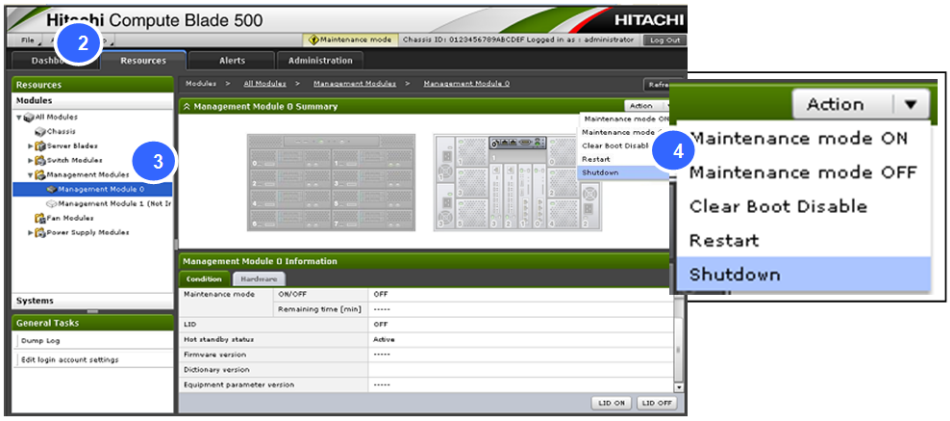


Figure 4-53 Power off procedure of failed management module

(B) Press and hold the Power switch for four seconds or more

This procedure forces the management module to power off.

1. Ensure that Power LED lights in green.
2. Press and hold the Shutdown switch until Power LED turns to light in amber.
3. Release the Shutdown switch.

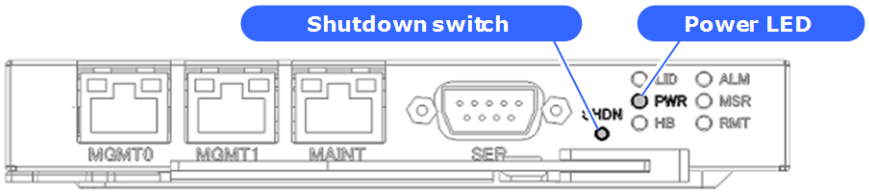


Figure 4-54 Power LED and Shutdown switch

Power off the switch module

Use the following procedure to power down the switch module.

(A) Use a Web console

This procedure initiates a remote power off for the failed switch module.

1. Ensure that Power LED lights on green.
2. Logon to the Web console and select **Resource**.
3. Select **Modules > All Modules > Switch modules > *the failed module***.
4. Select **Condition** tab.
5. Click **Power OFF**.
6. Ensure that the shutdown was completed and Power LED lights in amber.

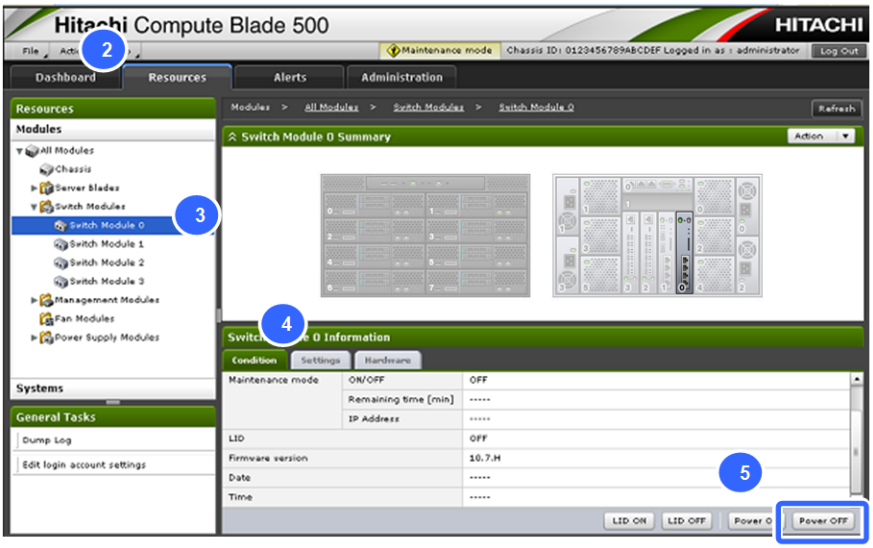


Figure 4-55 Power off procedure for failed switch module

5

Replacing parts

This chapter describes how to remove and install parts on the Hitachi Compute Blade system. The following key topics are covered:

- ☐ Replacing a server blade
- ☐ Replacing an SMP connection board for CB 520X B1/B2/B3
- ☐ Replacing an expansion blade
- ☐ Replacing a half-wide server blade for storage expansion blade
- ☐ Replacing a half-wide server blade for PCI expansion blade
- ☐ Replacing a PCI expansion blade
- ☐ Replacing a disk drive
- ☐ Preparing for replacing an internal component
- ☐ Replacing a DIMM in half-wide server blade
- ☐ Replacing a DIMM in full-wide server blade
- ☐ Replacing a mezzanine card in half-wide server blade
- ☐ Replacing a mezzanine card in full-wide server blade
- ☐ Replacing a LOM pass through connector in half-wide server blade
- ☐ Replacing a LOM pass through connector in full-wide server blade

- Replacing a USB enablement kit and USB in CB 520H A1/B1/B2
- Replacing a USB in CB 520X B1/B2/B3
- Replacing a SD card enablement kit and SD card in CB 520H B3/B4
- Replacing a mezzanine card in the storage expansion blade
- Replacing a PCI card in storage expansion blade
- Replacing a mezzanine card in the PCI expansion blade
- Replacing a PCIe card in the PCI expansion blade
- Replacing a lithium battery in half-wide server blade
- Replacing a lithium battery in full-wide server blade
- Replacing a SAS-kit 1 in half-wide server blade
- Replacing a SAS-kit 1 in full-wide server blade
- Replacing a SAS-kit 2 in half-wide server blade
- Replacing a SAS-kit 2 in CB 540A A1/B1
- Replacing a SAS HDD kit in CB 520X B1/B2/B3
- Replacing a management module (redundant)
- Replacing a management module (non-redundant)
- Replacing a lithium battery in management module
- Replacing a switch module
- Replacing a LAN pass through module, LAN pass through module2
- Replacing an SFP+ module
- Replacing a memory card for LAN switch module
- Replacing a USB memory for 8Gb FC switch module

- ☐ Replacing a power supply module
- ☐ Replacing a fan module
- ☐ Replacing a front panel module
- ☐ Replacing a USB memory in the front panel module
- ☐ Replacing a dummy module
- ☐ Replacing a shelf in the server chassis

Replacing a server blade

The hot-swappable feature of the Hitachi Compute Blade 500 series system allows server blade replacement with the server chassis power ON. This procedure describes how to replace a server blade when the server chassis power is on.

Removing a half-wide server blade

1. Put on an anti-static wrist strap.
2. Connect Web console. See Web console login procedure on page 4-3 section.
3. Power the target server blade off. See Power down procedure on page 4-58 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. Turn on the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.
6. Identify F/W version and take notes of it. See F/W version identification procedure on page 4-22 section.
7. Release the blue lock tab and pull the lever, as shown below.
8. Holding the server blade, carefully slide out the server blade from the chassis and place it on an anti-static mat.

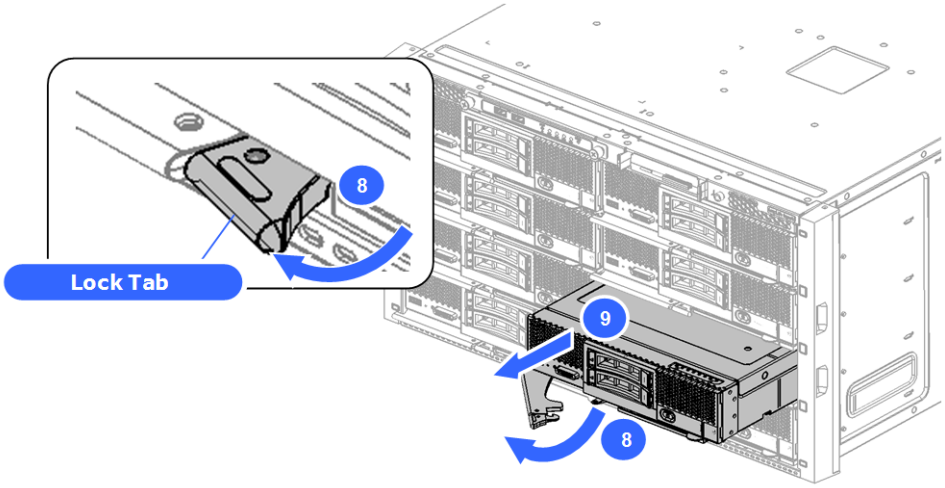


Figure 5-1 Removing the half-wide server blade

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

Note: To change configuration from expansion blade to half-wide server blade, add a shelf into the server chassis. Refer to the Replacing a shelf in the server chassis on page 5-129 section.

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
4. If you need to update the BMC and/or EFI firmware, consult with Hitachi Data Systems Customer Support team.
5. Restore the blade configuration data (FRU/ BMC configuration/ EFI configuration) from the automatic back up field in server chassis. See Backup/restore procedure on page 4-30 section.
6. BMC will restart. Wait for about 10 minutes.
7. Select **Alerts** tab and select **All Logs > System Event Log**, and then click **Refresh** to identify the latest information.
8. Confirm the **Server blade: BMC initialization complete** message.
   If this massage was displayed, go to next step.

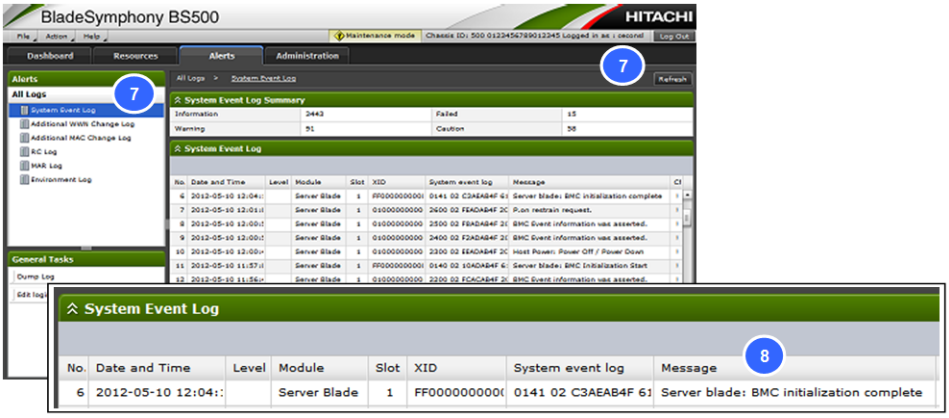


Figure 5-2 Confirming system log

9. Turn on LID LED for identifying the target blade again. See Identify LED (LID) on/off procedure on page 4-7 section.
10. Execute the CBTP and check the replaced server blade. See Diagnosing the server blade on page 8-10 section.
11. Turn off the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.
12. Restart BMC when you installed a new server blade. See Restarting BMC procedure on page 4-56.
13. Perform the smart configure process. See Smart configure procedure for server blade on page 4-52 section.
14. Verify that the replacement was successful through the MAR log. See Alert information identification procedure on page 4-5 section.

15. Turn off LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.

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. Connect Web console. See Web console login procedure on page 4-3 section.
3. Power the target server blade off. See Power down procedure on page 4-58 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. Turn on the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.
6. Identify F/W version and take notes of it. See F/W version identification procedure on page 4-22 section.
7. When you remove a CB 520X B1/B2/B3 in SMP configuration, remove the 2-blade SMP connection board or 4-blade SMP connection board. See Removing an SMP connection board on page 5-8 section.
8. Release the blue lock tab and pull the lever, as shown below.
9. Holding the server blade, carefully slide out from the chassis and place it on an anti-static mat.

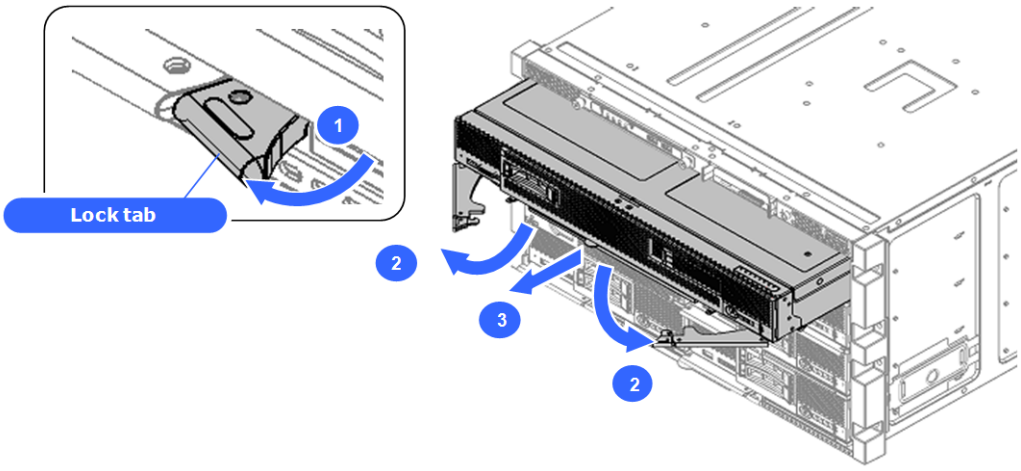


Figure 5-3 Removing the full-wide server blade

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

Note: To change configuration from half-wide server blade to full-wide server blade, remove a shelf from the server chassis. Refer to the Replacing a shelf in the server chassis on page 5-129 section.

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. When you install a CB 520X B1/B2/B3 in SMP configuration, install the 2-blade SMP connection board or 4-blade SMP connection board. See Installing an SMP connection board on page 5-9 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. If you need to update the BMC and/or EFI firmware, consult with Hitachi Data Systems Customer Support team.
6. Restore the Blade configuration data (FRU/ BMC configuration/ EFI configuration) from the automatic back up field in server chassis. See Backup/restore procedure on page 4-30 section.
7. BMC will restart. Wait for about 10 minutes.
8. Select **Alerts** tab and select **All Logs > System Event Log**, and then click **Refresh** to identify the latest information.
9. Confirm the **Server blade: BMC initialization complete** message.
   If this massage was displayed, go to next step.

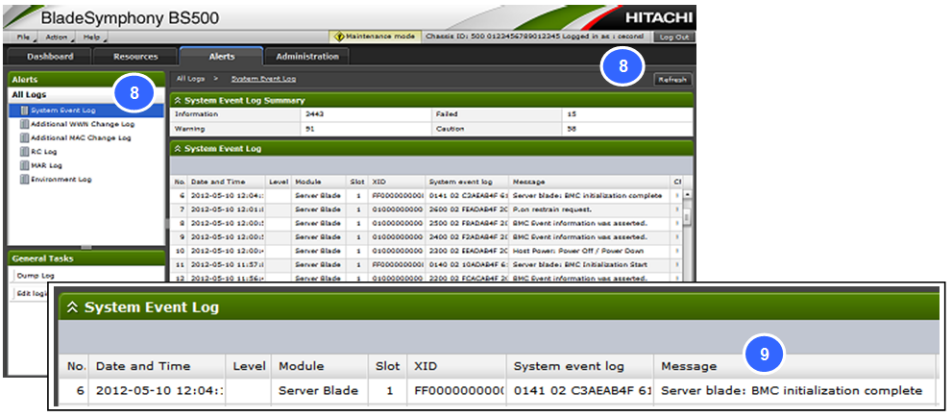


Figure 5-4 Confirming system log

10. Turn on LID LED for identifying the target blade again. See Identify LED (LID) on/off procedure on page 4-7 section.
11. Execute the CBTP and check the replaced server blade. See Diagnosing the server blade on page 8-10 section.
12. Turn off the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.

13. Restart BMC when you installed a new server blade. See Restarting BMC procedure on page 4-56.
14. Perform the Smart configure process. See Smart configure procedure for server blade on page 4-52 section.
15. Verify that the replacement was successful through the MAR log. See Alert information identification procedure on page 4-5 section.
16. Turn off LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.

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.

Replacing an SMP connection board for CB 520X B1/B2/B3

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 fully.
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.

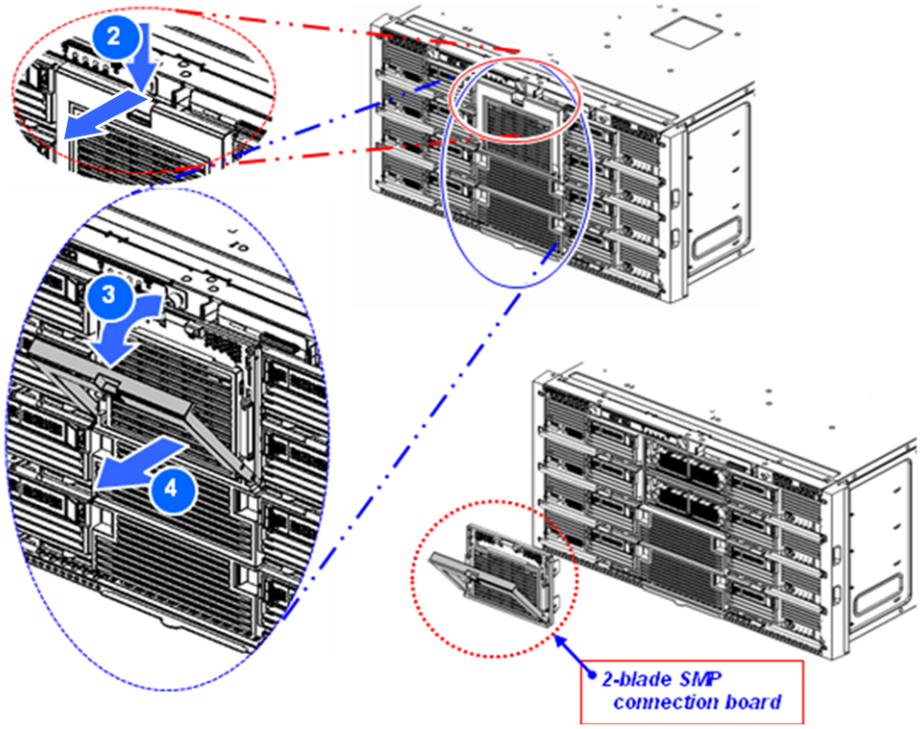


Figure 5-5 Removing 2-blade SMP connection board

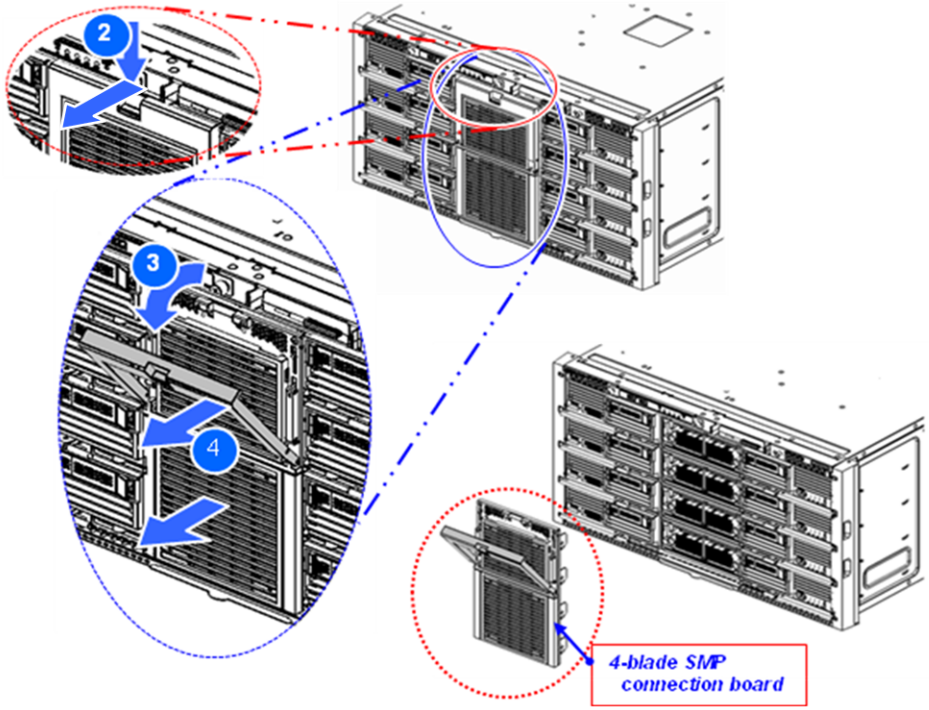


Figure 5-6 Removing 4-blade SMP connection board

Installing an SMP connection board

1. Put on an anti-static wrist strap.

2. Insert four guide pins on the 2-SMP connection board or eight guide pins on the 4-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.

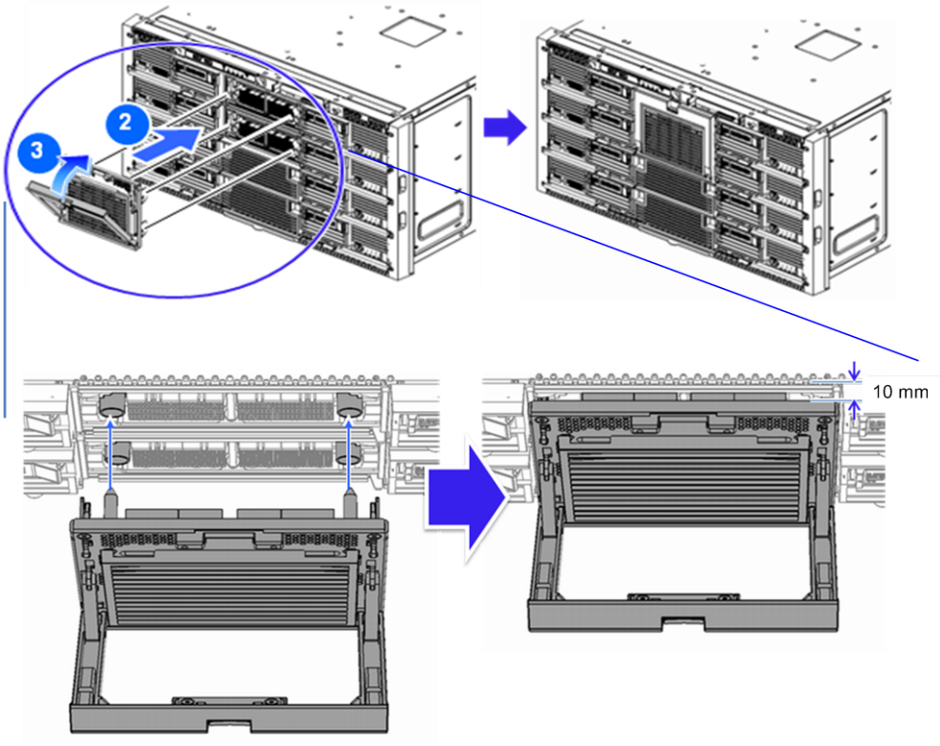


Figure 5-7 Installing 2-blade SMP connection board

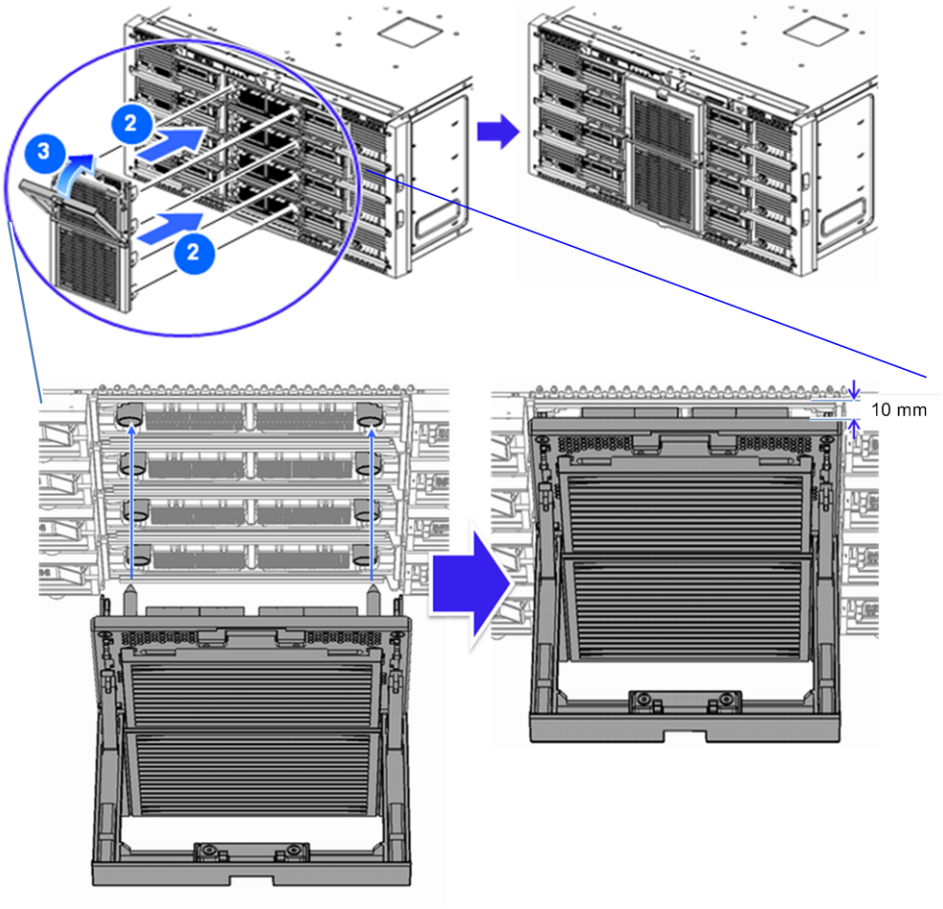


Figure 5-8 Installing 4-blade SMP connection board

Replacing an expansion blade

The hot-swappable feature of the Hitachi Compute Blade system allows the expansion blade replacement with the server chassis power ON. This procedure describes how to replace the expansion blade when the server chassis power is on.

Removing a storage expansion blade

1. Put on an anti-static wrist strap.
2. Connect Web console. See Web console login procedure on page 4-3 section.
3. Power off the target server blade. See Power down procedure on page 4-58 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. Turn on the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.

6. Identify F/W version and take notes of it. See F/W version identification procedure on page 4-22 section.
7. Loosen the thumbscrew and release blue lock tab, as shown below.
8. Pull the two levers on both sides, as shown below.
9. Holding the server blade and storage expansion blade, carefully slide out from the chassis and place it on an anti-static mat.

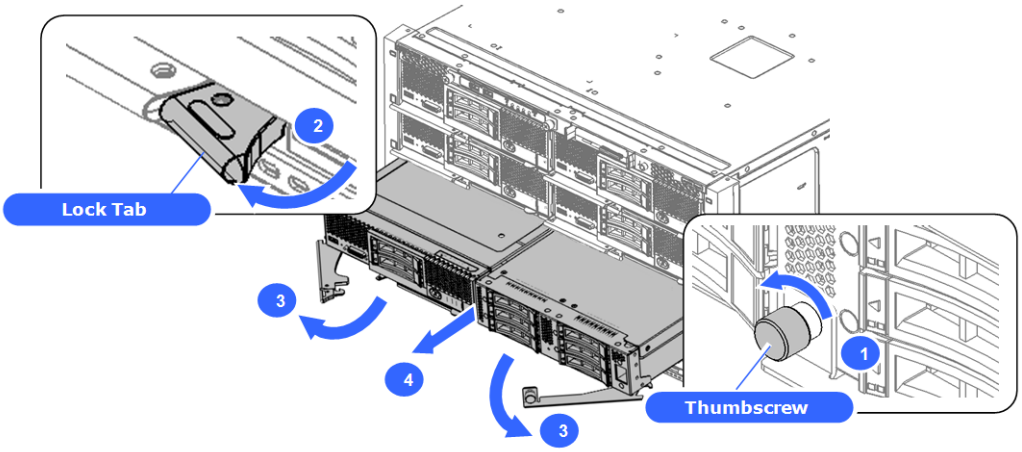


Figure 5-9 Removing the storage expansion blade

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

Installing a storage expansion blade

Note: To change configuration from half-wide server blade to storage expansion blade, remove a shelf from the server chassis. Refer to the Replacing a shelf in the server chassis on page 5-129 section.

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
4. If you need to update the BMC and/or EFI firmware, consult with Hitachi Data Systems Customer Support team.
5. Restore the Blade configuration data (FRU/ BMC configuration/ EFI configuration) from the automatic back up field in server chassis. See Backup/restore procedure on page 4-30 section.
6. BMC will restart. Wait for about 10 minutes.
7. Select **Alerts** tab and select **All Logs > System Event Log**, and then click **Refresh** to identify the latest information.
8. Confirm the **Server blade: BMC initialization complete** message.

If this massage was displayed, go to next step.

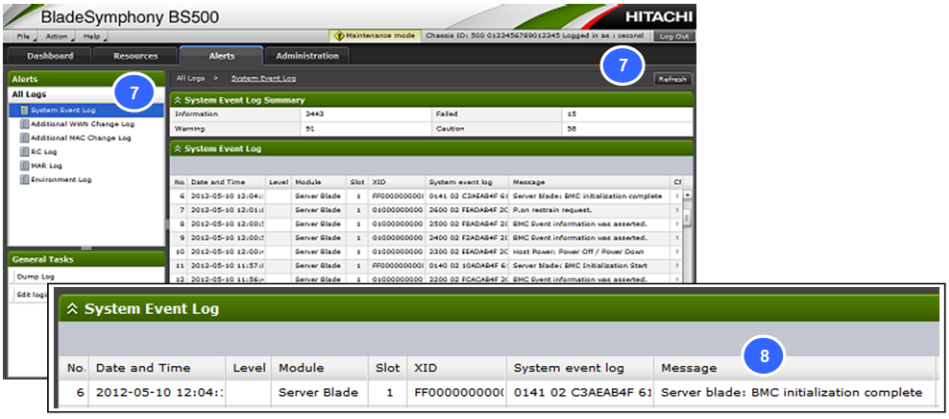
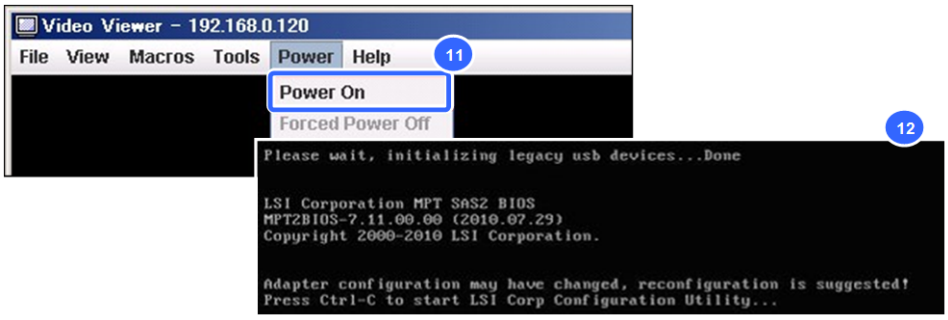
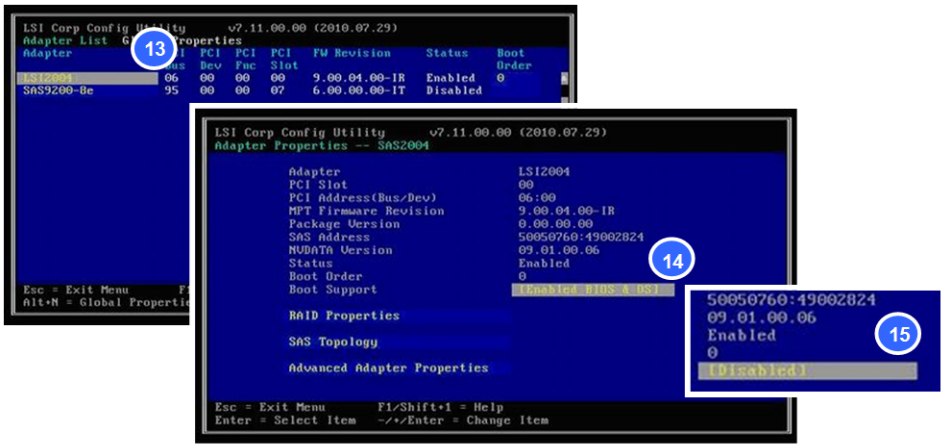


Figure 5-10 Confirming system log

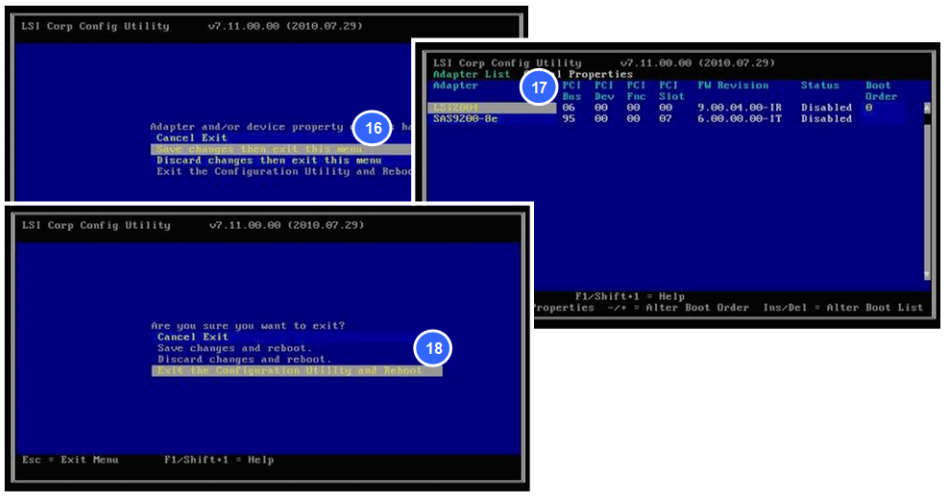
9. Turn on LID LED for identifying the target blade again. See Identify LED (LID) on/off procedure on page 4-7 section.
10. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    From this step through step 18 are the procedure for disabling controller BIOS of SAS2004 in server blade. When the HDD in storage expansion blade is assigned to **Boot disk**, perform the procedure from step 10 to step 18.
    Connect the remote console.
    See How to connect the remote console section.
11. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Click **Power** > **Power On** in remote console menu bar.
12. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Press **Ctrl** and **C** simultaneously when the following window is displayed during the server blade initialization.



13. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Select **LSI2004**, and then press **Enter**.
14. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Select **Boot Support** column, change the setting from **Enabled BIOS & OS** to **Disabled** by using **-** (minus) key, and then press **Enter**.
15. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Confirm that the **Boot Support** column changes to **Disabled**.



16. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Press **Esc**, select **Save changes then exit this menu**, and then press **Enter**.
17. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Confirm that **Status** column for **LSI2004** changes to **Disabled**.
18. (Skip this step when the HDD in server blade is assigned to **Boot disk**.)
    Press **Esc**, select **Exit the Configuration Utility and Reboot**, and then press **Enter**.



19. Execute the CBTP and check the replaced storage expansion blade.
    See Diagnostic procedure overview on page 8-2 section.
20. Turn off the maintenance mode from web console.
    See Maintenance mode on/off procedure on page 4-10 section.
21. Restart BMC when you installed a new server blade. See Restarting BMC procedure on page 4-56.
22. Perform the smart configure process.
    See Smart configure procedure for server blade on page 4-52 section.
23. Verify that the replacement was successful through the MAR log.
    See Alert information identification procedure on page 4-5 section.

24. Turn off LID LED for identifying the target blade.
    See Identify LED (LID) on/off procedure on page 4-7 section.

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 PCI expansion blade from server chassis

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Power off the target server blade. See Power down procedure on page 4-58 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. Turn on the maintenance mode from web console. See Maintenance mode on/off procedure on page 4-10 section.
6. Identify F/W version and take notes of it. See F/W version identification procedure on page 4-22 section.
7. Release the blue lock tab and pull the lever, as shown below.
8. Holding the server blade, carefully slide out from the chassis and place it on an anti-static mat.

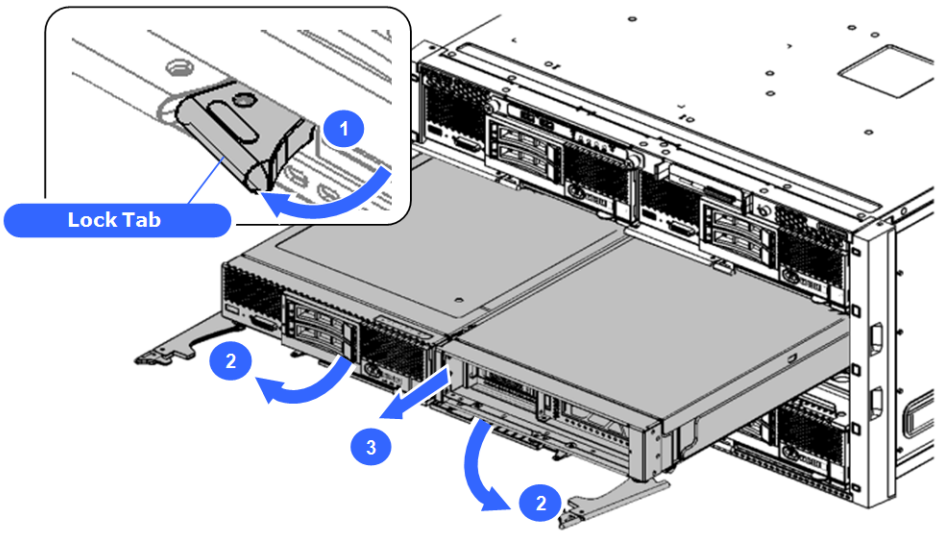


Figure 5-11 Removing the PCI expansion blade

Notice:

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

Installing a PCI expansion blade into server chassis

Note: To change configuration from half-wide server blade to PCI expansion blade, remove the shelf from the server chassis. Refer to the Replacing a shelf in the server chassis on page 5-129 section.

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
4. If you need to update the BMC and/or EFI firmware, consult with Hitachi Data Systems Customer Support team.
5. Restore the Blade configuration data (FRU/ BMC configuration/ EFI configuration) from the automatic back up field in server chassis. See Backup/restore procedure on page 4-30 section.
6. BMC will restart. Wait for about 10 minutes.
7. Select **Alerts** tab and select **All Logs > System Event Log**, and then click **Refresh** to identify the latest information.
8. Confirm the **Server blade: BMC initialization complete** message.
   If this massage was indicated, go to next step.

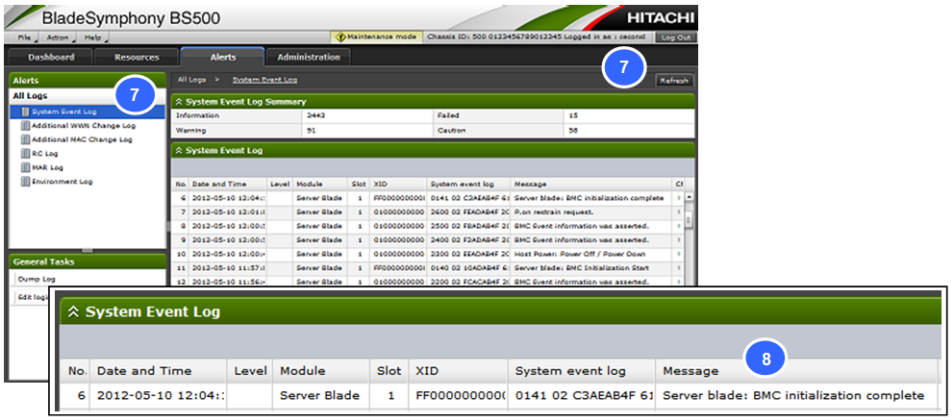


Figure 5-12 Confirming system log

9. Turn on LID LED for identifying the target blade again.
   See Identify LED (LID) on/off procedure on page 4-7 section.
10. Execute the CBTP and check the replaced PCI expansion blade.
    See Diagnostic procedure overview on page 8-2 section.
11. Turn off the maintenance mode from web console.
    See Maintenance mode on/off procedure on page 4-10 section.
12. Restart BMC when you installed a new server blade. See Restarting BMC procedure on page 4-56.

13. Perform the smart configure process.
    See Smart configure procedure for server blade on page 4-52 section.
14. Verify that the replacement was successful through the MAR log.
    See Alert information identification procedure on page 4-5 section.
15. Turn off LID LED for identifying the target blade.
    See Identify LED (LID) on/off procedure on page 4-7 section.

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 damage of server chassis or server blade.

Replacing a half-wide server blade for storage expansion blade

The hot-swappable feature of the Hitachi Compute Blade 500 series system allows the replacement of the server blade for storage expansion blade with the server chassis power on. This procedure describes how to replace a server blade for storage expansion blade when the server chassis power is on.

Removing a server blade with a storage expansion blade

1. Removing a server blade with a storage expansion blade.
   See Removing a storage expansion blade on page 5-11 section.
2. Opening a top cover of server blade and storage expansion blade.
   See Opening a top cover, Server blade on page 5-38 and Opening a top cover, Storage expansion blade on page 5-39 section.
3. Loosen two screws on the bracket of pass through mezzanine component in the storage expansion blade, and then remove it.
4. Open the lock tabs, as shown below.

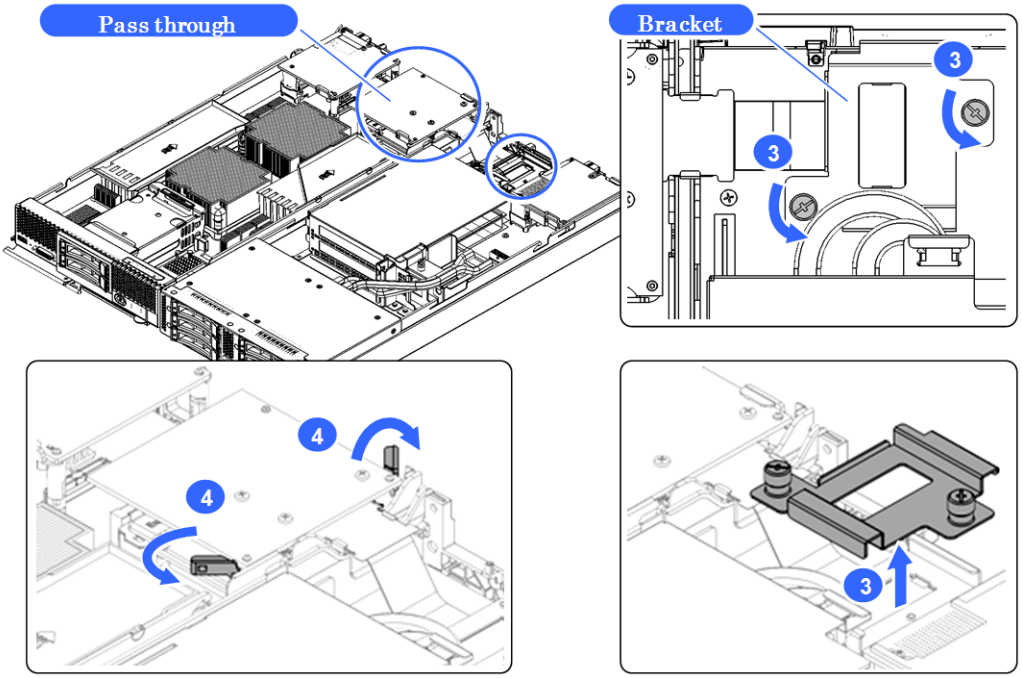


Figure 5-13 Removing the pass through mezzanine component

5. Grab the pass through mezzanine card shown as arrows A and B, then lift up the pass through mezzanine card and remove it from the server blade and storage expansion blade assembly.

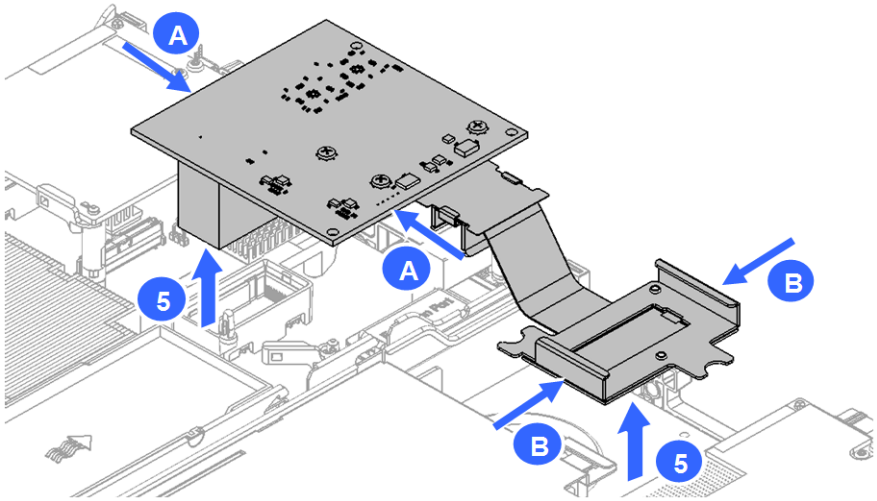


Figure 5-14 Removing the pass through mezzanine component

6. Lift up the server blade side. The tilt angle would be less than 45 degree.
7. The following figure shows the bottom side of the storage expansion blade. Pull the latch against bottom plate with your finger to release the latch.
8. While releasing the latch in the center of the bottom plate, slide out the server blade.

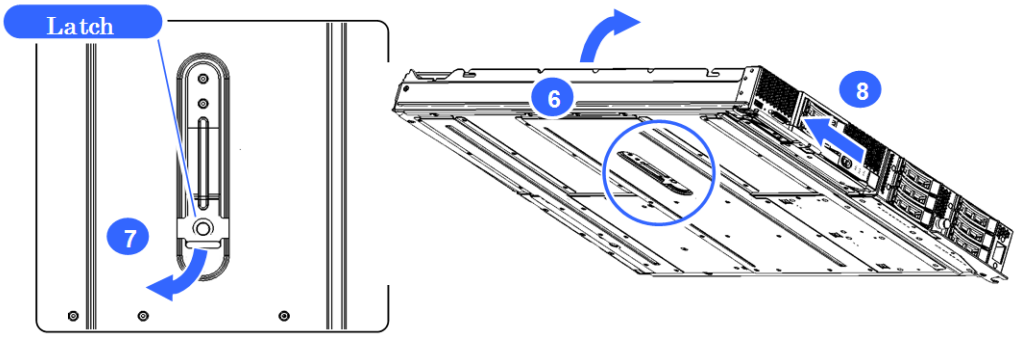


Figure 5-15 Removing a server blade from the storage expansion blade

9. Lift up the enclosure of the server blade.

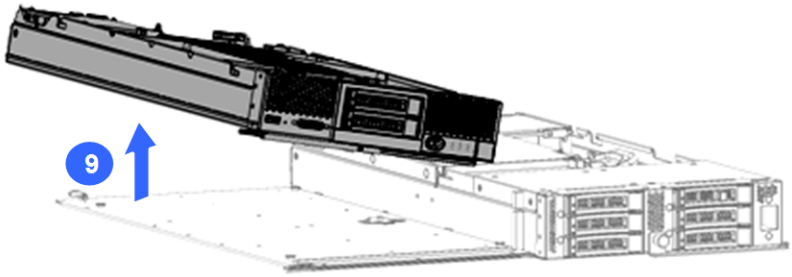


Figure 5-16 Removing a server blade from the storage expansion blade

Installing a server blade with a storage expansion blade

1. Put on an anti-static wrist strap.
2. Align the server blade onto the position indicated with blue circles in the following figure, and then put the server on expansion blade.
3. Slide the server blade toward the expansion blade until it fixes.
   (Confirm that the server blade does not slide toward opposite side.)
4. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.

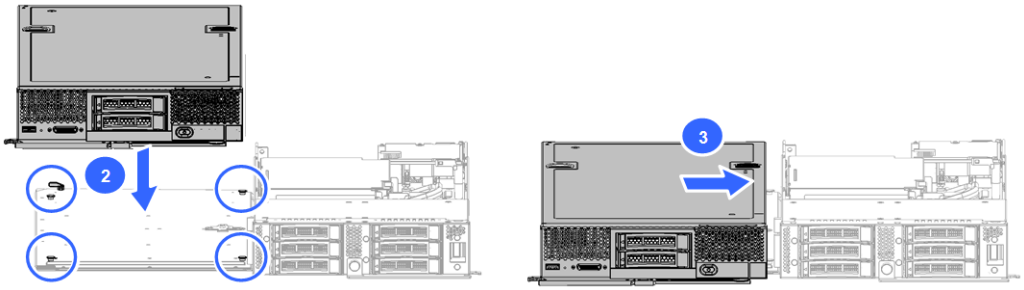


Figure 5-17 Installing a server blade on the storage expansion blade

5. Insert the pass through mezzanine component into server blade connector and storage expansion blade connector straight downward.
   Make sure to insert the arch shaped guide bracket into edges of server blade and expansion blade.

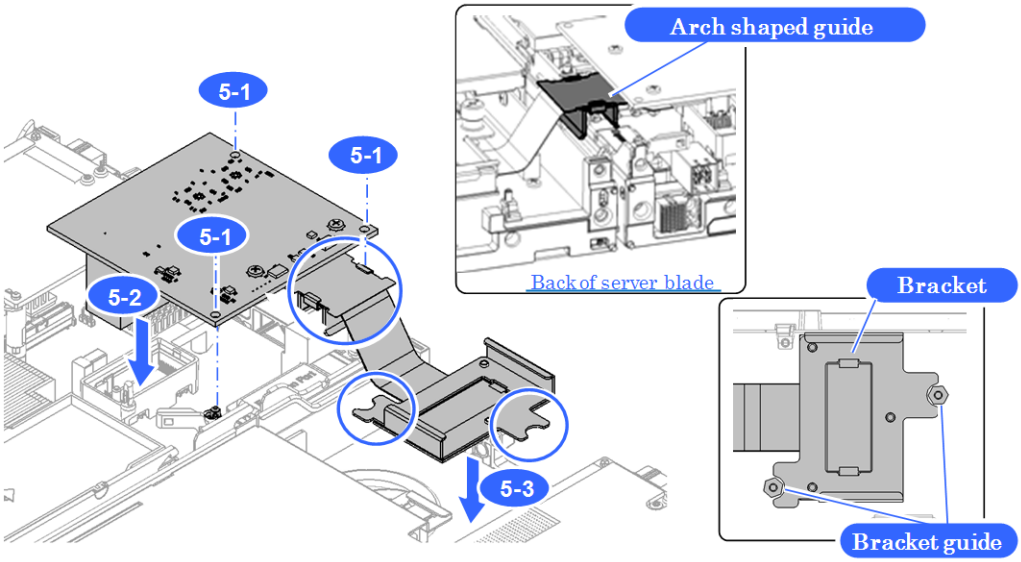


Figure 5-18 Inserting the pass through mezzanine component

6. Push the portions indicated **PUSH** on the pass through mezzanine card and cable connector to connect to the server blade connector and expansion blade connector, respectively.
7. Close the latches of the pass through mezzanine card.

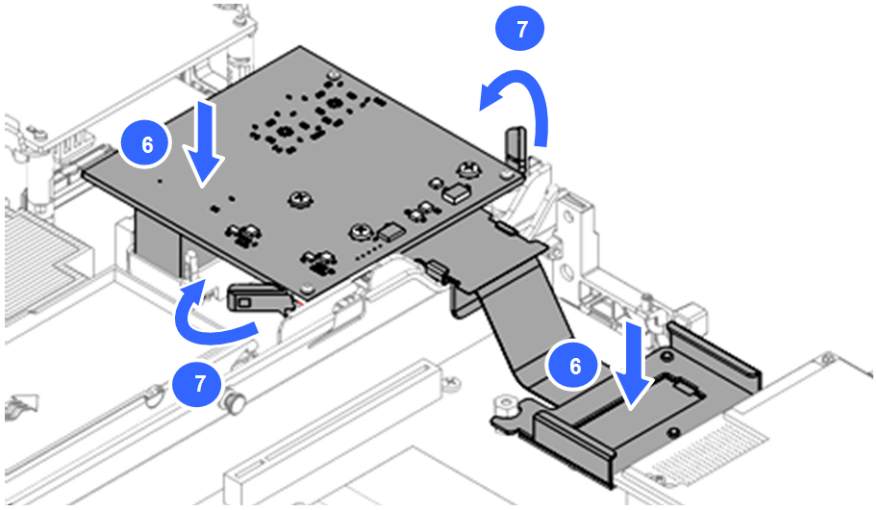


Figure 5-19 Fixing the pass through mezzanine component

8. Tighten two screws to fix the cable connector onto the expansion blade.

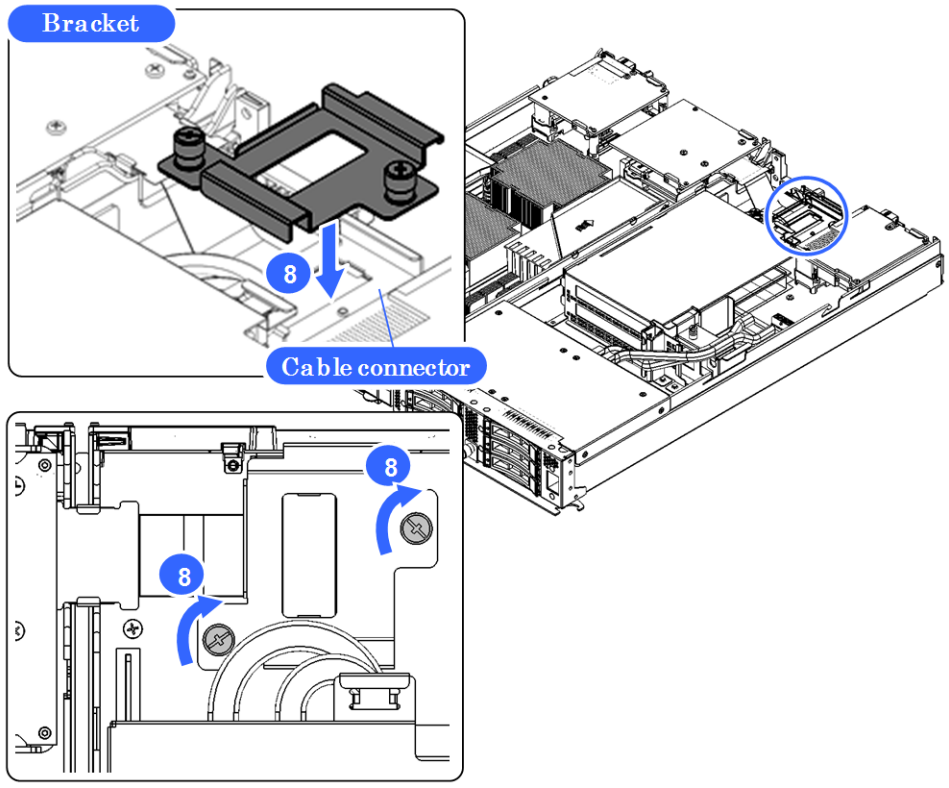


Figure 5-20 Fixing the cable connector

9. Close the top cover of server blade.
   See Closing a top cover, Server blade on page 5-39 section.
10. Close the top cover of storage expansion blade.
    See Closing a top cover, Storage expansion blade on page 5-40 section.
11. Install the storage expansion blade.
    See Installing a storage expansion blade on page 5-12 section.

Replacing a half-wide server blade for PCI expansion blade

The hot-swappable feature of the Hitachi Compute Blade 500 series system allows server blade for PCI expansion blade replacement with the server chassis power-on. This procedure describes how to replace a server blade for PCI expansion blade when the server chassis power is on.

Removing a server blade with PCI expansion blade

1. Removing a server blade with PCI expansion blade. See Removing a PCI expansion blade from server chassis on page 5-15 section.
2. Opening a top cover of server blade and PCI expansion blade. See Opening a top cover, Server blade on page 5-38 and Opening a top cover, PCI expansion blade on page 5-40 section.

3. Open a latch of the connector of the connection kit F/H in the PCI expansion blade, and then pull out the connector straight upward.
   See Figure 5-22 Removing the connection kit F/H on page 5-23.
4. Open two latches of the connection board in the server blade, and then pull out the board straight upward.
   See Figure 5-22 Removing the connection kit F/H on page 5-23.
5. (Skip this step when the connection kit L/P is not installed.)
   Pull out the connector of the connection kit L/P in the PCI expansion blade straight upward, and then turn over the connector toward server blade.
   See Figure 5-23 Removing the connection kit L/P on page 5-23.
6. Loosen a thumbscrew of the connection bracket, and then remove the bracket. See Figure 5-24 Removing the connection bracket on page 5-24.
7. (Skip this step when the connection kit L/P is not installed.)
   Pull out the connection board of the connection kit L/P in the server blade straight upward. See Figure 5-25 Removing the connection kit L/P on page 5-24.

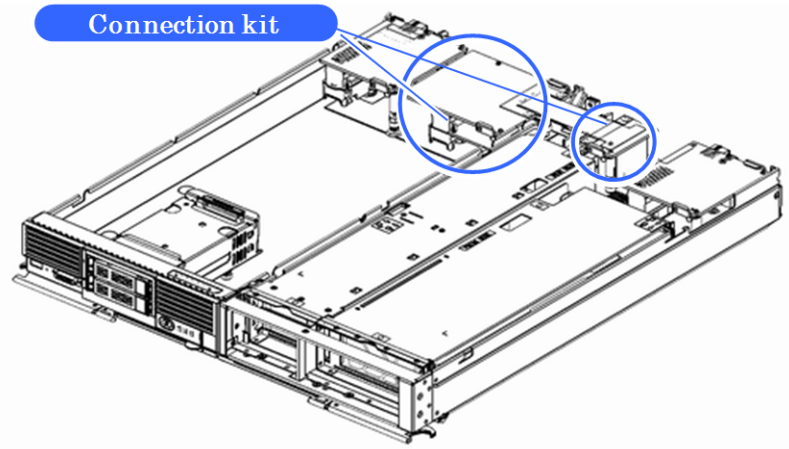


Figure 5-21 Location of the connection kit

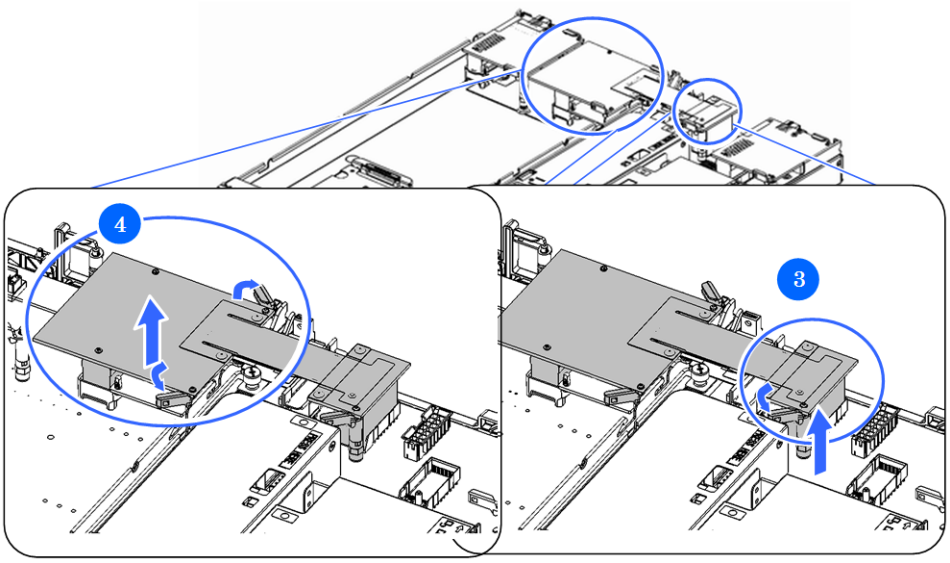


Figure 5-22 Removing the connection kit F/H

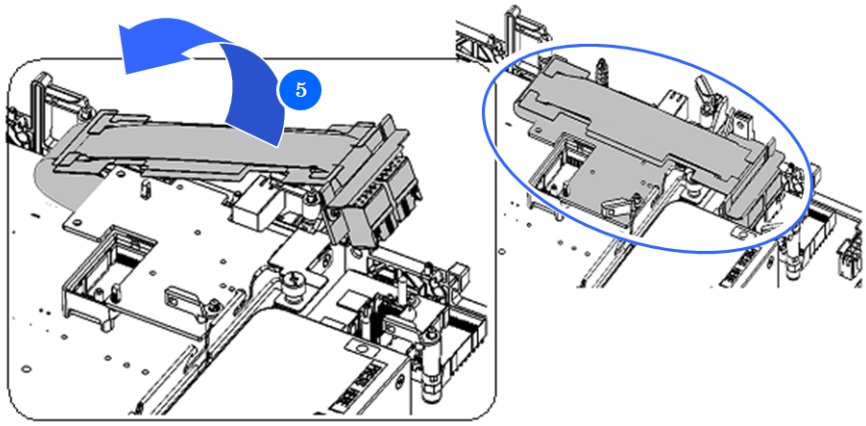


Figure 5-23 Removing the connection kit L/P

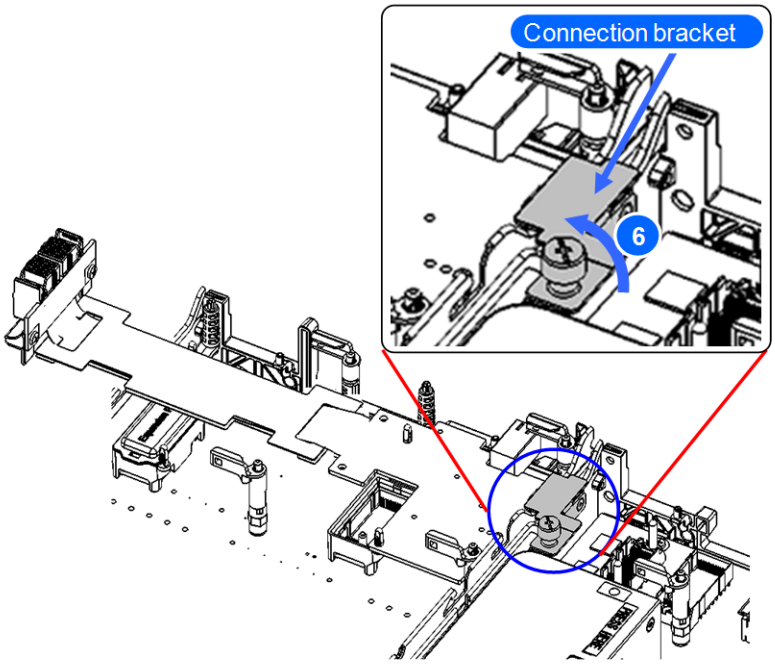


Figure 5-24 Removing the connection bracket

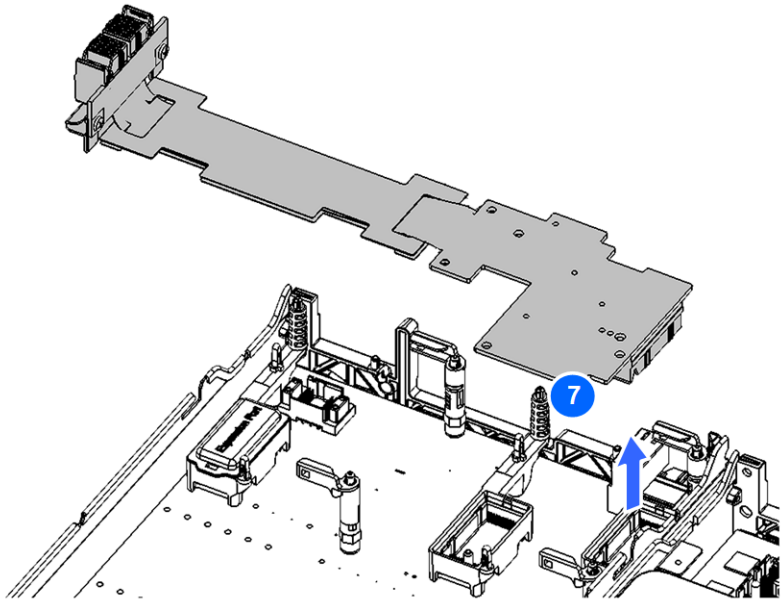
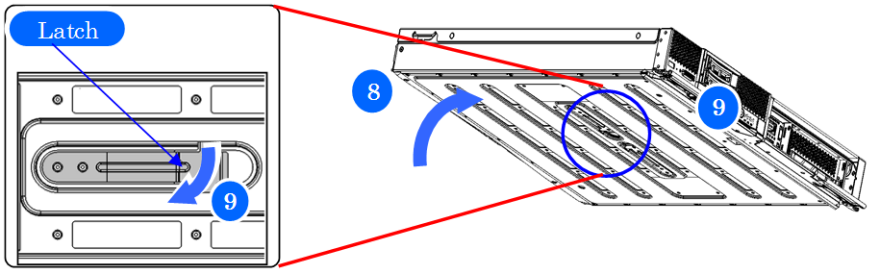


Figure 5-25 Removing the connection kit L/P

8. Lift up the server blade side with the tilt angle of less than 45 degree.
9. While pulling down the latch against the bottom plate with your finger to release the latch, slide the server blade toward outer side.



10. Put down the server blade with the PCI expansion blade, and then lift up the server blade from the shelf.

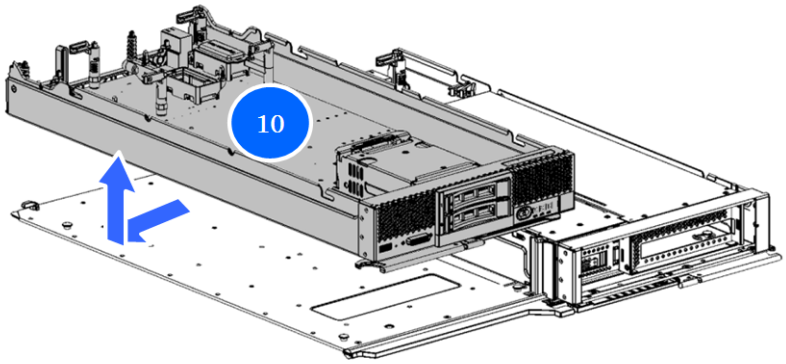


Figure 5-26 Removing a server blade from the shelf

Installing a server blade with the PCI expansion blade

1. Put on an anti-static wrist strap.
2. Align the server blade onto the position indicated with blue circles in the following figure, and then put the server on the shelf.
3. Slide the server blade toward the expansion blade until it fixes.
   (Confirm that the server blade does not slide toward opposite side.)
4. Open the top cover of the server blade.
   See Opening a top cover, Server blade on page 5-38 section.

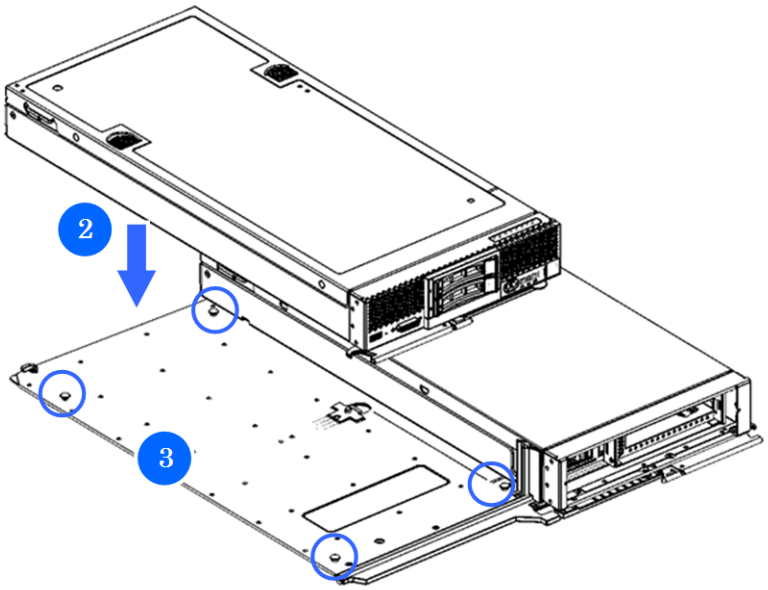


Figure 5-27 Installing a server blade on the shelf

5. (Skip this step when the connection kit L/P is not installed.)
   Align the connector of the connection board of the connection kit L/P with the male connector on the main board of the server blade, and then push in the connection board straight downward by pushing the portion indicated **Push** and opposite side at the same time.

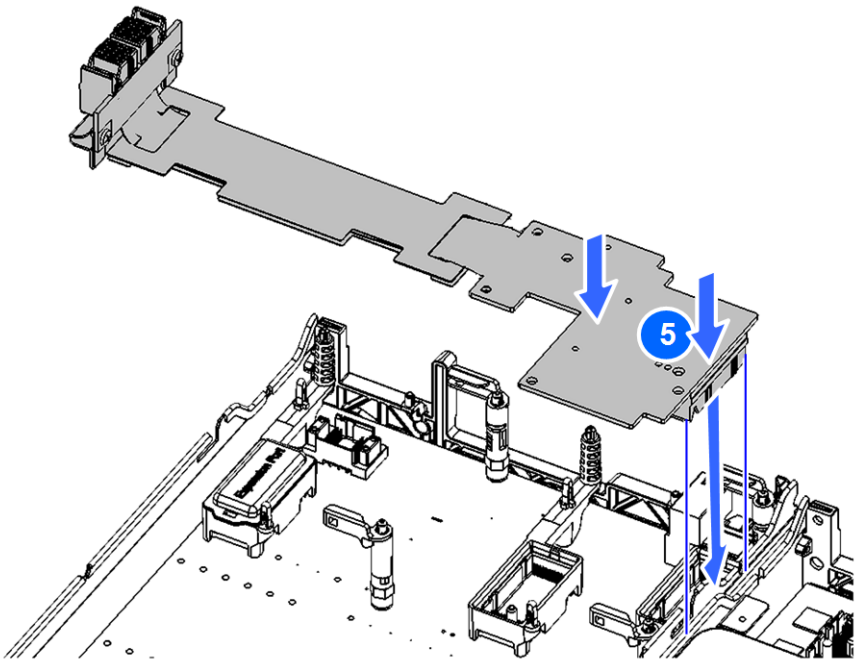


Figure 5-28 Inserting the connection kit L/P

6. Put in the connection bracket, and then tighten a thumbscrew of the connection bracket.

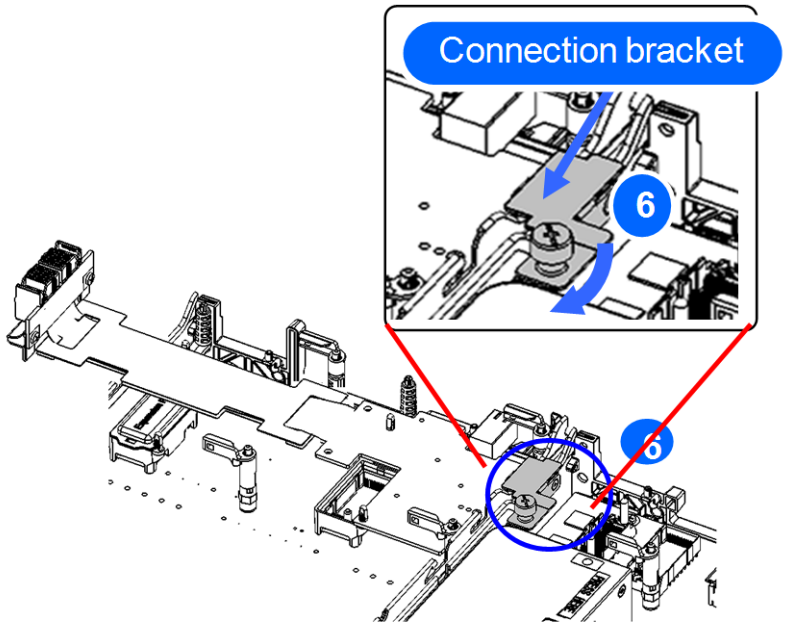


Figure 5-29 Installing the connection bracket

7. (Skip this step when the connection kit L/P is not installed.)
   Turn over the connector of the connection kit L/P toward PCI expansion blade, align the connector with the male connector on the main board of the PCI expansion blade, and then push in the connector.

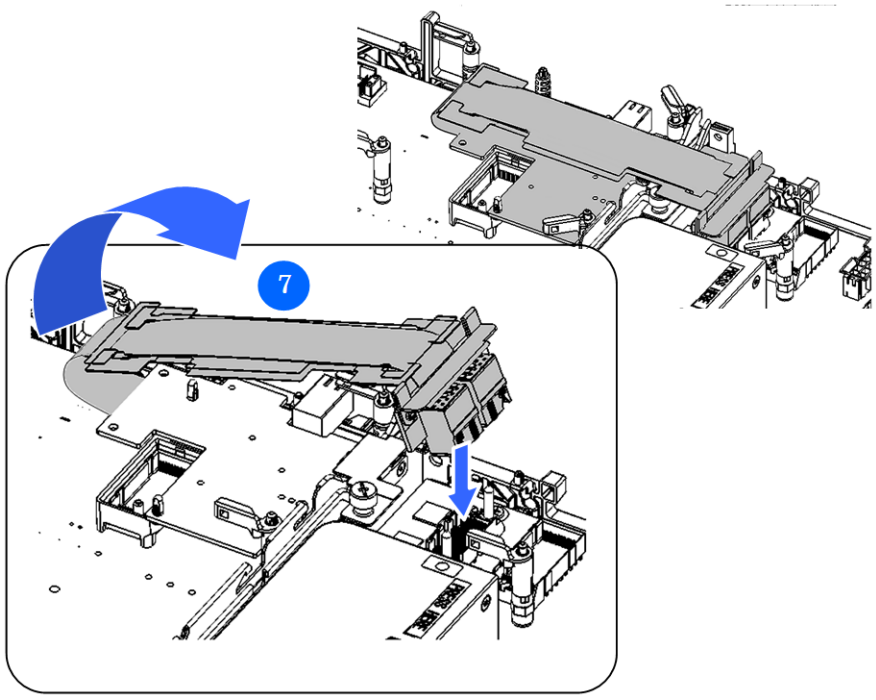


Figure 5-30 Installing the connection kit L/P

8. Align the connector and guide holes of the connection board of the connection kit F/H with the male connector and guide pins on the main board of the server blade, respectively.
9. Push in the connection board into the server blade straight downward by pushing the portion indicated **Push**, and then close the two latches.
10. Push in the connector into the PCI expansion blade straight downward by pushing the portion indicated **Push**, and then close the latch.

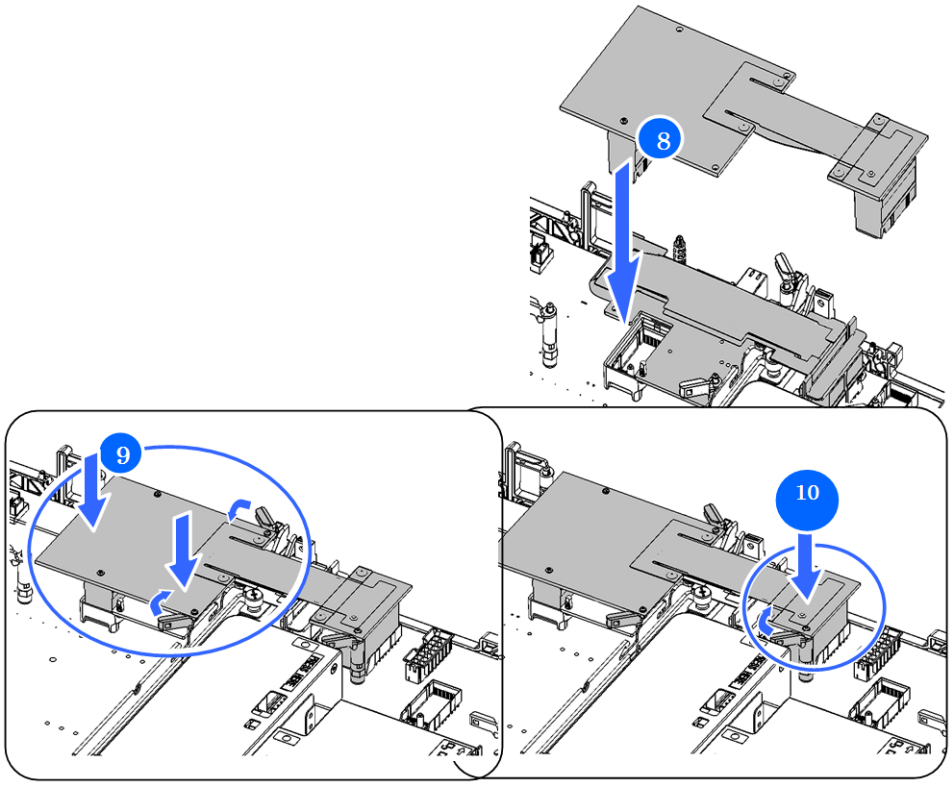


Figure 5-31 Installing connection kit F/H

11. Close the top cover of Server blade. See Closing a top cover, Server blade on page 5-39 section.
12. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
13. Install the PCI expansion blade.
    See Installing a PCI expansion blade into server chassis on page 5-16 section.

Replacing a PCI expansion blade

The hot-swappable feature of the Hitachi Compute Blade 500 series system allows a PCI expansion blade replacement with the server chassis power on. This procedure describes how to replace a PCI expansion blade when the server chassis power is on.

Removing a PCI expansion blade from the shelf

1. Removing a PCI expansion blade with a server blade.
   See Removing a PCI expansion blade from server chassis on page 5-15 section.
2. Opening a top cover of server blade and PCI expansion blade.
   See Opening a top cover, Server blade on page 5-38 and Opening a top cover, PCI expansion blade on page 5-40 section.
3. Open a latch of the connector of the connection kit F/H in the PCI expansion blade, and then pull out the connector straight upward.
   See Figure 5-33 Removing the connection kit F/H on page 5-30.
4. Open two latches of the connection board in the server blade, and then pull out the board straight upward.
   See Figure 5-33 Removing the connection kit F/H on page 5-30.
5. (Skip this step when the connection kit L/P is not installed.)
   Pull out the connector of the connection kit L/P in the PCI expansion blade straight upward, and then turn over the connector toward server blade.
   See Figure 5-34 Removing the connection kit L/P on page 5-30.
6. Loosen a thumbscrew of the connection bracket, and then remove the bracket. See Figure 5-35 Removing the connection bracket on page 5-31.
7. (Skip this step when the connection kit L/P is not installed.)
   Pull out the connection board of the connection kit L/P in the server blade straight upward. See Figure 5-36 Removing the connection kit L/P on page 5-31.

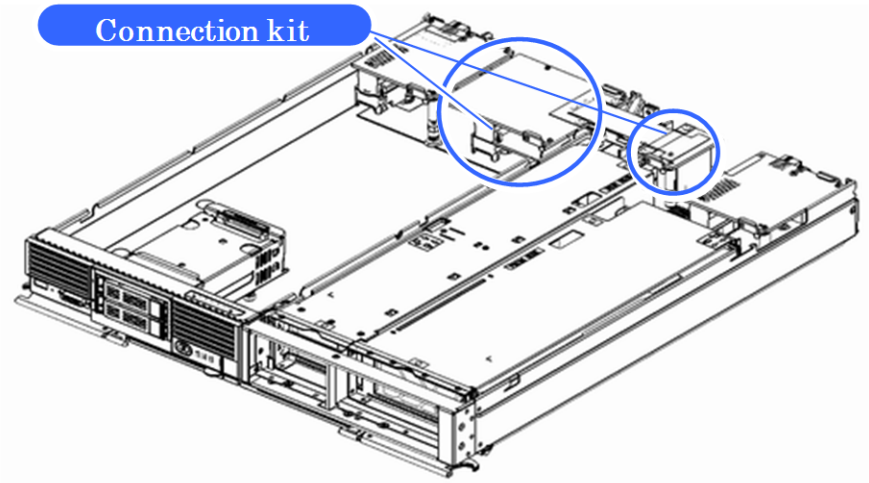


Figure 5-32 Location of the connection kit

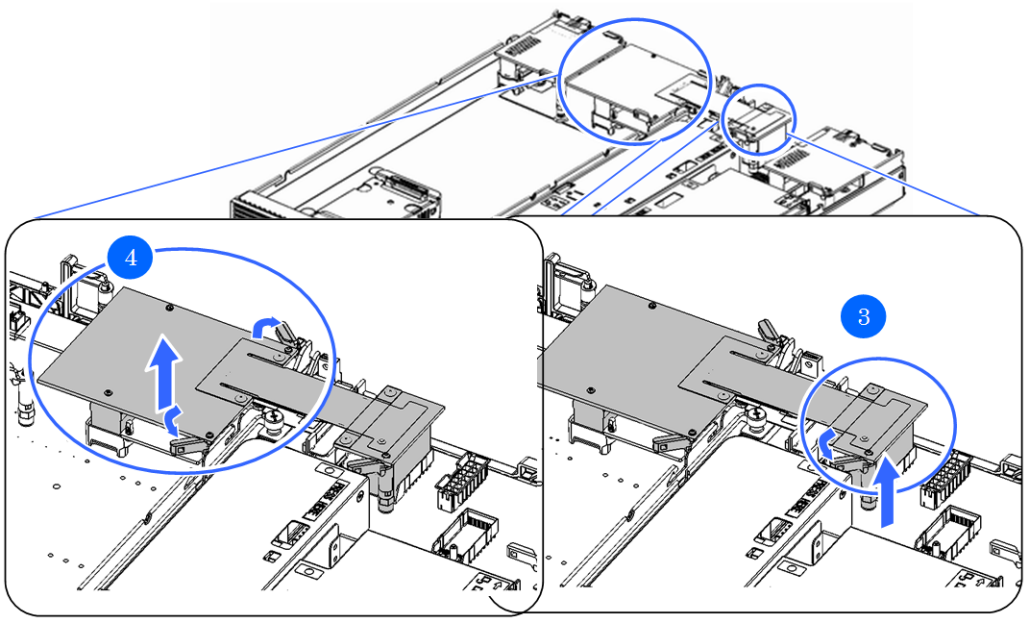


Figure 5-33 Removing the connection kit F/H

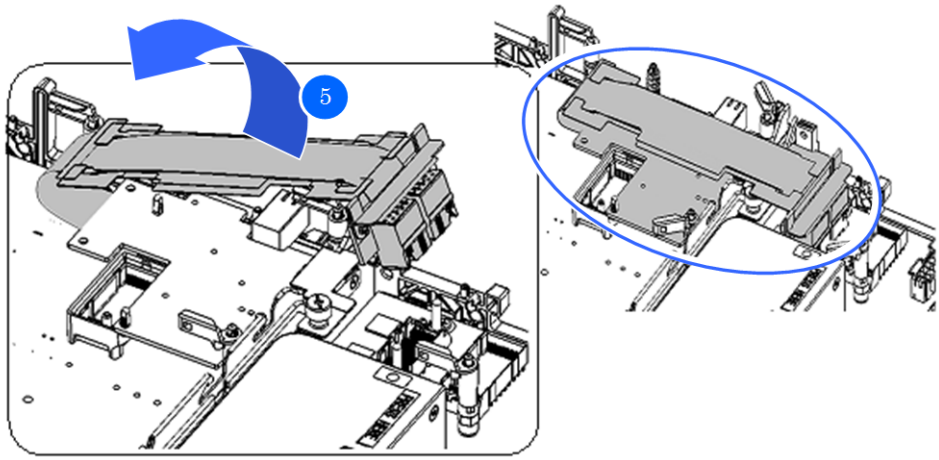


Figure 5-34 Removing the connection kit L/P

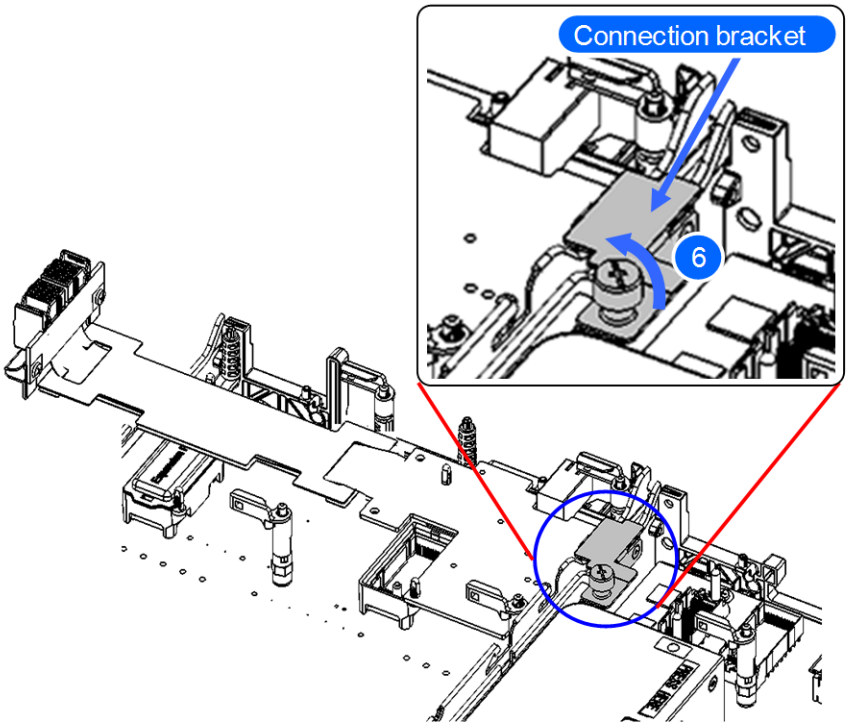


Figure 5-35 Removing the connection bracket

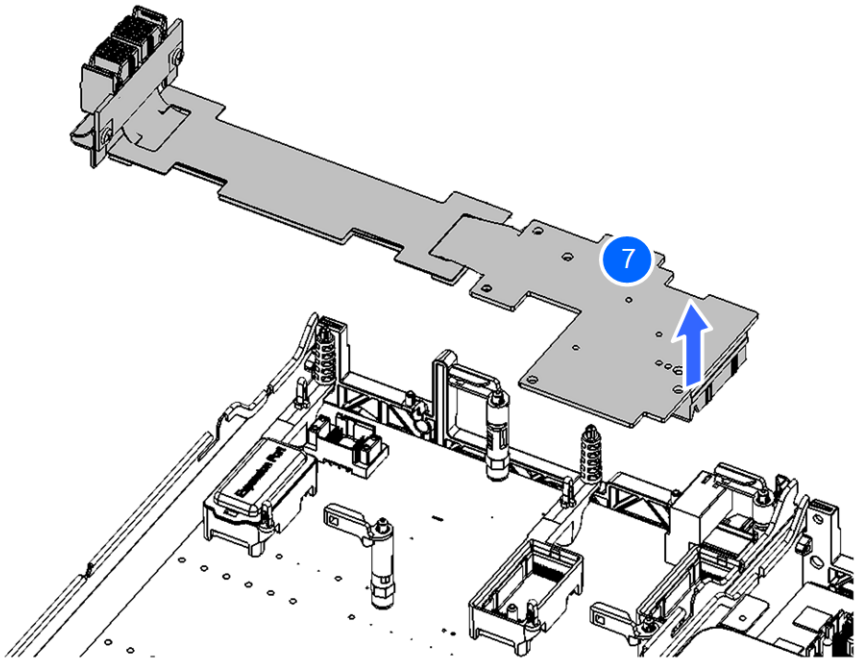
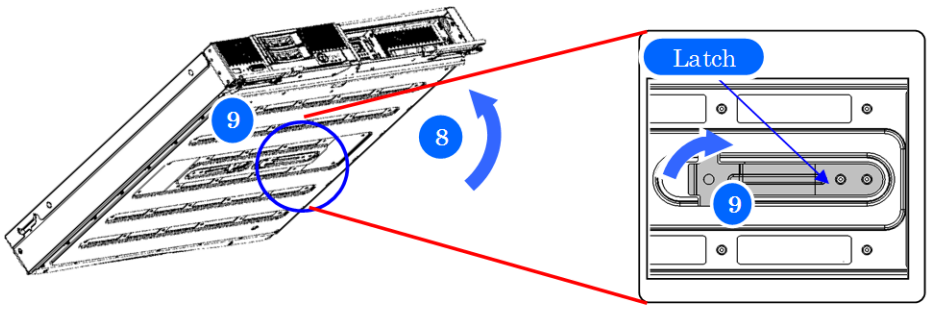


Figure 5-36 Removing the connection kit L/P

8. Lift up the PCI expansion blade side with the tilt angle of less than 45 degree.
9. While pulling down the latch against the bottom plate with your finger to release the latch, slide the PCI expansion blade toward outer side.



10. Put down the PCI expansion blade with server blade, and then lift up the PCI expansion blade from the shelf.

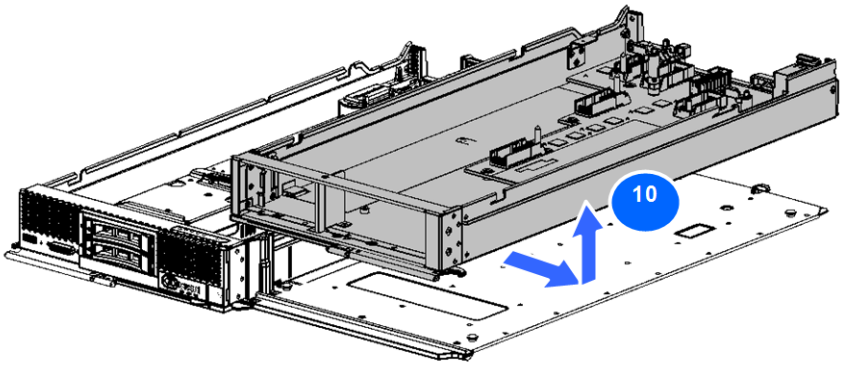


Figure 5-37 Removing the PCI expansion blade from the shelf

Installing a PCI expansion blade on the shelf

1. Put on an anti-static wrist strap.
2. Align the PCI expansion blade onto the position indicated with blue circles in the following figure, and then put the PCI expansion on the shelf.
3. Slide the PCI expansion blade toward the server blade until it fixes.
   (Confirm that the PCI expansion blade does not slide toward opposite side.)
4. Open the top cover of the PCI expansion blade.
   See Opening a top cover, PCI expansion blade on page 5-40 section.

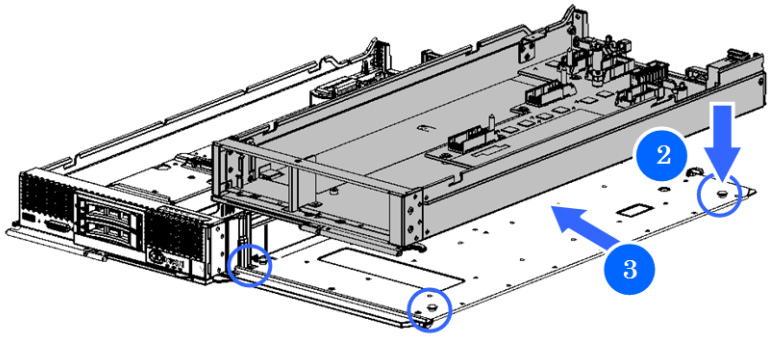


Figure 5-38 Installing a PCI expansion blade on the shelf

5. (Skip this step when the connection kit L/P is not installed.)
   Align the connector of the connection board of the connection kit L/P with the male connector on the main board of the server blade, and then push in the connection board straight downward by pushing the portion indicated **Push** and opposite side at the same time.

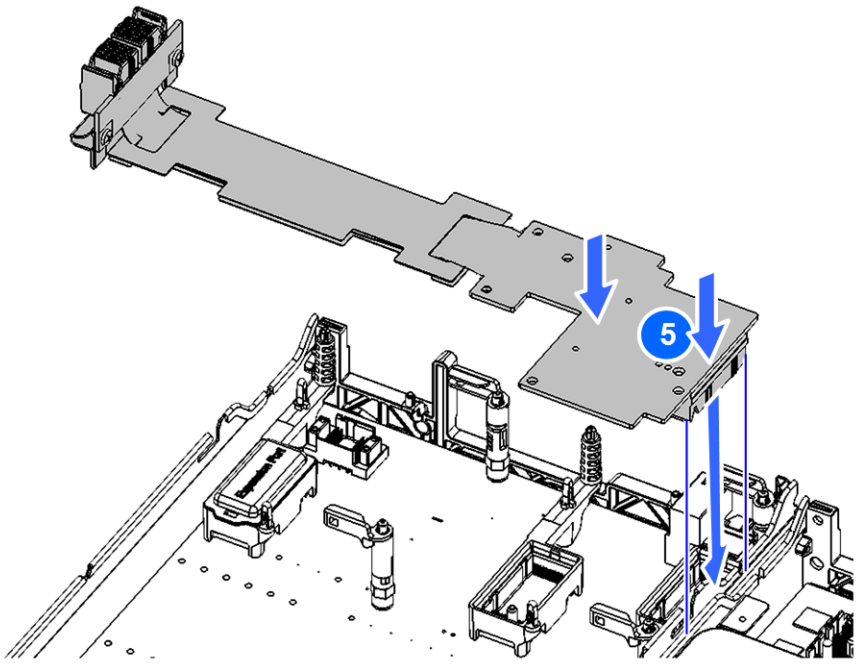


Figure 5-39 Inserting the connection kit L/P

6. Put in the connection bracket, and then tighten a thumbscrew of the connection bracket.

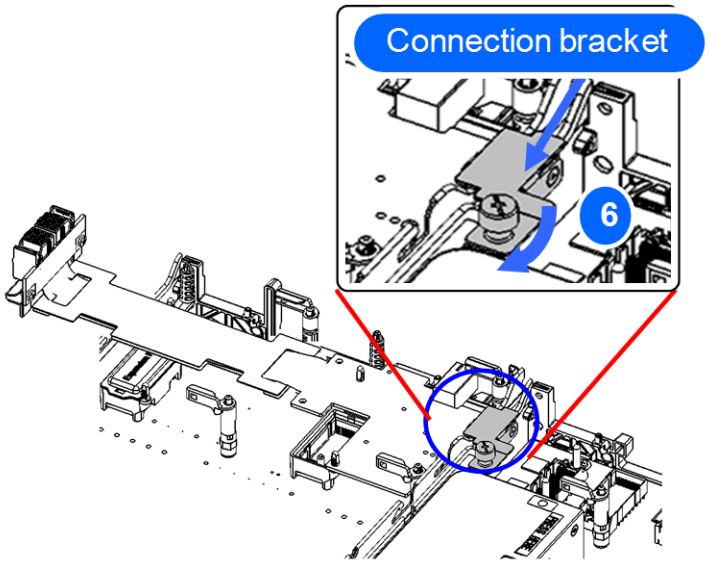


Figure 5-40 Installing the connection bracket

7. (Skip this step when the connection kit L/P is not installed.)
   Turn over the connector of the connection kit L/P toward PCI expansion blade, align the connector with the male connector on the main board of the PCI expansion blade, and then push in the connector.

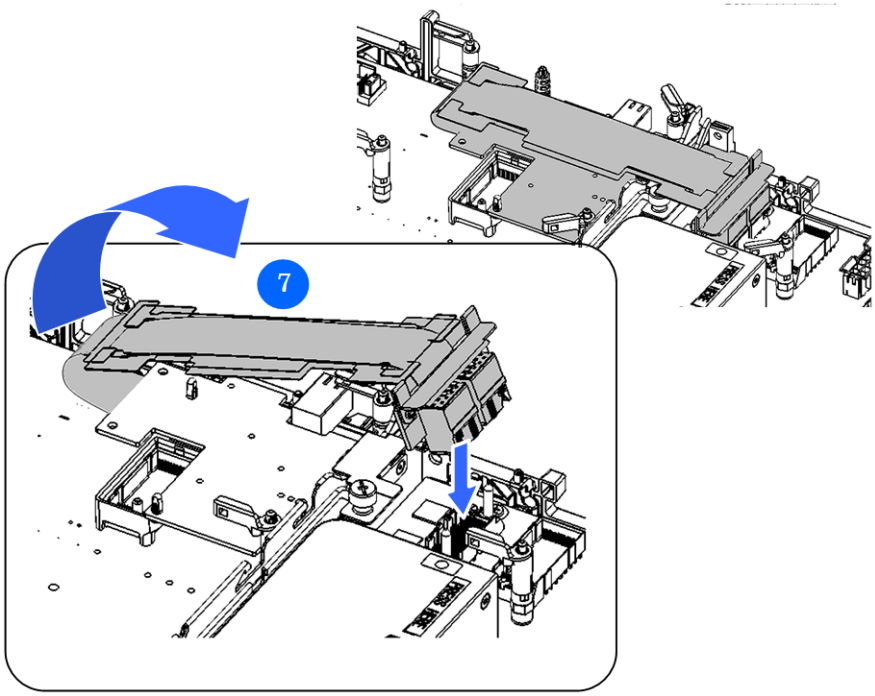


Figure 5-41 Installing the connection kit L/P

8. Align the connector and guide holes of the connection board of the connection kit F/H with the male connector and guide pins on the main board of the server blade, respectively.

9. Push in the connection board into the server blade straight downward by pushing the portion indicated **Push**, and then close the two latches.
10. Push in the connector into the PCI expansion blade straight downward by pushing the portion indicated **Push**, and then close the latch.

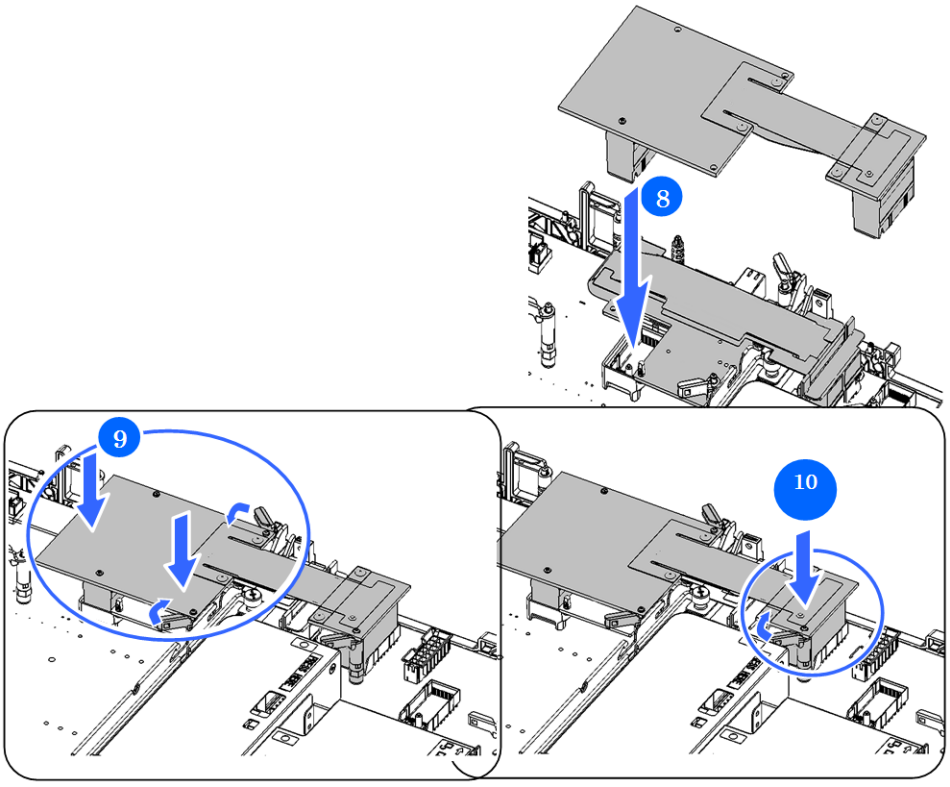


Figure 5-42 Installing connection kit F/H

11. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
12. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
13. Install the PCI expansion blade. See Installing a PCI expansion blade into server chassis on page 5-16 section.

Replacing a disk drive

This procedure describes how to replace the disk drive in a server blade or a storage expansion blade. The disk drive is hot-swappable component and allows disk drive replacement with the server blade power on.

Note:

- Back up all user data before replacing a disk drive. When the RAID group and logical unit are deleted or formatted, the user data will be lost.
- Do not remove the failed disk drive if the LEDs of itself or another disk drive in the same server blade or storage expansion blade indicate the following conditions.

Active LED is blinking in green and Fault LED is blinking in amber. (HDD is rebuilding)

Removing a disk drive

1. Put on an anti-static wrist strap.
2. Verify the Fault LED lights on amber.
3. Connect Web console. See Web console login procedure on page 4-3 section.
4. Turn on LID LED for identifying the target blade. See Identify LED (LID) on/off procedure on page 4-7 section.
5. Push the lock button, as shown below, and then pull the lever.
6. With holding the lever of the disk drive, and remove the disk drive from the server blade or storage expansion blade.

