



# VANTAGEO 2240-RE

Rack Server

Parts Replacement

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Version: R1.3

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## **Revision History**

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R1.3	2024-11-29	Updated "3.19.2 Removing a PCIe Card from a 4-GPU Server", "3.20.2 Installing a PCIe Card for a 4-GPU Server", "3.21.2 Removing a GPU Card from a 4-GPU Server", "3.22.2 Installing a GPU Card for a 4-GPU Server", "3.23.2 Removing a Riser Card from a 4-GPU
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# About This Manual

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## Purpose

This manual describes how to replace the parts of the 2240-RE rack server.

## Intended Audience

This manual is intended for:

- Network planning engineers
- On-site maintenance engineers

## What Is in This Manual

This manual contains the following chapters.

Chapter 1, Parts Replacement Overview	Describes the scenarios, flows, and precautions for replacing the parts of the 2240-RE.
Chapter 2, Background Knowledge About Parts Replacement	Describes the parts of the 2240-RE, routine operations, and internal cabling.
Chapter 3, Parts Replacement Operations	Describes the procedures for replacing the parts of the 2240-RE and the verification methods.
Chapter 4, Reference: Mainboard Replacement Operations	Describes the operations related to mainboard replacement, including data backup and restoration.

## Conventions

This manual uses the following conventions.

	<p>Danger: indicates an imminently hazardous situation. Failure to comply will result in death or serious personal injury.</p> <p>Warning: indicates a potentially hazardous situation. Failure to comply can result in death or serious personal injury.</p> <p>Caution: indicates a potentially hazardous situation. Failure to comply can result in moderate or minor personal injury.</p>
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	<p>Notice: indicates equipment or environment safety information. Failure to comply can result in equipment damage, data loss, equipment performance degradation, environmental contamination, or other unpredictable results.</p> <p>Failure to comply will not result in personal injury.</p>
	<p>Note: provides additional information about a topic.</p>

# Chapter 1

## Parts Replacement Overview

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### 1.1 Parts Replacement Scenarios

For a description of common parts replacement scenarios, refer to [Table 1-1](#).

**Table 1-1 Parts Replacement Scenario Descriptions**

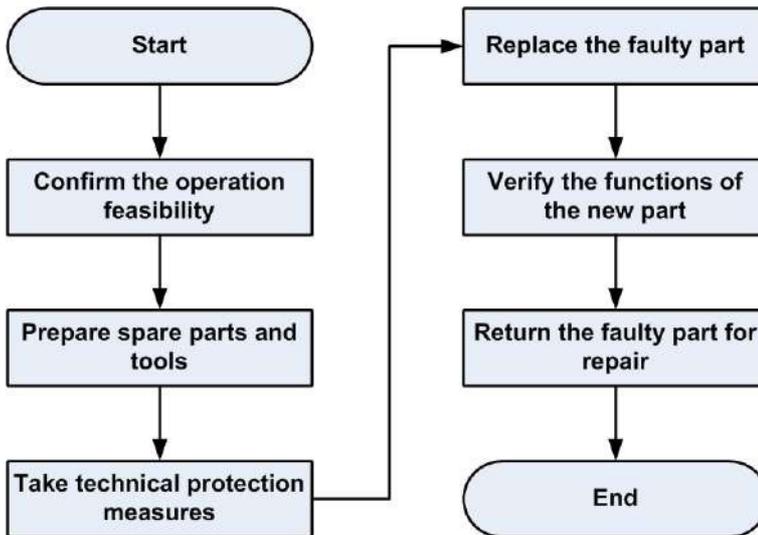
Scenario	Description
Device maintenance	Parts replacement is a common device maintenance method. The hardware fault scope can be determined through alarms or the corresponding device maintenance information. If a board or shelf cannot provide services due to a fault, the board or shelf can be replaced directly.
Hardware upgrade	To enable a part to provide new functions, you must upgrade its hardware (for example, replace the chip). In this case, you need to remove the old part, install a new part, and then restore its operation.
Capacity expansion of the device	During the capacity expansion of the device, you need to replace or re-install some parts as needed.

### 1.2 Parts Replacement Flow

#### Basic Operation Flow

To ensure the safe operation of the device and minimize the impact on system services, you must strictly follow the basic operational flow specified in this manual, see [Figure 1-1](#).

**Figure 1-1 Basic Parts Replacement Flow**



**Operational Flow Description**

1. Ensure operation feasibility.

Before replacing a part, you should verify that the operation is feasible. For a description of parts replacement feasibility, refer to [Table 1-2](#).

**Table 1-2 Parts Replacement Feasibility Descriptions**

Operation	Description
Verify that there are available spare parts in the warehouse.	When there is no available spare part in the warehouse, you should immediately contact the local representative office of VANTAGEO.
Verify that you have the capability to perform the replacement operation.	Only qualified maintenance personnel can replace parts. You must meet the following requirements: <ul style="list-style-type: none"> <li>● Be familiar with the functions of each part.</li> <li>● Know the basic parts replacement flow.</li> <li>● Master basic parts replacement skills.</li> </ul>
Verify that you can control risks during parts replacement.	Before replacing a part, you must consider whether you can control risks by taking some technical protection measures during parts replacement without powering off the device. You can perform the replacement operation only if the risk is controllable. If the risk is out of control, you need to contact VANTAGEO technical support as soon as possible before parts replacement.

2. Prepare spare parts and tools.

After verifying that the replacement is feasible, prepare necessary spare parts and tools.

- The customer should keep a certain number of spare parts in the warehouse for parts repair and replacement.

- Common tools, such as work gloves, flathead screwdrivers, PH2 crosshead screwdriver, T30 Torx screwdriver, marker pens, labels, anti-static gloves or [ESD](#) wrist straps, and packaging materials (for example, antistatic packing bags), are available.
3. Take technical protection measures.  
Although there are risks during parts replacement, you can avoid them in most cases by taking some technical protective measures.
  4. Replace the part.  
After proper technical protective measures are taken, you can perform the replacement operation in accordance with the operating instructions.



After an old part is replaced with a new one, you need to upgrade the software and firmware of the new part to the versions used in the original network environment (recommended) or the latest versions.

If the new part needs to be reconfigured, you need to set the related configuration items (including the [BMC/BIOS/RAID](#)) the same as those in the live network environment.

5. Check the functions of the new part.  
After the old part is replaced with the new one, you should verify the functions of the new part by referring to the check or test methods provided in this manual. The replacement operation is successful only after you verify that the new part can provide functions properly. Otherwise, you should contact the local representative office of VANTAGEO immediately for technical support.
6. Return faulty parts for repair.  
Return replaced faulty parts to the local representative office of VANTAGEO for repair, and verify that there are enough spare parts in the warehouse.

## 1.3 Precautions

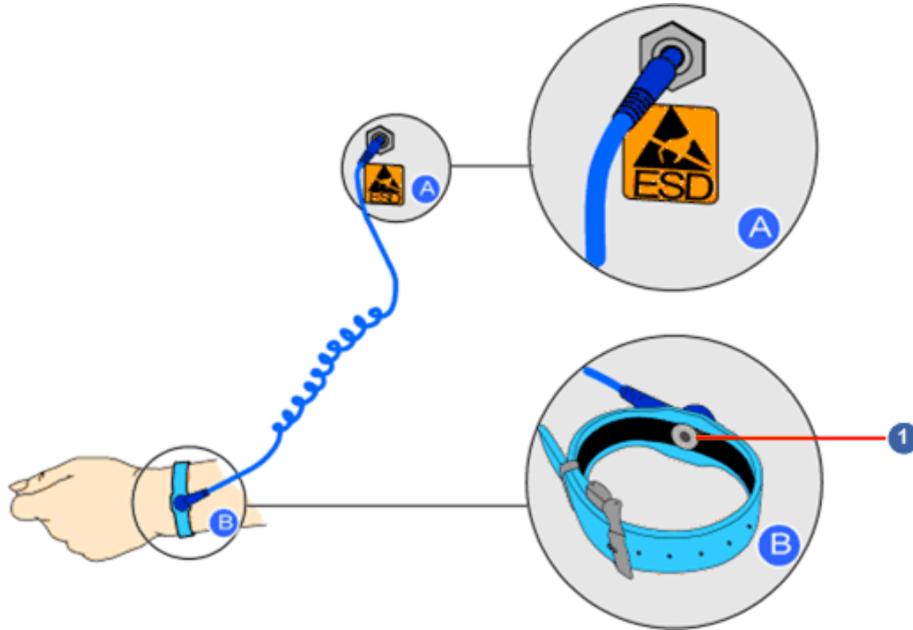
During parts replacement, do not damage the device or affect services.

Security precautions are as follows:

- Before pulling out the server, check the guide rails to ensure that they are installed properly.
- When the server is located at a height more than 1.2 m above the ground, you must stand on a ladder for operation.
- The on-rack maintenance time must be controlled within 10 minutes. For maintenance operations longer than 10 minutes, the server needs to be removed from the rack for maintenance.
- Do not cause other damage to the device during the replacement. For example, pins on the rear panel must not be bent because of excessive force.

- Take anti-static measures as required.  
For example, wear anti-static gloves or an anti-static wrist strap, see [Figure 1-2](#).

**Figure 1-2 Wearing an Anti-Static Wrist Strap**



1. Metal buckle

- It is forbidden to lean against the server, step on the server, or use the server as a support.
- It is recommended that you should not replace any part that may cause service interruption during peak traffic hours. A part should be replaced during idle traffic hours, for example, from 02:00 to 04:00.
- For parts operating in active/standby mode, never replace the active part directly but perform switchover first. Perform replacement after the part that you want to replace changes to the standby status.
- Install or remove a part evenly and smoothly to avoid any damage to the part or its connector.
- When replacing parts with golden fingers, do not touch the golden fingers of any part.
- Install device parts with matching screws. Longer screws may cause damage to device parts.
- To achieve the best performance, it is recommended to replace a faulty device part with a part of the same model.
- Keep the replaced faulty part properly. It is recommended to package it with the original packing bag, and record the bar codes and serial numbers of the faulty part and spare part.

# Chapter 2

## Background Knowledge About Parts Replacement

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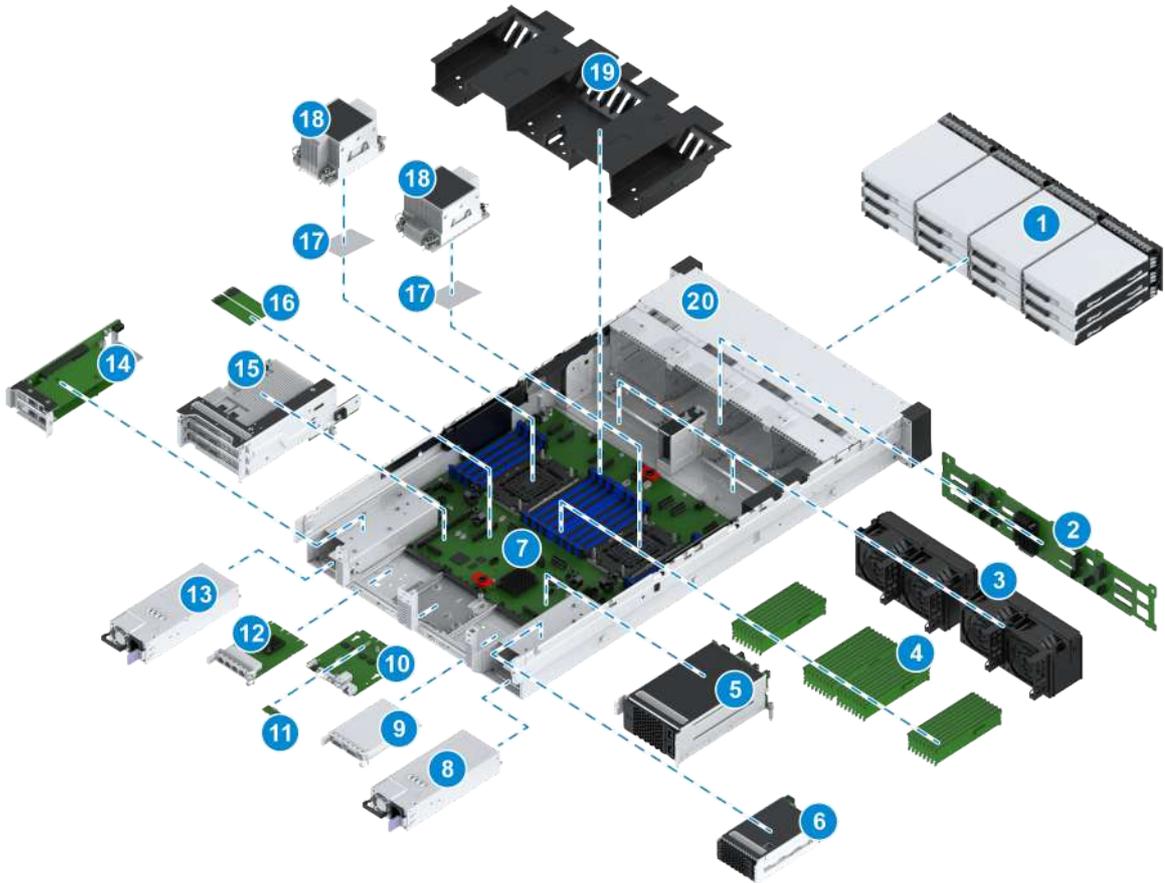
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### 2.1 Parts Overview

#### General-Purpose Server Model

The 2240-RE shows a general-purpose server with 12 hard disks installed horizontally, as shown in [Figure 2-1](#).