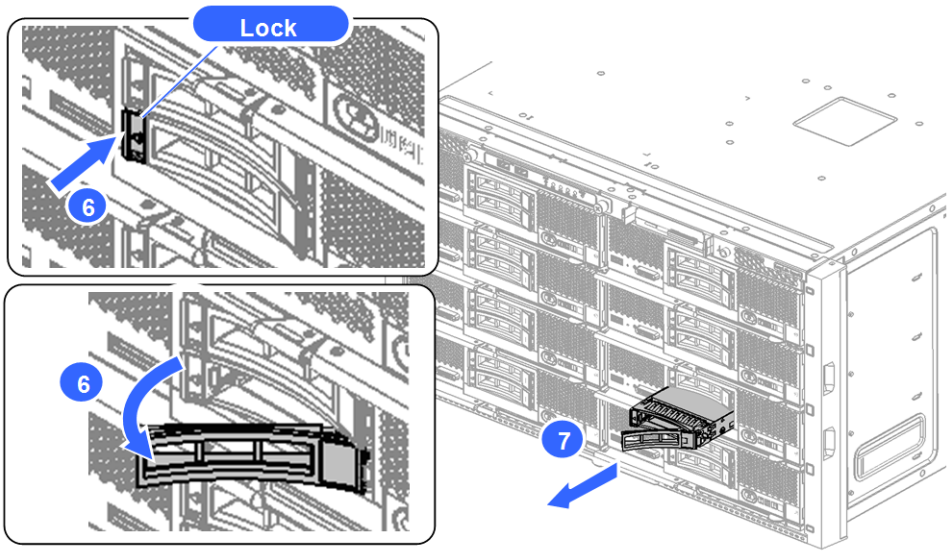


Figure 5-43 Removing the disk drive from the server blade

Installing a disk drive

Note: To reduce the risk of the failure for rebuilding data, wait for approximately one minute after removing the failed disk drive.

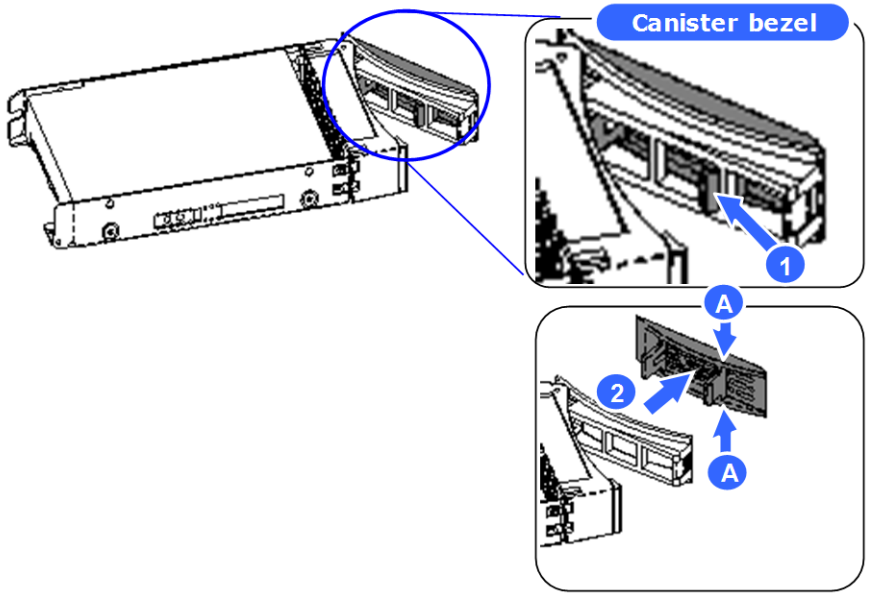
1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install.

Note: When you removed a disk from CB 520H B2 or the storage expansion blade, which is connected to CB 520H B2, remove the canister bezel from the lever of the disk, and then install the bezel onto the lever of installing disk drive before installing it into the blade.

Removing the bezel:

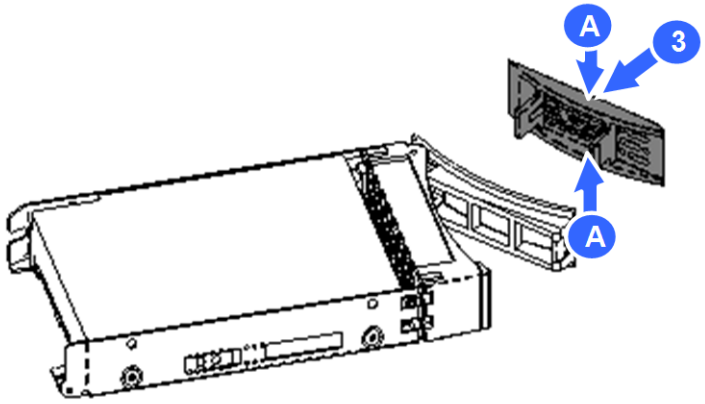
(1) Push a brace of the canister bezel toward the pivot of the lever.

(2) While holding both side of the bezel (arrowed A), pull out the bezel from the lever.



Installing the bezel:

(3) While holding both side of the bezel (arrowed A), install and fix the bezel to lever.



3. Turn on LID LED for identifying the target blade.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. The rebuilding will start within one minute after installing the spare disk drive. Verify the following LED status in the spare drive that the rebuilding started.
   - Active LED: blink in green
   - Fault LED: blink in amber
5. Confirm the rebuild status. See Identifying rebuild status on page 6-2 section.
6. Wait for rebuilding, and after thirty minutes to two hours, it will be completed.

Verify the following LED status in the spare drive that the rebuilding was completed.

- Active LED: light in green
- Fault LED: OFF

7. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.
8. Turn off LID LED for identifying the target blade.
   See Identify LED (LID) on/off procedure on page 4-7 section.

Preparing for replacing an internal component

This procedure describes how to replace the internal components, such as DIMMs, Mezzanine Cards, HDD backplane, Lithium battery and USB memory.

CAUTION:

High temperature components.

Do not touch the components in the server blade while opening the top cover. Wait 5 or more minutes before performing the replacement to reduce the risk of serious burn injuries from hot surfaces.

Opening a top cover, Server blade

Slide the top cover in the direction of the arrow, as shown below, while pushing the lock button on the top cover, and then lift the top cover up.

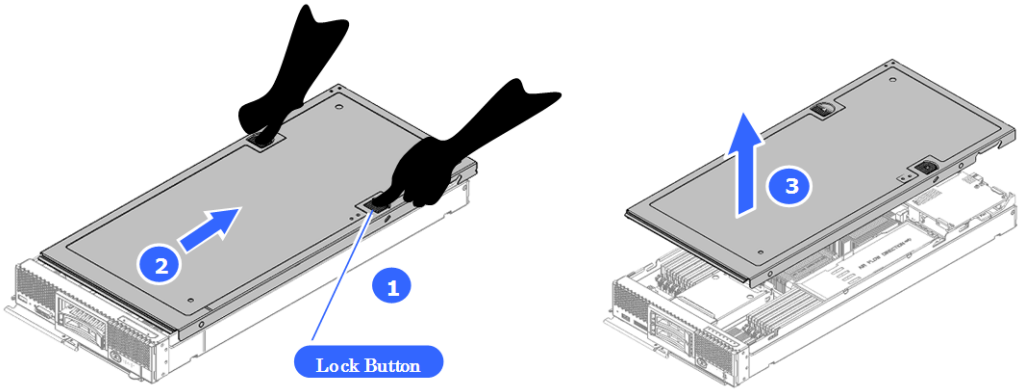


Figure 5-44 Opening the top cover- CB 520A A1, CB 520H A1/B1/B2/B3/B4

Tip: The top cover has one silicon rubber or two silicon rubbers on the upper surface.

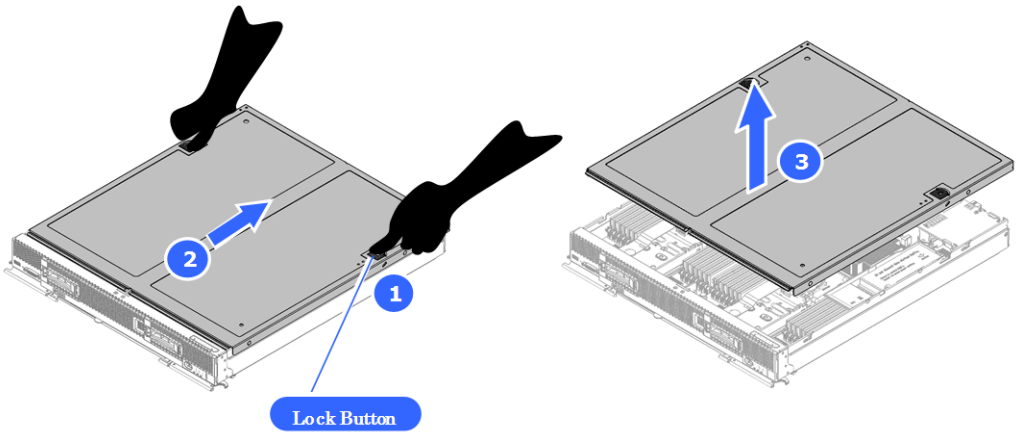
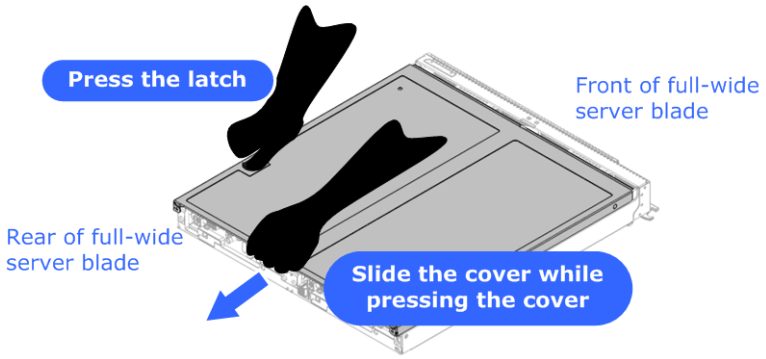


Figure 5-45 Opening the top cover- CB 540A A1/B1, CB 520X B1/

Tip: Sliding the top cover may be slightly hard because of the difference of the gap between the cover and enclosure.
While pressing a latch on the cover, slide the cover toward rear side while pressing center of the cover edge.



Closing a top cover, Server blade

1. Reverse the removal procedure.

Opening a top cover, Storage expansion blade

1. Slide the top cover in the direction of the arrow, as shown below, while pushing the lock button on the top cover, and then lift the top cover up.

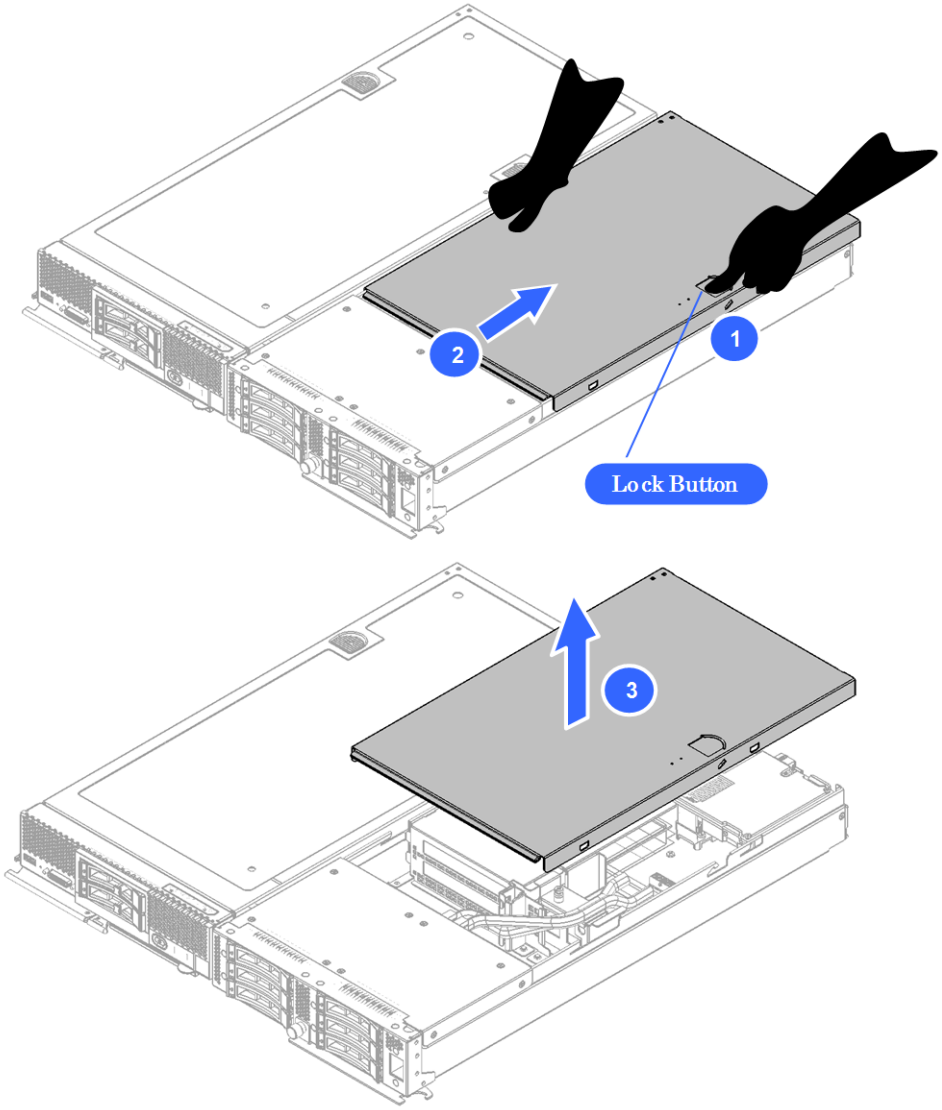


Figure 5-46 Opening the top cover

Closing a top cover, Storage expansion blade

1. Reverse the removal procedure.

Opening a top cover, PCI expansion blade

1. While pressing a lock button on the side of the cover, hold the cover edge of the rear side, slide the cover toward rear side, and then remove the top cover from PCI expansion blade.

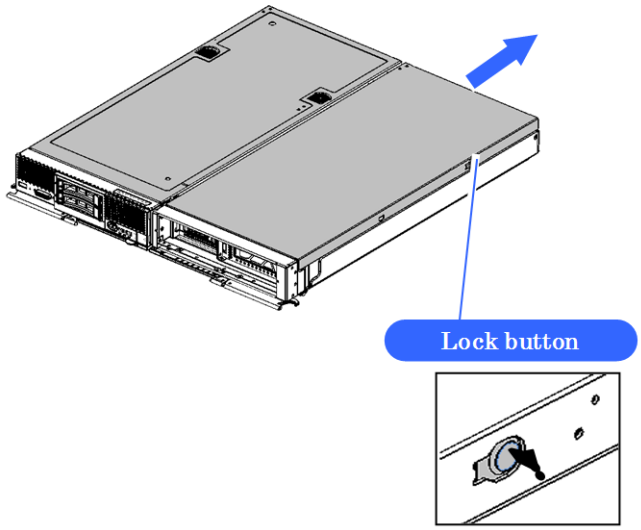


Figure 5-47 Opening the top cover

Note: Do not press and slide the cover surface.

Closing a top cover, PCI expansion blade

1. Reverse the removal procedure.

Replacing a DIMM in half-wide server blade

This procedure describes how to remove a DIMM from the server blade.

Removing a DIMM

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade.
   See Opening a top cover, Server blade on page 5-38 section.
4. When the SAS kit 2 is mounted in the server blade, remove the SAS kit 2 from the server Blade. See Removing a SAS-kit 2 on page 5-93 section.
5. Lift the air ducts, and remove them from the server blade assembly.

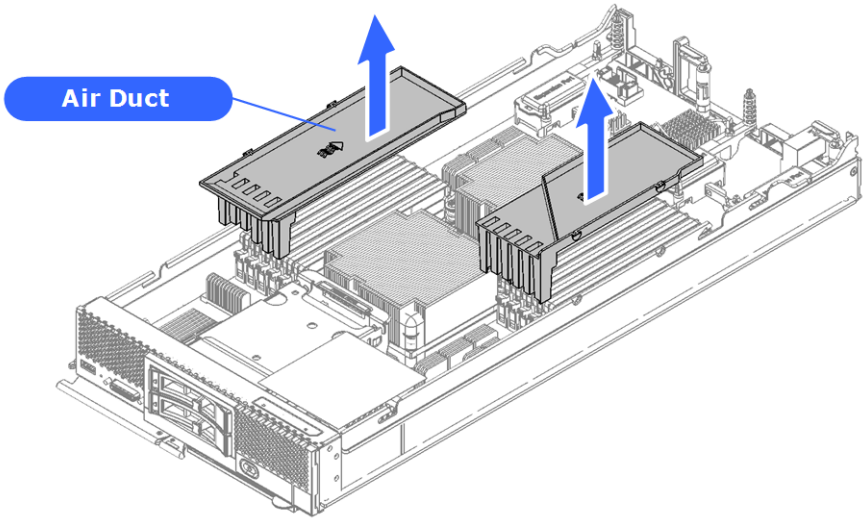


Figure 5-48 Removing the air ducts- CB 520A A1

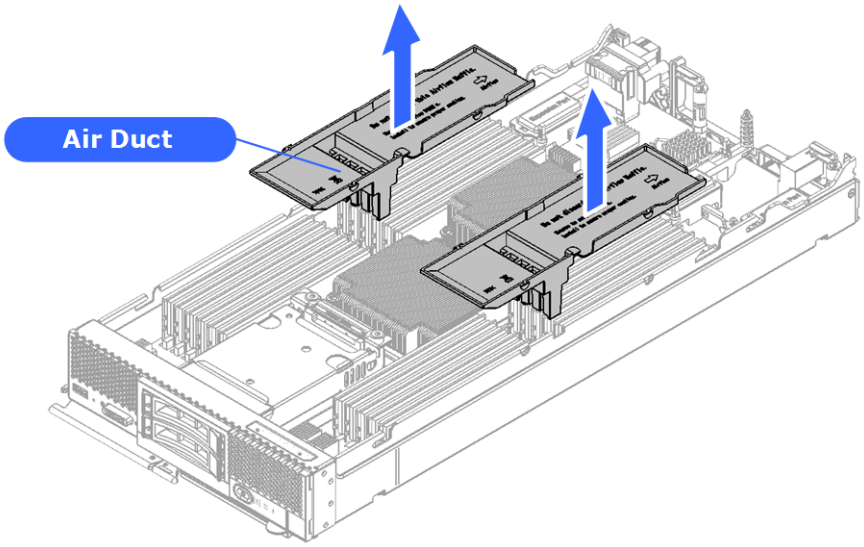


Figure 5-49 Removing the air ducts- CB 520H A1/B1/B2/B3/B4

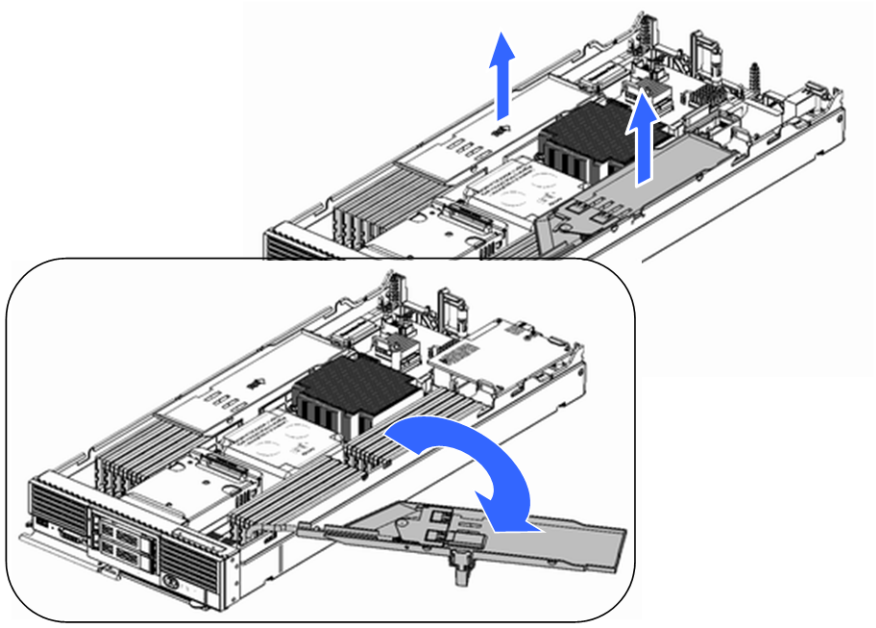


Figure 5-50 Removing the USB enablement kit and air duct- CB 520H A1/B1/B2/B3/B4

6. Open the DIMM socket ejector tabs and remove the DIMM from the DIMM socket.

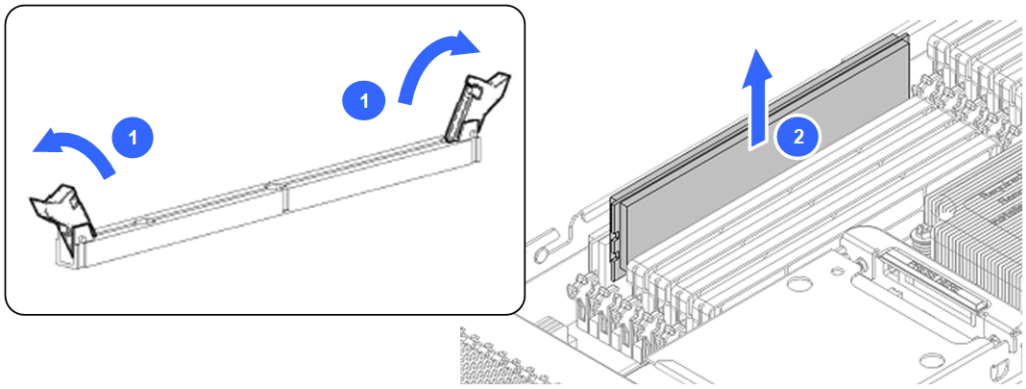


Figure 5-51 Removing the DIMM

Installing a DIMM

1. Put on an anti-static wrist strap.
2. Ensure that the DIMM socket ejector tabs are in the open position.
3. Line up the spare DIMM with the socket.
4. Push the spare DIMM into the socket until the ejector tabs lock the DIMM in place.
5. Ensure that the DIMM socket ejector tabs are in the close position.

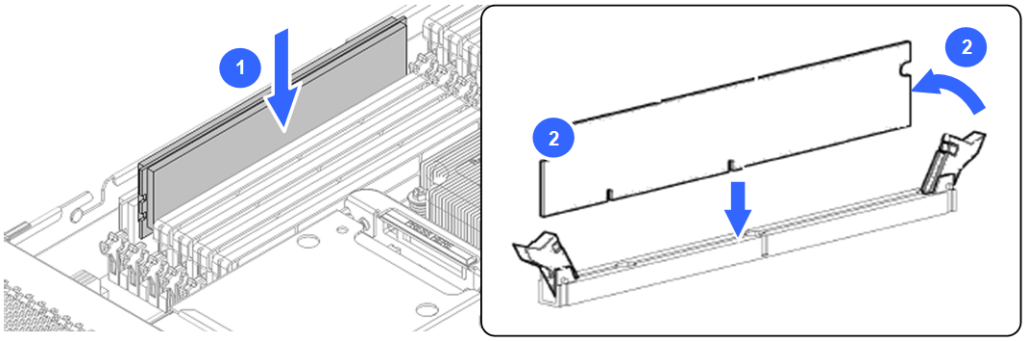


Figure 5-52 Installing the DIMM

Notice:

Do not install the DIMM turned the wrong way. Doing so might cause serious damage to the DIMM.

---

6. Install the air ducts.

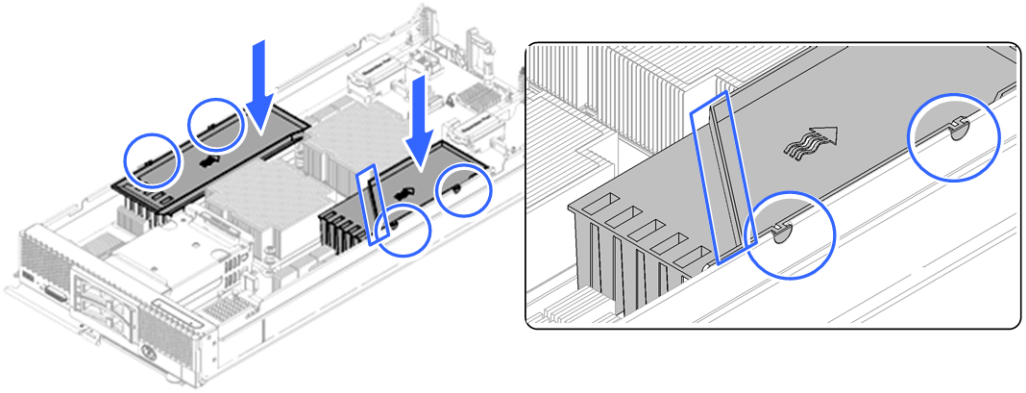


Figure 5-53 Installing the air ducts- CB 520A A1

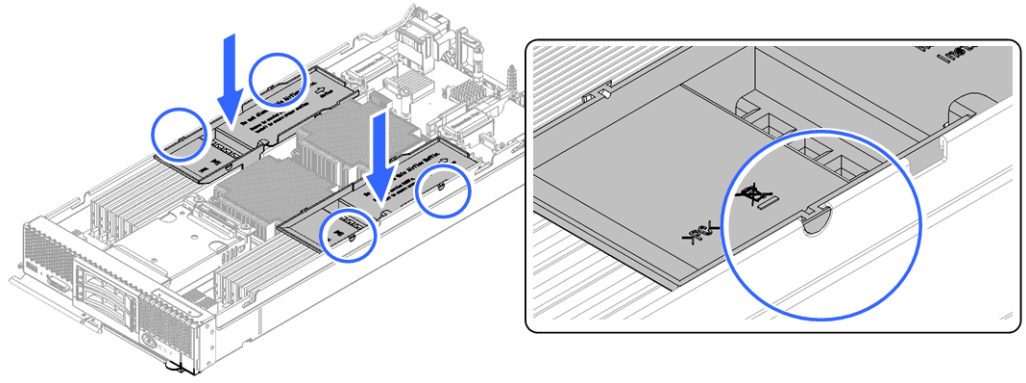


Figure 5-54 Installing the air ducts- CB 520H A1/B1/B2/B3/B4

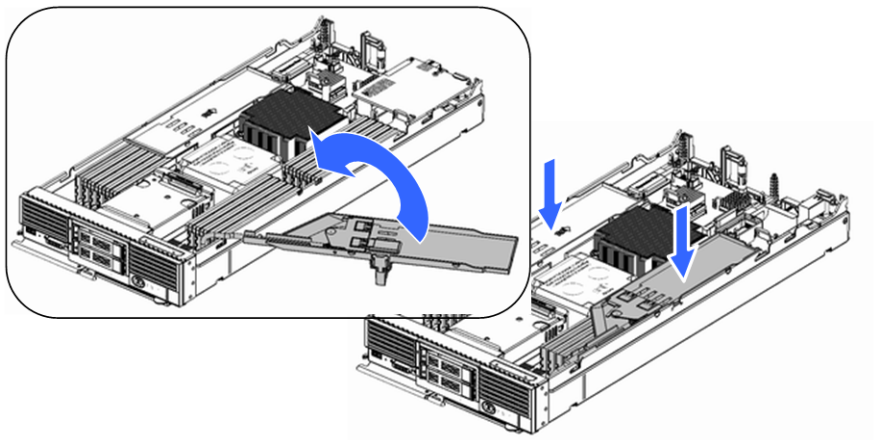
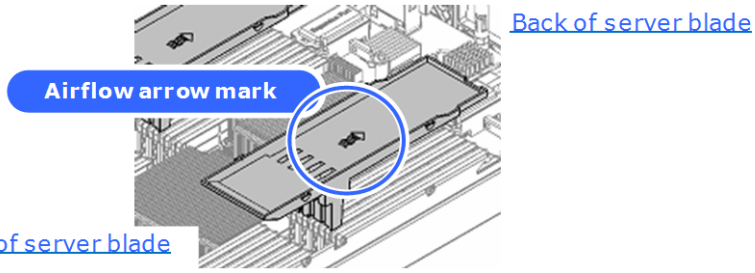


Figure 5-55 Installing the USB enablement kit and air duct- CB 520H A1/B1/B2/B3/B4

Tip: Place the air duct with the airflow arrow facing back of the server blade.

Do not care which the LEFT and RIGHT air ducts of CB 520H A1/B1/B2/B3/B4 are as they are completely same.



7. Close the top cover. See Closing a top cover, Server blade on page 5-39 section.
8. Install the server blade. See Installing a half-wide server blade on page 5-5 section.
9. When the SAS kit 2 was mounted in the server blade, install the SAS kit 2 to the server blade. See Installing a SAS-kit 2 on page 5-94 section.

Replacing a DIMM in full-wide server blade

This procedure describes how to remove a DIMM from the server blade.

Removing a DIMM

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade.
   See Opening a top cover, Server blade on page 5-38 section.

4. When the SAS kit 2 is mounted in the CB 540A A1/B1, remove the SAS kit 2 from the server blade. See Removing a SAS-kit 2 on page 5-93 section.

   (Skip this step to remove a DIMM in CB 520X B1/B2/B3.)

5. Lift the air ducts, and remove them from the server blade assembly.

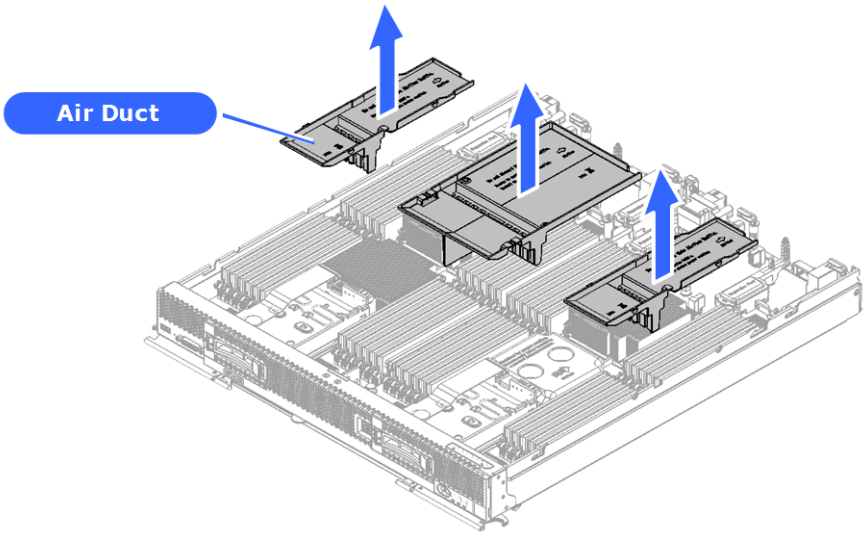


Figure 5-56 Removing the air ducts- CB 540A A1/B1

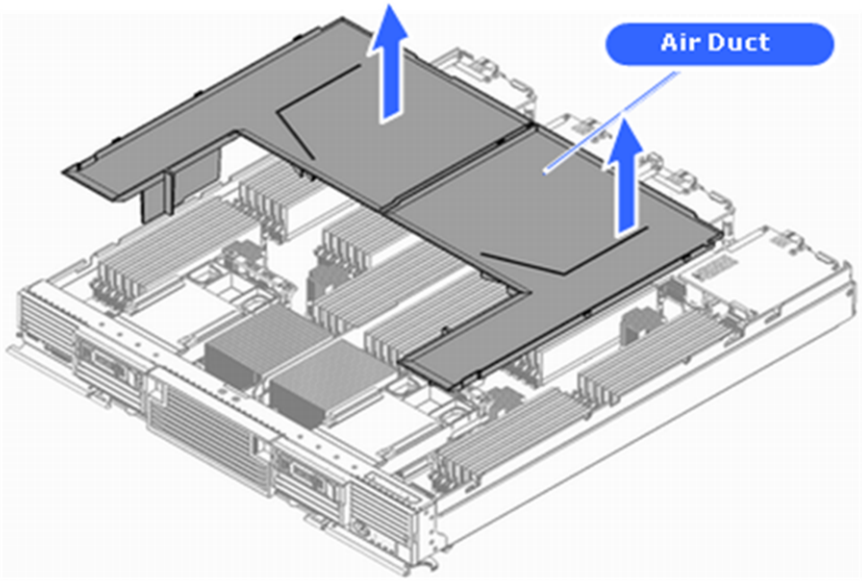


Figure 5-57 Removing the air ducts- CB 520X B1/B2/B3

6. Open the DIMM socket ejector tabs and remove the DIMM from the DIMM socket.

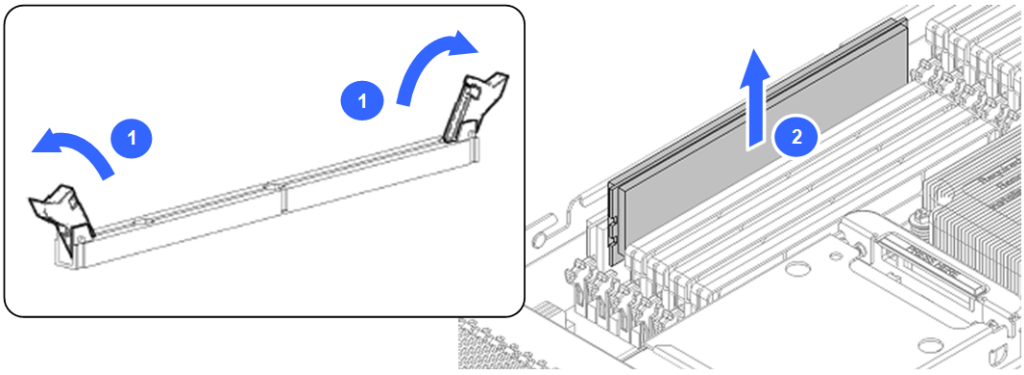


Figure 5-58 Removing the DIMM

Installing a DIMM

1. Put on an anti-static wrist strap.
2. Ensure that the DIMM socket ejector tabs are in the open position.
3. Line up the spare DIMM with the socket.
4. Push the spare DIMM into the socket until the ejector tabs lock the DIMM in place.
5. Ensure that the DIMM socket ejector tabs are in the close position.

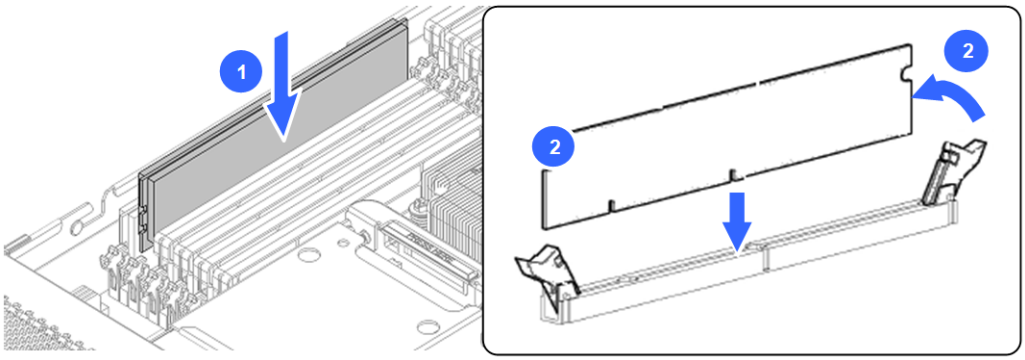


Figure 5-59 Installing the DIMM

Notice:

Do not install the DIMM turned the wrong way. Doing so might cause serious damage to the DIMM.

---

6. Install air ducts.

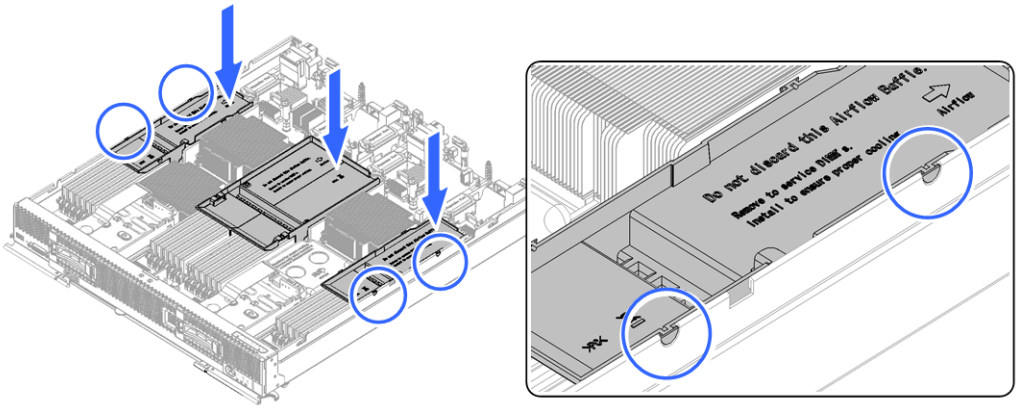


Figure 5-60 Installing the air ducts- CB 540A A1/B1

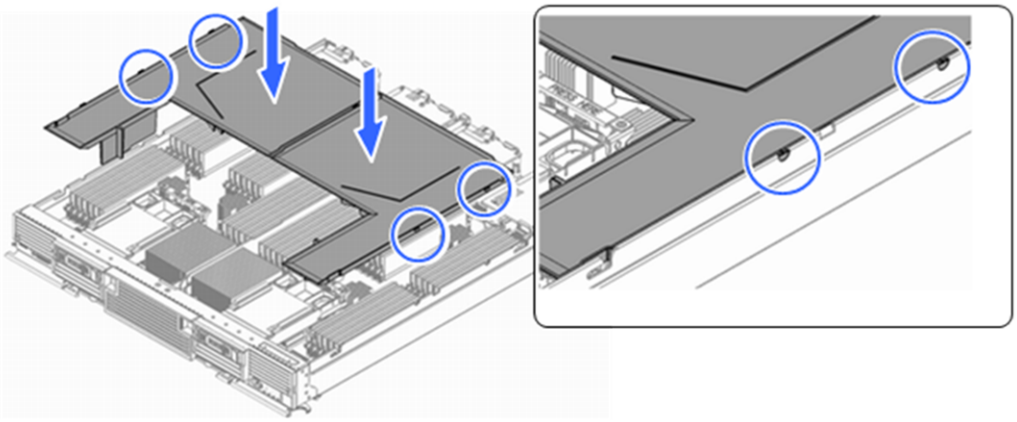
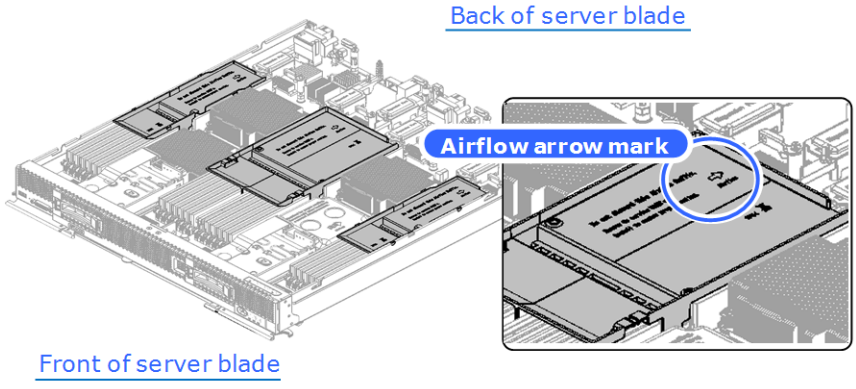


Figure 5-61 Installing the air ducts- CB 520X B1/B2/B3

Tip: Place the air duct with the airflow arrow facing back of the server blade.

Do not care which the LEFT and RIGHT air ducts of CB 540A A1/B1 are as they are completely same.



7. When the SAS kit 2 was mounted in the CB 540A A1/B1, install the SAS kit 2 to the server blade. See Installing a SAS-kit 2 on page 5-98 section.

   (Skip this step to remove a DIMM in CB 520X B1/B2/B3.)

8. Close the top cover. See Closing a top cover, Server blade on page 5-39 section.
9. Install the server blade. See Installing a full-wide server blade on page 5-7 section.

Replacing a mezzanine card in half-wide server blade

This procedure describes how to remove a mezzanine card from the server blade.

Removing a mezzanine card

1. Put on an anti-static wrist strap.
2. Record the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
3. Remove the target server blade.
   See Removing a half-wide server blade on page 5-4 section.
4. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
5. Open the lock tabs, as shown below.
6. Grab the mezzanine card shown as arrows A and B, then lift up the mezzanine card and remove it from the server blade assembly.

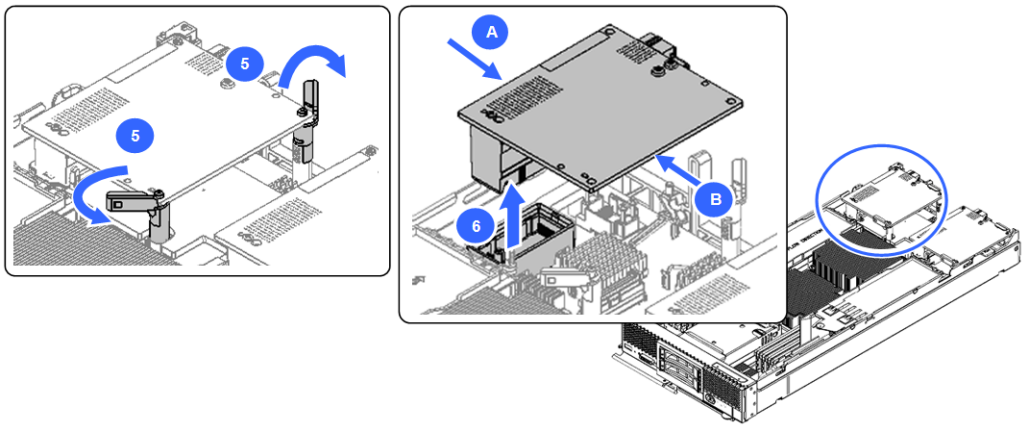


Figure 5-62 Removing the mezzanine card

Installing a mezzanine card

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the slot where you want to install the spare mezzanine card, remove the cover from the slot first.

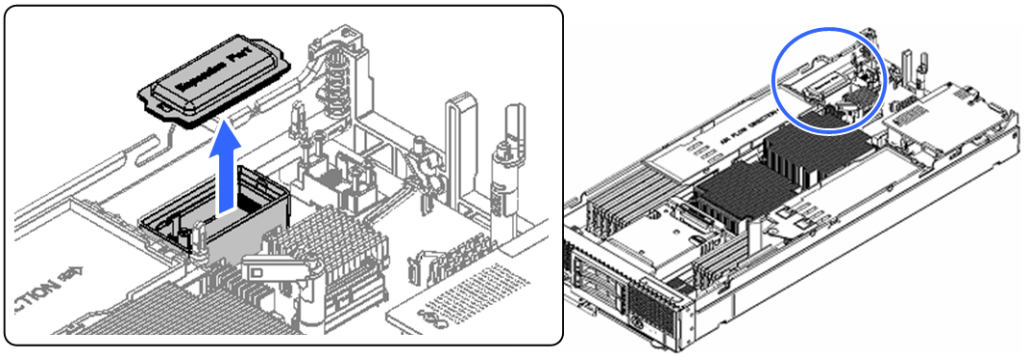


Figure 5-63 Removing the connector cover

3. Align the three alignment holes of mezzanine card with the guide pins, as shown below.
4. Reverse the removal procedure.
5. Configure the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
6. Perform Installing a half-wide server blade on page 5-5 procedure.

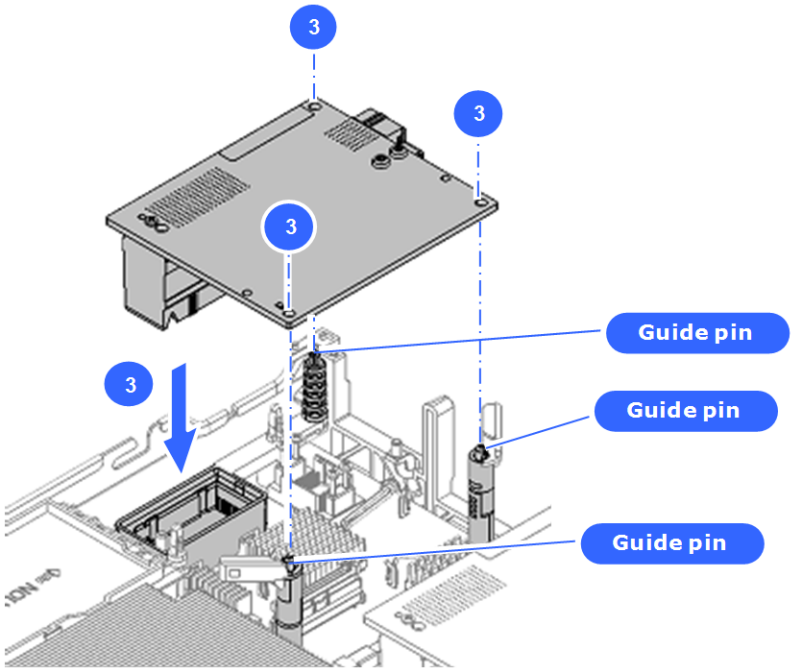


Figure 5-64 Installing the mezzanine card

Notice:

Restriction; The half wide server blade with LOM cannot install the mezzanine card at the slot number 1 because the LOM pass through connector is already mounted in the server blade that supported the LOM. The LOM pass through connector is not a replaceable component.

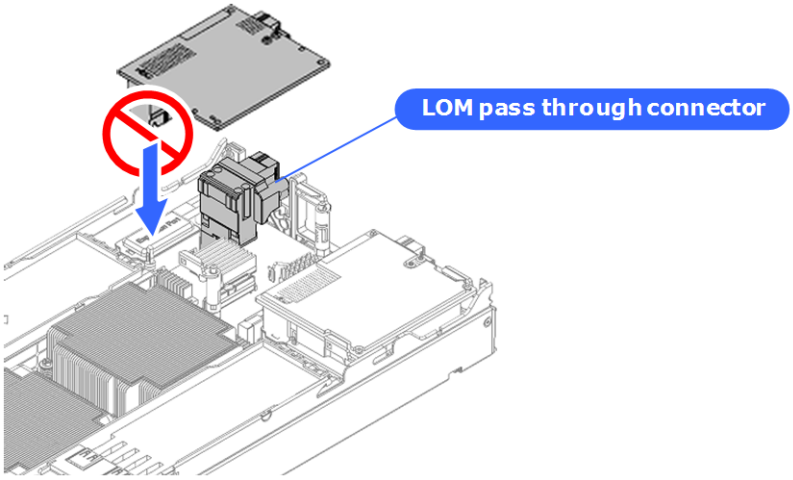


Figure 5-65 Restriction for installing to the server blade with LOM

Replacing a mezzanine card in full-wide server blade

This procedure describes how to remove a mezzanine card from the server blade.

Removing a mezzanine card

1. Put on an anti-static wrist strap.
2. Record the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
3. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
4. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
5. Open the lock tabs, as shown below.
6. Grab the mezzanine card shown as arrows A and B, then lift up the mezzanine card and remove it from the server blade assembly.

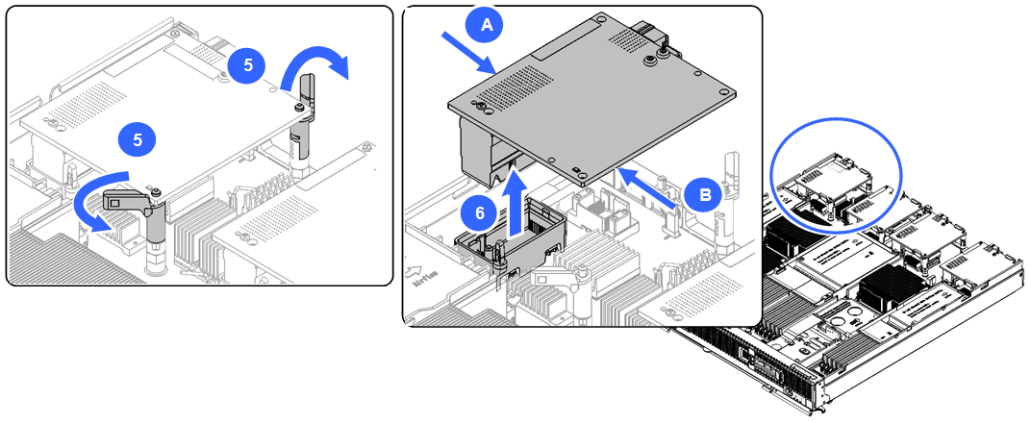


Figure 5-66 Removing the mezzanine card

Installing a mezzanine card

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the slot where you want to install the spare mezzanine card, remove the cover from the slot first.

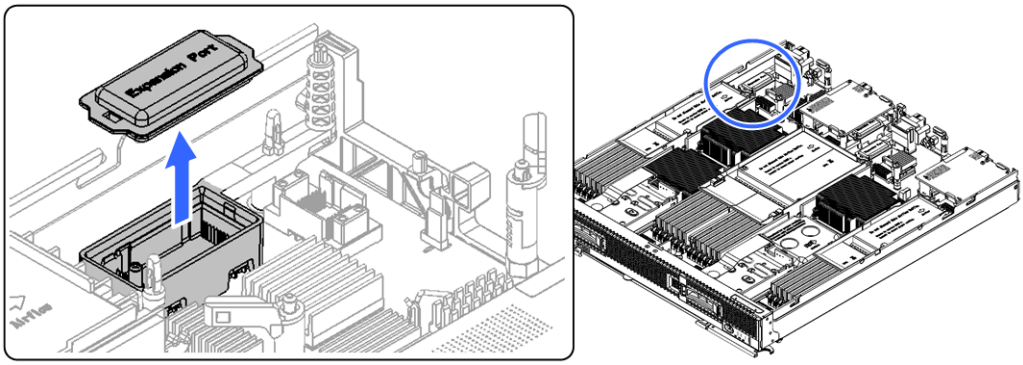


Figure 5-67 Removing the connector cover

3. Align the three alignment holes of mezzanine card with the guide pins, as shown below.
4. Reverse the removal procedure.
5. Configure the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
6. Perform Installing a full-wide server blade on page 5-7 procedure.

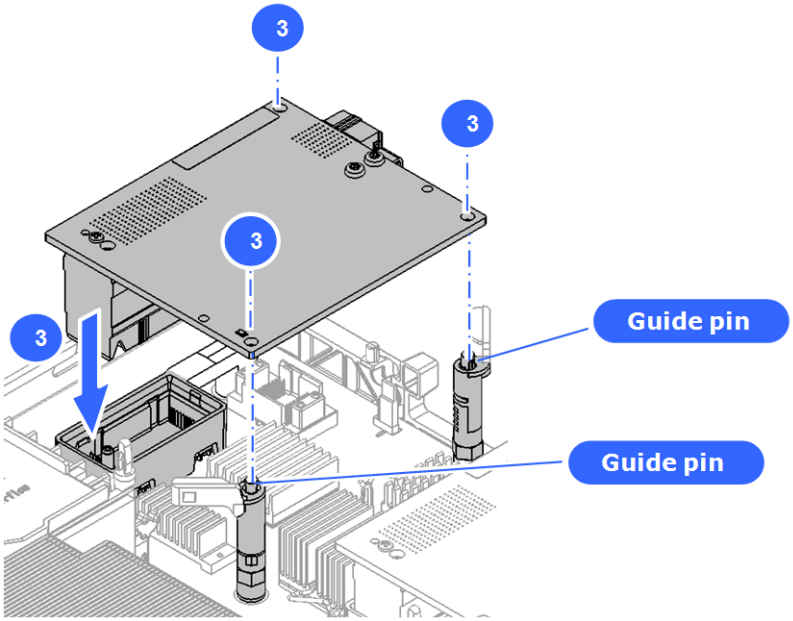


Figure 5-68 Installing the mezzanine card

Notice:

You can install the mezzanine card at the slot number 1 or 3 on CB 540A B1 after removing LOM pass through connector and updating the FRU. See "Chapter 10, Change LOM configuration".

Replacing a LOM pass through connector in half-wide server blade

This procedure describes how to remove a LOM pass through connector from the server blade.

Do not remove screws except for that hold the LOM pass through connectors.

Do not remove screws except for that hold the LOM pass through connectors. 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 module.

Note: Use the Phillips screwdriver satisfying the following conditions.
Screw size : 2M
Shaft diameter : 4Φ

Removing a LOM pass through connector.

1. Put on an anti-static wrist strap.
2. Little by little and in sequence, loosen the four screws that hold the LOM pass through connector. (Sequence 1 -> 2 -> 3 -> 4 -> 1, and so on)
3. Pull out the LOM pass through connector straight upward, and then remove it.

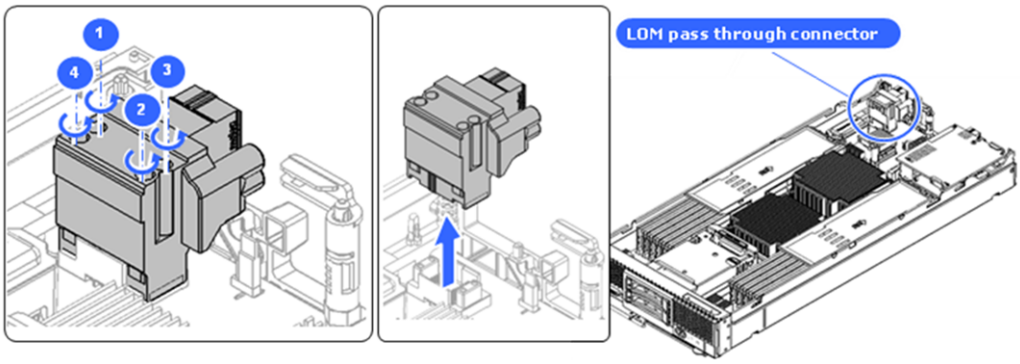


Figure 5-69 Removing the LOM pass through connector

Installing a LOM pass through connector.

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

Replacing a LOM pass through connector in full-wide server blade

This procedure describes how to remove a LOM pass through connector from the server blade.

Do not remove screws except for that hold the LOM pass through connectors.

Do not remove screws except for that hold the LOM pass through connectors. 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 module.

Note: Use the Phillips screwdriver satisfying the following conditions.
Screw size : 2M
Shaft diameter : 4Φ

Notice:

Restriction; It is needed to mount or remove both LOM pass through connector slot #1 and #3 at the same time.

Removing a LOM pass through connector.

1. Put on an anti-static wrist strap.
2. Little by little and in sequence, loosen the four screws that hold the LOM pass through connector. (Sequence 1 -> 2 -> 3 -> 4 -> 1, and so on)
3. Pull out the LOM pass through connector straight upward, and then remove it.

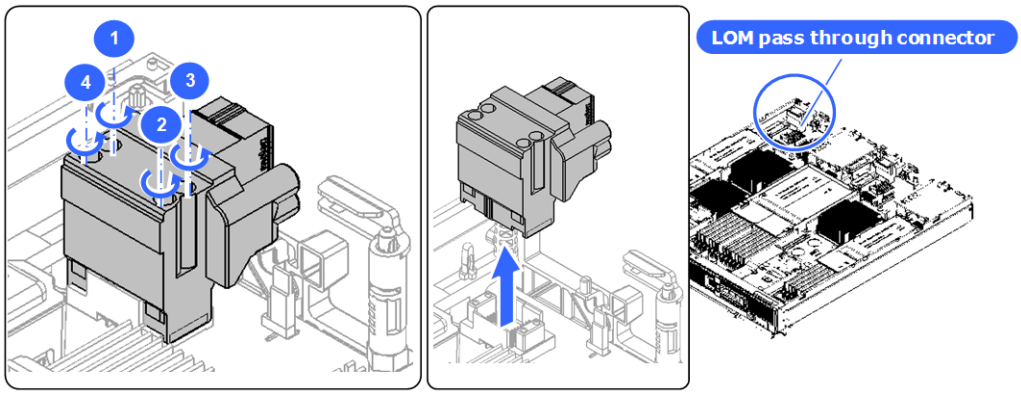


Figure 5-70 Removing the LOM pass through connector

Installing a LOM pass through connector.

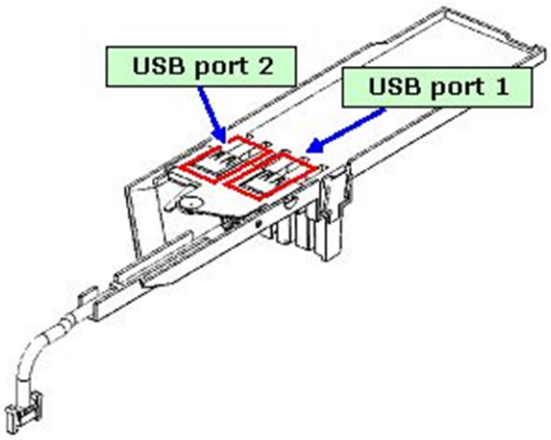
1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

Replacing a USB enablement kit and USB in CB 520H A1/B1/B2

This procedure describes how to replace the USB enablement kit and USB from CB 520H A1/B1/B2.

Removing a USB

Note: The indicator of the USB location in the OS message varies depending on the number of installed USBs.
Confirm the location of replaced USB depending on the following table.



[USB is not installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	**port 2**	**port 1**	**port 2**
Installed	N/A	/dev/sda	N/A
N/A	Installed	N/A	/dev/sda
Installed	Installed	/dev/sda	/dev/sdb

[USB is installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	**port 2**	**port 1**	**port 2**
Installed	N/A	/dev/sdb	N/A
N/A	Installed	N/A	/dev/sdb
Installed	Installed	/dev/sdb	/dev/sdc

1. Put on an anti-static wrist strap.
2. Remove the target server blade. See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. While pressing the purple colored button, pull out the **USB** from the **USB enablement kit**.

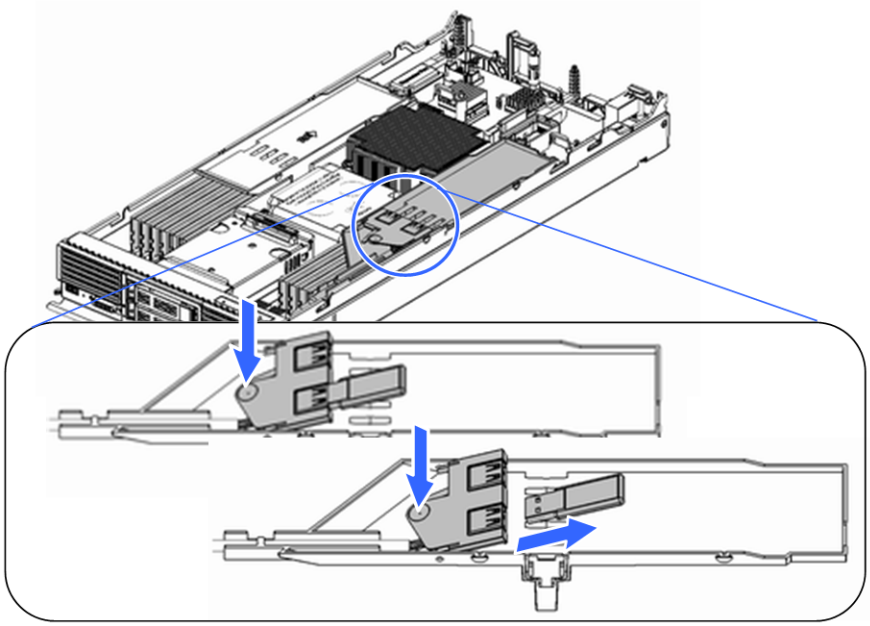


Figure 5-71 Removing the USB

Installing a USB

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

Removing a USB enablement kit

1. Put on an anti-static wrist strap.
2. Remove the target server blade. See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Pull up the air duct portion of the **USB enablement kit** and remove it.

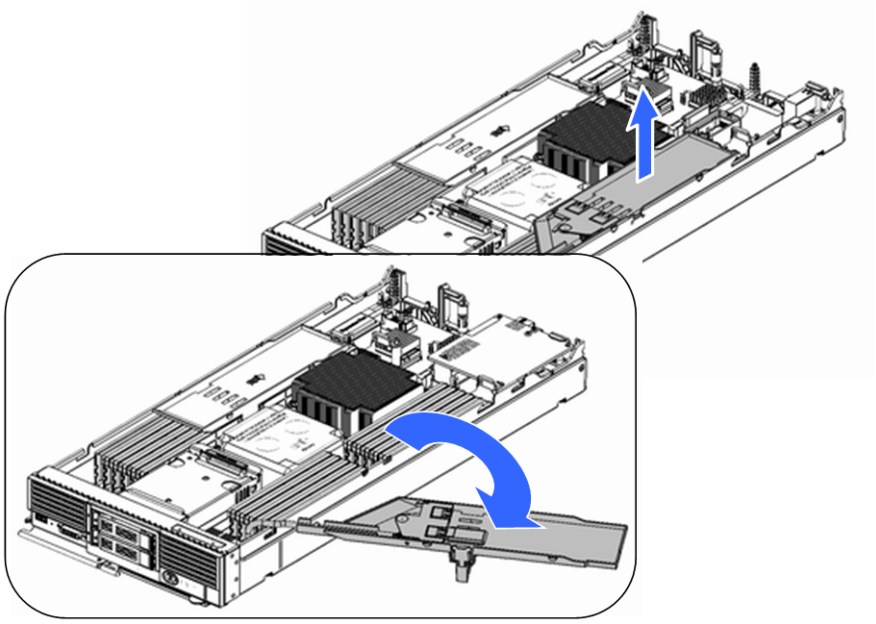


Figure 5-72 Removing the air duct portion

5. While holding the connector of USB enablement kit, pull out the connector straight upward.

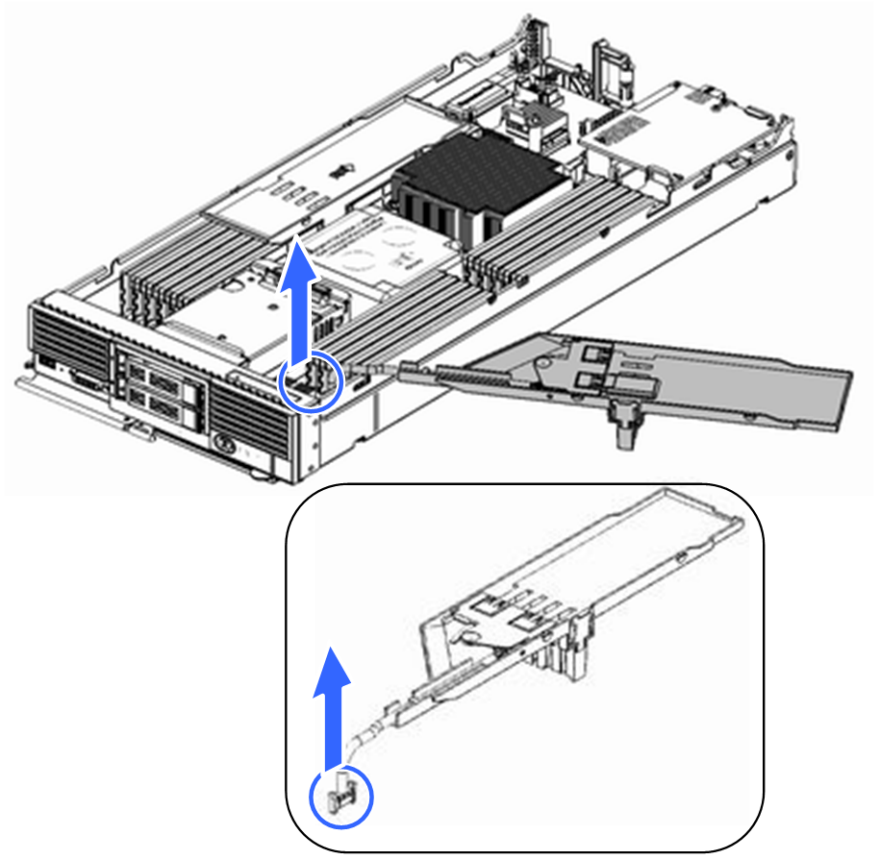


Figure 5-73 Removing the USB connector

Installing a USB enablement kit

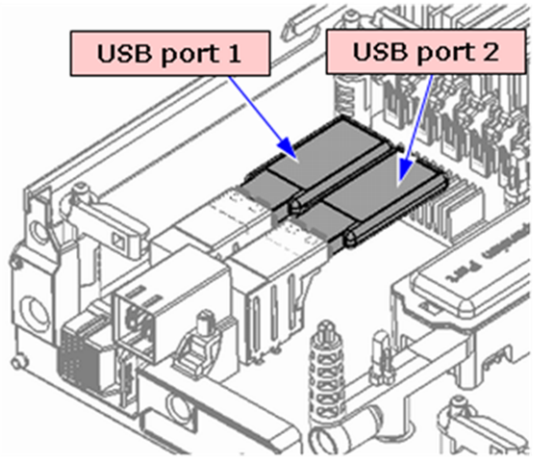
1. Put on an anti-static wrist strap.
2. While holding the connector of the USB enablement kit, align the bumps on the connector with the slits in the receptor on the main board, and then insert the connector straight downward into the receptor.
3. Put in the air duct portion onto the DIMM.
4. Close the top cover. See Closing a top cover, Server blade on page 5-39 section.
5. Install the server blade. See Installing a half-wide server blade on page 5-5 section.

Replacing a USB in CB 520X B1/B2/B3

This procedure describes how to replace the USB from CB 520X B1/B2/B3.

Removing a USB

Note: The indicator of the USB location in the OS message varies depending on the number of installed USBs.
Confirm the location of replaced USB depending on the following table.



[USB is not installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	port 2	port 1	port 2
Installed	N/A	/dev/sda	N/A
N/A	Installed	N/A	/dev/sda
Installed	Installed	/dev/sda	/dev/sdb

[USB is installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	port 2	port 1	port 2
Installed	N/A	/dev/sdb	N/A
N/A	Installed	N/A	/dev/sdb
Installed	Installed	/dev/sdb	/dev/sdc

1. Put on an anti-static wrist strap.
2. Remove the target server blade. See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. When a mezzanine card is installed in mezzanine slot #4, remove the mezzanine card. See Removing a mezzanine card on page 5-51 section.
5. While pressing the purple colored button, pull out the **USB** from the **USB slot**.

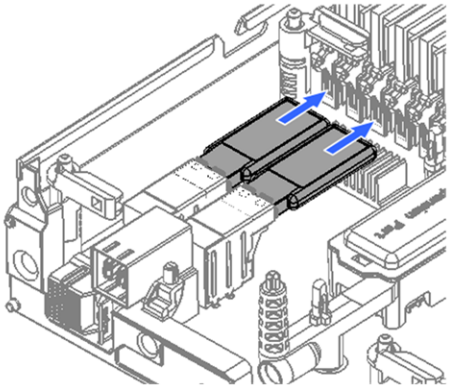


Figure 5-74 Removing a USB

Installing a USB

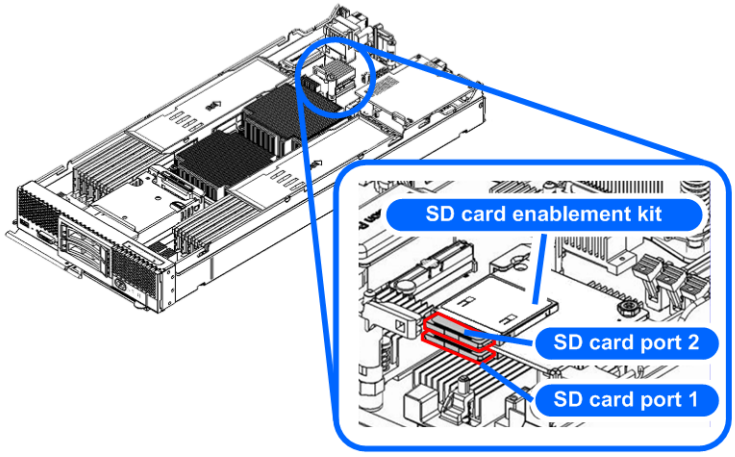
1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

Replacing a SD card enablement kit and SD card in CB 520H B3/B4

This procedure describes how to replace the SD card enablement kit and SD card from CB 520H B3/B4.

Removing a SD card

Note: The indicator of the SD card location in the OS message varies depending on the number of installed SD cards. Confirm the location of replaced SD card depending on the following table.



1. Put on an anti-static wrist strap.
2. Remove the target server blade. See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. When a mezzanine card is installed in mezzanine slot #1, remove the mezzanine card. See Removing a mezzanine card on page 5-49 section.
5. Push out the SD card from the SD card enablement kit.

Installing a SD card

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

Removing a SD card enablement kit

1. Put on an anti-static wrist strap.
2. Remove the target server blade. See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. When a mezzanine card is installed in mezzanine slot #1, remove the mezzanine card. See Removing a mezzanine card on page 5-49 section.
5. Loosen the two screws that hold the SD card enablement kit.
6. Remove the SD card enablement kit from the Server Blade.
7. Taken out from a SD card enablement kit guide.

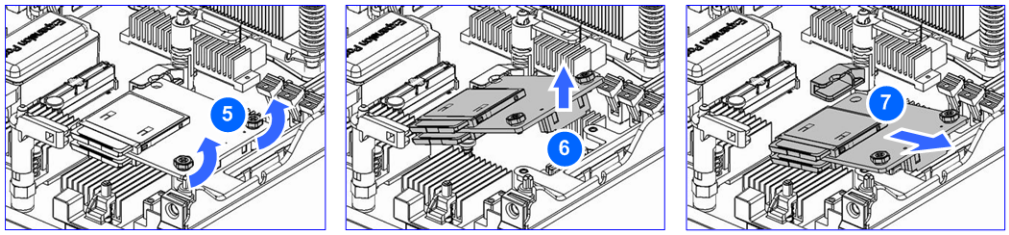


Figure 5-75 Removing the SD card enablement kit

Installing a SD card enablement kit

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

Replacing a mezzanine card in the storage expansion blade

This procedure describes how to remove a mezzanine card from the storage expansion blade.

Removing a mezzanine card

1. Put on an anti-static wrist strap.
2. Record the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
3. Remove the target storage expansion blade.
   See Removing a storage expansion blade on page 5-11 section.
4. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
5. Open the lock tabs, as shown below.
6. Grab the mezzanine card shown as arrows A and B, then lift up the mezzanine card and remove it from the storage expansion blade assembly.

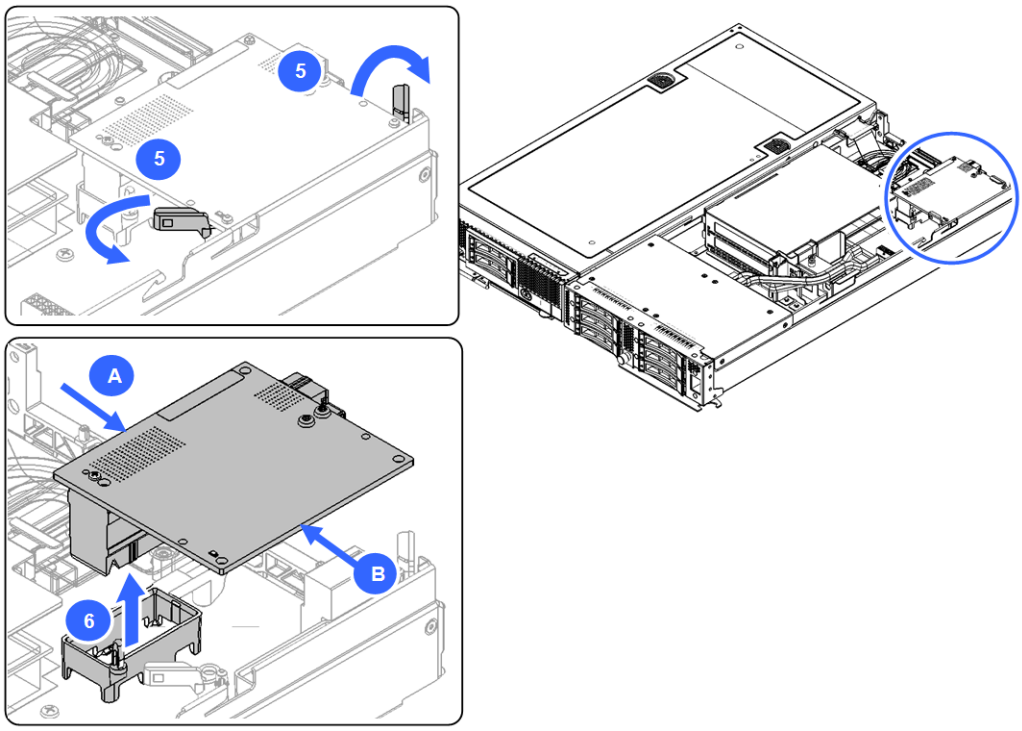


Figure 5-76 Removing the mezzanine card- storage expansion blade

Installing a mezzanine card

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the slot where you want to install the spare mezzanine card, remove the cover from the slot first.

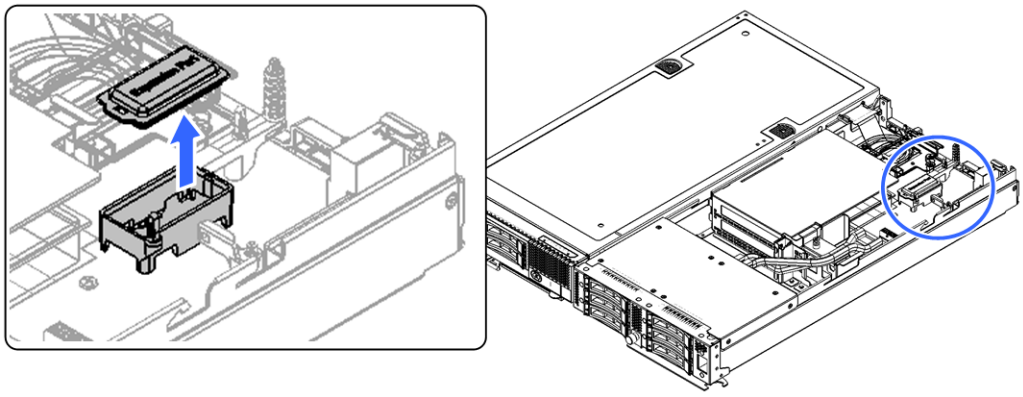


Figure 5-77 Removing the connector cover

3. Align the three alignment holes of mezzanine card with the guide pins, as shown below.
4. Reverse the removal procedure.
5. Configure the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
6. Perform Installing a storage expansion blade on page 5-12 procedure.

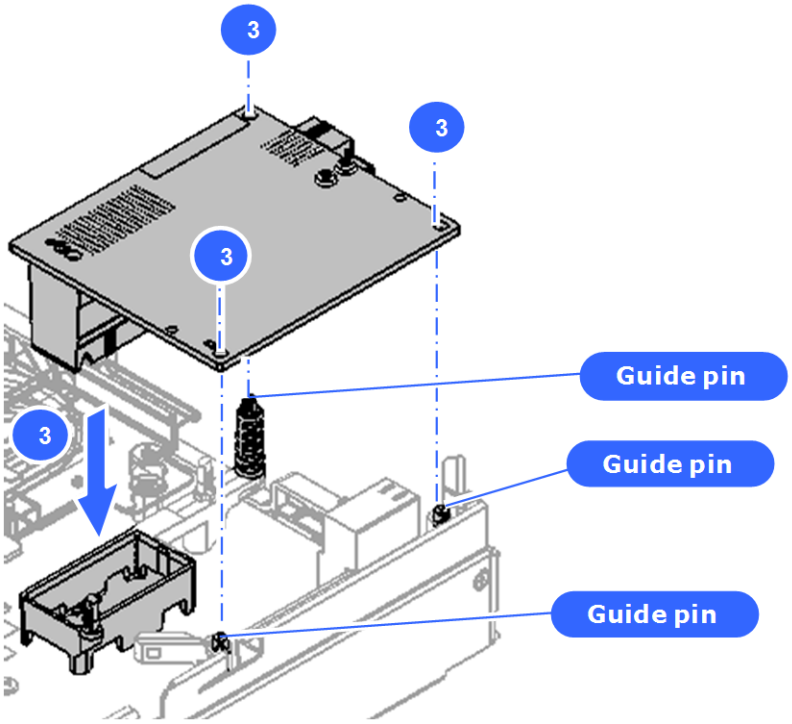


Figure 5-78 Installing the mezzanine card

Removing a pass through mezzanine card

1. Put on an anti-static wrist strap.
2. Removing a server blade with a storage expansion blade.
   See Removing a storage expansion blade on page 5-11 section.
3. Opening a top cover of server blade and storage expansion blade.
   See Opening a top cover, Server blade on page 5-38 and Opening a top cover, Storage expansion blade on page 5-39 section.
4. Loosen two screws on the bracket of pass through mezzanine component in the storage expansion blade, and then remove it.
5. Open the lock tabs, as shown below.

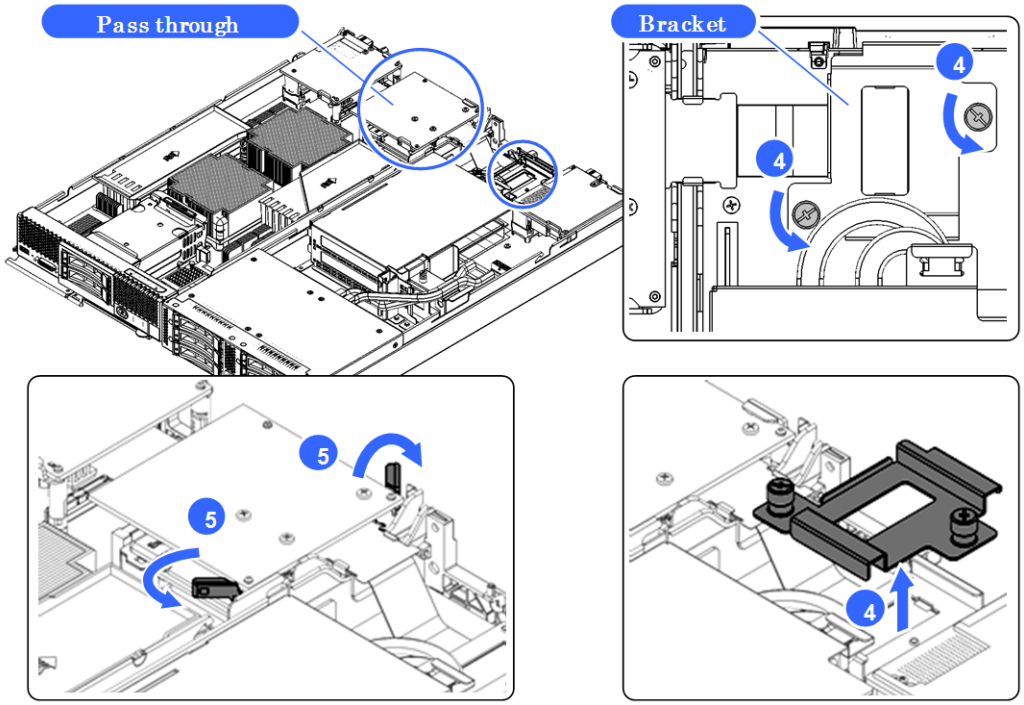


Figure 5-79 Removing the pass through mezzanine component

6. Grab the pass through mezzanine card shown as arrows A and B, then lift up the pass through mezzanine card and remove it from the server blade and storage expansion blade assembly.

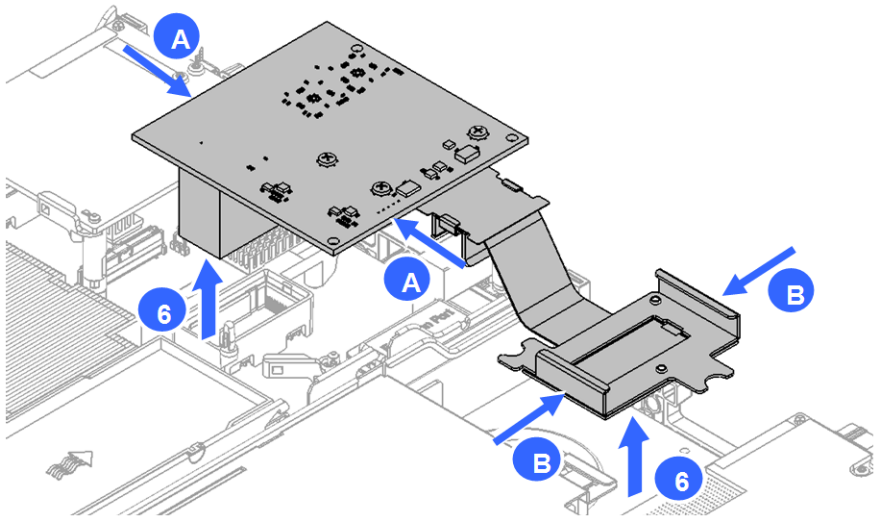


Figure 5-80 Removing the pass through mezzanine component

Installing a pass through mezzanine card

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the slot where you want to install the spare mezzanine card, remove the cover from the slot first.

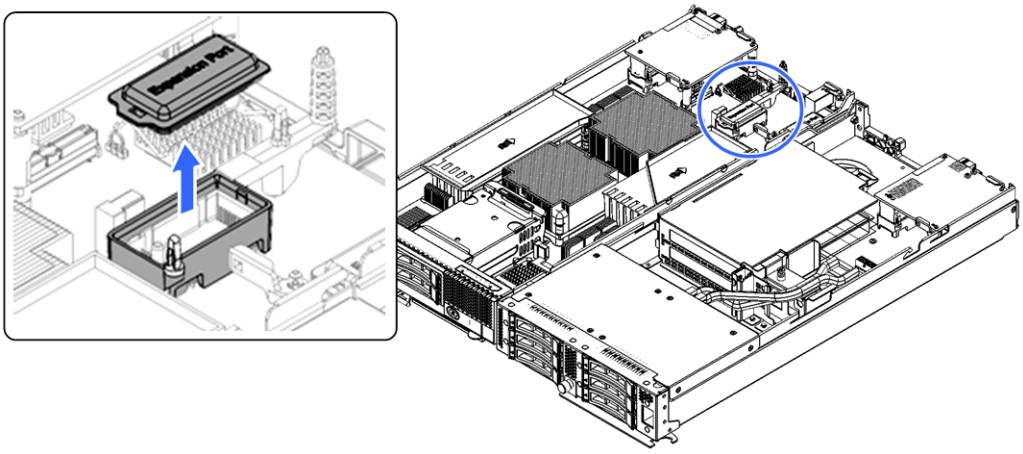


Figure 5-81 Removing the connector cover

3. Insert the pass through mezzanine component into server blade connector and storage expansion blade connector straight downward.

   Make sure to insert the arch shaped guide bracket into edges of server blade and expansion blade.

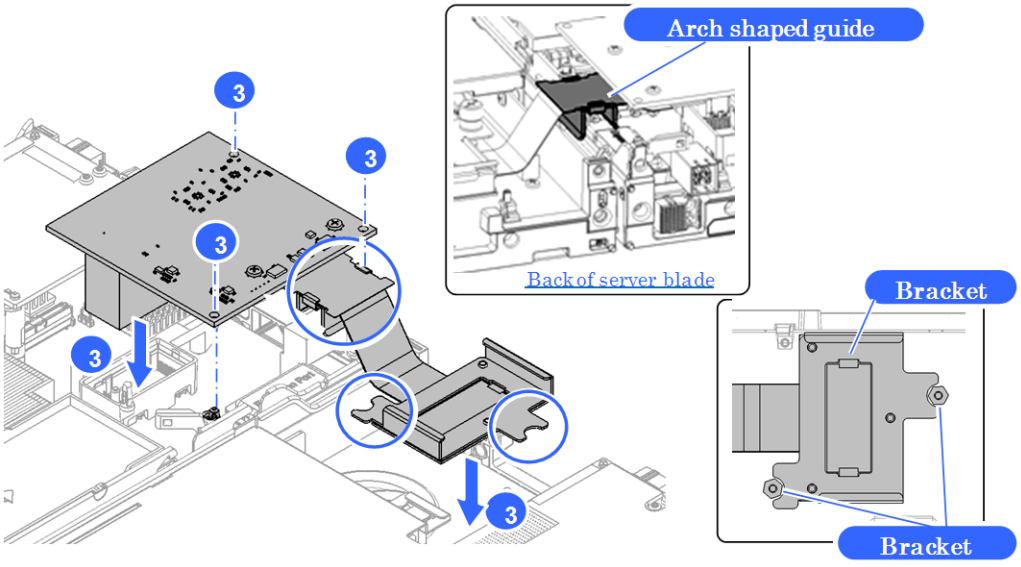


Figure 5-82 Inserting the pass through mezzanine component

4. Push the portions indicated **PUSH** on the pass through mezzanine card and cable connector to connect to the server blade connector and expansion blade connector, respectively.
5. Close the latches on the pass through mezzanine card.

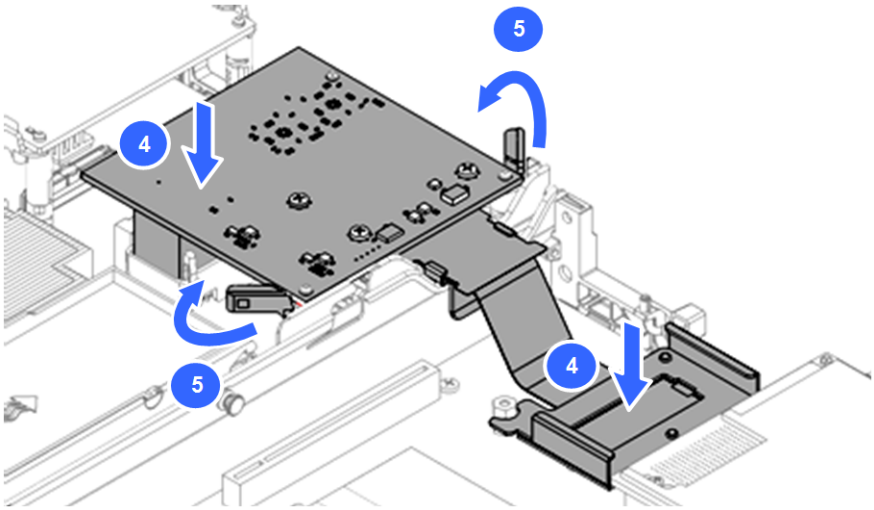


Figure 5-83 Fixing the pass through mezzanine component

6. Tighten two screws to fix the cable connector onto the expansion blade.

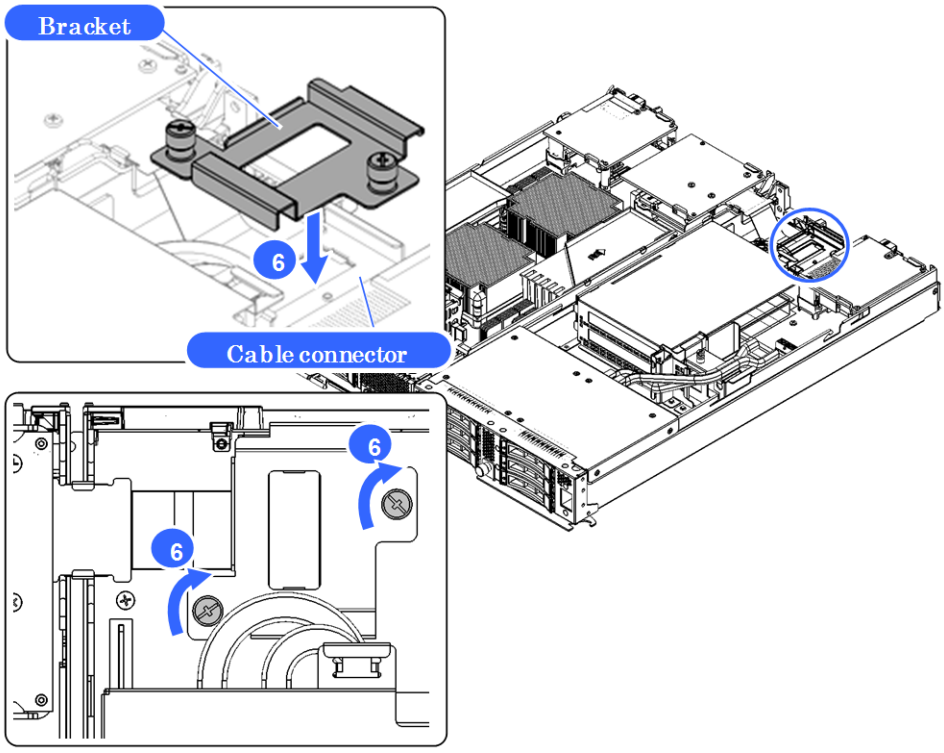


Figure 5-84 Fixing the cable connector

7. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
8. Close the top cover of storage expansion blade.
   See Closing a top cover, Storage expansion blade on page 5-40 section.
9. Install the storage expansion blade.
   See Installing a storage expansion blade on page 5-12 section.

Replacing a PCI card in storage expansion blade

This procedure describes how to remove a PCI card from the storage expansion blade.

Removing a PCI card

1. Put on an anti-static wrist strap.
2. Remove the target storage expansion blade.
   See Removing a storage expansion blade on page 5-11 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Pull out the PCI card cage straight upward, as shown below.
5. Turn over PCI card cage.

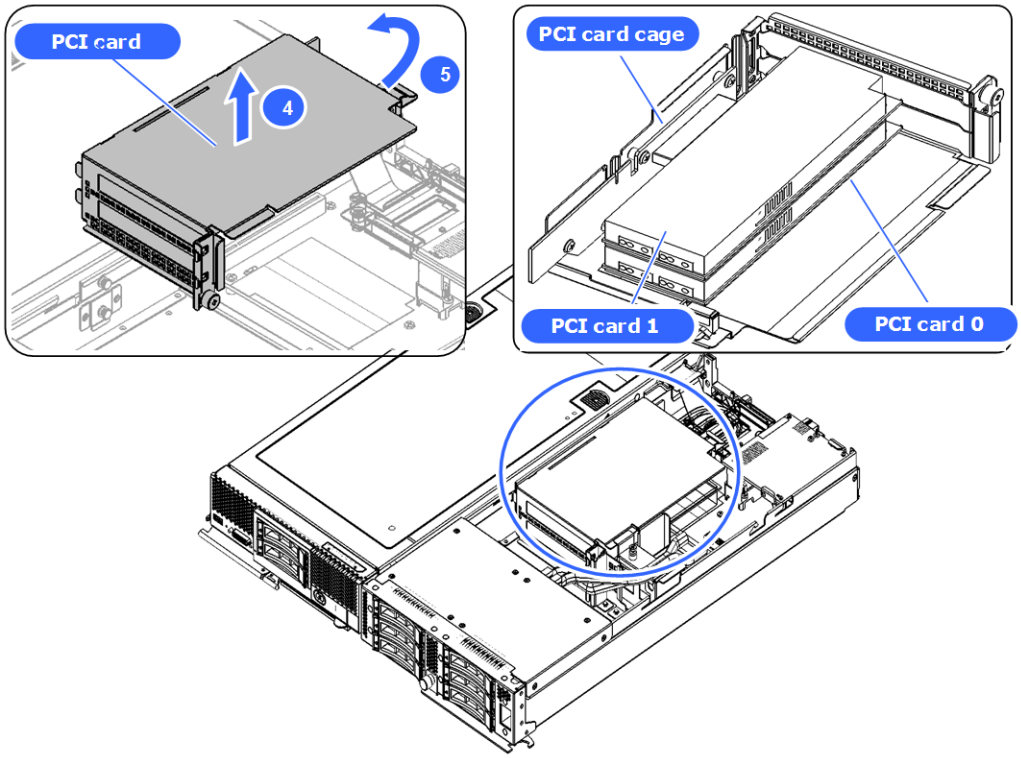


Figure 5-85 Removing the PCI card cage

6. Loosen a screw on the PCI card cage.
7. Pull out hinge with screw from the PCI card cage bracket.

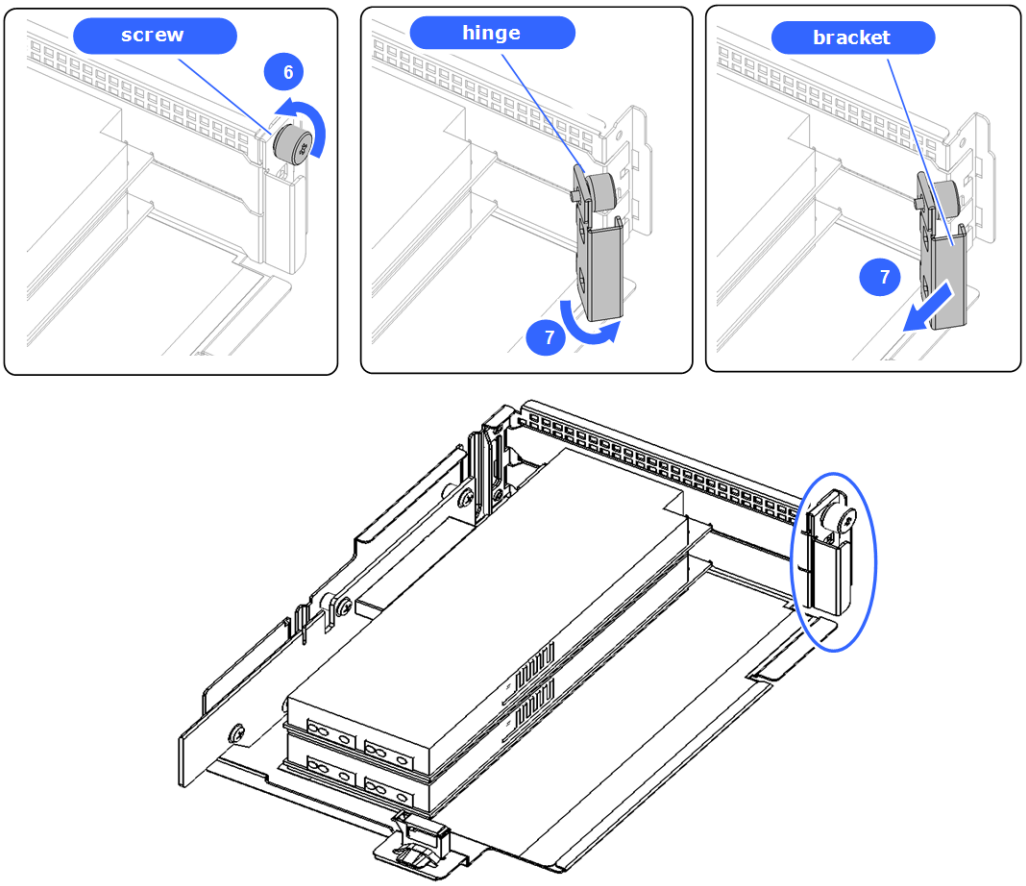


Figure 5-86 Removing the PCI card cage bracket

8. Pull out PCI card 1 from the PCI card cage straight forward, and then remove it.
9. Pull out PCI card 0 from the PCI card cage straight forward, and then remove it.

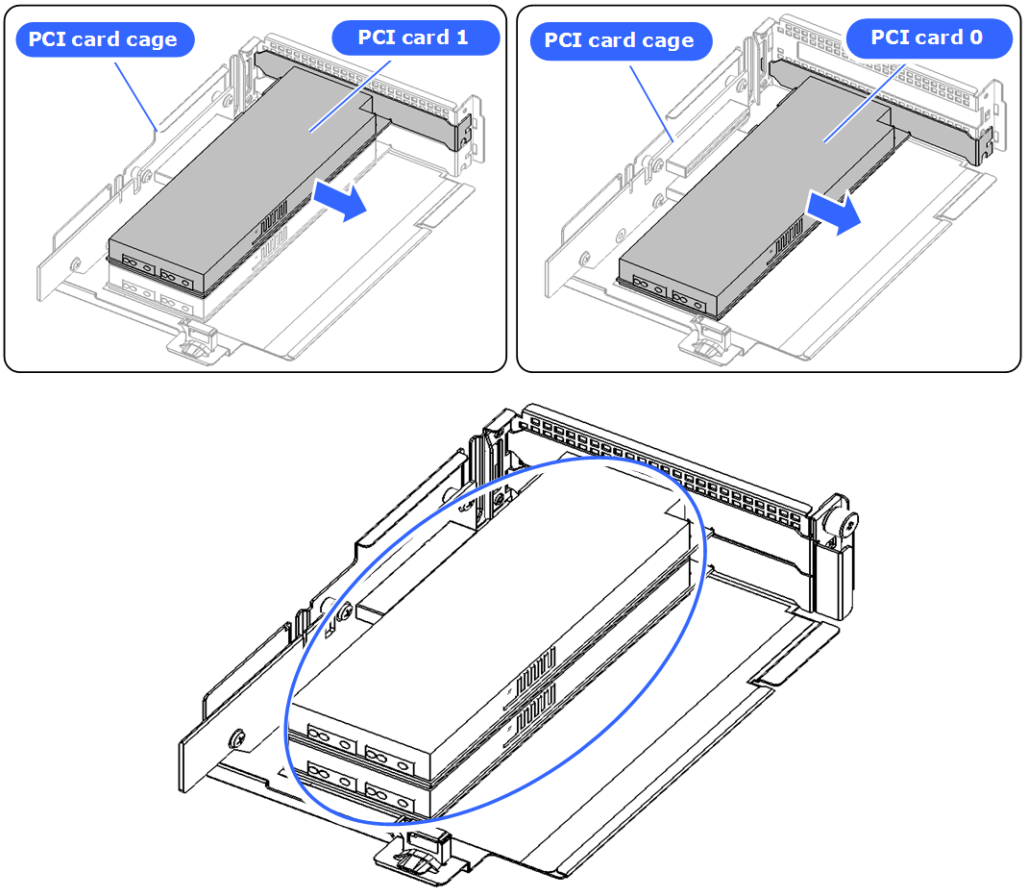


Figure 5-87 Removing PCI card in the PCI slot

Installing a PCI card

1. Install the PCI card 0 into the PCI slot 0 of PCI card cage.
2. Install the PCI card 1 into the PCI slot 1 of PCI card cage.

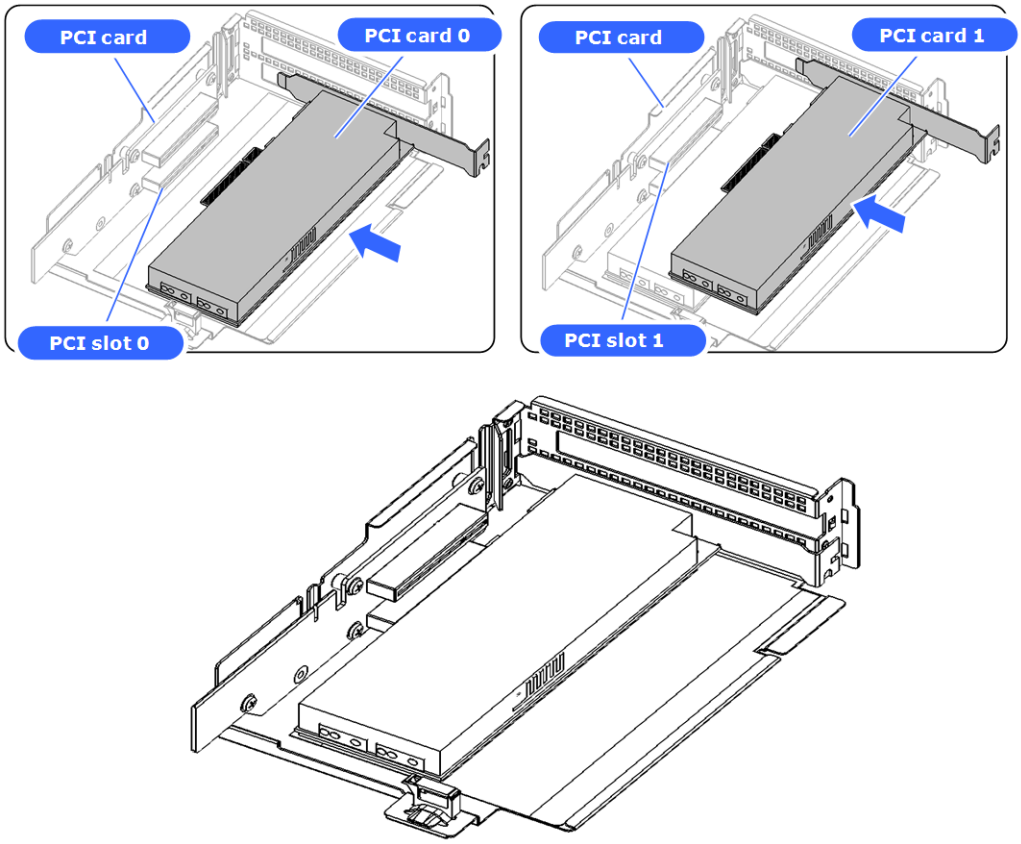


Figure 5-88 Installing PCI card into the PCI slot

3. Install the hinge onto the PCI card cage, and then tighten a screw.

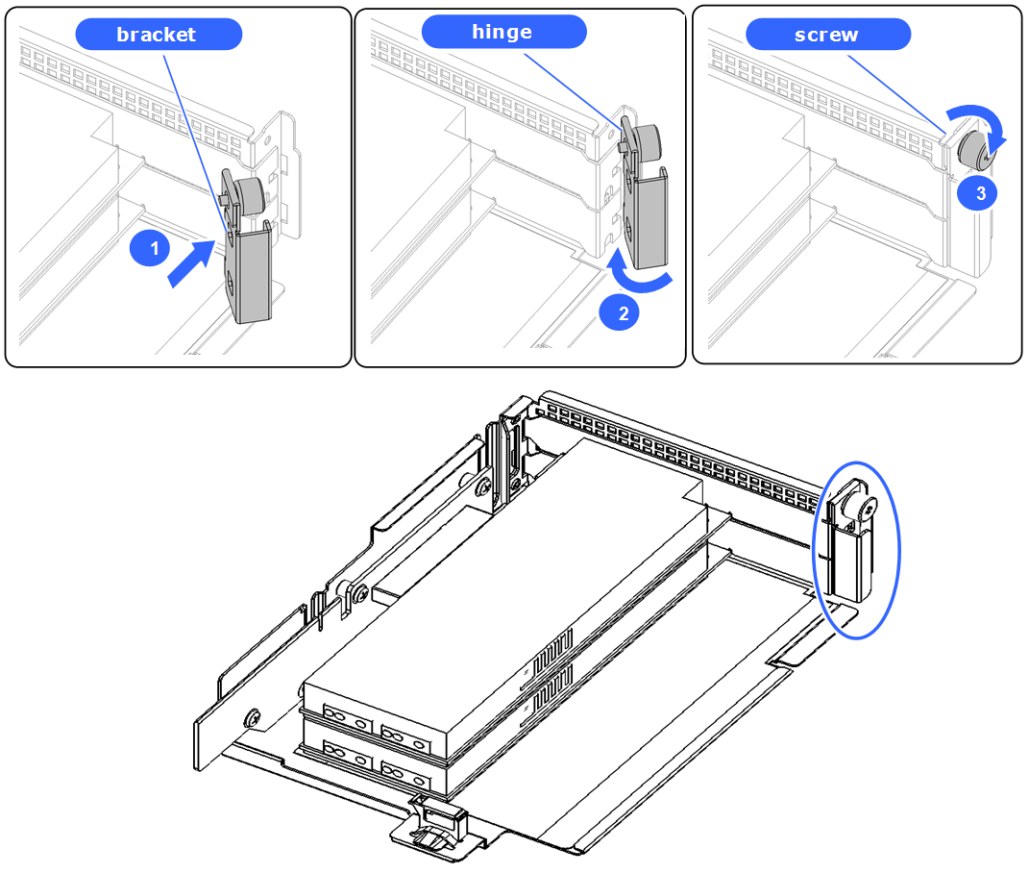


Figure 5-89 Installing the PCI card cage bracket

4. Turn over the PCI card cage.
5. Insert the PCI card cage slits into the enclosure guides, and then push in the PCI card cage.
6. Close the top cover of storage expansion blade. See Closing a top cover, Storage expansion blade on page 5-40 section.
7. Install the storage expansion blade.
   See Installing a storage expansion blade on page 5-12 section.

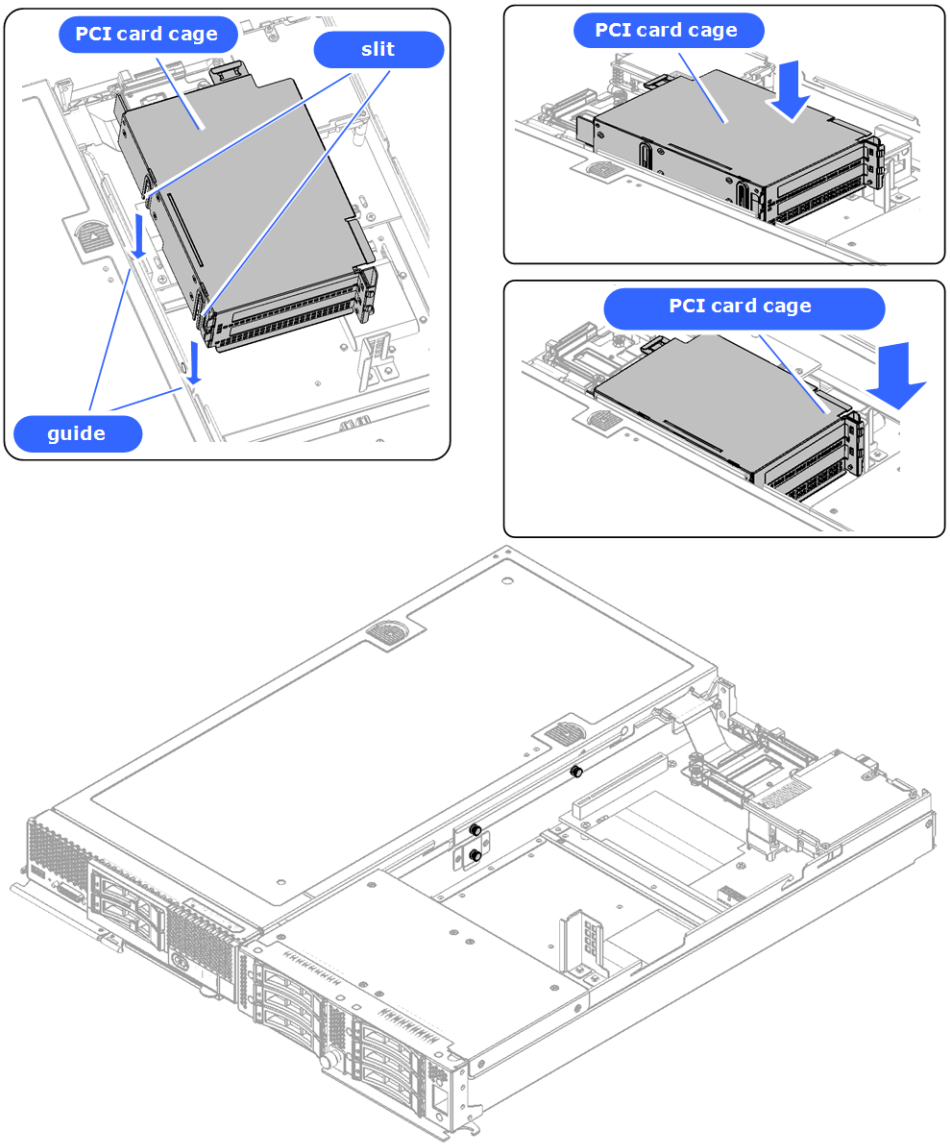


Figure 5-90 Installing the PCI card cage

Replacing a mezzanine card in the PCI expansion blade

This procedure describes how to remove a mezzanine card in the PCI expansion blade.

Removing a mezzanine card

1. Put on an anti-static wrist strap.
2. Record the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
3. Remove the target PCI expansion blade.

See Removing a PCI expansion blade from server chassis on page 5-15 section.

4. Open the top cover of the PCI expansion blade.
   See Opening a top cover, PCI expansion blade on page 5-40 section.
5. Open the two lock levers, and then pull up the mezzanine card and remove it from the PCI expansion blade.

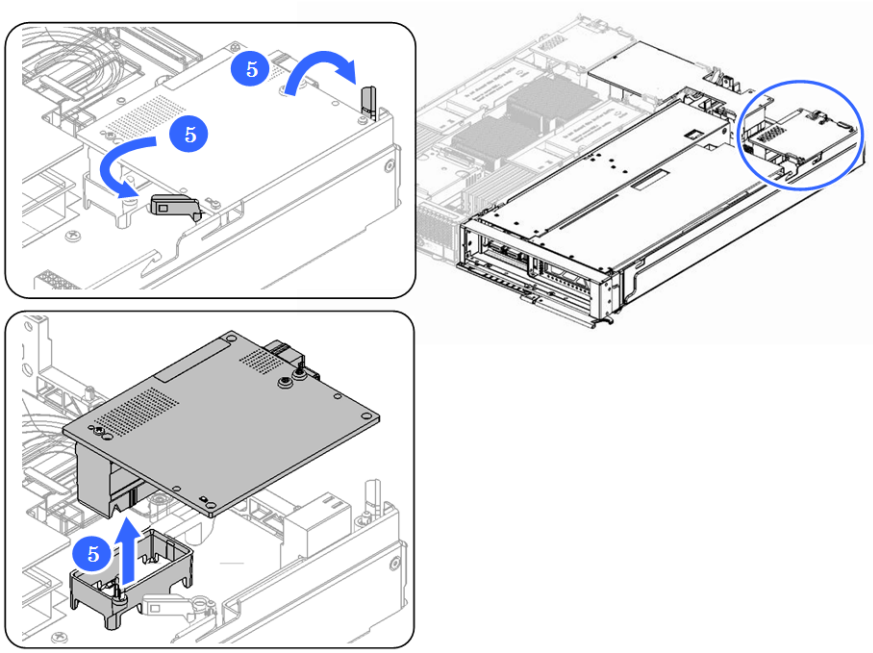


Figure 5-91 Removing the mezzanine card- PCI expansion blade

Installing a mezzanine card

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the mezzanine slot #4, remove it from the slot first.

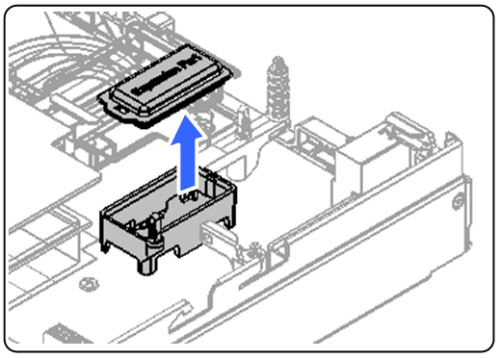


Figure 5-92 Removing the connector cover

3. Align the three alignment holes of mezzanine card with the guide pins, as shown below.
4. Reverse the removal procedure.

5. Configure the parameters in the case of replacing Emulex HBA card.
   See Configuration procedure for Emulex HBA card on page 7-2 section.
6. Perform Installing a PCI expansion blade into server chassis on page 5-16 procedure.

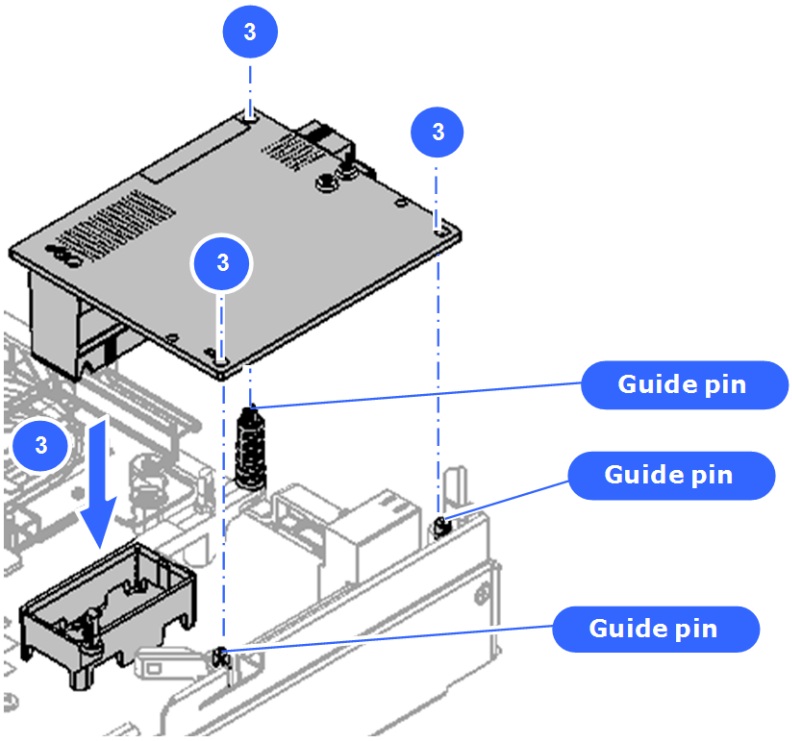


Figure 5-93 Installing the mezzanine card

Removing a connection kit F/H

1. Put on an anti-static wrist strap.
2. Removing a server blade with a PCI expansion blade.
   See Removing a PCI expansion blade from server chassis on page 5-15 section.
3. Opening a top cover of server blade and storage expansion blade.
   See Opening a top cover, Server blade on page 5-38 and Opening a top cover, PCI expansion blade on page 5-40 section.
4. Open a latch of the connector of the connection kit F/H in the PCI expansion blade, and then pull out the connector straight upward.
5. Open two latches of the connection board in the server blade, and then pull out the board straight upward.

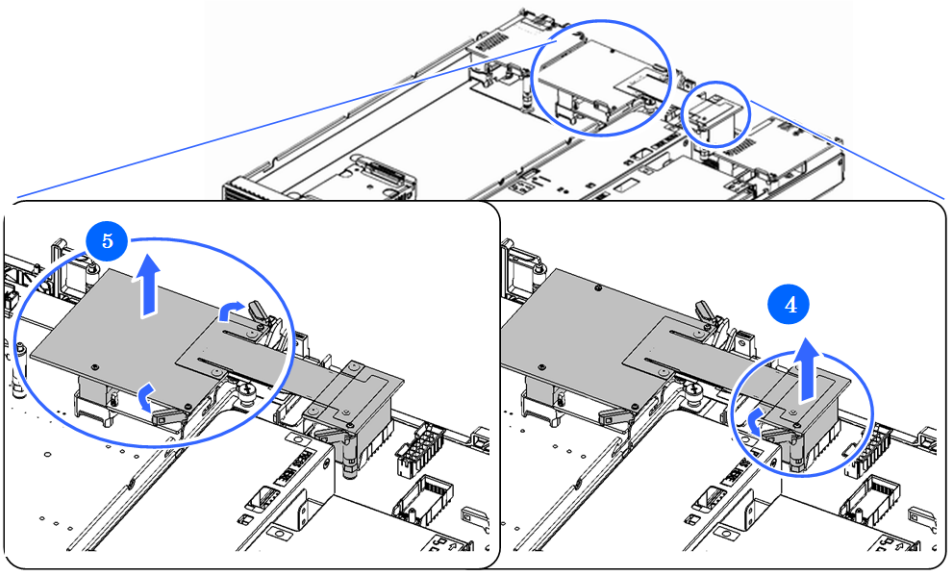


Figure 5-94 Removing the connection kit F/H

Installing a connection kit F/H

1. Put on an anti-static wrist strap.
2. If the connector cover is installed in the mezzanine slot #2, remove it from the slot.

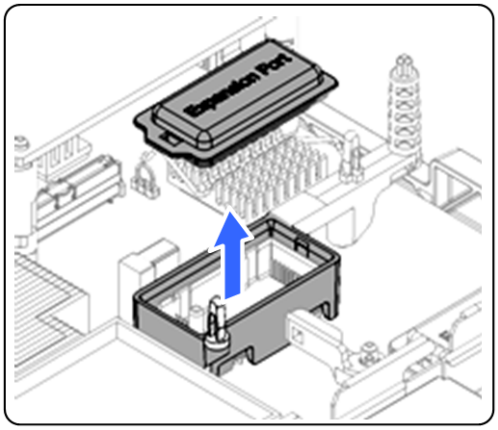


Figure 5-95 Removing the connector cover

3. Align the connector and guide holes of the connection board of the connection kit F/H with the male connector and guide pins on the main board of the server blade, respectively.
4. Push in the connection board into the server blade straight downward by pushing the portion indicated **Push**, and then close the two latches.
5. Push in the connector into the PCI expansion blade straight downward by pushing the portion indicated **Push**, and then close the latch.

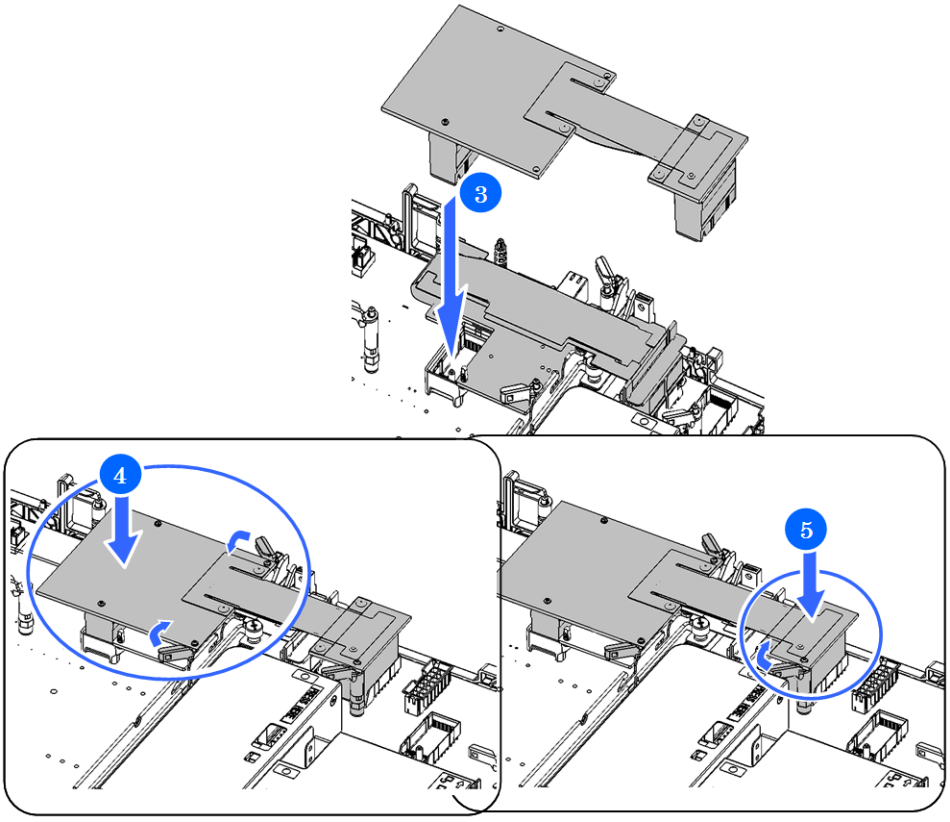


Figure 5-96 Installing connection kit F/H

6. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
7. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
8. Install the PCI expansion blade. See Installing a PCI expansion blade into server chassis on page 5-16 section.

Removing a connection kit L/P

1. Put on an anti-static wrist strap.
2. Removing a server blade with a PCI expansion blade.
   See Removing a PCI expansion blade from server chassis on page 5-15 section.
3. Opening a top cover of server blade and storage expansion blade.
   See Opening a top cover, Server blade on page 5-38 and Opening a top cover, PCI expansion blade on page 5-40 section.
4. Remove the connection kit F/H.
   For details, see Removing a connection kit F/H on page 5-75.
5. Pull out the connector of the connection kit L/P in the PCI expansion blade straight upward, and then turn over the connector toward server blade.

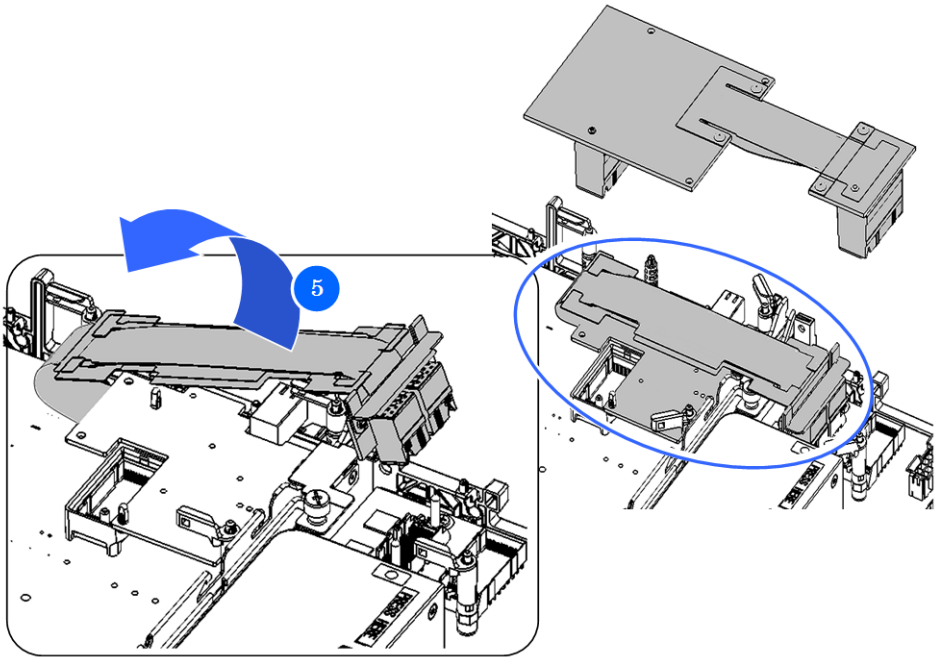


Figure 5-97 Removing the connection kit L/P

6. Loosen a thumbscrew of the connection bracket, and then remove the bracket.

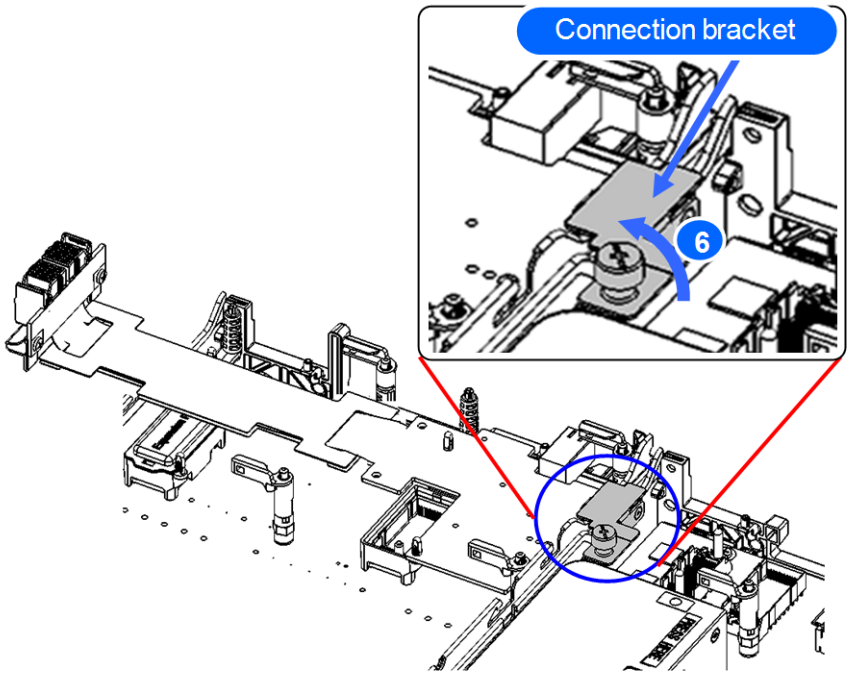


Figure 5-98 Removing the connection bracket

7. Pull out the connection board of the connection kit L/P in the server blade straight upward.

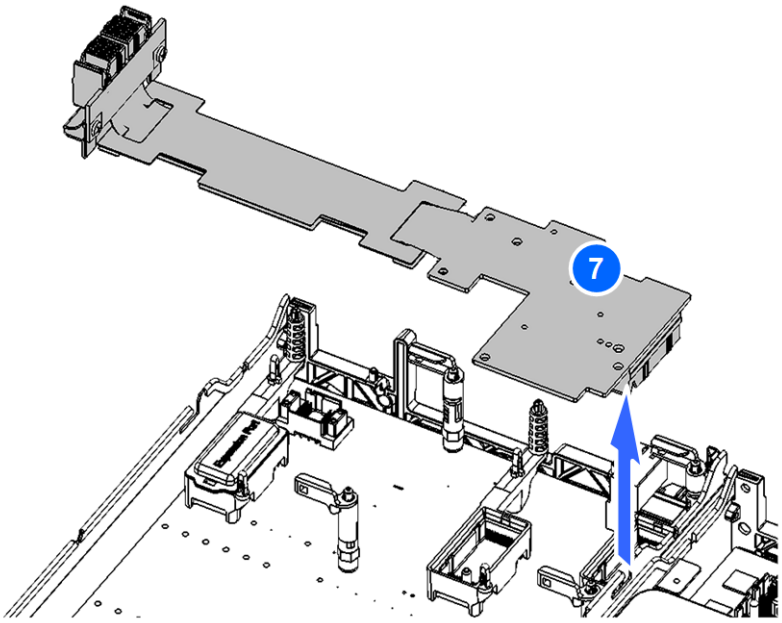


Figure 5-99 Removing the connection kit L/P

Installing a connection kit L/P

1. 1.Put on an anti-static wrist strap.
2. Align the connector of the connection board of the connection kit L/P with the male connector on the main board of the server blade, and then push in the connection board straight downward by pushing the portion indicated **Push** and opposite side at the same time.

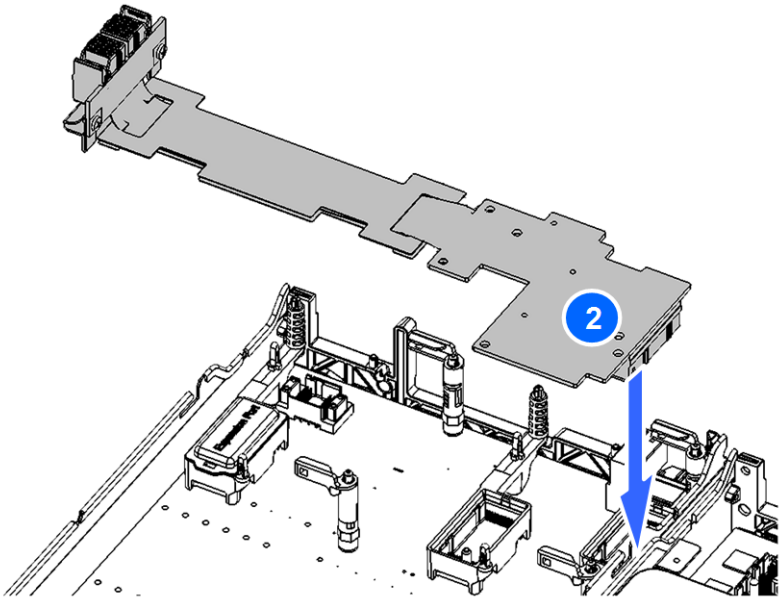


Figure 5-100 Inserting the connection kit L/P

3. Put in the connection bracket, and then tighten a thumbscrew of the connection bracket.

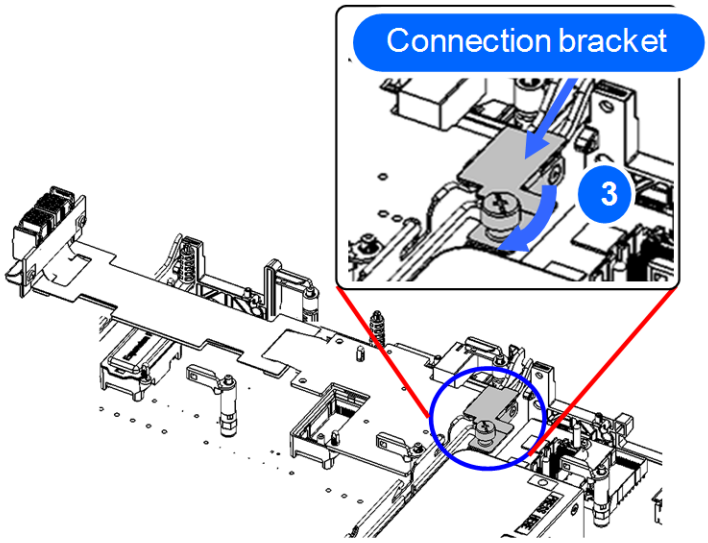


Figure 5-101 Installing the connection bracket

4. Turn over the connector of the connection kit L/P toward PCI expansion blade, align the connector with the male connector on the main board of the PCI expansion blade, and then push in the connector.

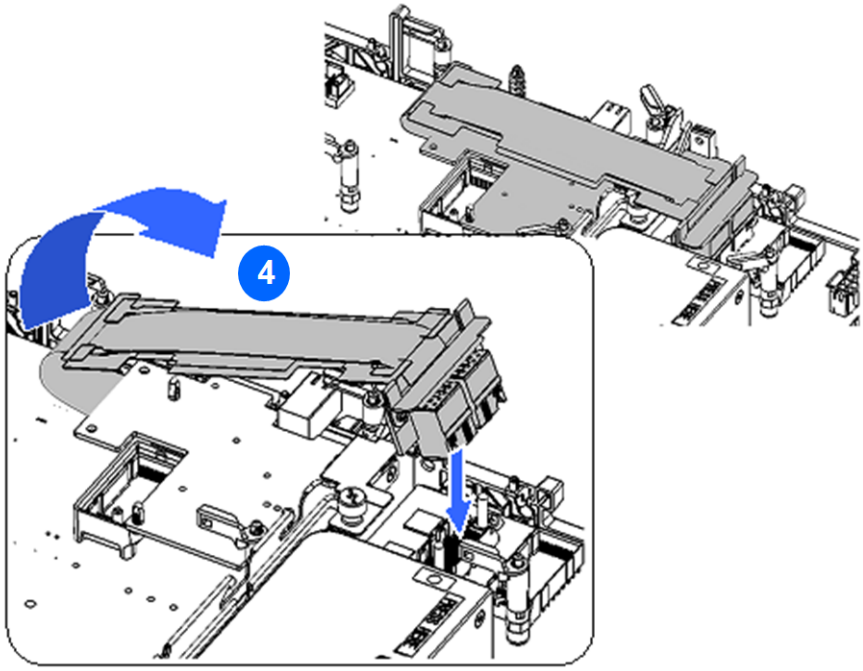


Figure 5-102 Installing the connection kit L/P

5. Install the connection kit F/H.
   For detail, see Installing a connection kit F/H on page 5-76.
6. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.

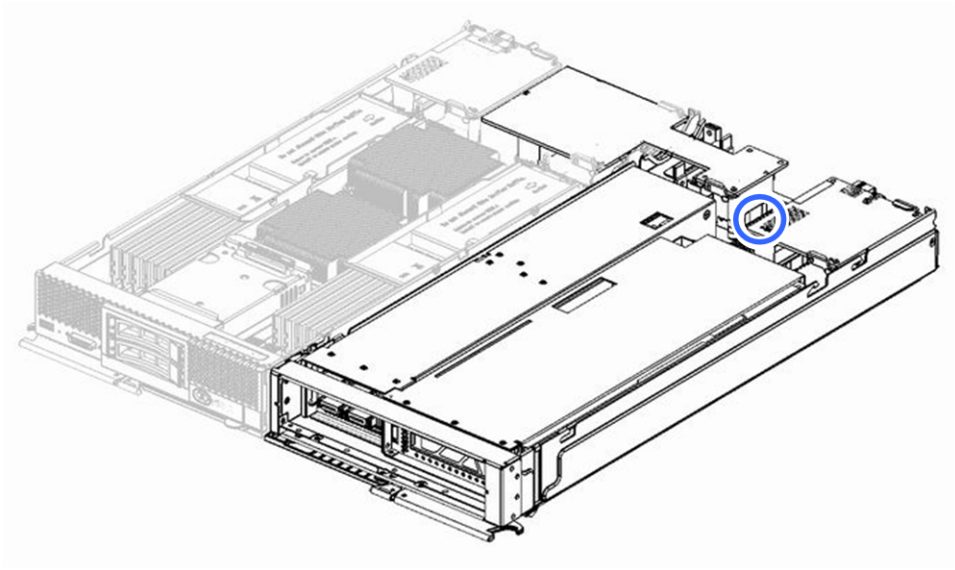
7. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
8. Install the PCI expansion blade. See Installing a PCI expansion blade into server chassis on page 5-16 section.

Replacing a PCIe card in the PCI expansion blade

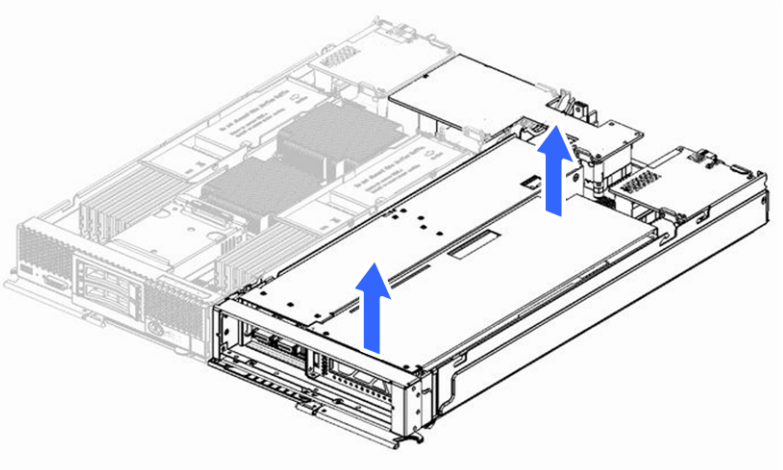
This procedure describes how to remove a PCIe card in the PCI expansion blade.

Removing a GPU adapter

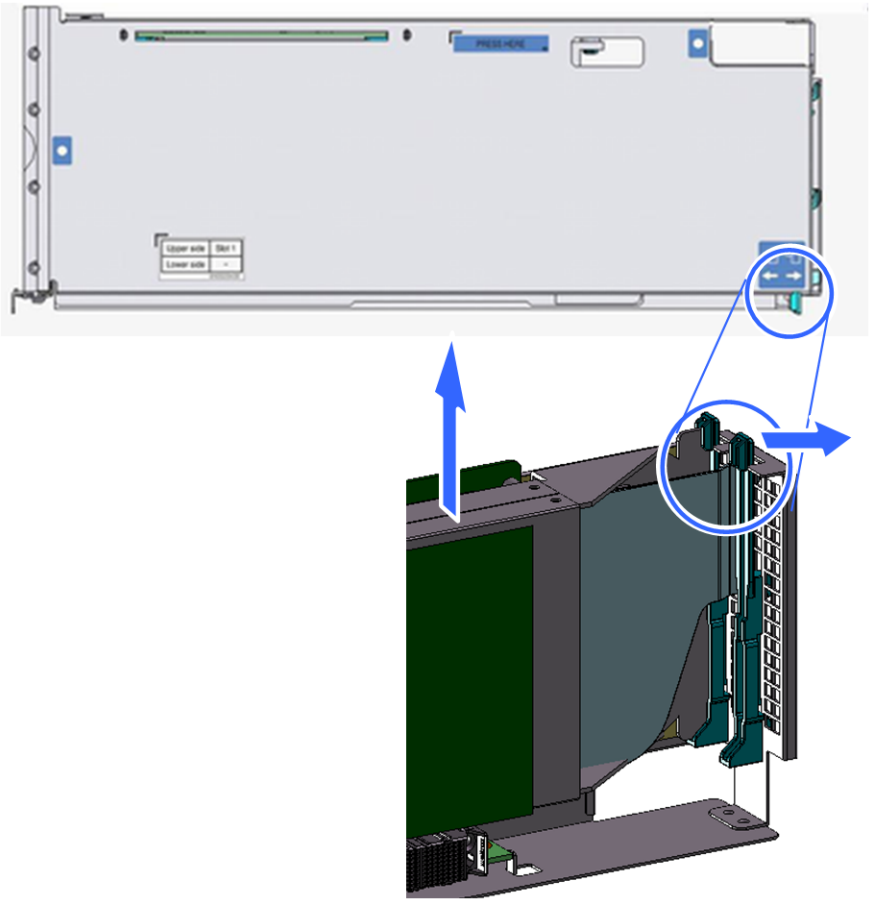
1. Put on an anti-static wrist strap.
2. Remove the target PCI expansion blade.
   See Removing a PCI expansion blade from server chassis on page 5-15 section.
3. Open the top cover of the PCI expansion blade.
   See Opening a top cover, PCI expansion blade on page 5-40 section.
4. Pull out the connector of optional power cable between the connection kit and the mezzanine slot.



5. While holding the two portions marked with white circle, pull up the PCI blade card adapter F/H straight upward.



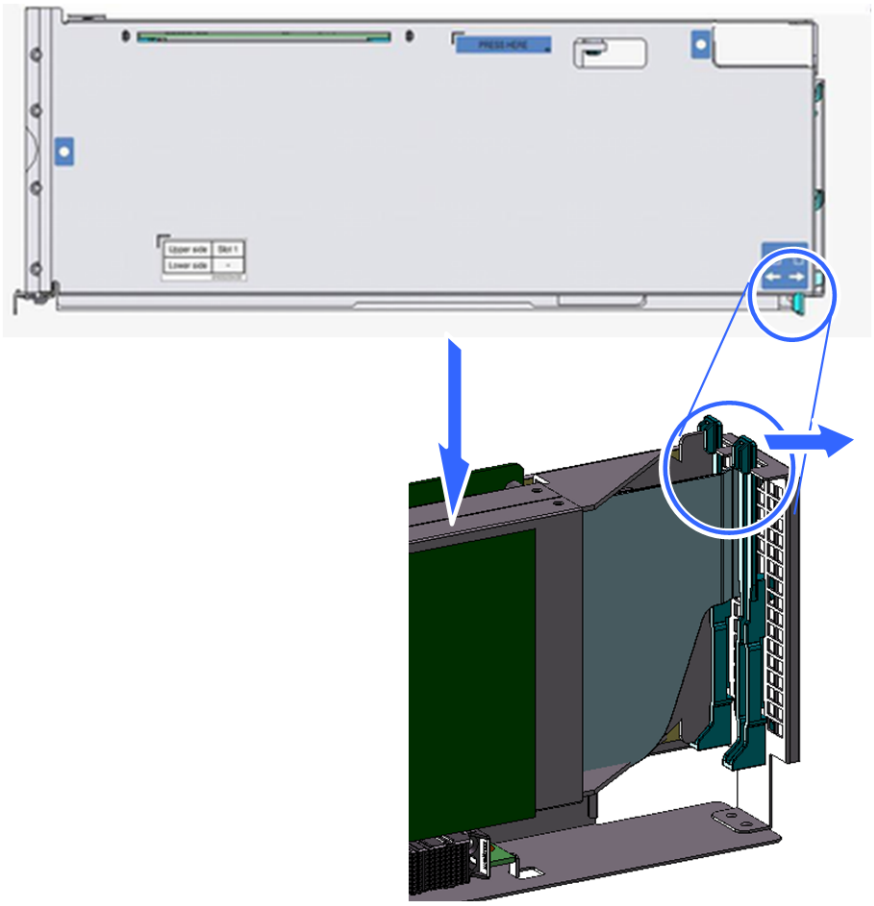
6. Pull out the connector of optional power cable from the GPU adapter.
7. While unlocking the adapter stopper, pull out the GPU adapter from the card adapter F/H.



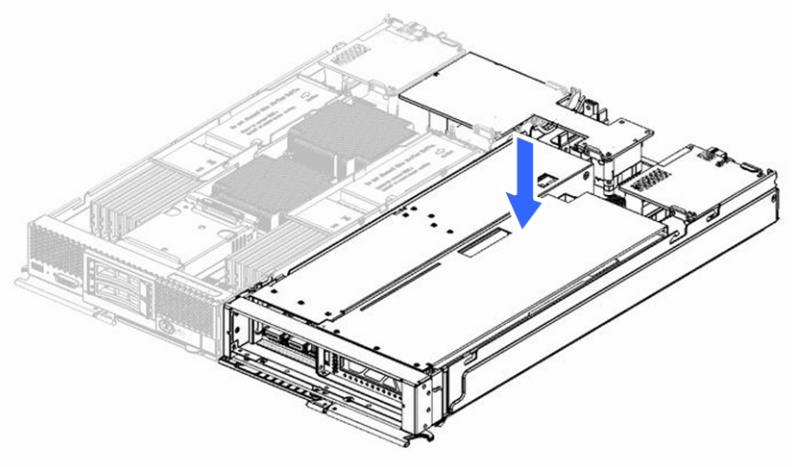
Installing a GPU adapter

1. Put on an anti-static wrist strap.

2. While unlocking the adapter stopper, push in the GPU adapter into the card adapter F/H.



3. Slide in the optional power cable connector into the PCI blade card adapter F/H, and then push in the connector into the GPGPU.
4. While holding the two portions marked with white circle, align the connector guide hole of the adapter F/H with the guide pin on the main board, and then press the portion marked **PRESS HERE**.

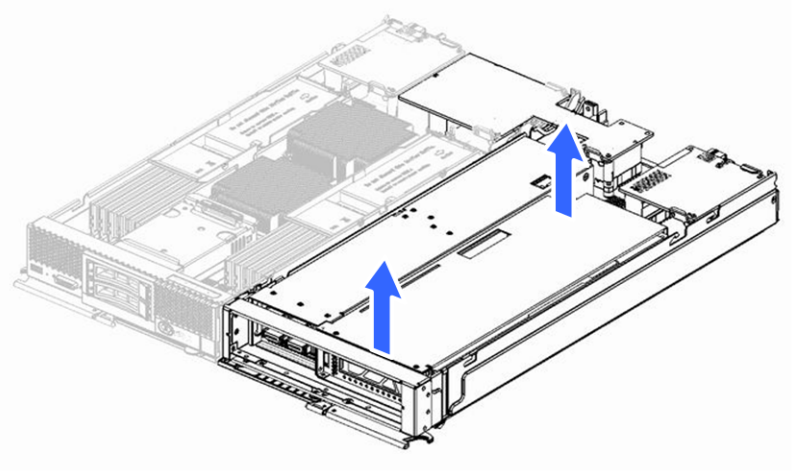


5. Push in the PCI blade optional power cable connector into the main board.

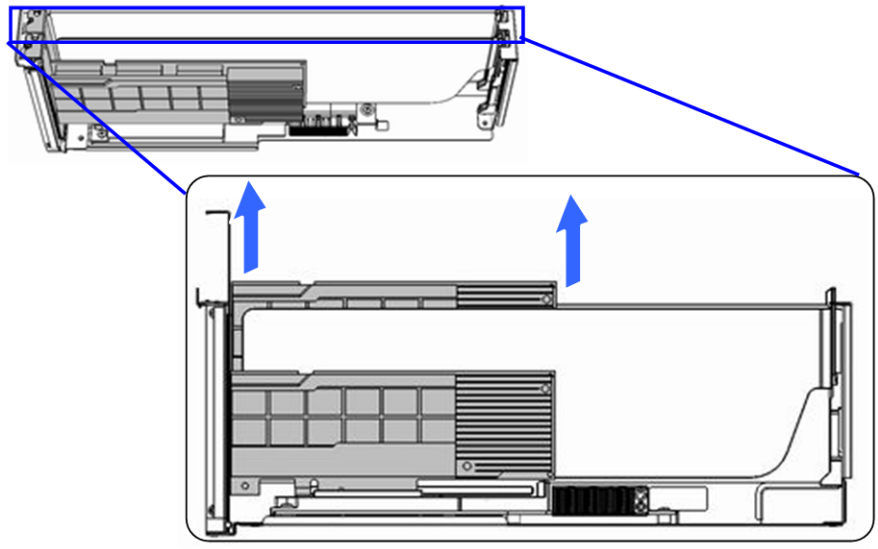
6. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
7. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
8. Install the PCI expansion blade. See Installing a PCI expansion blade into server chassis on page 5-16 section.

Removing a Fusion-io flash drive from card adapter F/H

1. Put on an anti-static wrist strap.
2. Remove the target PCI expansion blade.
   See Removing a PCI expansion blade from server chassis on page 5-15 section.
3. Open the top cover of the PCI expansion blade.
   See Opening a top cover, PCI expansion blade on page 5-40 section.
4. While holding the two portions marked with white circle, pull up the PCI blade card adapter F/H straight upward.

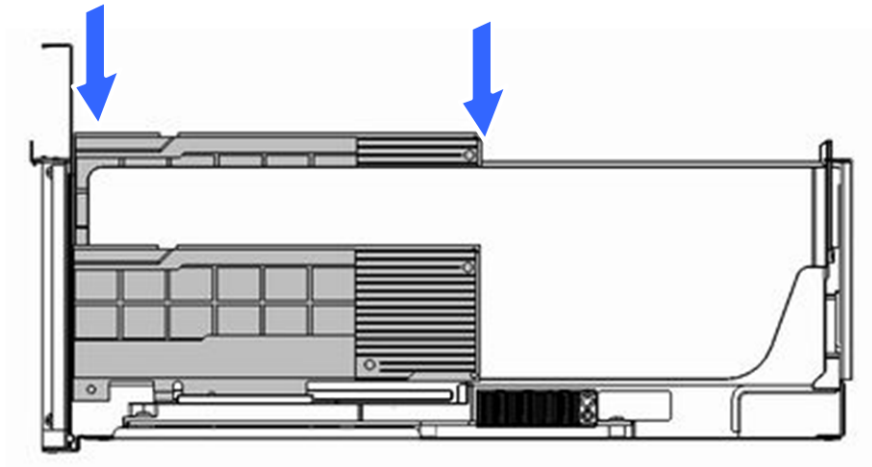


5. Pull out the Fusion-io flash drive from the card adapter F/H.

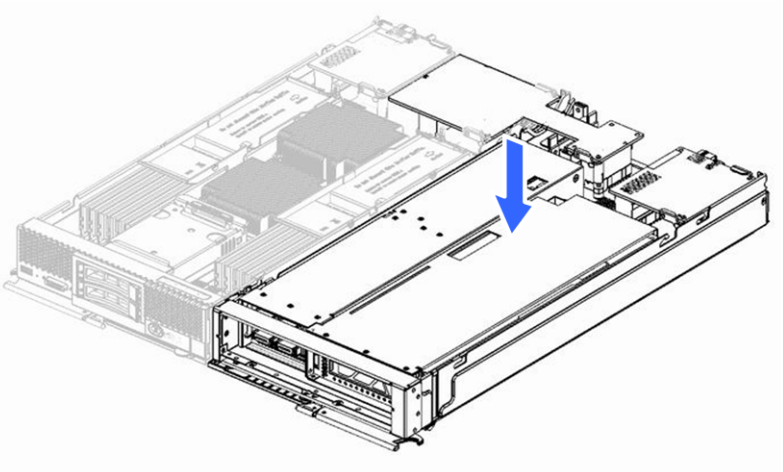


Installing a Fusion-io flash drive from card adapter F/H

1. Put on an anti-static wrist strap.
2. Push in the Fusion-io flash drive into the card adapter F/H.



3. While holding the two portions marked with white circle, align the connector guide hole of the adapter F/H with the guide pin on the main board, and then press the portion marked **PRESS HERE**.



4. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
5. Close the top cover of PCI expansion blade. See Closing a top cover, PCI expansion blade on page 5-41 section.
6. Install the PCI expansion blade. See Installing a PCI expansion blade into server chassis on page 5-16 section.

Replacing a lithium battery in half-wide server blade

This procedure describes how to remove a lithium battery from the server blade.

Removing a lithium battery

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Tilt the lithium battery in the direction shown by the arrow, and then lift it away from the battery holder.

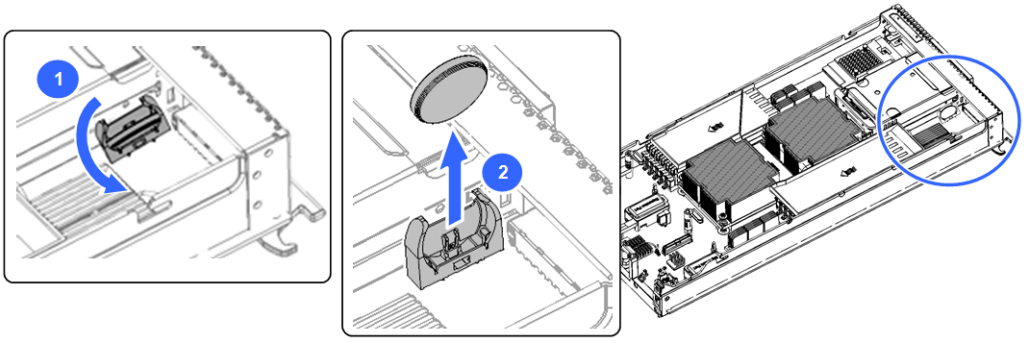


Figure 5-103 Removing the lithium battery- CB 520A A1

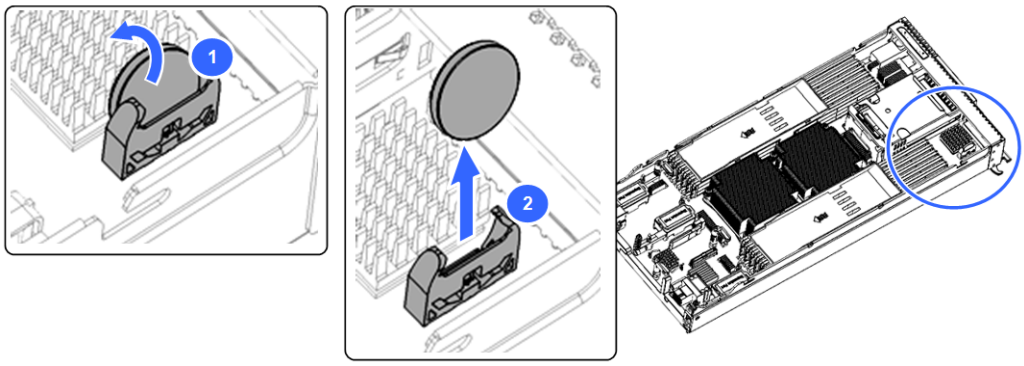


Figure 5-104 Removing the lithium battery- CB 520H A1/B1/B2/B3/B4

WARNING: To reduce the risk of the personal injury, do not attempt to recharge the battery and do not crush, puncture or dispose of in fire.

CAUTION: Do not dispose the battery along with general household waste. Use a public collection system, or return it to the Hitachi Data System Support for recycling or proper disposal.

Installing a lithium battery

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. In case of CB 520A A1 and CB 520H A1/B1/B2, if mezzanine card #2 installed then remove it.

   See Replacing a mezzanine card in half-wide server blade on page 5-49 section.
4. Set the **DIP switch #3** (RTCRST) to the **ON** position and then wait at least ten seconds.

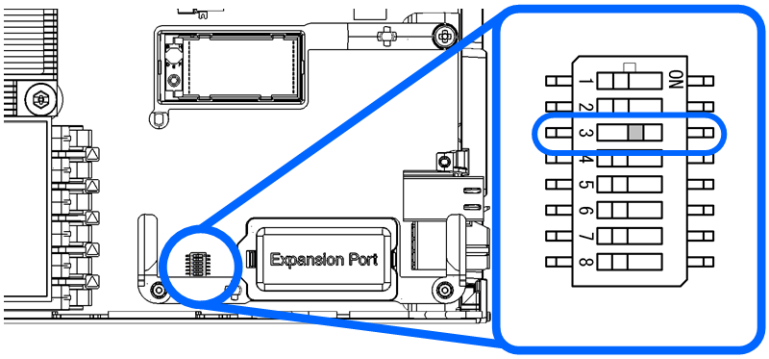


Figure 5-105 DIP switch #3 of CB 520A A1

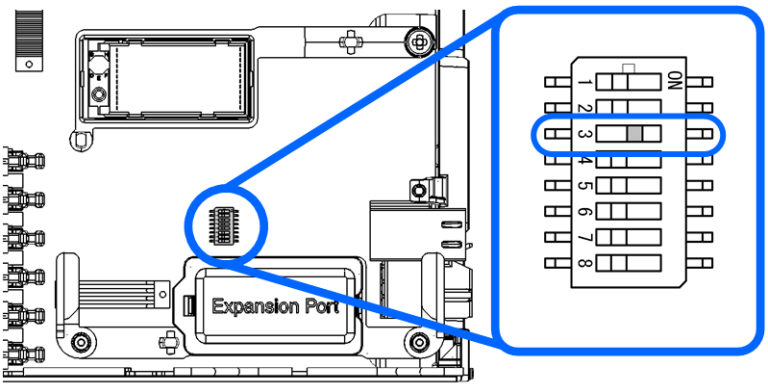


Figure 5-106 DIP switch #3 of CB 520H A1/B1/B2

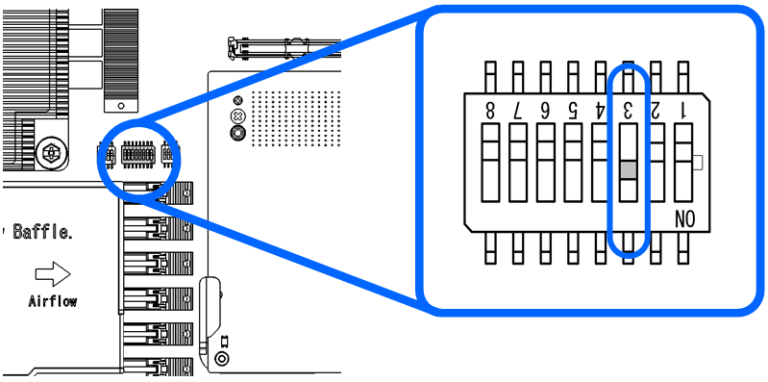


Figure 5-107 DIP switch #3 of CB 520H B3/B4

Note: If the **DIP switch** is covered with the tape, make a hole in the tape, and then set the **DIP switch** to the **ON** or OFF position.

5. Restore the **DIP switch #3** (RTCRST) to the OFF position.
6. If removed mezzanine card at step 3, then Reinstalling mezzanine card. See Replacing a mezzanine card in half-wide server blade on page 5-49 section.
7. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
8. Perform Installing a half-wide server blade on page 5-5 procedure.

Note: Replacing the lithium battery in the server blade results the server blade EFI to the default configuration. After replacing the battery, restore the configuration data. See Backup/restore procedure on page 4-30 section.

Replacing a lithium battery in full-wide server blade

This procedure describes how to remove a lithium battery from the server blade.

Removing a lithium battery

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Tilt the lithium battery in the direction shown by the arrow, and then lift it away from the battery holder.

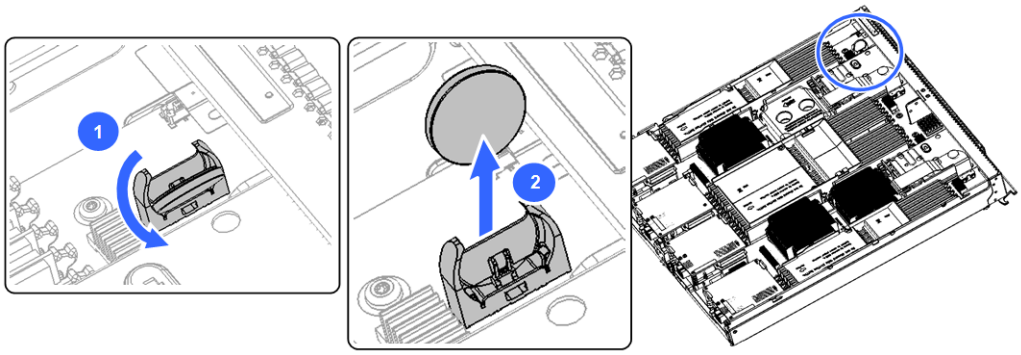


Figure 5-108 Removing the lithium battery- CB 540A A1/B1

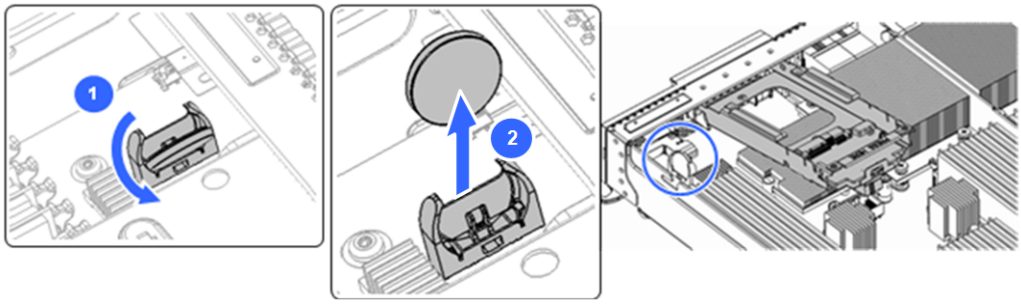


Figure 5-109 Removing the lithium battery- CB 520X B1/B2/B3

WARNING: To reduce the risk of the personal injury, do not attempt to recharge the battery and do not crush, puncture or dispose of in fire.

CAUTION: Do not dispose the battery along with general household waste. Use a public collection system, or return it to the Hitachi Data System Support for recycling or proper disposal.

Installing a lithium battery

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. If mezzanine card #4 installed then remove it.

See Replacing a mezzanine card in full-wide server blade on page 5-51 section.

4. Set the **DIP switch #3** (RTCRST) to the **ON** position and then wait at least ten seconds.

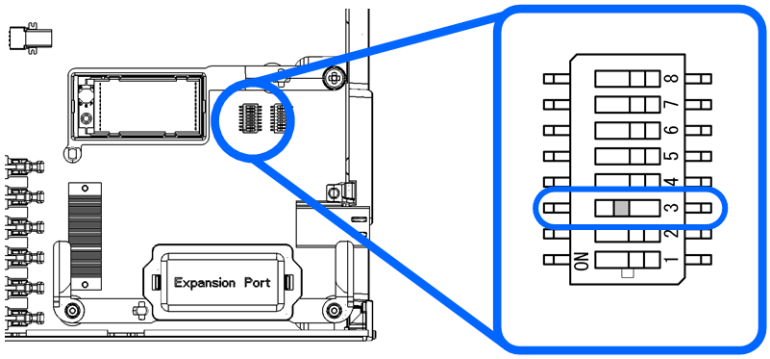


Figure 5-110 DIP switch #3 of CB 540A A1/B1

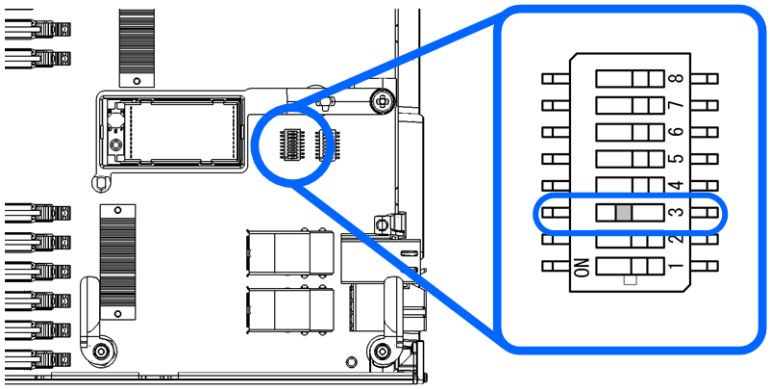


Figure 5-111 DIP switch #3 of CB 520X B1/B2/B3

Note: If the **DIP switch** is covered with the tape, make a hole in the tape, and then set the **DIP switch** to the **ON** or OFF position.

5. Restore the **DIP switch #3** (RTCRST) to the OFF position.
6. If removed mezzanine card at step 3, then reinstalling mezzanine card. See Replacing a mezzanine card in half-wide server blade on page 5-49 section.
7. Close the top cover of server blade. See Closing a top cover, Server blade on page 5-39 section.
8. Perform Installing a full-wide server blade on page 5-7 procedure.

Note: Replacing the lithium battery in the server blade results the server blade EFI to the default configuration. After replacing the battery, restore the configuration data. See Backup/restore procedure on page 4-30 section.

Replacing a SAS-kit 1 in half-wide server blade

This procedure describes how to remove a SAS-kit 1 from the server blade.

A SAS-kit 1 is composed of:

1. HDD backplane board

Removing a SAS-kit 1

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Slide the disk drives approximately 4 cm to disconnect with the HDD backplane board.
5. Lift the HDD backplane board and remove it from the server blade assembly.

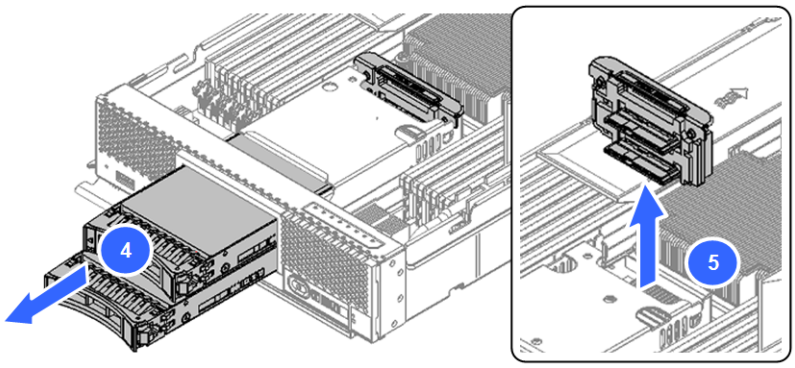


Figure 5-112 Removing the HDD backplane board

Installing a SAS-kit 1

1. Put on an anti-static wrist strap.
2. Install the spare HDD backplane board while inserting both side panel edges to the guides.
3. Reverse the removal procedure.
4. Perform Installing a half-wide server blade on page 5-5 procedure.

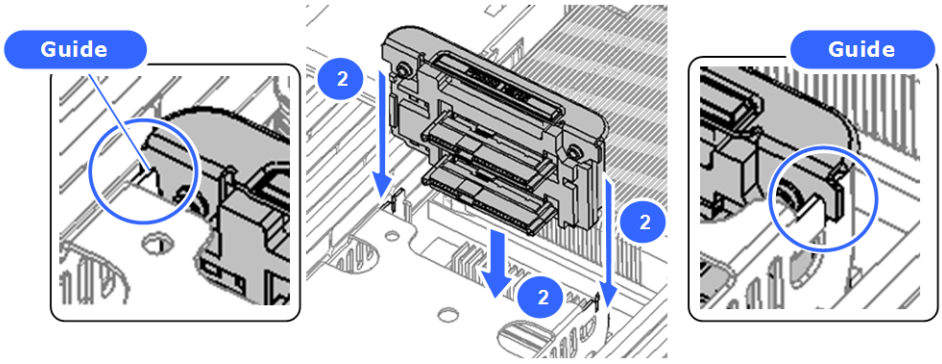


Figure 5-113 Installing the HDD backplane board

Replacing a SAS-kit 1 in full-wide server blade

This procedure describes how to remove a SAS-kit 1 from the server blade.

A SAS-kit 1 is composed of:

1. HDD backplane board

Removing a SAS-kit 1

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Slide out the disk drives approximately 4 cm to disconnect with the HDD backplane board.
5. While opening up both of the edges of the latch, push out the connector cable.
6. Turn the cable counterclockwise about 90 degrees, and then remove the anchorage of HDD backplane.
7. Pull out the HDD backplane board assembly.

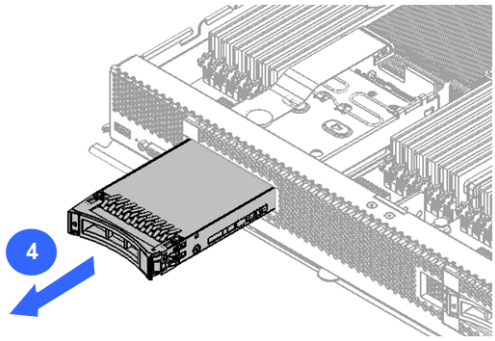


Figure 5-114 Removing the HDD

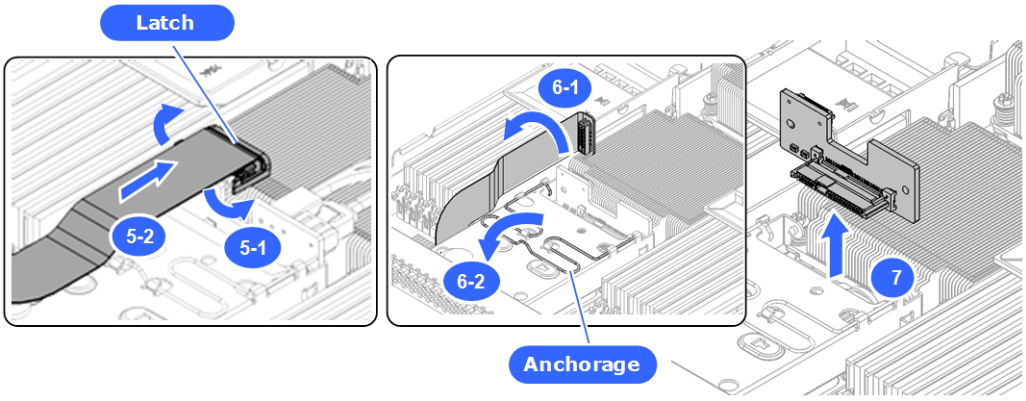


Figure 5-115 Removing the HDD backplane board

Installing a SAS-kit 1

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Perform Installing a full-wide server blade on page 5-7 procedure.

Replacing a SAS-kit 2 in half-wide server blade

This procedure describes how to remove a SAS-kit 2 from the server blade.

A SAS-kit 2 is composed of:

1. SAS cable
2. HDD backplane board

Removing a SAS-kit 2

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a half-wide server blade on page 5-4 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Open the lock tabs, as shown below.
5. Lift up the RAID mezzanine card and remove it from the server blade assembly.

CAUTION: To reduce the risk of the personal injury, do not disconnect the SAS cable from RAID mezzanine card before removing it from server blade assembly.

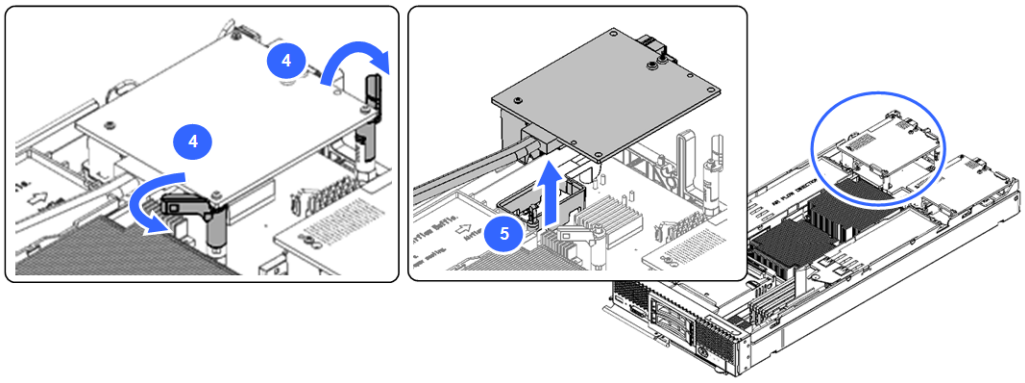


Figure 5-116 Removing the RAID card

6. Slide the disk drives approximately 4 cm to disconnect with the HDD backplane board.
7. Lift the HDD backplane board assembly and remove it from the server blade assembly.

CAUTION: To reduce the risk of the personal injury, do not disconnect the SAS cable from HDD backplane board before removing the HDD backplane board from server blade assembly.

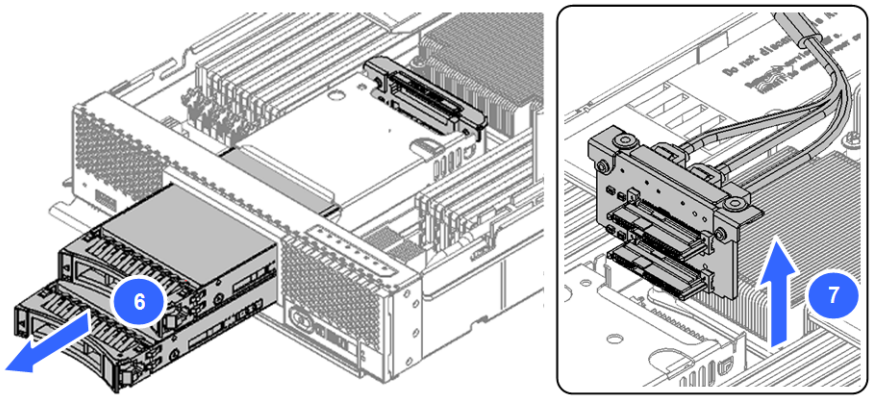


Figure 5-117 Removing the HDD backplane board

8. Disconnect the SAS cable from the RAID card.

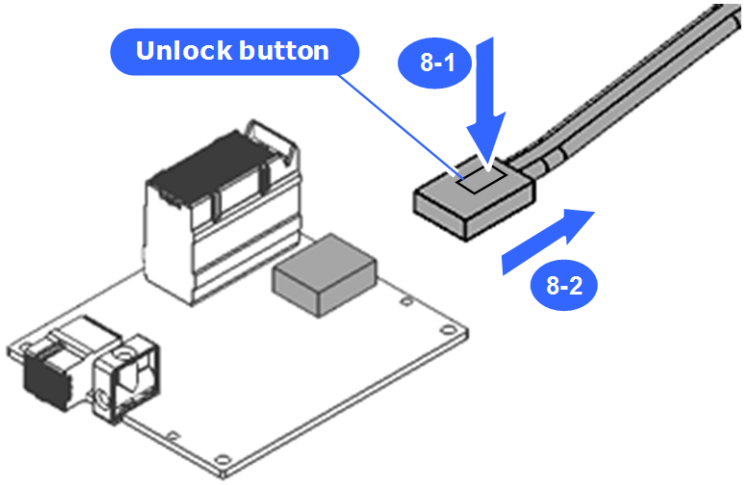


Figure 5-118 Removing the SAS cable

Installing a SAS-kit 2

1. Put on an antistatic wrist strap.
2. Connect the SAS cable to the HDD backplane board and the RAID mezzanine card before installing.
3. Reverse the removal procedure.

CAUTION: To reduce the risk of the personal injury, connect the SAS cable before the HDD backplane board and RAID mezzanine card are installed in the server blade.

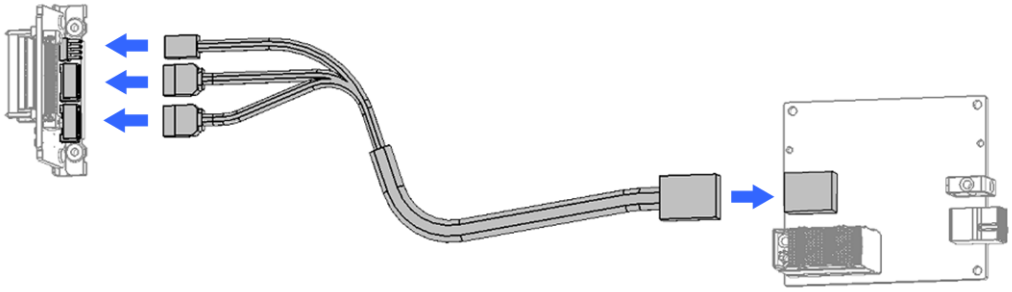


Figure 5-119 Connecting the SAS cable

4. Place the SAS cable into the guide of the air duct.
5. Perform Installing a half-wide server blade on page 5-5 procedure.

Notice:

Place the SAS cable to the cable guide correctly.

If the cable is not in place correctly, that might cause serious damage to the cable.

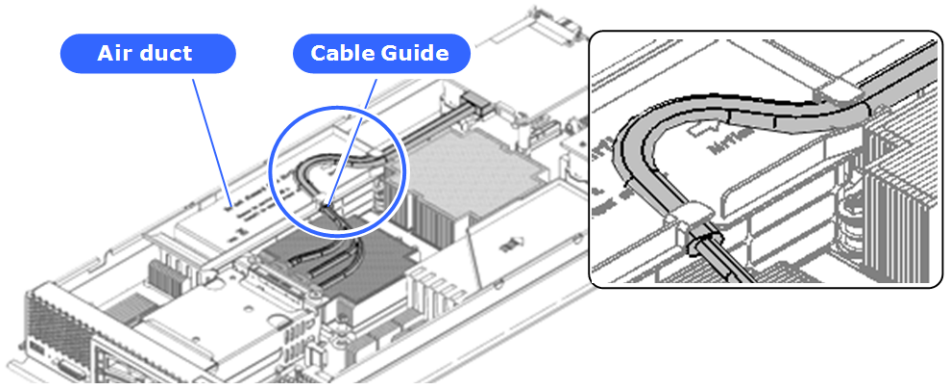


Figure 5-120 Fixing the SAS cable- CB 520A A1

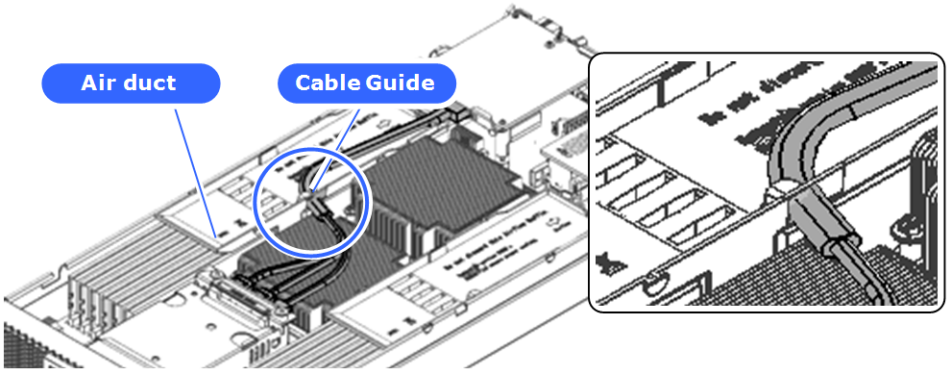


Figure 5-121 Fixing the SAS cable- CB 520H A1/B1/B2

Replacing a SAS-kit 2 in CB 540A A1/B1

This procedure describes how to remove a SAS-kit 2 from the server blade.

A SAS-kit 2 is composed of:

1. SAS cable
2. HDD backplane board

Removing a SAS-kit 2

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Open the lock tabs, as shown below.
5. Lift up the RAID mezzanine card and remove it from the server blade assembly.

CAUTION: To reduce the risk of the personal injury, do not disconnect the SAS cable from RAID mezzanine card before removing it from server blade assembly.

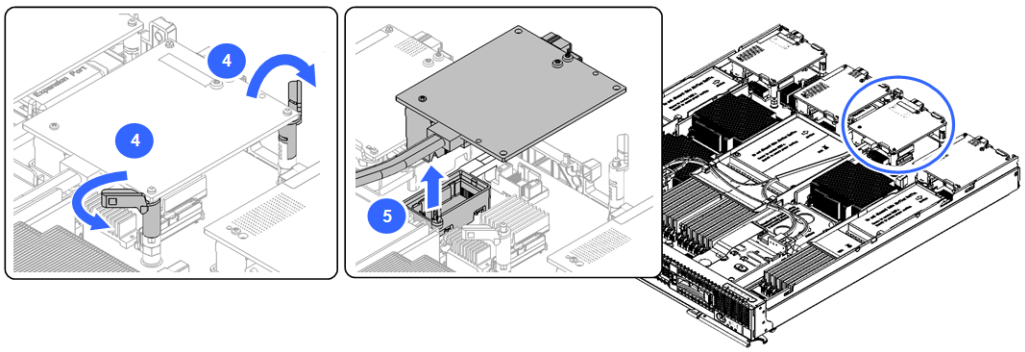


Figure 5-122 Removing the RAID card

6. Slide out the disk drives approximately 4 cm to disconnect with the HDD backplane board.
7. While opening up both of the edges of the latch, push out the connector cable.
8. Turn the cable counterclockwise about 90 degrees, and then remove the anchorage of HDD backplane.
9. Remove the cables from the cable guide on the air duct.
10. Pull out the HDD backplane board assembly.
11. Remove the SAS cable from HDD backplane board assembly.

CAUTION: To reduce the risk of the personal injury, do not disconnect the SAS cable from HDD backplane board before removing the HDD backplane board from server blade assembly.

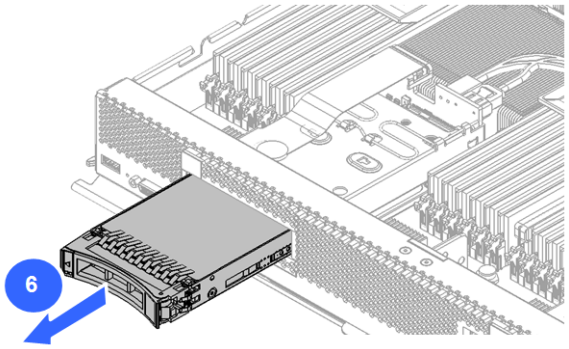


Figure 5-123 Removing the HDD

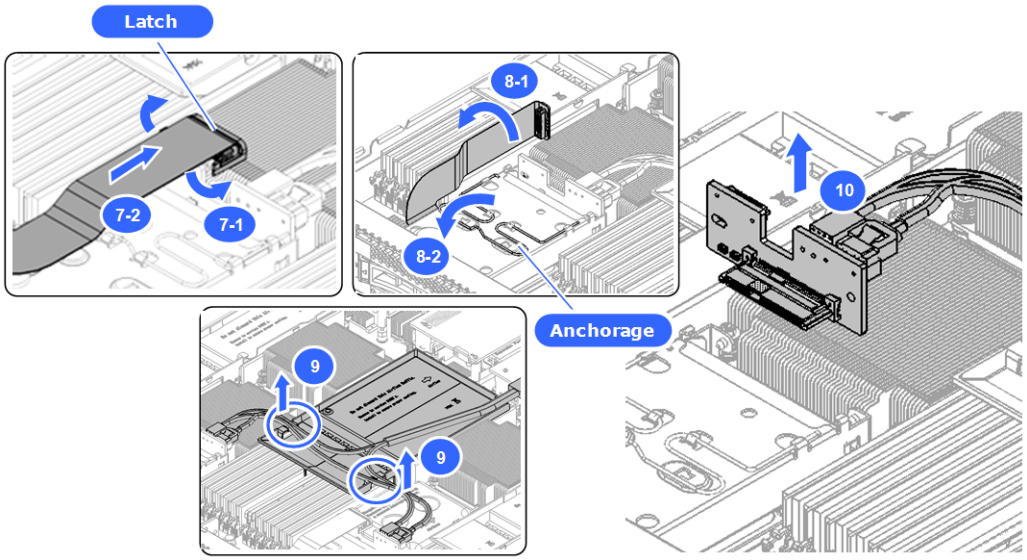


Figure 5-124 Removing the HDD backplane board

12. Disconnect the SAS cable from the RAID card.

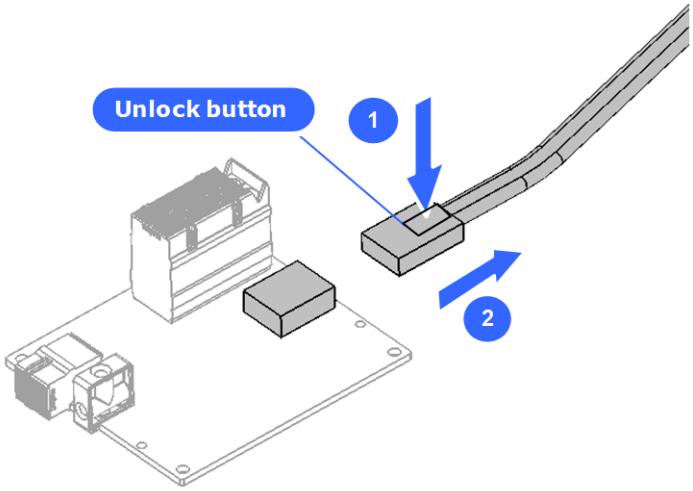


Figure 5-125 Removing the SAS cable

Installing a SAS-kit 2

1. Put on an antistatic wrist strap.
2. Connect the SAS cable to the HDD backplane board and the RAID mezzanine card before installing.

CAUTION: To reduce the risk of the personal injury, connect the SAS cable before the HDD backplane board and RAID mezzanine card are installed in the server blade.

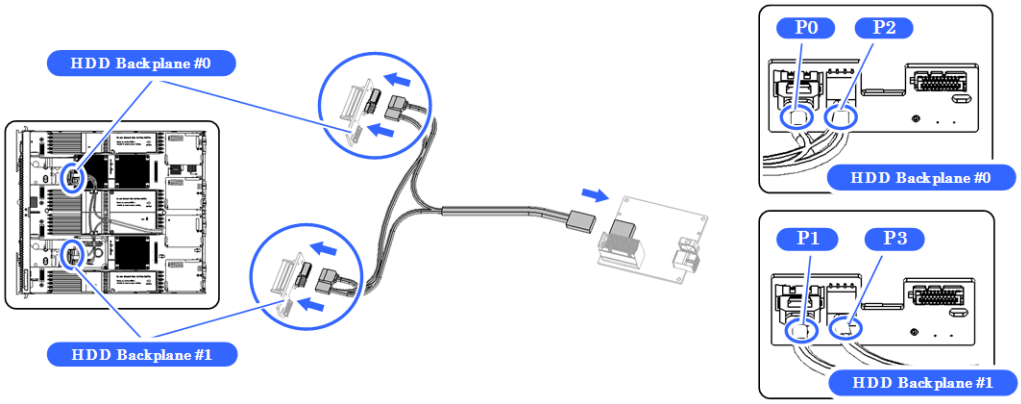


Figure 5-126 Connecting the SAS cable

3. Reverse the removal procedure.
4. Place the SAS cable into the guide of the air duct.
5. Perform Installing a full-wide server blade on page 5-7 procedure.

Notice:

Place the SAS cable to the cable guide correctly.

If the cable is not in place correctly, that might cause serious damage to the cable.

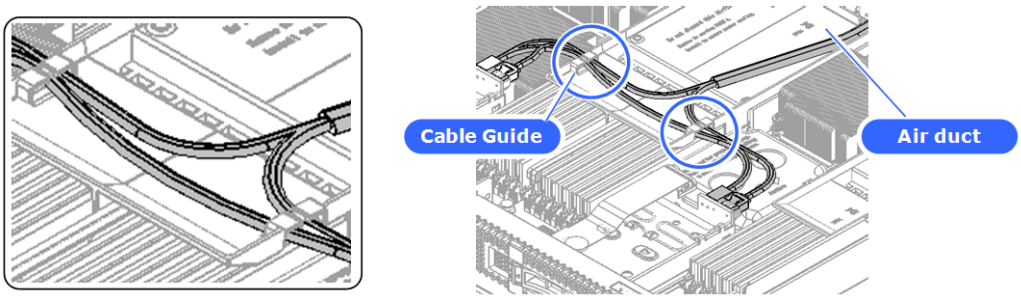


Figure 5-127 Fixing the SAS cable- CB 540A A1/B1

Replacing a SAS HDD kit in CB 520X B1/B2/B3

Removing a SAS HDD kit

1. Put on an anti-static wrist strap.
2. Remove the target server blade.
   See Removing a full-wide server blade on page 5-6 section.
3. Open the top cover of the server blade. See Opening a top cover, Server blade on page 5-38 section.
4. Remove a disk drive.
   See Removing a disk drive on page 5-36 section.
5. Pull up the connector side of SAS HDD kit while holding the near portion of the connector of enclosure by both hands.
6. Pull up the front panel side of SAS HDD kit, and then release the pins from the hinge brackets.

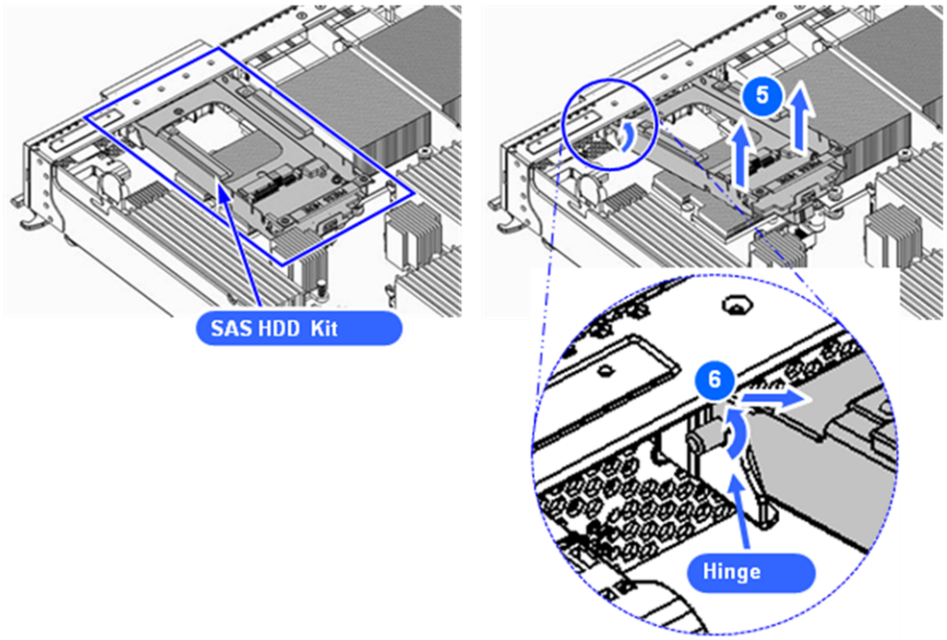


Figure 5-128 Removing SAS HDD kit

Installing a SAS HDD kit

1. Put on an anti-static wrist strap.
2. Slide in the pins of SAS HDD kit on the front side into the hinge brackets on the front side of the enclosure.
3. Press the portion indicated **PRESS HERE** on the SAS HDD kit.

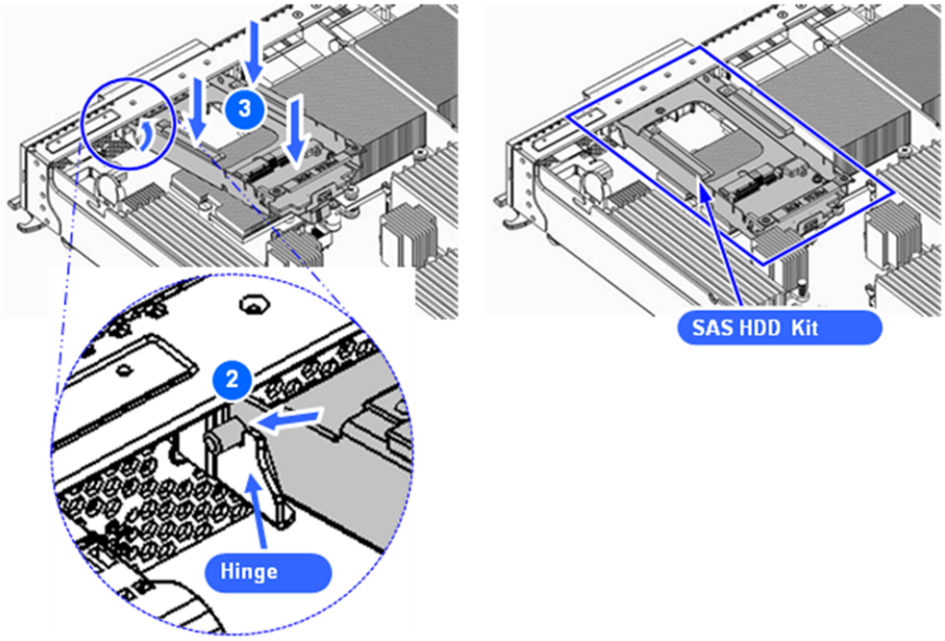


Figure 5-129 Installing SAS HDD kit

4. Close the top cover of the server blade. See Closing a top cover, Server blade on page 5-39 section.
5. Install a disk drive.
   See Installing a disk drive on page 5-36 section.
6. Install the target server blade.
   See Installing a full-wide server blade on page 5-7 section.

Replacing a management module (redundant)

This procedure describes how to replace the management module under the redundant configuration. Under this configuration, two management modules are installed in a chassis.

Removing a management module

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Identify F/W version and take notes of it.
   See F/W version identification procedure on page 4-22 section.
6. Shutdown the failed management module.

See Management module on page 4-61 section.

7. Remove all cables for the failed management module.
8. Release the blue lock tab and pull the lever, as shown below.
9. Holding the management module, carefully slide out the management module from the chassis and place it on an anti-static mat.

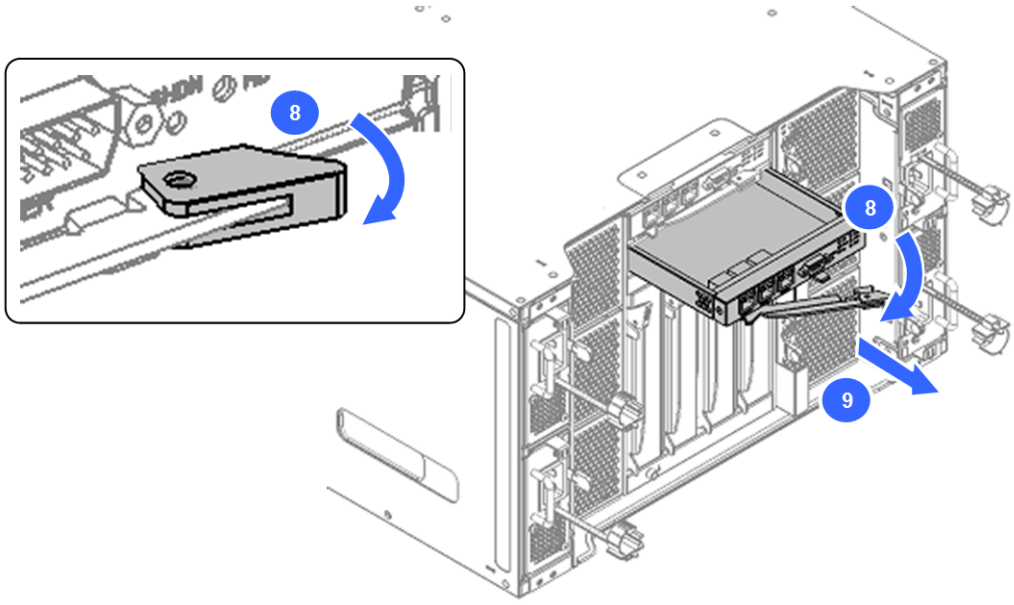


Figure 5-130 Removing a management module

Installing a management module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the management module.
3. Verify that the Power LED and MSR LED are blinking in green after Power LED blinked in green.
4. Connect the LAN cable to the master management module and start the Web console.
5. Synchronize the internal LAN between the primary management module and the target one.

   Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules**.
6. Click **Action** and select **Sync Internal LAN**.
7. The confirmation dialog box appears. Click **OK**. Synchronizing internal address will start.

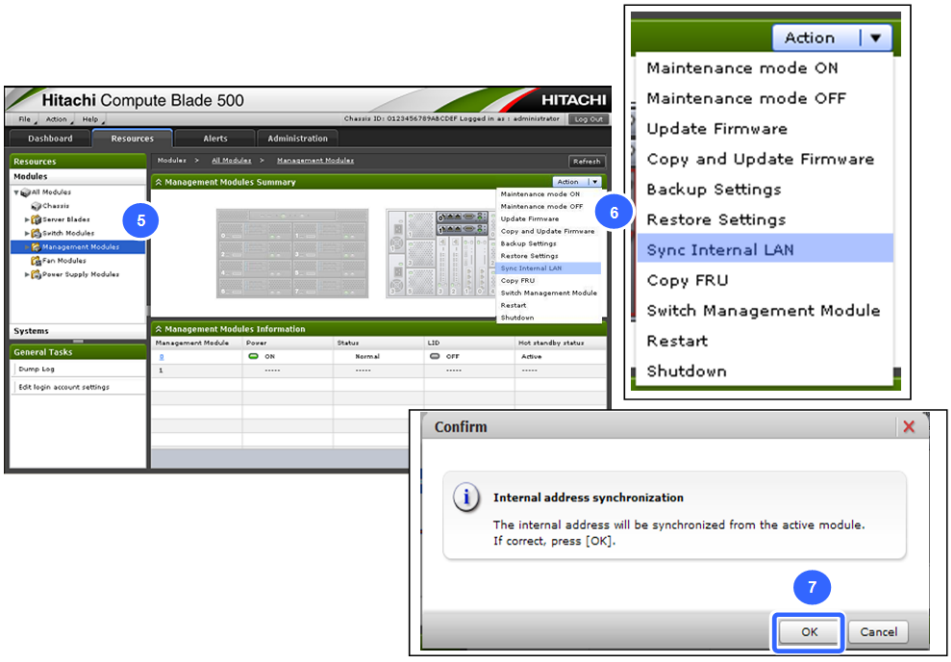


Figure 5-131 Synchronizing the internal LAN

8. Copy the firmware from the primary management module.
   Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules**.
9. Click **Action** and select **Copy and Update Firmware**.
10. The confirmation dialog box appears. Click **Update**. Copying firmware to the target management module will start.
11. The successful message dialog box appears. Click **Close**. The target management module will reboot.

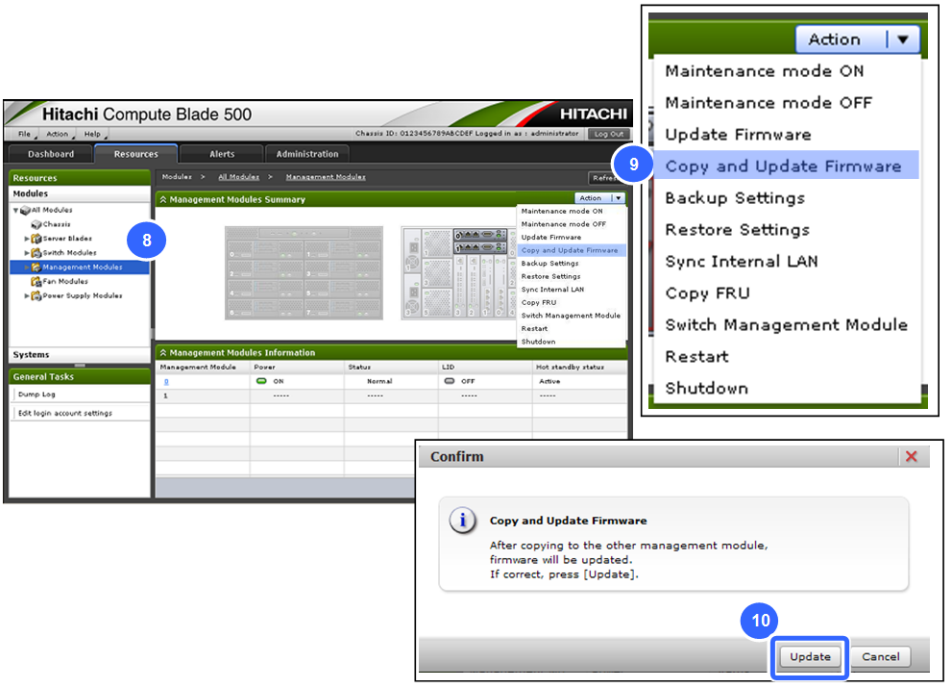


Figure 5-132 Copying firmware to target management module

12. Verify that the primary LED is blinking in green.
13. Copy the FRU information from the primary management module.
    Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules**.
14. Click **Action** and select **Copy FRU**.
15. The confirmation dialog box appears. Click **OK**. Copying FRU information will start.

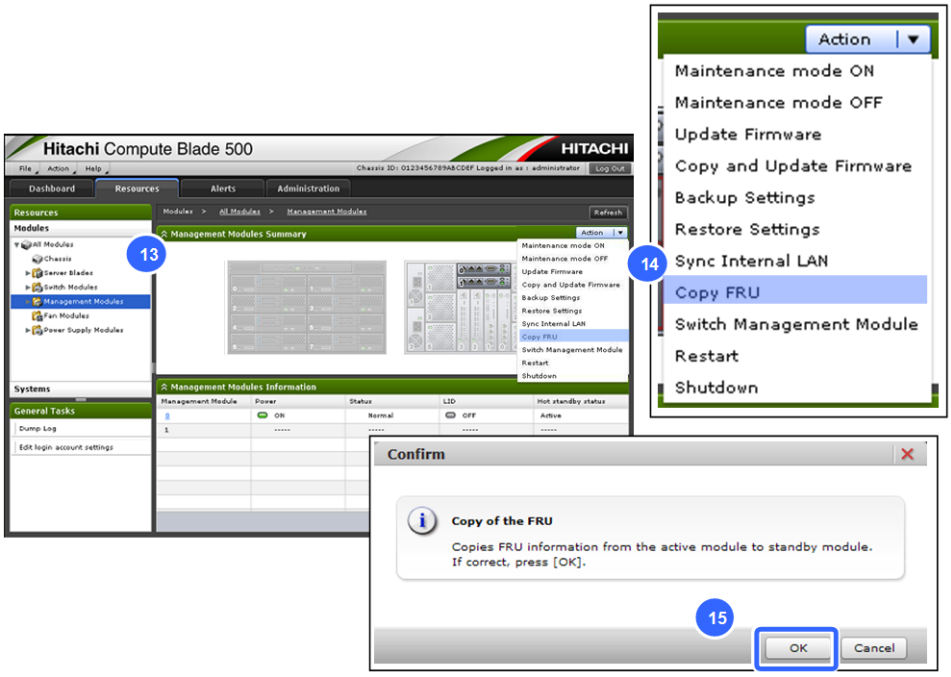


Figure 5-133 Copying FRU information to target management module

16. Clear the boot disable mode.
    Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules >** ***a target management module*** that should clear the boot disable mode.
17. Click **Action** and select **Clear Boot Disable**.
18. The confirmation dialog box appears. Click **OK**.

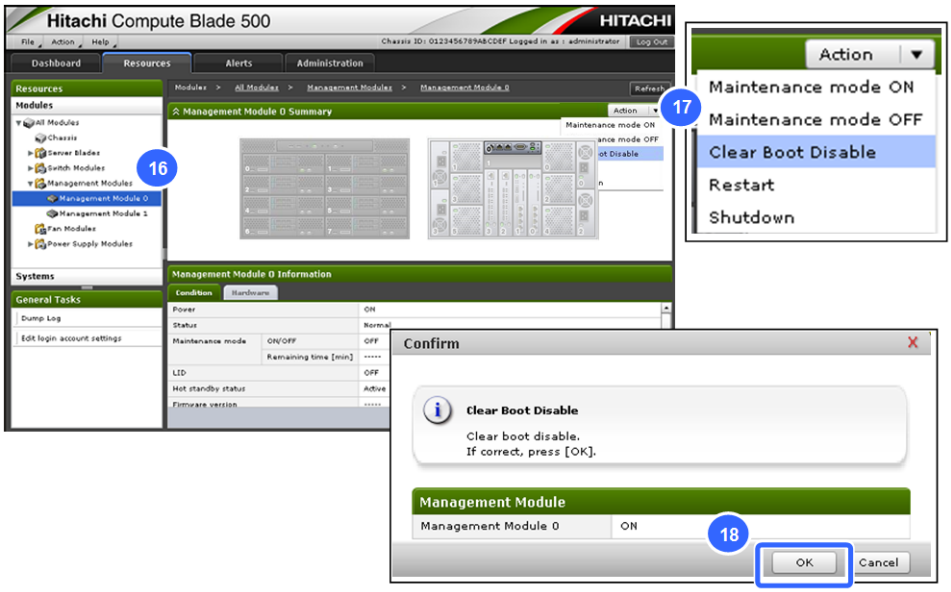


Figure 5-134 Clearing the Boot disable mode

19. About five minutes later, the management module will reboot.

20. Verify that the power LED lights in green after blinking, and that the primary LED is off.
21. Restarting the installed management module.
    Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules**.
    Confirm that the status of installed management module number which status is indicated as **Standby** in the **Hot standby status** column in the lower right pane.

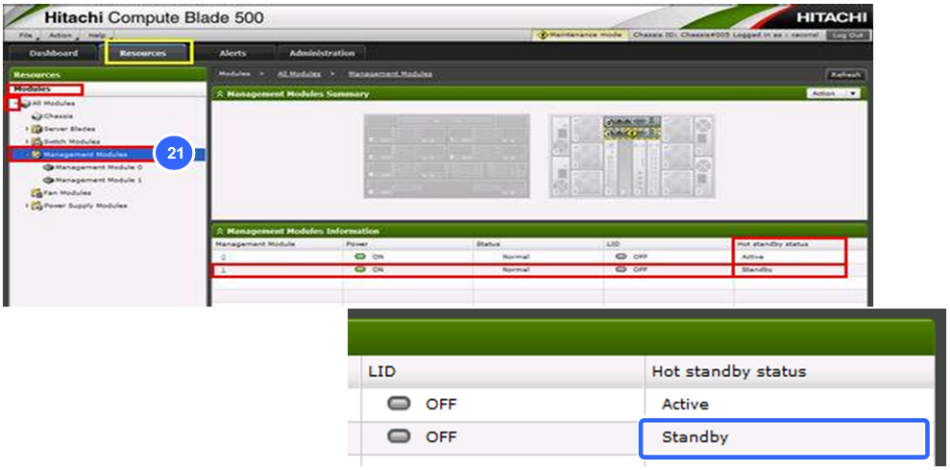


Figure 5-135 Confirm the installed management module number

22. Click the ***Installed (Standby) management module***.
23. Click **Action** and select **Restart**.
24. The confirmation dialog box appears. Click **OK**.