Figure 2-1 Internal Structure of the General-Purpose Server Model

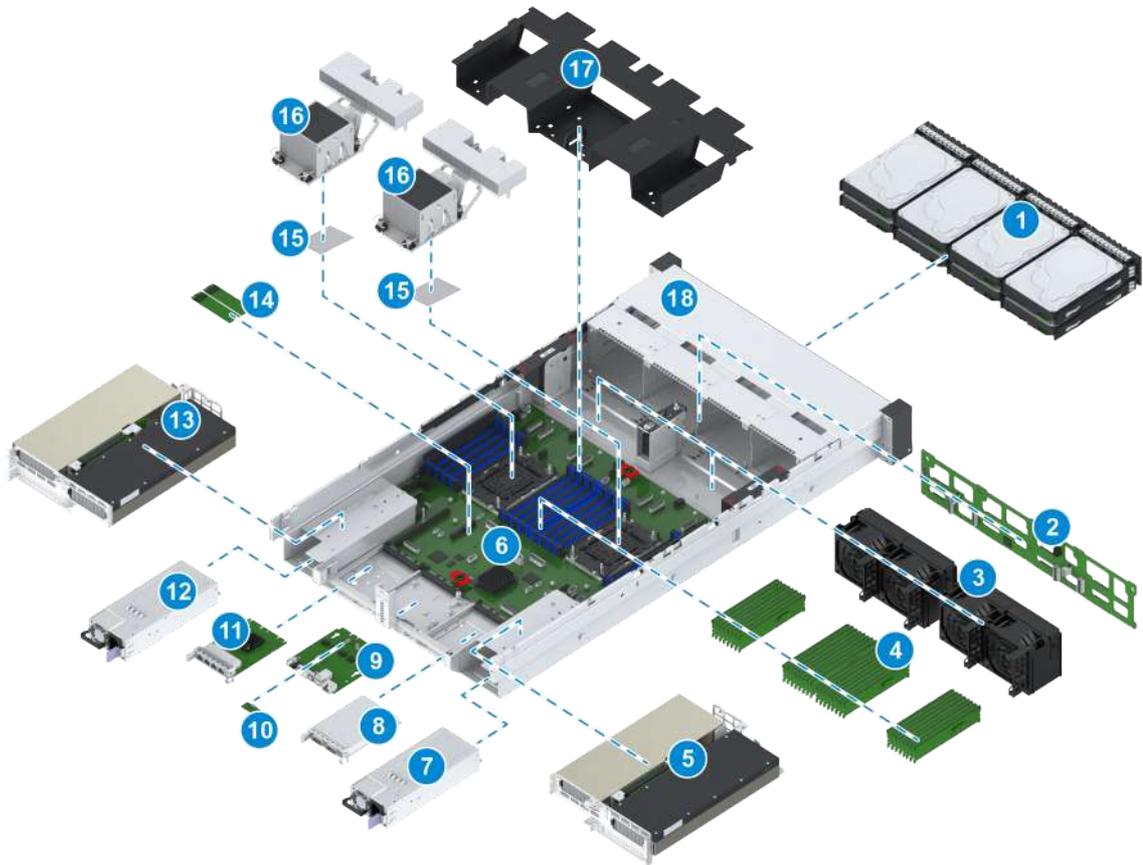


No.	Component	No.	Component
1	Front hard disk	2	Front-disk backplane
3	Fan unit	4	DIMM
5	I/O module 3	6	I/O module 4
7	Mainboard	8	Power module 2
9	OCP card 2	10	I/O card
11	TPM card	12	OCP card 1
13	Power module 1	14	I/O module 1
15	I/O module 2	16	M.2 SSD
17	CPU	18	CPU heat sink
19	Air baffle	20	Chassis

#### 4-GPU Server Model

Figure 2-2 shows the internal components of the 2240-RE 4-GPU server model.

Figure 2-2 Internal Structure of the 4-GPU Server Model



No.	Component	No.	Component
1	Front hard disk	2	Front-disk backplane
3	Fan unit	4	DIMM
5	Left GPU module	6	Mainboard
7	Power module 2	8	OCP card 2
9	I/O card	10	TPM card
11	OCP card 1	12	Power module 1
13	Right GPU module	14	M.2 SSD
15	CPU	16	CPU heat sink
17	Air baffle	18	Chassis

## 2.2 Replaceable Parts

The following parts of the 2240-RE can be replaced:

- Hard disk
- Power module

- OCP card
- Fan module
- Anti-intrusion sensor
- Front-disk backplane
- Rear hard disk cage
- Hard disk backplane of an I/O module
- PCIe card
- GPU card
- Riser card
- Supercapacitor
- TPM card
- DIMM
- CPU
- Mainboard battery
- Mainboard (with an I/O card)
- Left flange
- Right flange

## 2.3 Internal Cabling

Cables inside the 2240-RE are routed in different ways based on the different backplanes of the front hard disks. If internal cables need to be replaced, you can carry out operations by referring to this procedure.



### Note

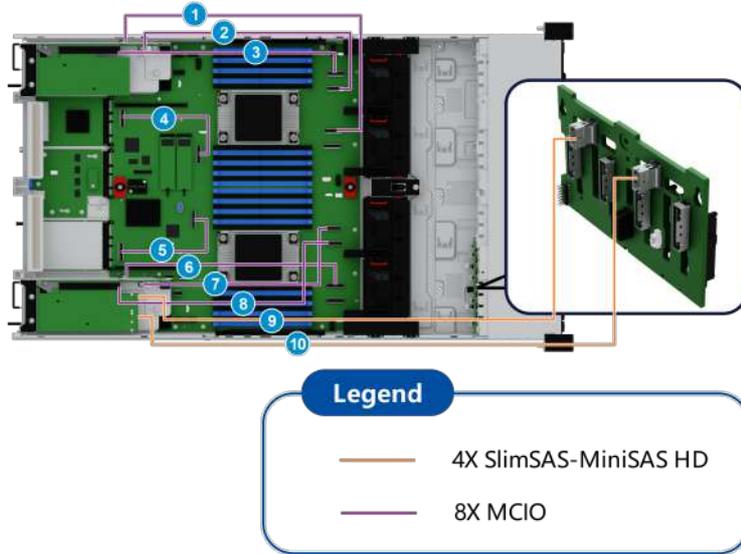
The following internal cabling is of typical cabling mode. The cabling mode may vary with configurations. The actual product configuration shall prevail.

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### Typical Configuration 1

Figure 2-3 shows the internal cabling for typical configuration 1.

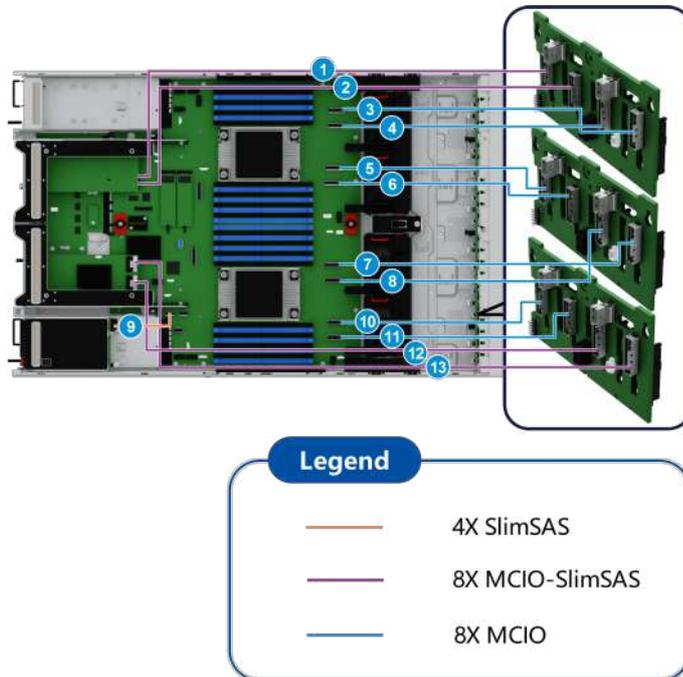
**Figure 2-3 Internal Cabling for Typical Configuration 1**



### Typical Configuration 2

Figure 2-4 shows the internal cabling for typical configuration 2.

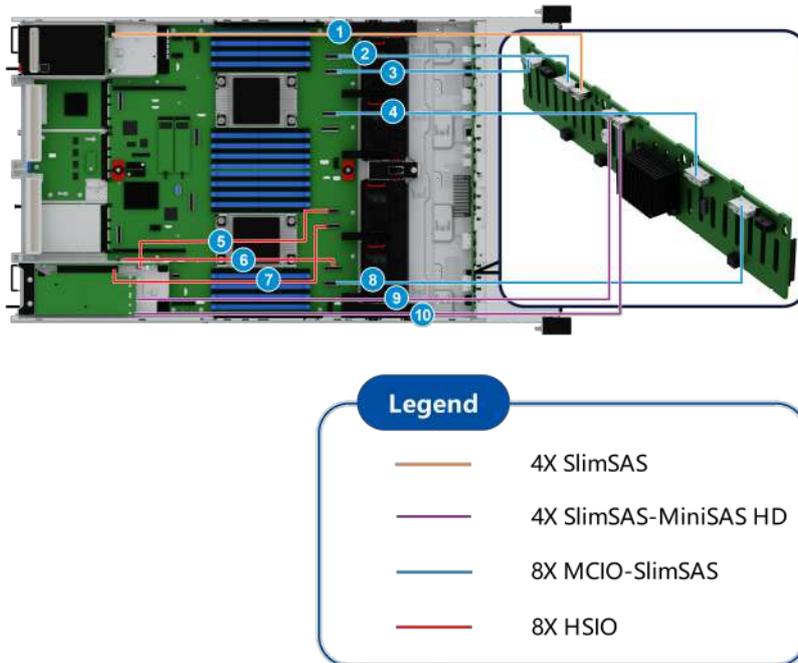
**Figure 2-4 Internal Cabling for Typical Configuration 2**



### Typical Configuration 3

Figure 2-5 shows the internal cabling for typical configuration 3.

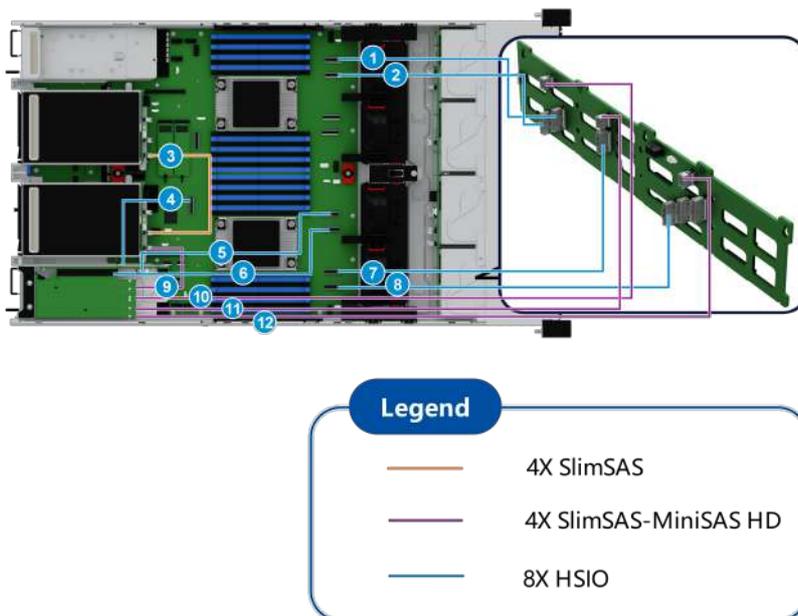
**Figure 2-5 Internal Cabling for Typical Configuration 3**



**Typical Configuration 4**

Figure 2-6 shows the internal cabling for typical configuration 4.

**Figure 2-6 Internal Cabling for Typical Configuration 4**



**Typical Configuration 5**

Figure 2-7 shows the internal cabling for typical configuration 5.

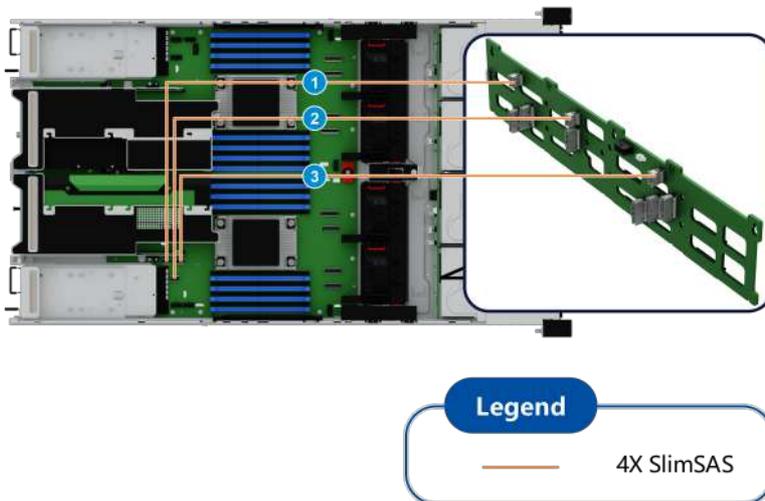
**Figure 2-7 Internal Cabling for Typical Configuration 5**



### Typical Configuration 6

Figure 2-8 shows the internal cabling for typical configuration 6.

**Figure 2-8 Internal Cabling for Typical Configuration 6**



## 2.4 Server Removal and Mounting

When the 2240-RE is installed with guide rails, you can directly replace the parts of the server on the rack. Pay attention to the following during replacement:

- Before pulling out the server, check the guide rails to ensure that they are installed properly.
- When the server is located above 1.2 m, you must stand on a ladder for operation.
- It is forbidden to lean against the server, step on the server, or use the server as a support.

- The on-rack maintenance time must be controlled within 10 minutes. For maintenance operations longer than 10 minutes, the server needs to be removed from the rack for maintenance.

During the maintenance, the parts of the server need to be removed and re-installed. For details, refer to [Table 2-1](#).

**Table 2-1 Operation Descriptions for Server Removal and Installation**

No.	Operation	Description
1	Powering off the server	For details, refer to <a href="#">2.4.1 Powering Off the Server</a> .
2	Removing the server from the rack	For details, refer to <a href="#">2.4.2 Removing the Server from the Rack</a> .
3	Removing the server cover	For details, refer to <a href="#">2.4.3 Removing the Server Cover</a> .
4	Installing the server cover	For details, refer to <a href="#">2.4.4 Installing the Server Cover</a> .
5	Mounting the server into the rack	For details, refer to <a href="#">2.4.5 Mounting the Server Into the Rack</a> .
6	Powering on the server	For details, refer to <a href="#">2.4.6 Powering On the Server</a> .