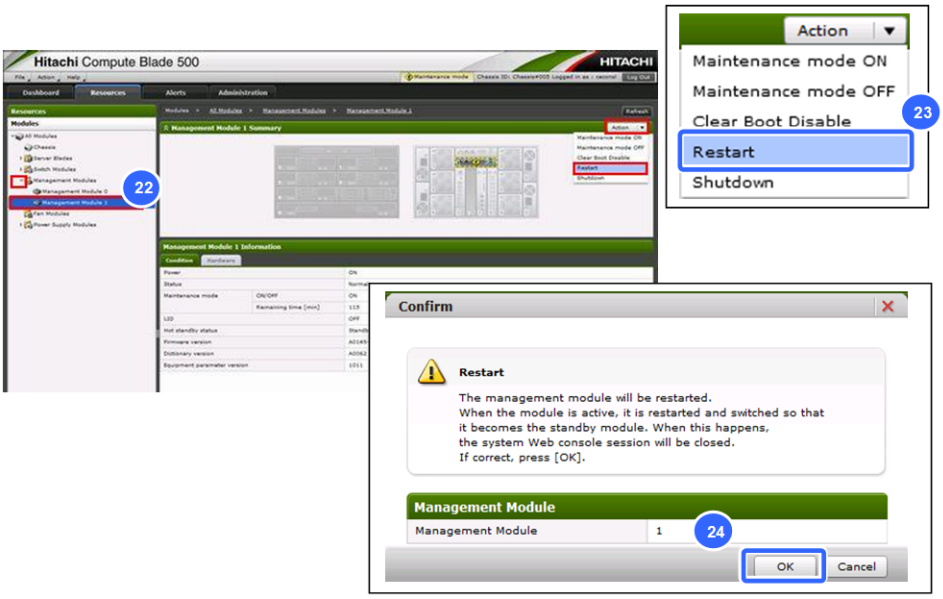


Figure 5-136 Restarting the installed management module

25. About five minutes later, the management module will reboot.

26. Verify that the power LED lights in green after blinking, and that the primary LED is off.
27. Set up TOD if you need.
    See Time of Day (TOD) clock setup procedure on page 4-44 section.
28. Verify that the replacement was successful through the MAR log.
    See Alert information identification procedure on page 4-5 section.
29. Turn off the maintenance mode from web console.
    See Maintenance mode on/off procedure on page 4-10 section.

Replacing a management module (non-redundant)

This procedure describes how to replace a management module under the non-redundant configuration. Under this configuration, the single management module is installed in chassis.

Removing a management module

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Identify F/W version and take notes of it.
   See F/W version identification procedure on page 4-22 section.
6. Back up the configuration data to the USB memory in the front panel or any storage in the local PC. See Backup/restore procedure on page 4-30 section.
7. Select **Resources** tab on the web console and select **System > Network > Internal LAN**.
8. Confirm **IP address** and **Subnet mask**.

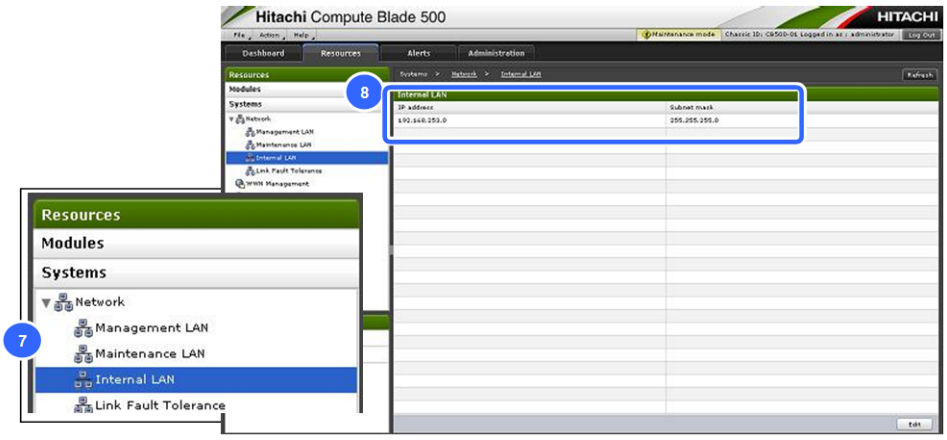


Figure 5-137 Confirming internal LAN

9. Shutdown the failed management module.
   See Management module on page 4-61 section.
10. Remove all cables for the failed management module.
11. Release the blue lock tab and pull the lever, as shown below.
12. Holding the management module, carefully slide out the management module from the chassis and place it on an anti-static mat.

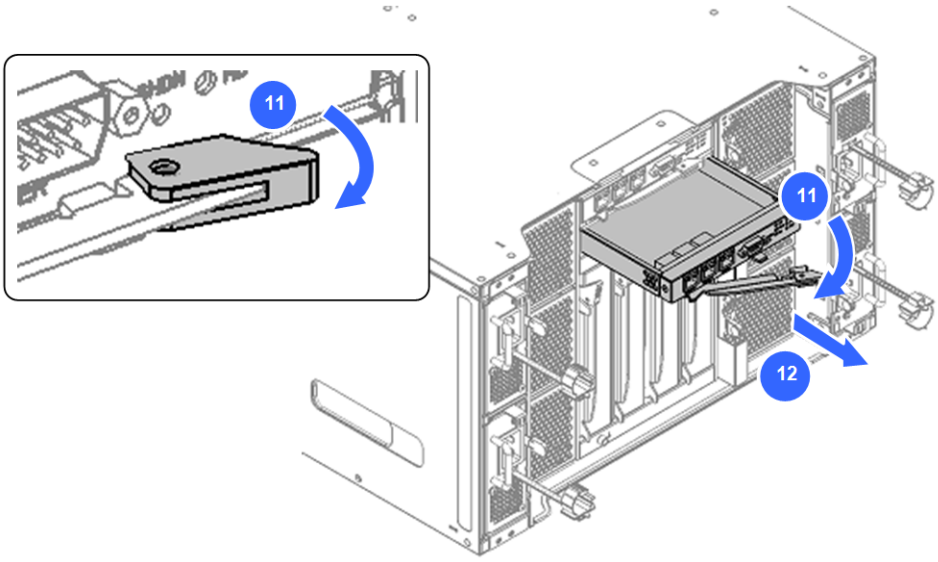


Figure 5-138 Removing a management module

Installing a management module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the management module.
3. Connect web console. See Web console login procedure on page 4-3 section.
4. Turn on the maintenance mode from web console.

See Maintenance mode on/off procedure on page 4-10 section.

5. Set up the internal LAN.
   Select **Resources** tab on the web console and select **System > Network > Internal LAN**.
6. Click **Edit**.
7. The **Edit internal LAN settings** window is displayed. Enter **IP address** that you recorded from the failed module, and then click **Confirm**.
8. The **Confirmation** window is displayed. Click **OK**.

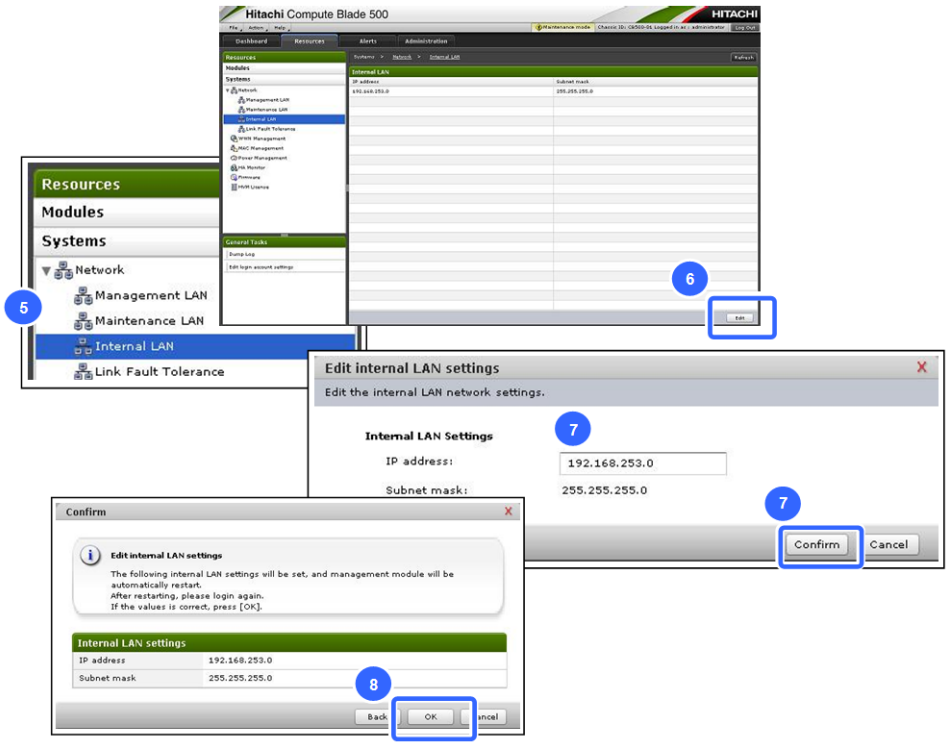


Figure 5-139 Editing internal LAN

9. If you need to update the firmware, consult with Hitachi Data Systems Customer Support team.
10. Back up the configuration data to the USB memory in the front panel or any storage in the local PC. See Backup/restore procedure on page 4-30 section.
11. Clear the boot disable mode.
    Select **Resources** tab on the web console and select **Modules > All Modules > Management Modules >** ***a target management module*** that should clear the boot disable mode.
12. Click **Action** and select **Clear Boot Disable**.
13. The confirmation dialog box appears. Click **OK**.

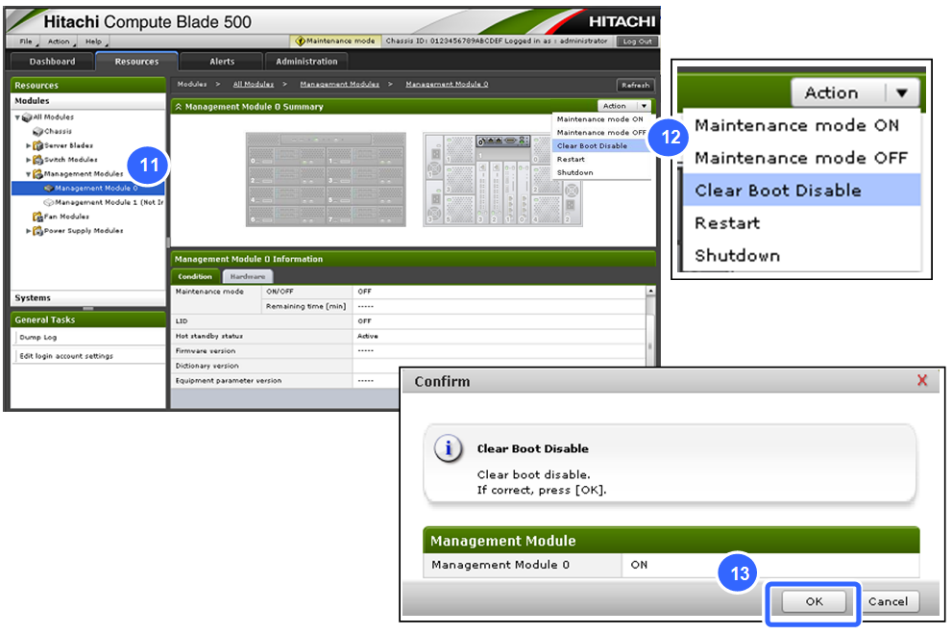


Figure 5-140 Clearing the Boot disable mode

14. About five minutes later, the management module will reboot.
15. Verify that the power LED lights in green after blinking and the primary LED is off.
16. Set up TOD if you need.
    See Time of Day (TOD) clock setup procedure on page 4-44 section.
17. Verify that the replacement was successful through the MAR log.
    See Alert information identification procedure on page 4-5 section.
18. Turn off the maintenance mode from web console.
    See Maintenance mode on/off procedure on page 4-10 section.

Replacing a lithium battery in management module

This procedure describes how to remove a lithium battery from the management module.

Removing a lithium battery

1. Put on an anti-static wrist strap.
2. Remove the target management module. See Replacing a management module (redundant) on page 5-100 or Replacing a management module (non-redundant) on page 5-106.
3. Tilt the lithium battery in the direction as indicated by the arrow, and then lift it away from the battery holder.

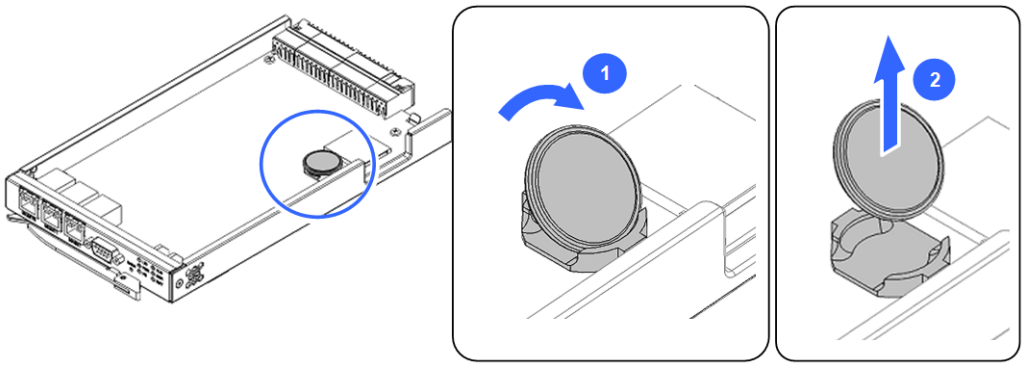


Figure 5-141 Removing the lithium battery

WARNING: To reduce the risk of the personal injury, do not attempt to recharge the battery and do not crush, puncture or dispose of in fire.

CAUTION: Do not dispose the battery along with general household waste. Use a public collection system, or return it to the Hitachi Data System Support for recycling or proper disposal.

Installing a lithium battery

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Install the target management module. See Replacing a management module (redundant) on page 5-100 or Replacing a management module (non-redundant) on page 5-106.

Note: Replacing the lithium battery in the management module results the RTC clock initializes to default time. After replacing the battery, perform the TOD process absolutely. For details, see Time of Day (TOD) clock setup procedure on page 4-44.

Replacing a switch module

This procedure describes how to replace a switch module.

Removing a switch module

Notice:

Be sure that the redirected network is active or the critical network has stopped to avoid important data loss before removing the switch module.

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Identify F/W version and take notes of it.
   See F/W version identification procedure on page 4-22 section.
6. If you have the record of switch mode of failed FC switch module, skip this step.
   For confirming the switch mode of FC switch module, see Confirming switch mode of FC switch module on page 4-25.
7. Back up the configuration data to console PC.
   See Backup/restore procedure on page 4-30 section.
8. Power the target switch module off. See Power off the switch module on page 4-62 section.
9. Remove all cables and SFP+ modules from the failed switch module.
   See Removing an SFP+ module on page 5-114 section.
10. Release the blue lock tab and then pull the lever, as shown below.
11. Holding the switch module, carefully slide out the switch module from the chassis and place it on an anti-static mat.

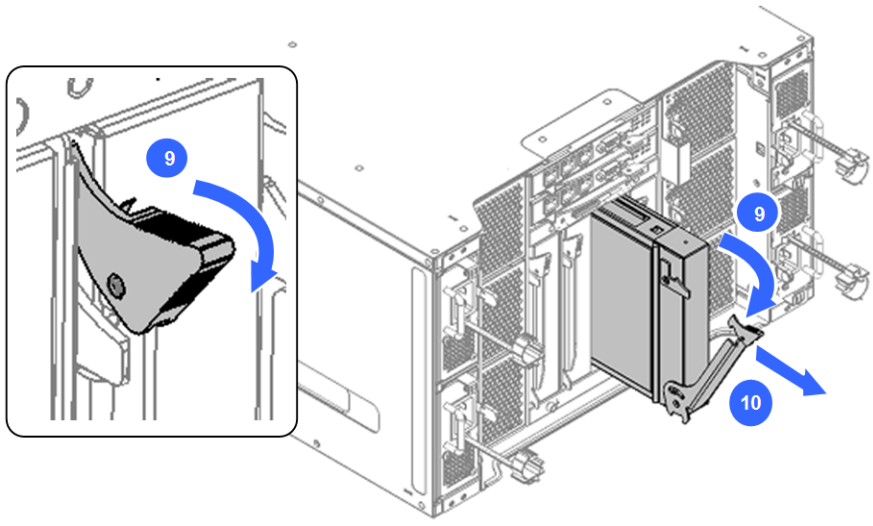


Figure 5-142 Removing the switch module

Installing a switch module

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

3. Confirm that Power LED and Status LED emit in green on the switch module.
4. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
5. Verify the SFP function. See How to verify the SFP function on page 5-116 section.
   This procedure is not needed for LAN switch module.
6. Set up TOD if you need.
   See Time of Day (TOD) clock setup procedure on page 4-44 section.
7. If you need to update the firmware, consult with Hitachi Data Systems Customer Support team.
8. If you are not installing FC switch module, skip this step.
   Restore the switch mode of FC switch mode. For detail about the procedure, see Restoring switch mode of FC switch module on page 4-27.
9. Restore the configuration data that was backed up.
   See Backup/restore procedure on page 4-30 section.
10. If you are not installing 16Gb FC switch module or the monitor mode of 16Gb FC switch module is **Fabric**, skip this step.
    Restore the MAPS action settings. For detail about the procedure, see Restoring MAPS action settings of 16Gb FC switch module on page 4-30.
11. Verify that the replacement was successful through the MAR log.
    See Alert information identification procedure on page 4-5 section.
12. Turn off the maintenance mode from web console.
    See Maintenance mode on/off procedure on page 4-10 section.
13. Turn off LID LED for identifying the target module.
    See Identify LED (LID) on/off procedure on page 4-7 section.

Replacing a LAN pass through module, LAN pass through module2

This procedure describes how to replace a LAN pass through module, LAN pass through module2.

Removing a LAN pass through module, LAN pass through module2

Notice:

Be sure that the redirected network is active or the critical network has stopped to avoid important data loss before removing the switch module.

---

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.

3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Power the target switch module off. See Power off the switch module on page 4-62 section.
6. Remove all cables for the failed module. If SFP+ modules are installed, remove all of the SFP+ modules. See Removing an SFP+ module on page 5-114 section.
7. Release the blue lock tab and then pull the lever, as shown below.
8. Holding the switch module, carefully slide out the switch module from the chassis and place it on an anti-static mat.

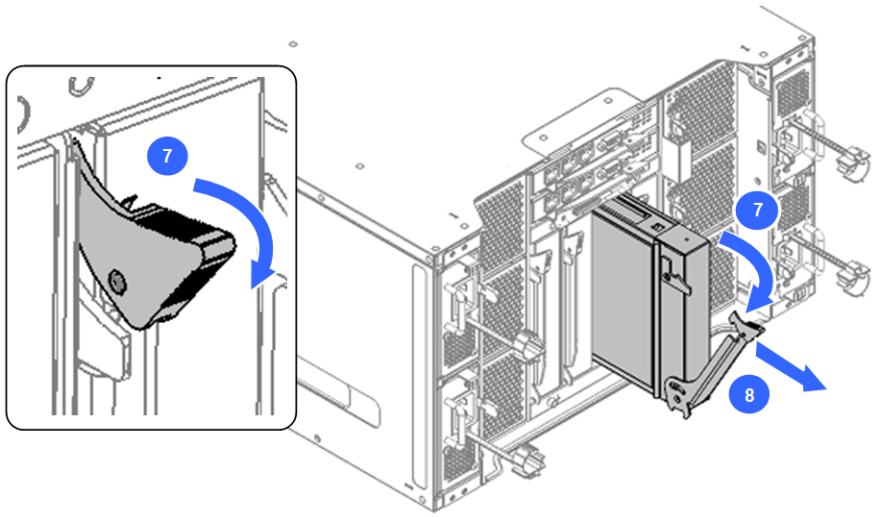


Figure 5-143 Removing a switch module

Installing a LAN pass through module, LAN pass through module2

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the switch module.
3. Confirm that PWR LED emits in green on the replacing module.
   When the 10Gb LAN pass through module inserting, the ST1 LED usually blinks about 30 to 60 seconds during initialization, and then emits in green.
4. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
5. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.
6. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
7. Turn off LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.

Replacing an SFP+ module

This procedure describes how to replace an SFP+ module or SFP+ copper cable.

CAUTION:

The device contains a laser that is classified as a Class 1 Laser Product. Do not look directly at the laser beam.

Removing an SFP+ module

SFP+ module for LAN switch/8Gb FC switch/DCB switch/LAN pass trough

1. Put on an anti-static wrist strap.
2. Connect Web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Remove a cable from the failed FC port.
6. Release the lever shown as below.
7. Hold the released lever and pull it toward you.

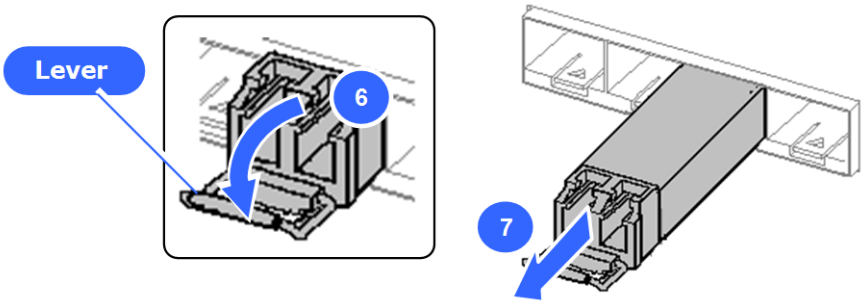


Figure 5-144 Removing an SFP+ module

SFP+ module for 16Gb FC switch

1. Put on an anti-static wrist strap.
2. Connect Web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.

See Maintenance mode on/off procedure on page 4-10 section.

5. Remove a cable from the failed FC port.
6. While holding the pull tab of the optical module, pull out the module straight forward.

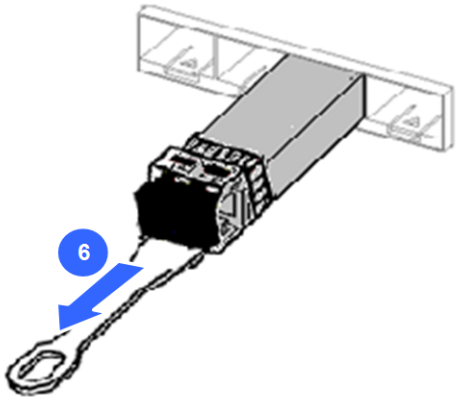


Figure 5-145 Removing an SFP+ module in 16Gb FC switch

Installing an SFP+ module

SFP+ module for LAN switch/8Gb FC switch/DCB switch/LAN pass trough

1. Put on an anti-static wrist strap.
2. If the dust cap is put in the spare SFP+ module as shown in the following figure, remove it first.

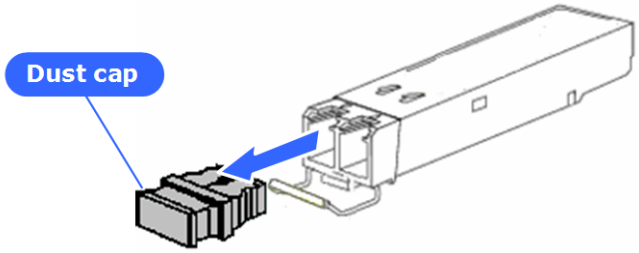


Figure 5-146 Removing the dust cap

3. Close the lever, and then push in the SFP+ module.

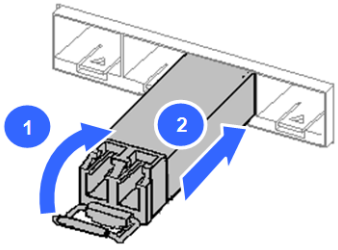


Figure 5-147 Installing an SFP+ module

4. Verify that the replaced SFP is running normally.

See How to verify the SFP function on page 5-116 section.

5. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
6. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.
7. Turn off LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.

SFP+ module for 16Gb FC switch

1. Put on an anti-static wrist strap.
2. If the dust cap is put in the spare SFP+ module, remove it first.
3. Insert the optical module (SFP+), and then push it into the arrowed direction as shown in the following figure.

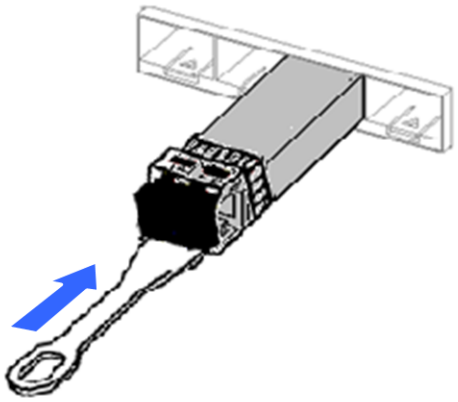


Figure 5-148 Installing an SFP+ module in 16Gb FC switch

4. Verify that the replaced SFP is running normally.
   See How to verify the SFP function on page 5-116 section.
5. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
6. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.
7. Turn off LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.

How to verify the SFP function

1. Connect the terminal software to check the SFP function.
2. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
3. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.

4. Select **TCP/IP (Winsock)**, enter <*IP address*> in the Host address, and then click **OK**.

   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.

5. The login prompt is displayed in the terminal.

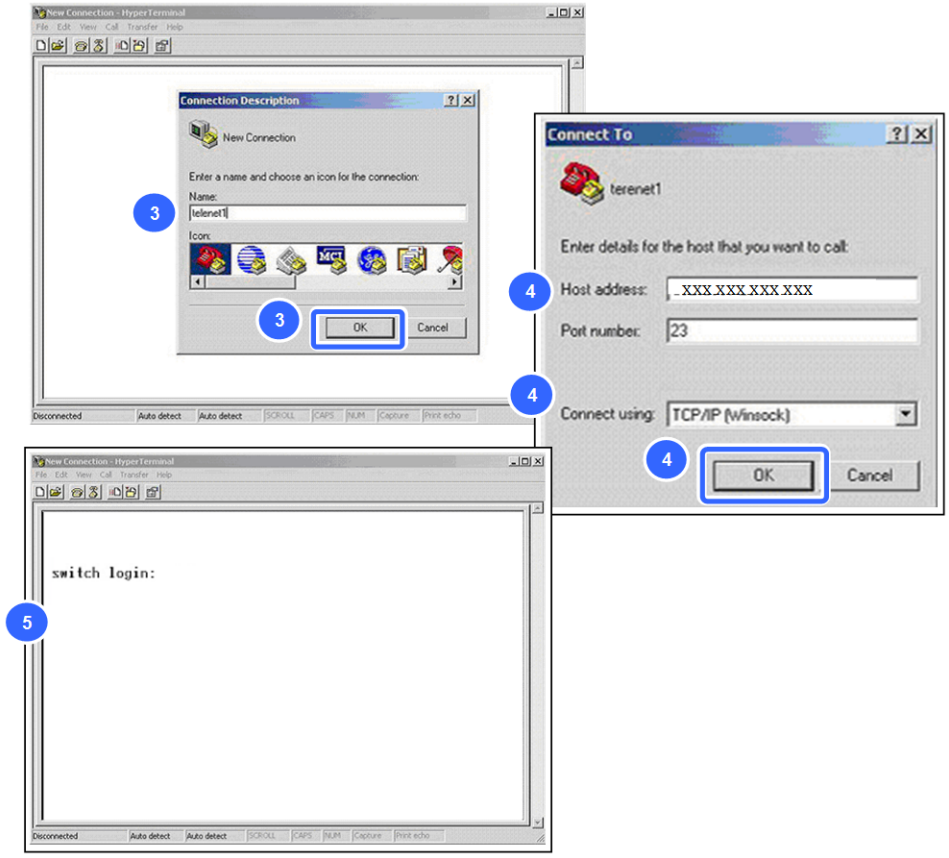


Figure 5-149 Connecting to 8Gb/16Gb FC switch module

6. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

7. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

8. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

To check the SFP function for 8Gb/16Gb FC switch module;

1. Enter `sfpshow`, and then press **Enter** key.

```
switch:admin>sfpshow(Enter)
```

2. The following message is displayed. Confirm that `Vendor: BROCADE` is indicated in the replaced port(s).
   [8Gb FC switch module]

```
Port 0: id (sw) Vendor: BROCADE          Serial No:
UAF108470000G87 Speed: 200,400,800_MB/s
Port 1: id (sw) Vendor: BROCADE          Serial No:
UAF10848000007JL Speed: 200,400,800_MB/s
Port 2: --
Port 3: --
Port 4: --
Port 5: --
```

   [16Gb FC switch module]

```
Port16: id (sw)Vendor: BROCADE Serial No: HAF313400001HUB Speed: 4,8,16_Gbps
Port17: id (sw) Vendor: BROCADE Serial No: HAF213060000C80 Speed: 4,8,16_Gbps
Port18: id (sw)Vendor: BROCADE Serial No: HAF213060000C8A Speed: 4,8,16_Gbps
Port19: id (sw) Vendor: BROCADE Serial No: HAF313400001HVY Speed: 4,8,16_Gbps
Port20: --
Port21: --
Port22: --
Port23: --
```

3. Enter `exit`, and then press **Enter** key.

```
switch:admin>exit(Enter)
```

To check the SFP function for 10Gb DCB switch module;

1. Enter `show interface tengigabitethernet 0/<x>`, and then press **Enter** key.
   `<x>`: Port number of the replaced SFP module

```
# show interface tengigabitethernet 0/x (Enter)
```

2. The following message is displayed. Confirm that `Pluggable media present` is indicated in the replaced port(s).

```
TenGigabitEthernet 0/x is up, line protocol is down (link
protocol down)
Hardware is Ethernet, address is 0005.338c.de5a
      Current address is 0005.338c.de5a
Pluggable media present
```

3. Enter `exit`, and then press **Enter** key.

```
switch:admin>exit(Enter)
```

Replacing a memory card for LAN switch module

This procedure describes how to replace the memory card for 1Gb LAN switch module and 1/10Gb LAN switch module.

Note: Do not remove the memory card when the Access LED (ACC) emits. The data in the memory card may be corrupted.

Removing a memory card

1. Put on an anti-static wrist strap.
2. Push and remove the memory card from LAN switch module.

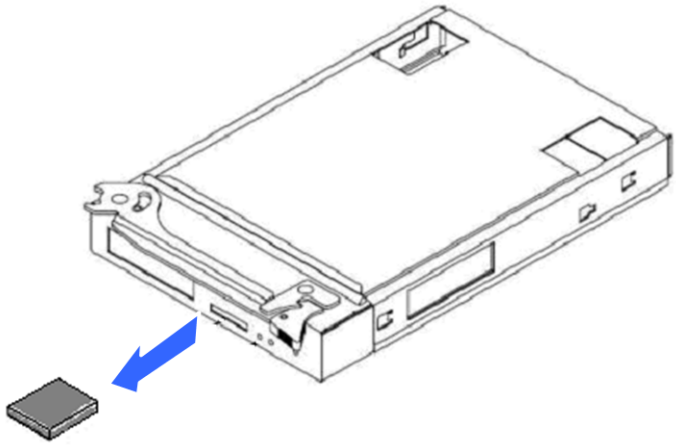


Figure 5-150 Removing a memory card

Installing a memory card

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

Replacing a USB memory for 8Gb FC switch module

This procedure describes how to replace the USB memory for 8Gb FC switch module.

Removing a USB memory

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Turn on LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn on the maintenance mode from web console.

See Maintenance mode on/off procedure on page 4-10 section.

5. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
6. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
7. Select **TCP/IP (Winsock)**, enter < `IP address` > in the Host address, and then click **OK**.

   < `IP address` >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
8. The login prompt is displayed in the terminal.

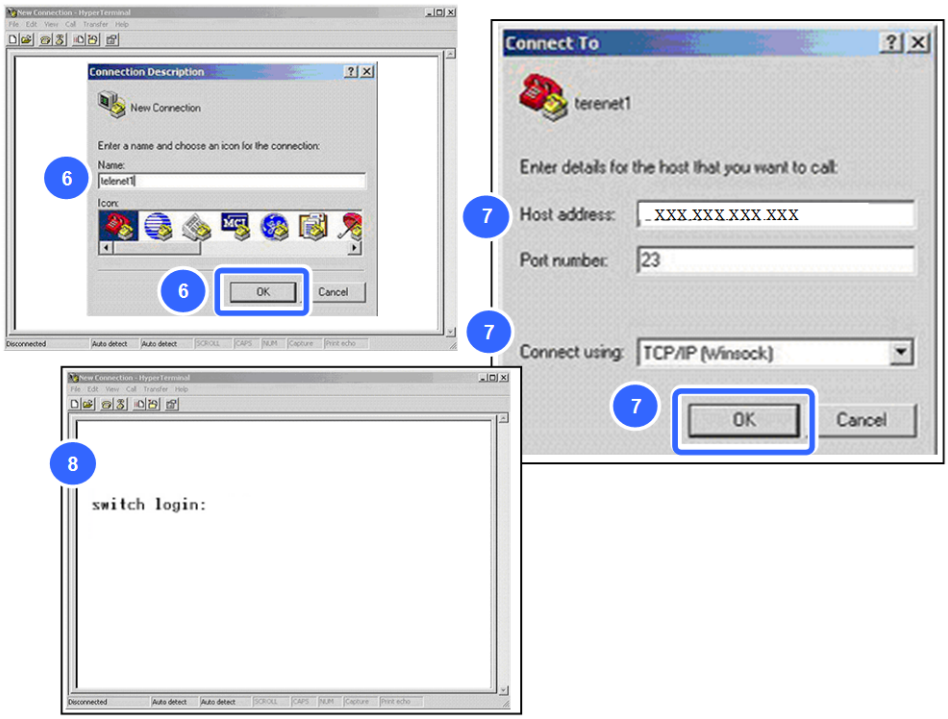


Figure 5-151 Connecting to 8Gb FC switch module

9. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

10. Enter `password` as password, and then press **Enter** key.

```
Password: _____ (Enter)
```

11. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

12. Enter `usbstorage -d`, and then press **Enter** key.

```
switch:admin> usbstorage -d (Enter)
USB storage disabled
```

13. Remove the USB memory.

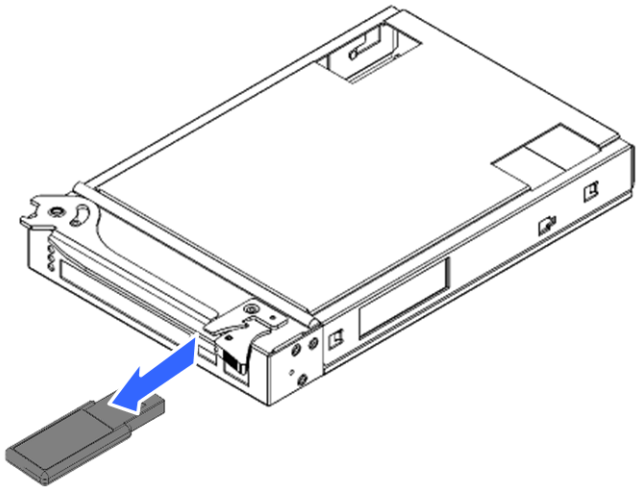


Figure 5-152 Removing a USB memory

Installing a USB memory

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Turn off LID LED for identifying the target module.
   See Identify LED (LID) on/off procedure on page 4-7 section.
4. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.

Replacing a power supply module

This procedure describes how to replace a power supply.

WARNING:

To prevent the risk of electrical shock, disconnect power cord before removing power supply module.

CAUTION:

High temperature component.

Do not touch the power supply module after removing the power cord. Wait 5 or more minutes before holding the power supply module to reduce the risk of serious burn injuries from hot surfaces.

Removing a power supply module

1. Put on an anti-static wrist strap.
2. Connect the web console. See Web console login procedure on page 4-3 section.
3. Set on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
4. Open the cable retainer to release the power cord, as shown below.
5. Remove the power cord from the failed power supply.

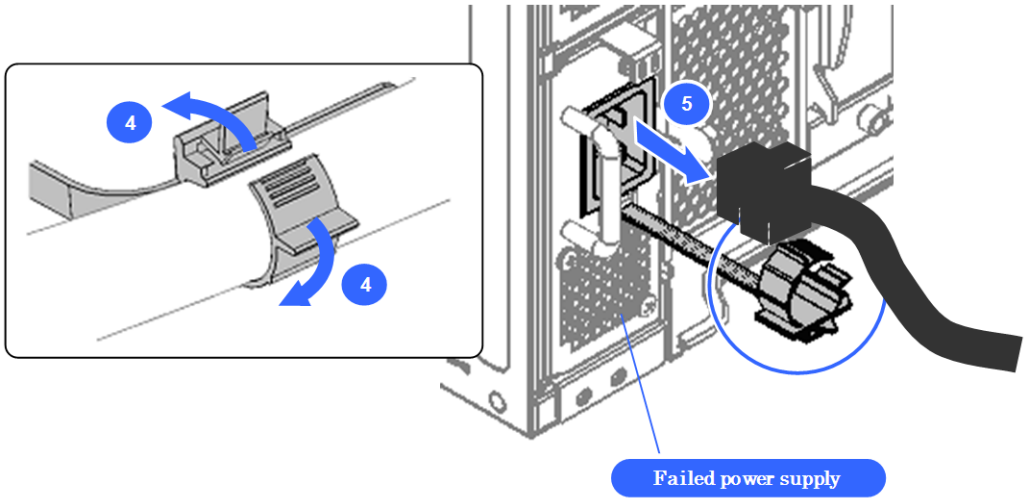


Figure 5-153 Removing the power cord

6. Pull the lock tab while unlocking it and then remove the failed power supply.

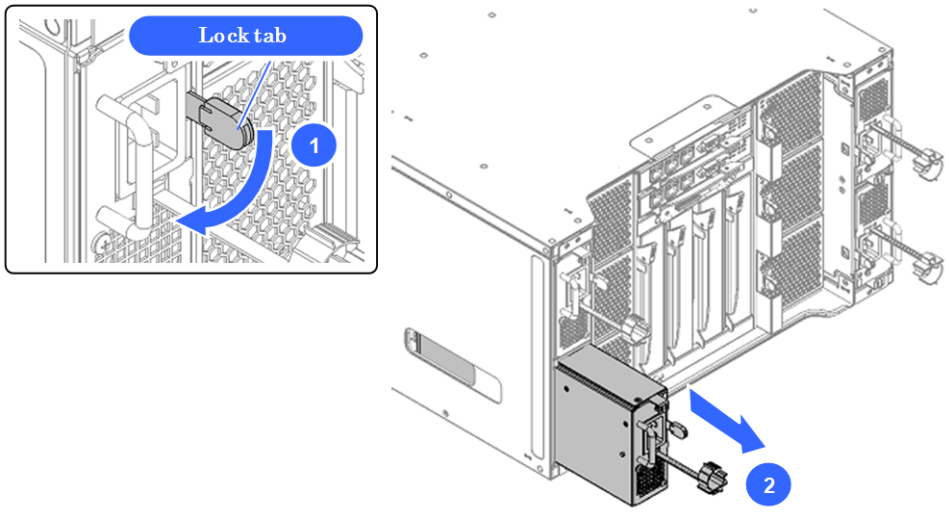


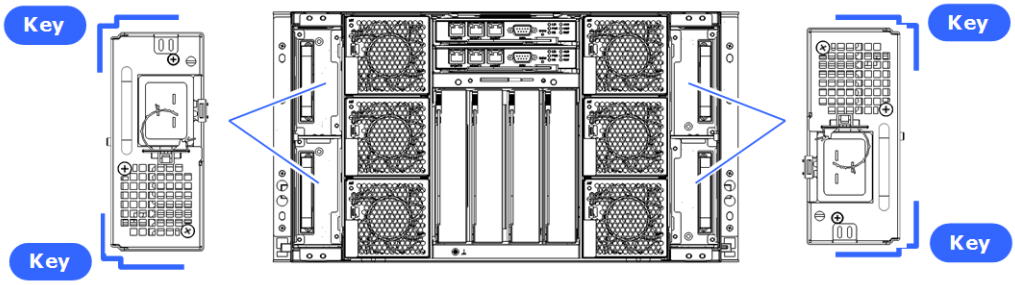
Figure 5-154 Removing the power supply module

Installing a power supply module

1. Put on an anti-static wrist strap.

2. If a dummy is installed to the slot, remove it first.
   See Removing a power supply dummy module on page 5-128 section.
3. Reverse the removal procedure.

Note: The direction of the power supply module is different between Bay#0, 2 and Bay#1, 3. Check the key position of the power supply module and the bay in advance.



4. Connect the power cord to the power supply and add the power cord to the cable clump so that it cannot accidentally become unplugged.
   The cable clump is adjustable. If the clump is in the improper position as shown below, adjust it to the proper position while releasing the latch of the cable clump.

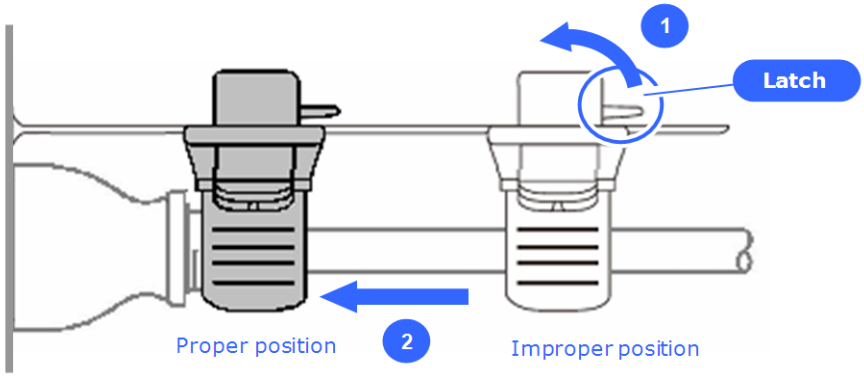


Figure 5-155 Proper position of the cable clump

5. The power supply module turns on as soon as the power cord is plugged in.
6. Verify that the power LED is light on green.
7. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
8. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.

Replacing a fan module

This procedure describes how to replace a fan module.

Removing a fan module

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.
3. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
4. Pull the lock tab while unlocking it and then remove the failed fan module.

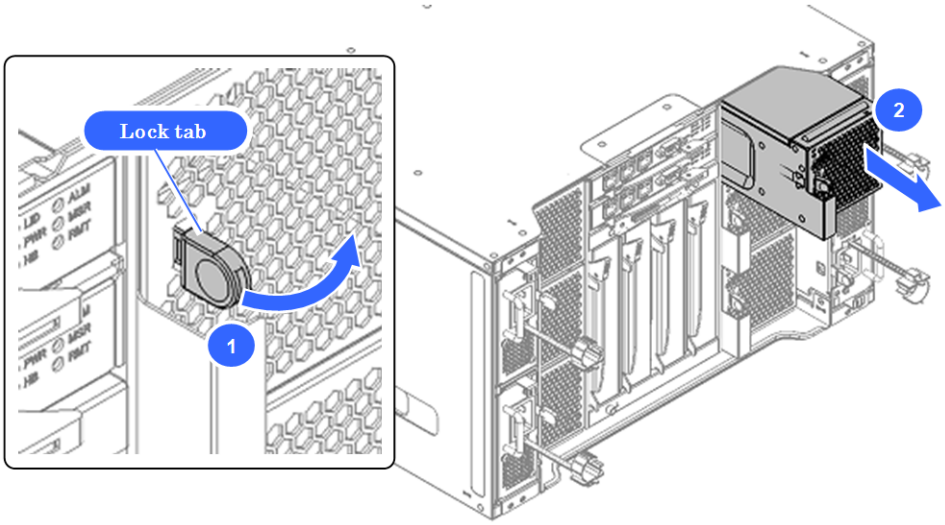


Figure 5-156 Removing a cooling fan module

Installing a fan module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
4. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.

Replacing a front panel module

This procedure describes how to replace a front panel module. The front panel module is a hot-swappable component and allows the front panel module replacement with the server chassis power on.

Removing a front panel module

1. Put on an anti-static wrist strap.
2. Connect web console. See Web console login procedure on page 4-3 section.

3. Turn on the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
4. Release the two thumbscrews, as shown below.
5. Hold the two thumbscrews and pull the front panel module out of the server chassis.
6. Remove the USB memory from the failed front panel module.
   See Removing a USB memory on page 5-126 section.

Note: The USB memory removed from the failed front panel module in step 6 is reinstalled to the spare front panel module.
The configuration data of server blade and management module is stored in it.
Make sure not to misplace it absolutely.

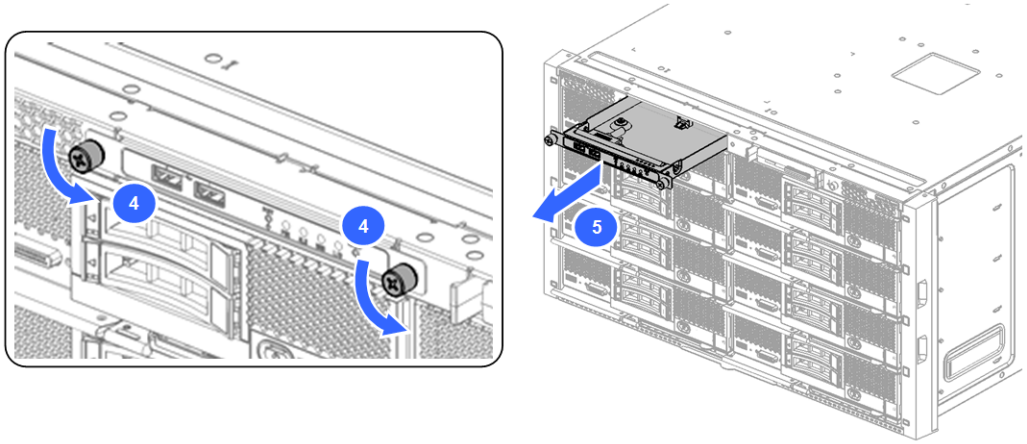


Figure 5-157 Removing a front panel module

Installing a front panel module

1. Put on an anti-static wrist strap.
2. Install the USB memory to the spare front panel module.
   See Installing a USB memory on page 5-126 section.
3. Reverse the removal procedure.
4. Turn off the maintenance mode from web console.
   See Maintenance mode on/off procedure on page 4-10 section.
5. Verify that the replacement was successful through the MAR log.
   See Alert information identification procedure on page 4-5 section.

Replacing a USB memory in the front panel module

This procedure describes how to remove a USB memory from the front panel module.

Removing a USB memory

1. Put on an anti-static wrist strap.
2. Remove the front panel module.
   Refer to the Removing a front panel module on page 5-124 section.
3. Pull out the USB memory from the USB connector and then remove it.

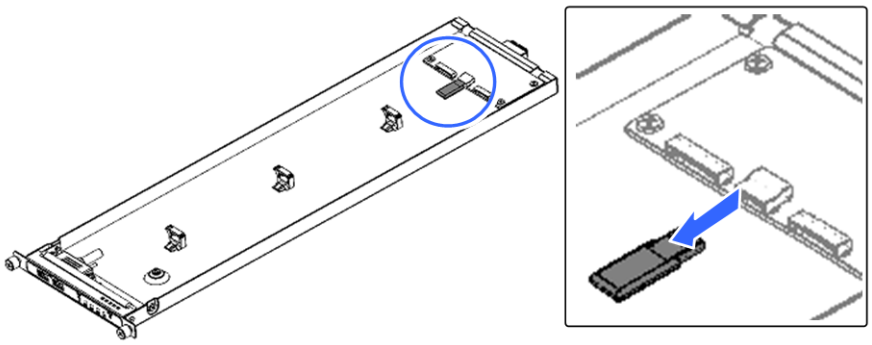


Figure 5-158 Removing the USB memory

Installing a USB memory

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. Install the front panel. See Installing a front panel module on page 5-125 section.

Replacing a dummy module

This procedure describes how to replace a dummy module. The dummy module is a hot-swappable component and allows dummy module replacement while the server chassis power on.

First, the procedures for removing dummy modules are provided.

At the end, the procedure for installing the new module is provided.

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 module

Note: If you are installing multiple server blades, remove only one blade dummy at a time and install a server blade in the slot before removing the next dummy.

1. Put on an anti-static wrist strap.
2. Slide the lock lever to unlock position as shown below.
3. Pull out the dummy module and remove it from the bay.

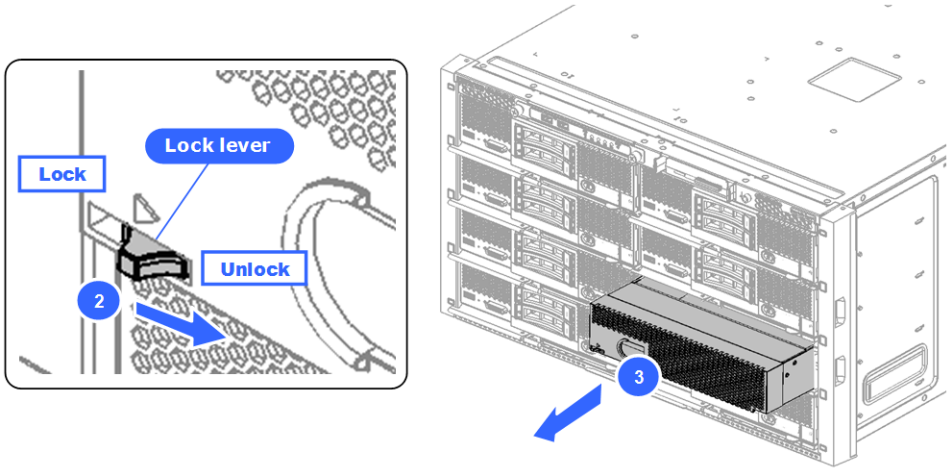


Figure 5-159 Removing a server blade dummy module

Removing a disk drive dummy module

1. Put on an anti-static wrist strap.
2. Hold the tab as shown below.
3. Pull out the dummy module and remove it from the bay.

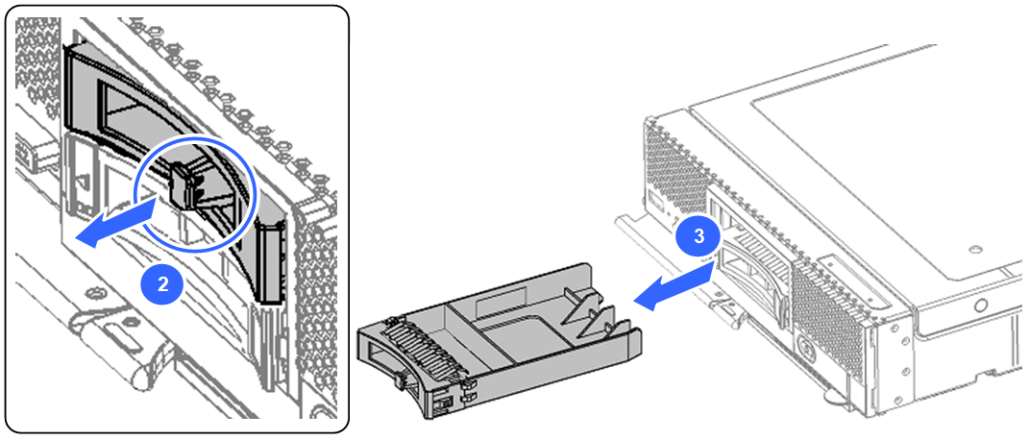


Figure 5-160 Removing a disk drive dummy module

Removing a switch module dummy module

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

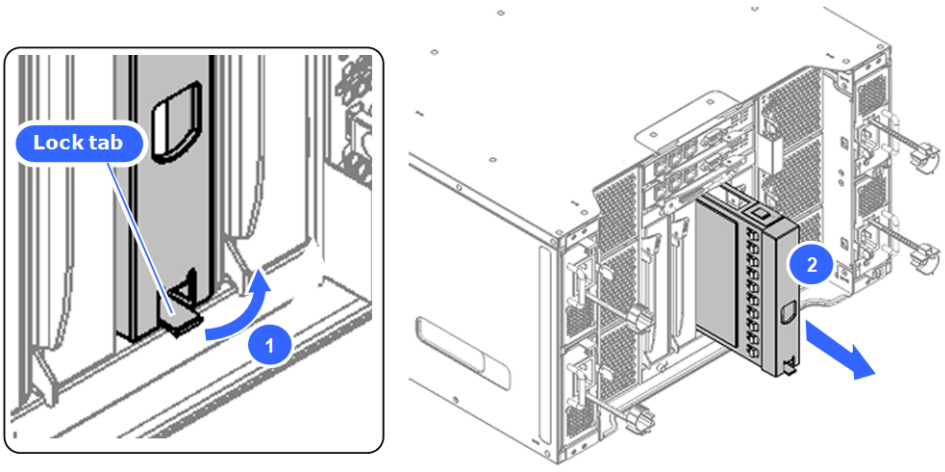


Figure 5-161 Removing a switch module dummy module

Removing a management module dummy module

1. Put on an anti-static wrist strap.
2. Pull out the management module dummy module from the bay while releasing the two lock tabs as shown below.

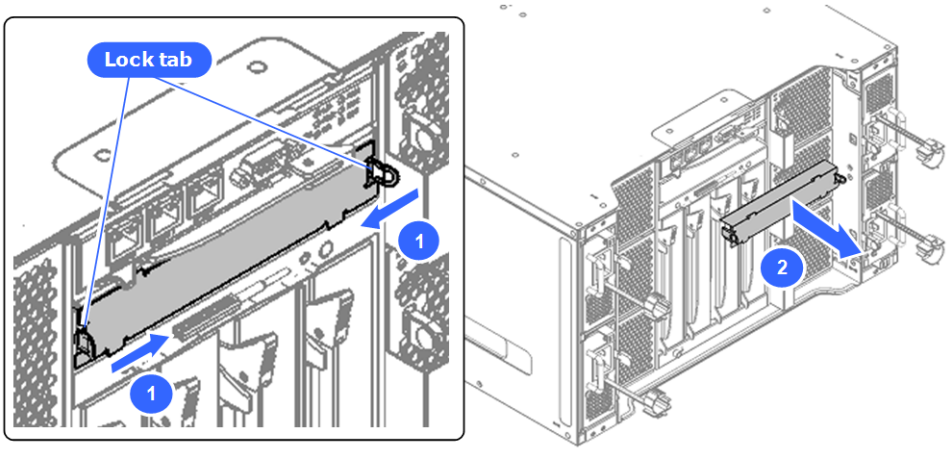


Figure 5-162 Removing a management module dummy module

Removing a power supply dummy module

1. Put on an anti-static wrist strap.
2. Pull out the power supply dummy module from the bay while releasing the two lock tabs as shown below.

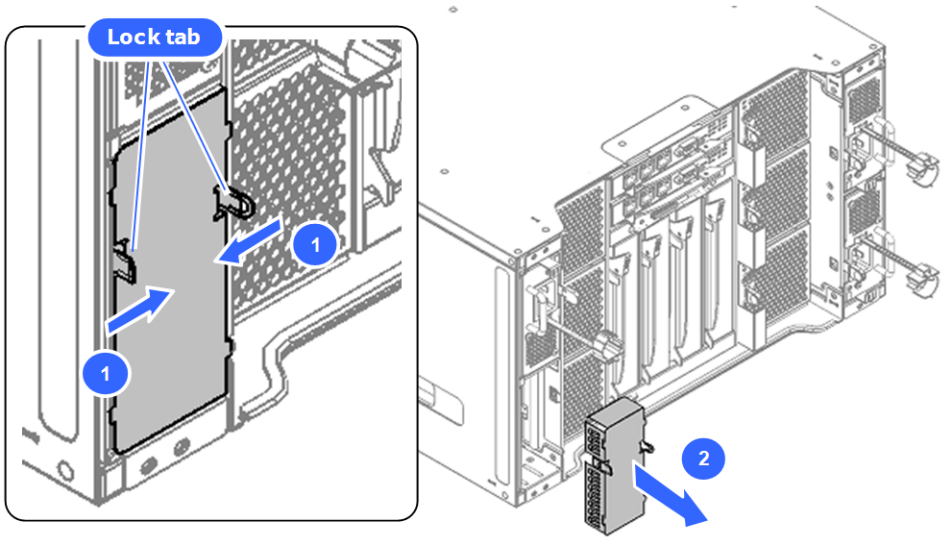


Figure 5-163 Removing a power supply dummy module

Installing any dummy module

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

Replacing a shelf in the server chassis

This procedure describes how to replace a shelf. The shelf is hot-swappable component and allows shelf replacement with the server chassis power on.

Removing a shelf for half-wide server blade

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

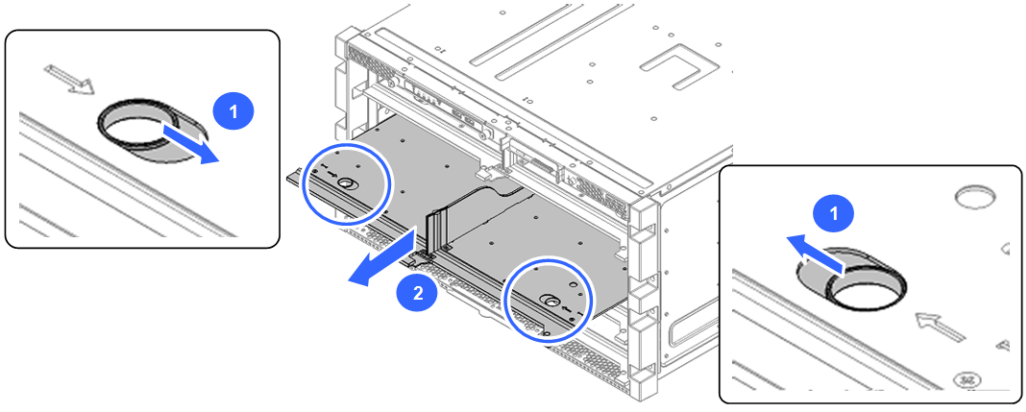


Figure 5-164 Removing a shelf for half-wide server blade

Installing a shelf for half-wide server blade

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

Removing a shelf for PCI expansion blade

See Removing a PCI expansion blade from server chassis on page 5-15 and Removing a server blade with PCI expansion blade on page 5-21.

Installing a shelf for PCI expansion blade

See Installing a PCI expansion blade into server chassis on page 5-16 and Installing a server blade with the PCI expansion blade on page 5-25.

6

Identifying RAID rebuild status

This chapter contains information about how to identify the RAID rebuild status. The following key topics are covered:

- Identifying rebuild status
- In hot-swap (Internal Storage Monitor)

Identifying rebuild status

After you replaced an HDD, the RAID will be rebuilt automatically. To restore the RAID subsystem after an HDD replacement, you need to check whether the RAID rebuild was successful by using Internal Storage Monitor.

If Internal Storage Monitor is not installed in your server blade, you must install it from the Utility CD-ROM/DVD-ROM in advance.

The basic procedure for identifying the rebuild progress is as follows.

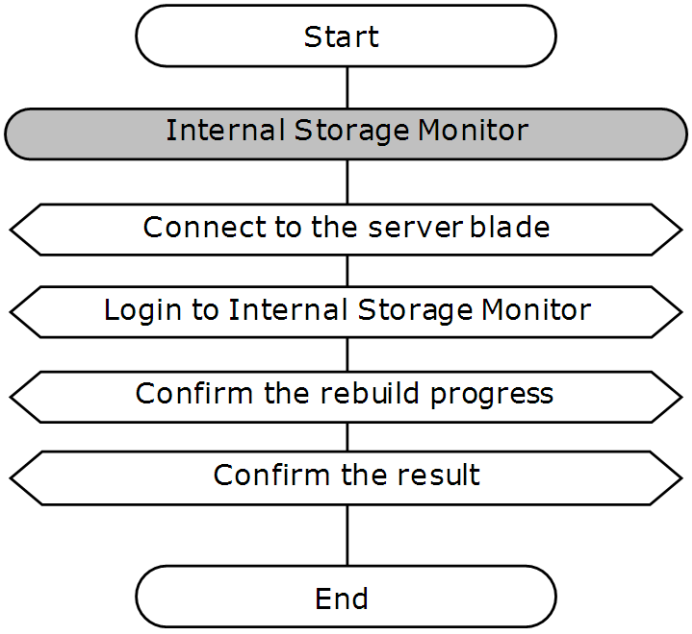


Figure 6-1 Basic procedure for identifying the rebuild progress

In hot-swap (Internal Storage Monitor)

Windows environment

1. Click **internal storage monitor** icon to start the application. When the icon is not available, click **Start** > **all programs(P)** > **Server installation and monitoring tool** > **internal storage monitor** > **internal storage monitor** in Windows 2008 server.
2. Confirm that **internal storage monitor** main window is displayed.
3. Confirm whether the Fault LED on the replaced HDD is blinking. When the rebuild is in progress on the HDD, the Fault LED blinks in amber.

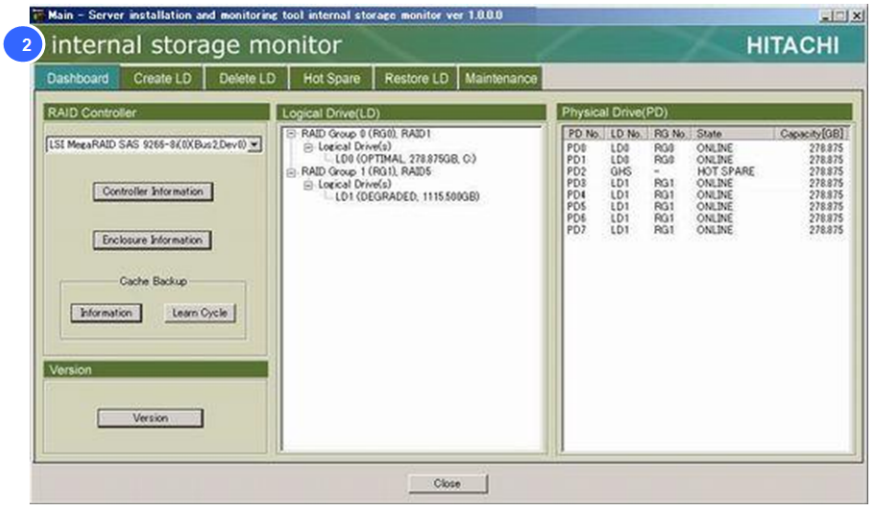


Figure 6-2 Main window of internal storage monitor

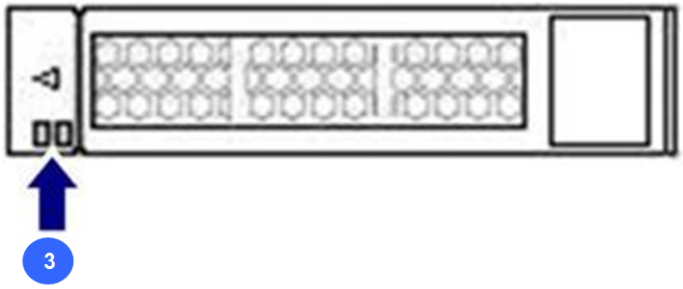


Figure 6-3 Fault LED

4. Click **Maintenance** in **internal storage monitor** window, and then confirm the progress of the rebuilding in **Progress** column of the middle **Logical Drive (LD)** pane and right most **Physical Drive (PD)** pane.
5. Wait until rebuild progress state becomes 100% or indicates a hyphen.
6. Click **Dashboard** > **LD#***] > **Logical Drive Information**.
   Confirm whether the rebuilding finished normally.
   (Note: * Select the LD number on which the **rebuild** is executed.)

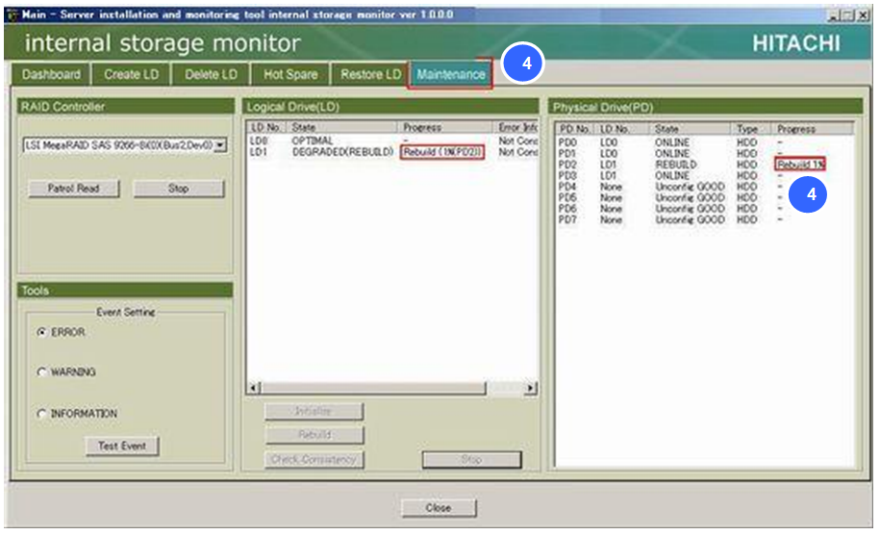


Figure 6-4 Confirming the status information

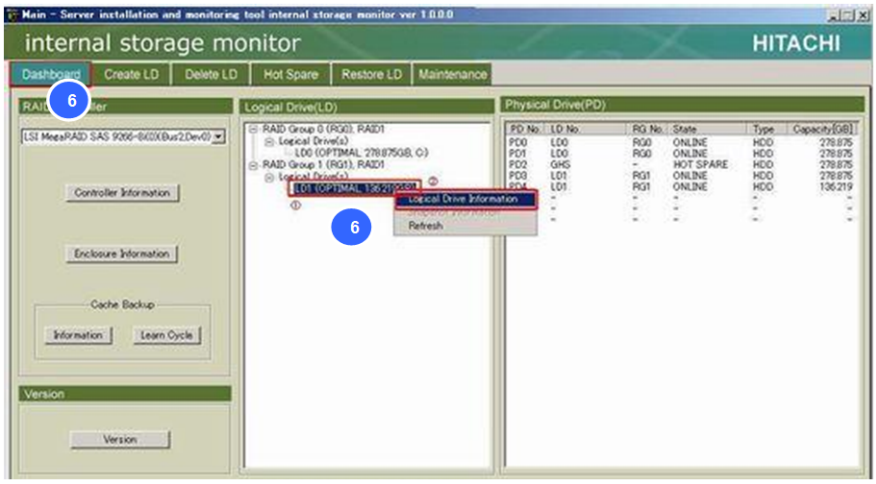


Figure 6-5 Confirming the completion of the rebuild

7. Confirm that **Optimal** is indicated in **LD Status** line in the **General Information**.

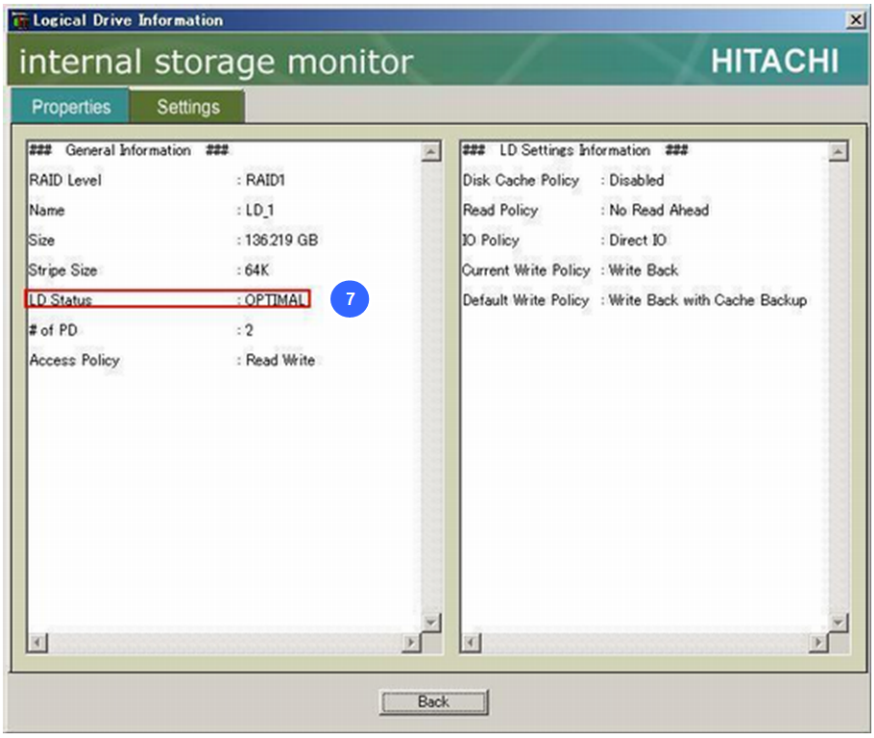


Figure 6-6 Confirming the indication of Optimal

Notice:

If the rebuild failed, check event logs and contact with Hitachi Data Systems Customer Support team.

1. Click the event log. The event detail is displayed.
2. Check and record the detail information.

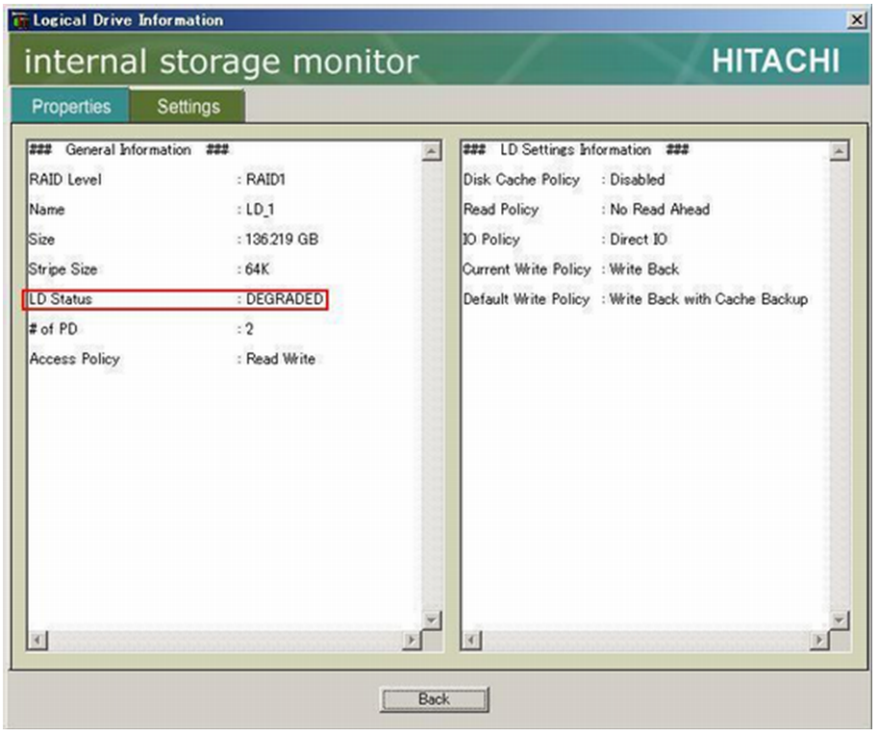


Figure 6-7 Rebuild failed

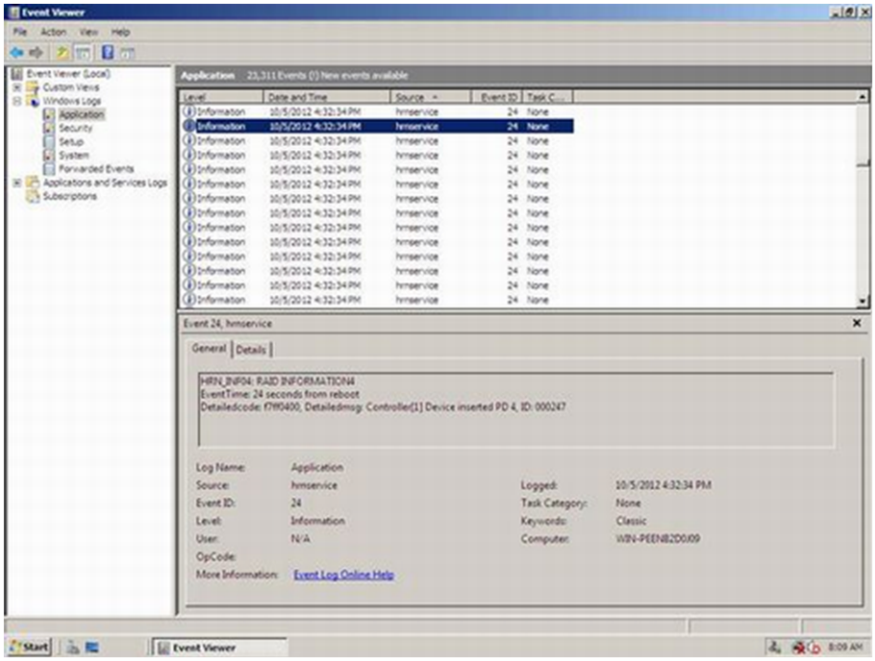


Figure 6-8 Event viewer

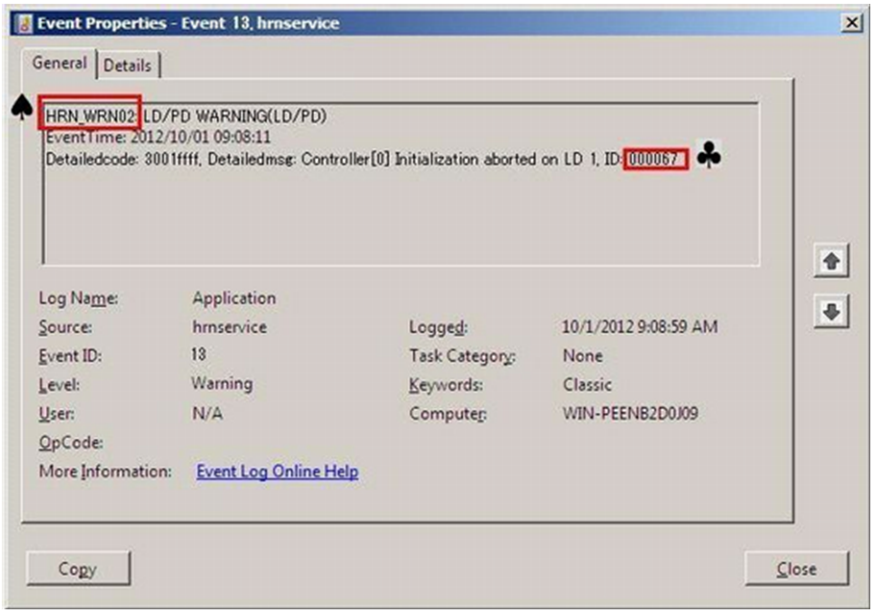
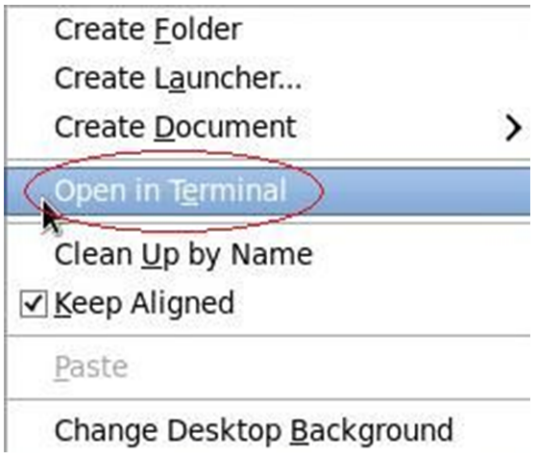


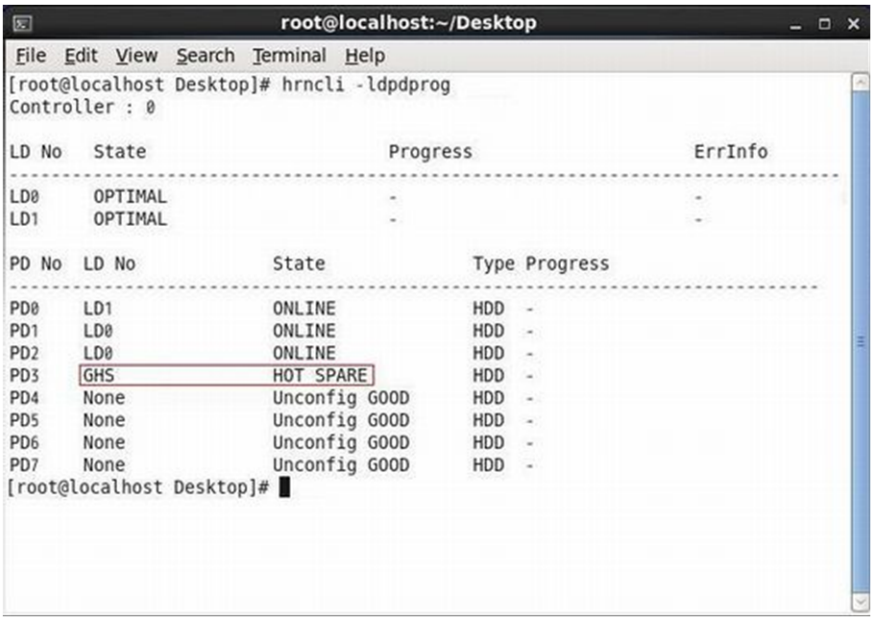
Figure 6-9 Detail of event log

Linux environment

1. Right click the desktop window, and then click **Open in Terminal** in the pulldown menu during X Window is active.



2. Confirm that the **root@localhost:~/Desktop** window is displayed.



3. Confirm whether the Fault LED on the replaced HDD is blinking. When the rebuild is in progress on the HDD, the Fault LED blinks in amber.

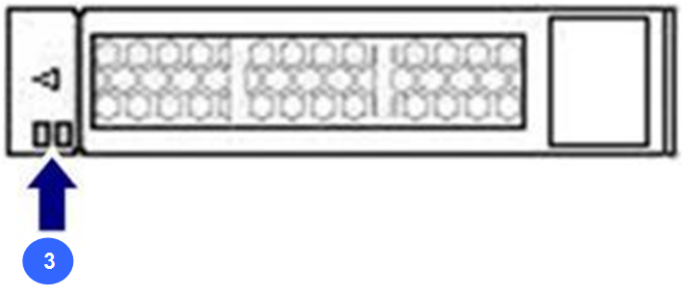
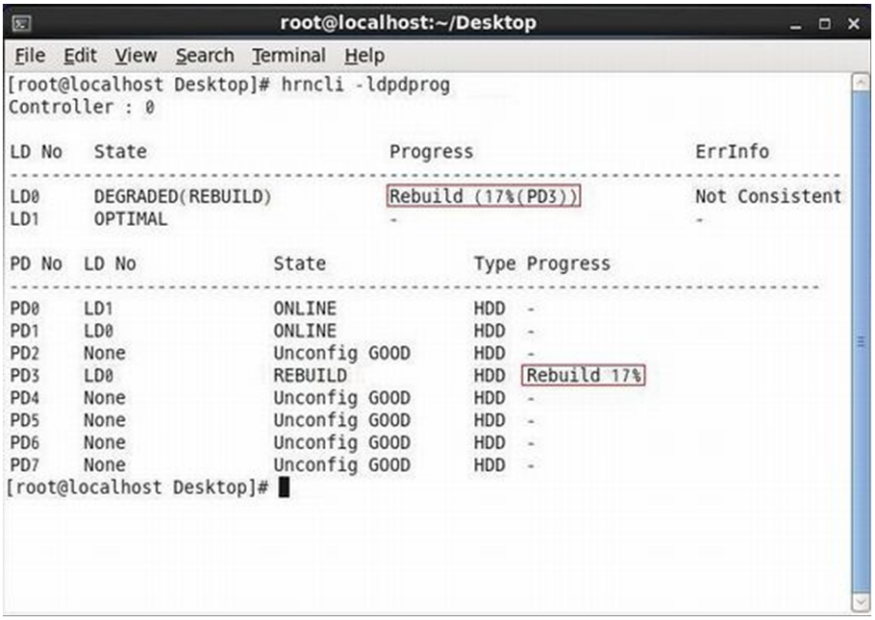


Figure 6-10 Fault LED

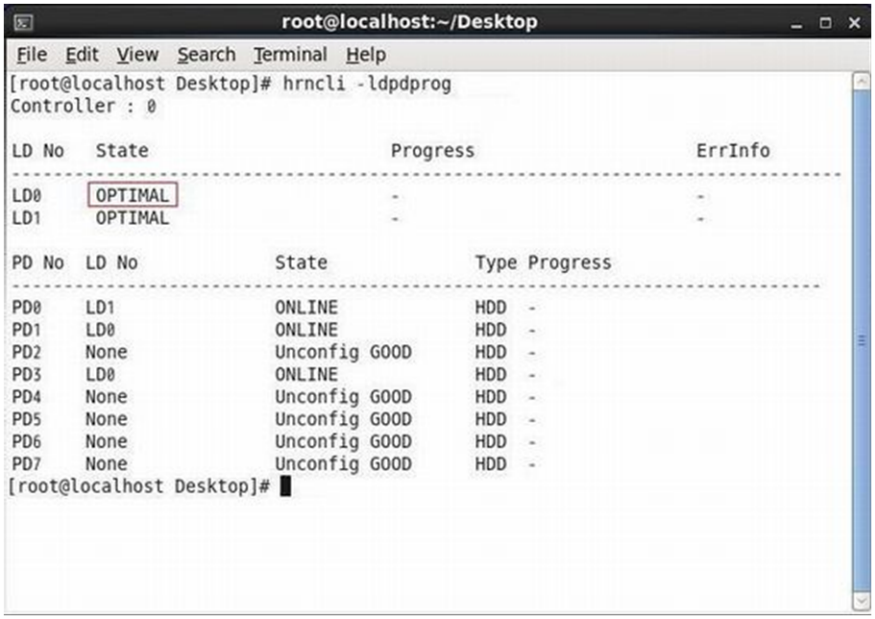
4. Enter **hrncli -ldpdprog** in the **root@localhost:~/desktop** window, and then confirm the progress of the rebuilding.

   (The **PD No** in the window corresponds to the **HDD number** in the server blade or storage expansion blade.)

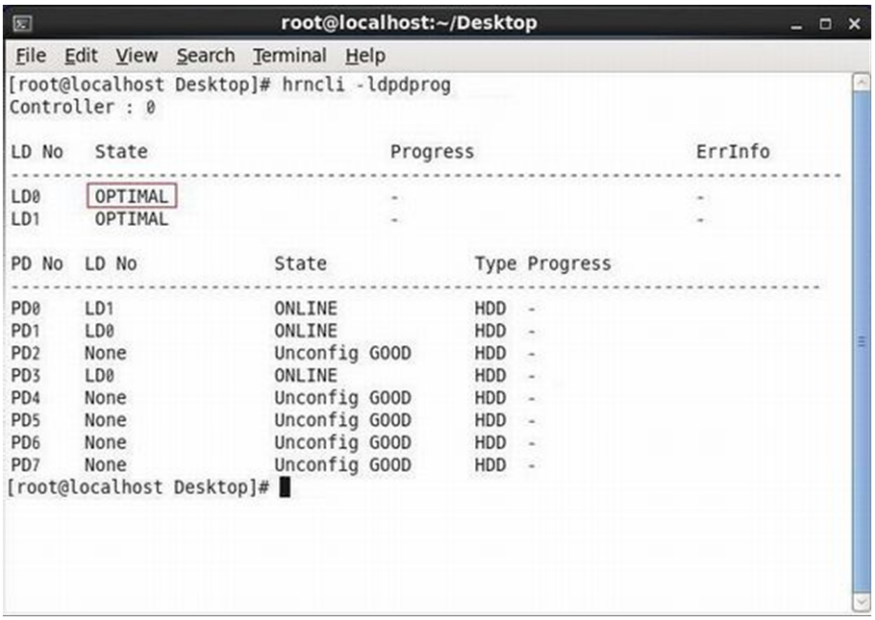


5. Wait until rebuild progress state becomes 100%. or indicates a hyphen
6. Enter `hrncli -ldpdprog` in the **root@localhost:~/desktop** window.
   Confirm whether the rebuilding finished normally.
   When the rebuilding finished normally, **Optimal** is indicated in **State** column of the **LD No**. See the following examples.

   [Example: Normal end of rebuilding]



   [Example: Abnormal end of rebuilding]

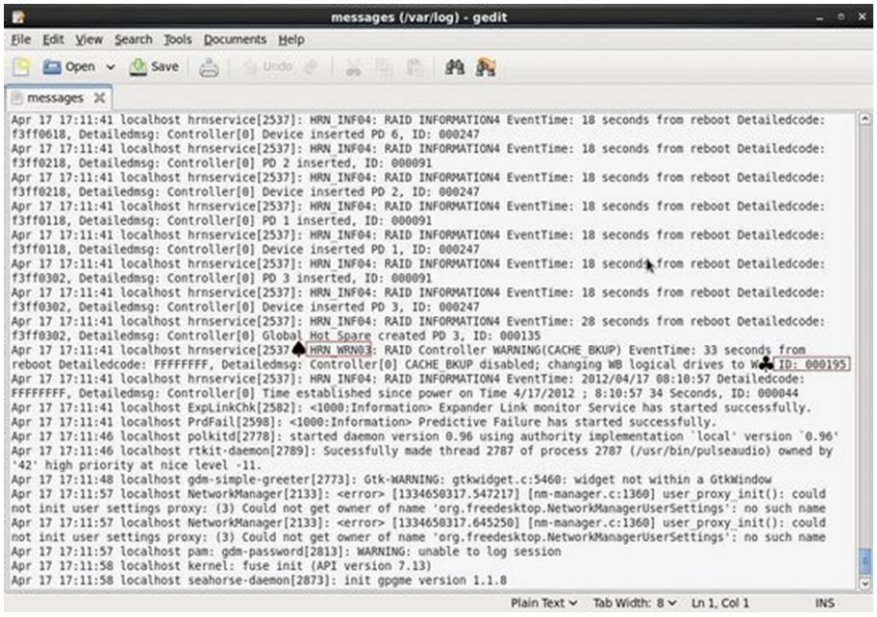


Notice:

If the rebuild failed, check event logs and contact with Hitachi Data Systems Customer Support team.

1. Click the event log. The event detail is displayed.
2. Check and record the detail information.

When rebuild failed, enter `gedit /var/log/messages` or `vi /var/log/messages` in LINUX command prompt, and then check the event logs of internal storage monitor in `/var/log`.



Notes:

♠ indicates Error Level.
♣ indicates internal storage monitor ID.

7

Configuring Emulex mezzanine card

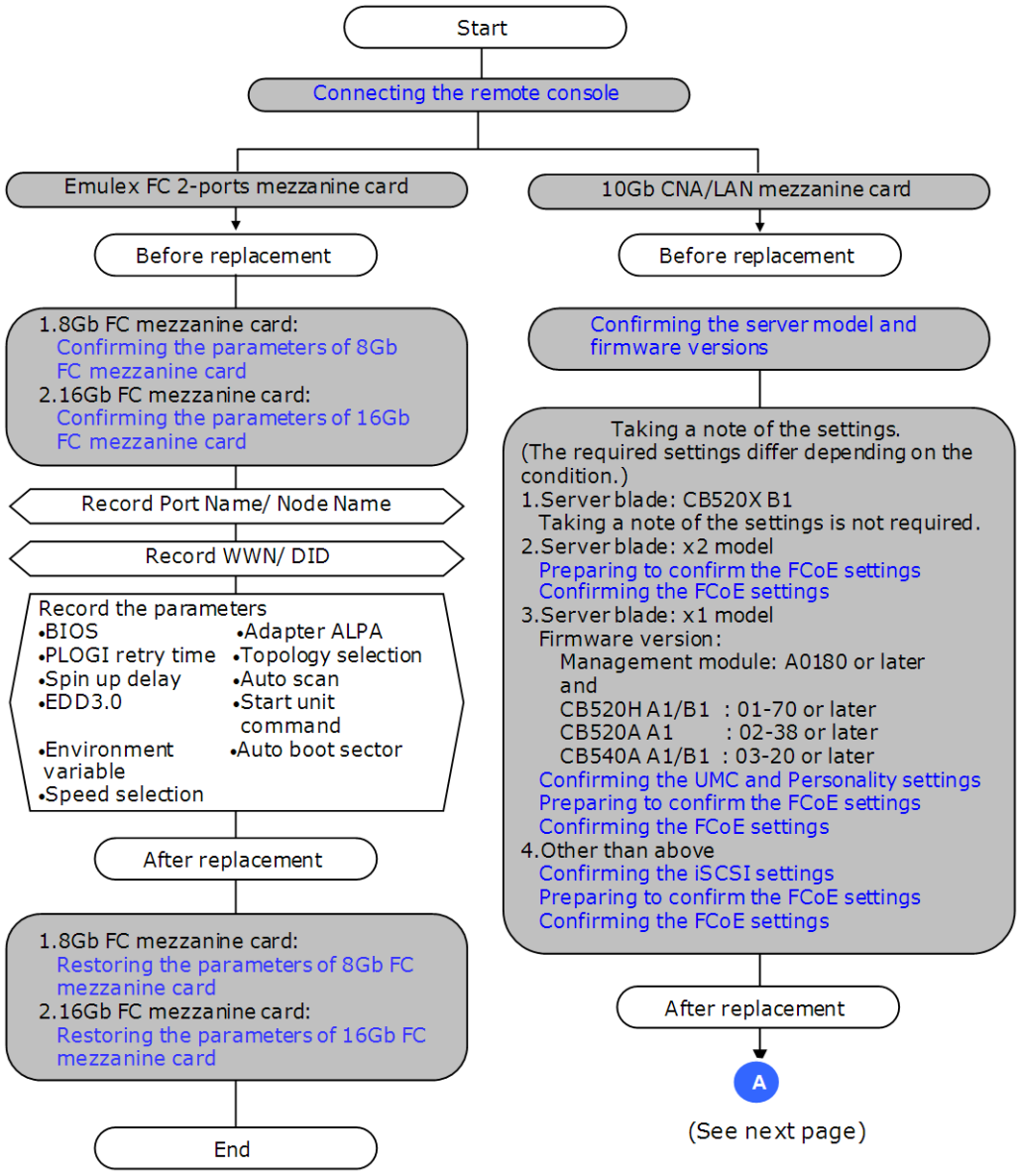
This chapter contains information about how to verify the configuration of Emulex HBA card. The following key topics are covered:

- Configuration procedure for Emulex HBA card
- 8 Gb FC 2-ports mezzanine card
- 16 Gb FC 2-ports mezzanine card
- 10Gb CNA 4-port mezzanine card

Configuration procedure for Emulex HBA card

Before replacing the Emulex HBA mezzanine card, you need to take a note of the configuration settings of the failed card. After installing the new HBA card, you even need to configure the new HBA card according to the settings of the failed card.

The general flow for confirming and restoring the configuration is as follows.



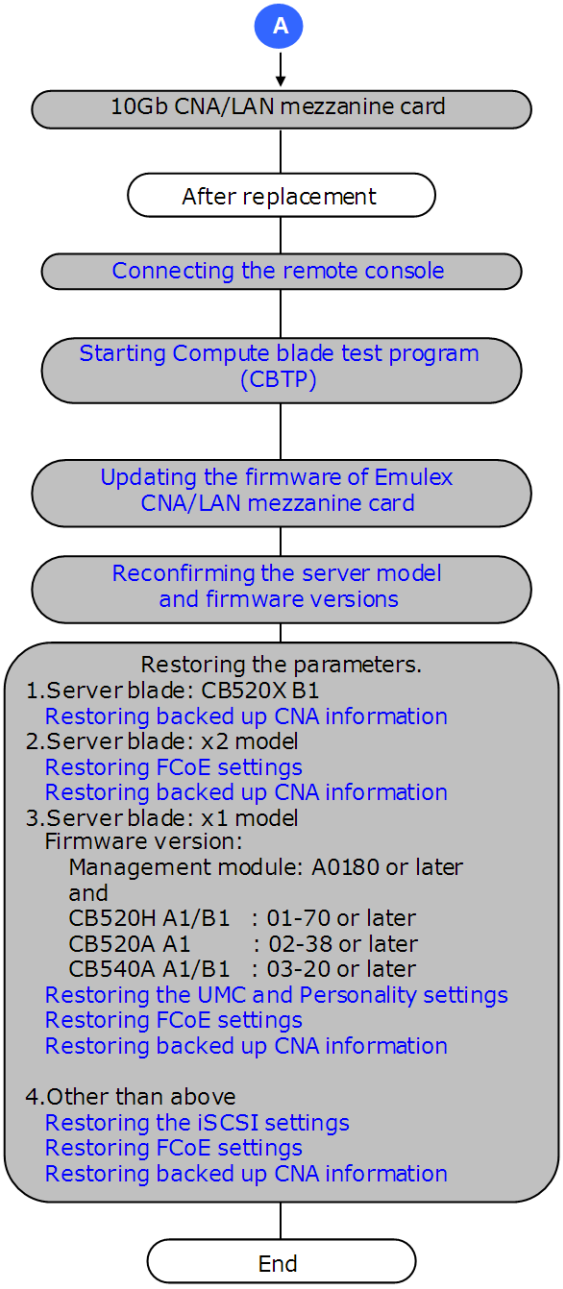


Figure 7-1 General flow for confirming and restoring the parameter

8 Gb FC 2-ports mezzanine card

Confirming the parameters of 8 Gb FC mezzanine card

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade will power on.

3. Wait about five minutes until **System Configuration and Boot Management** window is displayed.

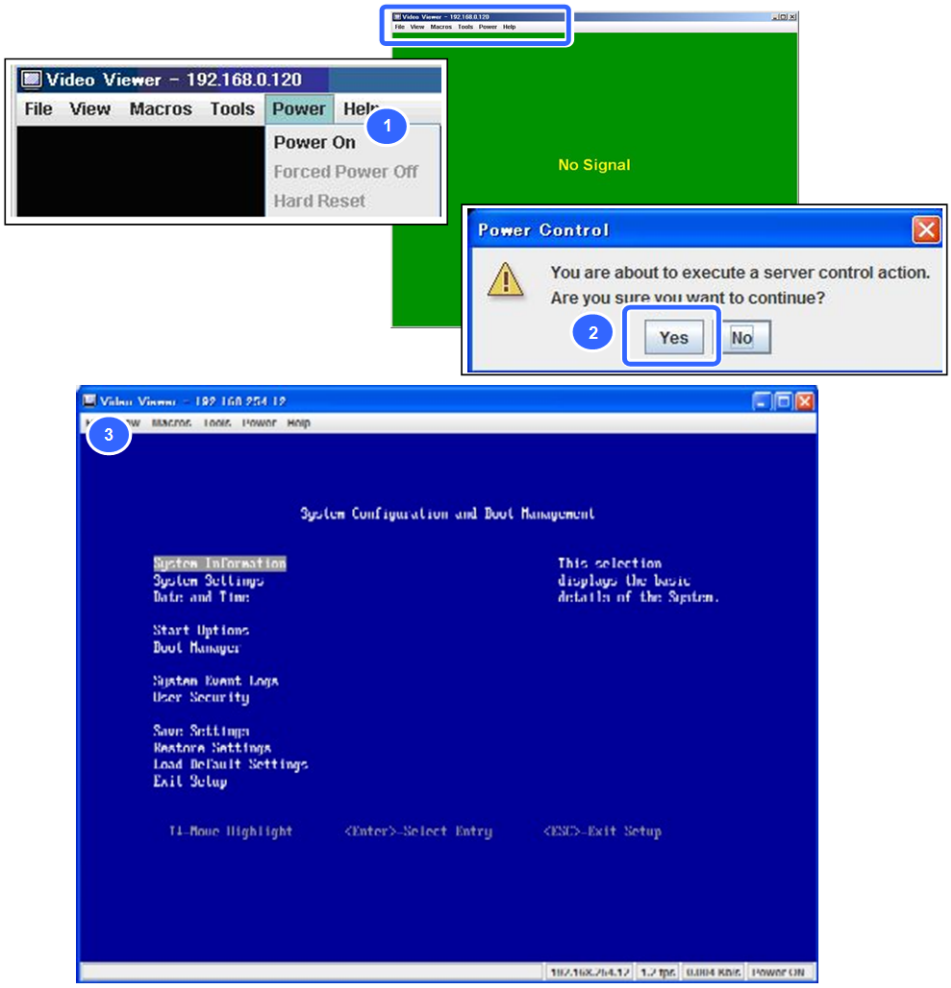


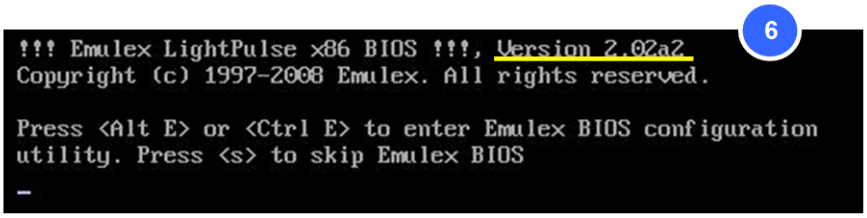
Figure 7-2 Powering on the server blade

The following procedure varies depending on the server blade model.

For an FC mezzanine card on CB 520A A1, CB 520H A1/B1/B2, or CB 540A A1/B1, perform the following procedure.

For an FC mezzanine card on CB 520X B1/B2/B3 or CB 520H B3/B4, skip to Confirming parameters of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4 on page 7-13.

4. Press **Esc** in **System Configuration and Boot Management** window.
5. Press **Y** when **Do you want exit Setup Utility** is prompted.
6. Confirm BIOS version, and then press **Ctrl** + **E** key in the following prompt.



The following procedure varies depending on BIOS version.

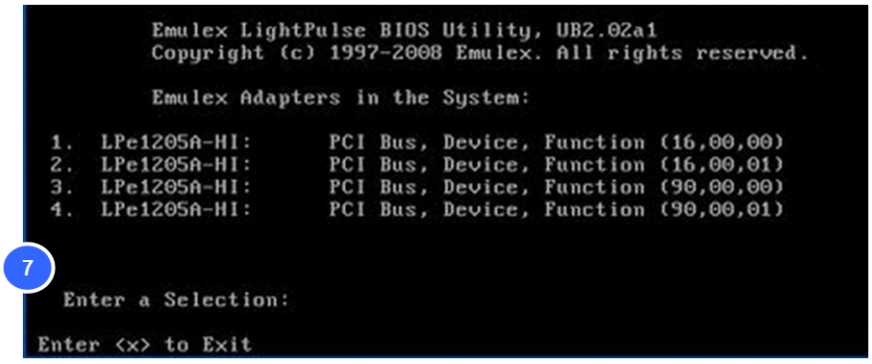
For BIOS version 2.02a1, perform the following procedure.

For BIOS version 2.12a13, skip to Confirming parameters of FC mezzanine card when BIOS version is 2.12a13 on page 7-8.

7. The BIOS utility is displayed. Enter < *number* > and then press **Enter** key.

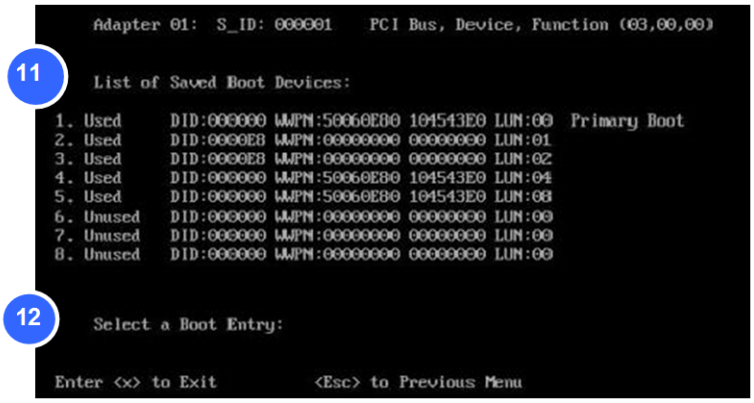
   < *number* > : `1` or `3` the first port number of the failed card

Note: When two Emulex FC mezzanine cards are installed in mezzanine slot #2 and #4, the first port of the mezzanine card in slot #4 is indicated in number **3** line.



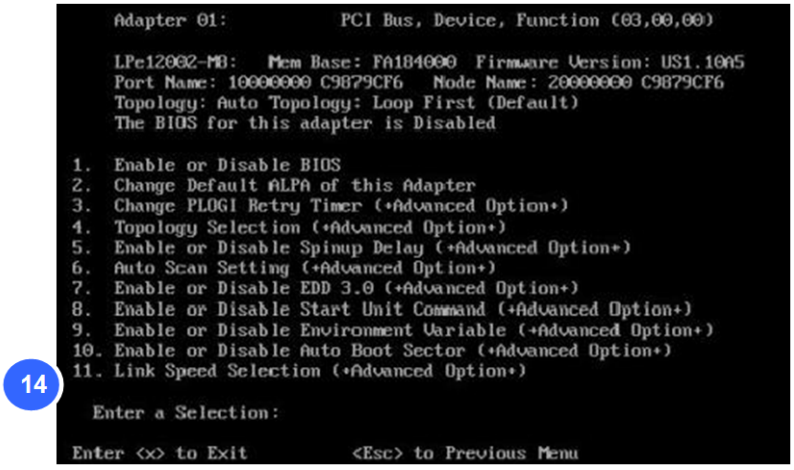
8. Confirm and record **Port Name** and **Node name**.
9. Confirm and record the BIOS setting, which is **Enabled** or **Disabled**.
10. Enter `1`, and then press **Enter** key to confirm registered boot device.