## 2.4.1 Powering Off the Server

### Abstract

Before the 2240-RE server is maintained or moved, you need to power it off.

### Prerequisite

- All data is backed up.



### Notice

After power-off, all services and programs are terminated. Therefore, before power-off, you must verify that all services and programs on the 2240-RE server already stop operating or are transferred to other servers.

- The cabinet number and location of the server are known.
- All tools required for parts replacement such as labels and anti-static wrist straps are ready.

### Steps

1. Put on an anti-static wrist strap.
2. Press the power button on the front panel of the 2240-RE to power off the server.
3. When the server enters Standby status, remove the power cable of the power module, so that the server is completely powered off.



When the yellow power indicator on the front panel of the server is on, it means that the system is powered on in Standby mode.

## 2.4.2 Removing the Server from the Rack

### Abstract

Before the 2240-RE server is maintained or moved, you need to remove the server from the rack.

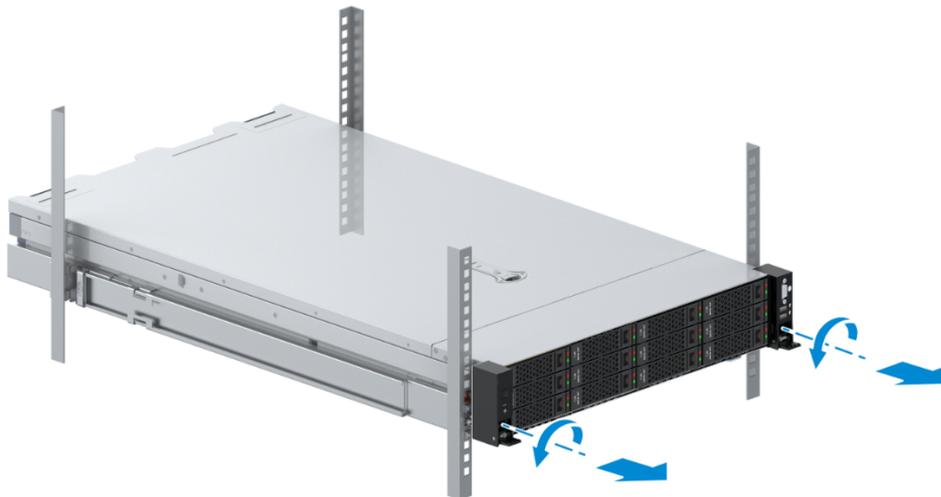
### Prerequisite

- The server is powered off.
- All tools required for parts replacement such as a PH2 crosshead screwdriver, labels, and anti-static wrist straps are ready.

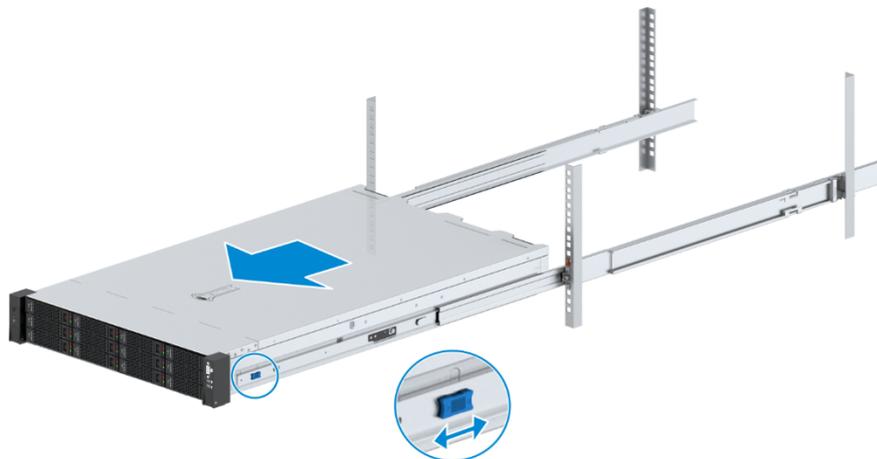
### Steps

1. Put on an anti-static wrist strap.
2. Label all the cables connected to the server, and unplug these cables.
3. Unlock the ejector levers of the two flanges on the server, and use the PH2 crosshead screwdriver to loosen the two captive screws on the flanges, see [Figure 2-9](#).

**Figure 2-9 Removing the Captive Screws of the Server**



4. Pull out the server along the guide rails until it reaches the stop, release the inner rail sliding buttons on both sides, and pull the server out of the cabinet, see [Figure 2-10](#).

**Figure 2-10 Pulling Out the Server**

5. Place the server on an anti-static table.

### 2.4.3 Removing the Server Cover

#### Abstract

Before replacing the internal components of the 2240-RE server, you need to remove the server cover.

#### Prerequisite

- The server is already removed from the cabinet.
- All tools required for parts replacement such as a PH2 crosshead screwdriver, labels, and anti-static wrist straps are ready.

#### Steps

1. Put on an anti-static wrist strap.
2. Use a PH2 crosshead screwdriver to loosen the lock on the ejector lever of the server cover, see © in [Figure 2-11](#).

**Figure 2-11 Removing the Server Cover**

3. Open the ejector lever of the server cover, and push the cover backwards, see ② in [Figure 2-11](#).
4. Remove the server cover upwards, see © in [Figure 2-11](#).

## 2.4.4 Installing the Server Cover

### Abstract

After the internal components of the 2240-RE server are replaced, you need to install the cover back to the server.



### Notice

Do not damage the anti-intrusion sensor when installing the server cover.

### Prerequisite

- The internal components of the server are replaced.
- All tools required for parts replacement such as a PH2 crosshead screwdriver, labels, and anti-static wrist straps are ready.

### Steps

1. Put on an anti-static wrist strap.
2. Fully open the ejector lever on the server cover to the maximum extent.

3. Place the server cover horizontally, and secure it into the slot, see © in [Figure 2-12](#).

**Figure 2-12 Installing the Server Cover**



4. Close the ejector lever of the server cover and install the cover, see ② in [Figure 2-12](#).
5. Use a PH2 crosshead screwdriver to rotate the lock of the ejector lever clockwise to secure the ejector lever, see © in [Figure 2-12](#).

## 2.4.5 Mounting the Server Into the Rack

### Abstract

After maintenance operations are carried out for the 2240-RE server, you need to remount the server into the rack.

### Prerequisite

- Maintenance operations are already carried out for the server.
- All tools required for parts replacement such as a PH2 crosshead screwdriver, labels, and anti-static wrist straps are ready.

### Steps

1. Put on an anti-static wrist strap.
2. Pull out the middle rails to the foremost positioning points of the guide rails. When you hear a click, the positioning points are reached. Verify that the guide rails are installed properly.

3. Move the ball slots in the middle rails to the foremost positioning points, see [Figure 2-13](#).

**Figure 2-13 Moving a Ball Slot to the Foremost Positioning Point**



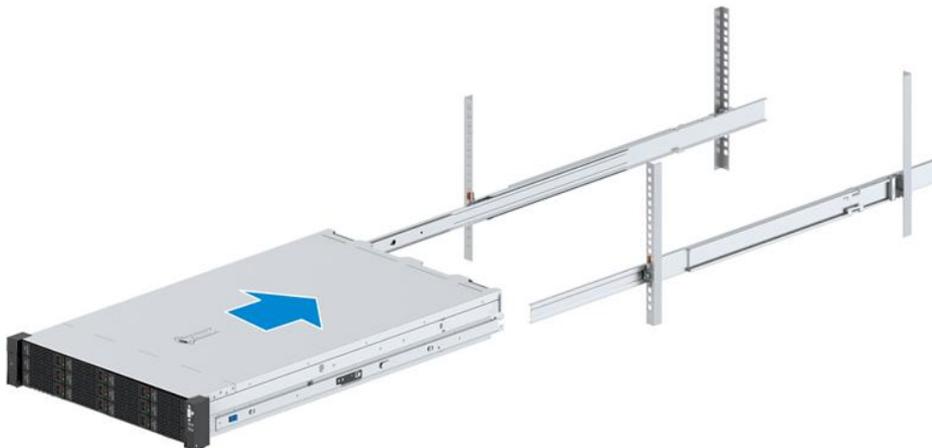
4. Push the server with the inner rails installed along the middle rails into position. Keep the server horizontal when pushing it. When the inner rails on both sides are firmly positioned into the ball slots, push the rails forward until you hear a click, see [Figure 2-14](#).



**Notice**

You must not directly install the server on the rack without installing inner rails.

**Figure 2-14 Positioned into the Inner Rails**

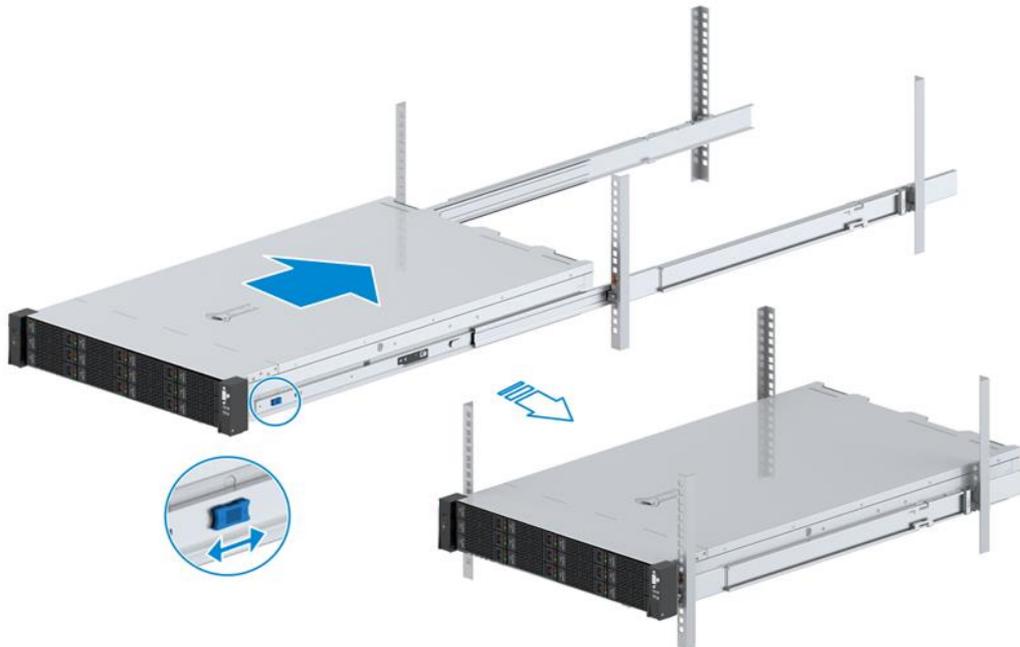


5. Release the inner rail sliding buttons on both sides, and push the server into the cabinet, see [Figure 2-15](#).

 **Note**

You must push the server to the end, and then pull it out until it reaches the stop at least once to verify that the server does not tilt when it is pushed and pulled, and the push and pull force does not increase improperly.

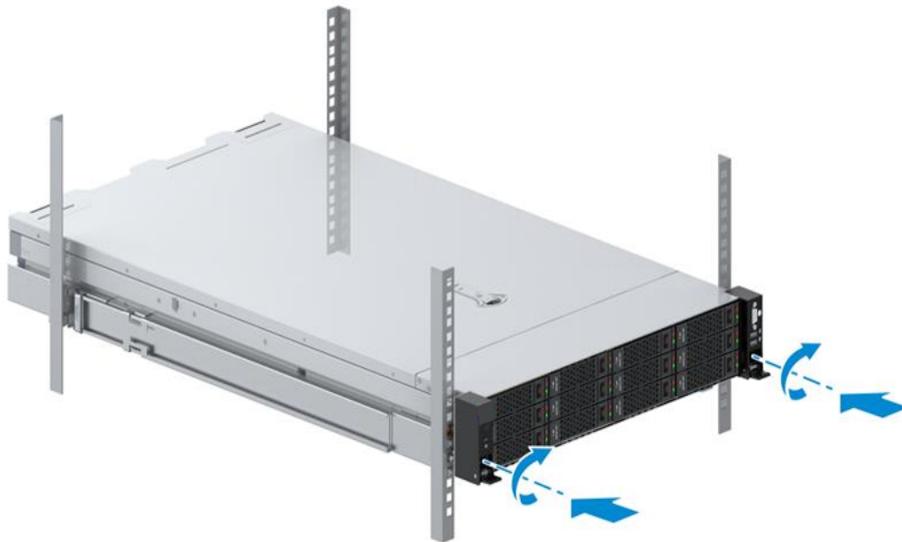
**Figure 2-15 Installing the Server in a Cabinet**



6. Unlock the ejector levers of the two flanges on the server, and use the PH2 crosshead screwdriver to lock the two captive screws on the flanges to the floating nuts of the cabinet posts, see [Figure 2-16](#).

 **Note**

- You should install screws at an angle vertical to the front panel of the server.
- If the screw on one side is difficult to be secured, do not lock it forcibly. You can slightly loosen the screw on the other side first and then lock the screw that is difficult to be secured.

**Figure 2-16 Installing the Fastening Screws of the Server**

## 2.4.6 Powering On the Server

### Abstract

After maintenance operations are carried out for the server, you need to power on the server again.

### Prerequisite

- The server is already installed back to the cabinet.
- All tools required for parts replacement such as anti-static wrist straps are ready.

### Steps

1. Put on an anti-static wrist strap.
2. Reconnect the cables that are removed in [2.4.2 Removing the Server from the Rack](#) to the server.
3. Connect the power module to an external power supply by using a power cable. The server and power module are powered on.
4. When the server enters Standby status, you can power it on by pressing the power button on the front panel.

### Note

When the yellow power indicator on the front panel of the server is on, it means that the system is powered on in Standby mode.