11. The Boot Device List is displayed. Confirm and record **DID**, **WWPN** and **LUN** in the boot device list.
12. Press **Esc** key to return to the previous menu.



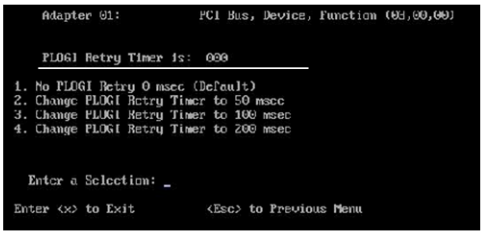
13. Enter 2, and then press **Enter** key.

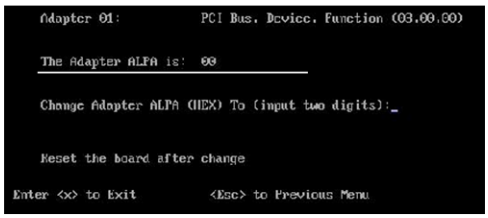
14. The parameter List is displayed. Enter 1, and then press **Enter** key.

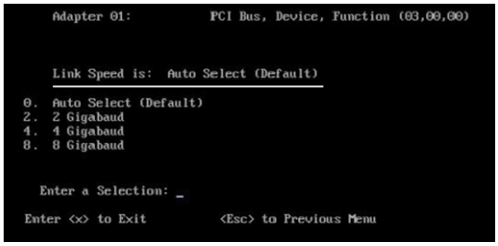


15. Confirm and record the setting, and then press **ESC** key.
    The window in step 11 is displayed again.

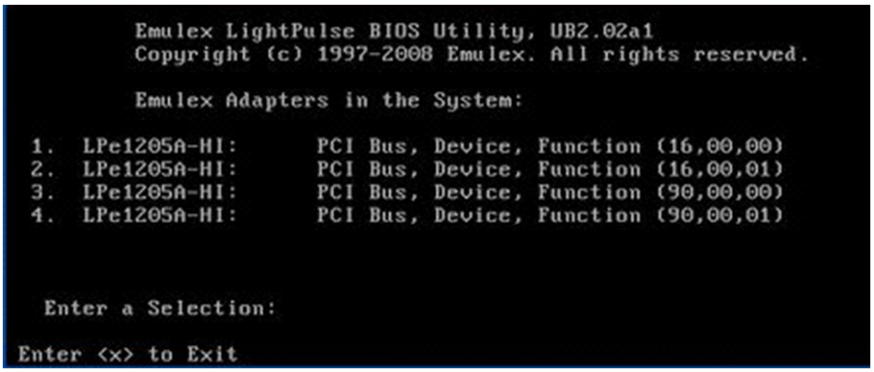
16. Repeat step 11 and step 12 while changing the entering < *number* > from 2 to 11, respectively.







17. Press **Esc** several times until the following window is displayed.

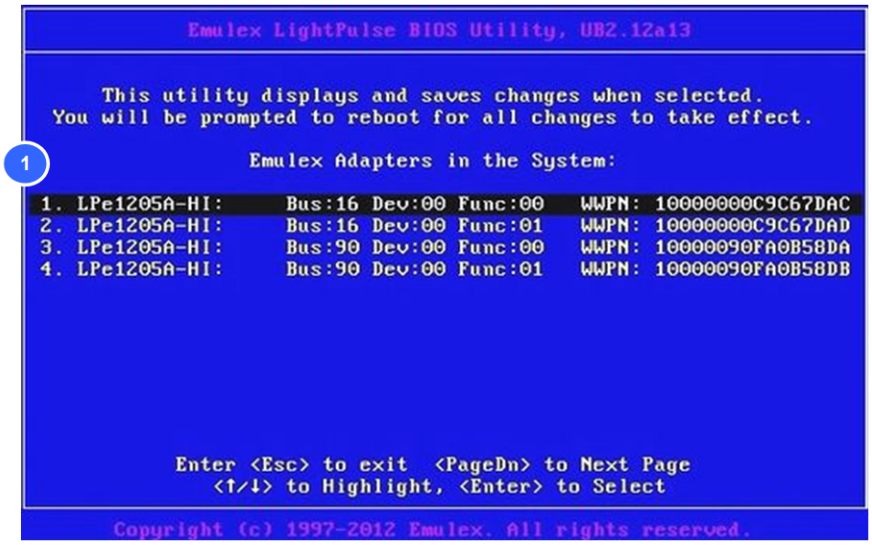


18. Enter < *another number* > and then press **Enter** key.
    < *another number* > : 2 or 4
19. Repeat from step 8 to step 17 for second port of the failed mezzanine card.
20. Power off the server blade.

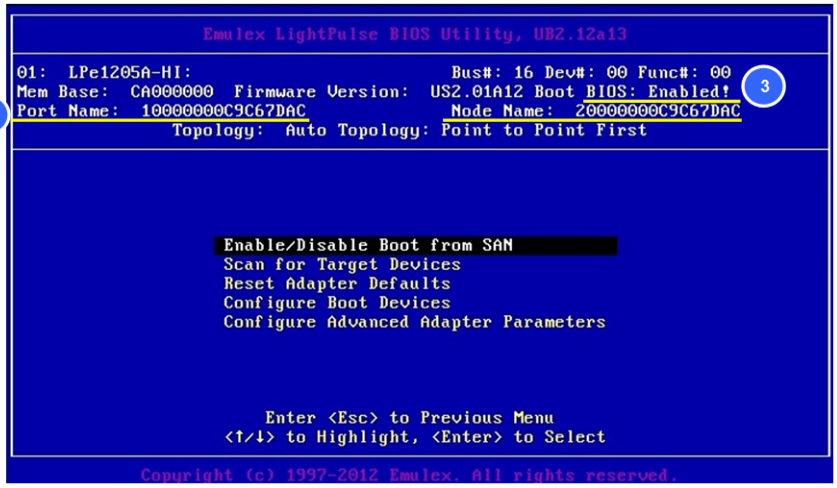
Confirming parameters of FC mezzanine card when BIOS version is 2.12a13

1. The BIOS utility is displayed. Select < *number* > and then press **Enter** key.
   < *number* > : 1 or 3 the first port number of the failed card

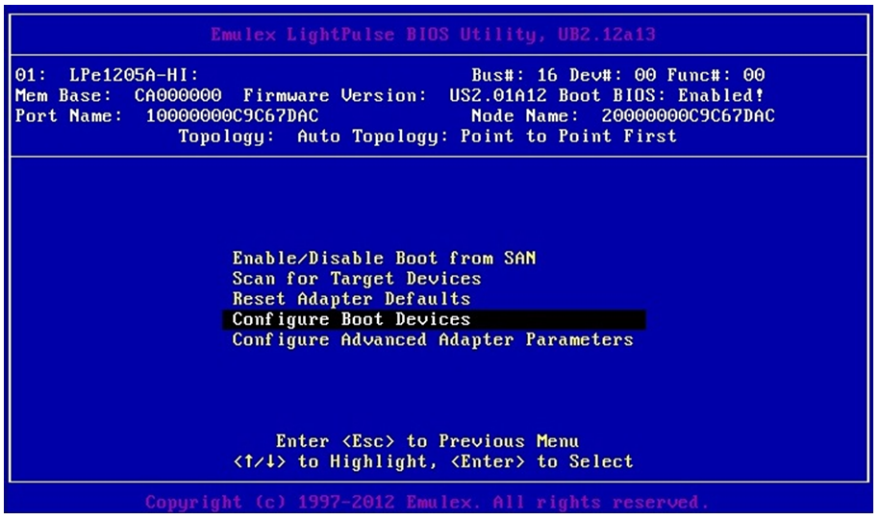
Note: When two Emulex FC mezzanine cards are installed in mezzanine slot #2 and #4, the first port of the mezzanine card in slot #4 is indicated in number **3** line.



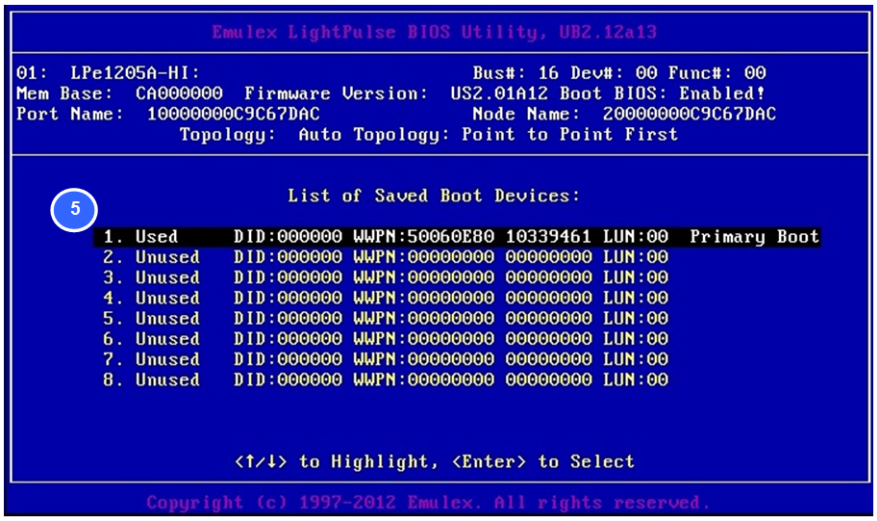
2. Confirm and record **Port Name** and **Node name**.
3. Confirm and record the BIOS setting, which is **Enabled** or **Disabled**.



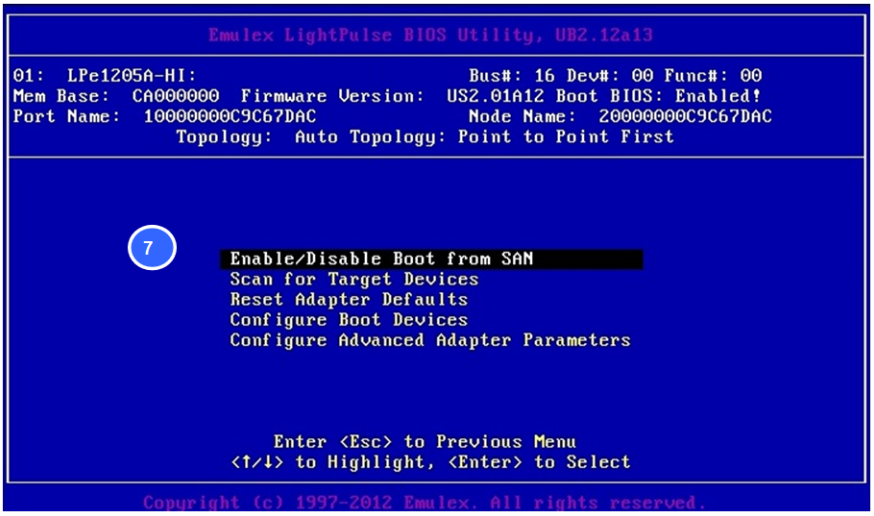
4. Select **Configure Boot Devices**, and then press **Enter**.



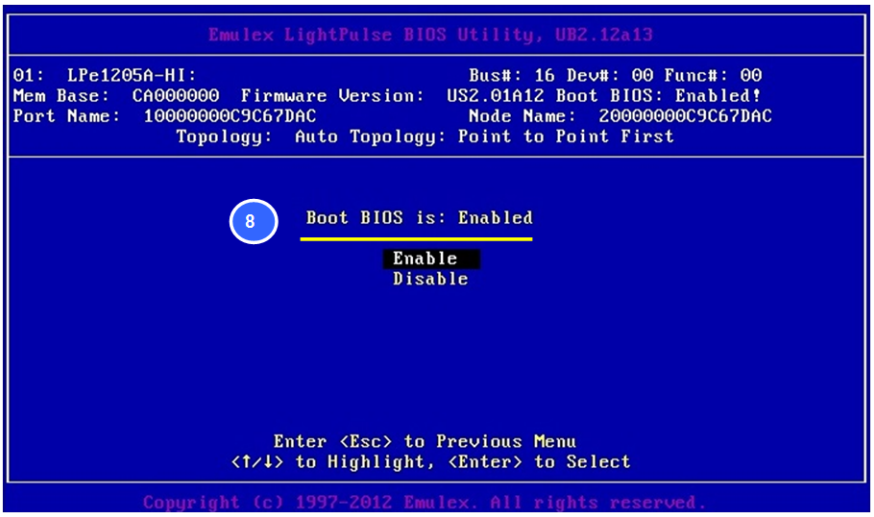
5. The Boot Device List is displayed. Confirm and record **DID**, **WWPN** and **LUN** in the boot device list.
6. Press **Esc** key twice to return to the previous menu.



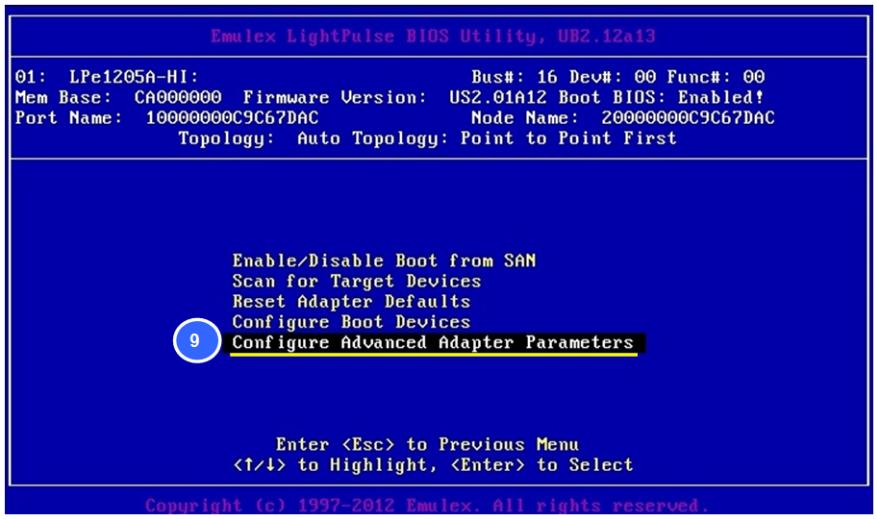
7. Select **Enable/Disable Boot from SAN**, and then press **Enter** to confirm adaptor parameters.



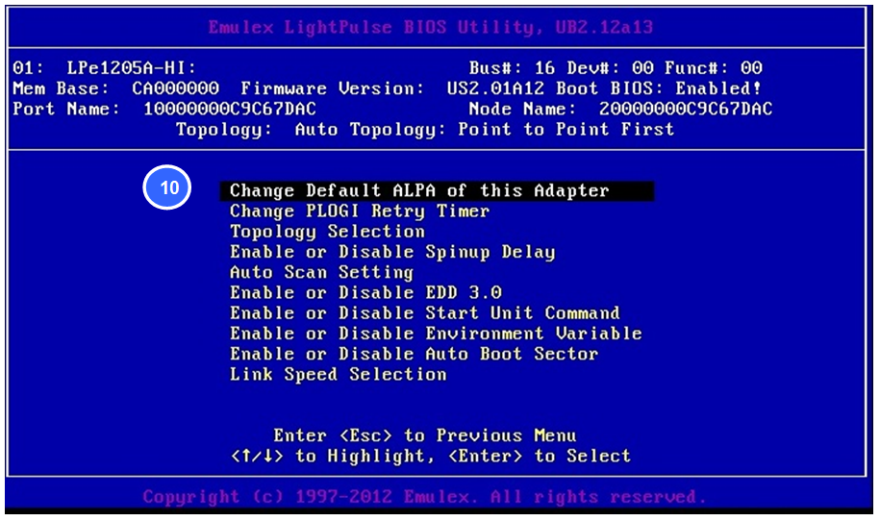
8. Confirm and record the **Boot BIOS setting**, and then press **Esc** key.



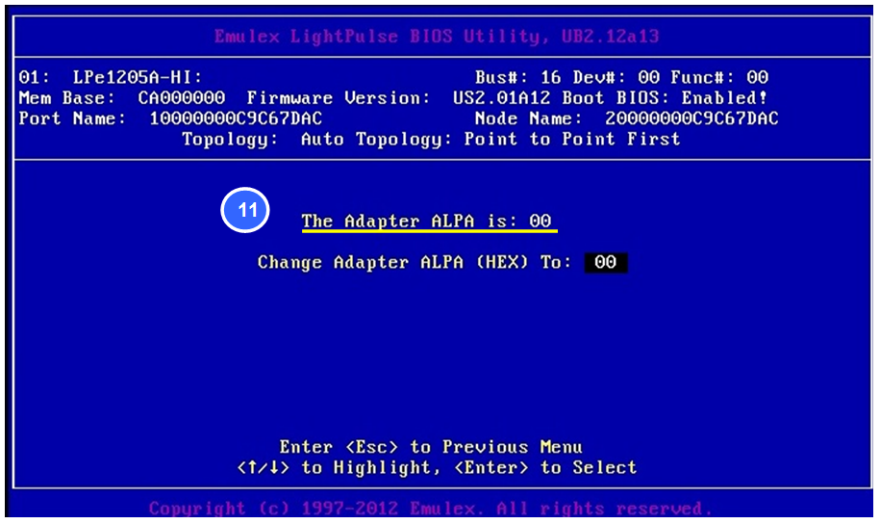
9. Select **Configure Advanced Adapter Parameters**, and then press **Enter**.



10. Select **Change Default ALPA of this Adapter**, and then press **Enter**.



11. Confirm and record **ALPA** setting, and then press **Esc**.

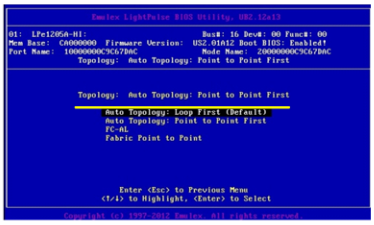


12. Repeat step 10 and step 11 while changing the selecting items in step 10 to confirm and record the settings of **PLOGI Retry Timer**, **Topology**, **Spinup Delay**, **Auto Scan Setting**, **EDD 3.0**, **Start Unit Command**, **Environment Variable**, **Auto Boot Sector**, and **Link Speed**.

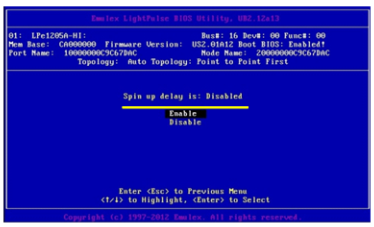
[PLOGI Retry Timer]

[Topology]

[Spinup Delay]



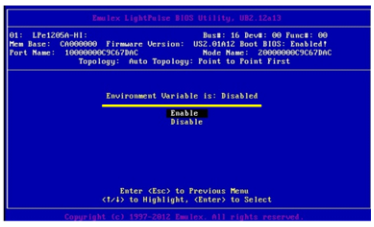
[Auto Scan Setting]



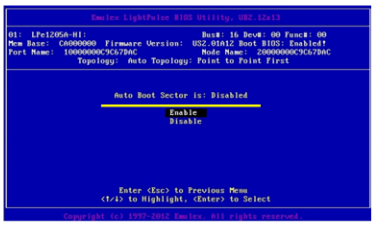
[EDD 3.0]

[Start Unit Command]

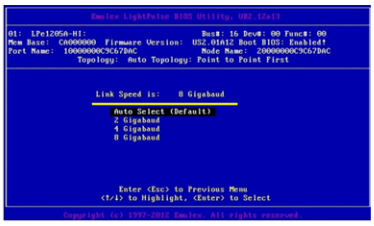
[Environment Variable]



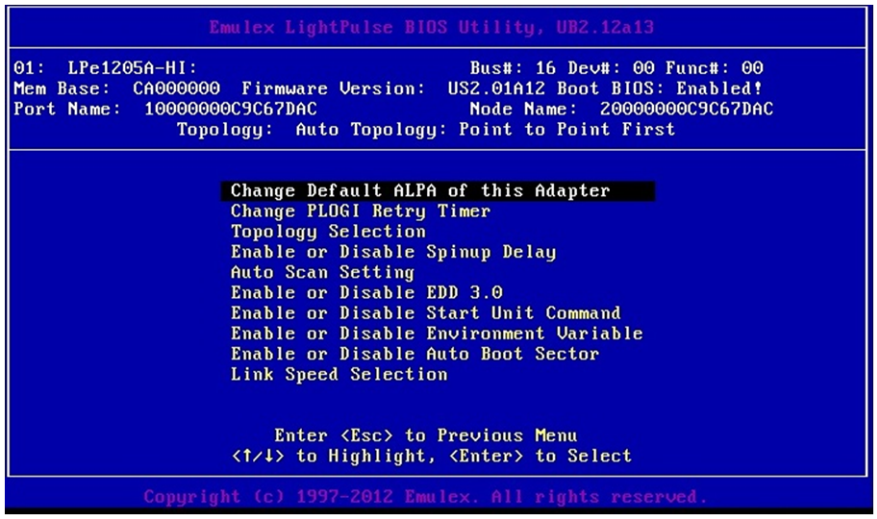
[Auto Boot Sector]



[Link Speed]



13. Press **Esc** two times in the following window.



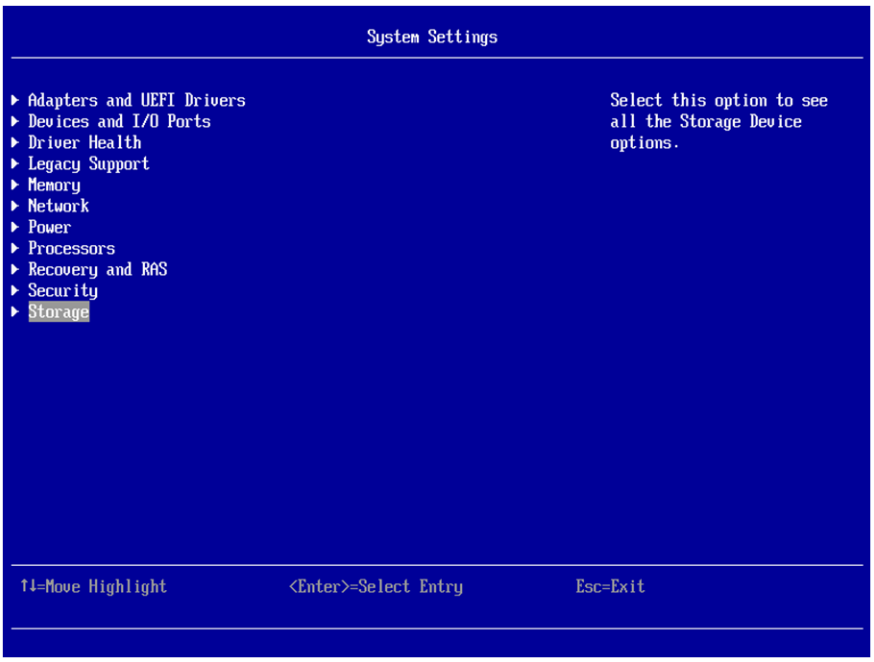
14. Select < *another number* >, and then press **Enter** key.
    < *another number* > : 2 or 4

15. Repeat from step 2 to step 13 for second port of the failed mezzanine card.
16. Power off the server blade.

Confirming parameters of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4

1. Select **System settings** in **System Configuration and Boot Management** window, and then press **Enter**.

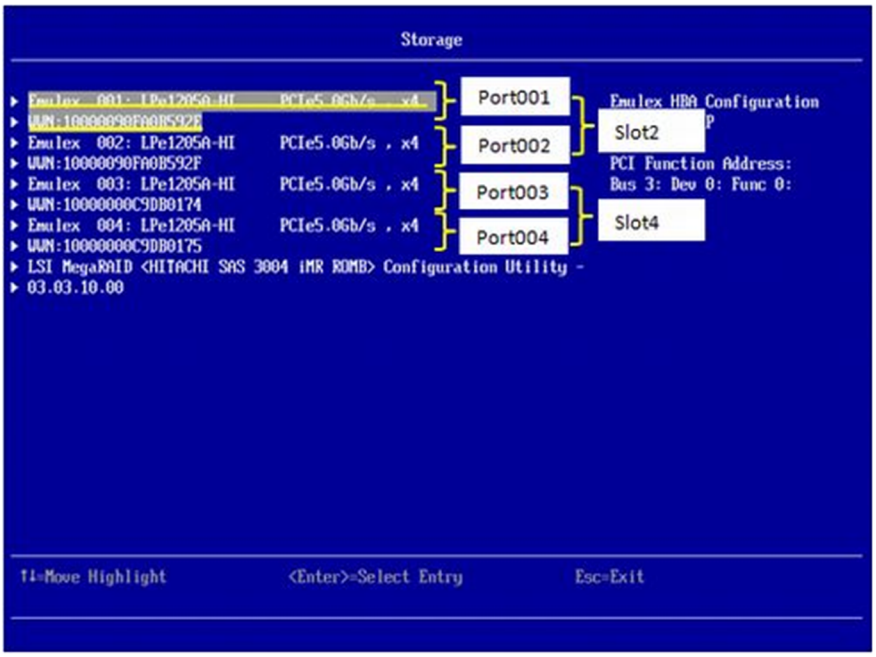
2. Select **Storage** in **System settings** window, and then press **Enter**.



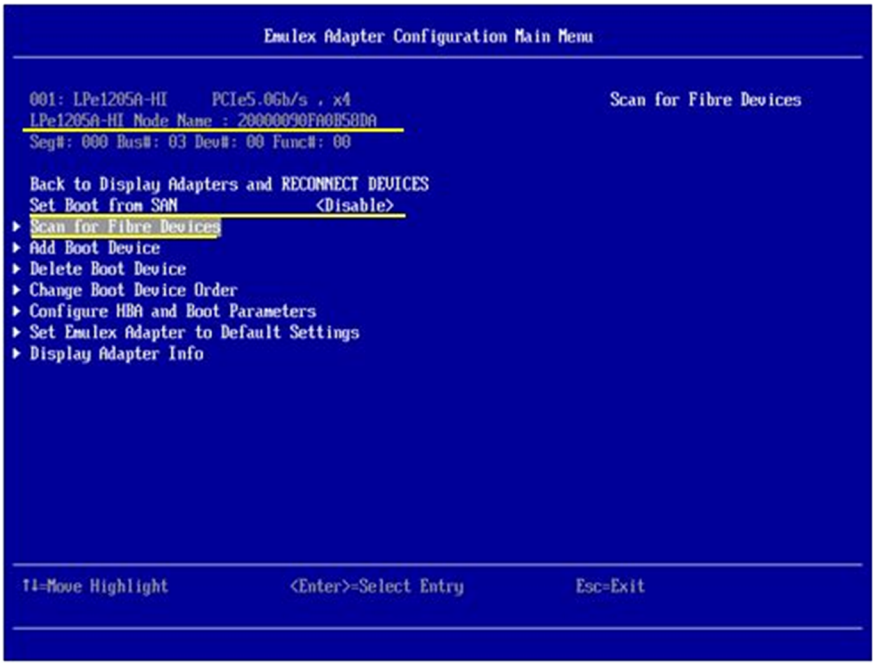
3. Confirm the slot number and the port number of failed mezzanine card. In addition, record the value of **WWN**.

   Select **Emulex** *nnn* line for the failed mezzanine card slot #, where *nnn* is odd number, in **Storage** window by using ↓ and ↑ keys, and then press **Enter**.

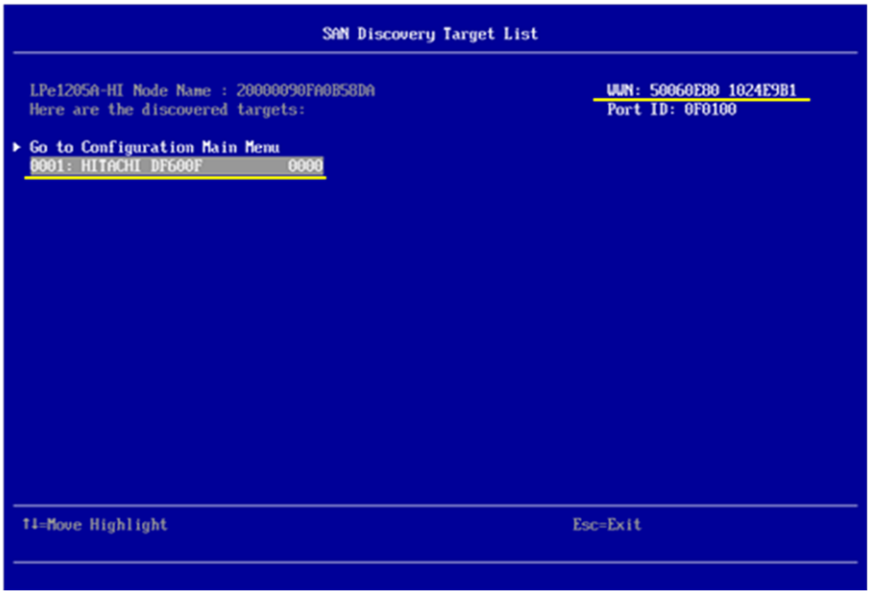
Note: A half wide server blade can install a mezzanine card in slot 2. A full wide server blade can install two mezzanine cards in slot 2 and slot 4.



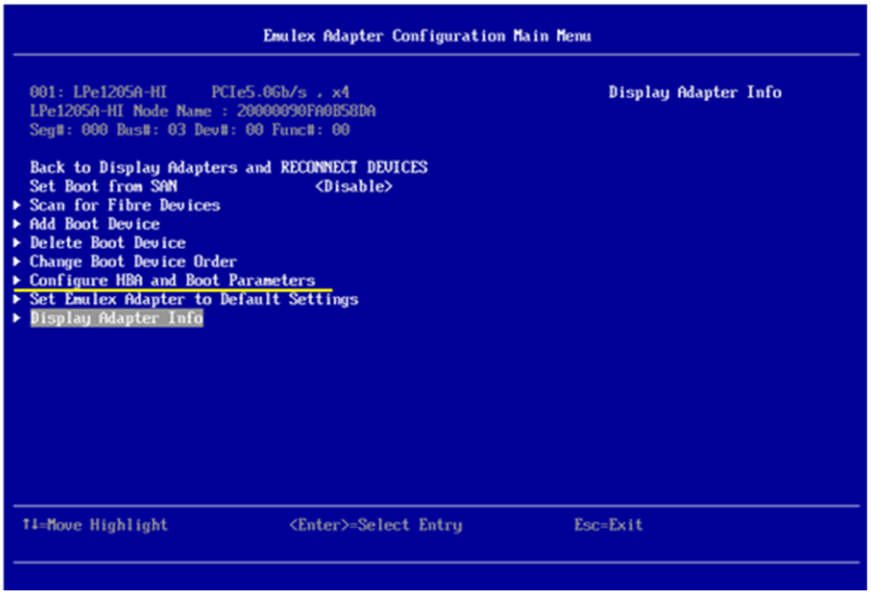
4. Write down the alphanumeric in **Node Name** line and the settings in **Set Boot from SAN**.
   Select **Scan for Fibre Devices** by using ↓ and ↑ keys, and then press **Enter**.



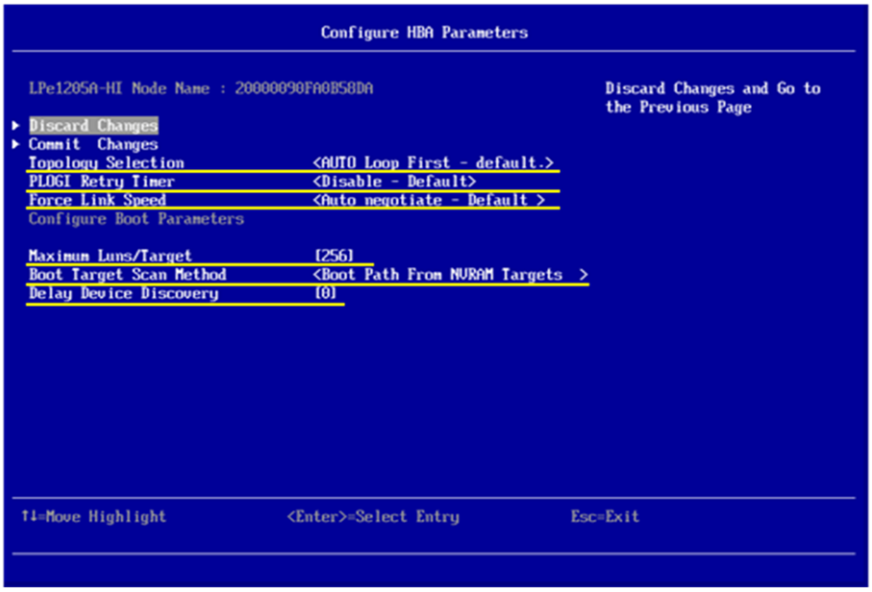
5. Select **0001: *HITACHI DF600F 0000*** line by using ↓ and ↑ keys, and then press **Enter**.
   Write down the alphanumeric in the upper right **WWN** line. Press **Esc** once.
   (Note: The indication of ***HITACHI DF600F 0000*** portion varies depending on the connected peripheral device.)



6. Select **Configure HBA and Boot Parameters** in **Emulex Adapter Configuration Main Menu** window by using ↓ and ↑ keys, and then press **Enter**.



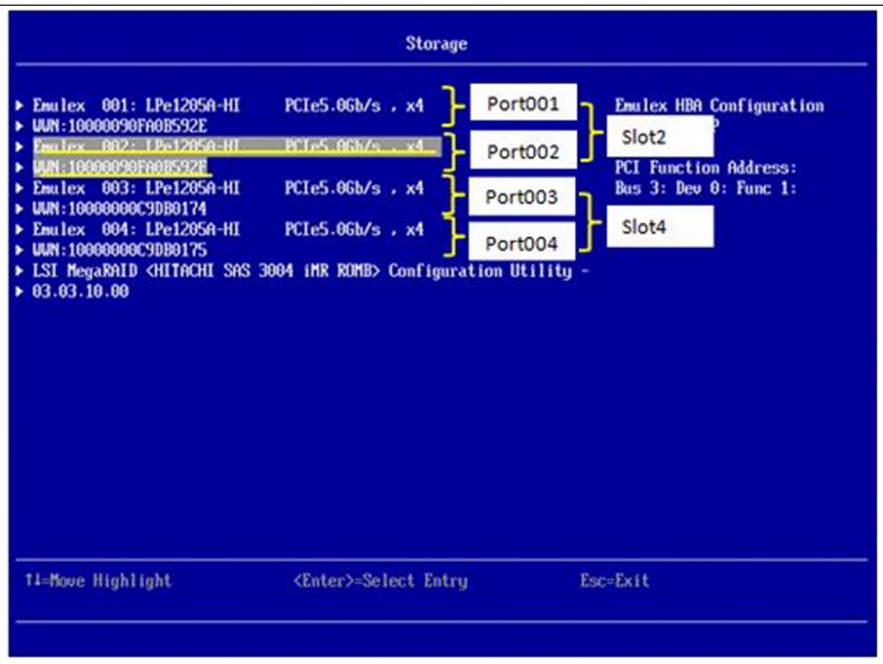
7. Confirm and record the settings of **Topology Selection**, **PLOGI Retry Timer**, **Force Link Speed**, **Maximum Luns/Target**, **Boot Target Scan Method**, and **Delay Device Discovery**, and then click **Esc** two times.



8. Confirm the slot number and the port number of failed mezzanine card. In addition, record the value of **WWN**.

   Select **Emulex** *nnn* line for the failed mezzanine card slot #, where *nnn* is even number, in **Storage** window by using ↓ and ↑ keys, and then press **Enter**.

Note: A half wide server blade can install a mezzanine card in slot 2. A full wide server blade can install two mezzanine cards in slot 2 and slot 4.



9. Repeat from step 4 to step 7 for second port of the failed mezzanine card.
10. Power off the server blade.

Restoring the parameters of 8 Gb FC mezzanine card

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade will power on.
3. Wait about five minutes until **System Configuration and Boot Management** window is displayed.

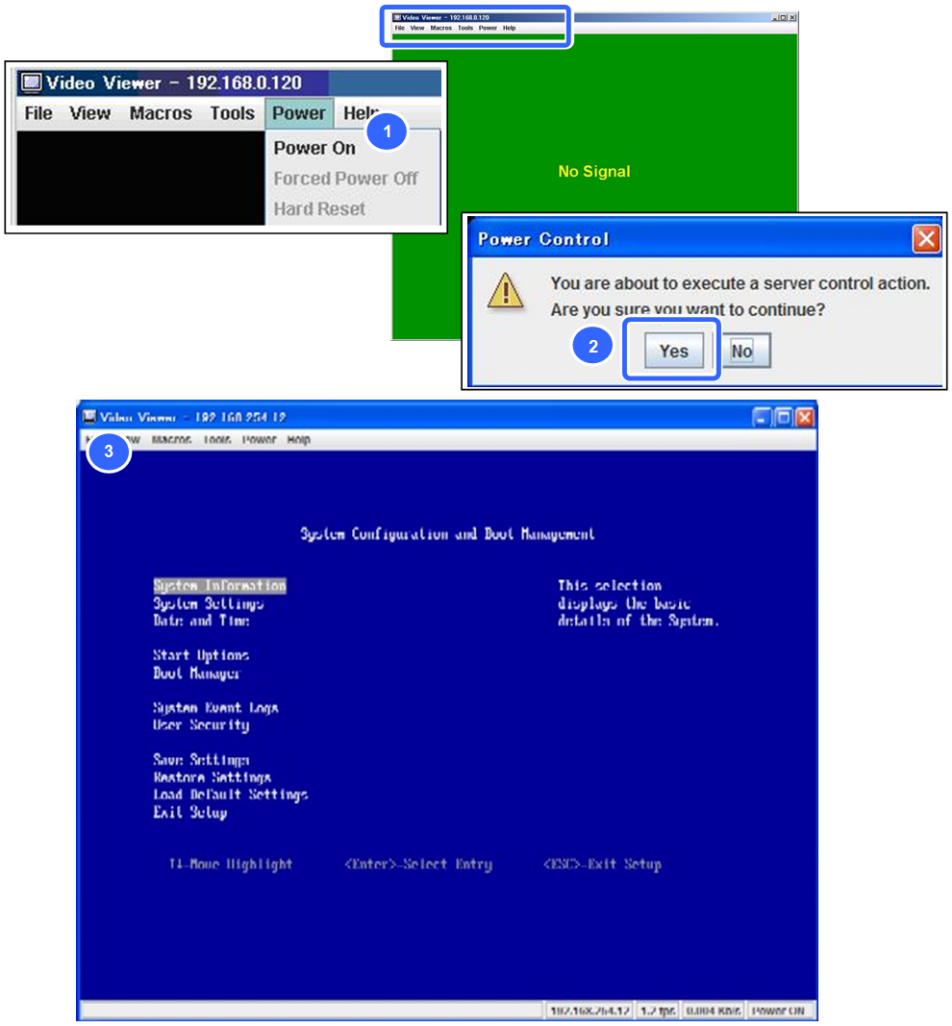


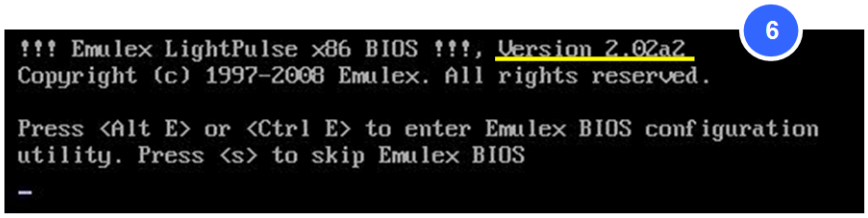
Figure 7-3 Powering on the server blade

The following procedure varies depending on the server blade model.

For an FC mezzanine card on CB 520A A1, CB 520H A1/B1/B2, or CB 540A A1/B1, perform the following procedure.

For an FC mezzanine card on CB 520X B1/B2/B3 or CB 520H B3/B4, skip to Restoring parameter of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4 on page 7-32.

4. Press **Esc** in **System Configuration and Boot Management** window.
5. Press **Y** when **Do you want exit Setup Utility** is prompted.
6. Confirm BIOS version, and then press **Ctrl** + **E** key in the following prompt.



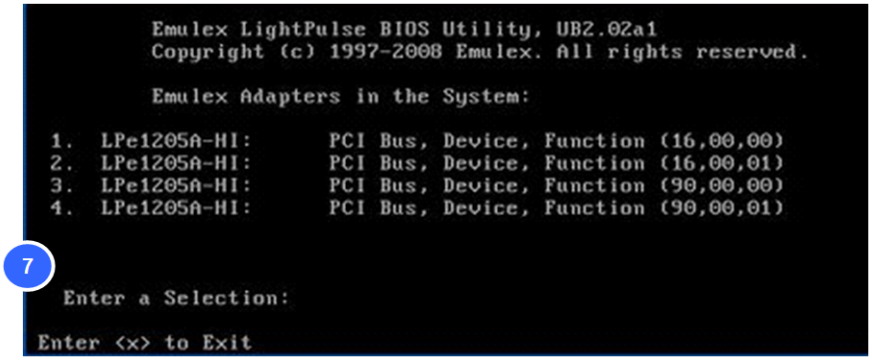
The following procedure varies depending on BIOS version.

For BIOS version 2.02a1, perform the following procedure.

For BIOS version 2.12a13, skip to Restoring parameter of FC mezzanine card when BIOS version is 2.12a13 on page 7-23.

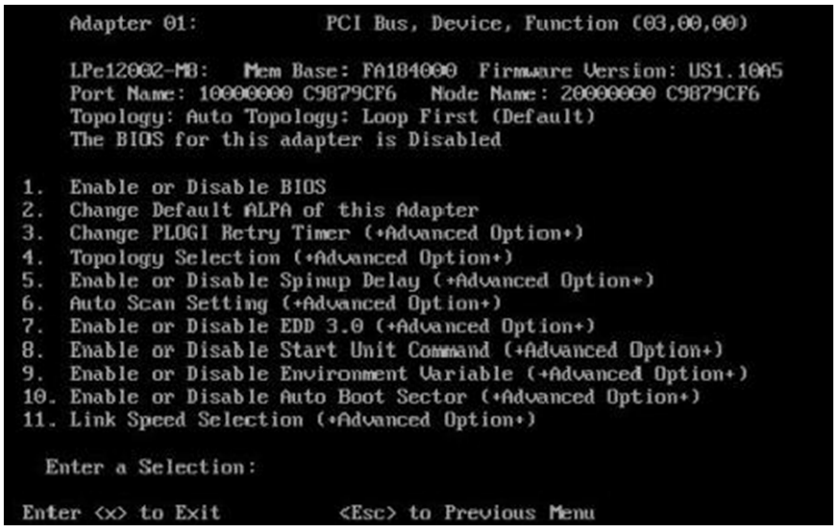
7. The BIOS utility is displayed. Enter < *number* > and then press **Enter** key.

   < *number* > : `1` or `3` the first port number of the replaced card



8. Confirm and record **Port Name** and **Node name**.
9. Enter `2`, and then press **Enter** key to confirm registered boot device.

10. The parameter List is displayed.
11. Enter < *number* > from 1 to 11 respectively to set up each parameter, and then press **Enter** key.



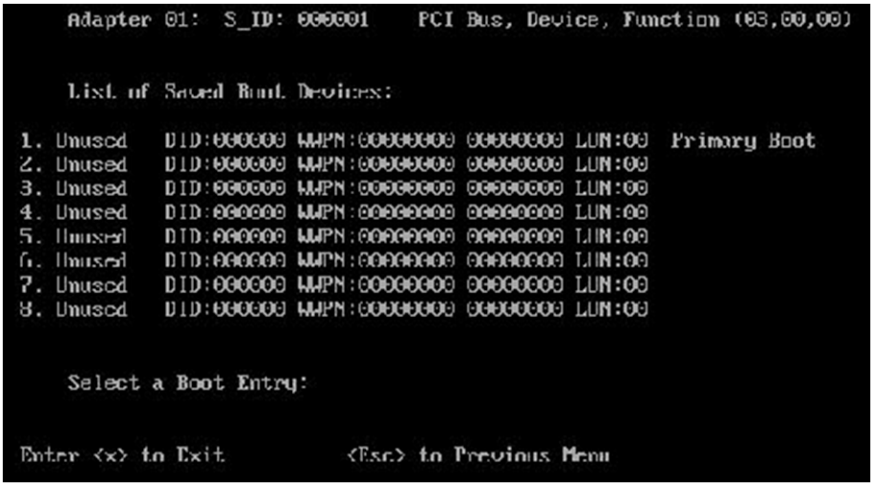
12. Set up the **parameters** for the replaced card corresponding with ones for the failed card that you recorded in the previous procedures.

    Enter the instructed digit in each screenshot corresponding to the failed card setting.

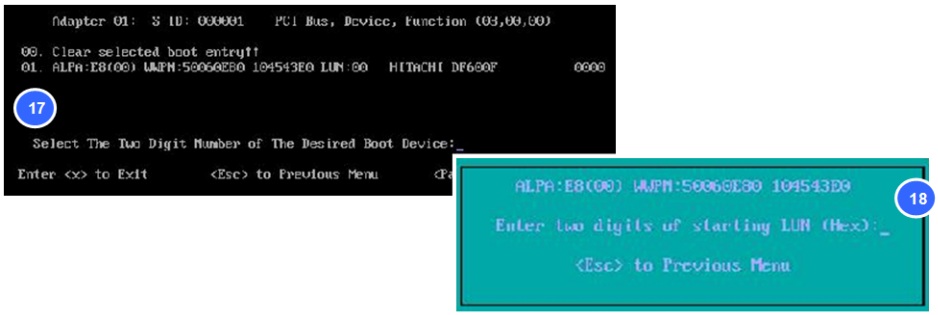
13. Press **Esc** key after setting each parameter. Repeat from step 11 to step 12 to setup all of the parameters.
14. Press **Esc** key until the following screen is displayed.
15. (Skip from this step 15 to step 22 when BIOS setting for the port is **Disabled**.)

    Enter 1 to set up the Boot Device.

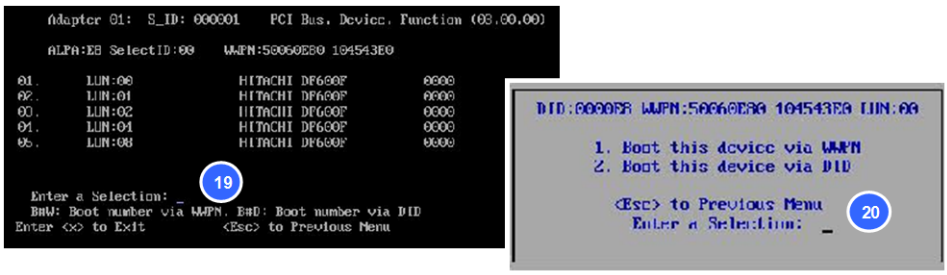
16. Enter < *boot entry number* >.
    < *Boot entry number* >: The status was indicated as **Used** before replacing the failed card.



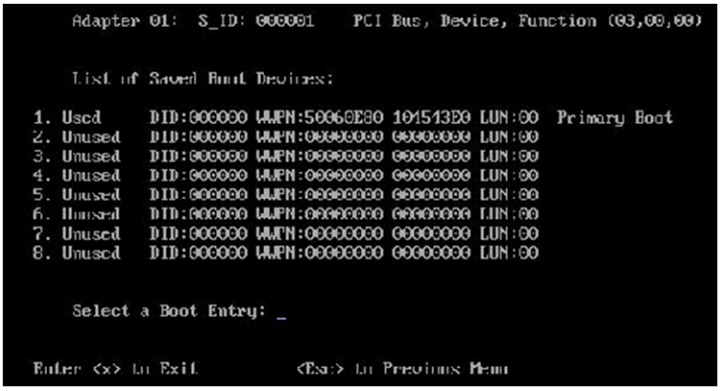
17. Enter < *Number* >.
    < *Number* >: The two digits which indicated the same **DID** or **WWPN** before replacing the failed card.
18. Enter < LUN> which you record before replacing.



19. Find < LUN > which you entered in step 11, and then enter the corresponding < *Two digits number* >.
20. Enter < *Number* >.
    < *Number* >:
    1. When **WWPN** was only registered before replacing the failed card.
    2. When **DID** was only registered before replacing the failed card.



21. Confirm the registered boot entry.



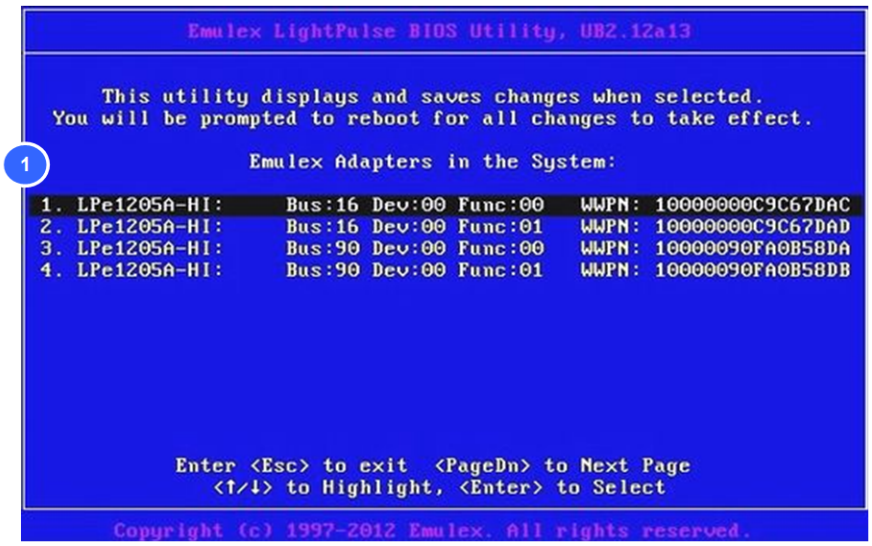
22. Repeat Step 16 to Step 21 for each entry, which status was indicated as **Used**, if multiple boot entries are registered.
23. Press **Esc** several times until the following window is displayed.

24. Enter < *another number* > for the second port, and then press **Enter** key.
    < *another number* > : `2` or `4`
25. Repeat step 8 to step 23 to setup second port.
26. Power off the server blade.

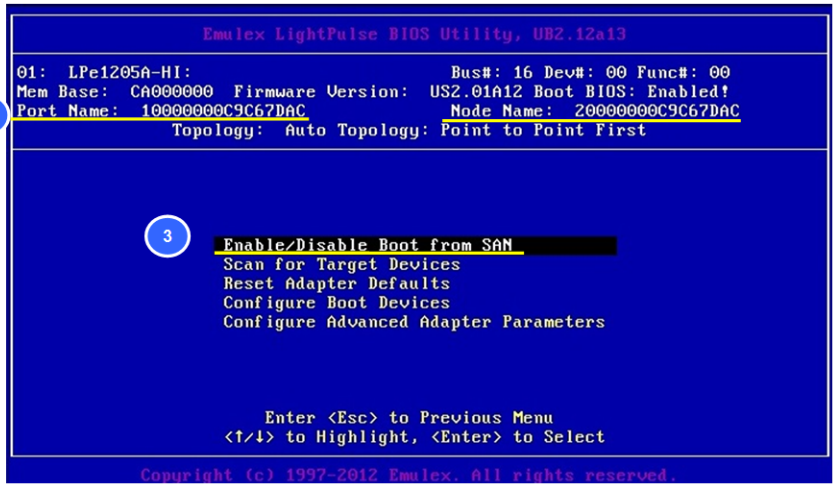
Restoring parameter of FC mezzanine card when BIOS version is 2.12a13

1. The BIOS utility is displayed. Select < *number* > and then press **Enter** key.
   < *number* > : `1` or `3` the first port number of the failed card

Note: When two Emulex FC mezzanine cards are installed in mezzanine slot #2 and #4, the first port of the mezzanine card in slot #4 is indicated in number **3** line.

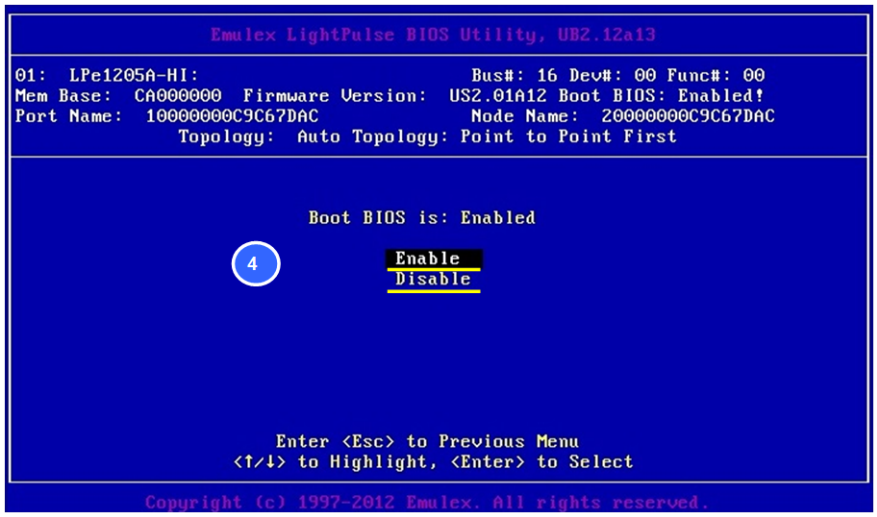


2. Confirm and record **Port Name** and **Node name**.
3. Select **Enable/Disable Boot from SAN**, and then press **Enter**.

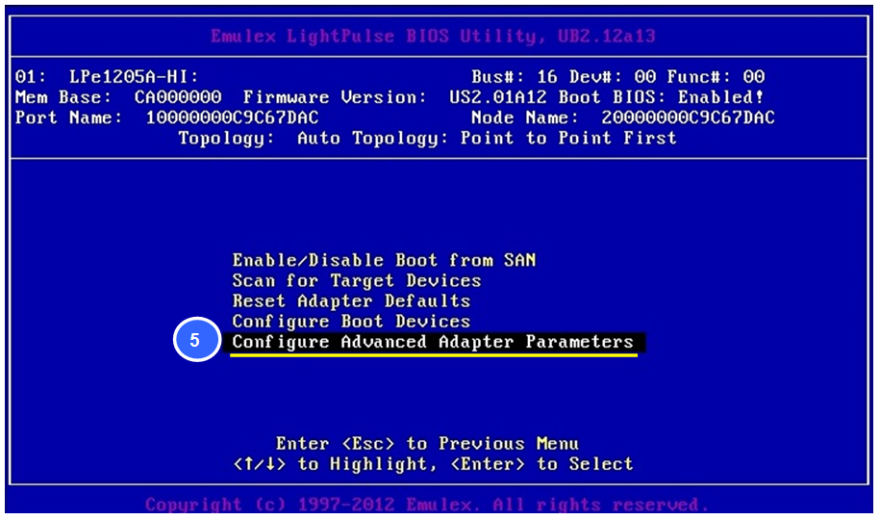


4. Select **Enable** or **Disable** corresponding to the recorded setting before the replacement, and then press **Enter**.

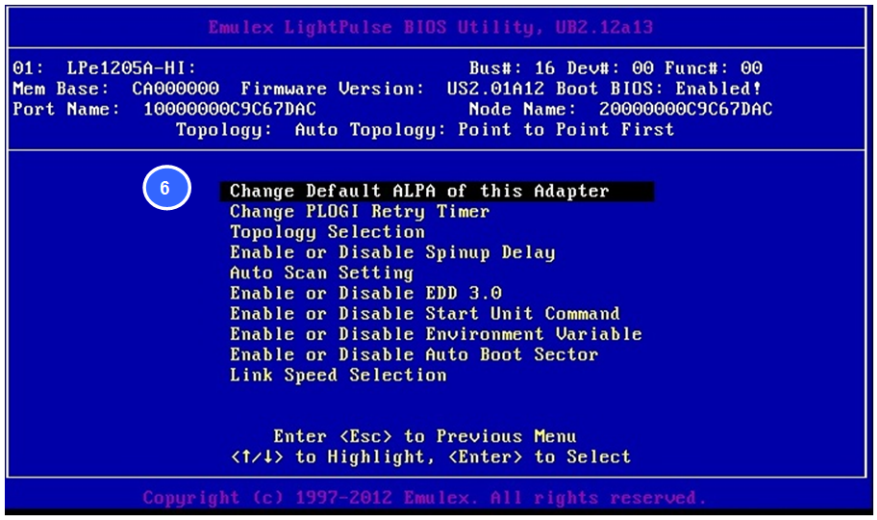
   Press **Esc** to return to the previous window.



5. Select **Configure Advanced Adapter Parameters**, and then press **Enter**.

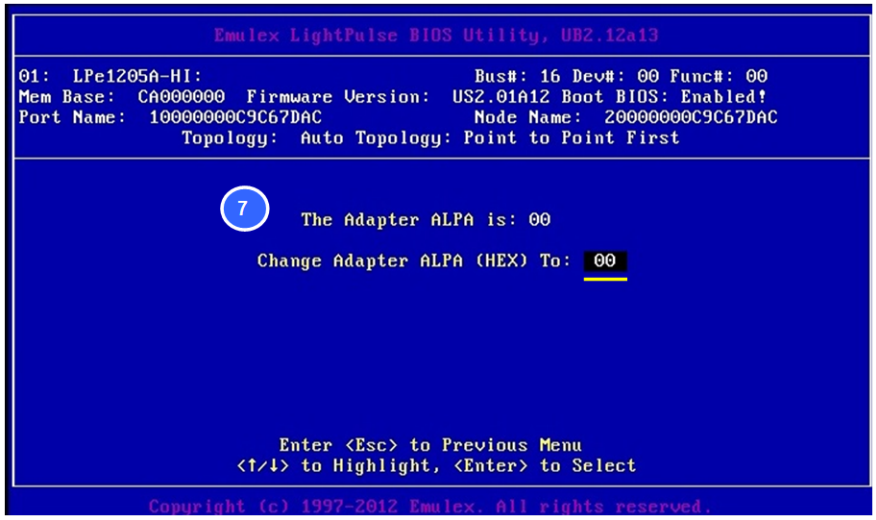


6. Select **Change Default ALPA of this Adapter**, and then press **Enter**.



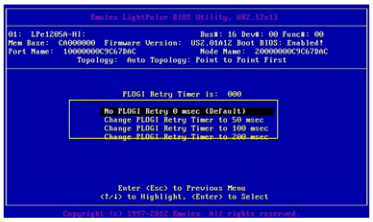
7. Enter appropriate number corresponding to the recorded setting before the replacement, and then press **Enter**.

   Press **Esc** to return to the previous window.

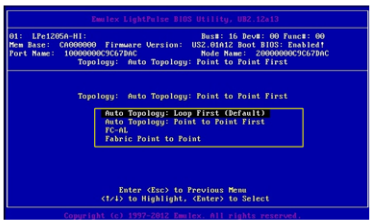


8. Repeat step 6 and step 7 while changing the selecting items in step 6 to restore the recorded settings of **PLOGI Retry Timer**, **Topology**, **Spinup Delay**, **Auto Scan Setting**, **EDD 3.0**, **Start Unit Command**, **Environment Variable**, **Auto Boot Sector**, and **Link Speed**.

[PLOGI Retry Timer]



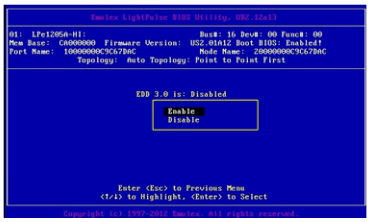
[Topology]



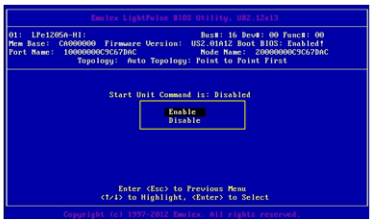
[Spinup Delay]

[Auto Scan Setting]

[EDD 3.0]

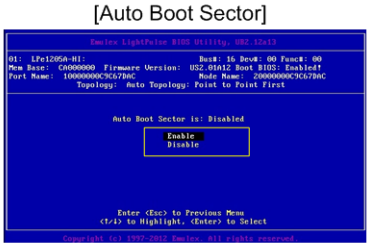


[Start Unit Command]

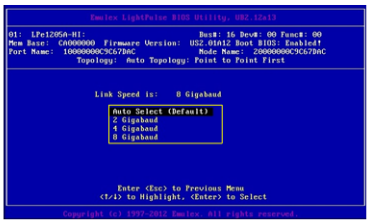


[Environment Variable]

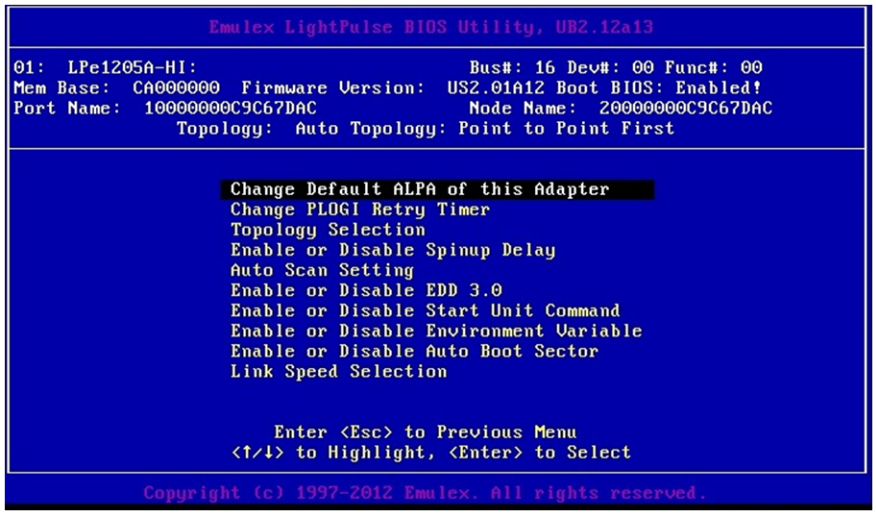
[Auto Boot Sector]



[Link Speed]

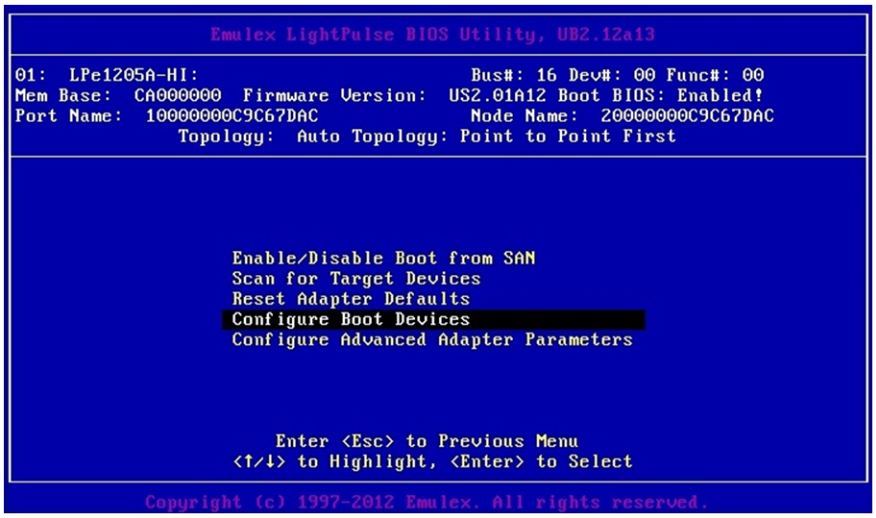


9. Press **Esc** in the following window.

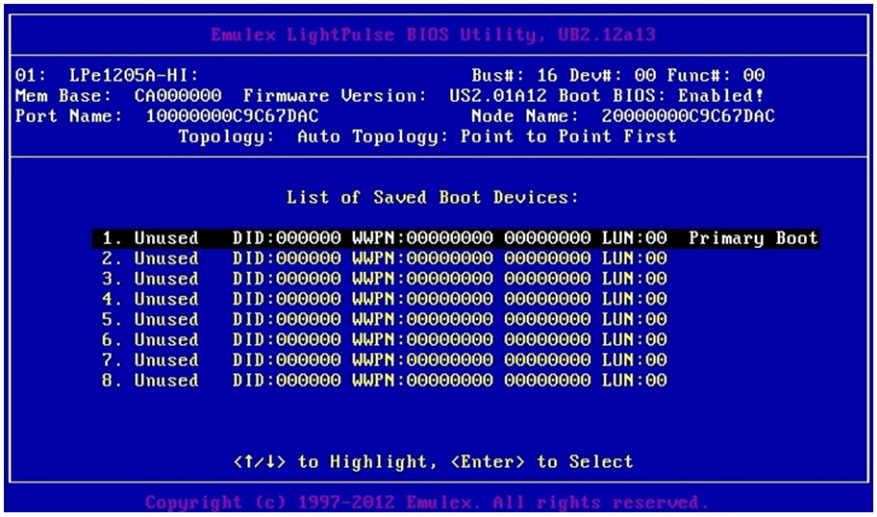


When **BIOS setting** of the port of FC mezzanine card is **Disabled**, skip from step 10 to step 17.

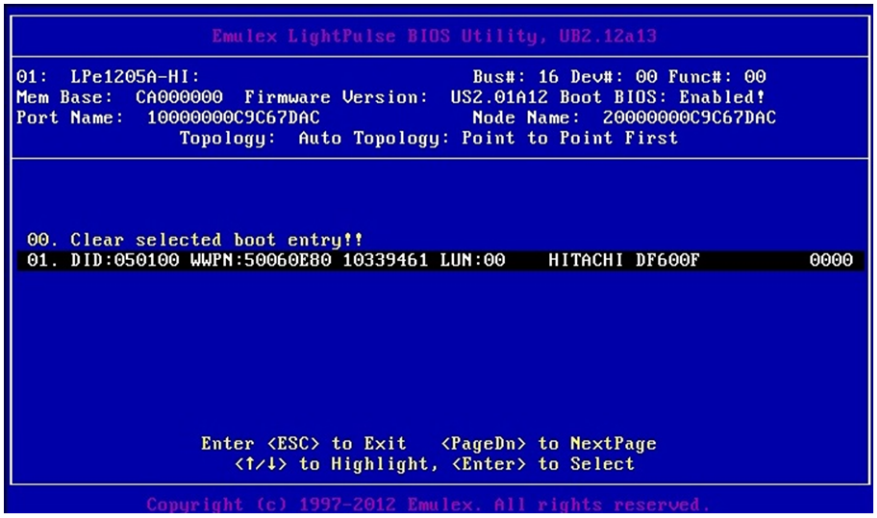
10. Select **Configure Boot Devices**, and then press **Enter**.



11. Select the ***Boot Entry number***, which status was **Used** before the replacement, and then press **Enter**.

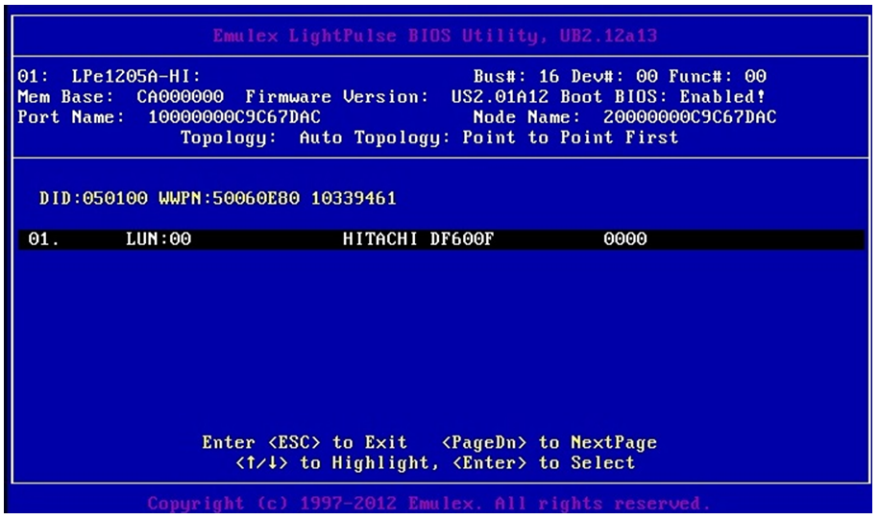


12. Select a line, which indicates as same **DID** or **WWPN** as the ones with recorded before the replacement, and then press **Enter**.

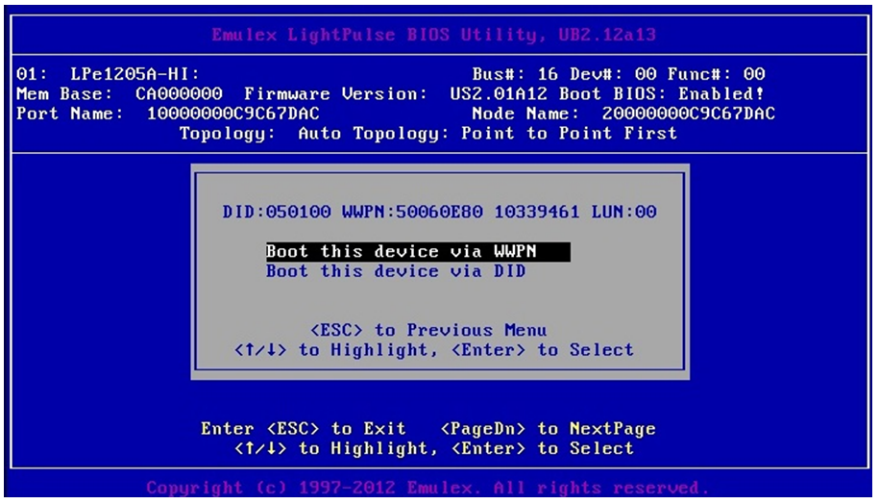


13. Enter the **LUN**, which recorded before the replacement, and then press **Enter** after selecting the column.

14. Select **to be set LUN** line, and then press **Enter** when the LUN to be registered is indicated in line #01.

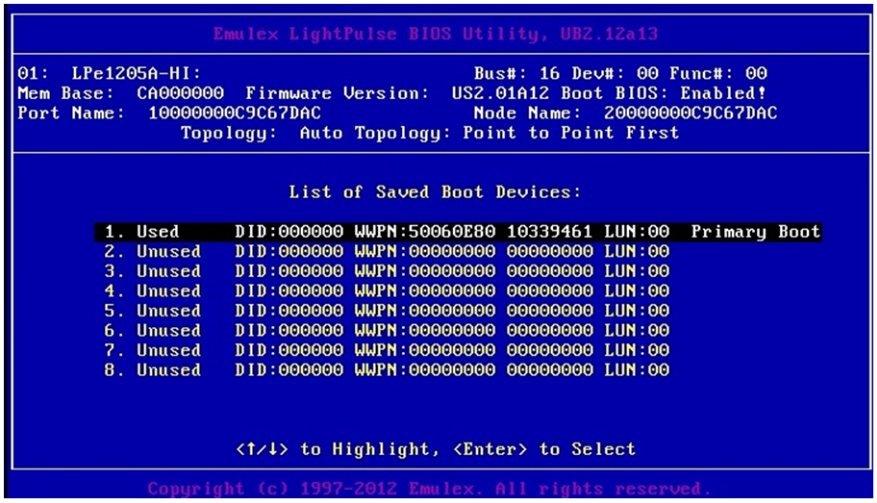


15. Select **Boot this device via WWPN** when **WWPN** was registered in boot entry before the replacement, or select **Boot this device via DID** when **DID** was registered in boot entry before the replacement, and then press **Enter**.

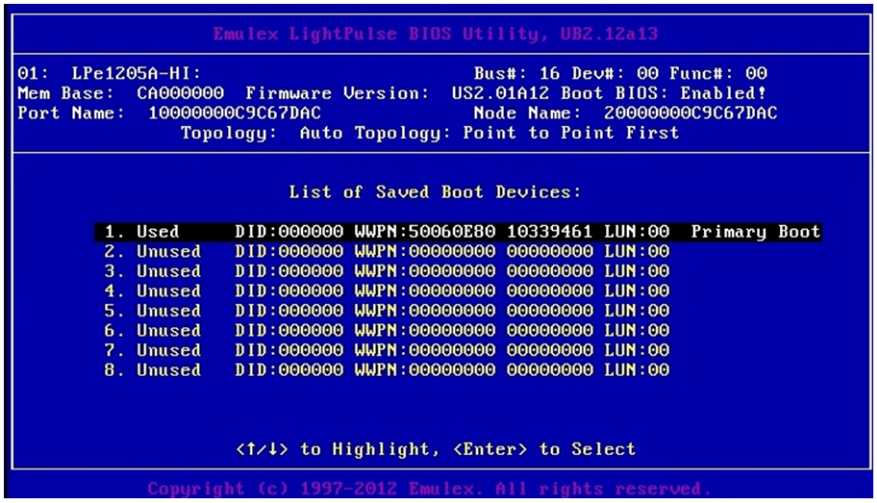


16. Record the registered boot entry.

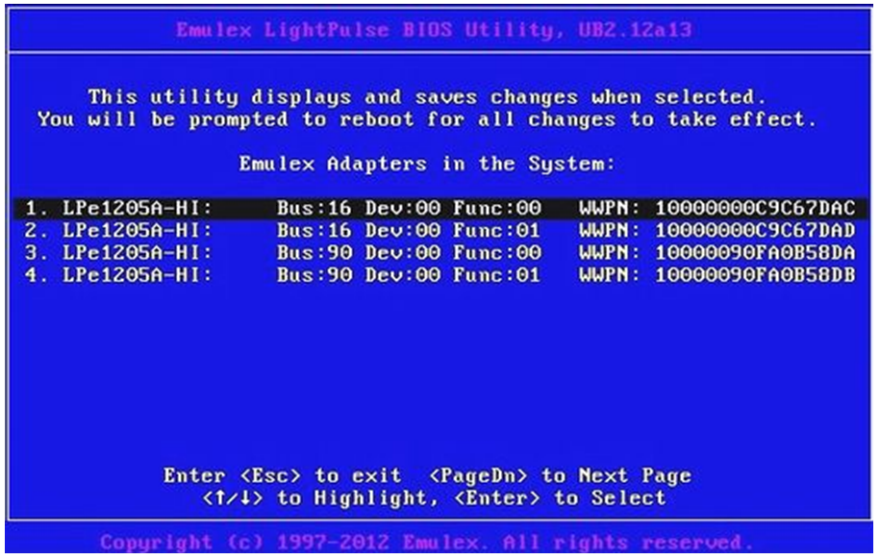
    When multiple boot entries are registered, repeat Step #11 to Step #15 for each entry, and then write down the registered boot entry



17. Press **Esc** two times when the following window is displayed.



18. Select < *another number* >, and then press **Enter** key.
    < *another number* > : 2 or 4

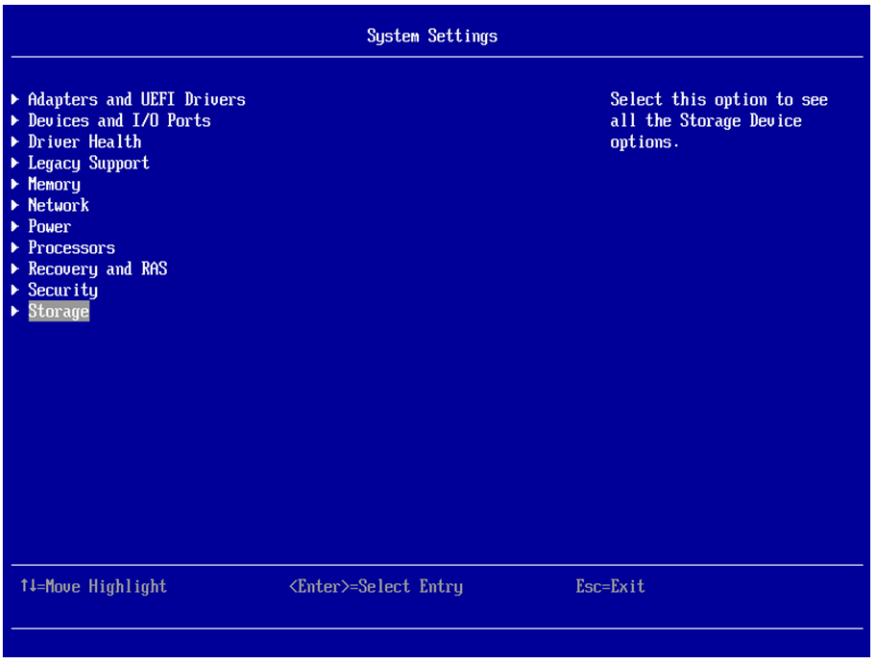


19. Repeat from step 2 to step 17 for second port of the failed mezzanine card.
20. Power off the server blade.

Restoring parameter of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4

1. Select **System settings** in **System Configuration and Boot Management** window by using ↓ and ↑ keys, and then press **Enter**.

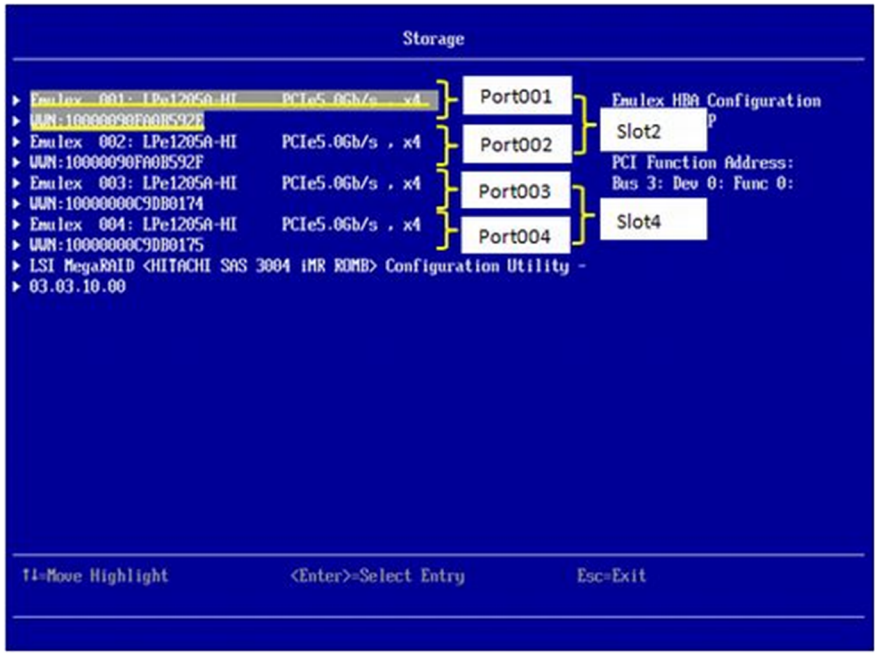
2. Select **Storage** in **System settings** window, and then press **Enter**.



3. Confirm the slot number and the port number of failed mezzanine card. In addition, record the value of **WWN**.

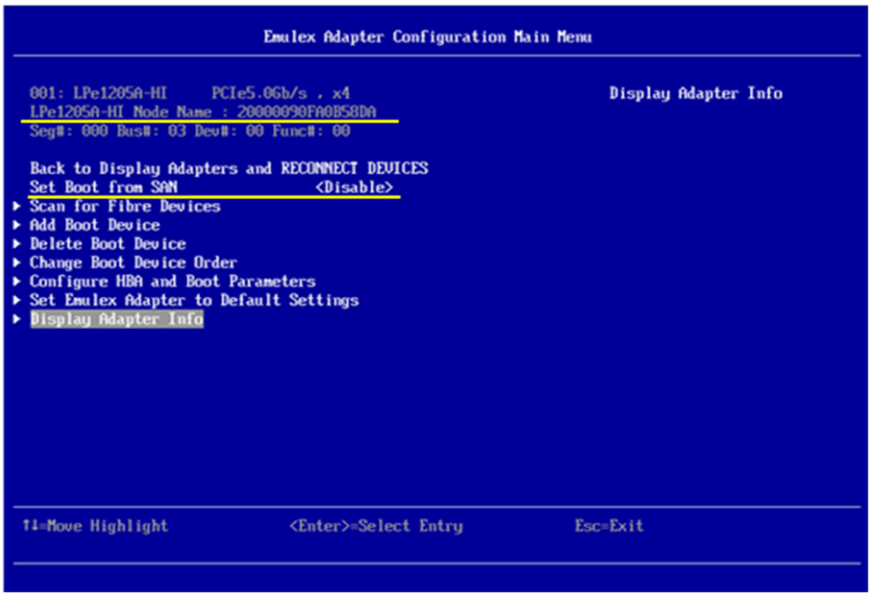
   Select **Emulex** *nnn* line for the failed mezzanine card slot #, where *nnn* is odd number, in **Storage** window by using ↓ and ↑ keys, and then press **Enter**.

Note: A half wide server blade can install a mezzanine card in slot 2. A full wide server blade can install two mezzanine cards in slot 2 and slot 4.

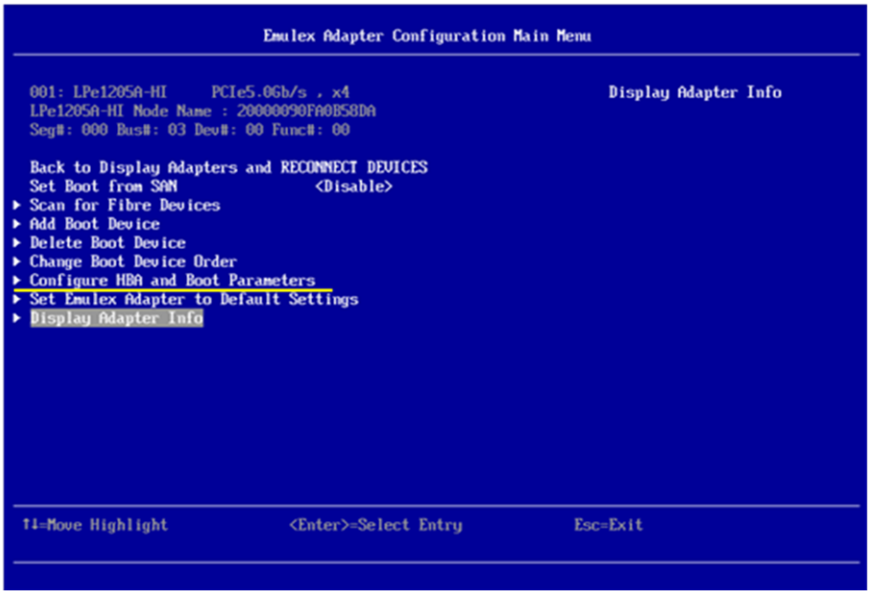


4. Write down the alphanumeric in **Node Name** line. Select **Set Boot from SAN**, and then press **Enter**.

   Select the setting of failed mezzanine card, **Enable** or **Disable** by using ↓ and ↑ keys, and then press **Enter**.



5. Select **Configure HBA and Boot Parameters** in **Emulex Adapter Configuration Main Menu** window by using ↓ and ↑ keys, and then press **Enter**.



6. Restore the settings of failed mezzanine card.

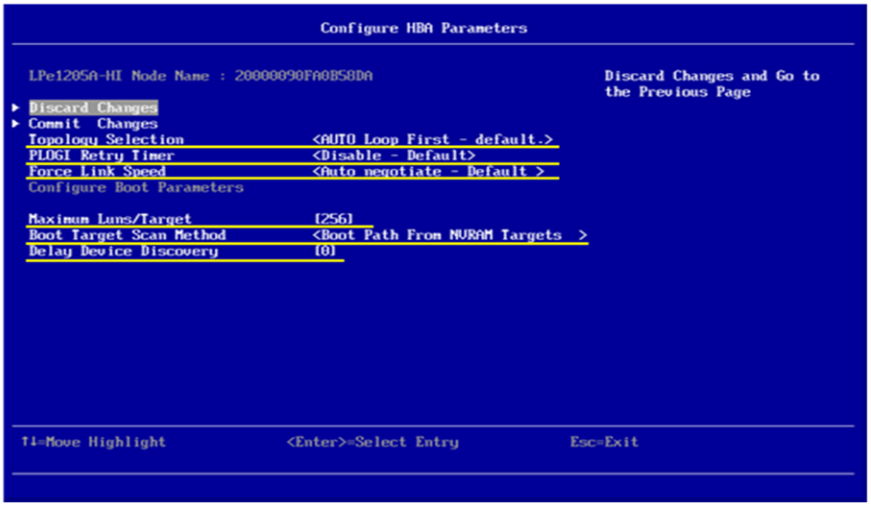
   [To restore the [Topology] of failed mezzanine card]

   (1). Select **Topology Selection** by using ↓ and ↑ keys, and then press **Enter**.

   (2). Select the setting of failed mezzanine card, **Auto Loop First - default**, **Auto Point to Point First**, **FC-AL**, or **Fabric Point to Point** by using ↓ and ↑ keys, and then press **Enter**.

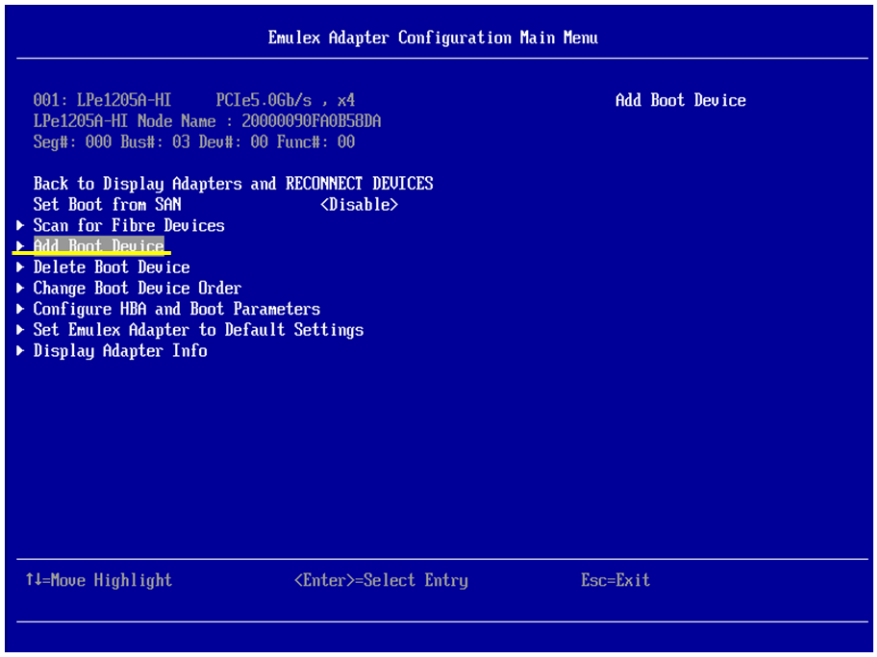
   [To restore the other items of failed mezzanine card]

   Perform as same step as the (1) and (2) above for the other items



7. Press **Esc** one time in **Configure HBA Parameters** window to return to previous menu.

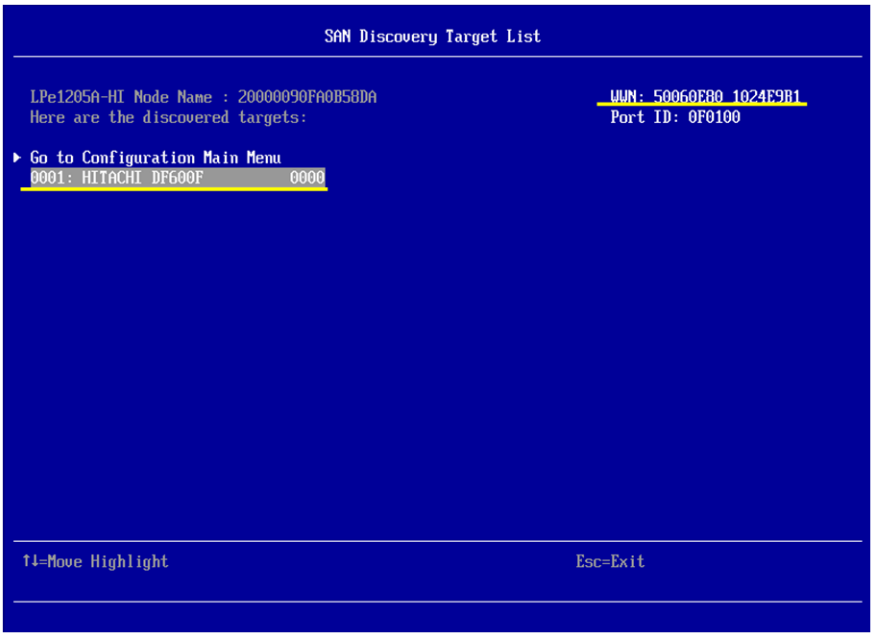
8. Select **Add Boot Device** in **Emulex Adapter Configuration Main Menu** window by using ↓ and ↑ keys, and then press **Enter**.



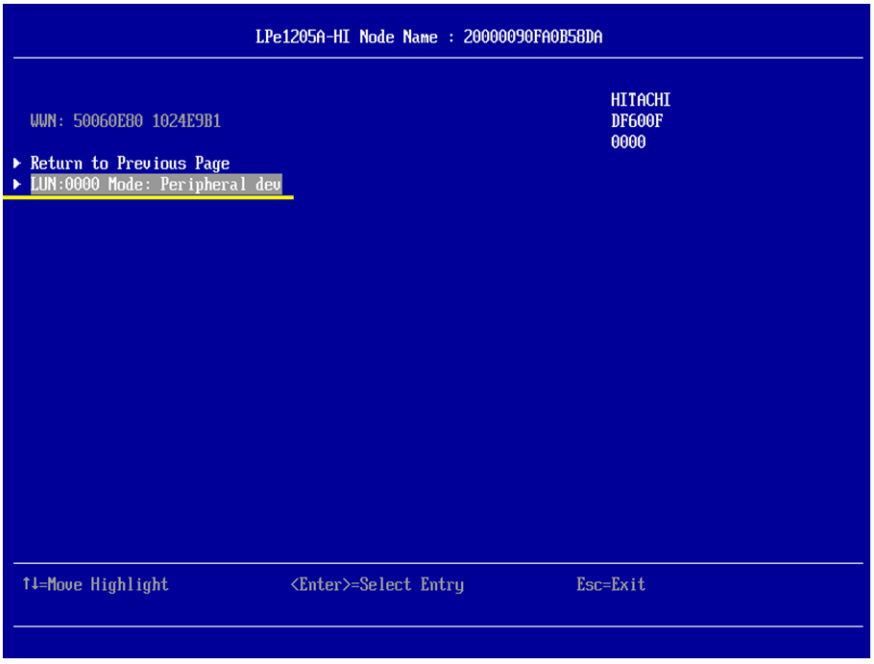
9. Select **0001: *HITACHI DF600F 0000*** line by using ↓ and ↑ keys, and then press **Enter**.

   Confirm that the alphanumeric in the upper right **WWN** line is as same as the one of failed mezzanine card, write down the **WWN** line into the following table, and then press **Enter**.

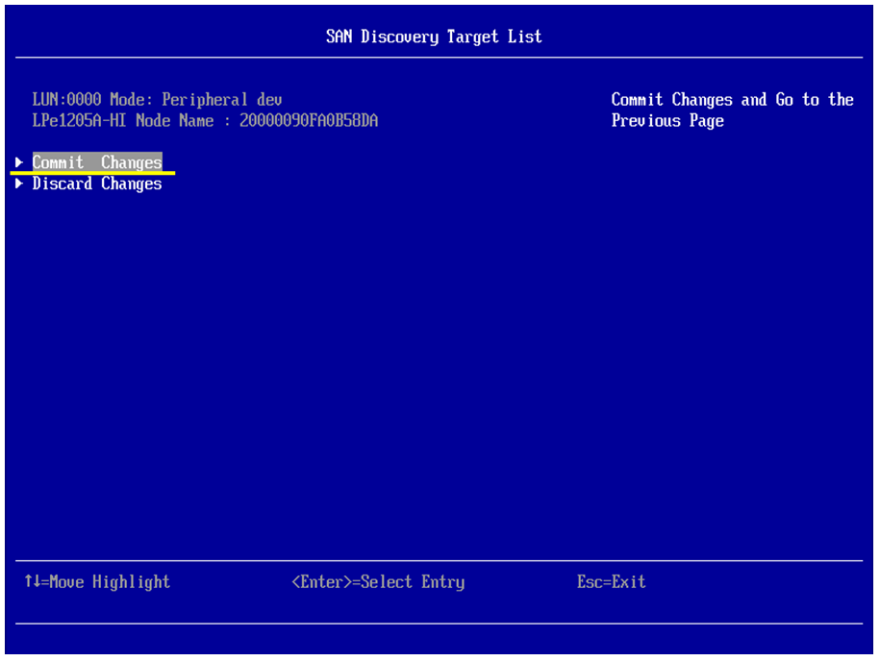
   (Note: The indication of ***HITACHI DF600F 0000*** portion varies depending on the connected peripheral device.)



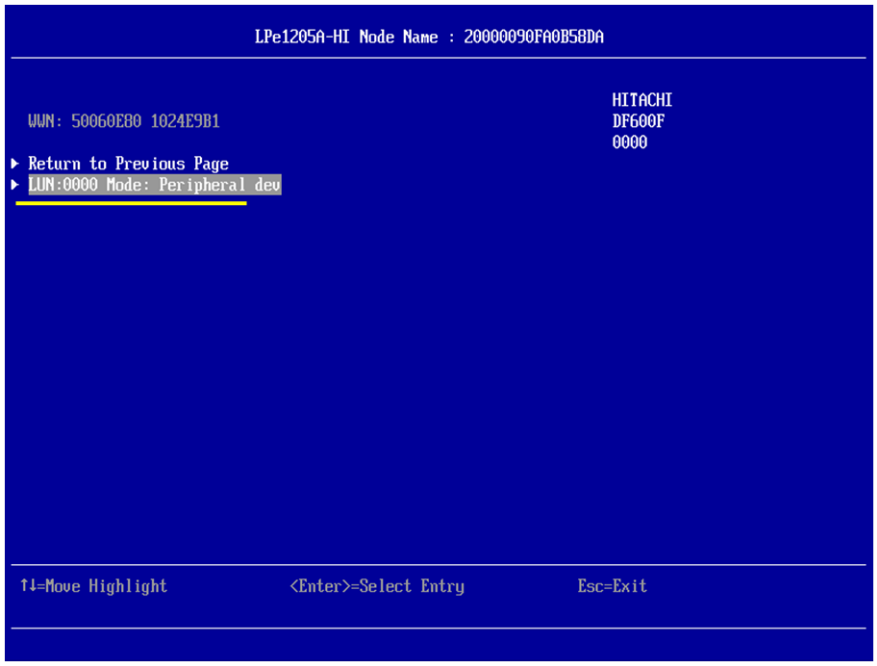
10. Select **LUN:0000 Mode : Peripheral dev** by using ↓ and ↑ keys, and then press **Enter**.



11. Select **Commit Changes** by using ↓ and ↑ keys, and then press **Enter**.



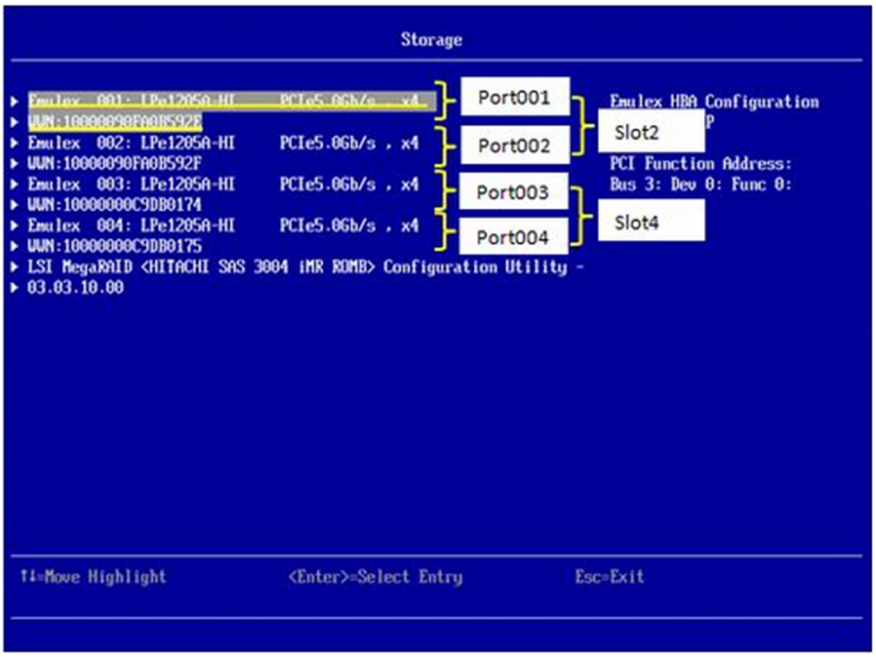
12. Select **Return to Previous Page** by using ↓ and ↑ keys, and then press **Enter**.



13. Confirm the slot number and the port number of failed mezzanine card. In addition, record the value of **WWN**.

    Select **Emulex** *nnn* line for the failed mezzanine card slot #, where *nnn* is even number, in **Storage** window by using ↓ and ↑ keys, and then press **Enter**.

Note: A half wide server blade can install a mezzanine card in slot 2. A full wide server blade can install two mezzanine cards in slot 2 and slot 4.



14. Repeat from step 4 to step 12 for second port of the failed mezzanine card.

16 Gb FC 2-ports mezzanine card

Confirming the parameters of 16 Gb FC mezzanine card

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade will power on.
3. Wait about five minutes until **System Configuration and Boot Management** window is displayed.

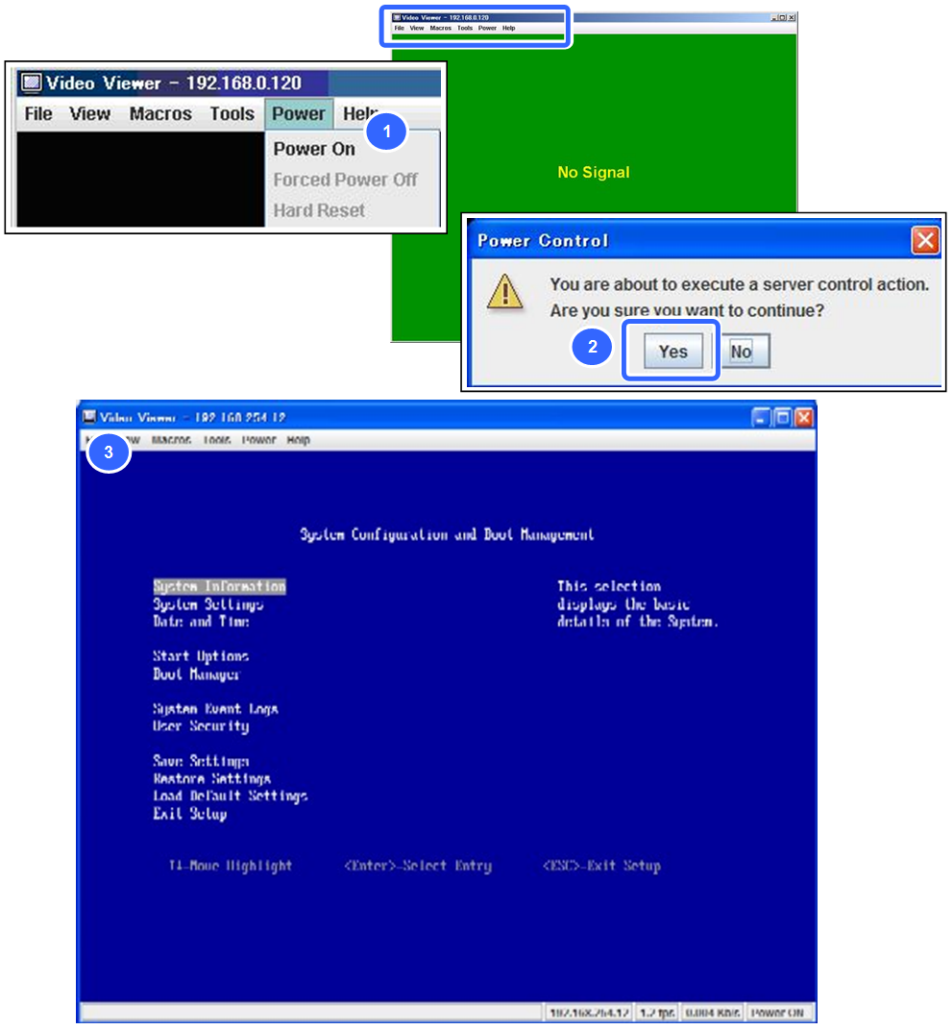
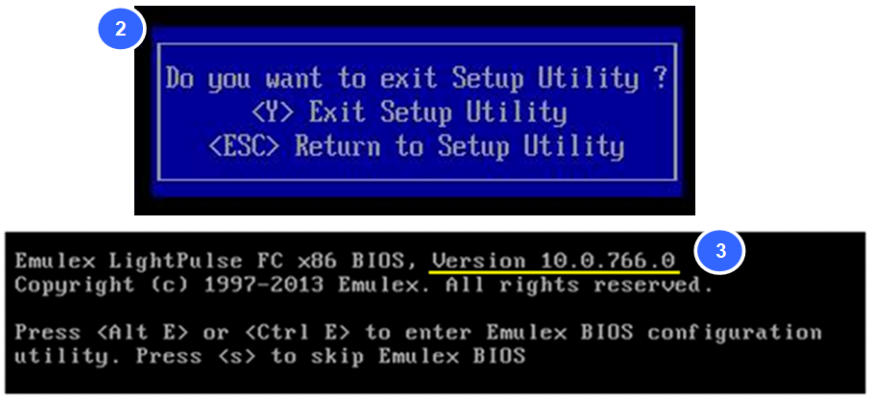


Figure 7-4 Powering on the server blade

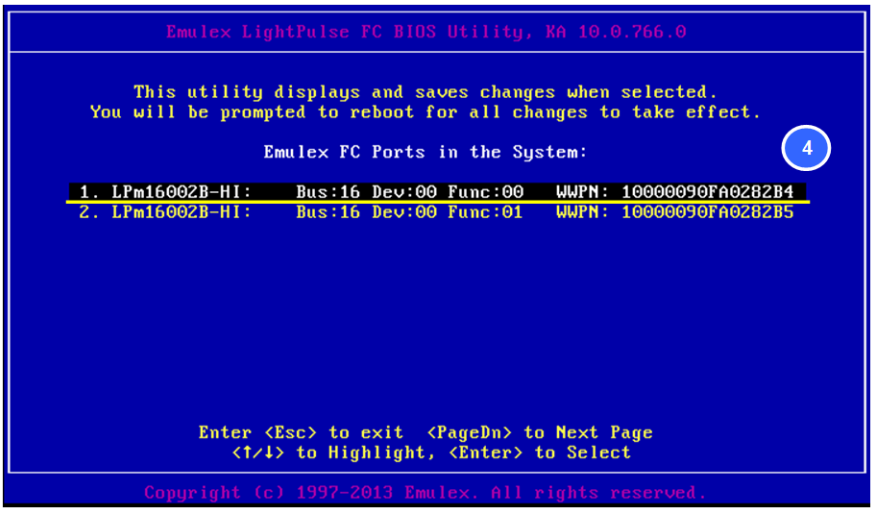
Confirming the parameters of 16 Gb FC mezzanine card on CB 520H B2

To confirm the parameters of 16 Gb FC mezzanine card on CB 520X B1/B2/B3 or CB 520H B3/B4, go to Confirming parameters of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4 on page 7-13.