# Chapter 3

## Parts Replacement Operations

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## 3.1 Removing a Hard Disk

### Abstract

To replace a faulty hard disk, a hard disk with full space, or an existing hard disk with a hard disk of a different module, you need to remove the hard disk.



### Notice

When removing a hard disk, do not touch the bare circuit board on the back of the hard disk and the golden fingers of the connector.

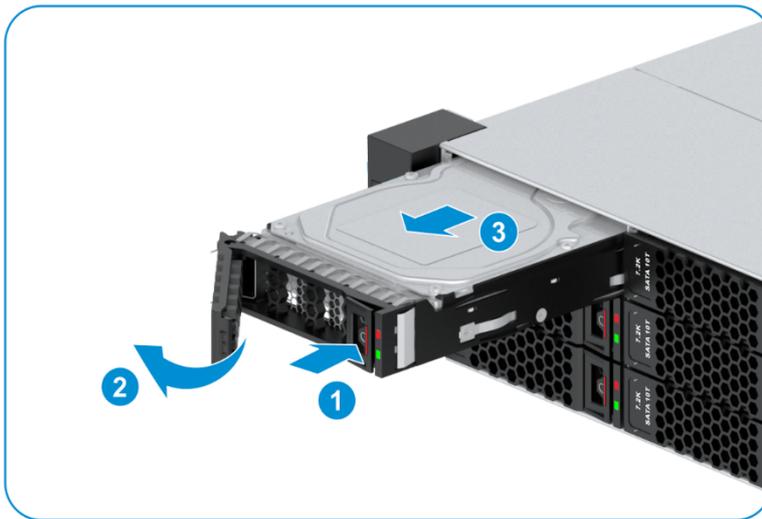
When removing a hard disk, pull the hard disk until part of it is out of the slot, wait for 20 seconds until the hard disk stops operating, and then pull out the hard disk completely.

### Steps

#### Removing an HDB

1. Put on an anti-static wrist strap.
2. Locate the hard disk to be replaced in the server, and paste a replacement label on its panel.
3. Press the release button on the [HDB](#) to unlock the handle, see © in [Figure 3-1](#).

**Figure 3-1 Removing an HDB**



4. Hold the handle and pull out the HDB for about 3 cm to bring the hard disk offline, see ② in [Figure 3-1](#).
5. Wait for at least 20 seconds until the hard disk stops operating. Pull out the hard disk, see © in [Figure 3-1](#).
6. Perform the following operations as required.

If...	Then...
You want to remove the entire hard disk module (including the hard disk and HDB)	Go to <a href="#">Step 9</a> .
You want to remove the hard disk in the HDB	Refer to <a href="#">Removing a Hard Disk</a> .

**Removing a Hard Disk**

7. Place the removed HDB on an anti-static table.
8. Perform the following operations based on the size of the hard disk in the HDB.

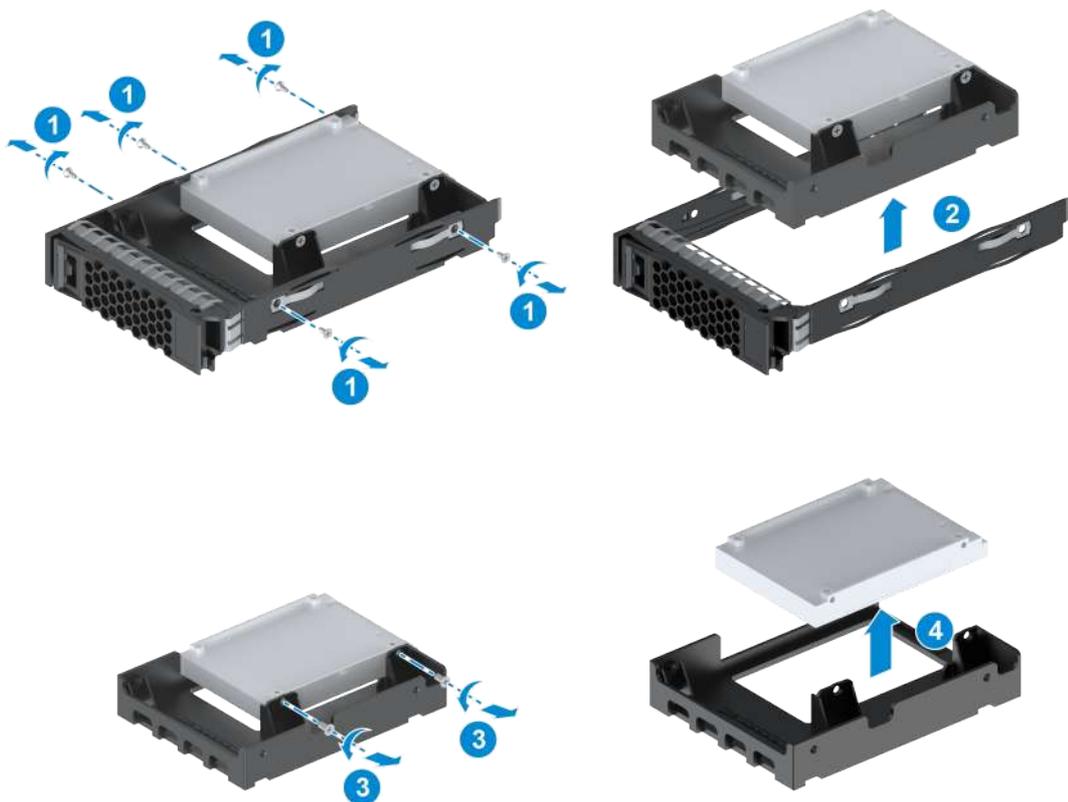
If...	Then...
A 3.5-inch hard disk is installed in the HDB	<ol style="list-style-type: none"> <li>a. Loosen the 4 fastening screws of the HDB by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-2</a>.</li> <li>b. Take the hard disk out of the HDB, see ② in <a href="#">Figure 3-2</a>.</li> </ol>
A 2.5-inch hard disk is installed in the HDB	<ol style="list-style-type: none"> <li>a. Loosen the 5 fastening screws of the HDB by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-3</a>.</li> <li>b. Take the hard disk mounting bracket out of the HDB, see ② in <a href="#">Figure 3-3</a>.</li> <li>c. Loosen the 2 fastening screws of the mounting bracket with a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-3</a>.</li> </ol>

If...	Then...
	d. Take the hard disk out of the mounting bracket, see ④ in Figure 3-3.

Figure 3-2 Removing a 3.5-Inch Hard Disk



Figure 3-3 Removing a 2.5-Inch Hard Disk



9. Record the bar code of the removed hard disk and put it into an anti-static bag.

### Related Tasks

For the 2240-RE configured with an [NVMe SSD](#), after the NVMe SSD firmware is upgraded, the NVMe SSD needs to be reset to make the upgrade effective. Perform the following steps to reset the NVMe SSD:

1. Log in to the Web portal of the **BMC** by using the default username and password.



**Note**

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

2. On the **Homepage** of the Web portal of the BMC, click the green power icon in the menu bar, and select **Power Cycle**. The **Confirm** dialog box is displayed.
3. Click **Submit**. The server is shut down and then started.

## 3.2 Installing a Hard Disk

### Abstract

To replace a faulty hard disk or a hard disk with full space, or an existing hard disk with a hard disk of a different module, you need to install a hard disk.



**Notice**

- When installing a hard disk, do not touch the bare circuit board on the back of the hard disk and the golden fingers of the connector.
- A mechanical hard disk should be used within half a year to avoid damage from longterm storage.



**Note**

After the hard disk is installed, you need to wait for the completion of the **RAID** reassembly before the alarm can be cleared. To avoid repeated offline alarms of the hard disk, do not repeatedly remove or install hard disks online.

### Steps

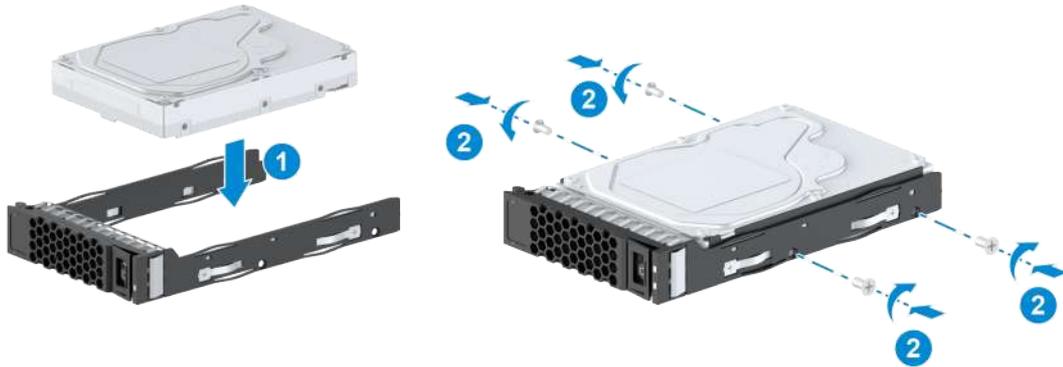
#### Installing a Hard Disk

1. Put on an anti-static wrist strap.
2. Take the spare hard disk from an anti-static bag and record the bar code of the hard disk.
3. Perform the following operations based on the size of the hard disk.

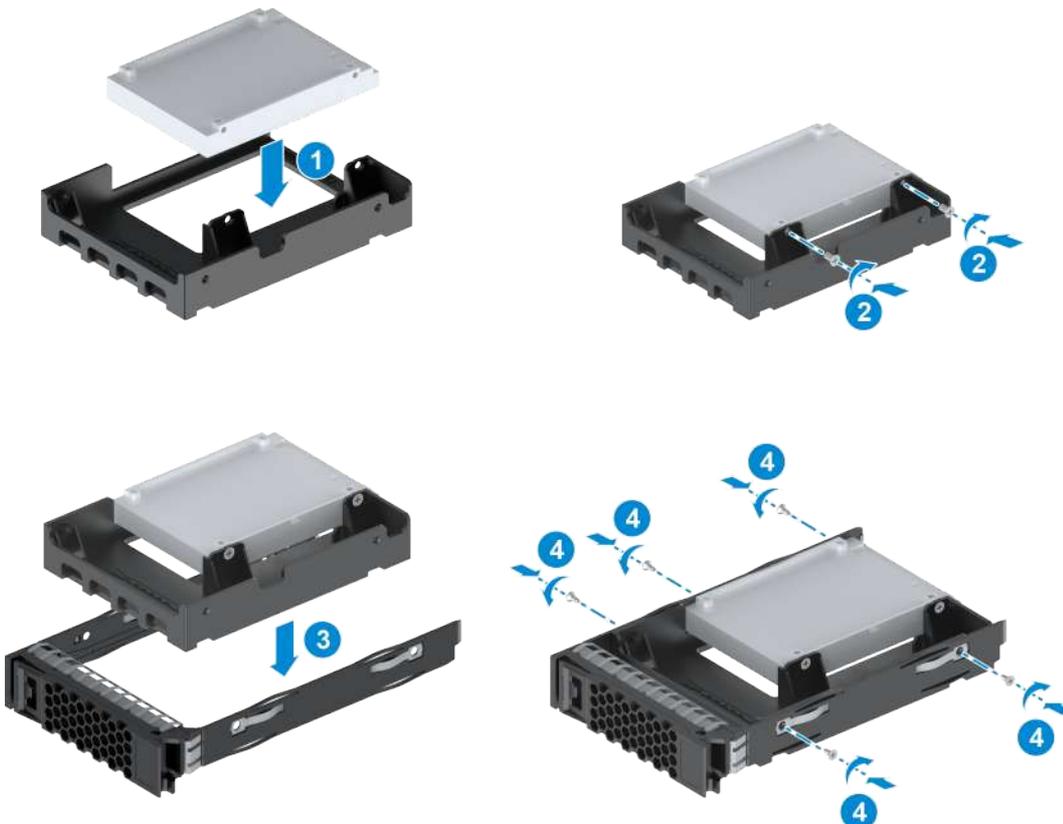
If...	Then...
A 3.5-inch hard disk is to be installed	<ol style="list-style-type: none"> <li>a. Put the hard disk into the <b>HDB</b>, see © in <a href="#">Figure 3-4</a>.</li> <li>b. Tighten the 4 fastening screws of the HDB by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-4</a>.</li> </ol>
A 2.5-inch hard disk is to be installed	<ol style="list-style-type: none"> <li>a. Put the hard disk into the HDB, see © in <a href="#">Figure 3-5</a>.</li> <li>b. Tighten the 2 fastening screws of the mounting bracket by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-5</a>.</li> </ol>

If...	Then...
	<p>c. Put the hard disk mounting bracket into the HDB, see © in <a href="#">Figure 3-5</a>.</p> <p>d. Tighten the 5 fastening screws of the HDB by using a PH2 crosshead screwdriver, see ④ in <a href="#">Figure 3-5</a>.</p>

**Figure 3-4 Installing a 3.5-Inch Hard Disk**

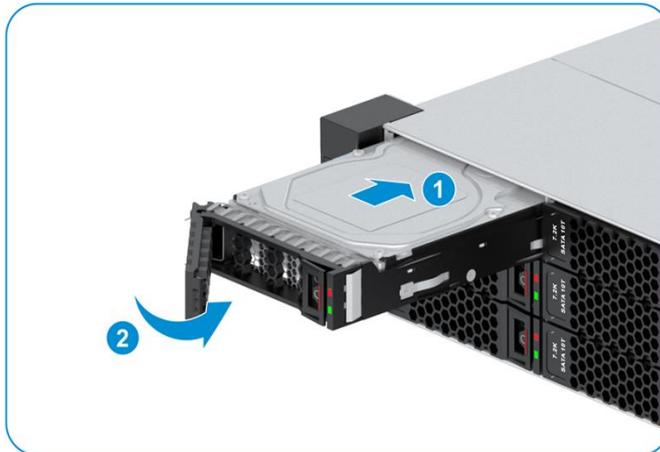


**Figure 3-5 Installing a 2.5-Inch Hard Disk**



**Installing an HDB**

- 4. Completely open the handle, and slide the HDB into the server until it reaches the stop, see © in [Figure 3-6](#).