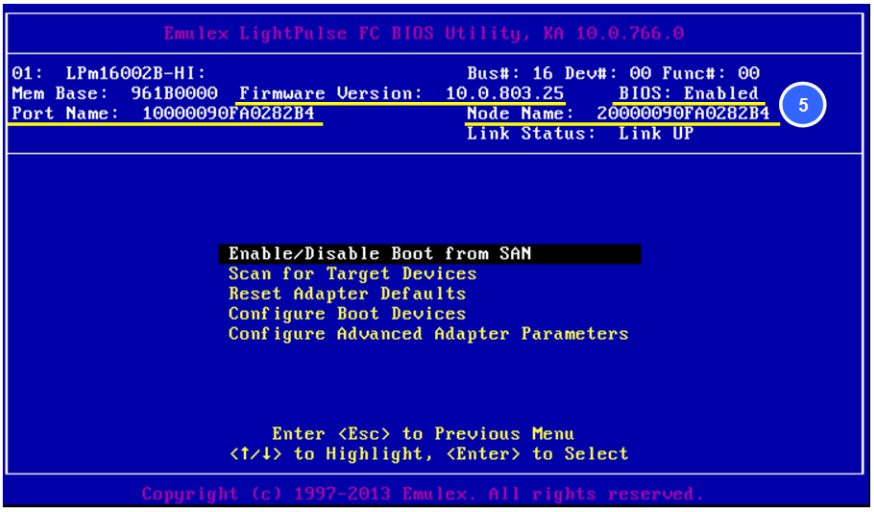
1. Press **Esc** in **System Configuration and Boot Management** window.
2. Press **Y** when **Do you want exit Setup Utility** is prompted.
3. Confirm BIOS version, and then press **Ctrl** + **E** key in the following prompt.



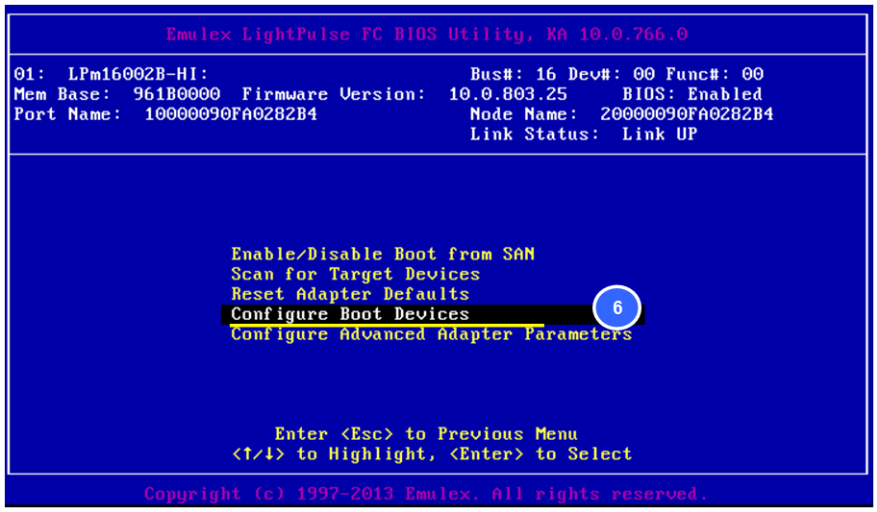
4. The BIOS utility is displayed. Select < 1 > and then press **Enter** key.



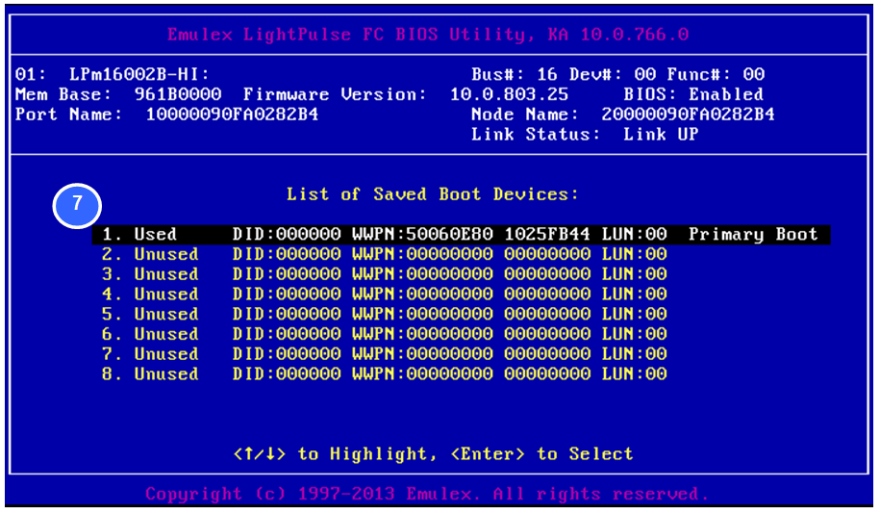
5. Confirm and record **Firmware version**, BIOS setting, which is **Enabled** or **Disabled**, **Port Name**, and **Node name**.



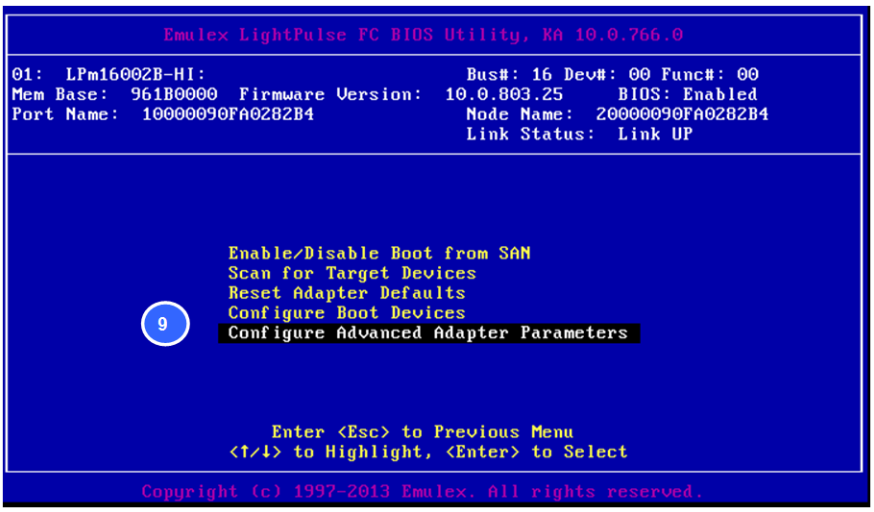
6. Select **Configure Boot Devices**, and then press **Enter**.



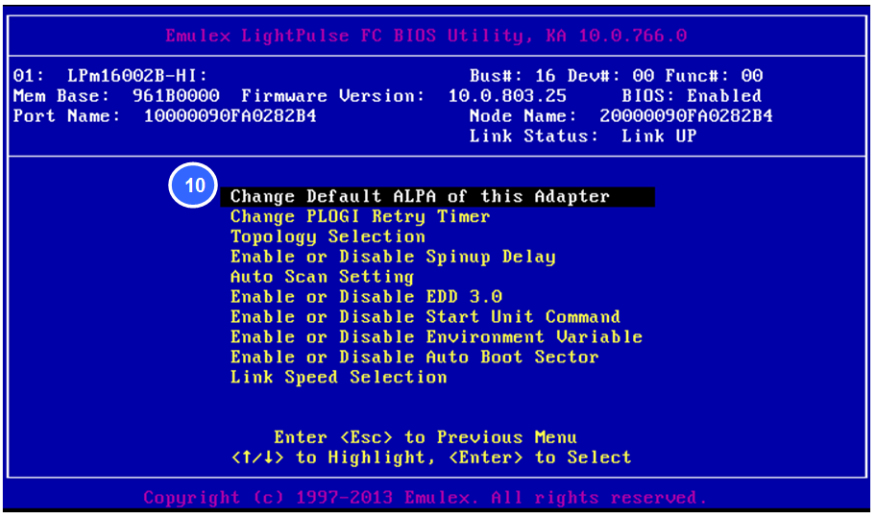
7. The Boot Device List is displayed. Confirm and record **DID**, **WWPN** and **LUN** of **Used** in the boot device list.
8. Press **Esc** key once to return to the previous menu.



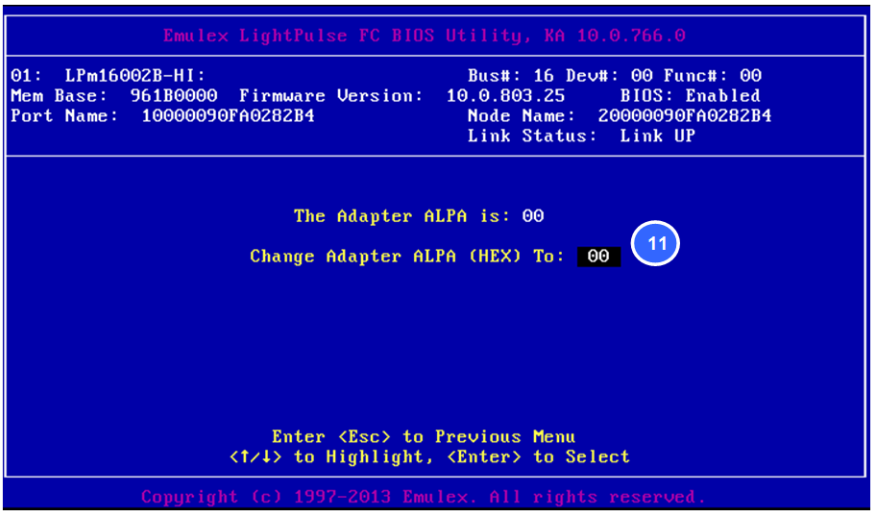
9. Select **Configure Advanced Adapter Parameters**, and then press **Enter**.



10. Select **Change Default ALPA of this Adapter**, and then press **Enter**.



11. Confirm and record **ALPA** setting, and then press **Esc**.



12. Repeat step 11 and step 12 while changing the selecting items in step 13 to confirm and record the settings of **PLOGI Retry Timer**, **Topology**,

Spinup Delay, **Auto Scan Setting**, **EDD 3.0**, **Start Unit Command**, **Environment Variable**, **Auto Boot Sector**, and **Link Speed**.

[PLOGI Retry Timer]

[Topology]

[Spinup Delay]

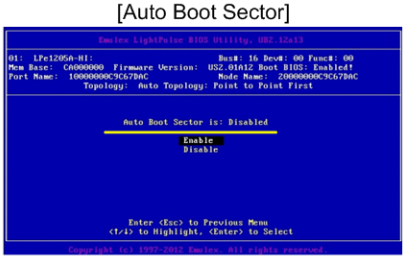
[Auto Scan Setting]

[EDD 3.0]

[Start Unit Command]

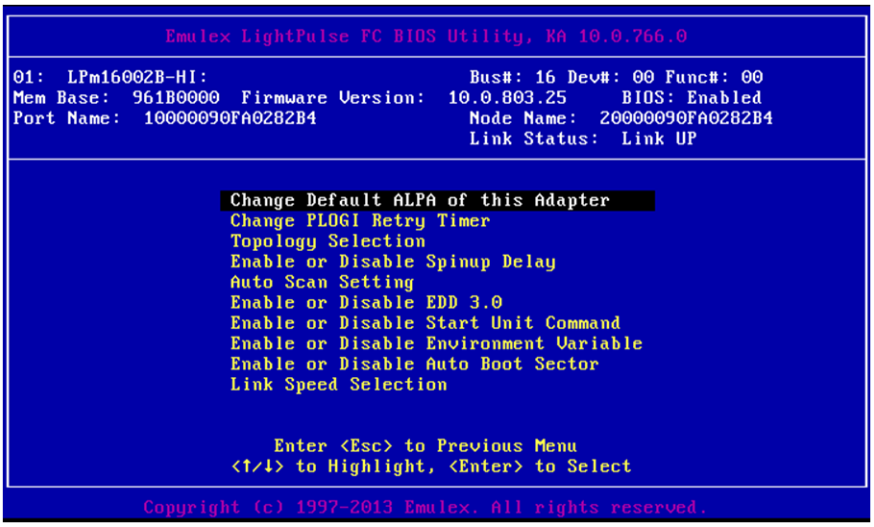
[Environment Variable]

[Auto Boot Sector]

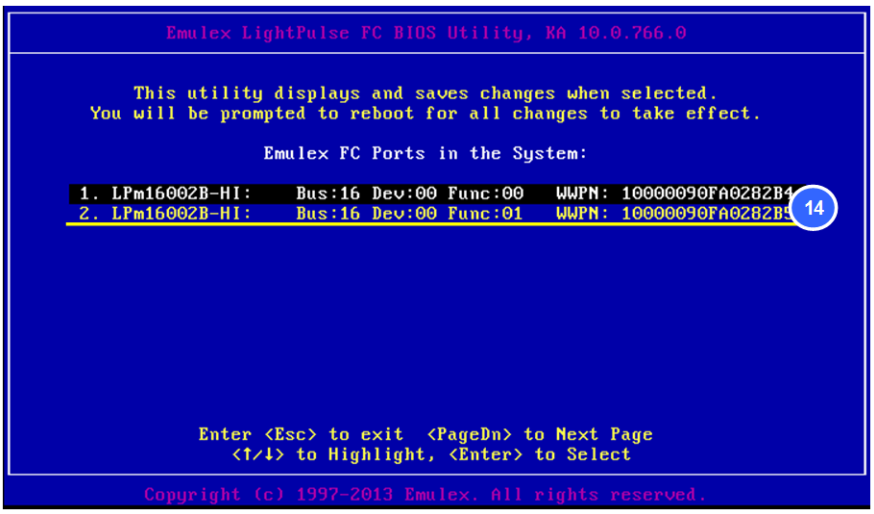


[Link Speed]

13. Press **Esc** two times in the following window.



14. Select < 2 >, and then press **Enter** key.



15. Repeat from step 5 to step 13 for second port of the failed mezzanine card.
16. Power off the server blade.

Restoring the parameters of 16 Gb FC mezzanine card

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade will power on.
3. Wait about five minutes until **System Configuration and Boot Management** window is displayed.

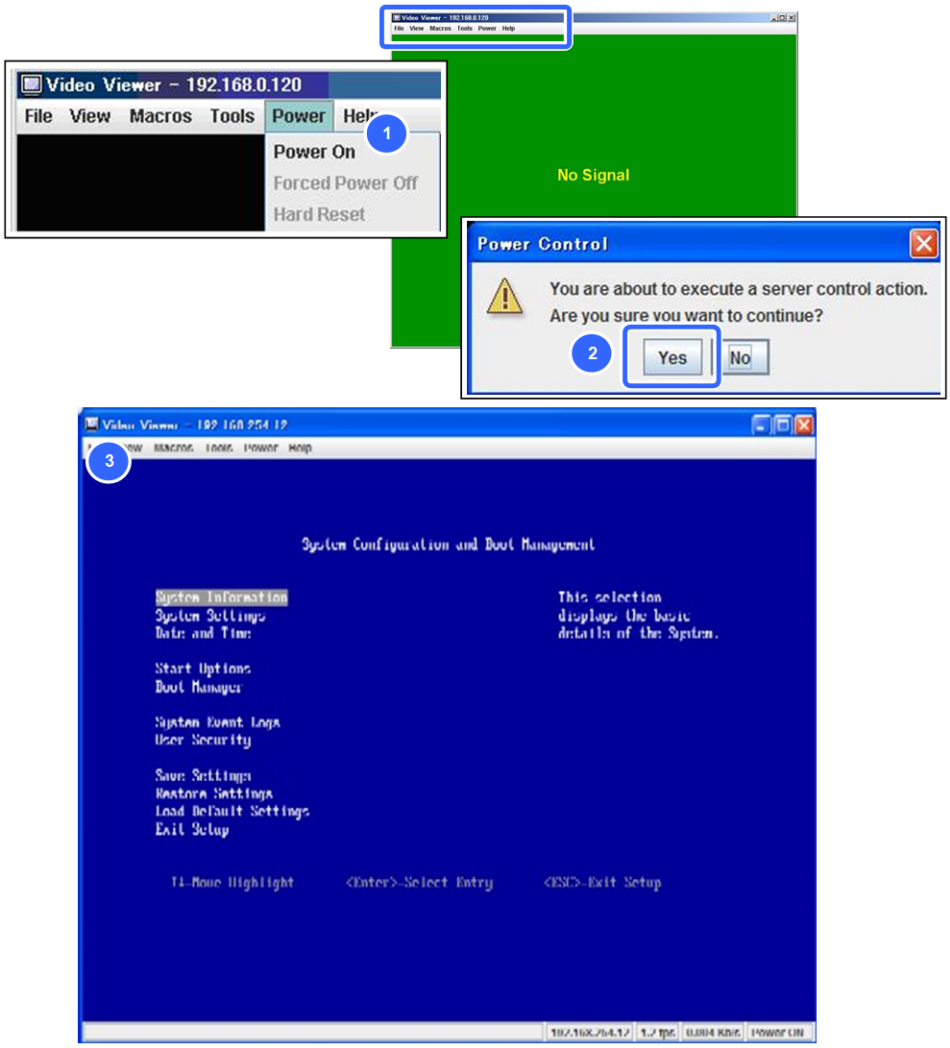
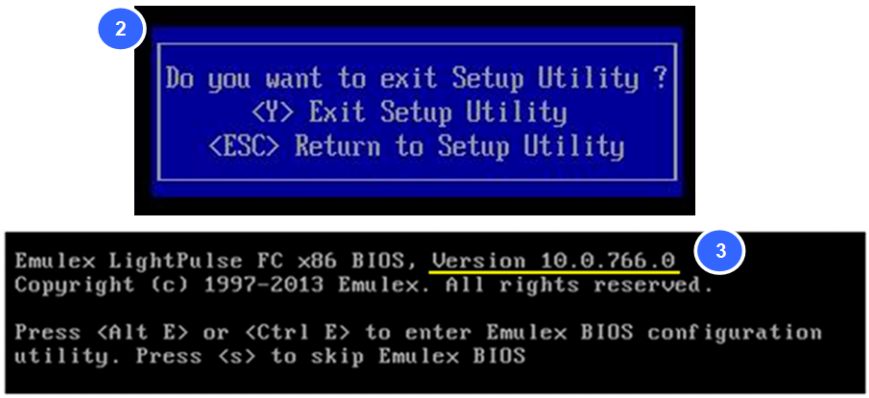


Figure 7-5 Powering on the server blade

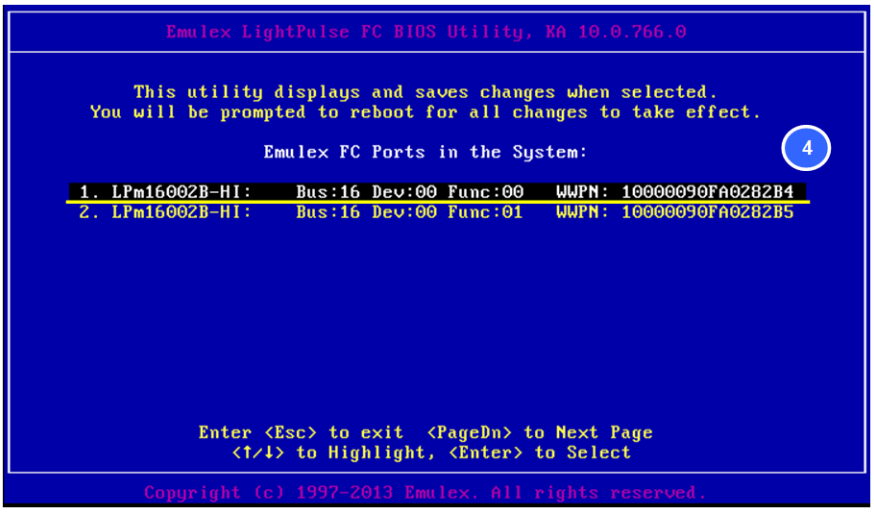
Restoring the parameters of 16 Gb FC mezzanine card on CB 520H B2

To restore the parameters of 16 Gb FC mezzanine card on CB 520X B1/B2/B3 or CB 520H B3/B4, go to Restoring parameter of FC mezzanine card on CB 520X B1/B2/B3, CB 520H B3/B4 on page 7-32.

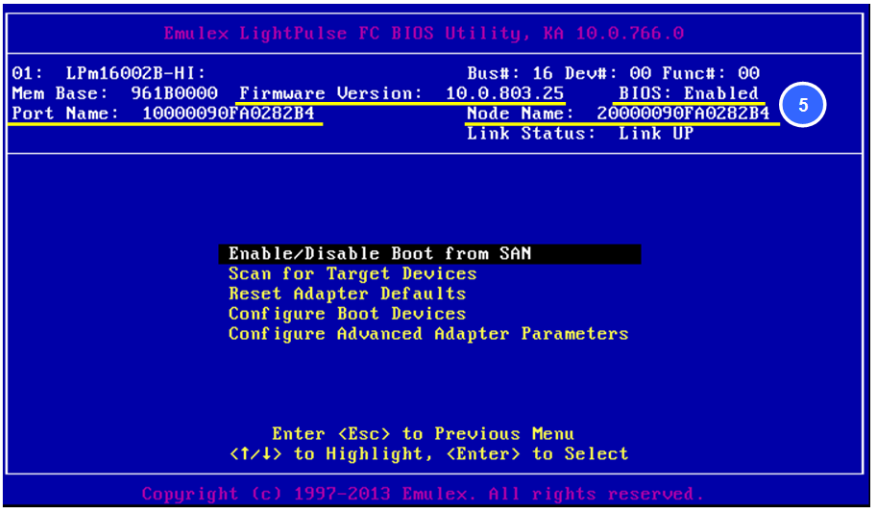
1. Press **Esc** in **System Configuration and Boot Management** window.
2. Press **Y** when **Do you want exit Setup Utility** is prompted.
3. Confirm BIOS version, and then press **Ctrl** + **E** key in the following prompt.



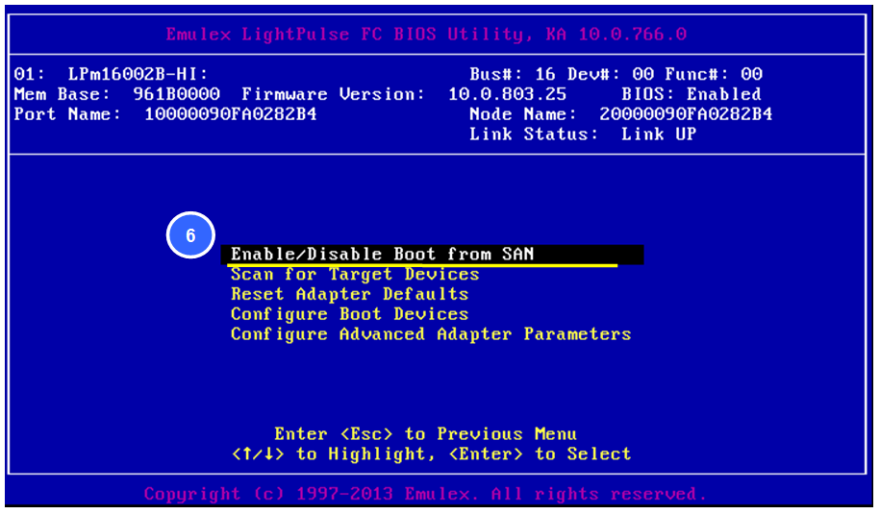
4. The BIOS utility is displayed. Select < 1 > and then press **Enter** key.



5. Confirm and record **Firmware version**, BIOS setting, which is **Enabled** or **Disabled**, **Port Name**, and **Node name.**

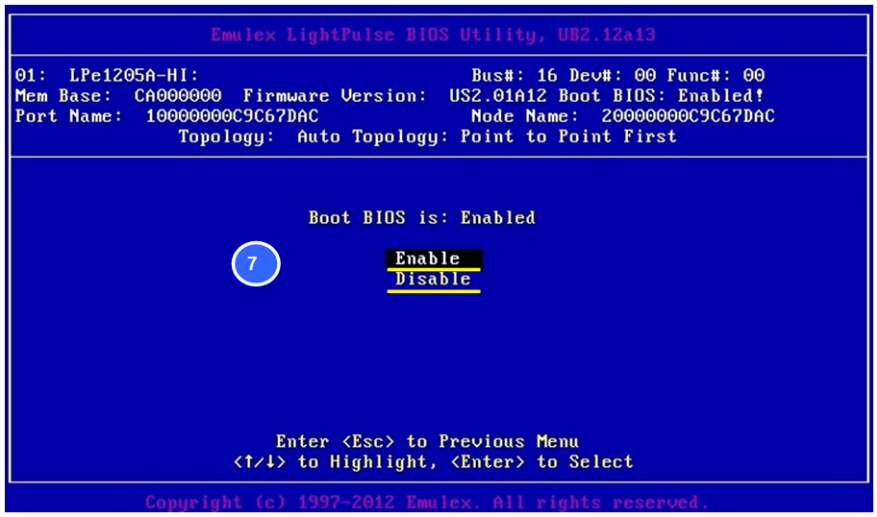


6. Select **Enable/Disable Boot from SAN**, and then press **Enter**.

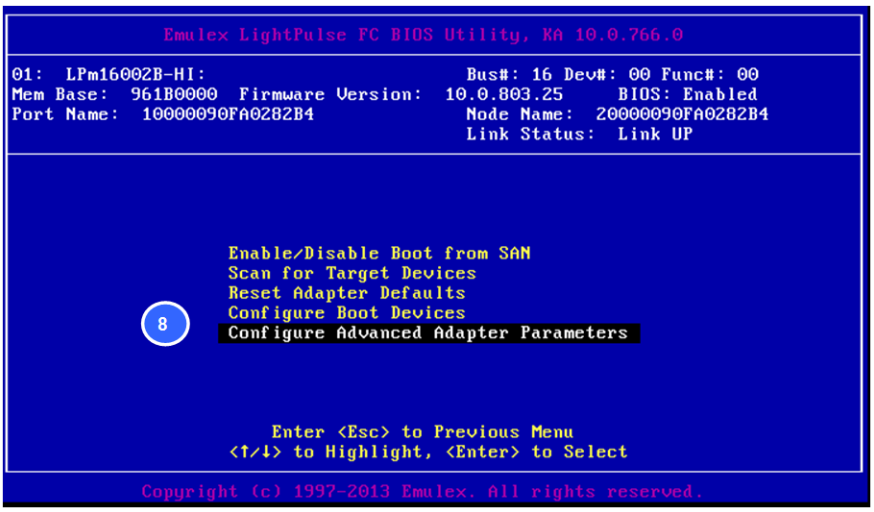


7. Select **Enable** or **Disable** corresponding to the recorded setting before the replacement, and then press **Enter**.

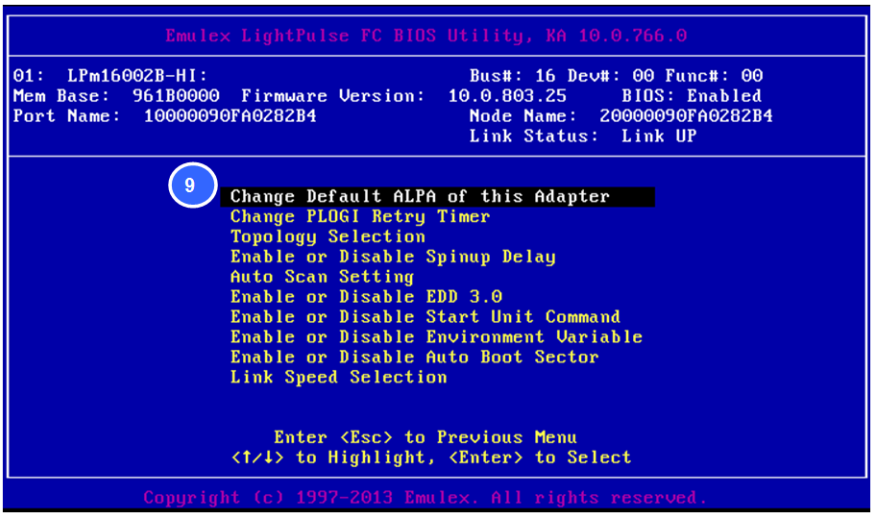
   Press **Esc** to return to the previous window.



8. Select **Configure Advanced Adapter Parameters**, and then press **Enter**.

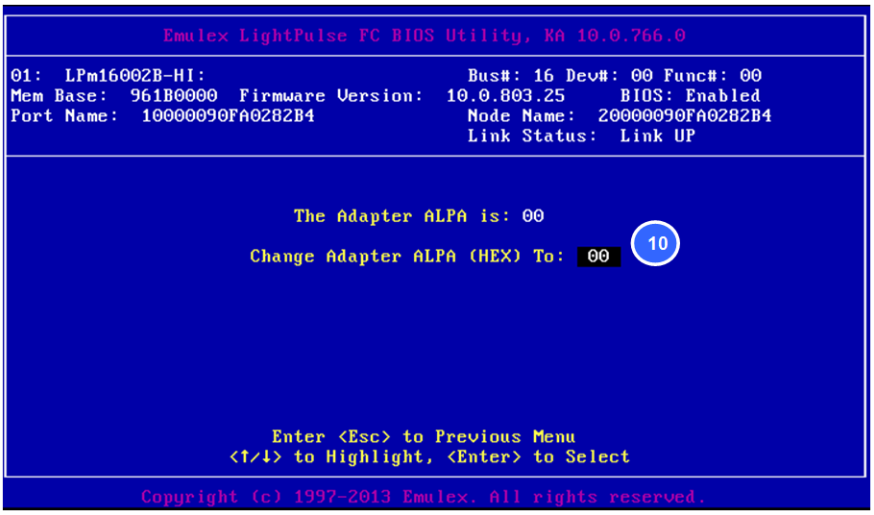


9. Select **Change Default ALPA of this Adapter**, and then press **Enter**.



10. Enter appropriate number corresponding to the recorded setting before the replacement, and then press **Enter**.

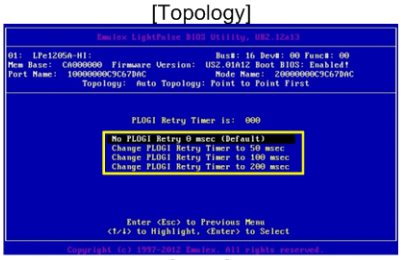
    Press **Esc** to return to the previous window.



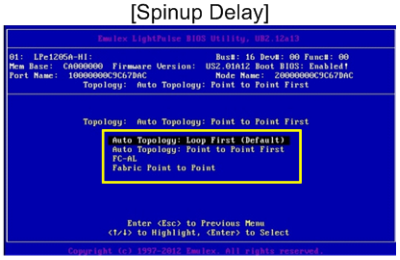
11. Repeat step 9 and step 10 while changing the selecting items in step 9 to restore the recorded settings of **PLOGI Retry Timer**, **Topology**, **Spinup Delay**, **Auto Scan Setting**, **EDD 3.0**, **Start Unit Command**, **Environment Variable**, **Auto Boot Sector**, and **Link Speed**.

[PLOGI Retry Timer]

[Topology]



[Spinup Delay]



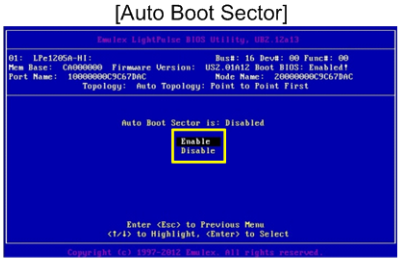
[Auto Scan Setting]

[EDD 3.0]

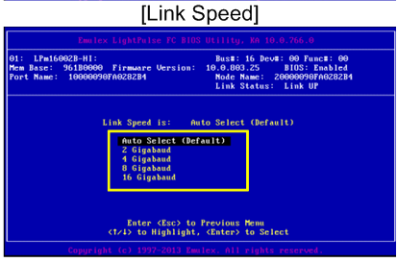
[Start Unit Command]

[Environment Variable]

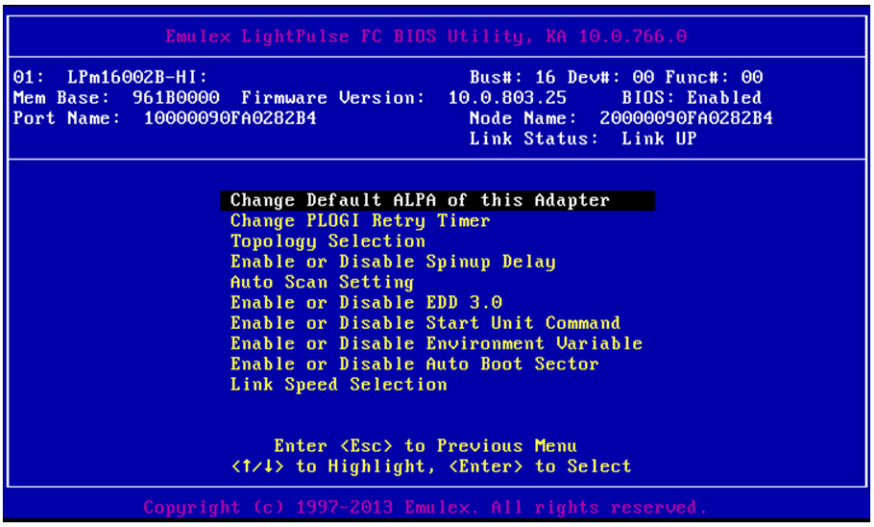
[Auto Boot Sector]



[Link Speed]

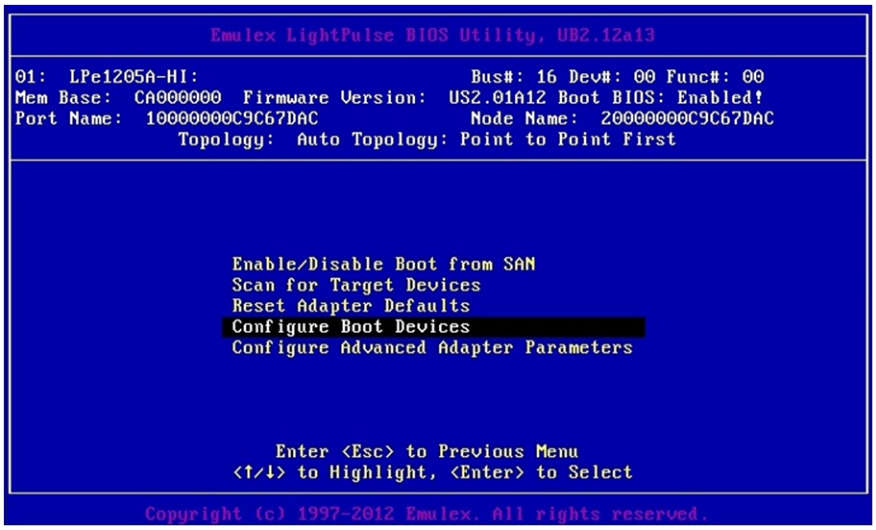


12. Press **Esc** two times in the following window.

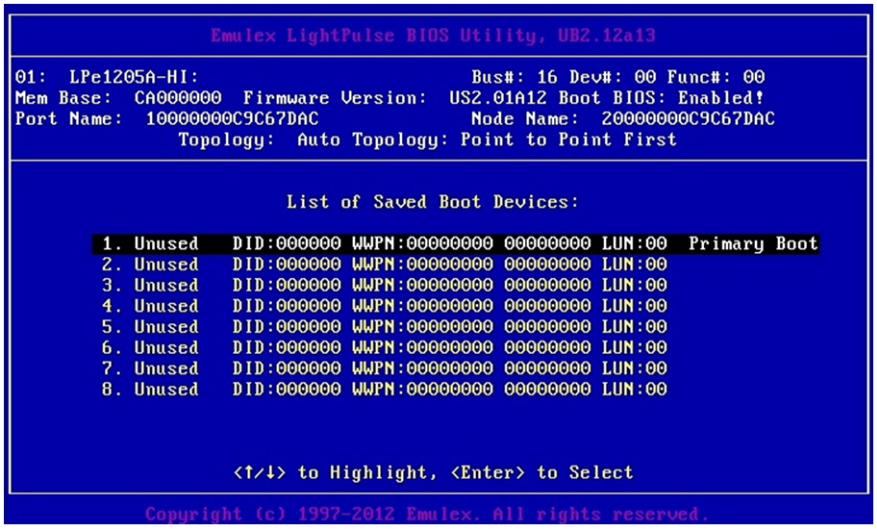


When **BIOS setting** of the port of FC mezzanine card is **Disabled**, skip from step 13 to step 20.

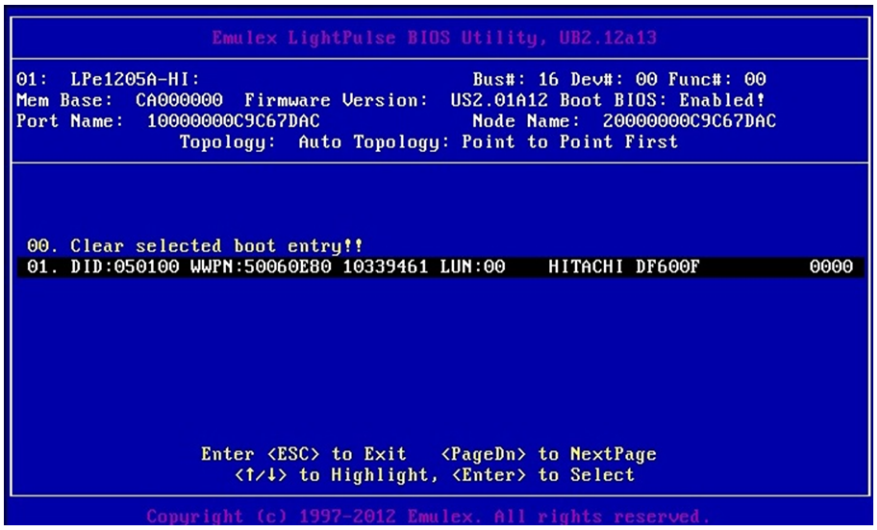
13. Select **Configure Boot Devices**, and then press **Enter**.



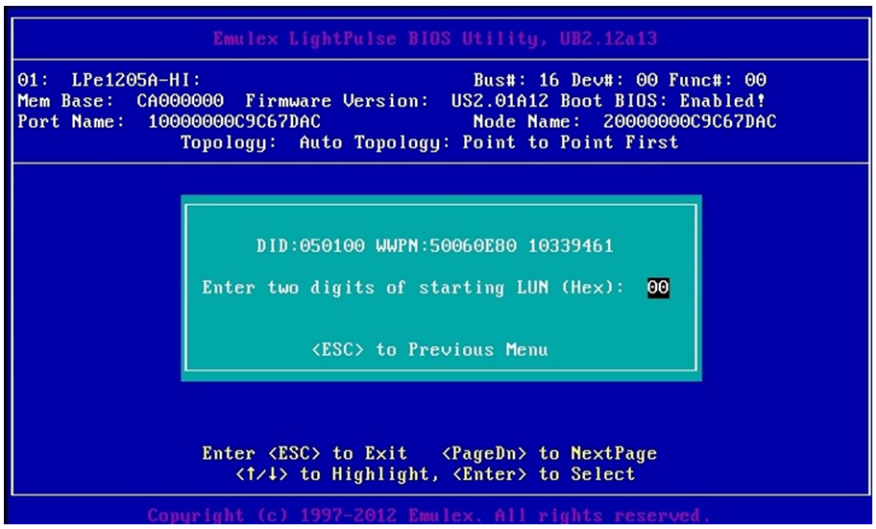
14. Select the ***Boot Entry number***, which status was **Used** before the replacement, and then press **Enter**.



15. Select a line, which indicates as same **DID** or **WWPN** as the ones with recorded before the replacement, and then press **Enter**.

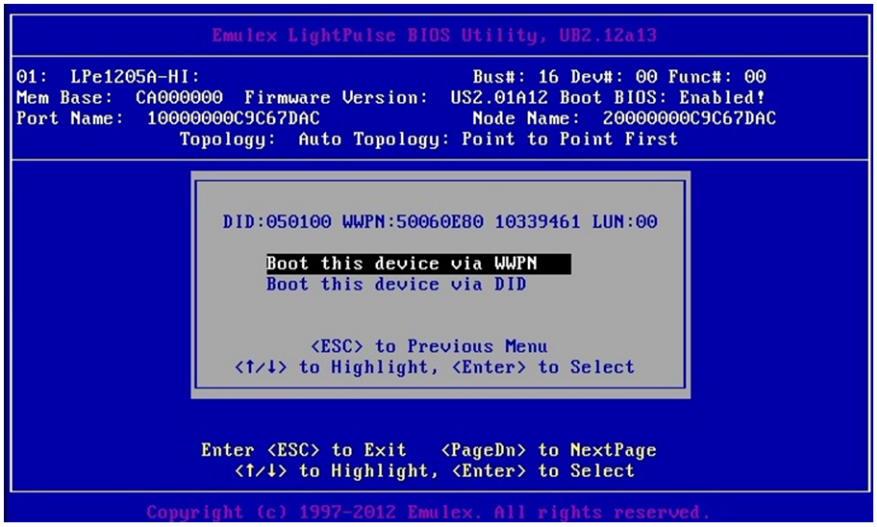


16. Enter the **LUN**, which recorded before the replacement, and then press **Enter** after selecting the column.



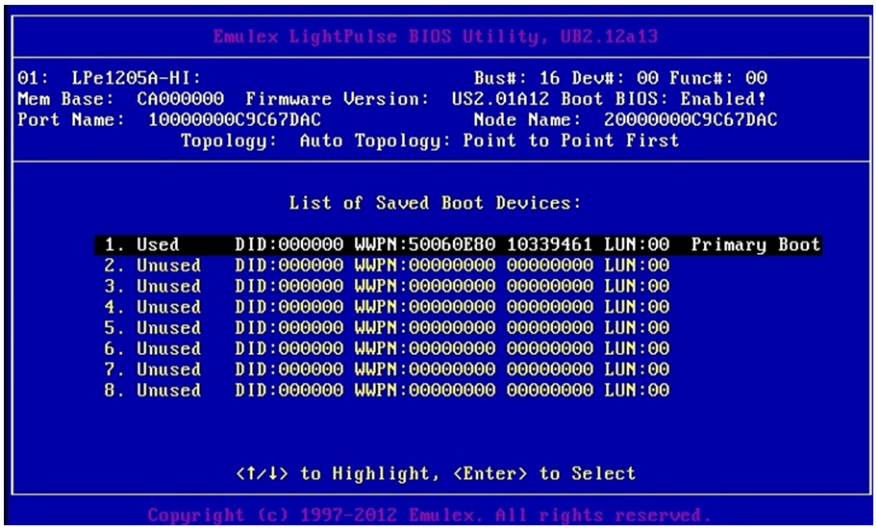
17. Select **to be set LUN** line, and then press **Enter** when the LUN to be registered is indicated in line #01.

18. Select **Boot this device via WWPN** when **WWPN** was registered in boot entry before the replacement, or select **Boot this device via DID** when **DID** was registered in boot entry before the replacement, and then press **Enter**.

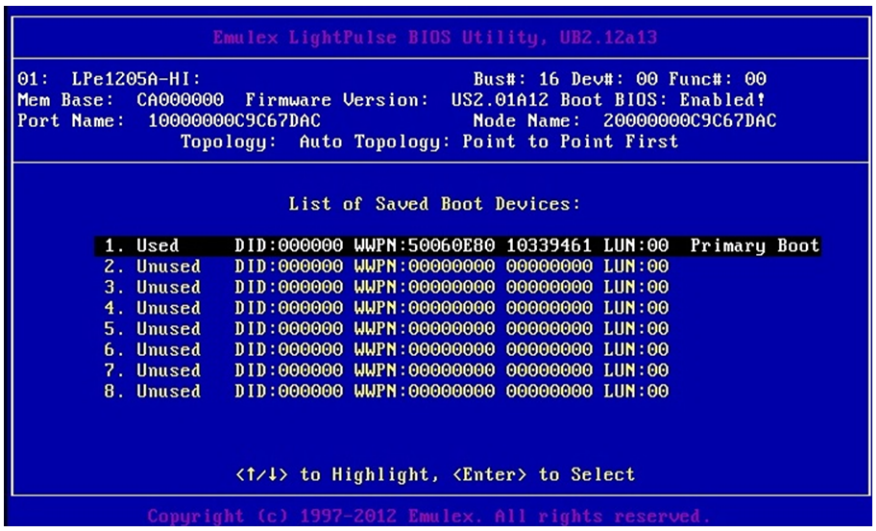


19. Record the registered boot entry.

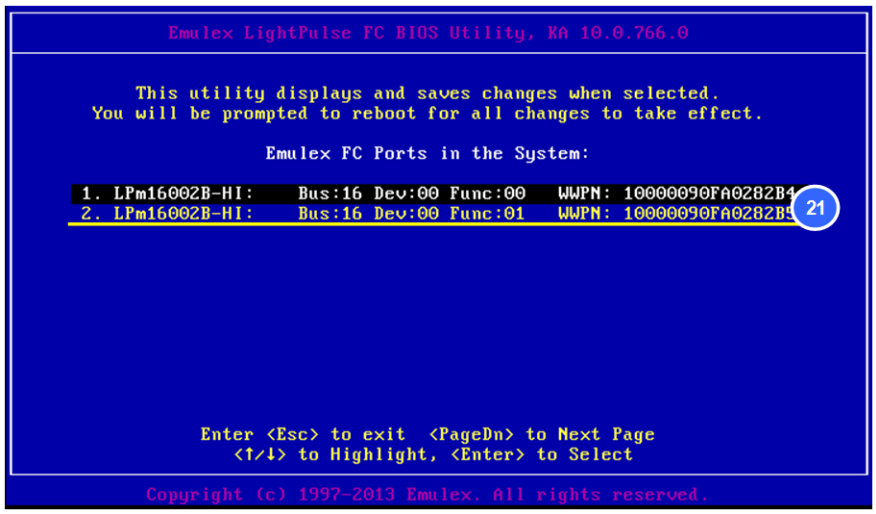
    When multiple boot entries are registered, repeat Step #14 to Step #18 for each entry, and then write down the registered boot entry



20. Press **Esc** two times when the following window is displayed.



21. Select < 2 >, and then press **Enter** key.

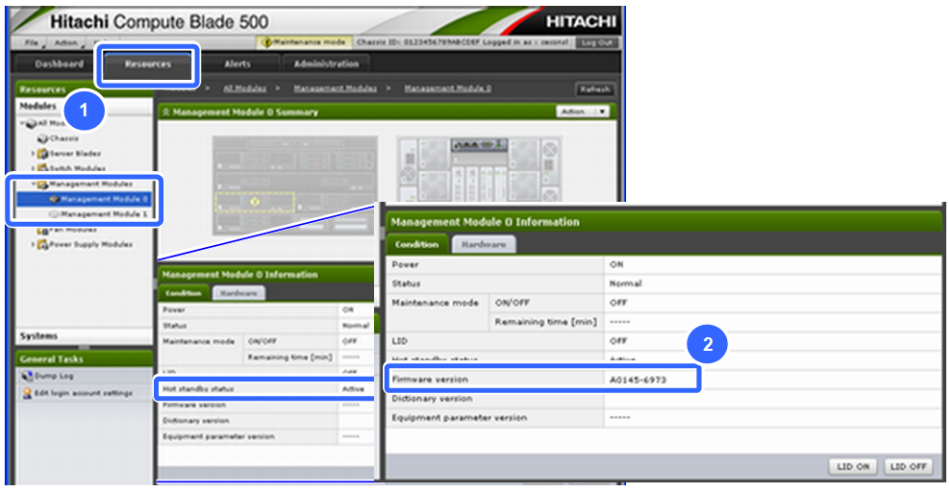


22. Repeat from step 5 to step 20 for second port of the replaced mezzanine card.
23. Power off the server blade.

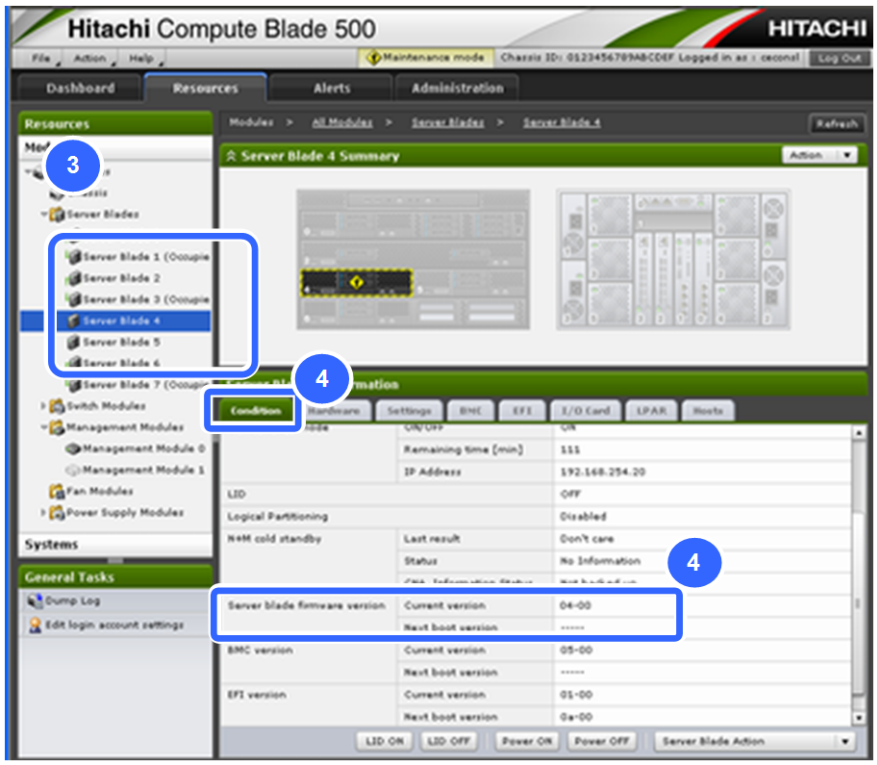
10Gb CNA 4-port mezzanine card

Confirming the firmware versions

1. Click **Resources** > **Modules** > ▶ of ▶ **All Modules** > ▶ of ▶ **Management Modules** > ***Active management module*** in the Web console.
2. Confirm the **Firmware version** column in lower right **Condition** pane, and then write down the version.



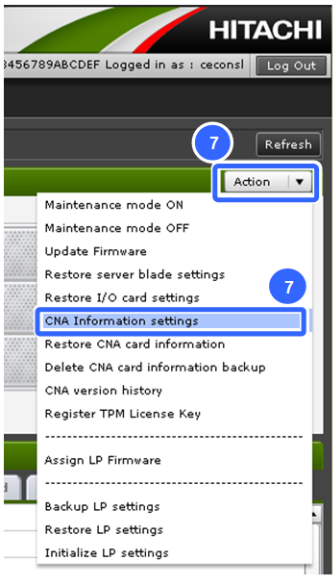
3. Click ▶ of ▶ **Server Blades** > ***Target server blade***.
4. Click **Condition** in lower right pane, confirm **Server blade firmware version** column, and then write down the version.

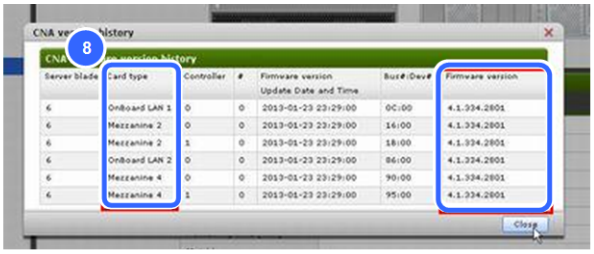


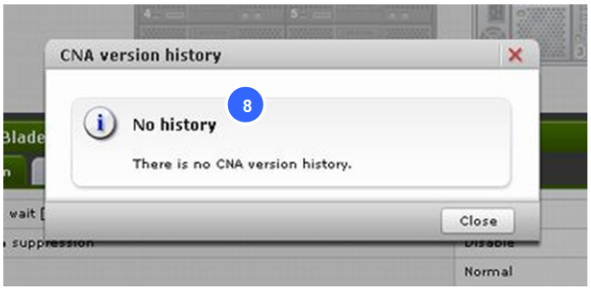
5. Skip the following step 6 and step 7 when the version of management module is A0135 or earlier.
6. Click **Action** > **CNA revision history** in upper right of the window.
7. Confirm and write down the latest CNA firmware version of the failed CNA mezzanine card in **CNA revision history** window.

   Consider that the latest **Update Date and Time** represents the latest **CNA firmware version** of the CNA product.

Note: When the server blade has not been rebooted since the firmware version of management module had been updated to A0145 or later, **No history** is indicated.







8. Depending on the server model and firmware versions, select one of the following procedures.

   a. The server model is CB 520H B3/B4, CB 520X B1/B2/B3:
   End of the procedure before the replacement. Perform the replacement.

   b. The server model is CB 520H B2:
   Go to Preparing to confirm the FCoE settings on page 7-64.

   c. The server model is CB 520H A1/B1, CB 520A A1, CB 540A A1/B1, the management module firmware version is A0180 or later:

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later
CB 540A A1/B1	03-20 or later

   Go to Confirming the UMC and Personality settings on page 7-63.

   d. The server model is CB 520H A1/B1, CB 520A A1, CB 540A A1/B1, the management module firmware version is A0179 or earlier:
   When the server blade is CB 520H B2, confirming the iSCSI setting is not required.

Server model	Firmware version
CB 520H A1/B1	01-69 or earlier
CB 520A A1	02-37 or earlier
CB 540A A1/B1	03-19 or earlier

Go to Confirming the iSCSI settings on page 7-57.

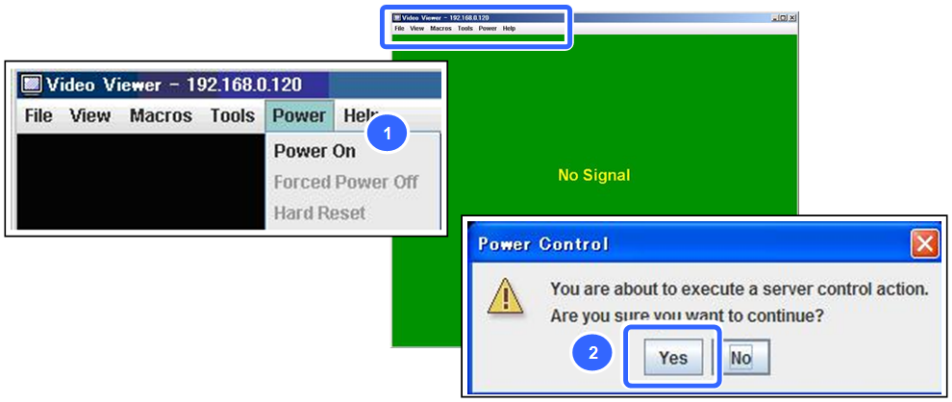
Confirming the iSCSI settings

This procedure shall be performed when the firmware version of management module is A0179 or earlier, or the firmware version of server blade is as follows.

When the server blade is CB 520H B2/B3/B4 or CB 520X B1/B2/B3, skip this procedure.

Server model	Firmware version
CB 520H A1/B1	01-69 or earlier
CB 520A A1	02-37 or earlier
CB 540A A1/B1	03-19 or earlier

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed, Click **YES**.
   The target serve blade will power on.



3. Press **Ctrl** + **P** key when the following prompt was displayed.

4. **PXESelection Utility** window is displayed. Select the target controller, and then press **Enter** key.

5. **Controller Configuration** window is displayed. Confirm and record the configuration of **MultiChannel Support** and **Personality**.
6. Select **Continue**, and then press **Enter** key.

Note: The **Controller number** of the replaced CNA or LAN card varies depending on the server model and the mezzanine card slot#.

Identify the **Controller number** according to the criteria in the following table.

Two **Controller number** are assigned to a CNA or LAN card.

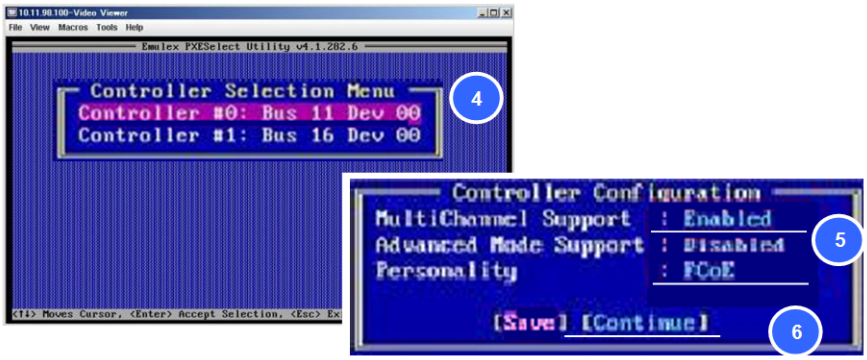
One **Controller number** is assigned to an onboard LOM.

No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
1	GGAGC0A*n*- or GGAGB0A*n*- without LOM	1	2	#0, #1 for the mezzanine
2		2	3	#0, #1 for Mezz#1
				#2, #3 for Mezz#2
3	GGAGC0B*n*- with LOM	0	1	#0 for LOM [3]
		1	3	#0 for LOM [3]
				#1, #2 for the mezzanine
4	GGAGD0A*n*- without LOM	1	2	#0, #1 for the mezzanine
5		2	4	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
6		3	6	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
				#4, #5 for third mezzanine #
7		4	8	#0, #1 for Mezz #1
				#2, #3 for Mezz #2
				#4, #5 for Mezz #3
				#6, #7 for Mezz #4
8	GGAGD0B*n*- with LOM	0	2	#0, #1 for LOMs [4]
		1	4	#0, #1 for LOMs [4]
				#2, #3 for the mezzanine
9		2	6	#0, #1 for LOMs [4]

No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
				#2, #3 for Mezz #2
				#4, #5 for Mezz #4

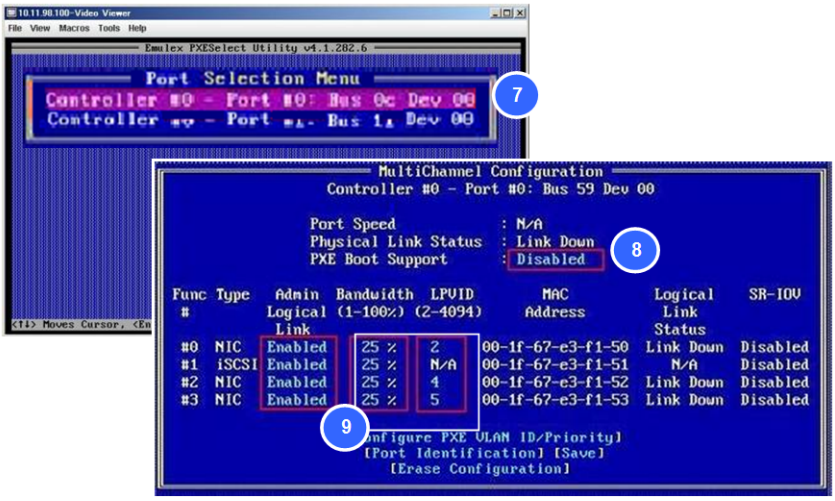
Notes:

1. The # of CNA indicates the total number of installed Emulex 10Gb CNA mezzanine card and LAN mezzanine card.
2. Confirm the indicated number of controllers in Controller Selection Menu window is equal to the # of Controller indicated in this table for the replaced server configuration.
3. The controller #0 for is assigned to LOM for CB 520H B1 (GGAGC0B*n*- with LOM).
4. The controller #0 and #1 are assigned to LOMs for CB 540A B1 (GGAGD0B*n*- with LOM).

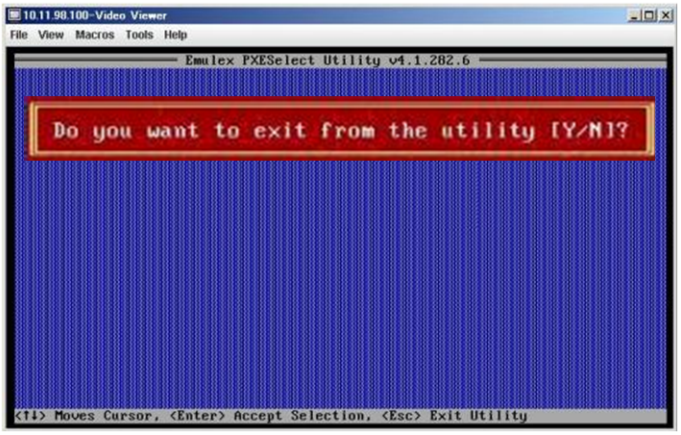


Note: The **Personality** for Emulex 10Gb LAN mezzanine card and LOM is fixed to **NIC** by default and cannot change.

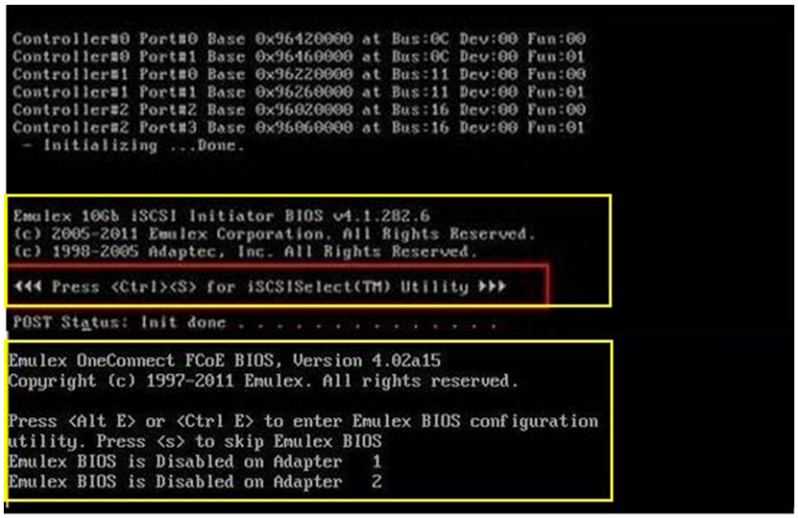
7. **Port Selection menu** window is displayed. Select the port#0, and then press **Enter** key.
8. **MultiChannel Configuration** window is displayed. Confirm and record the configuration of **PXE Boot Support**.
9. If PXE Boot Support is **Enabled**, confirm and record **Bandwidth** and **LPVID**.



10. Press **Esc** key.
11. Select the port#1, and then press **Enter** key.
12. Repeat the procedures, step 8 and step 9.
13. Press **Esc** key until the following dialog is displayed.
14. Press **Y** to close the PXESelection Utility.

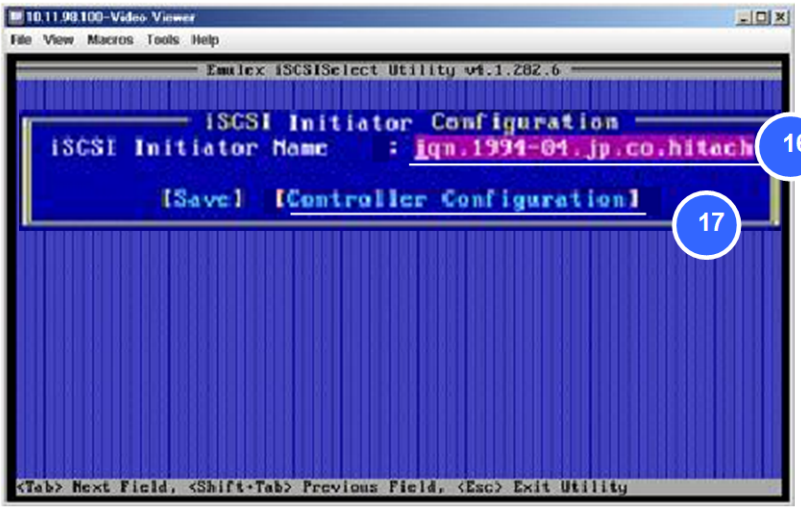


15. Press **Ctrl** + **S** key when the following prompt was displayed.
    iSCSISelect Utility starts.
    (Only when **iSCSI** is selected in **Personality** setting on one of the CNA products, the line of **iSCSI Initiator BIOS** is indicated.
    Only when **FCoE** is selected in **Personality** setting on one of the CNA products, the line of **FCoE BIOS** is indicated.)



Note: When the following message is indicated, press **Enter**.

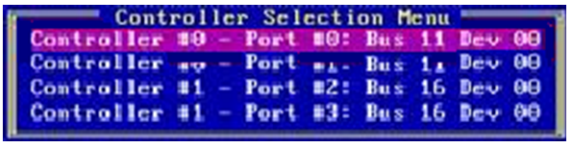
16. The iSCSI Select Utility is displayed. Confirm and record the **iSCSI Initiator Name**.
17. Select **Controller Configuration**, and then press **Enter** key.



Note: The **iSCSI Initiator Name** may not be fully indicated in the dialog box.

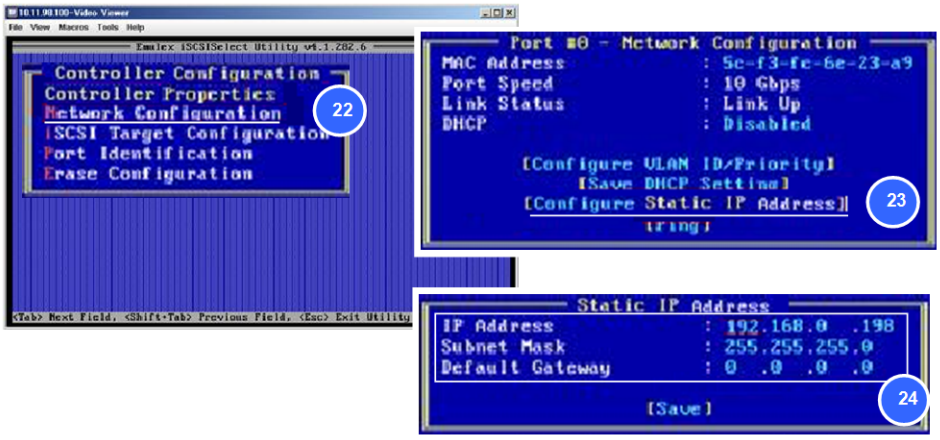
Move cursor to right by using → key to confirm the last character.

18. **Controller Selection menu** window is displayed. Select the port#0, and then press **Enter** key.



19. **Controller Configuration** window is displayed. Select **Controller Properties**, and then press **Enter** key.
20. **Controller Properties** window is displayed. Confirm and record **Boot Support**.
21. Press **Esc** key.

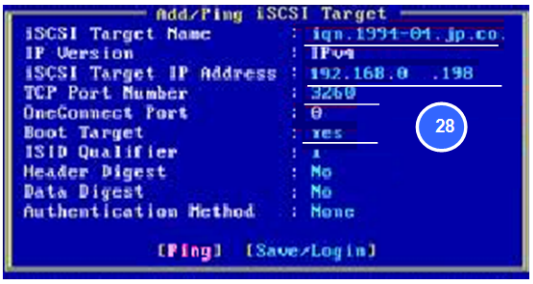
22. **Controller Configuration** window is displayed. Select **Network Configuration**, and then press **Enter** key.
23. **Network Configuration** window is displayed. Select **Configure Static IP Address**, and then press **Enter** key.
24. **Static IP Address** window is displayed. Confirm and record **IP Address**, **Subnet Mask** and **Default Gateway**.
25. Press **Esc** key.



26. **Controller Configuration** window is displayed. Select **iSCSI Target Configuration**, and then press **Enter** key.
27. **iSCSI Target Configuration** window is displayed. Select **Add New iSCSI Target**, and then press **Enter** key.

Note: The **iSCSI Target Name** may not be fully indicated in the dialog box.
Move cursor to right by using → key to confirm the last character.

28. **Static IP Address** window is displayed. Confirm and record **iSCSI Target Name**, **iSCSI Target IP Address**, **TCP Port Number** and **Boot Target**.
29. Press Esc key.



30. Press **Esc** key until **Controller Selection menu** window is displayed. Select the port#1-3, and then press **Enter** key.

Note: When the following message is indicated, press**Enter**.

---

31. Repeat the procedures, step 19 to step 29.

End of the "Confirming the iSCSI settings".

Go to Confirming the FCoE settings on page 7-65.

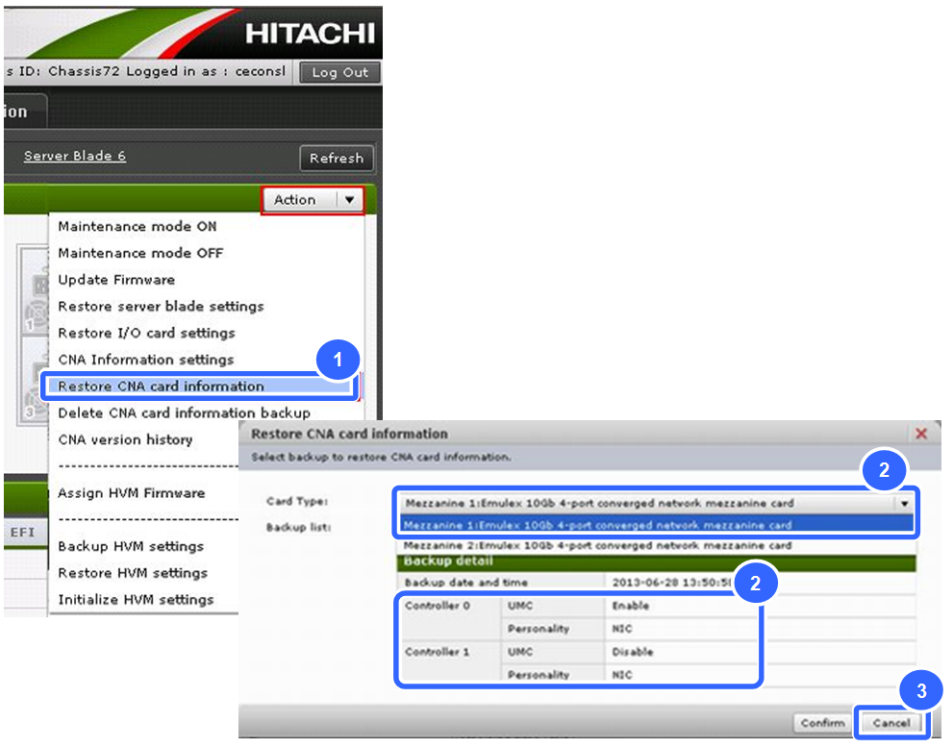
Confirming the UMC and Personality settings

This procedure shall be performed when the server model is neither CB 520H B2/B3/B4 nor CB 520X B1/B2/B3, the firmware version of management module is A0180 or later, and the firmware version of server blade is as follows.

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later

Server model	Firmware version
CB 540A A1/B1	03-20 or later

1. Click **Action** > **Restore CNA card information**.
2. Click **Card type**, and then click the ***target mezzanine card*** in **Restore CNA card information** dialog box, and then write down the **UMC** and **Personality** settings.
3. Click **Cancel** in **Restore CNA card information** dialog box.



End of the "Confirming the UMC and Personality settings".

Go to Preparing to confirm the FCoE settings on page 7-64.

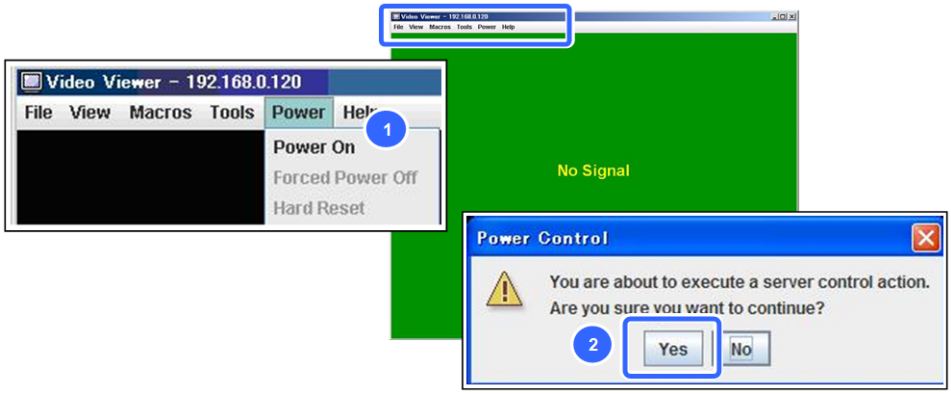
Preparing to confirm the FCoE settings

This procedure shall be performed when the server model is CB 520H B2.

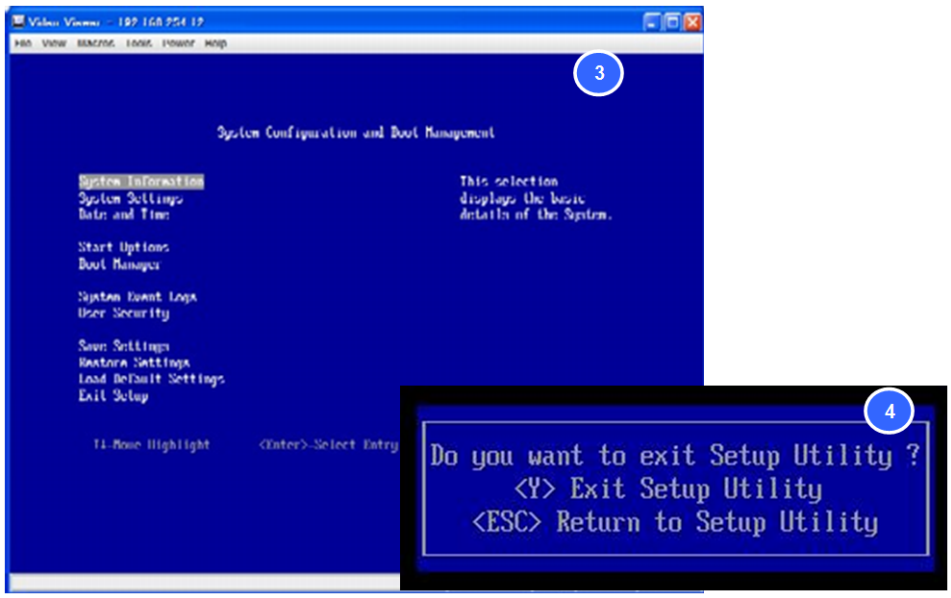
This procedure also shall be performed when the server model is neither CB 520H B2/B3/B4 nor CB 520X B1/B2/B3, the firmware version of management module is A0180 or later, and the firmware version of server blade is as follows.

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later
CB 540A A1/B1	03-20 or later

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade is powered on.



3. Wait about five minutes until **System Configuration and Boot management** window is displayed.
4. Press **Esc** in **System Configuration and Boot Management** window.
   When the **Do you want to exit ...** dialog box is displayed, press **Y**.



End of the "Turning on the server blade again".

Go to Confirming the FCoE settings on page 7-65.

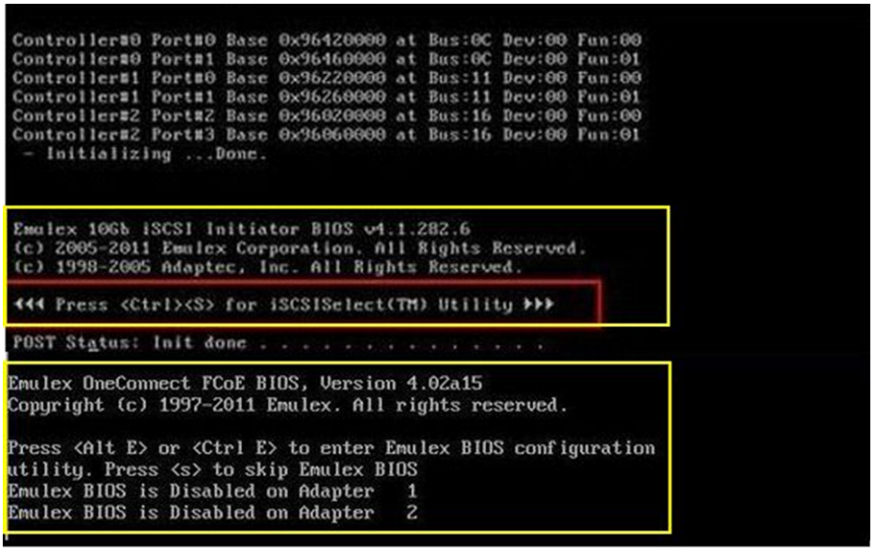
Confirming the FCoE settings

This procedure shall be performed in all of the conditions except the server blade is CB 520X B1/B2/B3 and CB 520H B3/B4.

1. Press **Ctrl** and **E** simultaneously in the following window.
   FCoE BIOS Utility starts.

(Only when **iSCSI** is selected in **Personality** setting on one of the CNA products, the line of **iSCSI Initiator BIOS** is indicated.

Only when **FCoE** is selected in **Personality** setting on one of the CNA products, the line of **FCoE BIOS** is indicated.)



2. Move cursor onto the **first Port** of failed CNA product by using ↑ and ↓ in **FCoE BIOS Utility** window, and then press the **Enter**.

(Confirm the **first Port** of failed CNA product according to the following table.)

Note

1. Identify the **first Port** of the failed CNA product with the **CNA name** and **BUS number** in **Emulex Adapters in the System** window.

   See the following table.

CNA product	Indication in Emulex Adapters in the System window	
	CNA name	BUS:(HEX)
CB 520H A1/B1/B2/B3/B4 and CB 540A A1/B1		
CB 520H B1/B2 LOM	OCl11102-F-HI	Any
CB 540A B1 LOM #0	OCl11104-F-HI	*PP*[1]
CB 540A B1 LOM #1		*QQ*[1]
CNA mezzanine *#a*[2]	OCml11104-F2-HI	*WW*[2]
CNA mezzanine *#b*[2]		*XX*[2]
CNA mezzanine *#c*[2]		*YY*[2]
CNA mezzanine *#d*[2]		*ZZ*[2]
CB 520A A1		
CNA mezzanine #1	OCml11104-F2-HI	*XX*[3]
		ZZ[3]
CNA mezzanine #2		*WW*[3]
		YY[3]

Notes:

1. The hexadecimal Bus number *PP* < *QQ*.
2. The *#a*, *#b*, *#c*, and *#d* following to the CNA mezzanine indicate the number of the installation order of the mezzanine card. When three CNA cars are installed, *#a*, *#b*, and *#c* are effective.

   When *#a* < *#b* < *#c* < *#d*, the hexadecimal Bus number *WW* < *XX* < *YY* < *ZZ*.
3. When two CNA mezzanine cards are installed, the hexadecimal Bus number *WW* < *XX* < *YY* < *ZZ*.

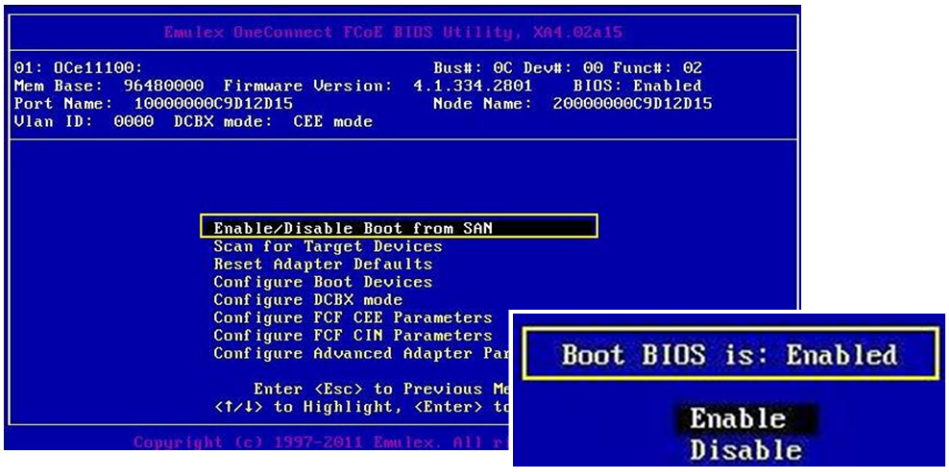
2. When the **BUS number** and **Dev number** for the **first Port** of replaced CNA product are not indicated in the window, skip this step.

   Set the parameters after the replacement from scratch.

   3. Two ports are indicated for the onboard LOM on CB 520H B1. Four ports are indicated for the onboard LOMs on CB 540A B1, a CNA mezzanine card, and a LAN mezzanine card, respectively.

3. Move cursor onto **Enable/Disable Boot from SAN** by using [↑] and [↓], and then press **Enter**.

   Confirm and write down the **Boot BIOS** is line.



4. Press **ESC**. The window in step 3 is displayed again.

   Move cursor onto **Configure Boot Devices** by using ↑ and ↓, and then press **Enter**.

   Confirm and write down the values of **DID**, **WWPN**, and **LUN** for each lines indicated as **Used** in **List of Saved Boot Devices** window.

   (Skip this step when the BIOS setting for the first port is set to **Disabled**.)

5. Press **ESC**. The window in step 3 is displayed again.

   Move cursor onto **Configure DCBX mode** by using ↑ and ↓, and then press **Enter**.

   Confirm and write down the **DCBX mode** is line.

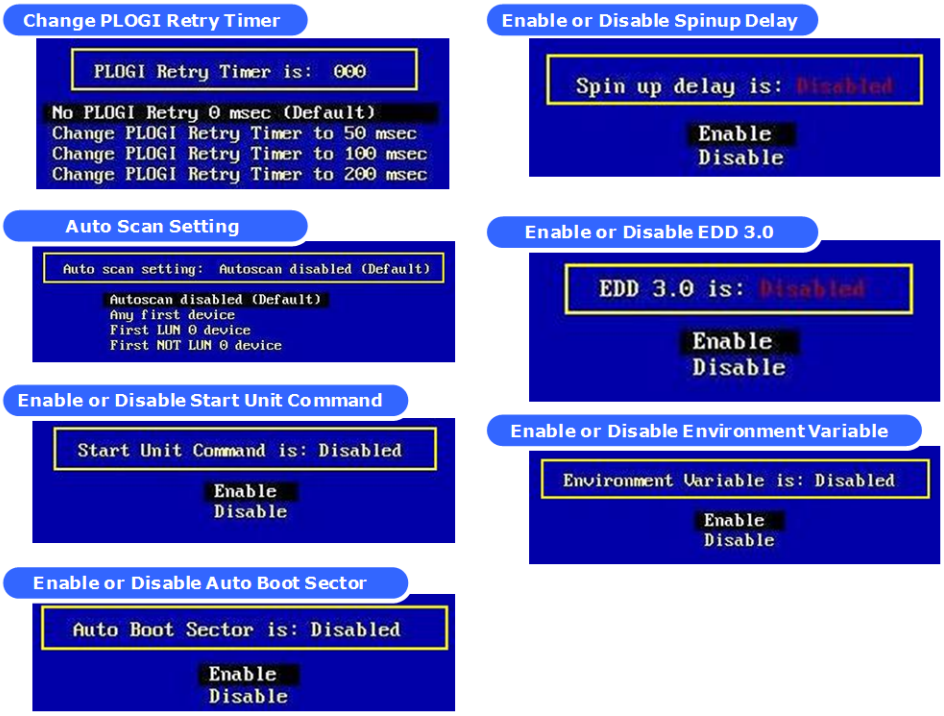
   (Skip this step when the BIOS setting for the first port is set to **Disabled**.)

6. Press **ESC**. The window in step 3 is displayed again.
   Move cursor onto **Configure FCF CIN Parameters** by using ↑ and ↓, and then press **Enter**.
   Move cursor onto **Enable/Disable VLAN ID** by using ↑ and ↓, and then press **Enter**.
   Confirm and write down **The current VLAN ID is** line.
   (Skip this step when the BIOS setting for the first port is set to **Disabled** or DCBX mode is **CEE**.)

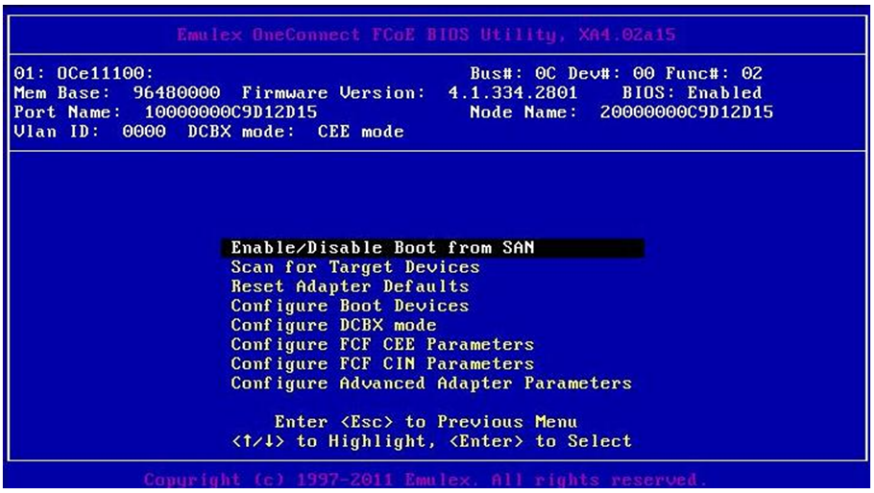
7. Press **ESC**. The window in step 3 is displayed again.
   Move cursor onto **Configure Advanced Adapter Parameters** by using ↑ and ↓, and then press **Enter**.
8. Move cursor onto **Change Default ALPA of this Adapter** by using ↑ and ↓, and then press **Enter**.
   Confirm and write down **The Adapter ALPA is** line.

9. Repeat the step 8 above by moving cursor onto **Change PLOGI Retry Timer**, **Enable or Disable Spinup Delay**, **Auto Scan Setting**, **Enable or Disable EDD 3.0**, **Enable or Disable Start Unit Command**, **Enable**

or Disable Environment Variable, and **Enable or Disable Auto Boot Sector**, respectively, and then confirm and write down each setting.



10. Press **ESC** in the following parameter item selection window, and then press **ESC** one more time.



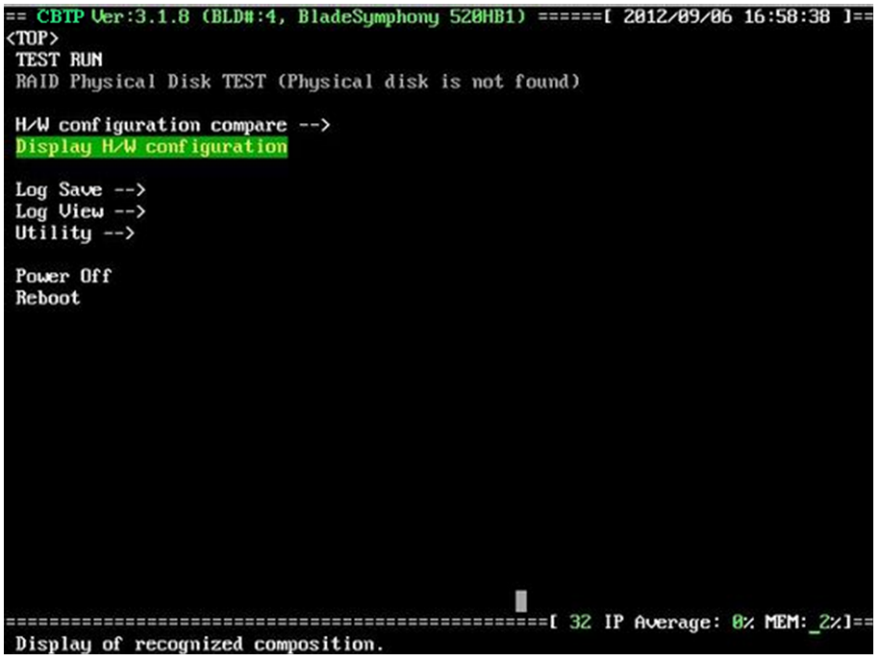
11. Select the next port of the failed CNA mezzanine card by using ↑ and ↓ in **FCoE BIOS Utility** window, and then press the **Enter**.

12. Repeat the procedures from step 3 to step 10.

End of the "Confirming the FCoE settings".

Updating the firmware of Emulex CNA/LAN mezzanine card

1. Select **Display H/W configuration**, and then press **Enter**.



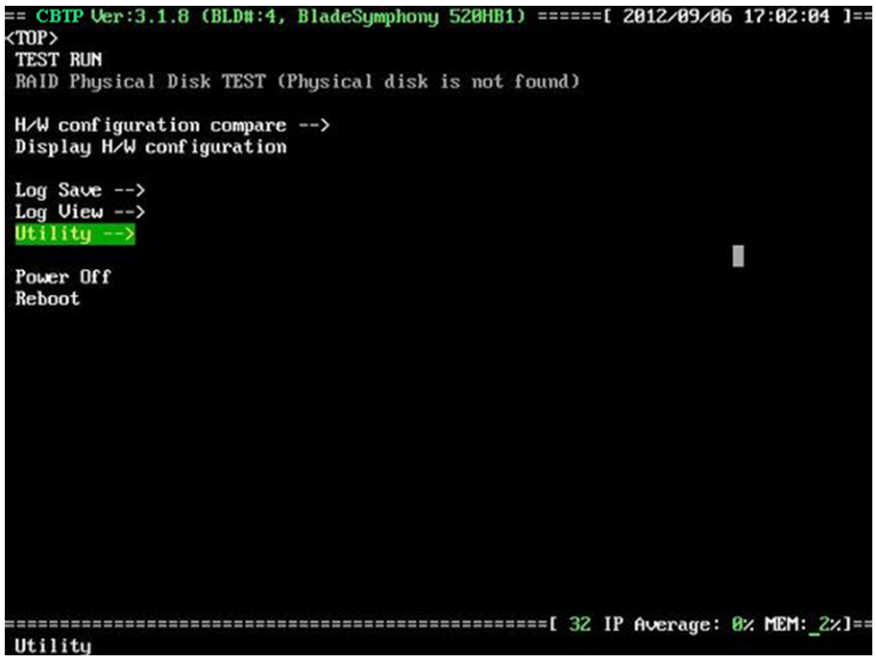
2. Confirm that the replaced CNA/LAN mezzanine card or LAN mezzanine card is indicated in the **Display H/W configuration** window.

   Move cursor onto **OK** by using **Tab** key, and then press **Enter**.

   The indicator of the CNA products varies depending on the server blade or CNA type.

Indicator	Component
Mezz-0*x*[1] eth# [Emulex Corporation] OneConnect 10 Gb NIC	CNA/ LAN mezzanine card on CB 520A A1, CB 520H A1/B1/B2/B3/B4
B-nn-M*y*[2] eth# [Emulex Corporation] OneConnect 10 Gb NIC	CNA/ LAN mezzanine card on CB 540A A1/B1, CB 520X B1/B2/B3
OnBoard eth# [Emulex Corporation] OneConnect 10 Gb NIC	LOM (Onboard 10 Gb LAN) on CB 520H B1/B2/B3/B4
B-nn-L*z*[3] eth# [Emulex Corporation] OneConnect 10 Gb NIC	LOM (Onboard 10 Gb LAN) on CB 540A B1
B-nn-OB eth# [Emulex Corporation] OneConnect NIC	LOM (Onboard 10 Gb LAN) on CB 520X B1/B2/B3
Notes: 1. *x* indicates the mezzanine slot number and the value is 1 or 2. 2. *y* indicates the mezzanine slot number and the value is 1, 2, 3, or 4. 3. *z* indicates the LOM number and the value is 1 or 2.	

3. Move cursor onto **Utility** by using **Tab** key in the main menu, and then press **Enter**.

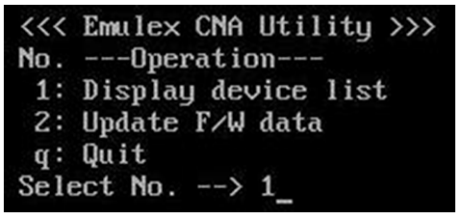


4. Move cursor onto **F/W update tool** by using **Tab**, and then press **Enter**.

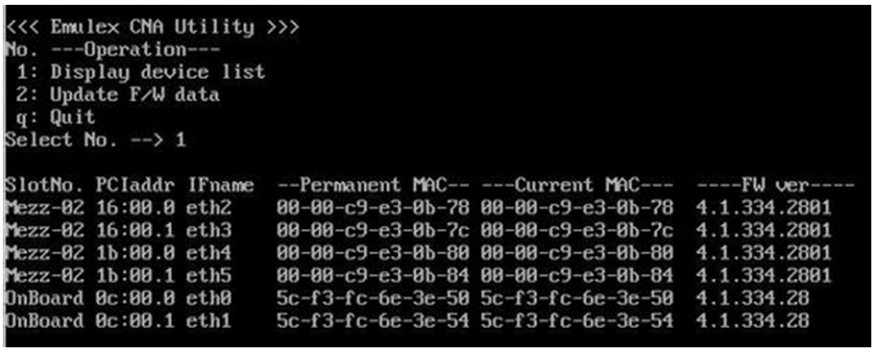
5. Move cursor onto **F/W update of Emulex CNA** by using **Tab**, and then press **Enter**.

6. Move cursor onto **OK** by using **Tab**, and then press **Enter**.

7. Enter 1 in **Select No.** line of **Emulex CNA Utility** dialog box, and then press **Enter**.



8. Confirm the **FW ver** columns for the replaced and other **CNA products**, and then decide whether the updating firmware is required.



Identify the firmware version of the replaced CNA/LAN mezzanine card with the indicated **Slot No** in the **Emulex CNA Utility** dialog box.

Slot No. indicator	Component	Server blade
Mezz-0*x*[1]	CNA/LAN mezzanine card	CB 520A A1, CB 520H A1/B2/B3/B4
B-nn-M*y*[2]	CNA/LAN mezzanine card	CB 540A A1/B1, CB 520X B1/B2/B3
OnBoard	LOM	CB 520H B1/B2/B3/B4

Slot No. indicator	Component	Server blade
B-nn-L*z*[3]	LOM	CB 540A B1
B-nn-OB	LOM	CB 520X B1/B2/B3

Notes:

1. *x* indicates the mezzanine slot number and the value is 1 or 2.
2. *y* indicates the mezzanine slot number and the value is 1, 2, 3 or 4.
3. *z* indicates the LOM number and the value is 1 or 2.

Note

Update the firmware of the replaced CNA/LAN mezzanine card according to the following criteria.

1. When the firmware version of failed CNA/LAN mezzanine card was confirmed before the replacement, apply the confirmed version onto the replaced Emulex CNA/LAN mezzanine card.

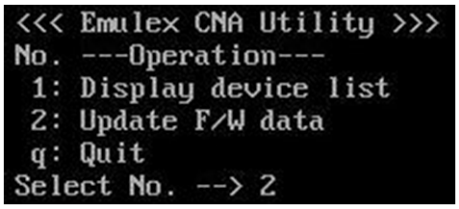
2. When the firmware version of failed CNA/LAN mezzanine card was not confirmed or was indicated as No history before the replacement, and other CNA/LAN mezzanine cards or LOM are installed in the server blade, apply the version of other mezzanine cards or LOM.

3. When the firmware version of failed CNA/LAN mezzanine card was not confirmed or was indicated as No history before the replacement, and neither CNA/LAN mezzanine cards nor LOM except the replaced CNA product is installed in the server blade, identify an appropriate firmware version of CNA product according to the server blade type and its firmware version. For details, see the following table.

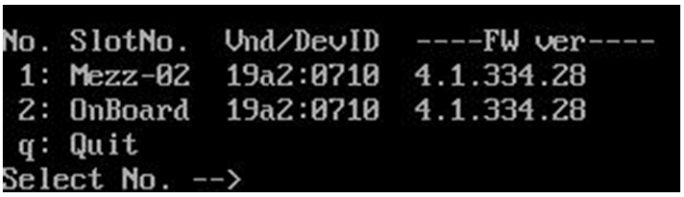
Blade		To be applied CNA FW version
Type	FW version	
CB 520A A1	< 02-51	4.2.433.604
	02-51 ≤	Latest version
CB 520H A1/B1	< 01-92	4.2.433.604
	01-92 ≤	Latest version
CB 540A A1/B1	< 03-25	4.2.433.604
	03-25 ≤	Latest version
CB 520H B2/B3/B4	N/A	Latest version
CB 520X B1/B2/B3	N/A	Latest version

Perform the following steps only when the updating firmware is required.

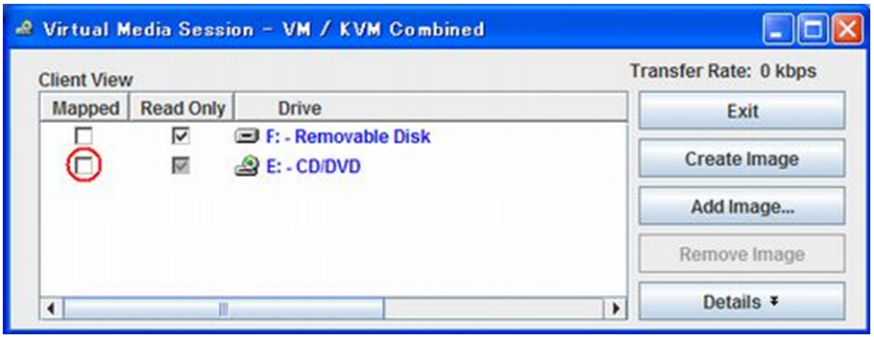
9. Enter 2 in **Select No**. line of **Emulex CNA Utility** dialog box, and then press **Enter**.



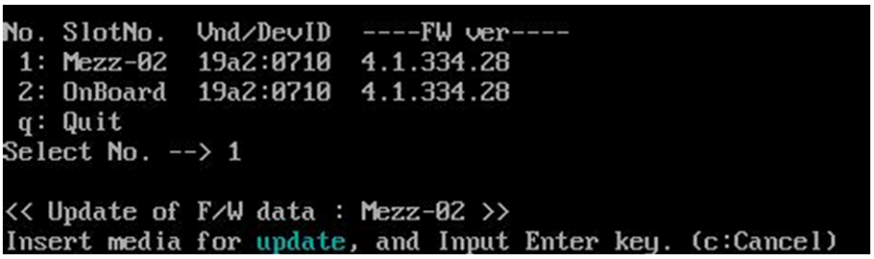
10. Enter the ***Number*** corresponding to the replaced CNA mezzanine card in **Select No.** line, and then press **Enter**.



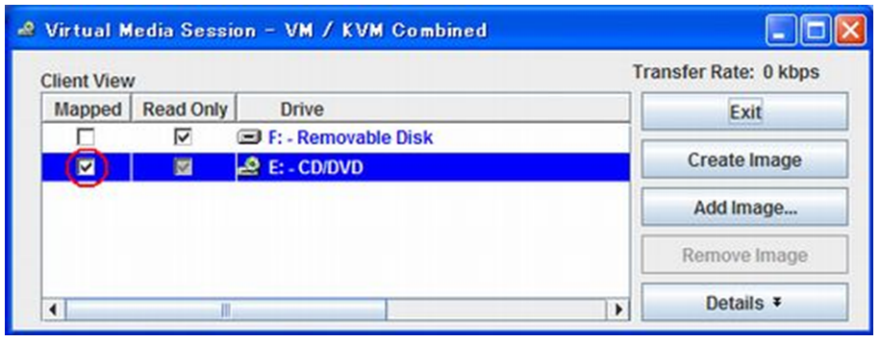
11. Remove the check in **Mapped** check box in **Client View** pane of **Virtual Media Session** window. Keep the **Virtual Media Session** window still open.



12. Remove the **CB500 CBTP** CD-ROM from the console PC, and then insert **CNA FW Update Media** CD-ROM.



13. Click the **Mapped** check box in **Client View** pane of **Virtual Media Session** window. Keep the **Virtual Media Session** window still open.



14. Press **Enter** when **Insert media for update, and Input Enter key. (c:Cancel)** is indicated.

```
No. SlotNo.  Vnd/DevID  ----FW ver----
 1: Mezz-02  19a2:0710  4.1.334.28
 2: OnBoard  19a2:0710  4.1.334.28
 q: Quit
Select No. --> 1

<< Update of F/W data : Mezz-02 >>
Insert media for update, and Input Enter key. (c:Cancel)
```

15. The **Data file** lines, which indicate the **Firmware** files in the **CNA FW Update Media**, are indicated.

    When the **FW ver** of the other **CNA products**, which were indicated in step 8, differed from the version of the replaced **CNA product**, enter the ***Number*** corresponding to the **FW ver** of the other **CNA products** in **Select No.** line, and then press **Enter**.

    When only the replaced CNA mezzanine card is installed in the server blade, enter the ***Number*** corresponding to the **latest firmware version** in **Select No.** line, and then press **Enter**.

```
<< Update of F/W data : Mezz-02 >>
Insert media for update, and Input Enter key. (c:Cancel)
Drive name:

No. ---Data file---
 1: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.28.ufi
 2: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.2801.ufi
 q: Quit
Select No. --> 2
```

    The message, **Starting update of F/W data ...**, is indicated and the updating firmware starts. (It takes about two to three minutes.)

```
<< Update of F/W data : Mezz-02 >>
Insert media for update, and Input Enter key. (c:Cancel)
Drive name:

No. ---Data file---
 1: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.28.ufi
 2: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.2801.ufi
 q: Quit
Select No. --> 2

Starting update of F/W data (Mezz-02, 16:00)...
Wait for a while...
```

16. Confirm that the message, **Completed update of F/W data**., and **OK** in the right side of the replaced CNA/LAN mezzanine card is indicated.

```
Select No. --> 1

<< Update of F/W data : Mezz-02 >>
Insert media for update, and Input Enter key. (c:Cancel)
Drive name:

No. ---Data file---
 1: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.28.ufi
 2: /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.2801.ufi
 q: Quit
Select No. --> 2

Starting update of F/W data (Mezz-02, 16:00)...
This process will take 2-3 minutes...
Downloading /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.2801.ufi to hba 00-00-c9-e3
-0b-78
Download Complete. Please reboot system to activate new firmware.
Completed update of F/W data.
Starting update of F/W data (Mezz-02, 1b:00)...
This process will take 2-3 minutes...
Downloading /mnt/cdrom/Win2008/Tools/FW/oc11-4.1.334.2801.ufi to hba 00-00-c9-e3
-0b-80
Download Complete. Please reboot system to activate new firmware.
Completed update of F/W data.

No. SlotNo.  Vnd/DevID  ----FW ver----
 1: Mezz-02  19a2:0710  4.1.334.2801    [ OK ]
 2: OnBoard  19a2:0710  4.1.334.28
 q: Quit
Select No. --> *
```

Note: The firmware update is performed for all of the controllers on the CNA mezzanine card.

For example, the messages through **Starting update of F/W data...** and **Completed update of F/W data** are indicated two times since a CNA or LAN mezzanine card has two controllers.

17. Enter `q` in **Select No.** line, and then press **Enter** to complete the firmware update.

```
No. SlotNo.  Vnd/DevID  ----FW ver----
 1: Mezz-02  19a2:0710  4.1.334.2801    [ OK ]
 2: OnBoard  19a2:0710  4.1.334.28
 q: Quit
Select No. --> q
```

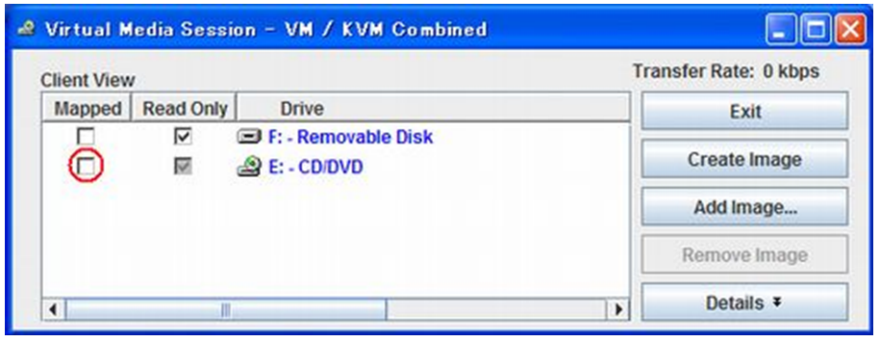
18. Enter `1` in **Select No.** line of **Emulex CNA Utility** dialog box, and then press **Enter**.
    Confirm whether the **FW ver** column for the replaced CNA mezzanine card is correctly updated.

```
<<< Emulex CNA Utility >>>
No. ---Operation---
 1: Display device list
 2: Update F/W data
 q: Quit
Select No. --> 1

SlotNo. PCIaddr IFname  --Permanent MAC-- ---Current MAC---  ----FW ver----
Mezz-02 16:00.0 eth2    00-00-c9-e3-0b-78 00-00-c9-e3-0b-78  4.1.334.2001
Mezz-02 16:00.1 eth3    00-00-c9-e3-0b-7c 00-00-c9-e3-0b-7c  4.1.334.2001
Mezz-02 1b:00.0 eth4    00-00-c9-e3-0b-80 00-00-c9-e3-0b-80  4.1.334.2001
Mezz-02 1b:00.1 eth5    00-00-c9-e3-0b-84 00-00-c9-e3-0b-84  4.1.334.2001
OnBoard 0c:00.0 eth0    5c-f3-fc-6e-3e-50 5c-f3-fc-6e-3e-50  4.1.334.28
OnBoard 0c:00.1 eth1    5c-f3-fc-6e-3e-54 5c-f3-fc-6e-3e-54  4.1.334.28
```

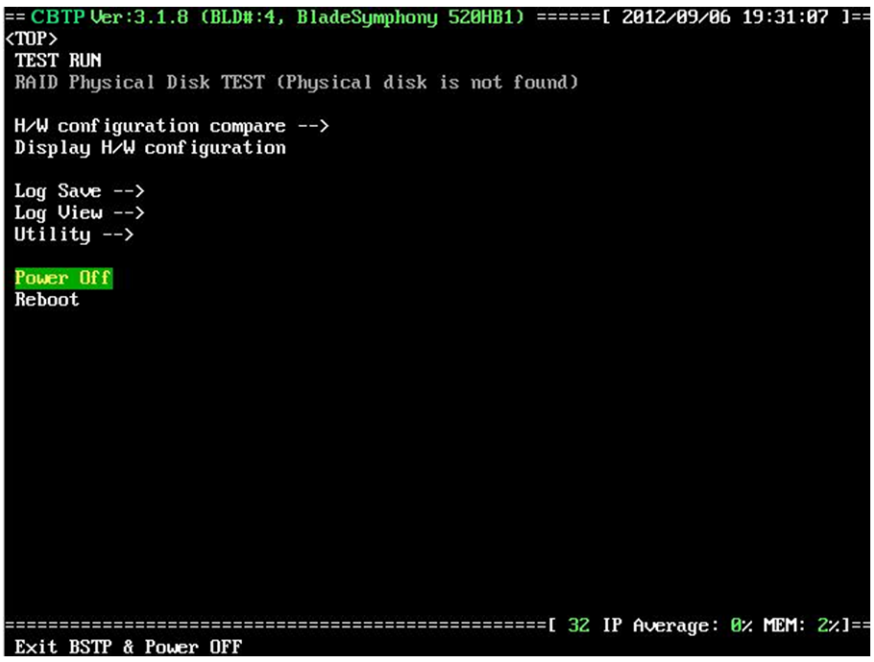
19. Enter `q` in **Select No.** line of **Emulex CNA Utility** dialog box, and then press **Enter**.

```
<<< Emulex CNA Utility >>>
No. ---Operation---
 1: Display device list
 2: Update F/W data
 q: Quit
Select No. --> q_
```

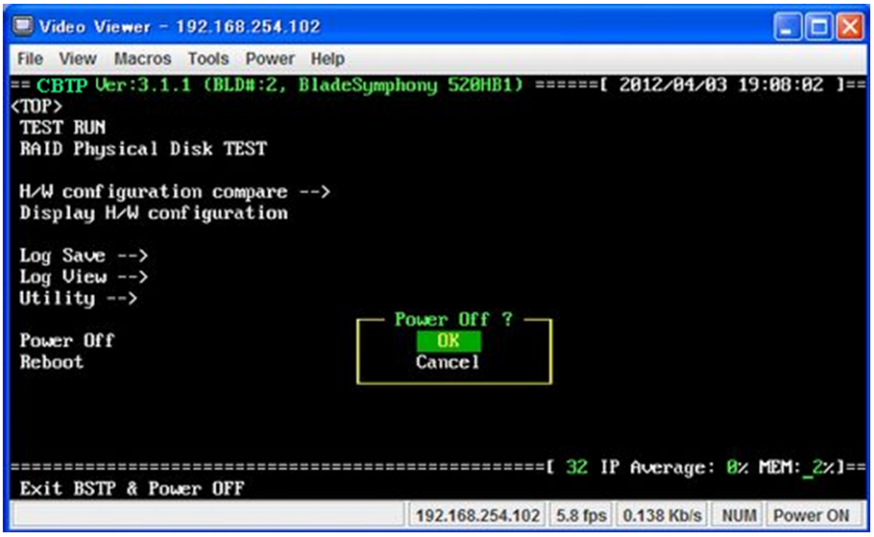
20. Remove the check in **Mapped** check box in **Client View** pane of **Virtual Media Session** window.



21. Remove the CD-ROM from the console PC.
    Move cursor onto **Power Off**, and then press **Enter**.



22. Move cursor onto **OK** in **Power Off ?** dialog box, and then press **Enter**. Confirm that the CBTP finishes and PWR LED on the server blade is blinking



Reconfirming the server model and firmware versions

1. Depending on the server model and firmware versions, select one of the following procedures.

   a. The server model is CB 520H B3/B4 or CB 520X B1/B2/B3:

   Go to Rebooting the server before restoring FCoE settings on page 7-94.

   b. The server model is CB 520H B2

Go to Rebooting the server before restoring FCoE settings on page 7-94. And go to Restoring FCoE settings on page 7-95.

c. The server model is CB 520H A1/B1, CB 520A A1, or CB 540A A1/B1, the management module firmware version is A0180 or later:

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later
CB 540A A1/B1	03-20 or later

Go to Restoring the UMC and Personality settings on page 7-90.

d. The server model is CB 520H A1/B1, CB 520A A1, or CB 540A A1/B1, the management module firmware version is A0179 or earlier:

Server model	Firmware version
CB 520H A1/B1	01-69 or earlier
CB 520A A1	02-37 or earlier
CB 540A A1/B1	03-19 or earlier

Go to Restoring the iSCSI settings on page 7-81.

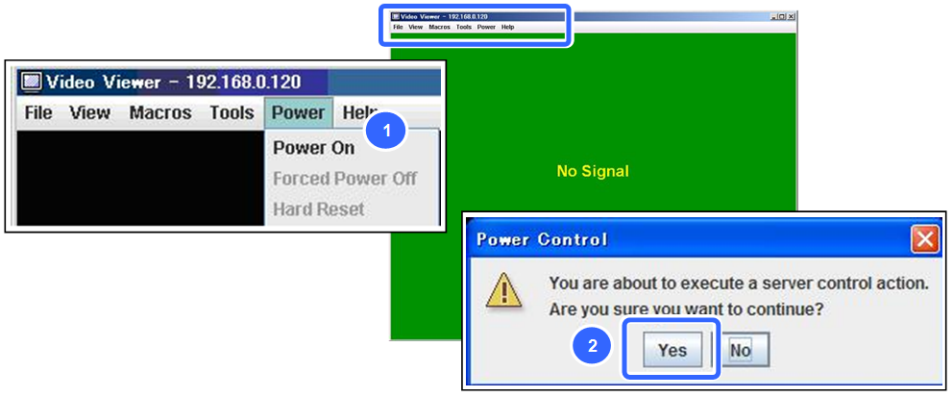
Restoring the iSCSI settings

This procedure shall be performed when the firmware version of management module is A0179 or earlier, or the firmware version of server blade is as follows.

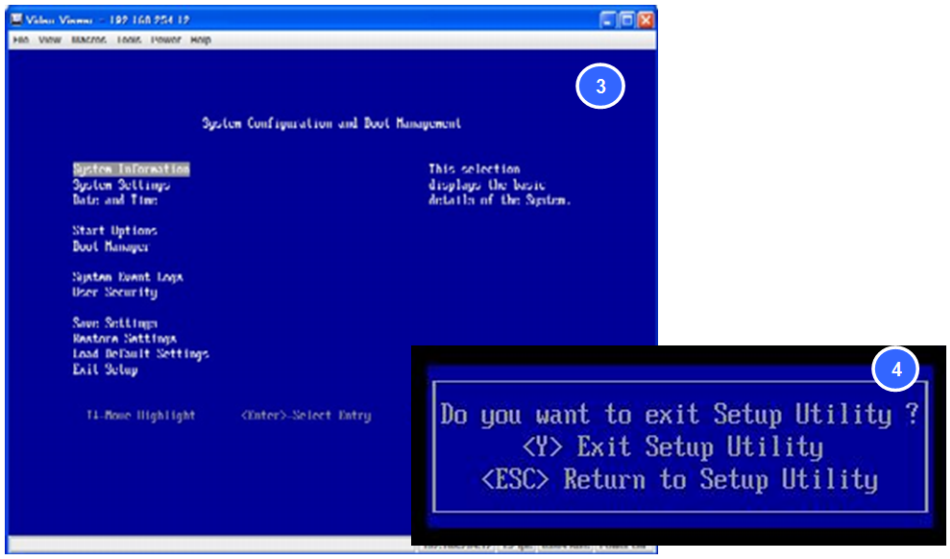
When the server blade is CB 520H B2/B3/B4 or CB 520X B1/B2/B3, skip the following procedure.

Server model	Firmware version
CB 520H A1/B1	01-69 or earlier
CB 520A A1	02-37 or earlier
CB 540A A1/B1	03-19 or earlier

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade is powered on.



3. Wait about five minutes until **System Configuration and Boot management** window is displayed.
4. Press **Esc** in **System Configuration and Boot Management** window. When the **Do you want to exit ...** dialog box is displayed, press **Y**.



5. Press **Ctrl** and **P** when the following prompt was displayed.

6. **PXESelection Utility** window is displayed. Select the target controller, and then press **Enter**.

7. **Controller Configuration** window is displayed. Set up the configuration of **MultiChannel Support** and **Personality** for the replaced card corresponding with ones of the failed card that you recorded in the previous procedures.
8. Select **Save**, and then press **Enter**.

Note: The **Controller number** of the replaced CNA or LAN card varies depending on the server model and the mezzanine card slot#.

Identify the **Controller number** according to the criteria in the following table.

Two **Controller number** are assigned to a CNA or LAN card.

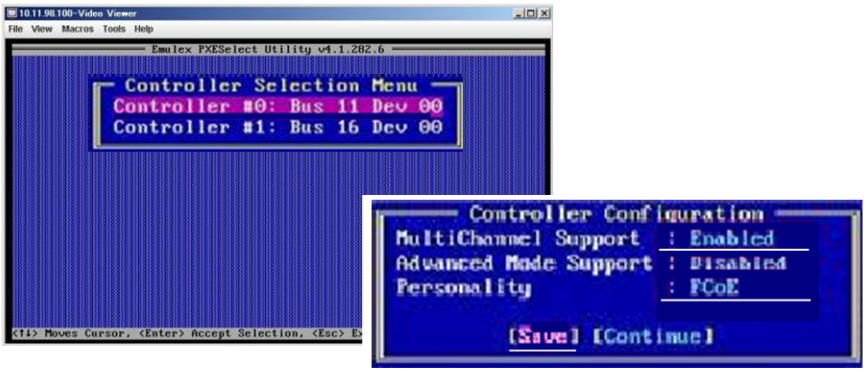
One **Controller number** is assigned to an onboard LOM.

No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
1	GGAGC0A*n*- or GGAGB0A*n*- without LOM	1	2	#0, #1 for the mezzanine
2		2	3	#0, #1 for Mezz#1
				#2, #3 for Mezz#2
3	GGAGC0B*n*- with LOM	0	1	#0 for LOM [3]
		1	3	#0 for LOM [3]
				#1, #2 for the mezzanine
4	GGAGD0A*n*- without LOM	1	2	#0, #1 for the mezzanine
5		2	4	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
6		3	6	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
				#4, #5 for third mezzanine #
7		4	8	#0, #1 for Mezz #1
				#2, #3 for Mezz #2
				#4, #5 for Mezz #3
				#6, #7 for Mezz #4
8	GGAGD0B*n*- with LOM	0	2	#0, #1 for LOMs [4]
		1	4	#0, #1 for LOMs [4]
				#2, #3 for the mezzanine

No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
9		2	6	#0, #1 for LOMs [4]
				#2, #3 for Mezz #2
				#4, #5 for Mezz #4

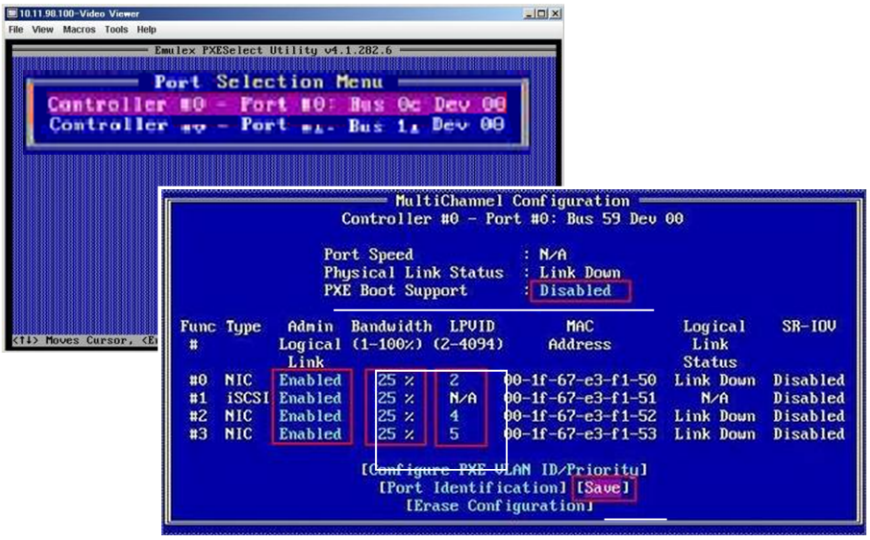
Notes:

1. The # of CNA indicates the total number of installed Emulex 10Gb CNA mezzanine card and LAN mezzanine card.
2. Confirm that the indicated number of controllers in Controller Selection Menu window is equal to the # of Controller indicated in this table for the replaced server configuration.
3. The controller #0 for is assigned to LOM for CB 520H B1/B2 (GGAGC0B*n*- with LOM).
4. The controller #0 and #1 are assigned to LOMs for CB 540A B1 (GGAGD0B*n*- with LOM).



Note: The **Personality** for Emulex 10Gb LAN mezzanine card and LOM is fixed to **NIC** by default and cannot change.

9. **Port Selection menu** window is displayed. Select the port#0, and then press **Enter**.
10. **MultiChannel Configuration** window is displayed. Set up the configuration of **PXE Boot Support** for the replaced card corresponding to the ones of the failed card that you recorded in the previous procedures.
11. If PXE Boot Support is **Enabled**, confirm and record **Bandwidth** and **LPVID**.
12. Select **Save**, and then press **Enter**.



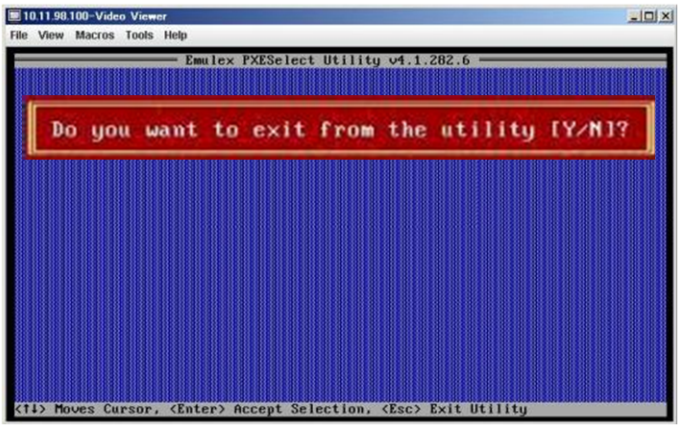
Note: When the following error messages are indicated after setting **MultiChannel Configuration**, return to **MultiChannel Configuration** dialog box by pressing any key, and then set again the correct parameters.

1. The following message is indicated when **Bandwidth** is set but **LPVID** is not set, the cursor is moved onto **Save**, and then **Enter** is pressed.

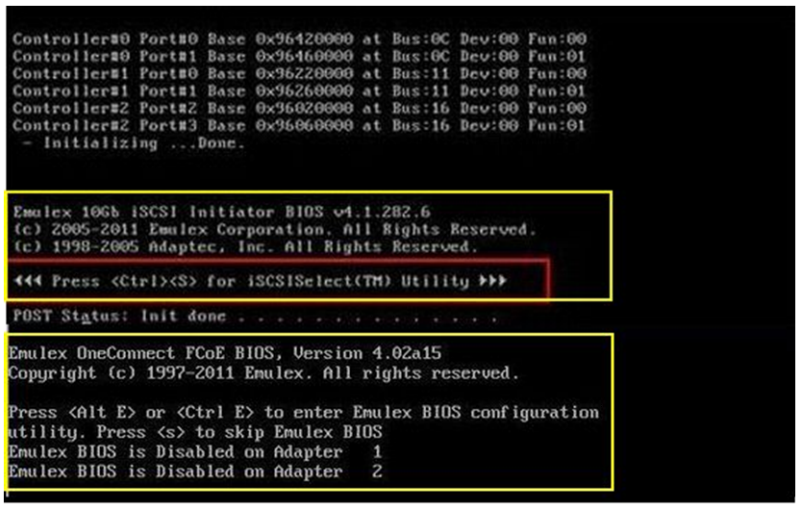
2. The following message is indicated when same **LPVID** are set in multiple columns, the cursor is moved onto **Save**, and then **Enter** is pressed.

3. The following message is indicated when the sum of **Bandwidth** is not 100%, the cursor is moved onto **Save**, and then **Enter** is pressed.

13. Select the port#1, and then press **Enter**.
14. Repeat the procedures from step 10 to step 12.
15. Press **Esc** key until the following dialog is displayed.
16. Press **Y** to close the PXESelection Utility.

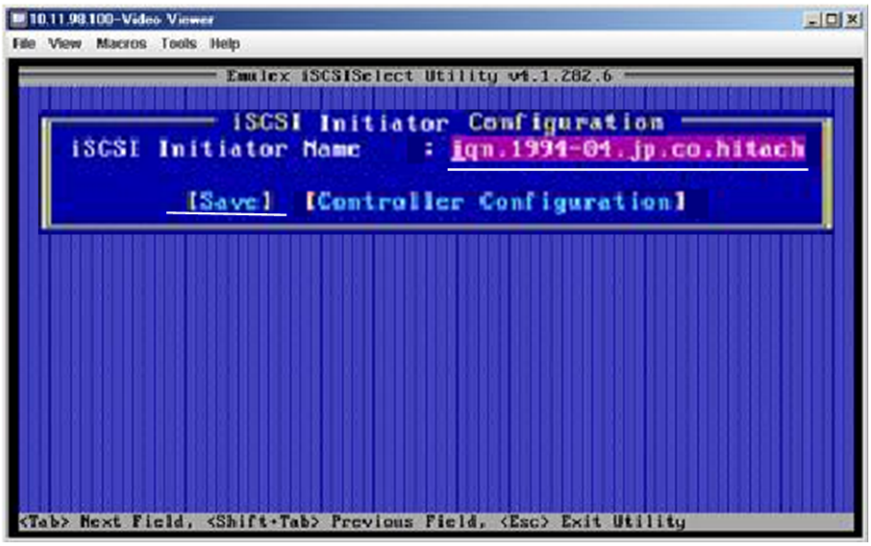


17. If the **Personality** is **iSCSI**, set up iSCSI parameters according to the next step.
18. Press **Ctrl** and **S** when the following prompt was displayed.
    iSCSISelect Utility starts.
    (Only when **iSCSI** is selected in **Personality** setting on one of the CNA products, the line of **iSCSI Initiator BIOS** is indicated.
    Only when **FCoE** is selected in **Personality** setting on one of the CNA products, the line of **FCoE BIOS** is indicated.)



Note: When the following message is indicated, press **Enter**.

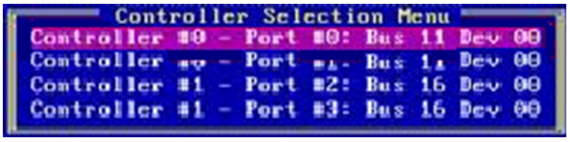
19. iSCSISelect Utility is displayed. Set up the **iSCSI Initiator Name** for the replaced card corresponding with ones for the failed card that you recorded in the previous procedures.
20. Select **Save**, and then press **Enter**.



Note: The **iSCSI Initiator Name** may not be fully indicated in the dialog box.

Move cursor to right by using → key to confirm the last character.

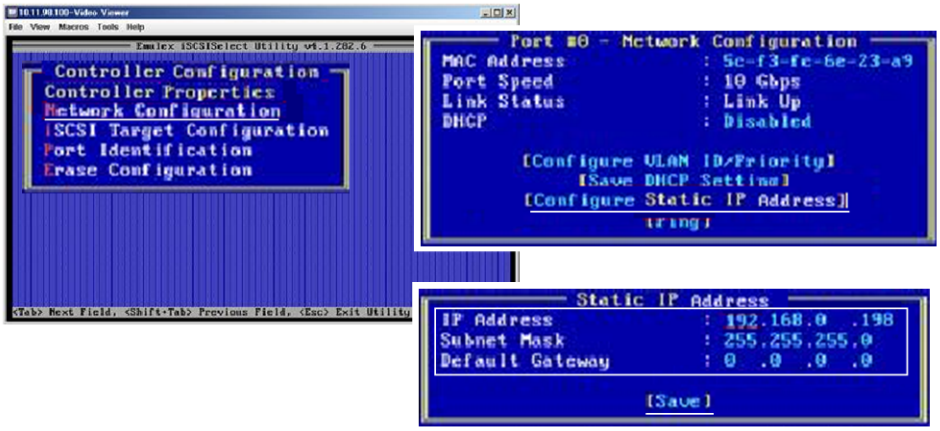
21. **Controller Selection menu** window is displayed. Select the port#0, and then press **Enter**.



22. **Controller Configuration** window is displayed. Select **Controller Properties**, and then press **Enter**.
23. **Controller Properties** window is displayed. Set up **Boot Support** for the replaced card corresponding to the ones of the failed card that you recorded in the previous procedures.
24. Select **Save**, and then press **Enter**.

25. **Controller Configuration** window is displayed. Select **Network Configuration**, and then press **Enter**.
26. **Network Configuration** window is displayed. Select **Configure Static IP Address**, and then press **Enter**.

27. **Static IP Address** window is displayed. Set up **IP Address**, **Subnet Mask** and **Default Gateway** for the replaced card corresponding to the ones of the failed card that you recorded in the previous procedures.
28. Select **Save**, and then press **Enter**.



Note: When the following error messages are indicated after setting **Static IP Address**, return to **Static IP Address** dialog box by pressing any key, and then set again the correct parameters.

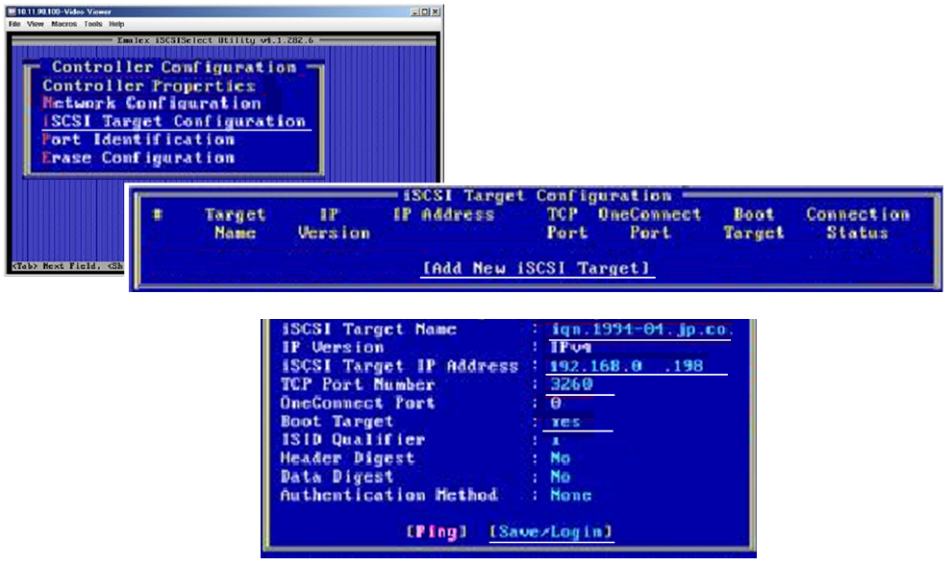
1. The following message is indicated when the last dot address of **IP Address** or **Default Gateway Address** is set to **0**, the cursor is moved onto **Save**, and then **Enter** is pressed.

2. The following message is indicated when the first dot address of **IP Address** or **Default Gateway Address** is set to **0**, the cursor is moved onto **Save**, and then **Enter** is pressed.

3. The following message is indicated when the dot address of **Subnet Mask** is not set to **0** or **255**, the cursor is moved onto **Save**, and then **Enter** is pressed.

---

29. **Controller Configuration** window is displayed. Select **iSCSI Target Configuration**, and then press **Enter**.
30. **iSCSI Target Configuration** window is displayed. Select **Add New iSCSI Target**, and then press **Enter**.
31. **Static IP Address** window is displayed. Set up **iSCSI Target Name**, **iSCSI Target IP Address**, **TCP Port Number** and **Boot Target** for the replaced card corresponding to the ones of the failed card that you recorded in the previous procedures.
32. Select **Save/Login**, and then press **Enter**.



33. The following message is displayed.
    When the disk array is disconnected from the system, the login may fail.

Note: When the **iSCSI disk** is disconnected, **Login** fails and **Login to target failed** is indicated.
Press **Esc**. The **iSCSI Target Configuration** dialog box is displayed.
Confirm whether the **iSCSI disk** is connected, and then power on the **iSCSI disk** or reconnect the cables to the disk.
Move cursor onto the target **iSCSI disk** line in the **iSCSI Target Configuration** dialog box, and then press **Delete**.
After that, **retry from step 30**.

34. Press **Esc** until **Controller Selection menu** window is displayed. Select the next port of replaced CNA mezzanine card, and then press **Enter**.
35. Repeat the procedures, step 22 to step 32.
36. Press **Esc** for several times until **Do you want to exit from the utility [Y/N]?** is prompted, and then press **Y**.
    Server blade reboots.

End of "Restoring iSCSI settings".

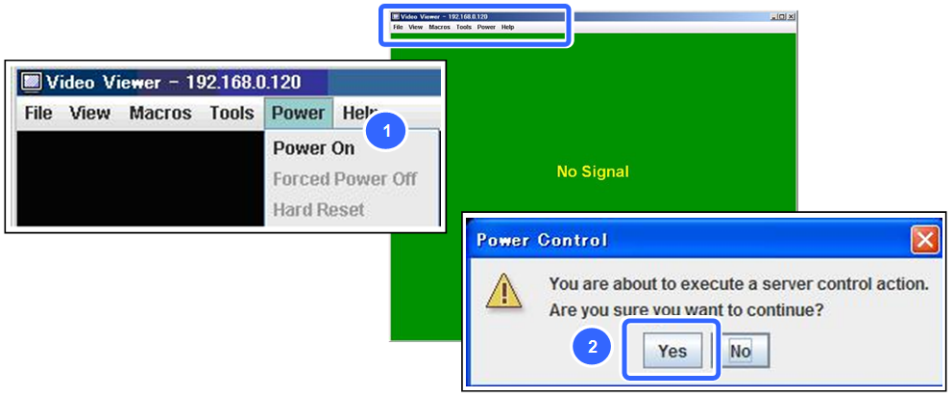
Go to Restoring FCoE settings on page 7-95.

Restoring the UMC and Personality settings

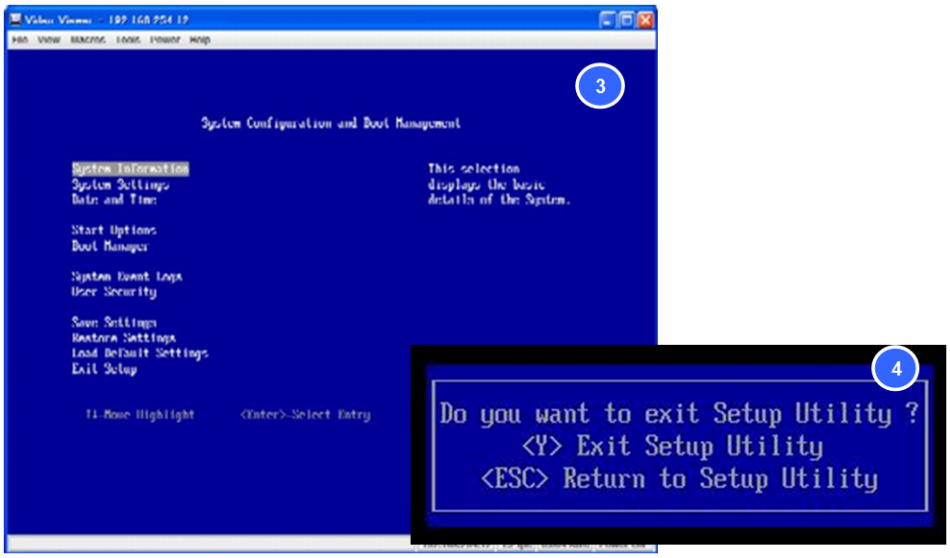
This procedure shall be performed when the server model is neither CB 520H B2/B3/B4 nor CB 520X B1/B2/B3, the firmware version of management module is A0180 or later, and the firmware version of server blade is as follows.

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later
CB 540A A1/B1	03-20 or later

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade is powered on.



3. Wait about five minutes until **System Configuration and Boot management** window is displayed.
4. Press **Esc** in **System Configuration and Boot Management** window.
   When the **Do you want to exit ...** dialog box is displayed, press **Y**.



5. Press **Ctrl** and **P** when the following prompt was displayed.

6. **PXESelection Utility** window is displayed. Select the target controller, and then press **Enter**.
7. **Controller Configuration** window is displayed. Set up the configuration of **MultiChannel Support** and **Personality** for the replaced card corresponding with ones of the failed card that you recorded in the previous procedures.
8. Select **Save**, and then press **Enter**.

Note: The **Controller number** of the replaced CNA or LAN card varies depending on the server model and the mezzanine card slot#.

Identify the **Controller number** according to the criteria in the following table.

Two **Controller number** are assigned to a CNA or LAN card.

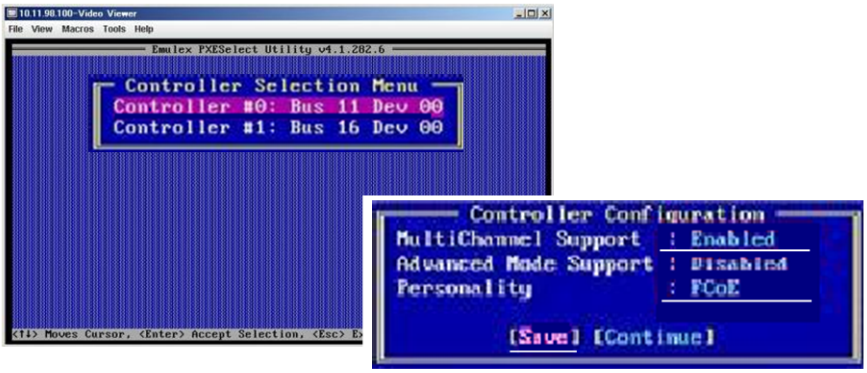
One **Controller number** is assigned to an onboard LOM.

No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
1	GGAGC0A*n*- or GGAGB0A*n*- without LOM	1	2	#0, #1 for the mezzanine
2		2	3	#0, #1 for Mezz#1
				#2, #3 for Mezz#2
3	GGAGC0B*n*- with LOM	0	1	#0 for LOM [3]
		1	3	#0 for LOM [3]
				#1, #2 for the mezzanine
4	GGAGD0A*n*- without LOM	1	2	#0, #1 for the mezzanine
5		2	4	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
6		3	6	#0, #1 for first mezzanine #
				#2, #3 for second mezzanine #
				#4, #5 for third mezzanine #
7		4	8	#0, #1 for Mezz #1
				#2, #3 for Mezz #2
				#4, #5 for Mezz #3
				#6, #7 for Mezz #4
8	GGAGD0B*n*- with LOM	0	2	#0, #1 for LOMs [4]
		1	4	#0, #1 for LOMs [4]
				#2, #3 for the mezzanine
9		2	6	#0, #1 for LOMs [4]
				#2, #3 for Mezz #2
				#4, #5 for Mezz #4

Notes:

1. The # of CNA indicates the total number of installed Emulex 10Gb CNA mezzanine card and LAN mezzanine card.
2. Confirm that the indicated number of controllers in Controller Selection Menu window is equal to the # of Controller indicated in this table for the replaced server configuration.
3. The controller #0 for is assigned to LOM for CB 520H B1/B2 (GGAGC0B*n*- with LOM).

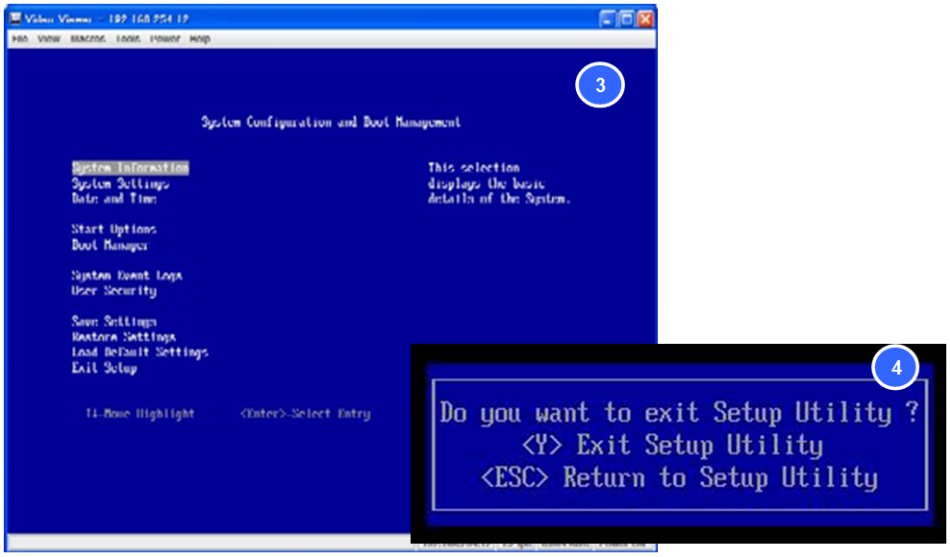
No.	Server model	# of CNA [1]	# of CTRL [2]	Controller #
4.	The controller #0 and #1 are assigned to LOMs for CB 540A B1 (GGAGD0B*n*-with LOM).			



Note: The **Controller Selection Menu** above is not displayed when none of Emulex 10Gb CNA mezzanine card and LAN mezzanine card is installed on CB 520H B1/B2 (with LOM model).

Note: The **Personality** for Emulex 10Gb LAN mezzanine card and LOM is fixed to **NIC**.

9. Press **Enter** several times until **Controller Selection Menu** is displayed.
10. Select the second controller, and then repeat from step 7 to step 8.
11. When you are prompted **continue?**, press **Y**.
    Press **Esc** several times until **Do you want to exit from the utility [Y/N]?** is prompted, and then press **Y**.
12. Wait about five minutes until **System Configuration and Boot management** window is displayed.
13. Press **Esc** in **System Configuration and Boot Management** window.
    When the **Do you want to exit ...** dialog box is displayed, press **Y**.



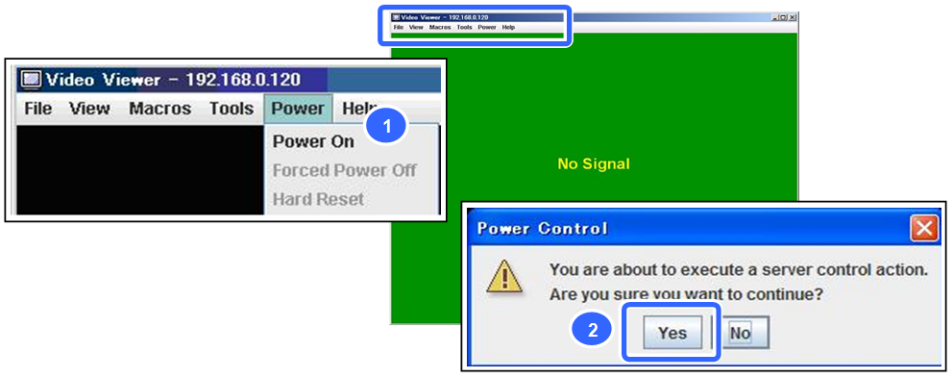
Go to Restoring FCoE settings on page 7-95.

End of "Restoring the UMC and Personality settings".

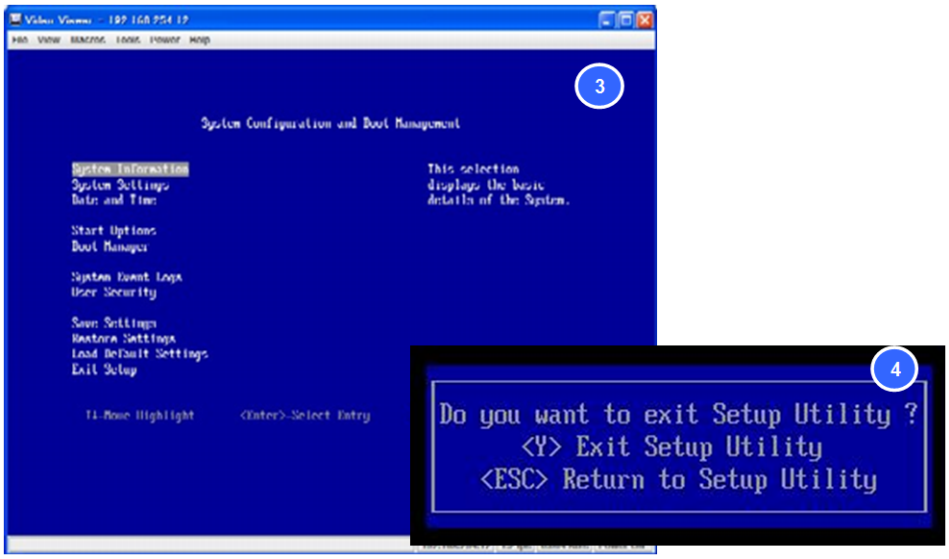
Rebooting the server before restoring FCoE settings

This procedure shall be performed when the server model is CB 520H B2/B3/B4 CB 520X B1/B2/B3.

1. Click **Power** and select **Power On** in Remote console menu.
2. **Power Control** dialog box is displayed. Click **Yes**.
   The target server blade is powered on.



3. Wait about five minutes until **System Configuration and Boot management** window is displayed.
4. Press **Esc** in **System Configuration and Boot Management** window.
   When the **Do you want to exit ...** dialog box is displayed, press **Y**.



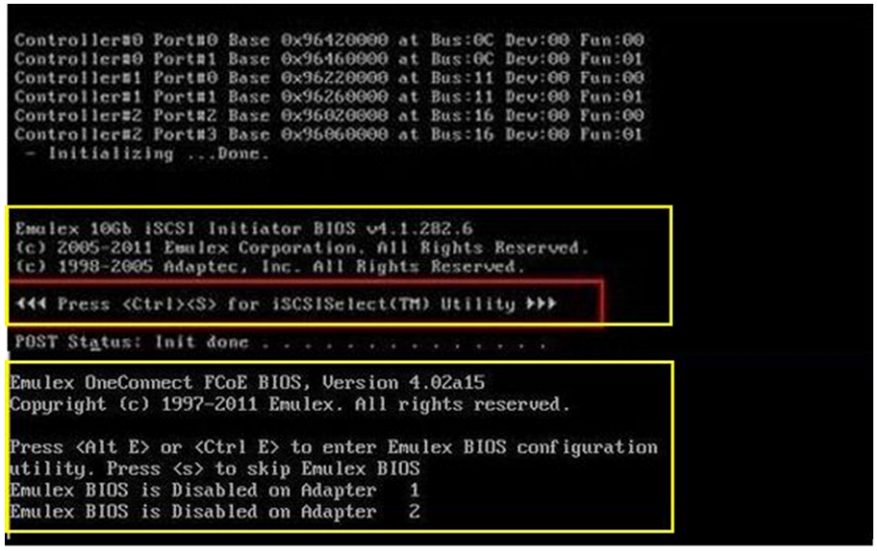
When the server blade is CB 520H B2, go to Restoring FCoE settings on page 7-95.

When the server blade is CB 520X B1/B2/B3 and CB 520H B3/B4, go to Restoring backed up CNA information on page 7-104

Restoring FCoE settings

This procedure shall be performed in all of the conditions except the server blade is CB 520X B1/B2/B3 and CB 520H B3/B4.

1. Press **Ctrl** and **E** simultaneously in the following window.
   FCoE BIOS Utility starts.
   (Only when iSCSI is selected in **Personality** setting on one of the CNA products, the line of **iSCSI Initiator BIOS** is indicated.
   Only when **FCoE** is selected in **Personality** setting on one of the CNA products, the line of **FCoE BIOS** is indicated.)



2. Move cursor onto the **first Port** of replaced CNA product by using ↑ and ↓ in **FCoE BIOS Utility** window, and then press **Enter**.
   (Confirm the **first Port** of replaced CNA product according to the following table.)

Note

1. Identify the **first Port** of replaced CNA product with the **CNA name** and **BUS number** in **Emulex Adapters in the System** window.

See the following table.

CNA product	Indication in Emulex Adapters in the System window	
	CNA name	BUS:(HEX)
CB 520H A1/B1/B2 and CB 540A A1/B1		
CB 520H B1 LOM	OCl11102-F-HI	Any
CB 540A B1 LOM #0	OCl11104-F-HI	*PP*[1]
CB 540A B1 LOM #1		*QQ*[1]
CNA mezzanine *#a*[2]	OCml11104-F2-HI	*WW*[2]
CNA mezzanine *#b*[2]		*XX*[2]
CNA mezzanine *#c*[2]		*YY*[2]
CNA mezzanine *#d*[2]		*ZZ*[2]
CB 520A A1		
CNA mezzanine #1	OCml11104-F2-HI	*XX*[3]
		ZZ[3]
CNA mezzanine #2		*WW*[3]
		YY[3]

Notes:

1. The hexadecimal Bus number *PP* < *QQ*.
2. The *#a*, *#b*, *#c*, and *#d* following to the CNA mezzanine indicate the number of the installation order of the mezzanine card. When three CNA cars are installed, *#a*, *#b*, and *#c* are effective.

   When *#a* < *#b* < *#c* < *#d*, the hexadecimal Bus number *WW* < *XX* < *YY* < *ZZ*.
3. When two CNA mezzanine cards are installed, the hexadecimal Bus number *WW* < *XX* < *YY* < *ZZ*.

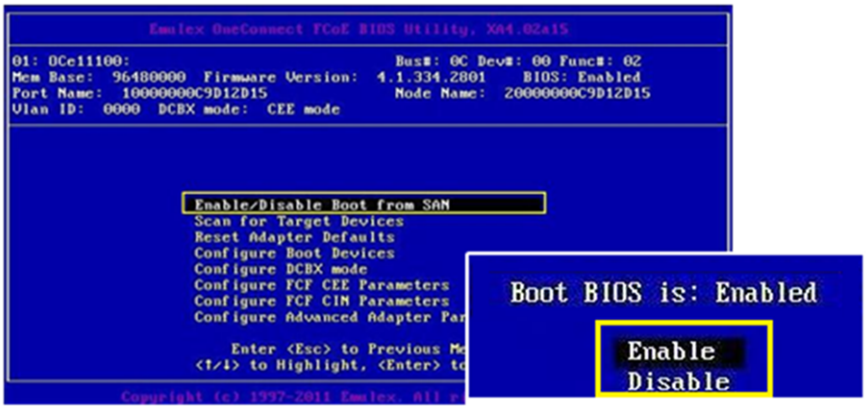
2. When the **BUS number** and **Dev number** for the **first Port** of replaced CNA product are not indicated in the window, skip this step.

   Set the parameters from scratch.

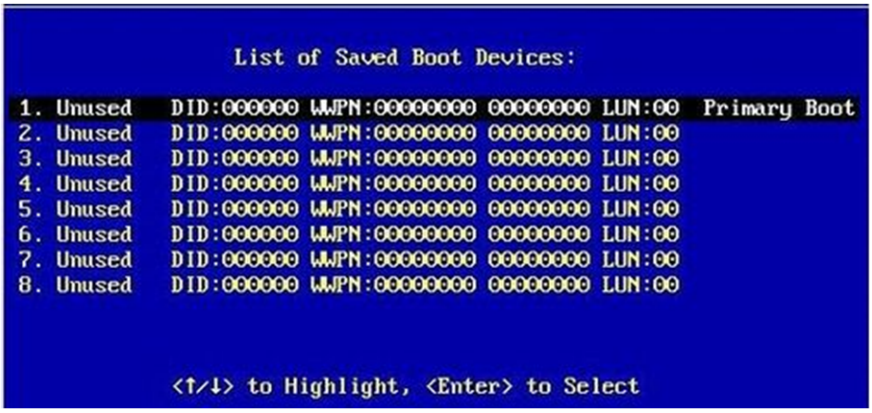
   3. Two ports are indicated for the onboard LOM on CB 520H B1/B2. Four ports are indicated for the onboard LOMs on CB 540A B1, a CNA mezzanine card, and a LAN mezzanine card, respectively.

3. Move cursor onto **Enable/Disable Boot from SAN** by using ↑ and ↓, and then press **Enter**.

   Select Enable or Disable as same setting as recorded one before the replacement, and then press **Enter**.

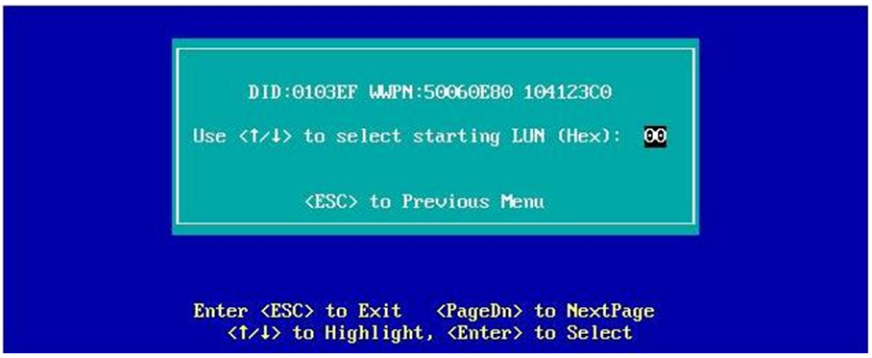


4. Press **ESC**. The window in step 3 is displayed again.
   Move cursor onto **Configure Boot Devices** by using ↑ and ↓, and then press **Enter**.
   Move cursor onto as same numbered line as the line indicated as **Used** before replacing the failed CNA product, and then press **Enter**.
   (Skip this step when the BIOS setting for the first port is set to **Disabled**.)



5. Move cursor onto the numbered line which indicates as same **DID** or **WWPN** setting as the line indicated as **Used** before replacing the failed CNA product, and then press **Enter**.
   (Skip this step when the Boot BIOS setting for the first port is set to **Disabled**.)

6. Confirm that the number in the **Use <↑/↓> to select starting LUN (HEX)** prompt is **00** in the following figure, and then press **Enter**.
   (Skip this step when the Boot BIOS setting for the first port is set to **Disabled**.)

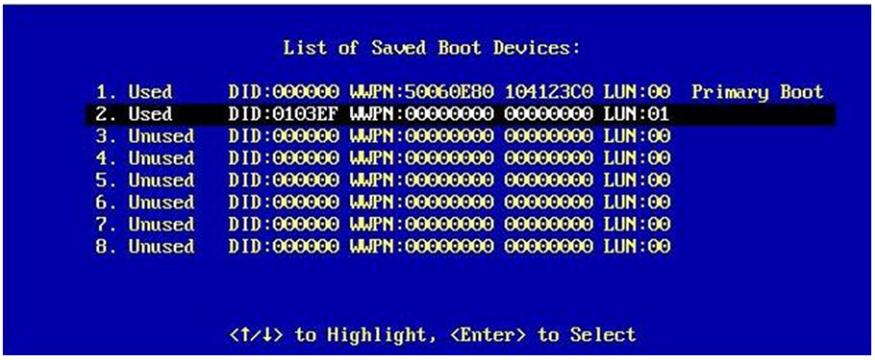


Note: Do not change the setting.

7. Move cursor onto the numbered line which indicates as same **LUN number** setting as the line indicated as **Used** before replacing the failed CNA product, and then press **Enter**.
   (Skip this step when the Boot BIOS setting for the first port is set to **Disabled**.)

8. Move cursor onto **Boot this device via WWPN** when WWPN was registered for the boot entry before replacing the failed CNA product, and then press **Enter**.
   Move cursor onto **Boot this device via DID** when DID was registered for the boot entry before replacing the failed CNA product, and then press **Enter**.
   (Skip this step when the Boot BIOS setting for the first port is set to **Disabled**.)

9. Repeat from step 4 to step 8 for all of the boot entries which was indicated as **Used** before replacing the failed CNA product.
   (Skip this step when the Boot BIOS setting for the first port is set to **Disabled**.)



10. Press **ESC**. The window in step 3 is displayed again.
    Move cursor onto **Configure DCBX mode** by using ↑ and ↓, and then press **Enter**.
    Move cursor onto the **CEE mode** or **CIN mode** as same setting as the failed CNA product by using ↑ and ↓, and then press **Enter**.
    Confirm that the **DCBX mode is** line changed to the selected mode.
    (Skip this step when the BIOS setting for the first port is set to **Disabled**.)

11. Press **ESC**. The window in step 3 is displayed again.
    Move cursor onto **Configure FCF CIN Parameters** by using ↑ and ↓, and then press **Enter**.

Move cursor onto **Enable/Disable VLAN ID** by using ↑ and ↓, and then press **Enter**.

Move cursor onto the **Enable** or **Disable** as same setting as the failed CNA product by using ↑ and ↓, and then press **Enter**.

Confirm that the **The current VLAN ID is** line changed to the selected mode.

(Skip this step when the BIOS setting for the first port is set to **Disabled** or DCBX mode is **CEE**.)

12. Press **ESC**. The window in step 3 is displayed again.

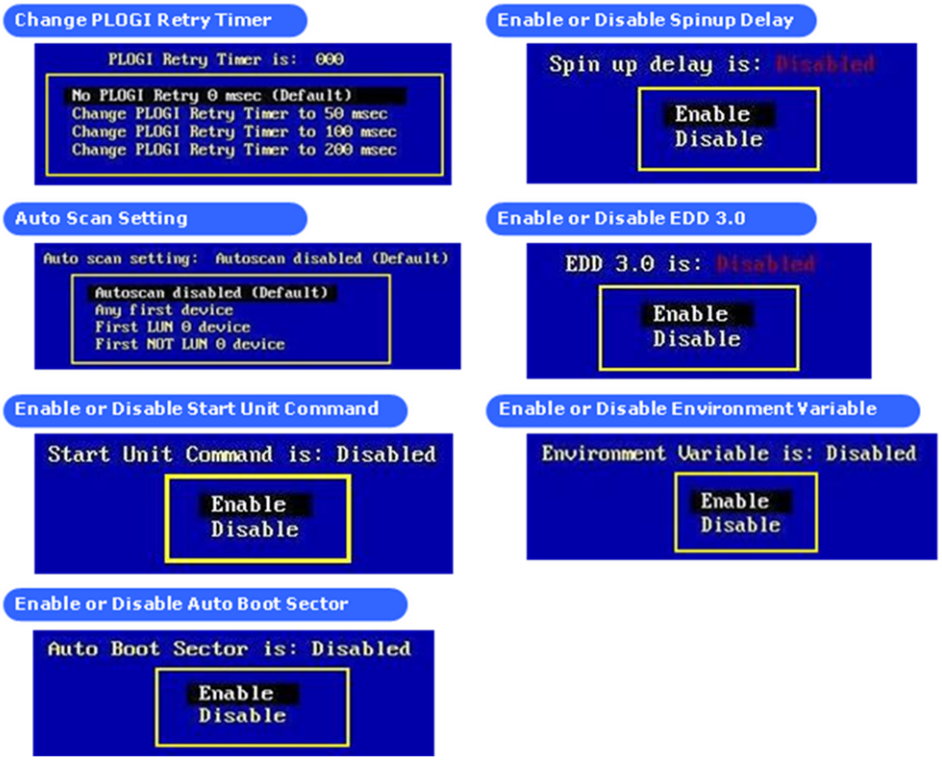
    Move cursor onto **Configure Advanced Adapter Parameters** by using ↑ and ↓, and then press **Enter**.

13. Move cursor onto **Change Default ALPA of this Adapter** by using ↑ and ↓, and then press **Enter**.

    Select as same setting as the failed CNA product by using ↑ and ↓ in the **Change Adapter ALPA (HEX) To:** line, and then press **Enter**.

    Confirm that **The Adapter ALPA is** line changed to the selected hexadecimal.

14. Repeat the above instruction in step 13 by moving cursor onto **Change PLOGI Retry Timer**, **Enable or Disable Spinup Delay**, **Auto Scan Setting**, **Enable or Disable EDD 3.0**, **Enable or Disable Start Unit Command**, **Enable or Disable Environment Variable**, and **Enable or Disable Auto Boot Sector**, respectively, and then set as same settings as the ones of failed CNA product.



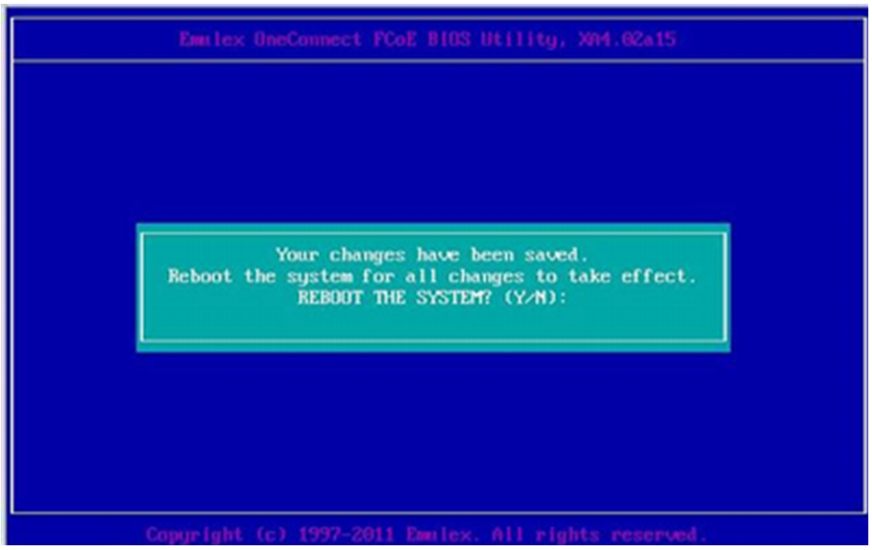
15. Press **ESC** in the following **parameter item selection** window, and then press **ESC** one more time.

16. Select the second port of replaced CNA mezzanine card by using ↑ and ↓ in **FCoE BIOS Utility** window, and then press the **Enter**.

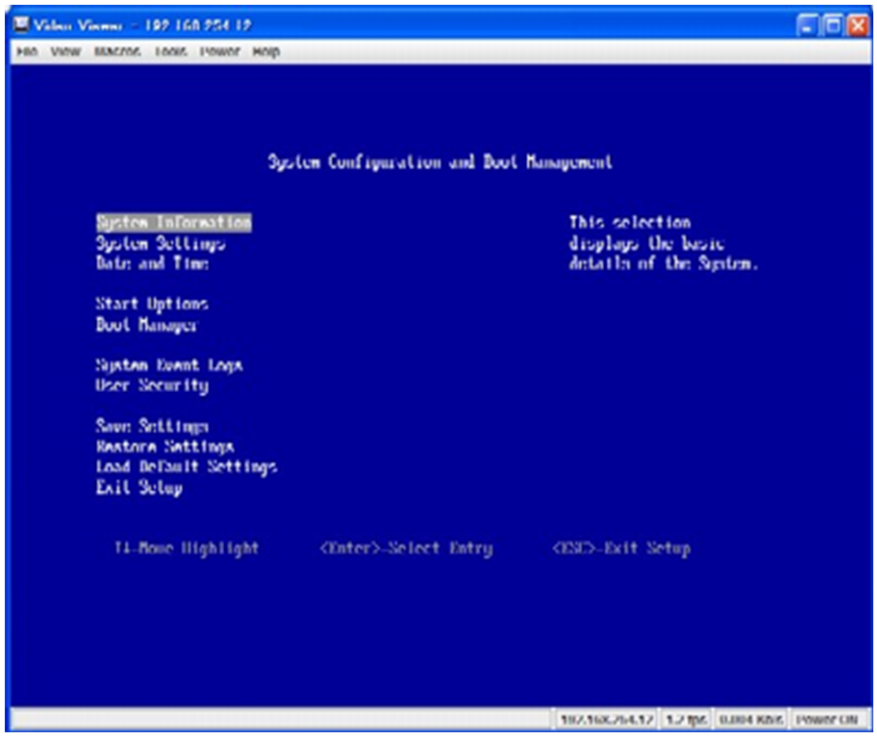
17. Repeat the procedures from step 3 to step 15.
18. Press **ESC** several times until **REBOOT THE SYSTEM? (Y/N)** dialog box is displayed, and then press **Y**.

    The server blade reboots.

    (Skip this step when **FCoE BIOS Utility** is not executed.)



19. Wait about five minutes until **System Configuration and Boot management** window is displayed.



20. Click **Power** > **Forced Power Off** in the remote console menu bar to power on the target server blade.
    Click **Yes** in **Power Control** dialog box.

End of "Restoring FCoE settings".

When the server model is CB 520X B1/B2/B3 and CB 520H B2/B3/B4, go to Restoring backed up CNA information on page 7-104.

When the firmware version of management module is A0180 or later, and the firmware version of server blade is as follows, go to Restoring backed up CNA information on page 7-104.

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later

Server model	Firmware version
CB 540A A1/B1	03-20 or later

When the firmware version of management module is A0179 or earlier, or the firmware version of server blade is as follows, finish the restoring CNA configuration information.

Server model	Firmware version
CB 520H A1/B1	01-69 or earlier
CB 520A A1	02-37 or earlier
CB 540A A1/B1	03-19 or earlier

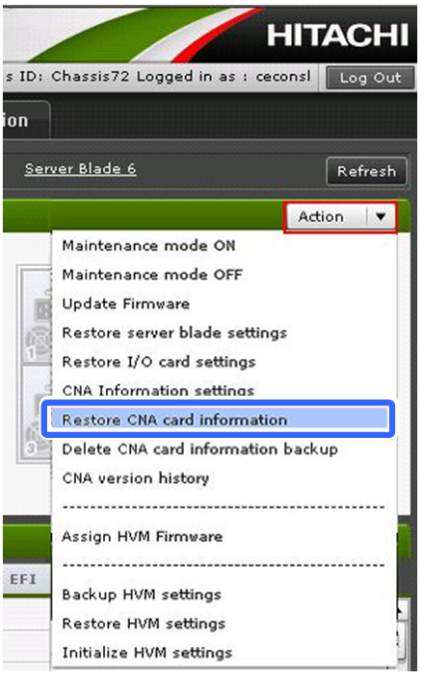
Restoring backed up CNA information

This procedure shall be performed when the server model is CB 520H B2/B3/B4 CB 520X B1/B2/B3.

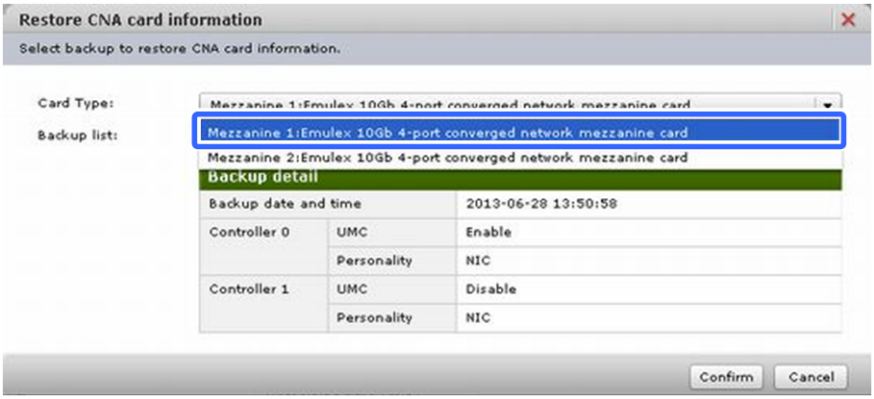
Also, this procedure shall be performed when the firmware version of management module is A0180 or later, and the firmware version of server blade is as follows.

Server model	Firmware version
CB 520H A1/B1	01-70 or later
CB 520A A1	02-38 or later
CB 540A A1/B1	03-20 or later

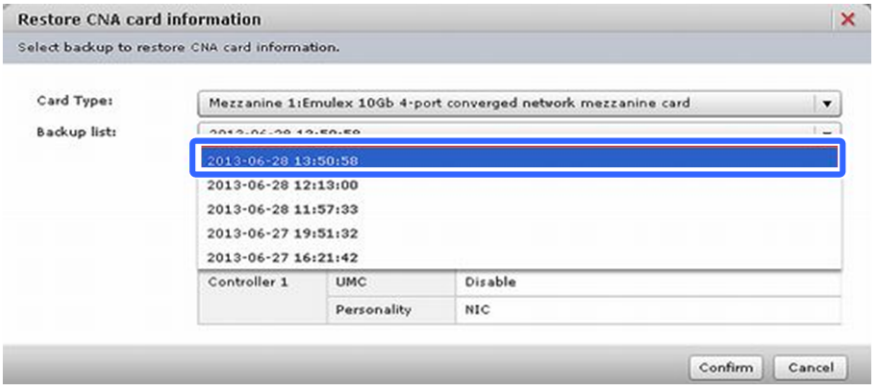
1. Click **Action** > **Restore CNA card information** in Web console.



2. Click **Card type**, and then click the ***replaced mezzanine card***, in which the CNA card information should be restored, in **Restore CNA card information** dialog box.

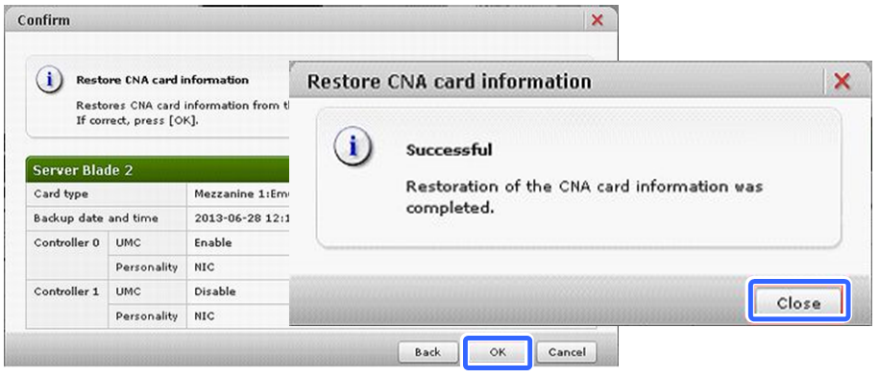


3. Click **Backup list**, and then click the line of the ***latest date and time*** in **Restore CNA card information** dialog box.



4. Click **Confirm** in **Restore CNA card information** dialog box.

5. Click **OK** in **Confirm** dialog box, and then Click **Close** in **Restore CNA card information** dialog box.



End of "Restoring backed up CNA information".

8

Diagnosing server blade

This chapter contains information about diagnosing the server blade. The following key topics are covered:

- ☐ Diagnostic procedure overview
- ☐ Connecting the remote console
- ☐ Starting Compute blade test program (CBTP)
- ☐ Diagnosing the server blade
- ☐ Closing the test program

Diagnostic procedure overview

After replacing the server blade, you need to check whether the replacement was successful with the offline test program that provides diagnostics and troubleshooting capabilities.

Hitachi test program (CBTP) is the application that captures server blade configuration and performs various internal component testing while user OS is not running. This utility is available in Linux version, and helps to check proper server blade operation.

Use the following procedures to run the utility for the replaced server blade.

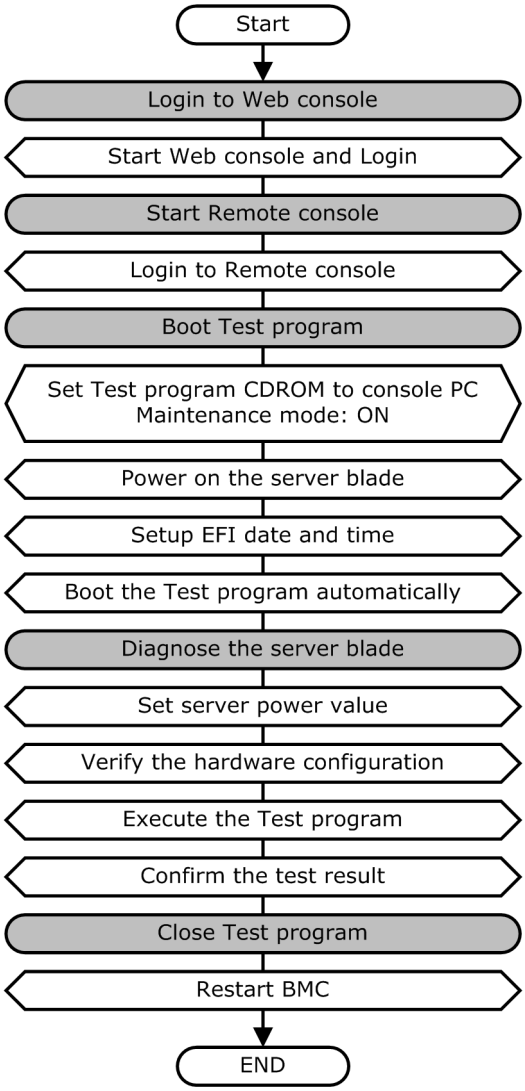


Figure 8-1 The outline of the process for diagnosing

Connecting the remote console

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

Select **Resources** tab on the web console and select **Modules > All Modules > Server Blades > *a target module*** that should be diagnosed.

[For SMP CB 520X B1/B2/B3]

Select **Resources** tab on the web console and select **Modules > All Modules > Server Blades > Server Blade *n* of the SMP configuration > Server Blade *n* (Primary)** that should be diagnosed.

2. Select **Condition** tab.
3. Click **Server blade Action** and select **Start remote console**.
4. **The remote console** window is displayed.

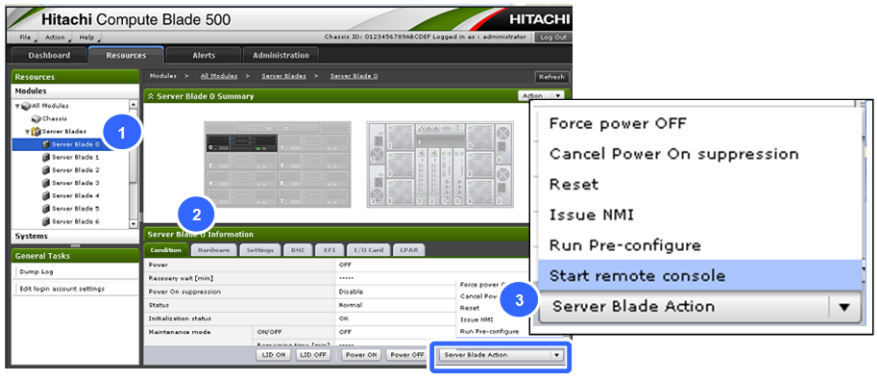


Figure 8-2 Starting the remote console

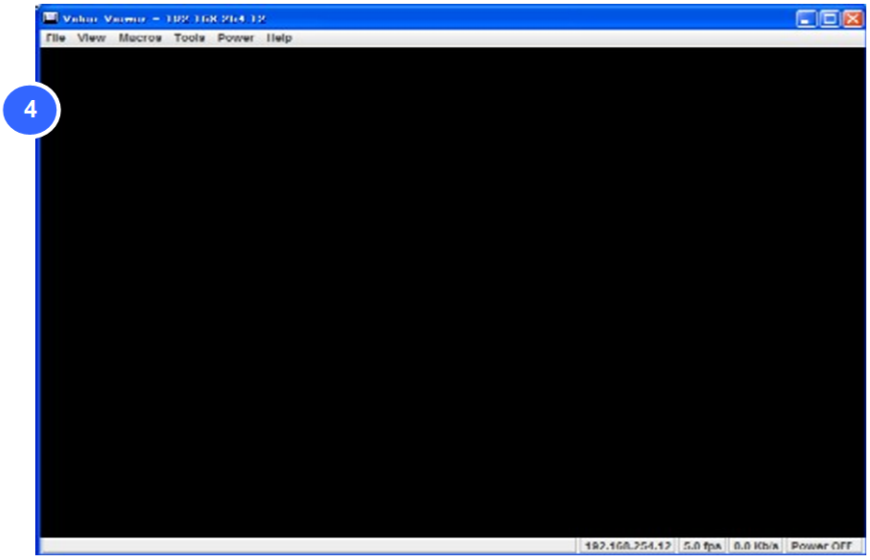
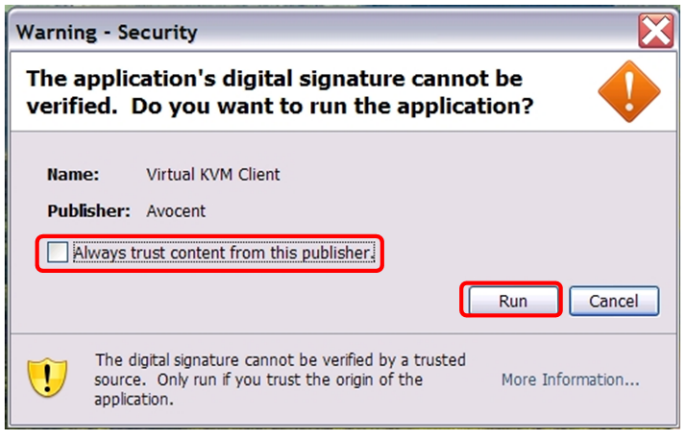
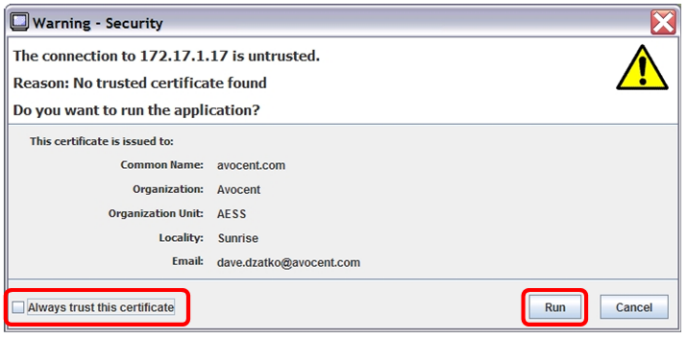


Figure 8-3 Remote console window

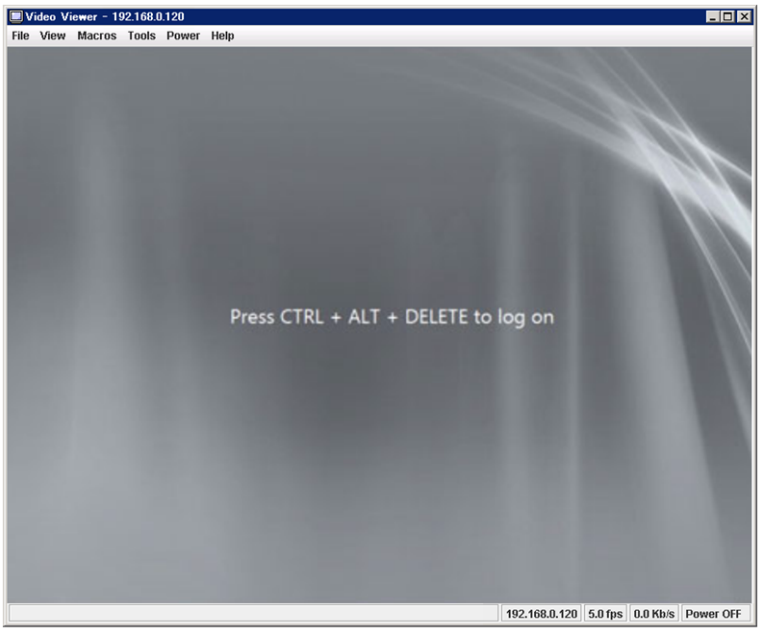
Note: When the type of server blade is CB 520H A1/B1 with BMC of before 01-27, the login screen of Web console is displayed. Login and start the remote console. For login procedure, see Starting remote console by using server blade Web console. on page 8-5.

Tip: The following dialog boxes may appear when the remote console is started. A specific notation depends on the Java VM version. Do not click **Always trust content from this publisher** check box or **Always trust this certificate** check box. When these check boxes are checked, remove the check. And then, click **Yes** or **Run** for the dialog boxes.





5. When the server blade is powered on, the following **server blade VGA** window is displayed.



Tip: 1. When the server blade is powered off and video output is lost, **No Signal** is displayed.
2. You can see the advance usages about the remote console in the following reference guide.

- *Hitachi Compute Blade 500 Remote Console User's Guide*

Starting remote console by using server blade Web console.

1. Start the Web browser on the system console connected to the management LAN, type the server blade Web console URL: https://<BMC IP address>/ in the address bar, and press **Enter**. The following logon screen is displayed. Enter **user01** in Username and **pass01** in Password for the server blade remote console in the following text boxes, and then click **OK**.

   This user name and password combination is the initial setting (the setting at shipping time). If you have modified the settings, enter the modified user name and password as necessary.

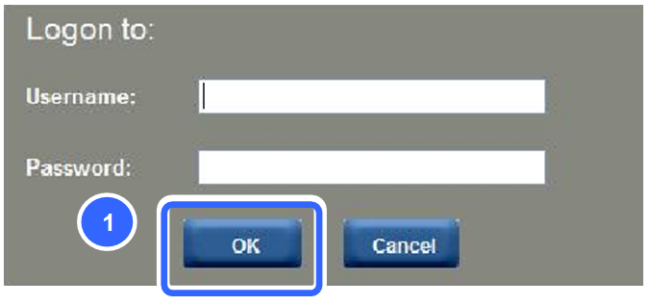


Figure 8-4 Logon to the remote console

2. The **Remote Console Launch** window is displayed. Click **Launch Remote Console**.

3. **Remote Console** window is displayed.

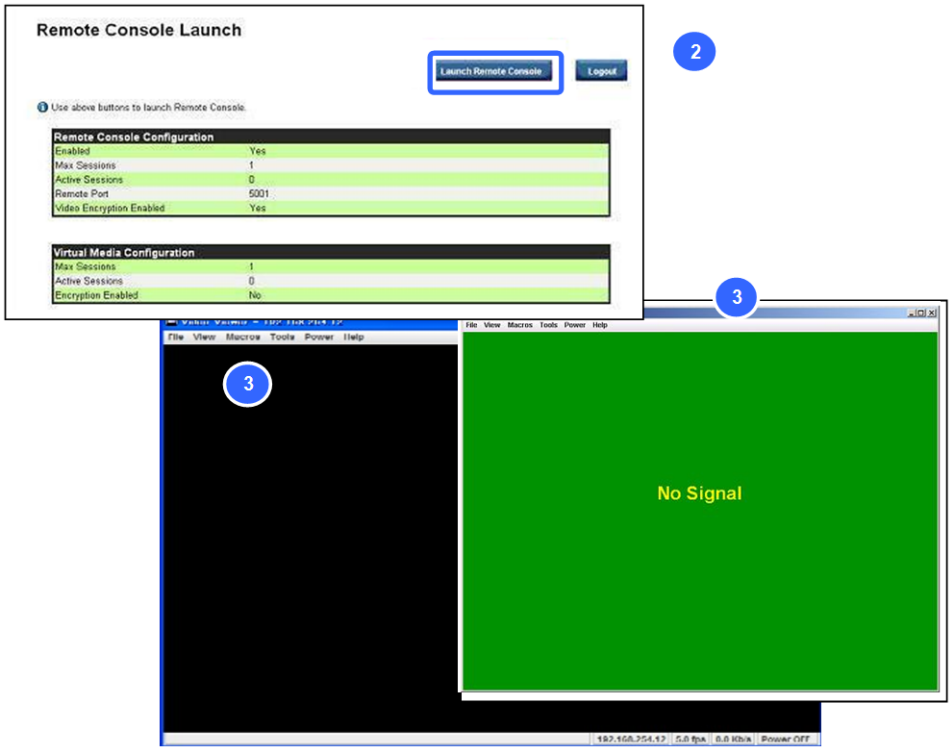


Figure 8-5 Remote console window

Note: When the remote console is booted up first time, the security dialogs may be displayed. The actual look-and-feel of dialogs varies depending on the version of the Java Runtime Environment (JRE).
Click **Yes** or **Run**.

Tip: You can see the advance usages about the remote console in the following reference guide.

- *Hitachi Compute Blade 500 Remote Console User's Guide*

Starting Compute blade test program (CBTP)

1. Insert **CB 500 CBTP** CD-ROM into the CD-ROM drive of the console PC.
2. Click **Tools** and select **Launch Virtual Media**.
3. **Virtual Media Session** window is displayed. Check **Mapped**.

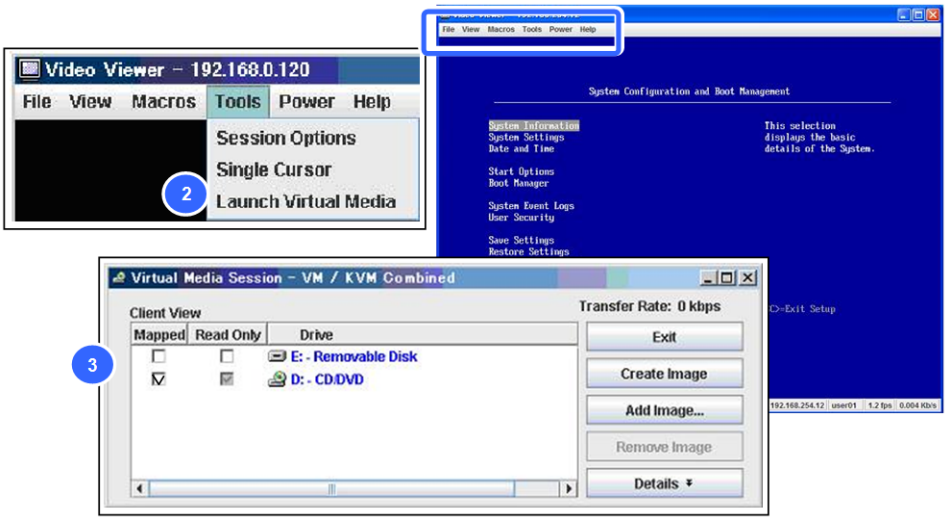
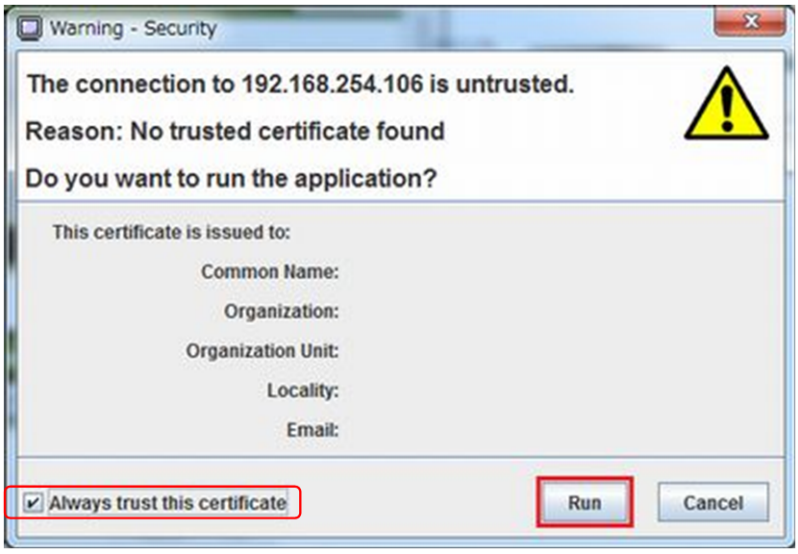
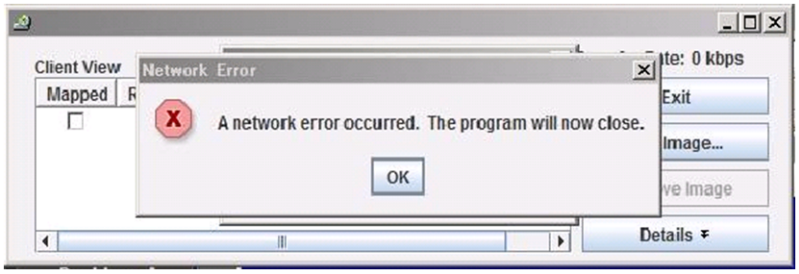


Figure 8-6 Connecting the session

Note: 1. When the following **Warning-Security** dialog box is displayed, Do not click **Always trust this certificate** check box. When the check box is checked, remove the check. And then, click **Run**.



2. If the remote console had been started with the check mark of **Always trust this certificate** check box, the following **Network Error** dialog box may be displayed and **Virtual Media Session** may not be able to use.



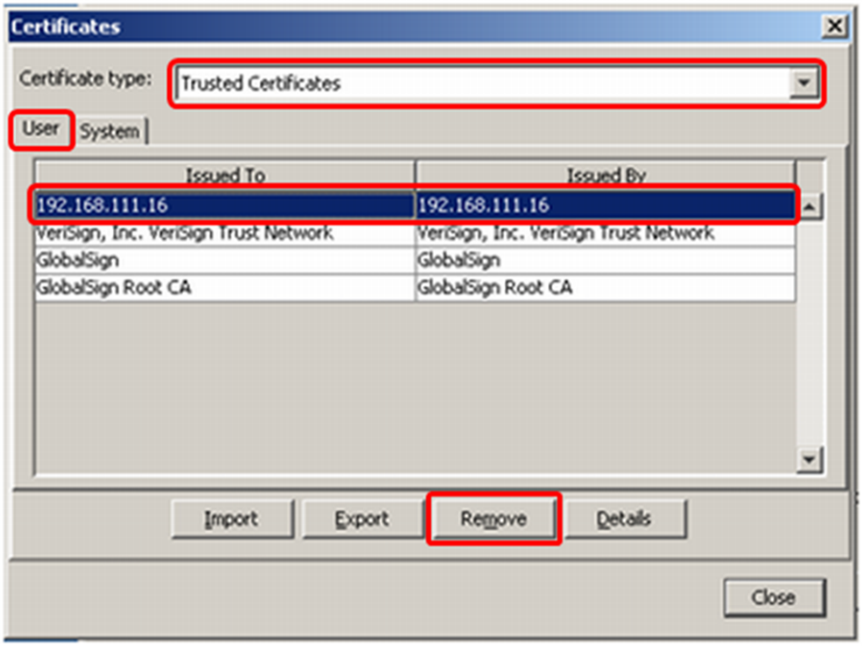
When **Network Error** above is displayed, change the JAVA settings by following steps.

(1) Open **Control panel** in Windows, and then open **JAVA Control Panel** in **Control panel**.

(2) Select **Security** tab in **JAVA Control Panel**, and then select **Manage Certificates ...**.

(3) Select **Trusted Certificates** in **Certificate type** text box in **Certificate** dialog box, and then select **User** tab.

Select a certificate line, which **Issued To** and **Issued By** indicate ***target server blade IP address***, and then click **Remove**.



(4) Click **OK** in **Confirmation - Remove Certificate?** dialog box.

(5) After changing the JAVA setting, retry from "Connecting the remote console on page 8-2" again.

Tip: Do not close the **Virtual Media Session** window until the diagnostic procedure is completed.

4. Select **Date and Time**, and then press **Enter** key.
5. The **date and time** window is displayed. Confirm **System Date** and **System Time**, and then write down the date and time. Press **Esc** key.

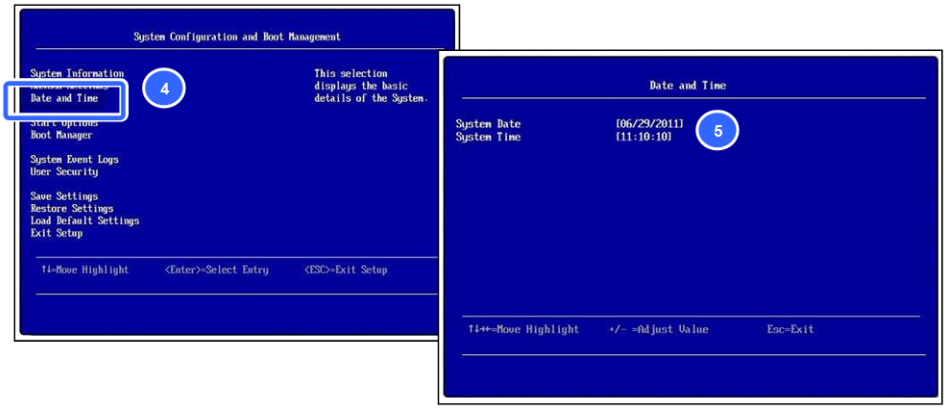


Figure 8-7 EFI date and time setup

6. Select **Boot Manager** in **System Configuration and Boot management** window, and then press **Enter** key.
7. Select **Boot From Device** in **Boot Manager** window, and then press **Enter** key.

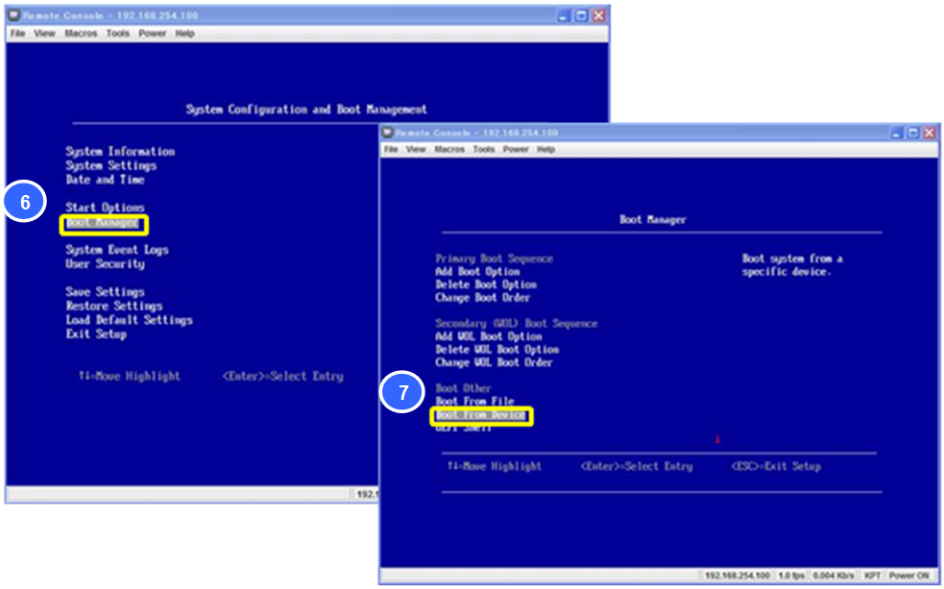


Figure 8-8 Selecting Boot from Device

8. When no check mark exists in a field enclosed by square brackets of **Legacy Only**, select the field, and then press **Enter** key.

   Select ***xxx*:CD/DVD - *xxx*:Remote Mount** in **Boot Devices Manager** window, and then press **Enter** key.

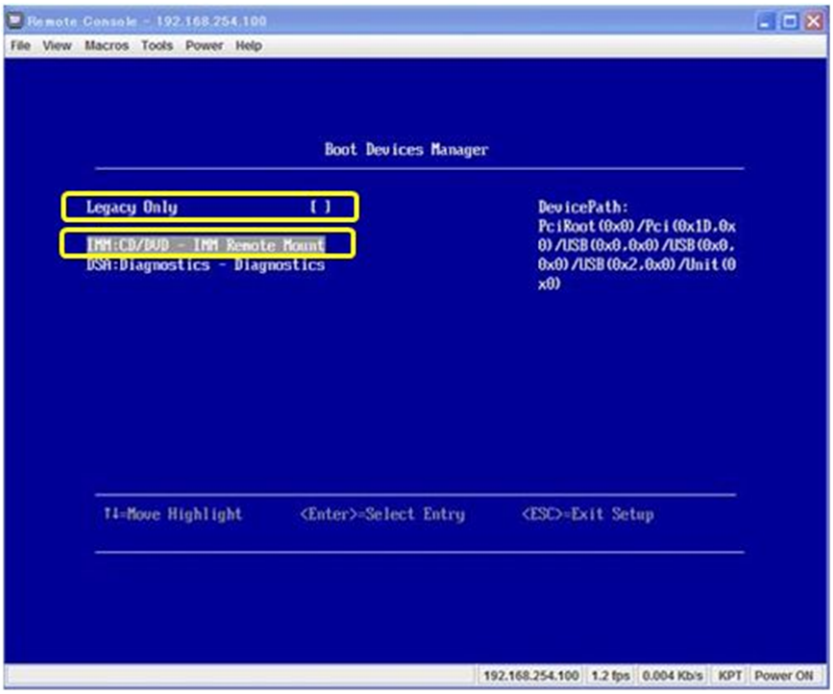


Figure 8-9 Selecting Legacy Only and CD/DVD

9. Wait about five minutes until CBTP starts, and then press **Y** key.
10. The **CBTP main menu** window is displayed.

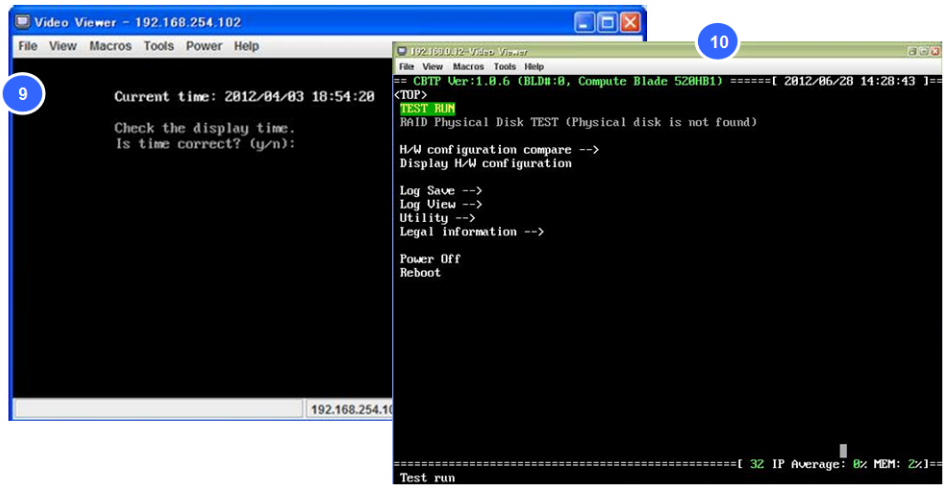


Figure 8-10 Starting CBTP

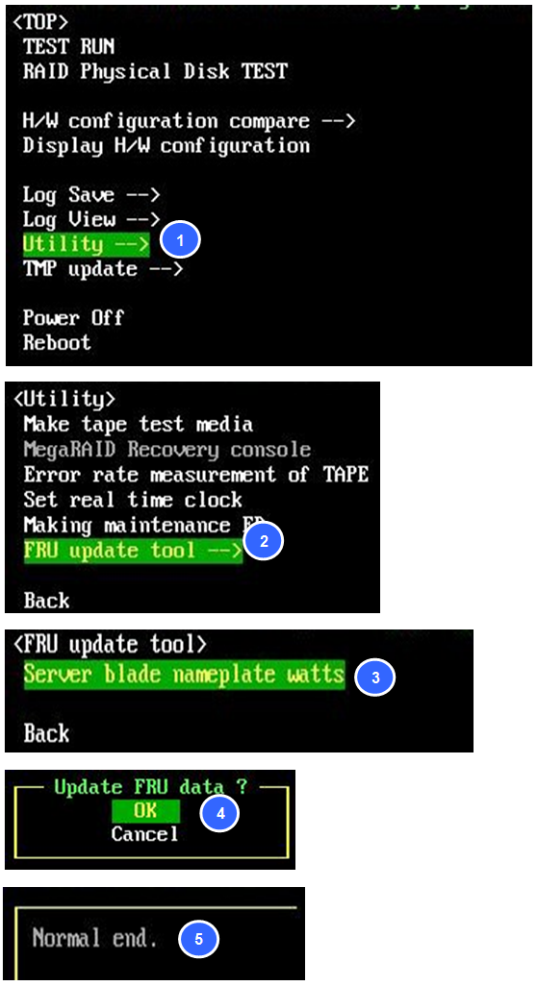
Diagnosing the server blade

Set server blade power value

You need to perform this procedure after changing hardware configuration.

1. Select **Utility** in CBTP, and then press **Enter** key.

2. Select **FRU update tool** in **Utility** window, and then press **Enter** key.
3. Select **Server blade nameplate watts** in **FRU update tool** window, and then press **Enter**.
4. Select **OK** in **Execute update tool?**, and then press **Enter**.
5. Confirm that **Executing** windows is displayed and then **Normal end** is displayed.
6. Confirm that **Exit** is selected, and then press **Enter**.
7. When **FRU update tool** window is displayed, select **Back**.
8. When **Utility** window is displayed, select **Back**.
9. **CBTP** main menu is displayed.



Verifying the hardware configuration

1. Select **Display H/W configuration**, and then press **Enter** key.
2. Verify that the displayed device information is consistent with the system configuration.

   When you replaced the USB in CB 520H A1/B1/B2, confirm that the line of **[SMART] ... CAP:1911MByte, ...** is indicated in **Disk** device column of **USB** category.