**Figure 3-6 Installing an HDB**

5. Close the handle, and push the HDB completely into the server until the release button locks the handle, see ② in [Figure 3-6](#).
6. Verify that the hard disk is operating properly in accordance with the hard disk indicators. The hard disk is operating properly if the red indicator on the panel of the HDB is off, and the green indicator is on or flashing.
7. (Optional) If the replaced hard disk has been added to a [RAID](#) array, after the RAID controller card detects the new disk, you need to re-import or clear the original RAID information.

---

 **Note**

For how to configure RAID, refer to the *VANTAGEO Server RAID User Guide (EagleStream)*.

---

### 3.3 Removing a Power Module

#### Abstract

To replace a faulty power module or an existing power module with a power module of a different model, you need to remove the power module.

 **Notice**

When removing a power module, do not touch the golden fingers of the power module.

---

 **Notice**

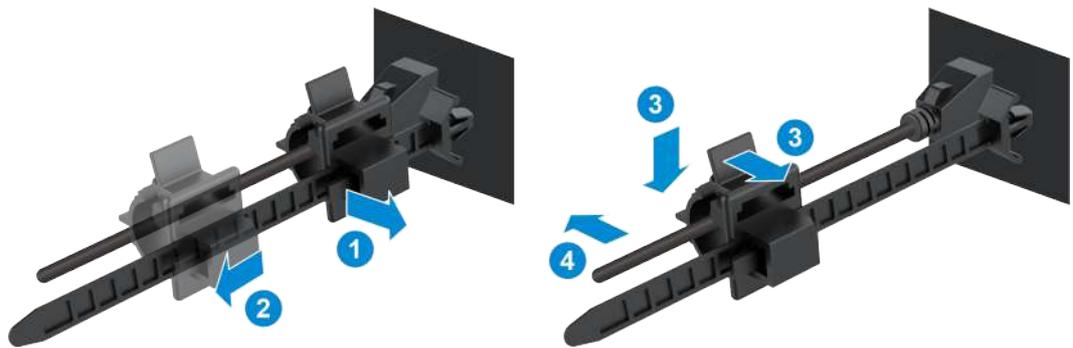
When the server is fully configured with power modules, a power module can be directly removed without power-off. However, you must ensure that the power supply of at least one another power module is nor-

mal before the replacement, and the rated power of the remaining power modules is greater than the rated power of the server.

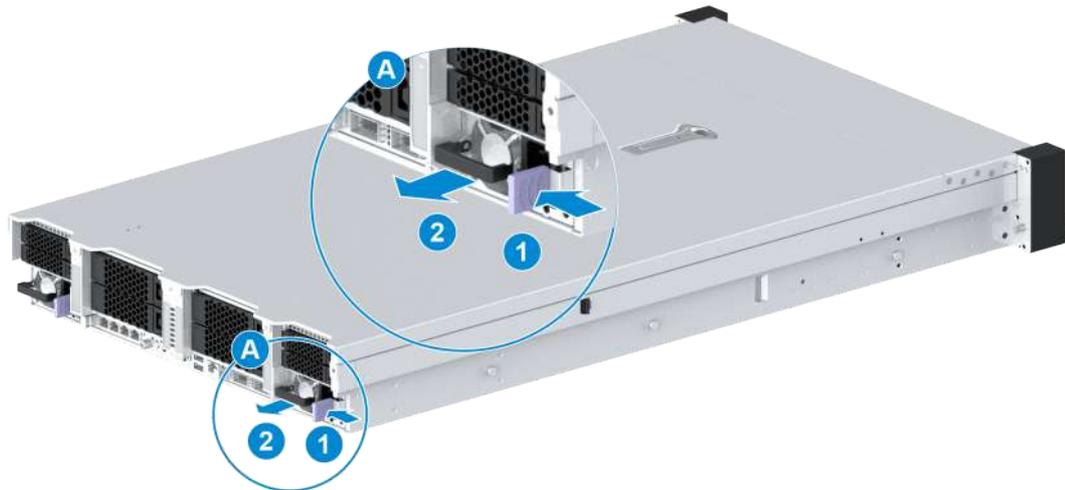
### Steps

1. Put on an anti-static wrist strap.
2. Locate the power module to be replaced in the server, and paste a replacement label on its panel.
3. (Optional) If only a single power module is configured, power off the server. For detailed operations, refer to [2.4.1 Powering Off the Server](#).
4. Set the PDU corresponding to the power module to the **OFF** state.
5. (Optional) If the power cable is fixed with a cable tie, remove the cable tie.
  - a. Open the latch of the plastic ring, and slide the plastic ring back to keep the ring away from the power plug, see ③ and ② in [Figure 3-7](#).

**Figure 3-7 Removing the Cable Tie**



- b. Open the latch of the plastic ring, and remove the power cable from the plastic ring, see ③ and ④ in [Figure 3-7](#).
6. Unplug the power module to power down the system.
  7. Press the spring of the power module to the left, and pull the power module out of the chassis by holding the handle, see ③ and ② in [Figure 3-8](#).

**Figure 3-8 Removing a Power Module**

8. Record the bar code of the removed power module, and put it into an anti-static bag.

## 3.4 Installing a Power Module

### Abstract

To replace a faulty power module or an existing power module with a power module of a different model, you need to install a power module.



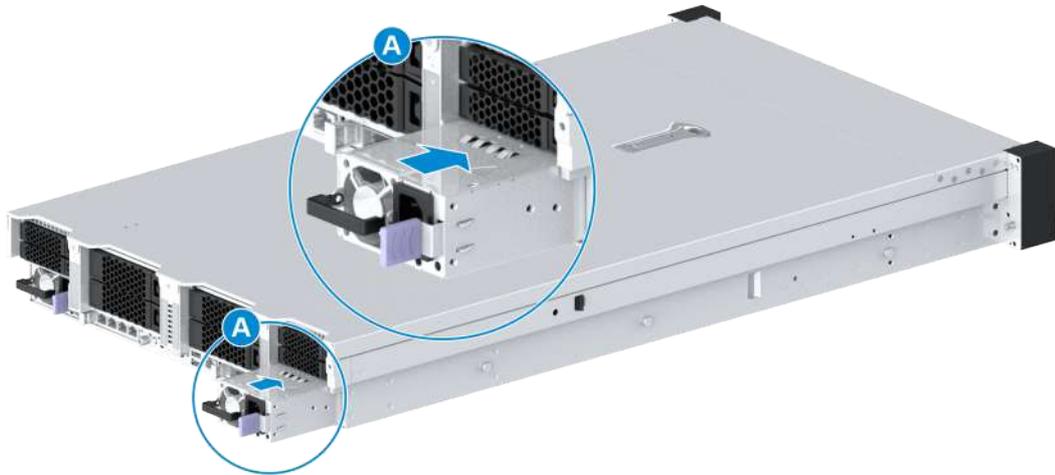
### Notice

When installing a power module, do not touch the golden fingers of the power module.

### Steps

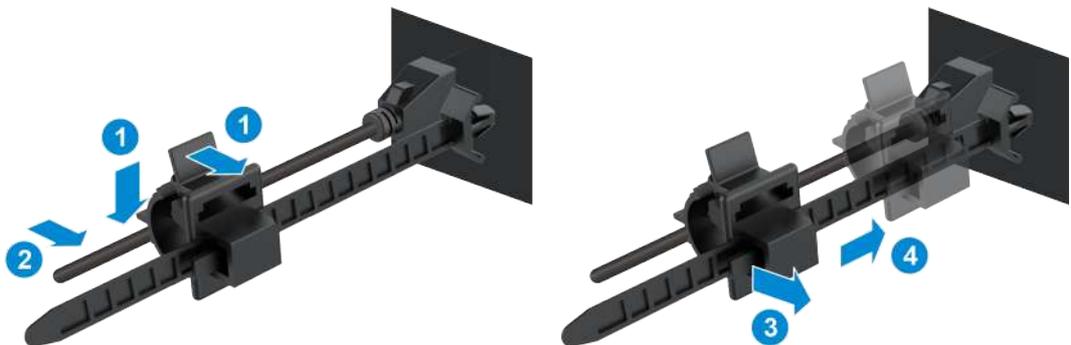
1. Put on an anti-static wrist strap.
2. Take the spare power module from an anti-static bag and record the bar code of the power module.
3. Slide the power module into the server until the spring plate is automatically locked and the power module reaches the stop, see [Figure 3-9](#).

Figure 3-9 Installing a Power Module



4. Connect the power cable to the power module.
5. (Optional) If there is a cable tie on the power module, use the cable tie to fix the power cable.
  - a. Open the latch of the plastic ring, and put the power cable into the plastic ring, see © and ② in Figure 3-10.

Figure 3-10 Installing the Cable Tie



- b. Open the latch of the plastic ring, and slide the plastic ring forward to make the ring close to the power plug, see © and ④ in Figure 3-10.
6. Set the **PDU** corresponding to the power module to the **ON** state.
7. (Optional) If the server is powered off, power on the server. For detailed operations, refer to [2.4.6 Powering On the Server](#).

## 3.5 Removing an OCP Card

### Abstract

To replace a faulty **OCP** card, you need to remove the OCP card.

**!** Notice

When removing an OCP card, do not touch the golden fingers of the OCP card.

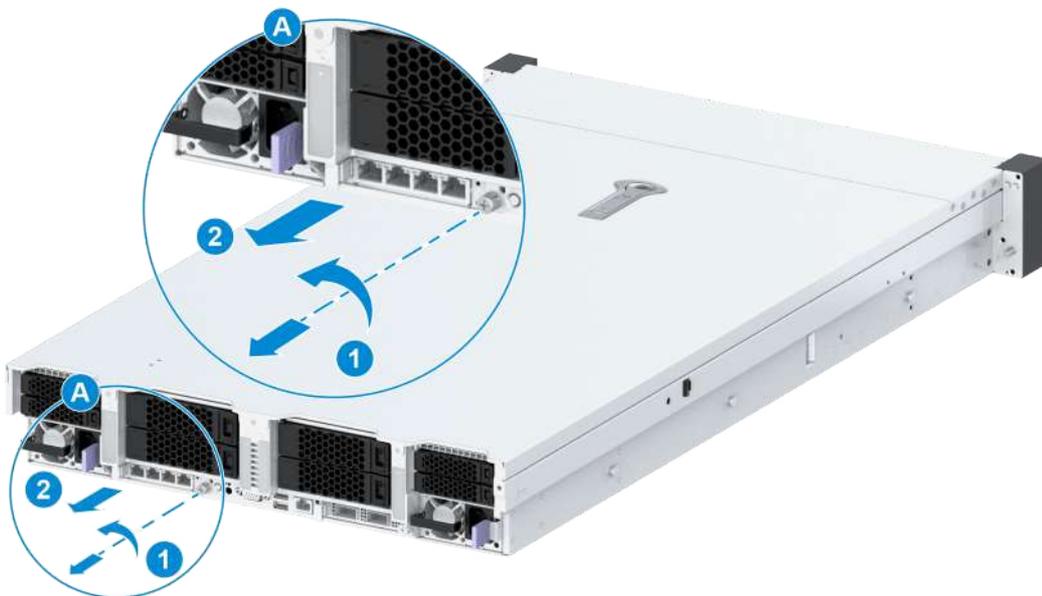
**Steps**

1. Put on an anti-static wrist strap.
2. Perform the following operations as required.

If...	Then...
The server can be powered off	Power off the server. For details, refer to <a href="#">2.4.1 Powering Off the Server</a> .
The server cannot be powered off	<ol style="list-style-type: none"> <li>a. In the HOST system, run the <code>echo 0 &gt; /sys/bus/pci/slots/&lt;slot number&gt;/power</code> command to power off the corresponding OCP card.</li> <li>b. Run the <code>lspci</code> command to verify that the corresponding OCP card is not displayed in the command output.</li> </ol>

3. Label all the cables connected to the OCP card panel, and unplug these cables.
4. Loosen the captive screw of the OCP card by using a PH2 crosshead screwdriver, see ① in [Figure 3-11](#).

**Figure 3-11 Removing an OCP Card**



5. Hold the handle of the OCP card and slowly remove the card from the server, see ② in [Figure 3-11](#).
6. Record the bar code of the removed OCP card and put it into an anti-static bag.

## Related Tasks

In specific scenarios such as OCP card firmware upgrade, the OCP card needs to be reset to make related operations effective. Perform the following steps to reset the OCP card:

1. Log in to the Web portal of the [BMC](#) by using the default username and password.



### Note

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

2. Select a reset method based on the reset scenario. For reset scenarios and corresponding reset methods, refer to [Table 3-1](#).

**Table 3-1 Reset Scenarios and Reset Methods**

Reset Scenario	Reset Method
Firmware upgrade	Power cycling
Default configuration restoration	
VF setting	
MAX, SN, PN, and V2 information programming	
IB card and OCP Ethernet NIC mode switching	
FC card port loopback setting (internal and external port loop-back)	
Intelligent OCP card restart	
Port PXE setting	Power restarting
Driver upgrade	

3. Perform the corresponding operations in accordance with the reset method.

To...	Do...
Reset through power cycling	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Cycle</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b>. The server is shut down and then started.</li> </ol>
Reset through power restarting	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Reset</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b> to restart the server.</li> </ol>

## 3.6 Installing an OCP Card

### Abstract

To replace a faulty [OCP](#) card, you need to install an OCP card.



### Notice

When installing an OCP card, do not touch the golden fingers of the OCP card.

### Steps

1. Put on an anti-static wrist strap.
2. Take the spare OCP card from an anti-static bag and record the bar code of the OCP card.
3. Insert the OCP card along the OCP card slot until it reaches the stop, see © in [Figure 3-12](#).

**Figure 3-12 Installing an OCP Card**



4. Tighten the captive screw of the OCP card by using a PH2 crosshead screwdriver, see ② in [Figure 3-12](#).
5. Reconnect the cables to the OCP card panel.
6. (Optional) If the server is already powered off, power on the server. For details, refer to [2.4.6 Powering On the Server](#).

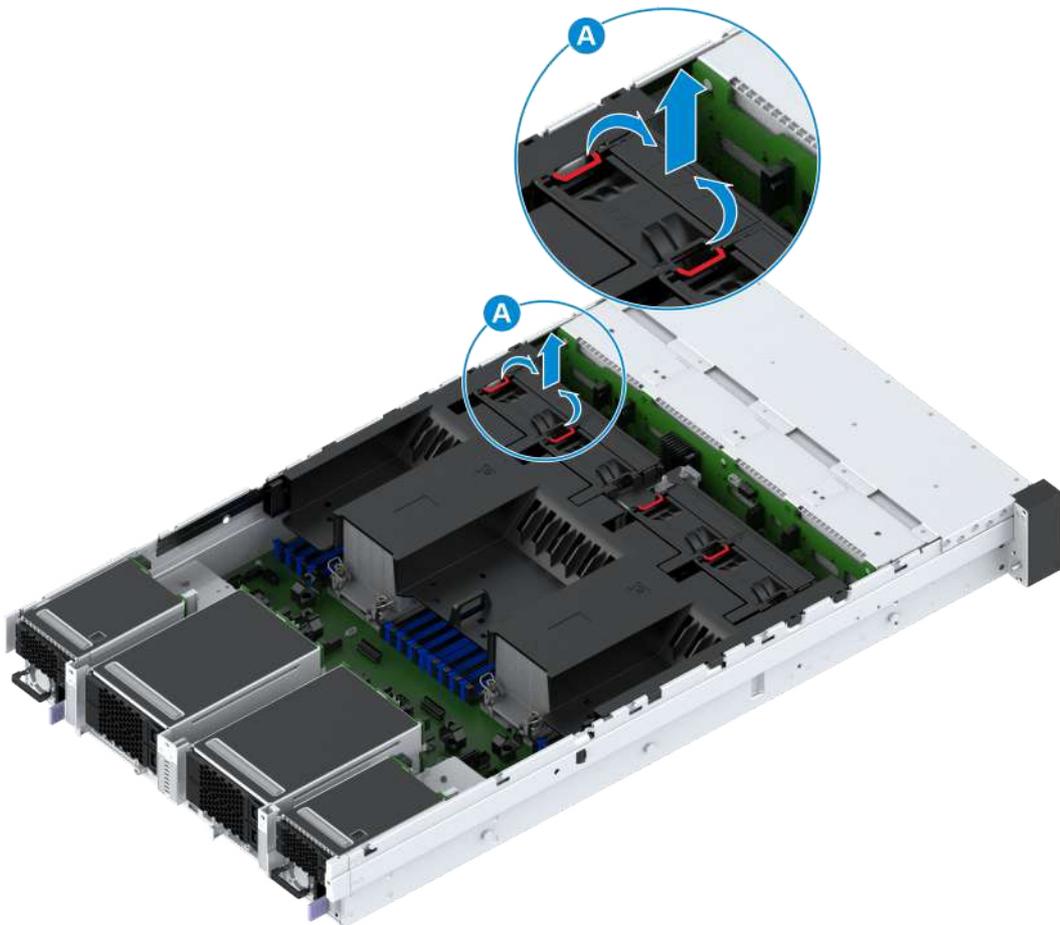
## 3.7 Removing a Fan Unit

### Abstract

To replace a faulty fan unit or the front-disk backplane, you need to remove a fan unit.

**Steps**

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the fan to be removed in the server, and paste a replacement label on its panel.
4. Hold the fastening plastic components on both sides of the fan unit, and lift the fan unit out of the chassis slowly, see [Figure 3-13](#).

**Figure 3-13 Removing a Fan Unit**

5. Record the bar code of the removed fan unit, and put it into an anti-static bag.

## 3.8 Installing a Fan Unit

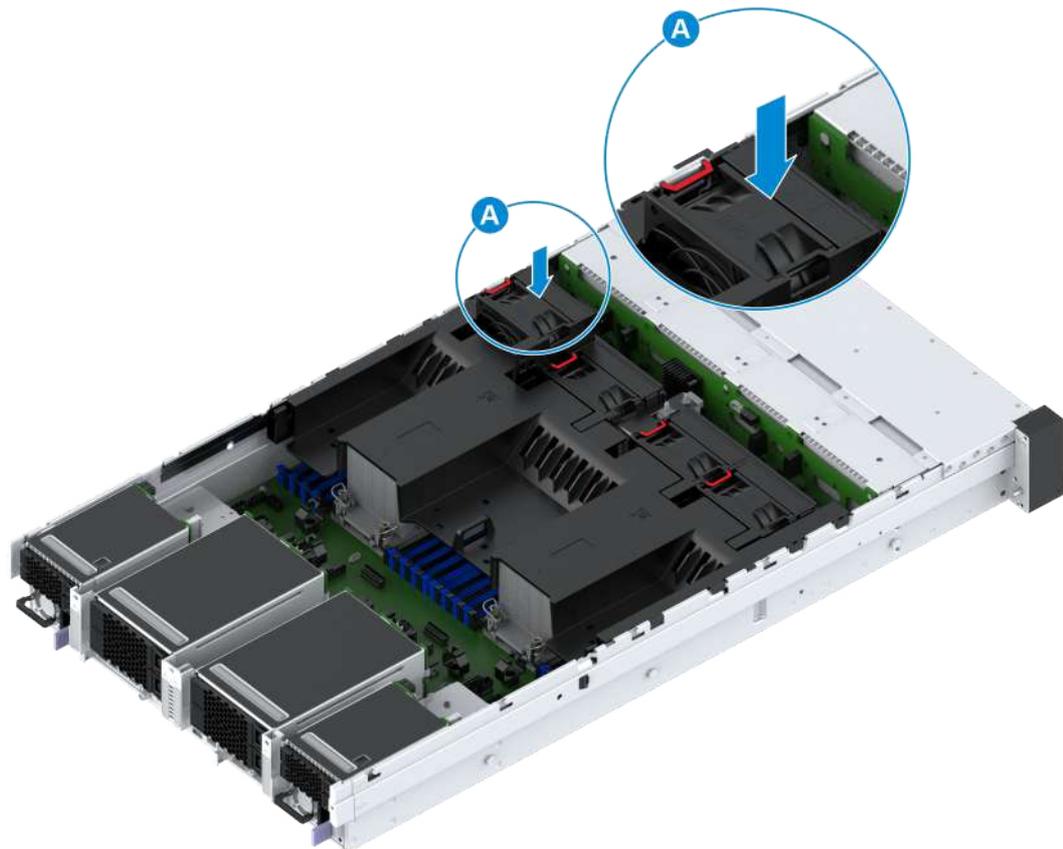
**Abstract**

To replace a faulty fan unit or the front-disk backplane, you need to install a fan unit.

### Steps

1. Put on an anti-static wrist strap.
2. Take the spare fan unit from an anti-static bag and record the bar code of the fan unit.
3. Insert the fan unit slowly downward along the slide, and verify that the interface of the fan unit is successfully connected to the mainboard socket for the fan unit, see [Figure 3-14](#).

**Figure 3-14 Installing a Fan Unit**



4. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.9 Removing an Air Baffle

### Abstract

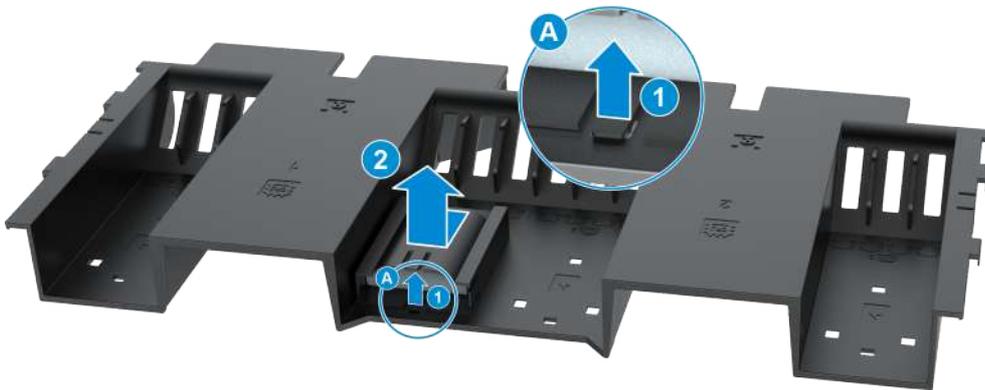
To replace a front hard disk panel, a [CPU](#), a [DIMM](#), or a faulty air baffle, you need to remove the air baffle.

### Steps

1. Put on an anti-static wrist strap.

2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Label the cable of the supercapacitor connected to the RAID controller card, and unplug the cable.
4. (Optional) Pull the latch of the supercapacitor box in the direction indicated by arrow ①, and push and remove the supercapacitor box in the direction indicated by arrow ②, see [Figure 3-15](#).

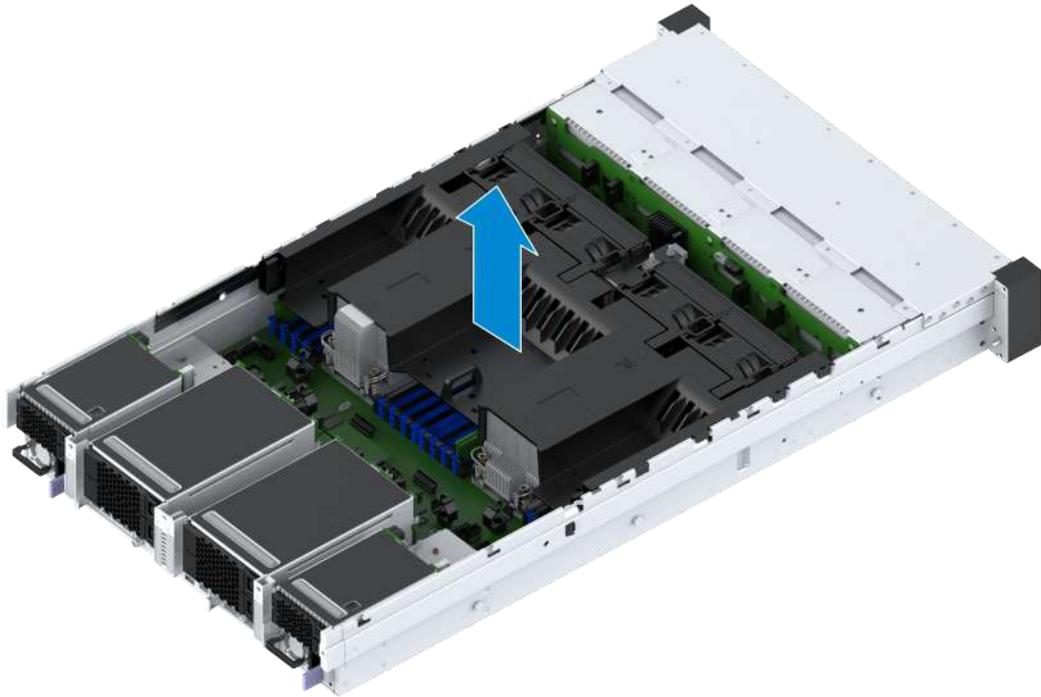
**Figure 3-15 Removing a Supercapacitor Box**



 **Note**

If you temporarily remove the air baffle to replace other parts, you do not need to remove the supercapacitor box.

5. Lift the air baffle up slowly, see [Figure 3-16](#).

**Figure 3-16 Removing an Air Baffle**

6. Record the bar code of the removed air baffle and put it into an anti-static bag.

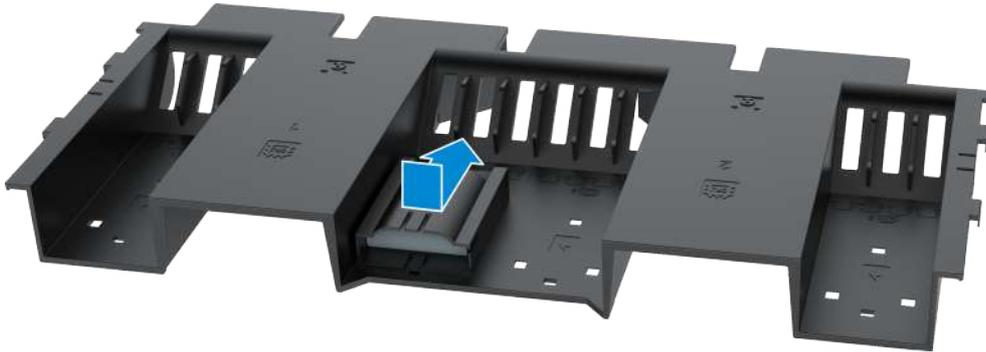
## 3.10 Installing an Air Baffle

### Abstract

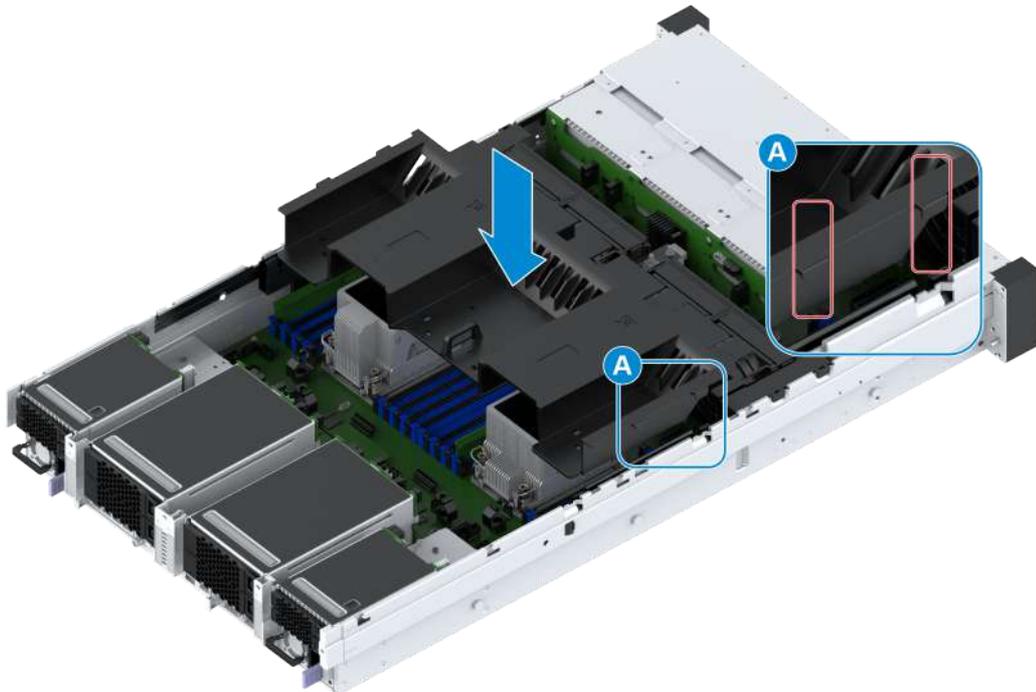
To replace a front hard disk panel, a [CPU](#), a [DIMM](#), or a faulty air baffle, you need to install an air baffle.