3. Press **Tab** key. Select **OK**, and then press **Enter** key.

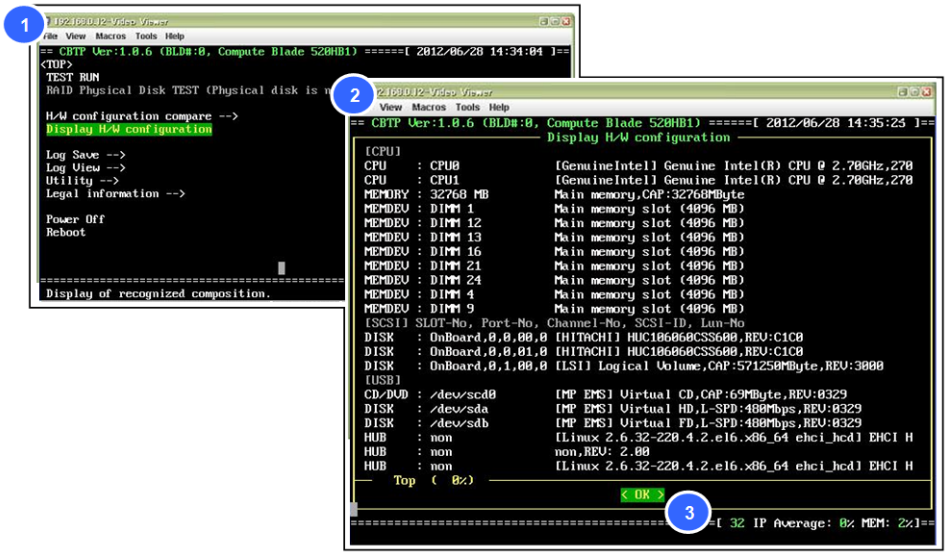


Figure 8-11 Verifying H/W configuration

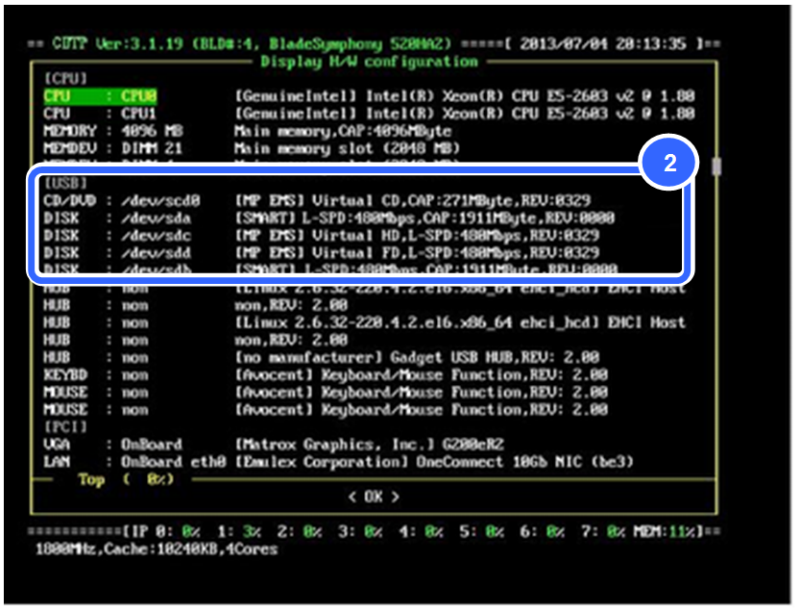
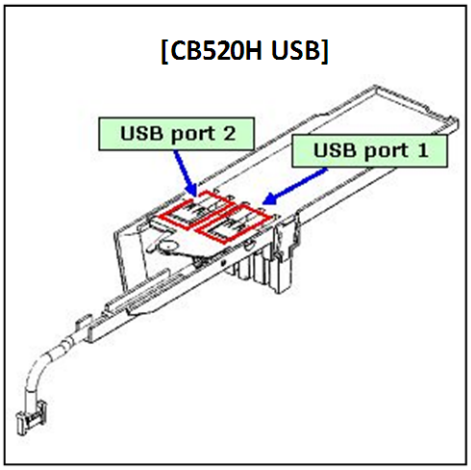


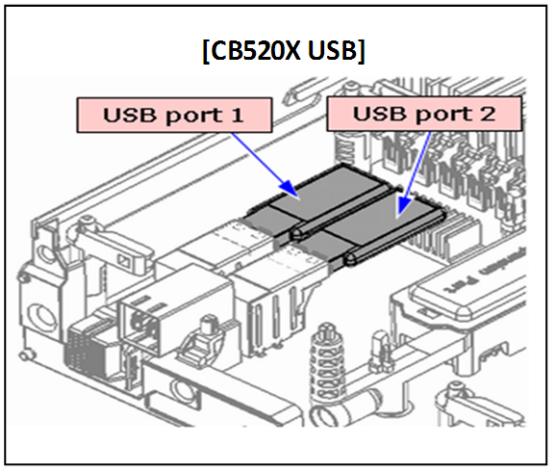
Figure 8-12 Verifying H/W configuration of USB

Note:

1. One full screen may be too small to display all of the device information. Verify the configuration until the **Bottom (100%)** is displayed in the lower left of the window using the ↑ and ↓ keys.

2. The flash drive in the expansion blade may not be indicated when the data consistency check is in progress on the drive.
   When the flash drive is not indicated, wait ten minutes, return to the CBTP main menu, select **Reboot**, and then press **Enter**.
   Restart CBTP, and then repeat from step 1.
3. The indicator of the USB location varies depending on the number of installed USBs.
   Confirm the location of replaced USB depending on the following table.





[USB is not installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	**port 2**	**port 1**	**port 2**
Installed	N/A	/dev/sda	N/A
N/A	Installed	N/A	/dev/sda
Installed	Installed	/dev/sda	/dev/sdb

[USB is installed in the USB port on the front panel of the server blade]

USB port		Location indicator	
port 1	**port 2**	**port 1**	**port 2**
Installed	N/A	/dev/sdb	N/A
N/A	Installed	N/A	/dev/sdb
Installed	Installed	/dev/sdb	/dev/sdc

Executing CBTP

1. Select **TEST RUN**, and then press **Enter** key.
2. Test Run Monitor is displayed. Using **Tab** key, select **EXEC**, and then press **Enter** Key.

3. The CBTP start executing.
4. Confirm that the test ended and **Normal End** is indicated in each device.

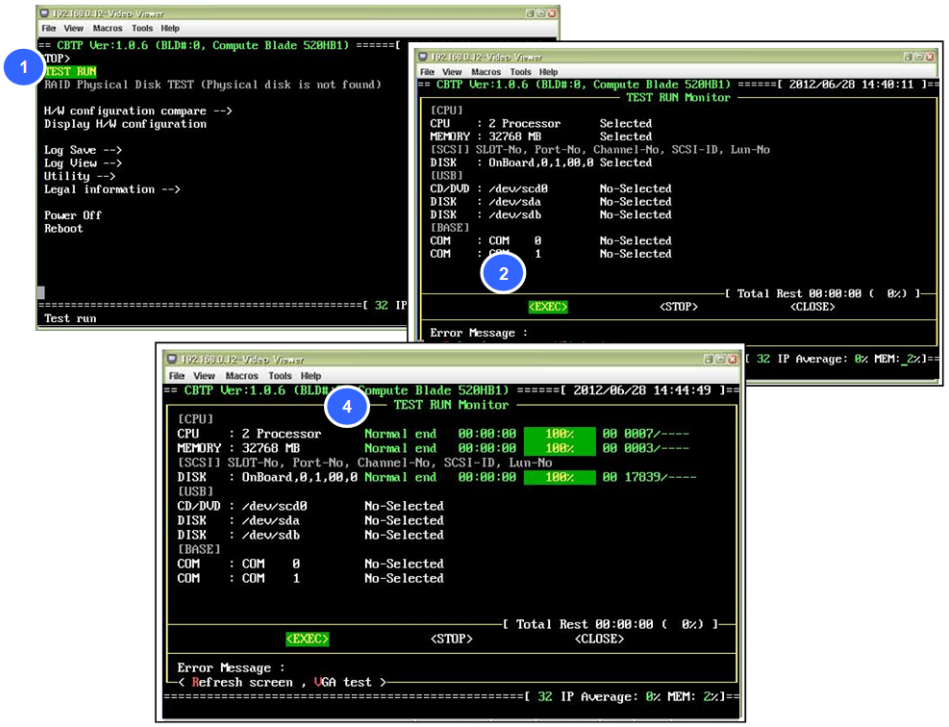


Figure 8-13 Testing hardware

Note: One full screen may be too small to display all of the device information.
Verify the results using the ↑ and ↓ keys.

Note: When the abnormal end, Error end, is displayed, consult with Hitachi Data Systems Customer Support team.

Closing the test program

1. Using the ← and → keys, select **CLOSE**, and then press **Enter** key. The window returns to the main menu.
2. Select **Power Off**, and then press **Enter** key.
3. **Power Off** dialog appears. Select **OK**, and then press **Enter** key.
4. The CBTP end processing is displayed. When the shutdown process was successful, the power LED on server blade blinks in green.
5. Click **File** and select **Exit**.

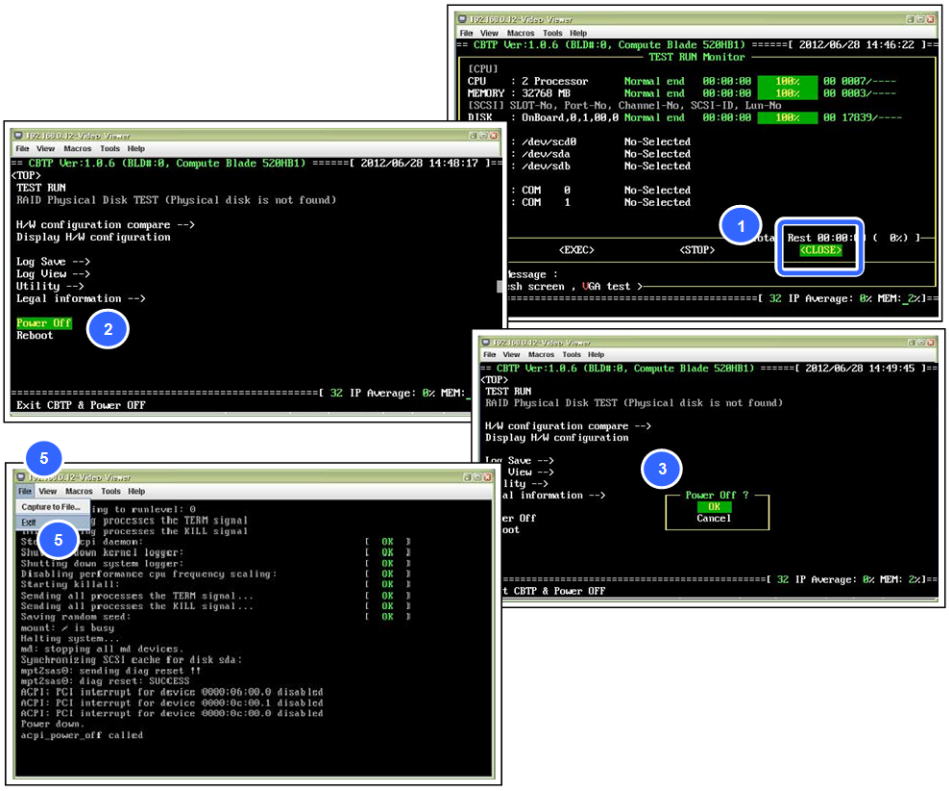


Figure 8-14 Logging out the CBTP

6. The **Virtual Media Session** window is displayed. Click **Exit**.
7. The **Close program request** dialog is displayed. Click **Yes**.
8. The **Remote Console Launch** window is displayed. Click **Logout**.
9. The **Logon** dialog is displayed. Close the browser.

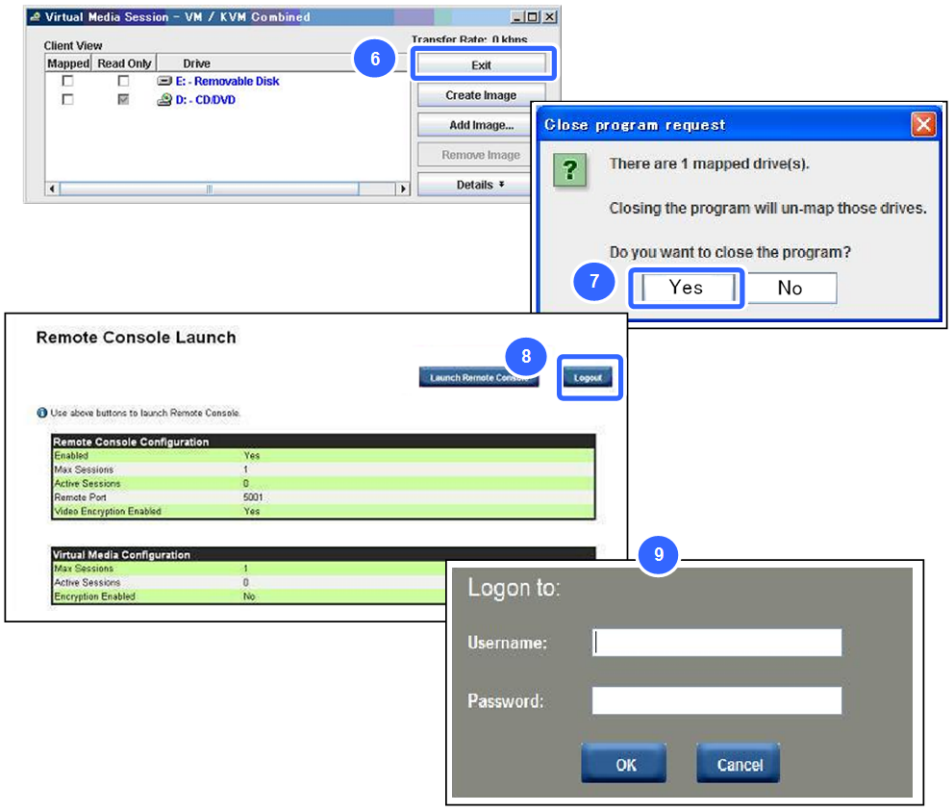


Figure 8-15 Logging out the remote console

Restarting BMC

You need to restart BMC after set server blade power value. See Restarting BMC procedure on page 4-56.

9

Updating firmware

This chapter provides information to help you identify and resolve problems that you may encounter with a Hitachi Compute Blade System. The following key topics are covered:

Notice: Contact with Hitachi Data Systems Customer Support to confirm the latest firmware version before updating.

Updating BMC/EFI firmware on server blade

Tip: Before performing the following procedures, you must download the updated firmware file from Hitachi Data System support portal to the console PC.

1. [For CB 520A A1, CB 520H A1/B1/B2/B3/B4, CB 540A A1/B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > Server Blades > *a target blade*** that should update the firmware.

   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > Server Blades > Server Blade *n* of the SMP configuration > *a target blade*** that should update the firmware.
2. Select **Condition** tab.
3. Click **Action** and then select **Update Firmware**.
4. The update dialog box is displayed. Click **Browse** and select the new firmware file.
5. Click **Confirm**.

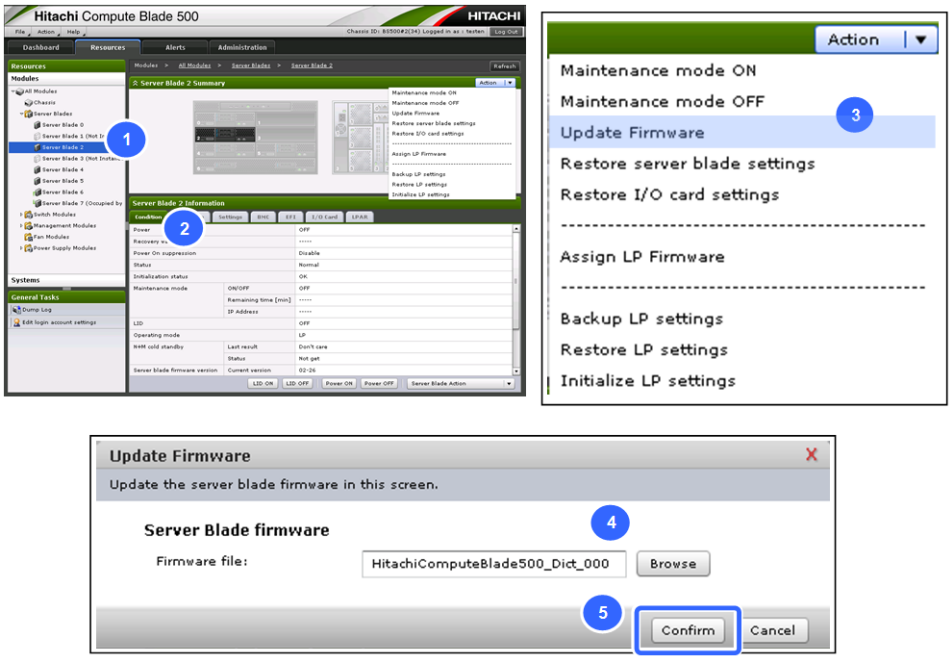


Figure 9-1 Select the updated firmware

6. The confirmation dialog box appears. Click **OK** and then firmware update will start.
7. After the firmware update process has completed, the successful message dialog box appears. Click **Close**.

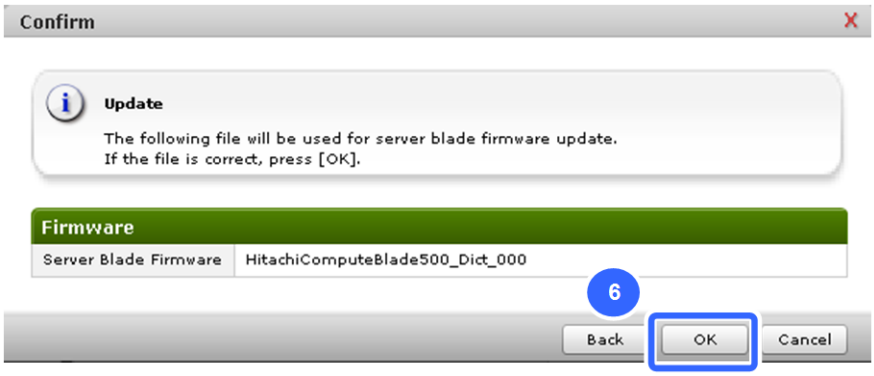


Figure 9-2 Start the updated firmware

Note: Do not power off the server blade during updating the firmware.

Updating firmware on management module

Tip: Before performing the following procedures, you must download the updated firmware file from Hitachi Data System support portal to the console PC.

Notice:

Restriction: Firmware on Management module before ver. A0145 does not support disabling LOM on CB 540A A1/B1. If you want to backdate ver. A0145 or earlier on CB 540A B1, enable LOM according to change LOM configuration procedure. See "Chapter 10, Change LOM configuration".

1. Select **Resources** tab and select **Modules > Management Modules**.
2. Click **Action** and then select **Update Firmware**.
3. The update dialog box is displayed. Check **Update** that you should update the data.
4. Click **Browse** and select the new firmware file.
5. Click **Confirm**.

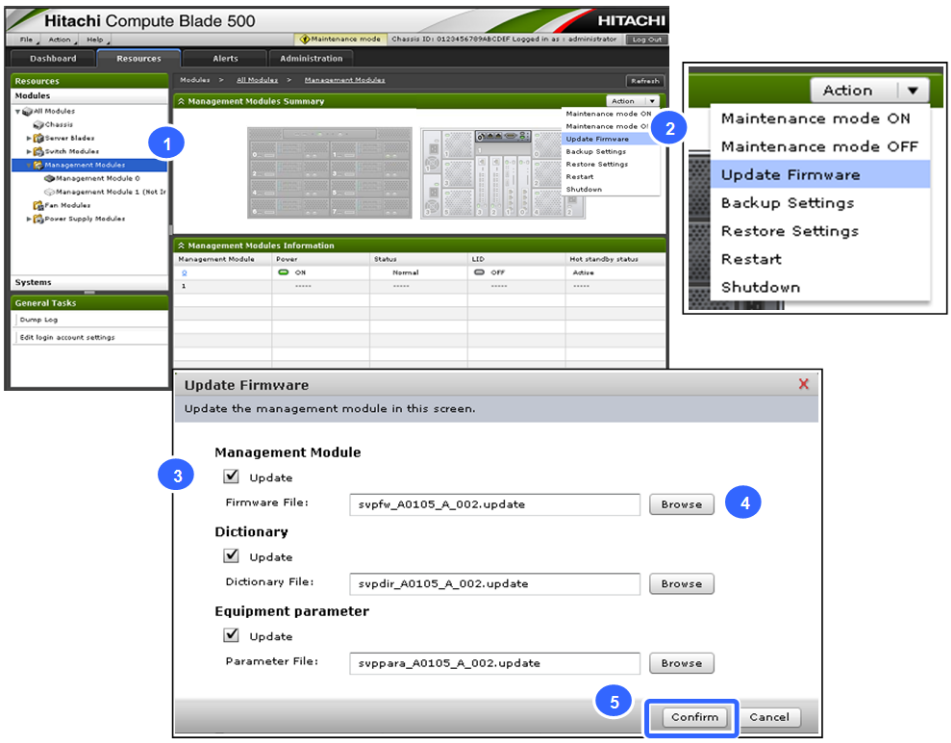


Figure 9-3 Select the updated firmware

6. The confirmation dialog box is displayed. Click **OK** and then firmware update will start.
7. After the firmware update process has completed, the successful message dialog box is displayed. Click **Close**.
8. The management modules will reboot.

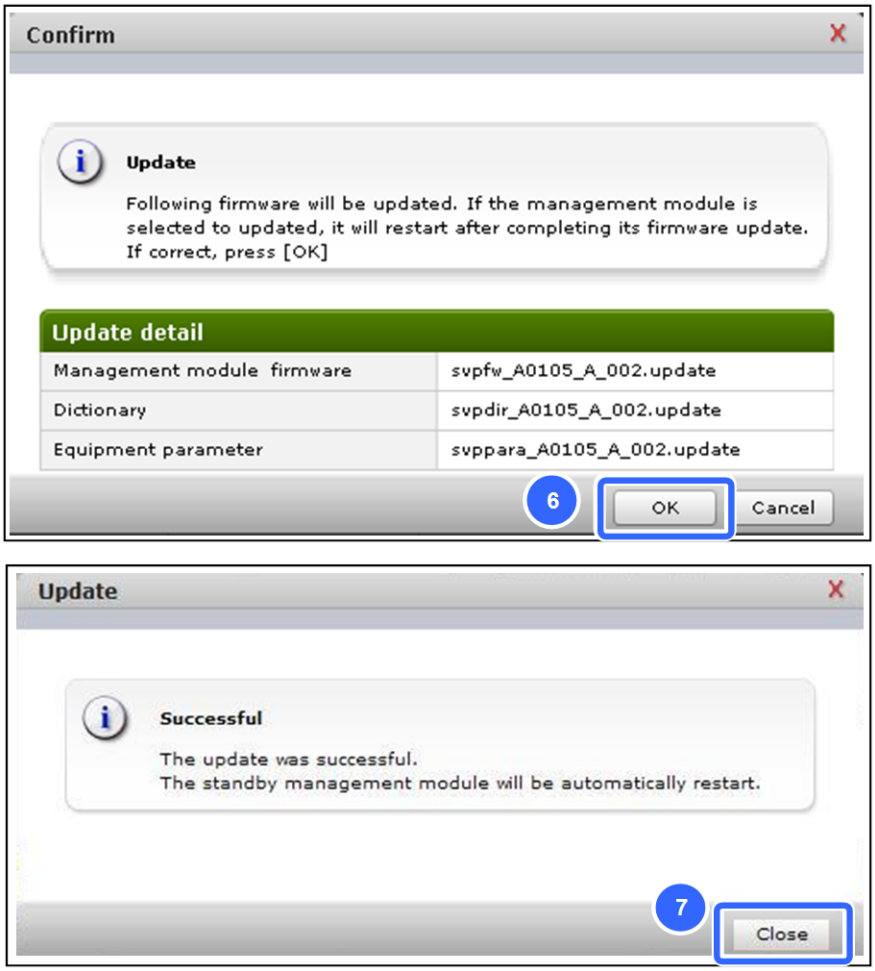


Figure 9-4 Start the updated firmware

Note: If the only dictionary file and parameter file are updated, the management module does not reboot. Only when the management module firmware is updated, the management module will reboot.

Note: Do not power off the management module and disconnect the LAN cable during updating the firmware.

Updating firmware on switch module

Tip: Before performing the following procedures, you must download the updated firmware file from Hitachi Data System support portal to the console PC.

1Gb LAN switch module or 1/10Gb LAN switch module

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.

2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the Host address, and then click **OK**.
   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

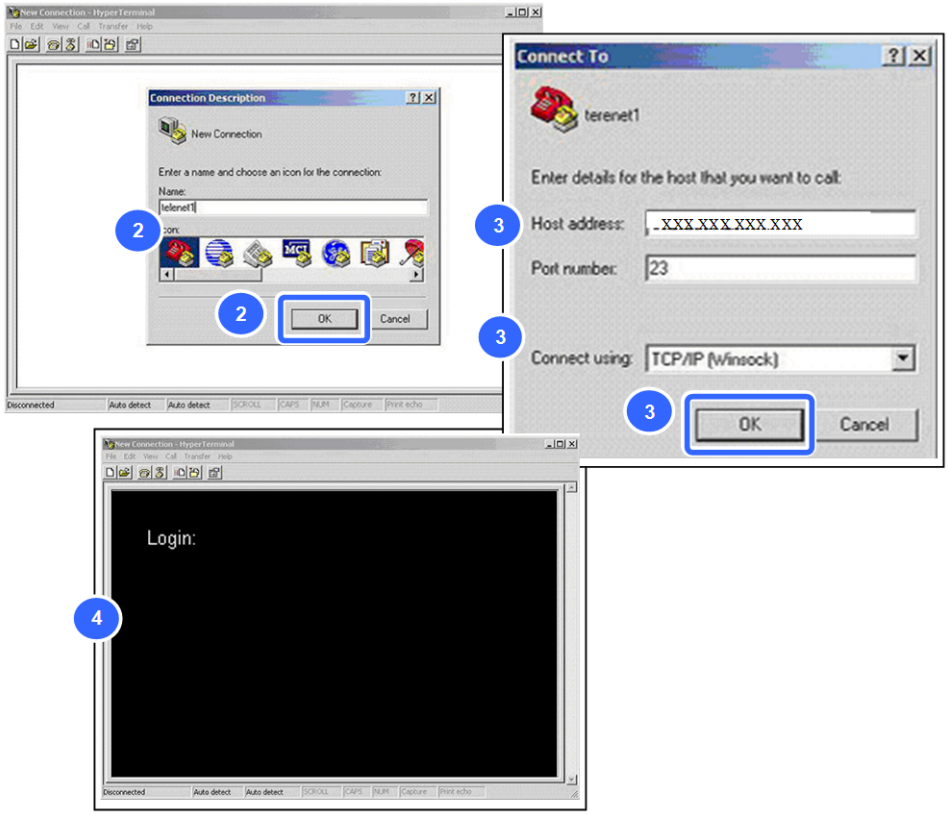


Figure 9-5 Connecting to LAN switch module

5. Enter `operator` as login name, and then press **Enter** key.

```
login: operator(Enter)
```

6. Confirm that the command prompt is indicated.

```
login: operator(Enter)
Copyright (c) 2005-2009 ALAXALA Networks Corporation. All rights
reserved.

>
```

7. Enter `enable`, and then press **Enter** key.

```
>enable(Enter)

#
```

8. Enter `cd /usr/var/update/`, and then press **Enter** key.

```
# cd  /usr/var/update/(Enter)
```

9. Enter `ftp < IP Address >`, and then press **Enter** key.
   IP Address : IP Address of console PC

```
# ftp  xxx.xxx.xxx.xxx(Enter)
```

10. Enter `upload`, and then press **Enter** key.

```
Name (192.168.0.110:operator):upload(Enter)
```

11. Enter `binary`, and then press **Enter** key.

```
ftp> binary(Enter)
```

12. Enter `get < new firmware file name >`, and then press **Enter** key.

```
ftp> get  k.img(Enter)
```

13. The following message is displayed. Confirm "Transfer complete" message.

```
local: k.img remote: k.img
500 'EPRT |1|192.168.0.254|65533|': command not understood
200 PORT command successful.
150 Opening BINARY mode data connection for k.img(20193804
bytes).

100% |*********************************| 19720 KB 1.34 MB/s 00:00
ETA

226 Transfer complete.      <- Check here.
20193804 bytes received in 00:14 (1.34 MB/s)

ftp>
```

14. Enter `bye`, and then press **Enter** key.

```
ftp> bye(Enter)
221 ***************** Thank you! ***************
```

15. Enter `ppupdate < new firmware file name >`, and then press **Enter** key.

```
# ppupdate  k.img(Enter)
```

16. The following message is displayed. Confirm the new firmware version.

```
Software update start
Broadcast Message from operator@
(??) at 8:48 UTC...
**********************************************
** UPDATE IS STARTED. **
**********************************************
Current version is 10.7.C
New version is VV.RR
Automatic reboot process will be run after installation process.
Do you wish to continue? (y/n)
```

17. Enter `y` , and then press **Enter** key.

```
 Do you wish to continue? (y/n) y(Enter)
```

18. The following message is displayed. Confirm "Update is finished successfully." message.

```
100%|*******************************| 19705 KB 1.17 MB/s 00:00
ETA

Update done.

Broadcast Message from operator@
(??) at 8:53 UTC...


**********************************************
** UPDATE IS FINISHED SUCCESSFULLY.**
**********************************************

#
```

Note: Do not power off the switch module and disconnect the LAN cable during updating the firmware.

8Gb / 16Gb FC switch module

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the Host address, and then click **OK**.
   < *IP address* >:IP address for the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

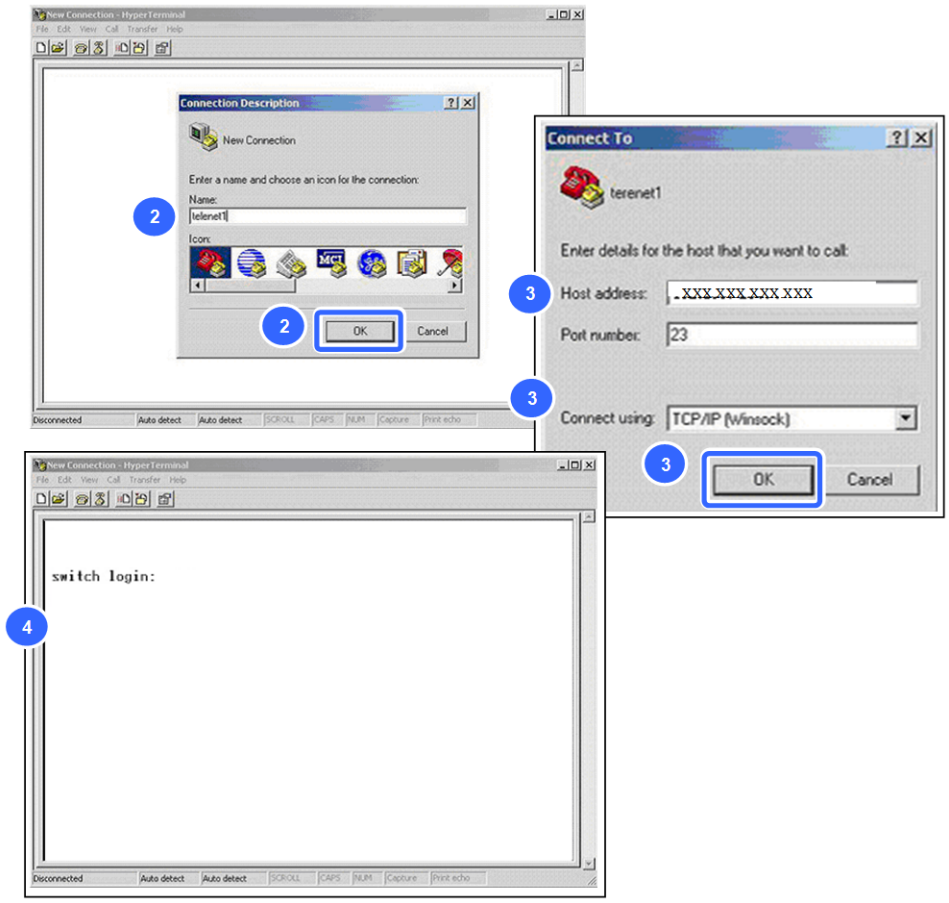


Figure 9-6 Connecting to 8Gb / 16Gb FC switch module

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Confirm that the command prompt is indicated.

```
Fabric OS (switch)

switch login: admin
Password:
switch:admin>
```

8. Enter `firmwareshow`, and then press **Enter** key.

   Confirm whether the firmware version is as same as the one of failed switch.

   If the firmware is same, the firmware update is not needed, so skip the following steps.

Note: Skip the following procedure when the firmware version of failed switch is **v6.3.2d** and the one of replaced switch is **6.3.2d1**.

```
BR5460:admin> firmwareshow (Enter)
Appl        Primary/Secondary Versions
------------------------------------------
FOS     v6.2.0_ht ← Record the version displayed here.
        v6.2.0_ht
BR5460:admin>
```

9. Copy a proper firmware folder to the following directory in console PC.
   Directory: c:\ inetpub \ ftproot \
10. Enter `firmwaredownload -s`, and then press **Enter** key.

```
switch:admin> firmwaredownload -s (Enter)
```

11. Enter < *IP Address* > of console PC, and then press **Enter** key.
    IP Address : IP address of console PC

```
Server Name or IP Address : XXX.XXX.XXX.XXX (Enter)
```

12. Enter `upload`, and then press **Enter** key.

```
User Name : upload (Enter)
```

13. Enter `< the copying firmware folder name >`, and then press **Enter** key.

```
File Name: v7.0.x\ (Enter)
```

14. Enter `2`, and then press **Enter** key.

```
Network Protocol (1-auto select, 2-FTP, 3-SCP) : 2 (Enter)
```

15. Enter `password`, and then press **Enter** key.

```
Password: password (Enter)
```

16. Enter `y`, and then press **Enter** key when prompted "Do Auto-Commit after Reboot [Y]".
    Enter `n`, and then press **Enter** key when prompted "Reboot system after download [N]".
    Enter `y`, and then press **Enter** key when prompted "Do you want to continue (Y/N) [Y]".

```
Do Auto-Commit after Reboot [Y] : y (Enter)
Reboot system after download [N]: n (Enter)
Server IP: 172.16.0.200, Protocol IPv4
Checking system settings for firmwaredownload...
auto reboot option is not allowed with single mode when upgrade from 6.3 to 7.0.
Please make sure that auto-reboot is not enabled before proceeding.
System settings check passed.
You are running firmwaredownload with auto-reboot disabled. After firmware is
downloaded, please reboot the system to activate the new firmware.
Do you want to continue (Y/N) [Y]: y (Enter)
```

17. It takes about 30 minutes to update the firmware.
    Confirm that "**All packages have been downloaded successfully**." is indicated and the state returns to command prompt.

```
Do you want to continue (Y/N) [Y]: y (Enter)

. . .

All packages have been downloaded successfully.
Firmware has been downloaded to the secondary partition of the switch.
BR5460:admin>
```

18. Enter **reboot** in command prompt, and then press **Enter** key.
    When "**Are you sure you want to reboot the switch [y/n]?**" is indicated, enter `y`, and then press **Enter** key.

```
R5460:admin> reboot (Enter)
Warning: This command would cause the switch to reboot
and result in traffic disruption.
Are you sure you want to reboot the switch [y/n]? y
Broadcast message from root (pts/0) Tue Apr 16 00:33:40 2013...

The system is going down for reboot NOW !!.
BR5460:admin>
```

19. About five minutes later after starting the reboot, make sure that Power LED and Status LED of the FC switch module emit in green.
20. Press **Enter** key to login to FC switch module again.

```
R5460:admin> (Enter)
Fabric OS (BR5460)

Fabos Version 6.2.0_ht1

Login:
```

21. Enter `admin` as login name, and then press **Enter** key.
22. Enter `password` as password, and then press **Enter** key. Confirm that command prompt is displayed again

```
Login: admin (Enter)
Password: password (Enter)

R5460:admin>
```

23. Enter **firmwaredownloadstatus**, and then press **Enter** key.
    Confirm that a message of "**Firmwaredownload command has completed successfully.**" is indicated.
    When message of "**The commit operation has completed successfully**" is not indicated, wait for several minutes, and then retry this step.

```
switch:admin> firmwaredownloadstatus(Enter)
[1]: Tue Jun 30 01:53:29 2009
Firmware is being downloaded to the switch. This step may take up to 30 minutes.

[2]: Tue Jun 30 02:16:40 2009
Firmware has been downloaded to the secondary partition of the switch.

[3]: Tue Jun 30 02:18:25 2009
The firmware commit operation has started. This may take up to 10 minutes.

[4]: Tue Jun 30 02:19:59 2009
The commit operation has completed successfully.

[5]: Tue Jun 30 02:19:59 2009
Firmwaredownload command has completed successfully. Use firmwareshow to verify the
firmware versions.

switch:admin>
```

24. Enter **firmwareshow**, and then press **Enter** key. Confirm that the version is newly downloaded FOS version.

```
BR5460:admin> firmwareshow (enter)
Appl          Primary/Secondary Versions
------------------------------------------------------------
FOSv6.2.0_ht
v6.2.0_ht
BR5460:admin>
```

10Gb DCB switch module

1. Click **Start > Programs > Accessories > Communications > HyperTerminal** to boot up terminal software.
2. The **Connection Description** window is displayed. Enter `telnet1`, and then click **OK**.
3. Select **TCP/IP (Winsock)**, enter < *IP address* > in the Host address, and then click **OK**.

   < *IP address* >:IP address of the target switch module. See Internal IP address setup procedure for switch module on page 4-18 section.
4. The login prompt is displayed in the terminal.

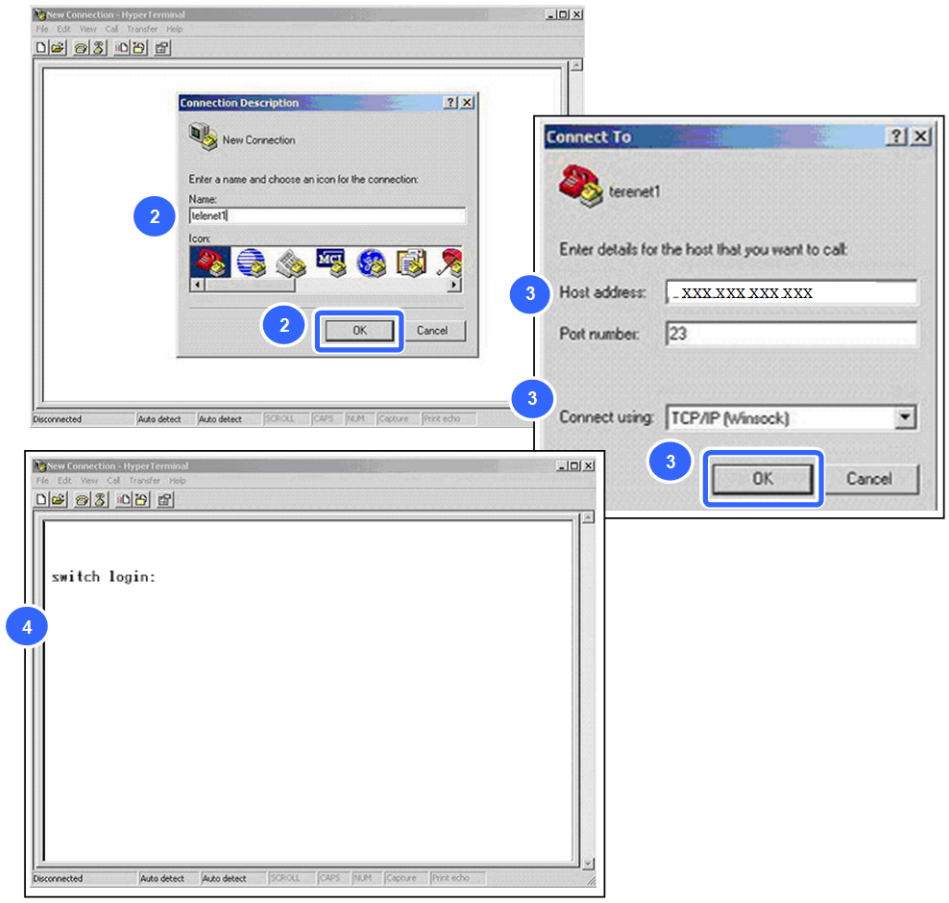


Figure 9-7 Connecting to 10Gb DCB switch module

5. Enter `admin` as login name, and then press **Enter** key.

```
switch login: admin (Enter)
```

6. Enter `password` as password, and then press **Enter** key.

```
Password:_______ (Enter)
```

7. Confirm that the command prompt is indicated.

```
switch login: admin
Password:
switch:admin>
```

8. Enter `showversion`, and then press **Enter** key.
   Ensure whether the firmware is the latest version.
   If the firmware was the latest version, the firmware update is not needed.
   If it was not the latest version, go to step 9.

```
# show version(Enter)

Network Operating System Software
Network Operating System Version: 2.0.0
Copyright (c) 1995-2010 Brocade Communications Systems, Inc.
Build Time: 01:02:28 Jun 14, 2011
Firmware name: NOS_v2.0.0Control Processor: Freescale Semiconductor 8548E with 2000 MB of
memory
Appl      Primary/Secondary Versions
------------------------------------------
NOS       v2.0.0    ←   Record this NOS version.
     Unknown
#
```

9. Copy the latest firmware folder to the following directory in console PC.
   Directory: c:\ inetpub \ ftproot \
10. Enter `firmware download interactive`, and then press **Enter** key.

```
# firmware download interactive (Enter)
```

11. Enter < *IP Address* > for maintenance, and then press **Enter** key.
    IP Address : IP address of console PC

```
Server Name or IP Address: 192.168.254.42 (Enter)
```

12. Enter < *the latest firmware folder name* >, and then press **Enter** key.

```
File Name: kat_bld10 (Enter)
```

13. Enter `ftp`, and then press **Enter** key.

```
Protocol (ftp, scp): ftp (Enter)
```

14. Enter `upload`, and then press **Enter** key.

```
User: upload (Enter)
```

15. Enter `password`, and then press **Enter** key.

```
Password: ******** (Enter)
```

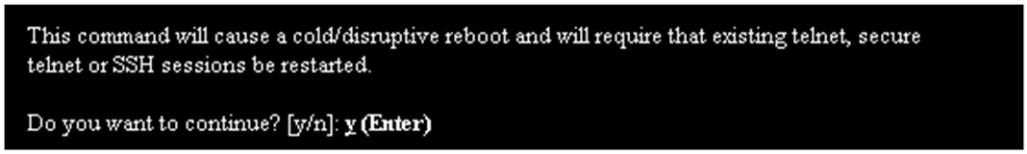
16. Enter `y`, and then press **Enter** key.

```
Do Auto-Commit after Reboot? [y/n]: y (Enter)
```

17. Enter `y`, and then press **Enter** key.

```
Reboot system after download? [y/n]: y (Enter)
```

18. The following messages are displayed.
    Enter `y`, and then press **Enter** key.



19. It will take 20 minutes to update the latest firmware.
    When the firmware has been updated successfully, the switch module will be rebooted automatically.

Note: Do not power off the switch module and disconnect the LAN cable during updating the firmware.

10

Change LOM configuration

This chapter describes how to change LOM configuration. The following key topics are covered:

Notice: Contact Hitachi Data Systems Customer Support to confirm the latest firmware version before updating the firmware.

- ☐ Overviews of changing LOM configuration
- ☐ Confirming and updating firmware version for CB 540A B1, CB 520H B2/B3/B4, CB 520X B1/B2/B3
- ☐ How to disable LOM and mount mezzanine cards.
- ☐ How to enable LOM.
- ☐ Diagnosing server blade.
- ☐ Registering LoM license key for CB 520H B2/B3/B4 or CB 520X B1/B2/B3
- ☐ Updating IPL file of LOM for CB 520H B3/B4 or CB 520X B1/B2/B3
- ☐ Diagnosing server blade.

Overviews of changing LOM configuration

Compute Blade 500 offers following features concerning LOM (LAN on Main board).

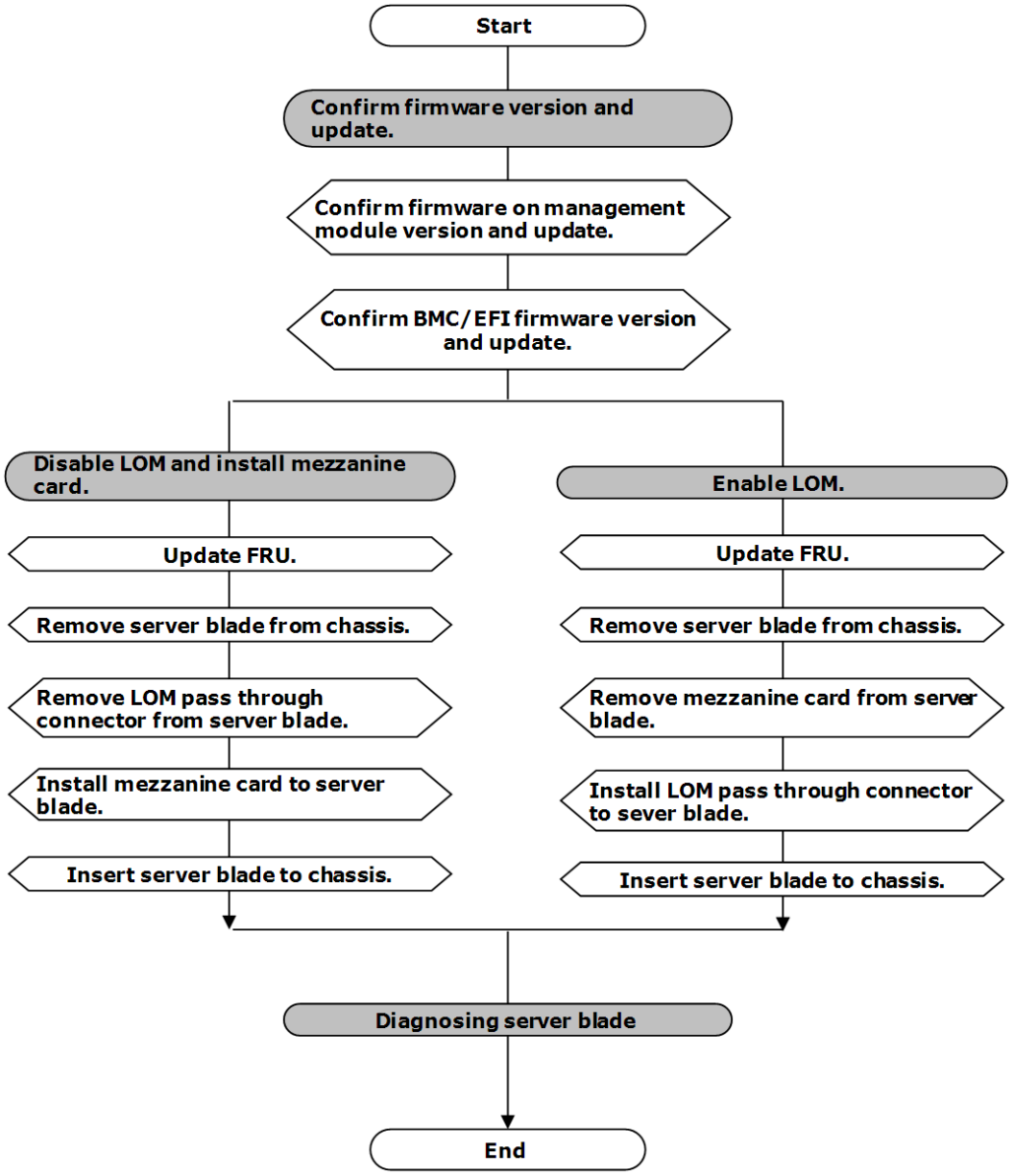
Table 10-1 Features concerning LOM

Model Name	Features
CB 540A B1	Disabling LOM and mounting mezzanine card #1 or #3.
CB 520H B2/B3/B4	Purchasing LOM License and enabling LOM.
CB 520X B1/B2/B3	Purchasing LOM License and enabling LOM.

Enabling and disabling LOM for CB 540A B1

You are able to mount mezzanine card #1 or #3 on CB 540A B1. You need to disable LOM when you mount mezzanine card #1 or #3.

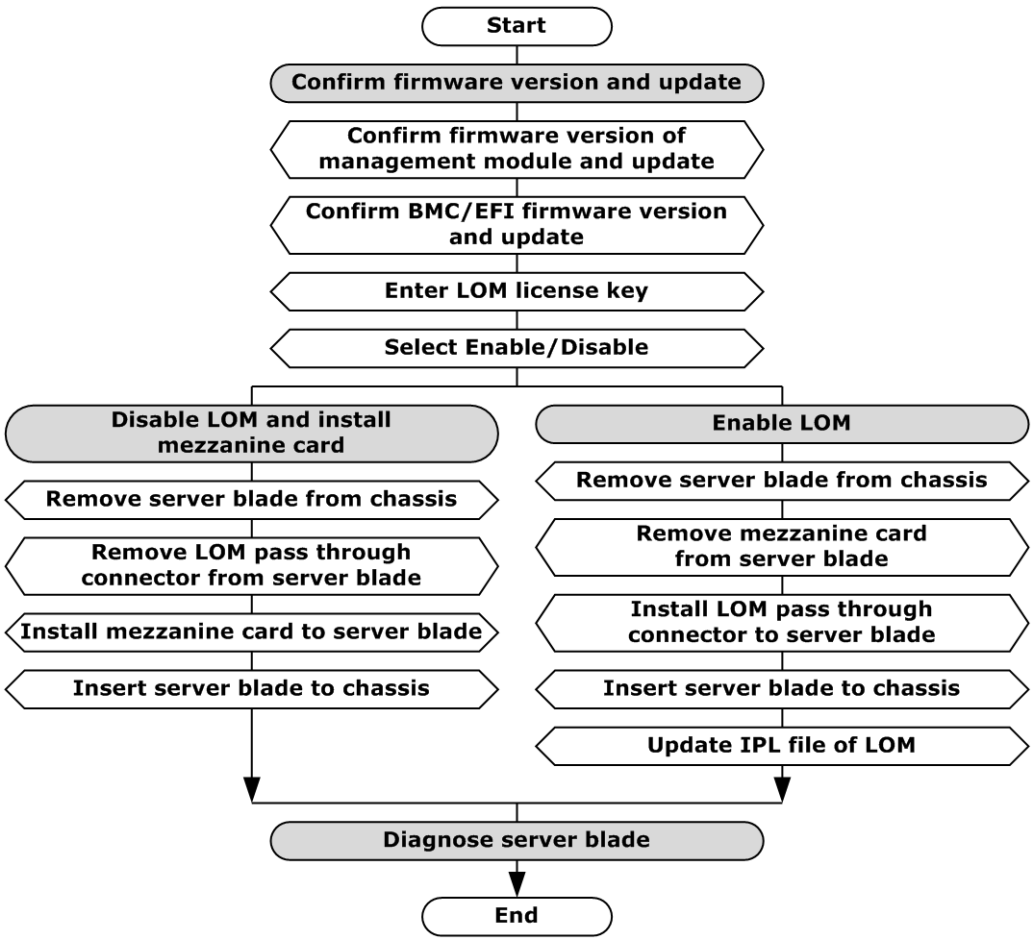
Outline of the procedure is as follows.



Enabling and disabling LOM for CB 520H B2/B3/B4, CB 520X B1/B2/B3

You are able to enable or disable LOM after purchasing LOM license.

Outline of the procedure is as follows.



Confirming and updating firmware version for CB 540A B1, CB 520H B2/B3/B4, CB 520X B1/B2/B3

Firmware earlier than shown below does not support Changing LOM configuration. Before changing LOM configuration procedure, you need to confirm firmware version. If firmware versions are earlier than shown below, you need to update firmware version shown below or later.

On the other hand, if you want to backdate firmware earlier than shown below, you need to enable LOM according to "How to enable LOM. on page 10-8" section before backdate firmware.

Table 10-2 Firmware versions available for changing LOM configuration

Server blade	Firmware	
	BMC, EFI	Management module
CB 540A B1	03-14 or later	A0145 or later
CB 520H B2	04-30 or later	A0205 or later
CB 520H B3	08-05 or later	A0235 or later

Server blade	Firmware	
	BMC, EFI	Management module
CB 520H B4	10-00 or later	A0285 or later
CB 520X B1	06-04 or later	A0235 or later
CB 520X B2	09-06 or later	A0250 or later
CB 520X B3	11-00 or later	A0315 or later

Confirming firmware version of the management module

1. Confirm firmware version on Management Module. See "Management module on page 4-23" section.
2. For CB 540A B1, if firmware version is earlier than ver. A0145, you need to update the version to A0145 or later.

   For CB 520H B2, if firmware version is earlier than ver. A0205, you need to update the version to A0205 or later.

   For CB 520H B3 or CB 520X B1, if firmware version is earlier than ver. A0235, you need to update the version to A0235 or later.

   For CB 520H B4, if firmware version is earlier than ver. A0285, you need to update the version to A0285 or later.

   For CB 520X B2, if firmware version is earlier than ver. A0250, you need to update the version to A0250 or later.

   For CB 520X B3, if firmware version is earlier than ver. A0315, you need to update the version to A0315 or later.

Confirming BMC/EFI firmware version of the server blade

1. Confirm firmware version on server blade. See "Server blade on page 4-23" section.
2. For CB 540A B1, if firmware version is earlier than ver. 03-14, you need to update the version to 03-14 or later.

   For CB 520H B2, if firmware version is earlier than ver. 04-30, you need to update the version to 04-30 or later.

   See "Updating BMC/EFI firmware on server blade on page 9-2" section.

How to disable LOM and mount mezzanine cards.

Updating FRU.

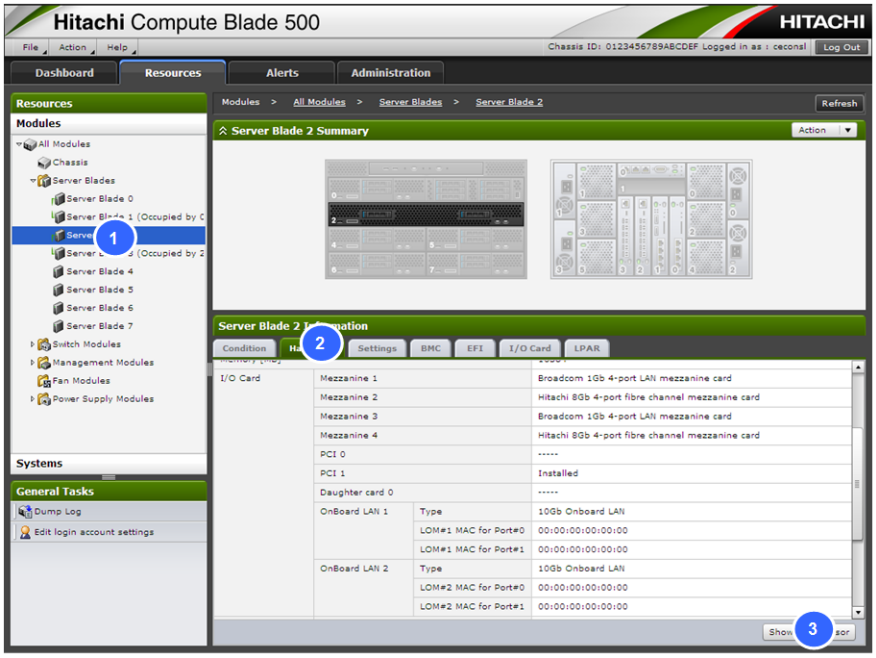
1. [For CB 520H B1/B2/B3/B4, CB 540A B1, and Non-SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > Server Blades > *a target blade*** that should update the FRU information.

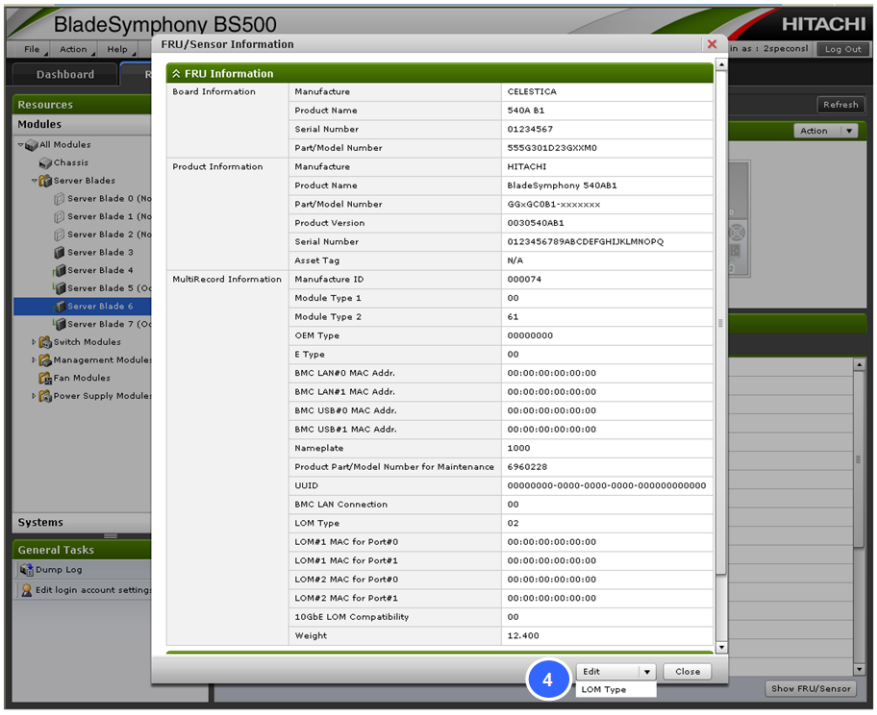
   [For SMP CB 520X B1/B2/B3]

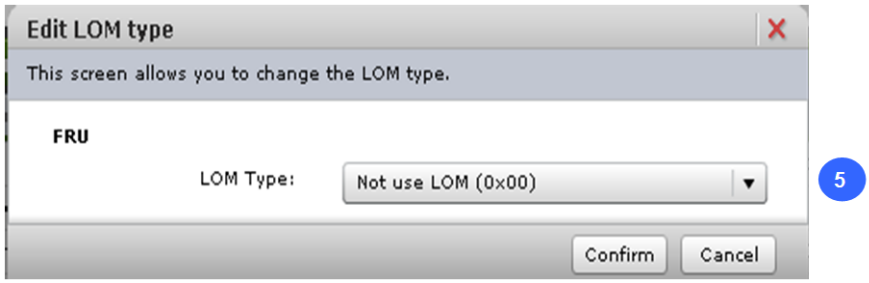
Select **Resources** tab and select **Modules > Server Blades > Server Blade *n* of the SMP configuration > *a target blade*** that should update the FRU information.

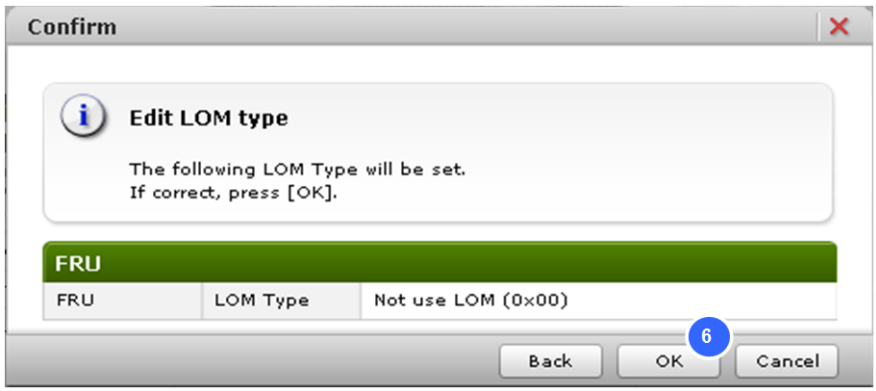
2. Select **Hardware** tab.
3. Click **Show FRU/Sensor**.

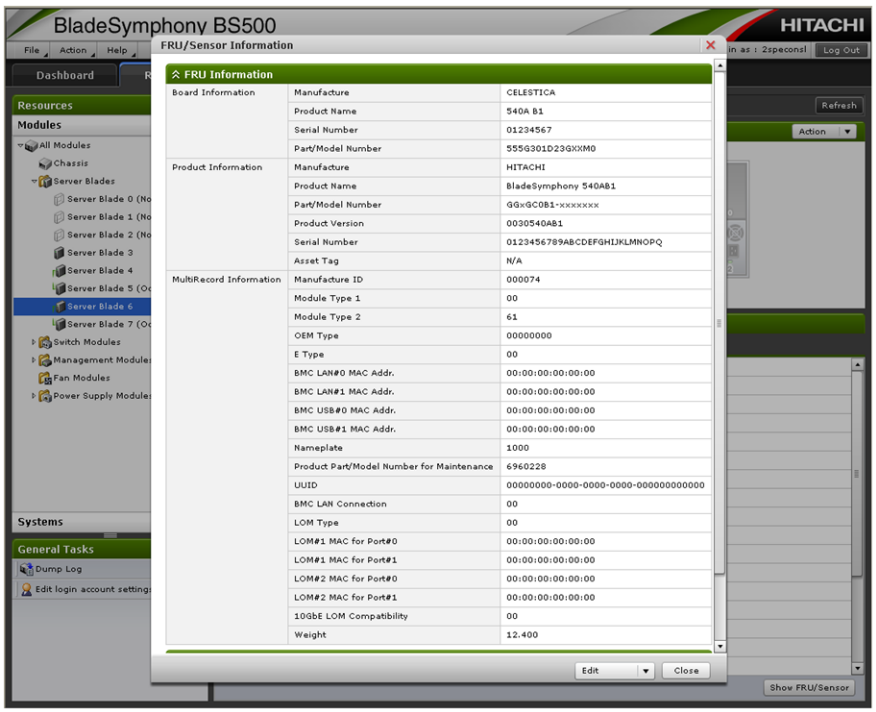


4. The **FRU/Sensor Information** dialog box is displayed, click **Edit** > **LOM Type**.
5. The **Edit LOM type** dialog box is displayed, select **0x00**, and click **Confirm**.
6. The **Confirm** dialog box is displayed, then click **OK**.
7. After the FRU update process has completed, the **FRU/Sensor Information** dialog box is displayed again. Confirm that **LOM type** field is 0x00.


BladeSymphony BS500
HITACHI
FRU/Sensor Information
FRU Information
Board Information
Manufacture CELESTICA
Product Name S40A B1
Serial Number 01234567
Part/Model Number 555G301D23GXXM0
Product Information
Manufacture HITACHI
Product Name BladeSymphony 540AB1
Part/Model Number GGxGC0B1-xxxxxxx
Product Version 0030540AB1
Serial Number 0123456789ABCDEFGHIJKLMNOPQ
Asset Tag N/A
MultiRecord Information
Manufacture ID 000074
Module Type 1 00
Module Type 2 61
OEM Type 00000000
E Type 00
BMC LAN#0 MAC Addr. 00:00:00:00:00:00
BMC LAN#1 MAC Addr. 00:00:00:00:00:00
BMC USB#0 MAC Addr. 00:00:00:00:00:00
BMC USB#1 MAC Addr. 00:00:00:00:00:00
Nameplate 1000
Product Part/Model Number for Maintenance 6960228
UUID 00000000-0000-0000-0000-000000000000
BMC LAN Connection 00
LOM Type 02
LOM#1 MAC for Port#0 00:00:00:00:00:00
LOM#1 MAC for Port#1 00:00:00:00:00:00
LOM#2 MAC for Port#0 00:00:00:00:00:00
LOM#2 MAC for Port#1 00:00:00:00:00:00
10GbE LOM Compatibility 00
Weight 12.400
4
Edit
LOM Type
Close
Show FRU/Sensor


Edit LOM type
This screen allows you to change the LOM type.
FRU
LOM Type:
Not use LOM (0x00)
5
Confirm
Cancel


Confirm
Edit LOM type
The following LOM Type will be set.
If correct, press [OK].
FRU
FRU
LOM Type
Not use LOM (0x00)
6
Back
OK
Cancel



Changing hardware configuration.

1. Remove server blade from chassis. See "Removing a full-wide server blade on page 5-6" section.
2. Open the top cover. See "Opening a top cover, Server blade on page 5-38" section.
3. Remove LOM pass through connector. See "Replacing a LOM pass through connector in half-wide server blade on page 5-53" section.

   You need to remove both LOM pass through connector slot #1 and #3 at the same time.

   Keep LOM pass through connectors for future use.
4. Install mezzanine cards on server blade if you need. See "Installing a mezzanine card on page 5-52" section.

   Supported combination of mezzanine cards is same as CB 540A A1/B1.
5. Close the top cover.
6. Insert server blade to the chassis. See "Installing a full-wide server blade on page 5-7" section.

How to enable LOM.

Updating FRU information.

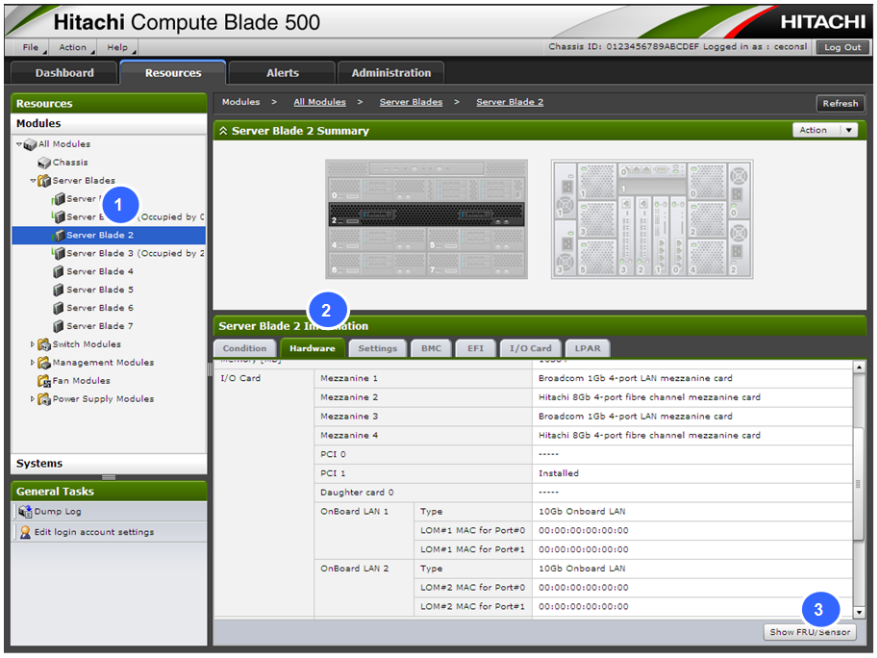
1. [For CB 520H B1/B2/B3/B4, CB 540A B1, and Non-SMP CB 520X B1/B2/B3]

Select **Resources** tab and select **Modules > Server Blades > *a target blade*** that should update the FRU information.

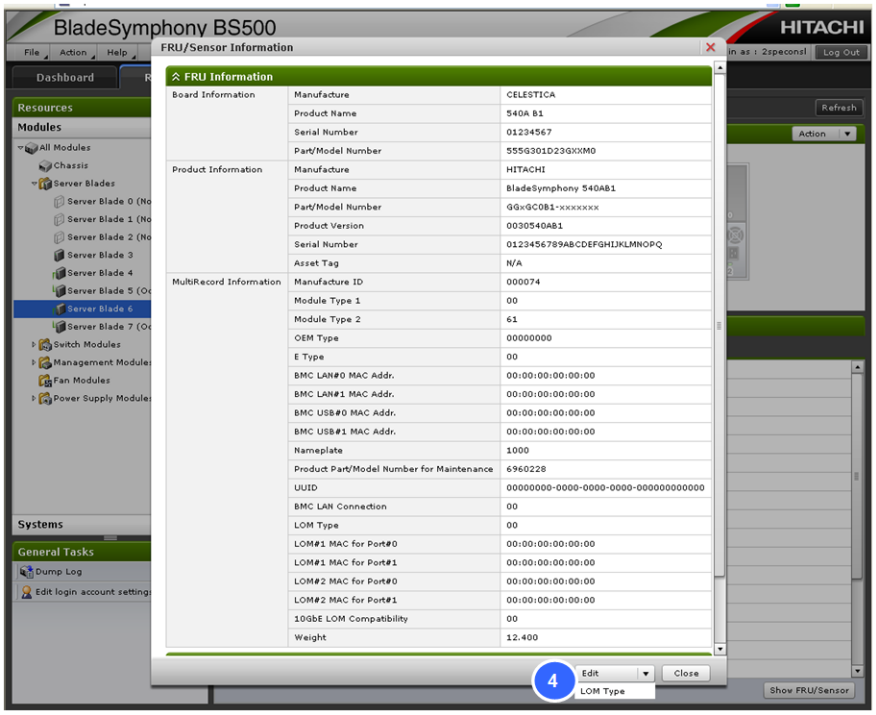
[For SMP CB 520X B1/B2/B3]

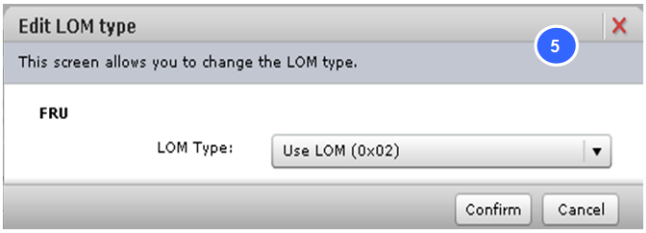
Select **Resources** tab and select **Modules > Server Blades > Server Blade *n* of the SMP configuration > *a target blade*** that should update the FRU information.

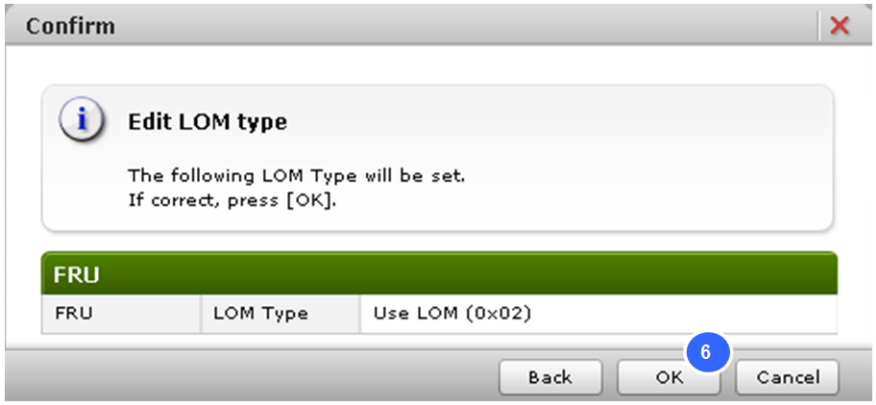
2. Select **Hardware** tab.
3. Click **Show FRU/Sensor**.

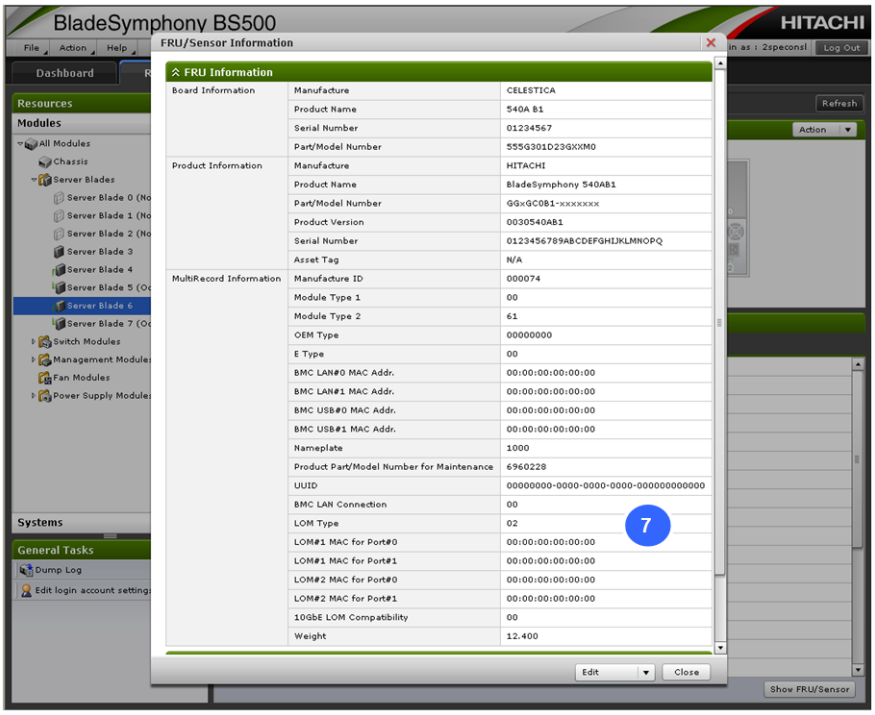


4. The **FRU/Sensor Information** dialog box is displayed, click **Edit** > **LOM Type**.
5. The **Edit LOM type** dialog box is displayed, select **0x02**, and click **Confirm**.
6. The **Confirm** dialog box is displayed, and then click **OK**.
7. After the FRU update process has completed, the **FRU/Sensor Information** dialog box is displayed again. Confirm that LOM type field is 0x02.


BladeSymphony BS500
HITACHI
FRU/Sensor Information
FRU Information
Board Information
Manufacture CELESTICA
Product Name 540A B1
Serial Number 01234567
Part/Model Number 555G301D23GXXM0
Product Information
Manufacture HITACHI
Product Name BladeSymphony 540AB1
Part/Model Number GGxGC0B1-xxxxxxx
Product Version 0030540AB1
Serial Number 0123456789ABCDEFGHIJKLMNOPQ
Asset Tag N/A
MultiRecord Information
Manufacture ID 000074
Module Type 1 00
Module Type 2 61
OEM Type 00000000
E Type 00
BMC LAN#0 MAC Addr. 00:00:00:00:00:00
BMC LAN#1 MAC Addr. 00:00:00:00:00:00
BMC USB#0 MAC Addr. 00:00:00:00:00:00
BMC USB#1 MAC Addr. 00:00:00:00:00:00
Nameplate 1000
Product Part/Model Number for Maintenance 6960228
UUID 00000000-0000-0000-0000-000000000000
BMC LAN Connection 00
LOM Type 00
LOM#1 MAC for Port#0 00:00:00:00:00:00
LOM#1 MAC for Port#1 00:00:00:00:00:00
LOM#2 MAC for Port#0 00:00:00:00:00:00
LOM#2 MAC for Port#1 00:00:00:00:00:00
10GbE LOM Compatibility 00
Weight 12.400
4
Edit
LOM Type
Close


Edit LOM type
5
This screen allows you to change the LOM type.
FRU
LOM Type:
Use LOM (0x02)
Confirm
Cancel


Confirm
Edit LOM type
The following LOM Type will be set.
If correct, press [OK].
FRU
FRU
LOM Type
Use LOM (0x02)
6
Back
OK
Cancel



Changing hardware configuration.

1. Remove server blade from chassis. See "Removing a full-wide server blade on page 5-6" section.
2. Open the top cover. See "Opening a top cover, Server blade on page 5-38" section.
3. Remove mezzanine cards from server blade. See "Replacing a mezzanine card in full-wide server blade on page 5-51" section.
4. Install LOM pass through connector. See "Installing a LOM pass through connector. on page 5-55" section.

   You need to mount both LOM pass through connector slot #1 and #3 at the same time.
5. Close the top cover.
6. Insert server blade to the chassis. See "Installing a full-wide server blade on page 5-7" section.

Diagnosing server blade.

You need to set server blade power value and check blade configuration after changing LOM configuration. See "Chapter 8, Diagnosing server blade".

Registering LoM license key for CB 520H B2/B3/B4 or CB 520X B1/B2/B3

Notice:

It is required to input LOM License key every time when enabling or disabling LOM.

---

1. [For CB 520H B2/B3/B4, and Non-SMP CB 520X B1/B2/B3/]

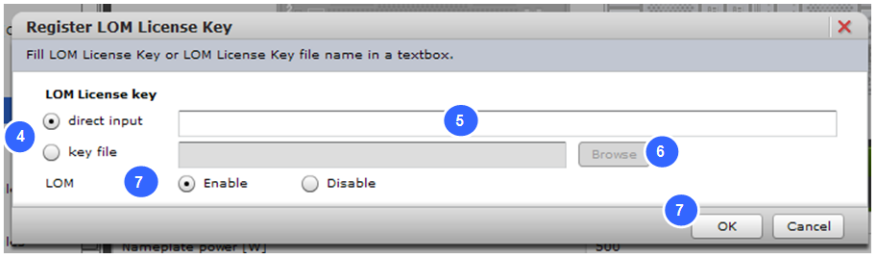
   Select **Resources** tab and select **Modules > Server Blades > *a target blade*** that should be registered LOM license.

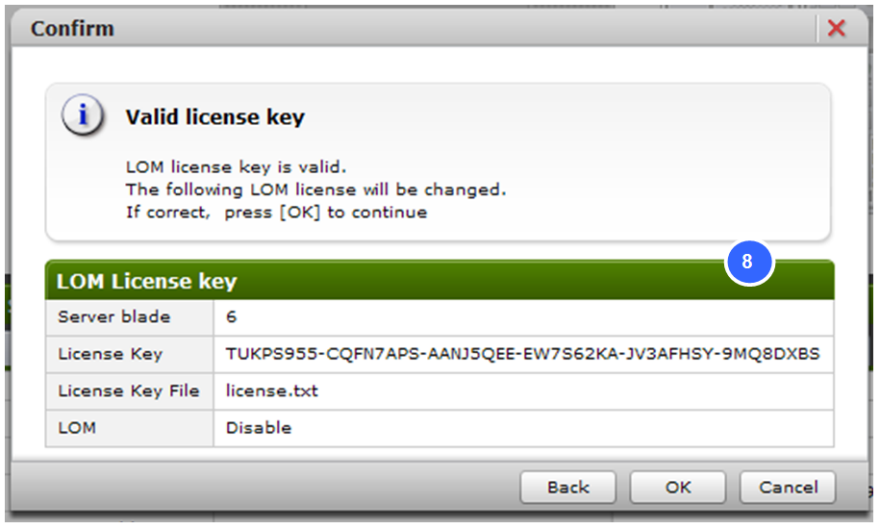
   [For SMP CB 520X B1/B2/B3]

   Select **Resources** tab and select **Modules > Server Blades > Server Blade *n* of the SMP configuration > *a target blade*** that should be registered LOM license.

2. Click **Action**.
3. Click **Register LOM license key**.

4. The **Register LOM License Key** dialog box is displayed, click **direct input** or **Key file** radio button
5. Enter the **LOM License Key** directly when you select **direct input**.
6. Click **Browse** and select License Key file when you select **Key file**.
7. Select LOM **Enable** or **Disable**, and then click **OK**.
8. Click **OK** in **Confirm** dialogue box.





9. Click **Hardware** tab and confirm whether LOM status is correct.

Changing LOM pass through connector configuration.

Note: Change hardware configuration after registering LOM license key, if required.

1. Remove server blade from chassis. See "Removing a full-wide server blade on page 5-6" section.
2. Open the top cover. See "Preparing for replacing an internal component on page 5-38" section.
3. Remove or install LOM pass through connector. See "Replacing a LOM pass through connector in half-wide server blade on page 5-53" section.

   Keep LOM pass through connectors for future use.

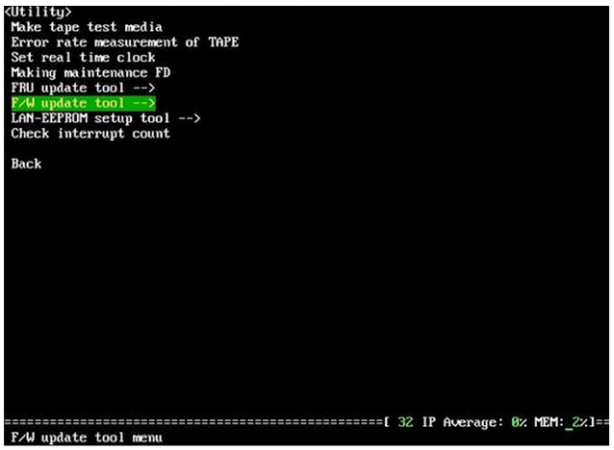
4. Install mezzanine cards on server blade if you need. See "Installing a mezzanine card on page 5-52" section.
   Supported combination of mezzanine cards is as same as CB 540A A1/B1.
5. Close the top cover.
6. Insert server blade to the chassis. See "Installing a half-wide server blade on page 5-5" section.

Updating IPL file of LOM for CB 520H B3/B4 or CB 520X B1/B2/B3

Note: Previously if you had set Personality of LOM to NIC+RoCE, and you will fail to update IPL file of LOM. Update IPL file of LOM after setting Personality of LOM to NIC from NIC+RoCE.

1. Connect the remote console. See "Connecting the remote console on page 8-2" section.
2. Start Compute blade test program (CBTP). See "Starting Compute blade test program (CBTP) on page 8-6" section.
3. Move cursor onto **Utility** by using **Tab** key on the CBTP main menu, and then press **Enter** key.

4. Move cursor onto **F/W update tool** by using **Tab** key on the Utility menu, and then press **Enter** key.

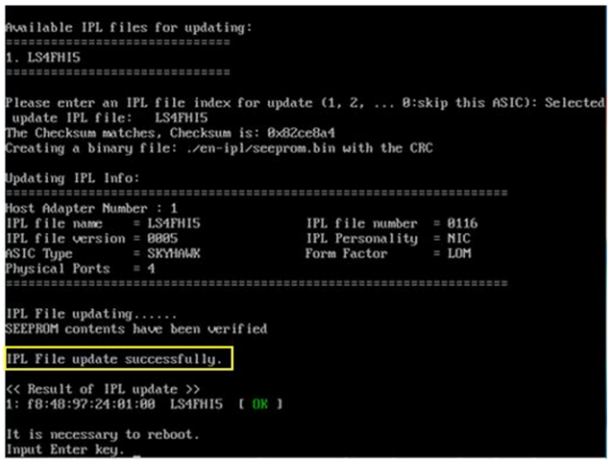


5. Move cursor onto **F/W update of Emulex CNA** by using **Tab** key, and then press **Enter** key.

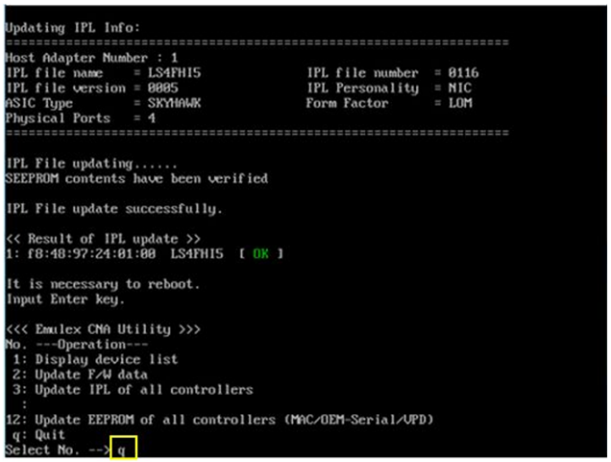
6. Select **OK** on **Execute update tool** dialog box, and then press **Enter** key.

7. Enter 3 in **Select No** line, and then press **Enter** key.

8. Confirm that **IPL file update successfully** is indicated, and then press **Enter** key.



9. Enter q, and then press **Enter** key.
Confirm that the **CBTP main menu** window is displayed again.



10. Close the test program. See "Closing the test program on page 8-14" section.
11. Restart BMC. See "Restarting BMC procedure on page 4-56" section.

Diagnosing server blade.

You need to set server blade power value and check blade configuration after changing LOM configuration. See "Chapter 8, Diagnosing server blade".

11

Troubleshooting

This chapter provides information to help you identify and resolve problems that you may encounter with a Hitachi Compute Blade System. The following key topics are covered:

- Getting help
- Overview
- Troubleshooting tables

Getting help

If you have difficulty with any of the procedures included in this chapter, or if a procedure does not provide the answer or results you expect, please contact the Hitachi Data Systems Customer Support team. See the "Getting help on page xxiv" section in the Preface of this manual.

Overview

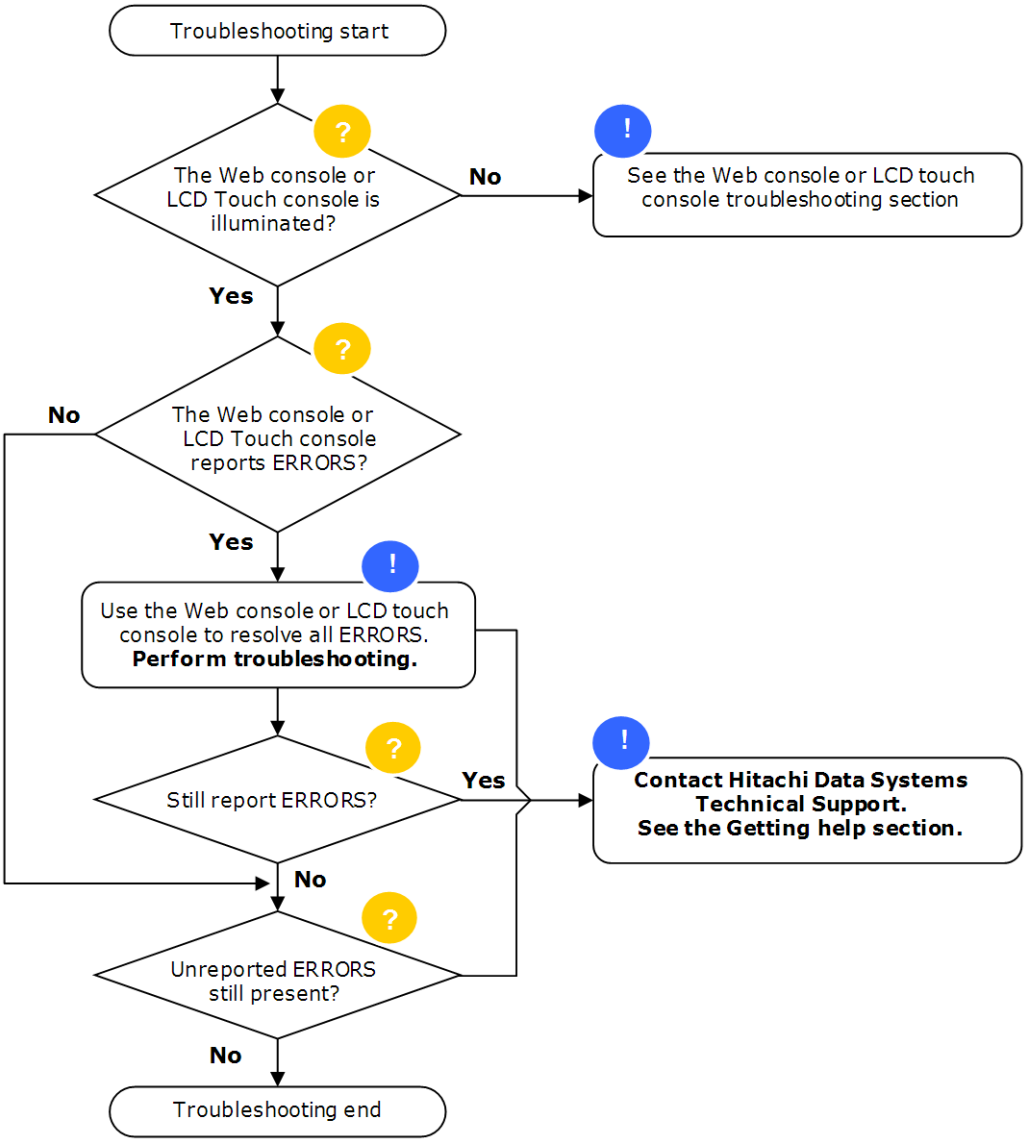


Figure 11-1 Troubleshooting Basic Flowchart

Troubleshooting tables

The following tables list common problems and their solutions. Detailed solutions are described in this chapter. The solutions include flowcharts and other instructions to assist you in solving these problems.

Power supply module troubleshooting table

Table 11-1 Power supply troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	The Power LED is off or is blinking in amber. The console reports AC failure.	No power.	Action 1 1. Verify that the power cord is connected properly to the failed power supply and to the AC source. Verification 1 1. If the Power LED lit on green after the troubleshooting, then the replacing is complete. 2. If the Power LED indicates other than normal condition, then go to the following Action 2. Action 2 1. Remove the failed power supply, and replace it with spare one. Verification 2 1. If the Power LED lit on green, then go to step 4.
2	The Power LED of one power supply is solid amber. The console reports Power failure.	Power supply Fault.	Action 1 1. Remove the failed power supply module and replace it to spare one. Verification 1 1. If the Power LED lit on green, then the replacing is completed. 2. If the Power LED indicates other than normal condition, then go to step 4.
3	The Power LEDs of all power supplies are solid amber. The console reports Power failure.	Damaged connector.	Action 1 1. Disconnect all power cords 2. Remove all power supplies and modules installed in the server chassis, and check all the connectors for damage. Verification 1 1. If any power supplies or modules have damaged connector, then go to the following Action 2. 2. If the backplane has damaged connectors, then go to step 4. 3. If all power supplies and modules did not have damaged connector, then step 4.

Step	Symptom	Possible Cause	Actions / Verifications
			Action 2 1. Replace the suspected power supply or module. 2. Reinstall all power supplies and modules in the original bay. 3. Connect all power cord to the power supplies, and then power on the server chassis. Verification 2 1. If the Power LED lit on green, the replacing is completed. 2. If the Power LED indicates other than normal condition, then go to step 4.
4	-	• Management module. • Backplane.	Action 1 1. See management module troubleshooting table. 2. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

Cooling fan module troubleshooting table

Table 11-2 Fan module troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	• The Active LED is off or solid amber. • The console reports FAN failure.	Fan module Fault.	Action 1 1. Remove the failed fan module. 2. Inspect visually the connector for damage. 3. Reinstall it to the original bay. Verification 1 1. If the Active LED lit on green, then replacing is completed. 2. If the Active LED remained amber, then go to the following Action 2. Action 2 1. Remove the failed fan module and replace it with the spare one. Verification 2 1. If the Active LED lit on green, then replacing is completed. 2. If the Active LED remained amber, then go to step 3.
2	• The Active LED of one	Fan module Fault.	Action 1

Step	Symptom	Possible Cause	Actions / Verifications
	fan module is off. • The console does not reports FAN failure.		1. Exchange the suspected fan module with one of the other normal operational fan modules. Verification 1 1. If the Active LED lit on green of the suspected fan module into the operational bay, then go to step 3. 2. If the Active LED of the suspected fan module into the operational bay remains off, then go to the following Action 2. Action 2 1. Remove the suspected fan module and replace it with the spare one into the original bay. Verification 2 1. If the Active LED lit on green, then replacing is completed. 2. If the Active LED remained off, then go to step 3.
3	• The Active LEDs of all fan modules are off or are solid amber. • The console does not reports FAN failure.	• Management module. • Backplane.	Action 1 1. See management module troubleshooting table. 2. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

Management module troubleshooting table

Table 11-3 Management module troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	• The power supply module does not power up. • The Power LED is off.	• No power. • Loose connection. • Damaged connector.	Action 1 1. Verify that at least one power supply module is activated. The Power LED is solid green. Verification 1 1. If none of power supply modules is activated, see the power-supply troubleshooting table in this manual. 2. If at least one power supply is activated, then go to the following Action 2. Action 2

Step	Symptom	Possible Cause	Actions / Verifications
			1. Push the Shutdown switch about 4 seconds to power off the suspected management module. 2. Remove the suspected management module. 3. Inspect the connector for damage. 4. Install it into the original bay again if it did not have damaged connector. Verification 2 1. If the Power LED of the suspected management module starts blink in green, the repair is completed. 2. If the suspected management module has damaged connector, then go to step 5. 3. If the Power LED remains off, go to the following Action 3. Action 3 1. Push the Shutdown switch about 4 seconds to power off the suspected management module. 2. Remove the suspected management module and replace it with the spare one. Verification 3 1. If the Power LED starts blink in green, replacing is completed. 2. If the Power LED remains off, go to step 5.
2	• The Power LED does not stop blink in green for more than 10 minutes. or • The HEARTBEAT LED is off or is solid green (not blink).	Management module fault	Action 1 1. Push the Shutdown switch about 4 seconds to power off the suspected management module. 2. Wait for one minute. 3. Push the Shutdown switch, and then power it up. Verification 1 1. If the Power LED is solid green after blink in green, then the repair is completed. 2. If the Power LED is not solid green, then the following Action 2. Action 2 1. Remove the suspected management module and replace it the spare one. Verification 2 1. If the Power LED starts blink in green, replacing is completed.

Step	Symptom	Possible Cause	Actions / Verifications
			2. If the symptom still exists, then go to step 5.
3	• The Power LED is solid green and the Error LED is solid red.	Management module fault	Action 1 1. Push the Shutdown switch about 4 seconds to power off the failed management module. 2. Remove the failed management module and replace it the spare one. Verification 1 1. If the symptom no longer exists, replacing is completed. 2. If the symptom still exists, then go to step 5.
4	The Primary LED is blinking in green for a long time.	Boot Enable configuration	Action 1 1. Verify that the BOOT ENABLE configuration is enable condition. 2. Wait 5 minutes, the management module will be rebooting. Verification 1 1. If the Power LED is solid green after blink in green, then the repair is completed. 2. If the symptom still exists, then go to step 5.
5	-	Management module.	Action 1 1. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

Server blade troubleshooting table

Table 11-4 Server blade troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	• A server blade does not power up. • All LEDs: Off.	• No power. • Loose connection. • Damaged connector.	Action 1 1. Remove the suspected server blade. 2. Inspect the connector for damage. 3. Install it into the original bay again if it did not have damaged connector. Verification 1 1. If the Power LED starts blink in green and Error/Fault LEDs are off, go to Action 2. 2. If the suspected server blade has damaged connector, then go to step 6 3. If all LEDs are still off, then go to step 6.

Step	Symptom	Possible Cause	Actions / Verifications
			Action 2 1. Press the power switch to power on the suspected server blade. Verification 2 1. If the Power LED is solid green, then the repair is completed. 2. If the symptom still exists, then go to step 6.
2.	• A server blade does not power up. • Power LED: Blink. • Error LED: On • Fault LED: Off	Configuration Error	Action 1 1. Verify the Error Status through the web console. 2. Remove the suspected server blade. 3. Inspect the connector for damage. 4. Review the type and position of each component (Processor, DIMM and Mezzanine card). 5. Install it into the original bay again if it did not have damaged connector. Verification 1 1. If the Power LED starts blink in green and Error/Fault LEDs are off, go to Action 2. 2. If the suspected server blade has damaged connector, then go to step 6 3. If the symptom still exists, then go to step 6. Action 2 1. Press the power switch to power on the suspected server blade. Verification 2 1. If the Power LED is solid green, Error/ Fault LEDs are off, and power up is successful, then repair is completed. 2. If the symptom still exists, then go to step 6.
3.	• A server blade does not power up. • Power LED: Blink. • Error LED: On • Fault LED: On	Hardware Error	Action 1 1. Verify the Error Status through the web console. 2. Remove the suspected server blade. 3. Replace the suspected component(s) identified by the web console. 4. Install it into the original bay again. Verification 1 1. If the Power LED starts blink in green and Error/Fault LEDs are off, go to Action 2. 2. If the suspected server blade has damaged connector, then go to step 6

Step	Symptom	Possible Cause	Actions / Verifications
			3. If the symptom still exists, then go to step 6. Action 2 1. Press the power switch to power on the suspected server blade. Verification 2 1. If the Power LED is solid green, Error/ Fault LEDs are off and power up is successful, then repair is completed. 2. If the symptom still exists, then go to step 6.
4	• A server blade is powered up. • Power LED: On. • Error LED: On • Fault LED: Off	Configuration Error	Action 1 1. Remove the suspected server blade. 2. Inspect the connector for damage. 3. Install it into the original bay again if it did not have damaged connector. Verification 1 1. If the Power LED starts blink in green and Error/Fault LEDs are off, go to Action 2. 2. If the suspected server blade has damaged connector, then go to step 5 3. If all LEDs are still off, then go to step 6. Action 2 1. Press the power switch to power the suspected server blade up. Verification 2 1. If the Power LED is solid green, then replacing is completed. 2. If the symptom still exists, then go to step 6.
5.	• A server blade is powered up. • Power LED: On. • Error LED: On • Fault LED: On	Hardware Error	Action 1 1. Verify the Error Status through the web console. 2. Remove the suspected server blade. 3. Replace the suspected component(s) identified by the web console. 4. Install it into the original bay again. Verification 1 1. If the Power LED starts blink in green and Error/Fault LEDs are off, go to Action 2. 2. If the suspected server blade has damaged connector, then go to step 6 3. If the symptom still exists, then go to step 6. Action 2

Step	Symptom	Possible Cause	Actions / Verifications
			1. Press the Power switch to power on the suspected server blade. Verification 2 1. If the Power LED is solid green, Error/ Fault LEDs are off and power up is successful, then repair is completed. 2. If the symptom still exists, then go to step 6.
6.	-	Server blade	Action 1 1. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

Switch module troubleshooting table

Table 11-5 Switch module troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	• A switch module does not power up. • The Power LED is off.	• No power. • Loose connection. • Damaged connector.	Action 1 1. Remove the suspected switch module. 2. Inspect the connector for damage. 3. Install it into the original bay again if it did not have damaged connector. Verification 1 1. If the Power LED of the suspected switch module lights on green, the repair is completed. 2. If the suspected switch module has damaged connector, then go to step 5. 3. If the Power LED remains off, go to Action 2. Action 2 1. Remove the suspected switch module and replace it with the spare one. Verification 2 1. If the Power LED lights on green, replacing is completed. 2. If the Power LED remains off, go to step 4.
2	The Status LED lights in red.	• Bios boot failure. • Any failure detects by software.	Action 1 1. Remove the suspected switch module. 2. Inspect the connector for damage. 3. Install it into the original bay again if it did not have damaged connector. Verification 1

Step	Symptom	Possible Cause	Actions / Verifications
			1. If the Power LED of the suspected switch module lights in green after blink, the repair is completed. 2. If the suspected switch module has damaged connector, then go to step 4. 3. If the Power LED remains off, go to Action 2. Action 2 1. Remove the suspected switch module and replace it with the spare one. Verification 2 1. If the Power LED lights in green after blink, the repair is completed. 2. If the Power LED remains off, go to step 4.
3.	The Status LED is blinking in red.	Temperature problem	Action 1 1. Inspect the fan modules are running normally. 2. Inspect if the dust clogged the air vents. Verification 1 1. If the fan module is not running normally, replace it. 2. Clean up the air vents. 3. If the Status LED is off, replacing is completed. 4. If the symptom still exists, then go to Action 2. Action 2 1. Verify the ambient temperature in the environment is over 40 deg C. Verification 2 1. Notify the system administrator of this issue to cool down. 2. If the Status LED is off, replacing is completed. 3. If the symptom still exists, then go to Action 3. Action 3 1. Remove the suspected switch module and replace it with the spare one. Verification 3 1. If the Status LED is off, replacing is completed. 2. If the symptom still exists, then go to step 4.
4	-	Switch module.	Action 1

Step	Symptom	Possible Cause	Actions / Verifications
			1. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

Web console troubleshooting table

Table 11-6 Web console troubleshooting table

Step	Symptom	Possible Cause	Actions / Verifications
1	Web console does not start.	• Loose connection. • Damaged connector.	Action 1 1. Verify the connection between the management module and your console PC. 2. Reconnect or replace the LAN cable. 3. Type the IP address to web browser again. Verification 1 1. If the Web console started after the troubleshooting, then the replacing is complete. 2. If the symptom still exists, then go to Action 2. Action 2 1. Verify the IP address, subnet mask and default gateway of both the management module and console PC. 2. Type the IP address to web browser again. Verification 2 1. If the Web console started after the troubleshooting, then the replacing is complete. 2. If the symptom still exists, then go to step 4.
2	A login failure occurred.	Incorrect User ID or Password.	Action 1 1. Ask the User ID and Password to administrator. 2. Try to login to the web console. Verification 1 1. If the login to Web console was successful after the troubleshooting, then the replacing is complete. 2. If the symptom still exists, then go to step 4.
3	The critical information like Error status is not displayed.	Communication Error.	Action 1 1. Click **Refresh** button on the dashboard screen. Verification 1

Step	Symptom	Possible Cause	Actions / Verifications
			1. If the critical information was displayed after the troubleshooting, then the replacing is complete. 2. If the symptom still exists, then go to Action 2. Action 2 1. Logout from the web console. 2. Login to it again. Verification 2 1. If the critical information was displayed after the troubleshooting, then the replacing is complete. 2. If the symptom still exists, then go to step 4
4	-	Management module or other components	Action 1 1. Contact with Hitachi Data Systems technical support. See the Getting help section in this manual.

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