### Steps

1. Put on an anti-static wrist strap.
2. Take the spare air baffle from an anti-static bag, and record the bar code of the air baffle.
3. (Optional) Align the three fixing studs at the bottom of the supercapacitor box with the three holes on the air baffle, and install the supercapacitor box on the air baffle in the direction of the arrow until the release latches of the supercapacitor box lock the air baffle, see [Figure 3-17](#).

**Figure 3-17 Installing a Supercapacitor Box**

4. Align the release latches on the four corners of the air baffle with the slots of the chassis, and slowly install the air baffle until the release latches are secured into the slots, see [Figure 3-18](#).

**Figure 3-18 Installing an Air Baffle**

5. Reconnect the cable of the supercapacitor to the [RAID](#) controller card.
6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.11 Removing an Anti-Intrusion Sensor

### Abstract

To replace a faulty anti-intrusion sensor, you need to remove the anti-intrusion sensor.

**Steps**

1. Put on an anti-static wrist strap.
2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Remove the air baffle, For detailed operations, refer to [3.9 Removing an Air Baffle](#).
4. Label all the cables connected to the anti-intrusion sensor, and unplug these cables.
5. Move the anti-intrusion sensor in the direction of the arrow to unlock it, and remove it from the fan tray, see [Figure 3-19](#).

**Figure 3-19 Removing the Anti-Intrusion Sensor**

6. Record the bar code of the removed anti-intrusion sensor and put it into an anti-static bag.

## 3.12 Installing an Anti-Intrusion Sensor

**Abstract**

To replace a faulty anti-intrusion sensor, you need to install an anti-intrusion sensor.

**Steps**

1. Put on an anti-static wrist strap.
2. Take the spare anti-intrusion sensor from an anti-static bag, and record the bar code of the anti-intrusion sensor.
3. Place the anti-intrusion sensor into the fan tray, and move the sensor in the direction of the arrow to secure it in the fan tray, see [Figure 3-20](#).

**Figure 3-20 Installing the Anti-Intrusion Sensor**

4. Reconnect the cables to the anti-intrusion sensor.
5. Install the air baffle. For detailed operations, refer to [3.10 Installing an Air Baffle](#).
6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

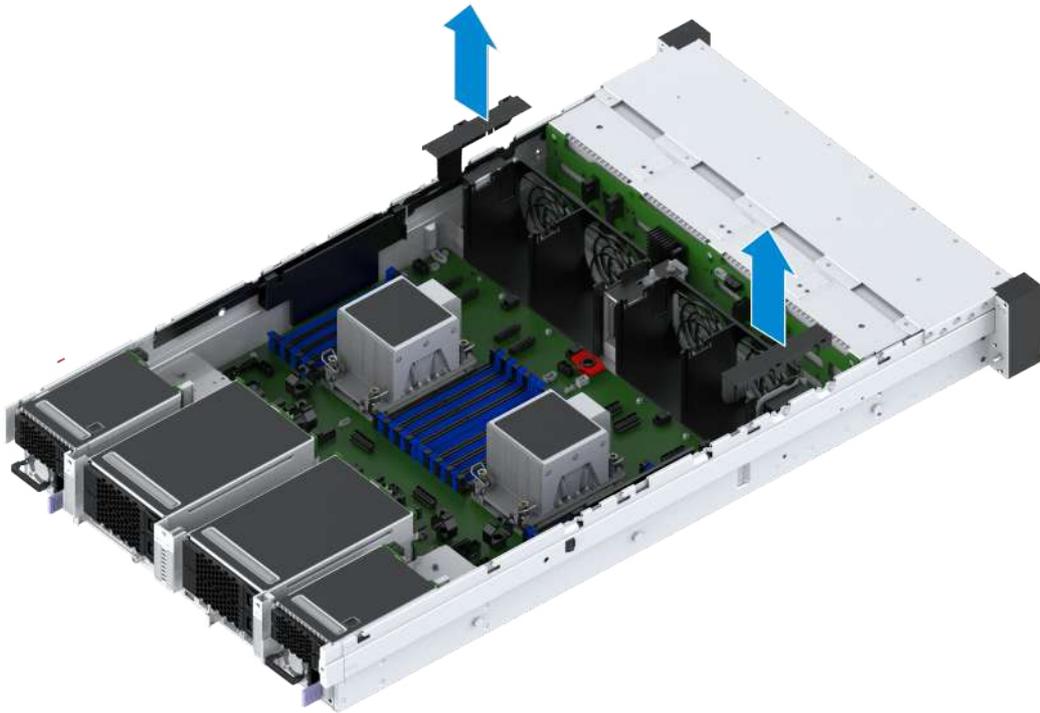
### 3.13 Removing a Front-Disk Backplane

#### Abstract

To replace a faulty front-disk backplane, you need to remove the backplane.

#### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Remove all front hard disks. For detailed operations, refer to [3.1 Removing a Hard Disk](#).
4. Remove the air baffle, For detailed operations, refer to [3.9 Removing an Air Baffle](#).
5. Remove all fan units. For detailed operations, refer to [3.7 Removing a Fan Unit](#).
6. Remove the cable managers on the side of the fan trays, see [Figure 3-21](#).

**Figure 3-21 Removing the Cable Managers**

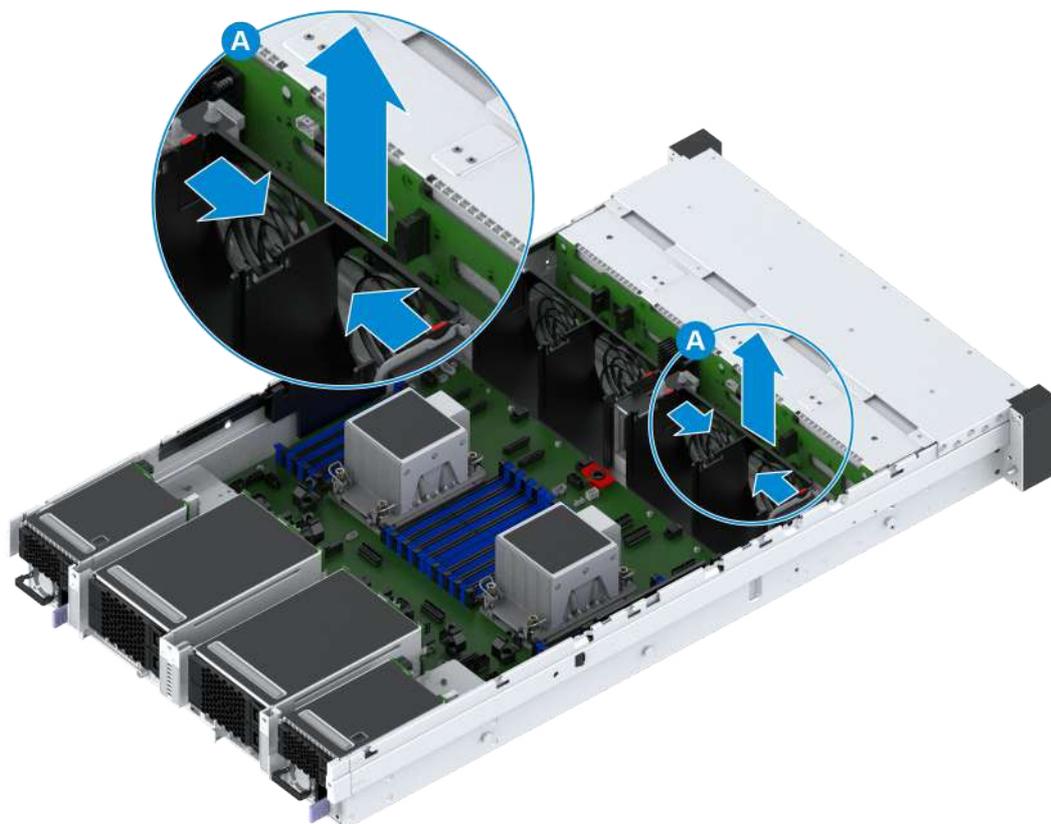
7. Lift the fan tray while pressing the locker on both sides of the fan tray inward, see [Figure 3-22](#).

---

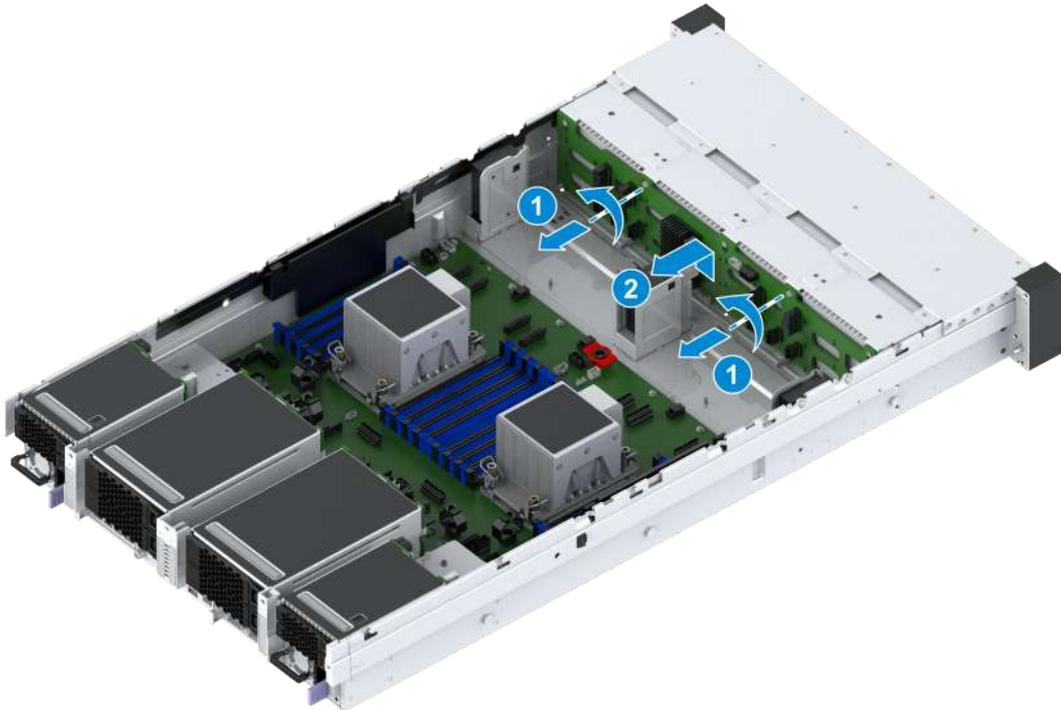
 **Note**

Two fan trays need to be removed.

---

**Figure 3-22 Removing a Fan Tray**

8. Label all the cables connected to the front-disk backplane, and unplug these cables.
9. Loosen the fastening screws of the front-disk backplane by using a PH2 crosshead screwdriver, see © in [Figure 3-23](#).

**Figure 3-23 Removing the Front-Disk Backplane**

10. Slowly lift the front-disk backplane upwards until the backplane reaches the stop. Remove the backplane in the direction of the arrow, see ② in [Figure 3-23](#).
11. Record the bar code of the removed front-disk backplane and put it into an anti-static bag.

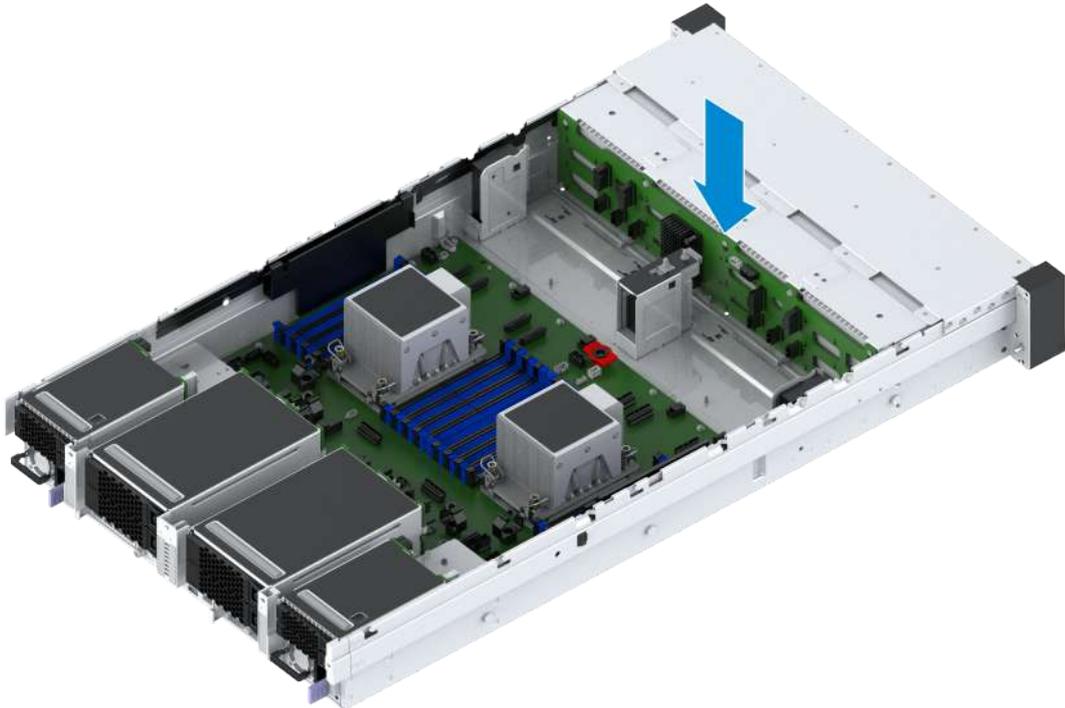
### 3.14 Installing a Front-Disk Backplane

#### Abstract

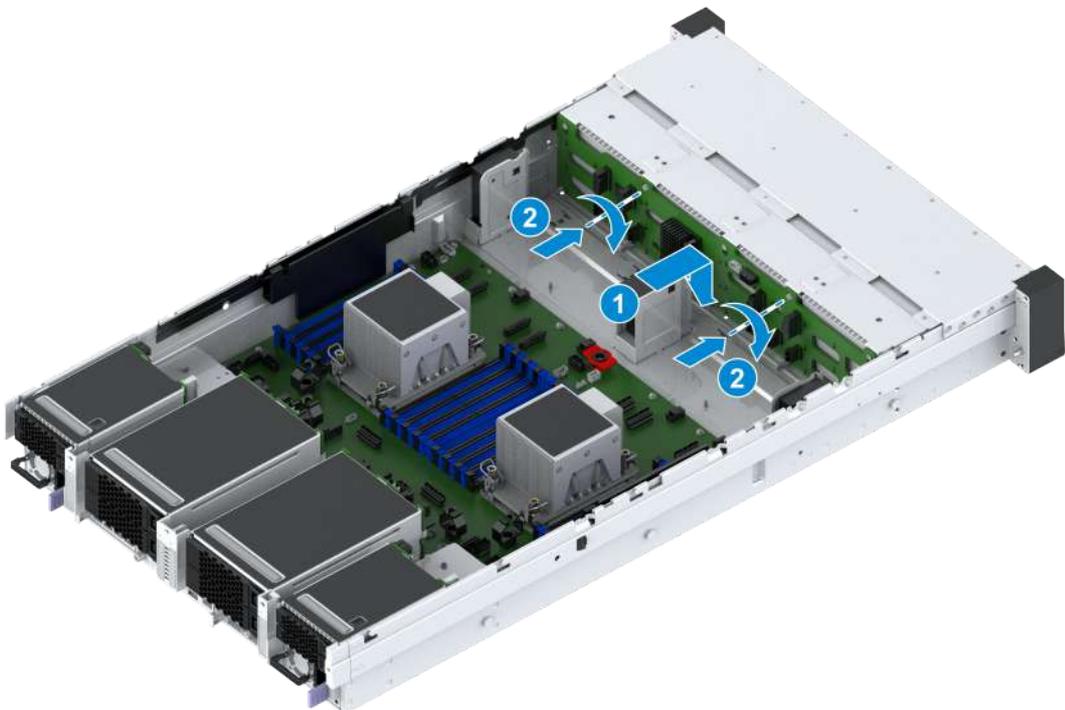
To replace a faulty front-disk backplane, you need to install a front-disk backplane.

#### Steps

1. Put on an anti-static wrist strap.
2. Take the spare front-disk backplane from an anti-static bag and record the bar code of the backplane.
3. Slowly insert the front-disk backplane and ensure that the plastic protective case of the front-disk backplane is in close contact with the metal fan tray base until it reaches the bottom of the chassis, see [Figure 3-24](#).

**Figure 3-24 Inserting the Front-Disk Backplane**

4. Attach the front-disk backplane to the T-shaped stud of the hard disk enclosure in the horizontal direction, and press down the backplane slowly until the backplane is fixed by the hook of the hard disk enclosure, see © in [Figure 3-25](#).

**Figure 3-25 Installing a Front-Disk Backplane**

5. Tighten the fastening screws of the front hard-disk backplane by using a PH2 crosshead screwdriver, see ② in [Figure 3-25](#).
6. Reconnect the cables of the front hard-disk backplane.
7. Make sure that the mesh cover of the fan tray face the front of the chassis. Insert the fan tray into the chassis along the slide until the positioning stud of the chassis is stuck in the hole at the bottom of the fan tray and the latches on both sides of the fan tray lock the fan tray base, see [Figure 3-26](#).

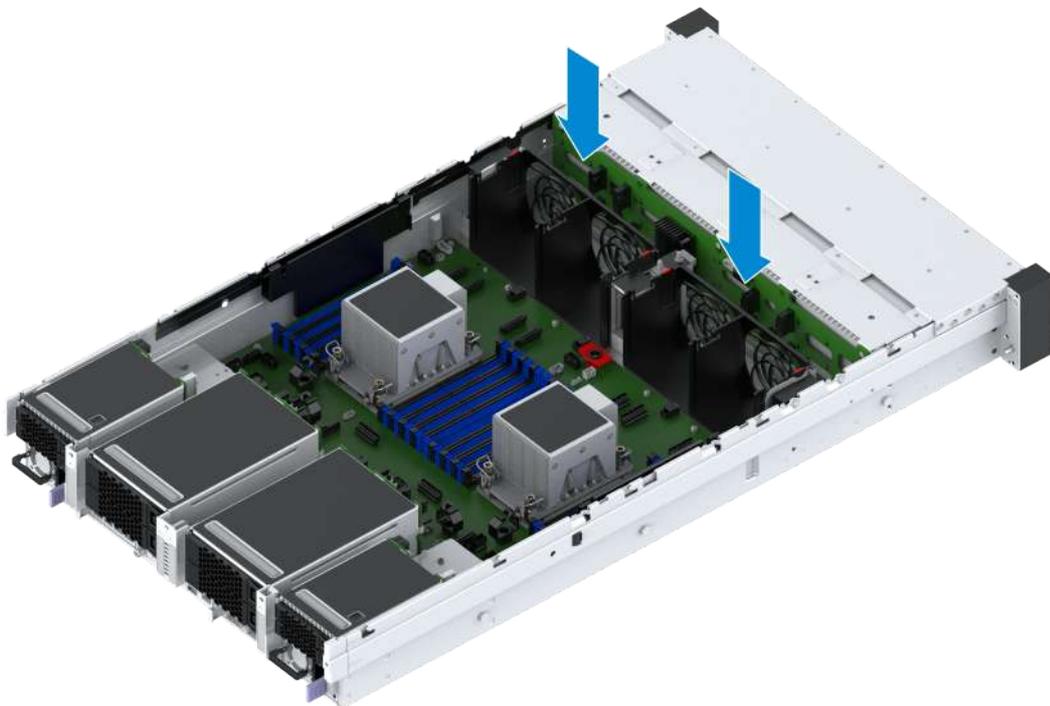
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 **Note**

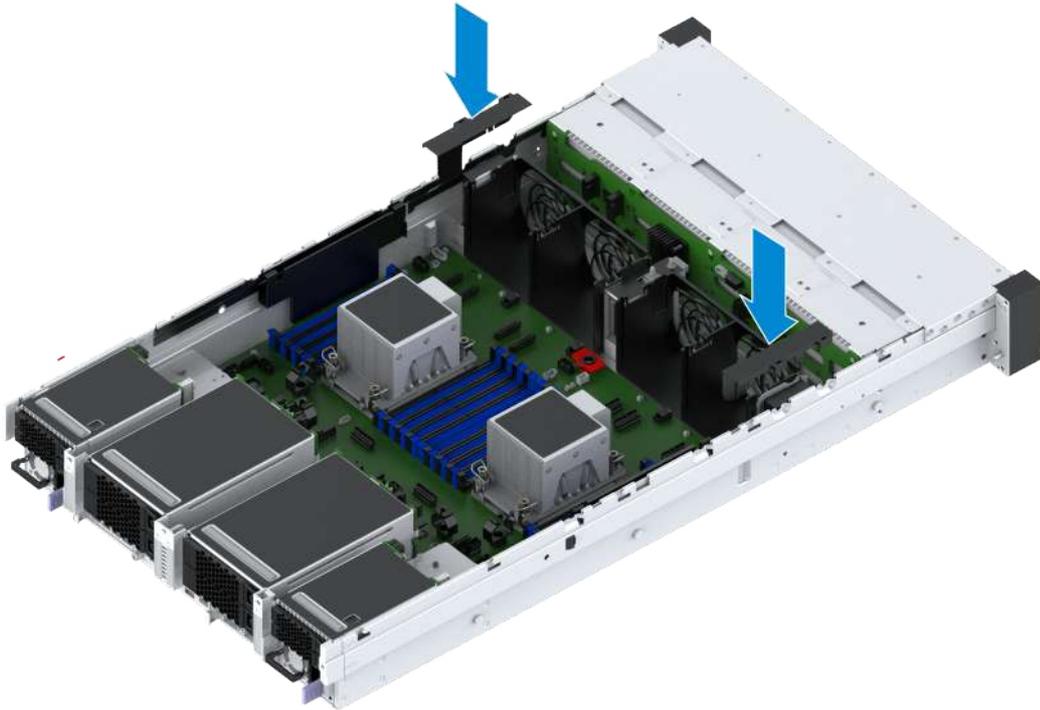
Two fan trays need to be installed.

---

**Figure 3-26 Installing a Fan Tray**



8. Install the cable managers on the side of the fan trays, see [Figure 3-27](#).

**Figure 3-27 Installing the Cable Managers**

9. Install all the fan units. For detailed operations, refer to [3.8 Installing a Fan Unit](#).
10. Install the air baffle. For detailed operations, refer to [3.10 Installing an Air Baffle](#).
11. Install all front hard disks. For detailed operations, refer to [3.2 Installing a Hard Disk](#).
12. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.15 Removing a Rear Hard Disk Cage

### Abstract

To replace a mainboard or [I/O](#) module, you need to remove the hard disk cage.

### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the hard disk cage in the server, and paste a replacement label on its panel.
4. Remove all hard disks in the hard disk cage. For details, refer to [3.1 Removing a Hard Disk](#).
5. Label all the cables connected to the hard disk backplane, and unplug these cables.
6. Perform the following operations in accordance with the location of the [I/O](#) module where the hard disk cage is located.

If...	Then...
The hard disk cage is located in I/O module 1 or 4	<ol style="list-style-type: none"> <li>Loosen the captive screw of the hard disk cage by using a PH2 crosshead screwdriver, see ① in <a href="#">Figure 3-28</a>.</li> <li>Push the hard disk cage in the direction of the arrow until the cage cannot be moved, and lift the cage up and out, see ② in <a href="#">Figure 3-28</a>.</li> </ol>
The hard disk cage is located in I/O module 2 or 3	<ol style="list-style-type: none"> <li>Loosen the captive screws and fastening screws of the hard disk cage by using a PH2 crosshead screwdriver, see ① in <a href="#">Figure 3-29</a>.</li> <li>Hold the protruding part on the hard disk cage with both hands, and slowly lift the cage up and out, see ② in <a href="#">Figure 3-29</a>.</li> </ol>

**Figure 3-28 Removing the Hard Disk Cage of I/O Module 1 or 4**

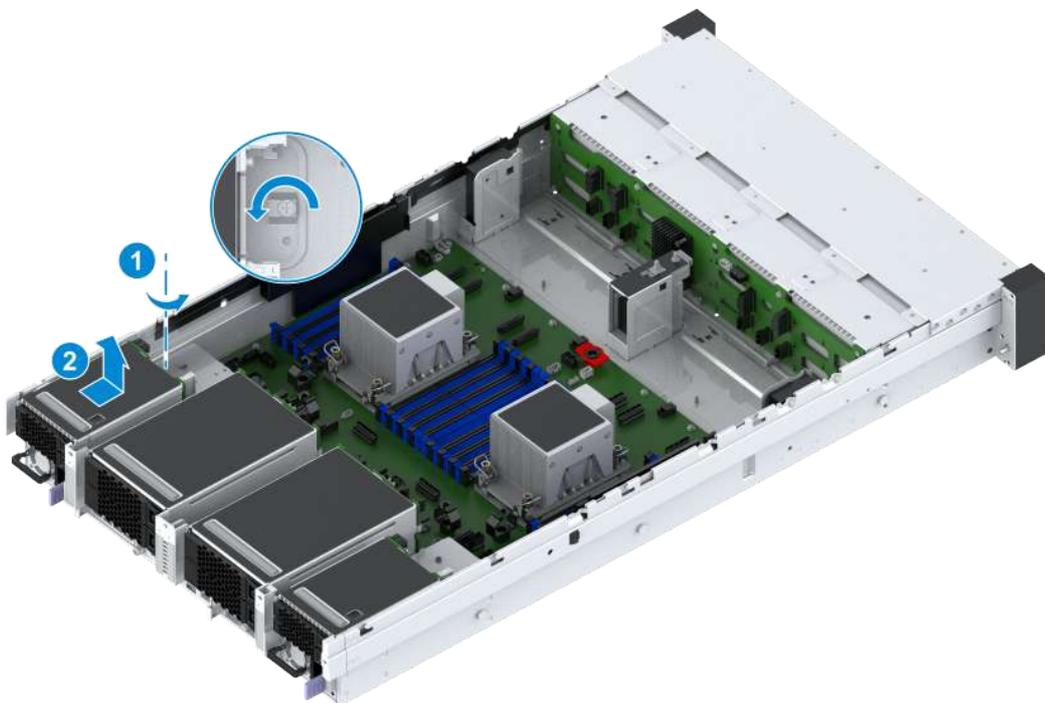
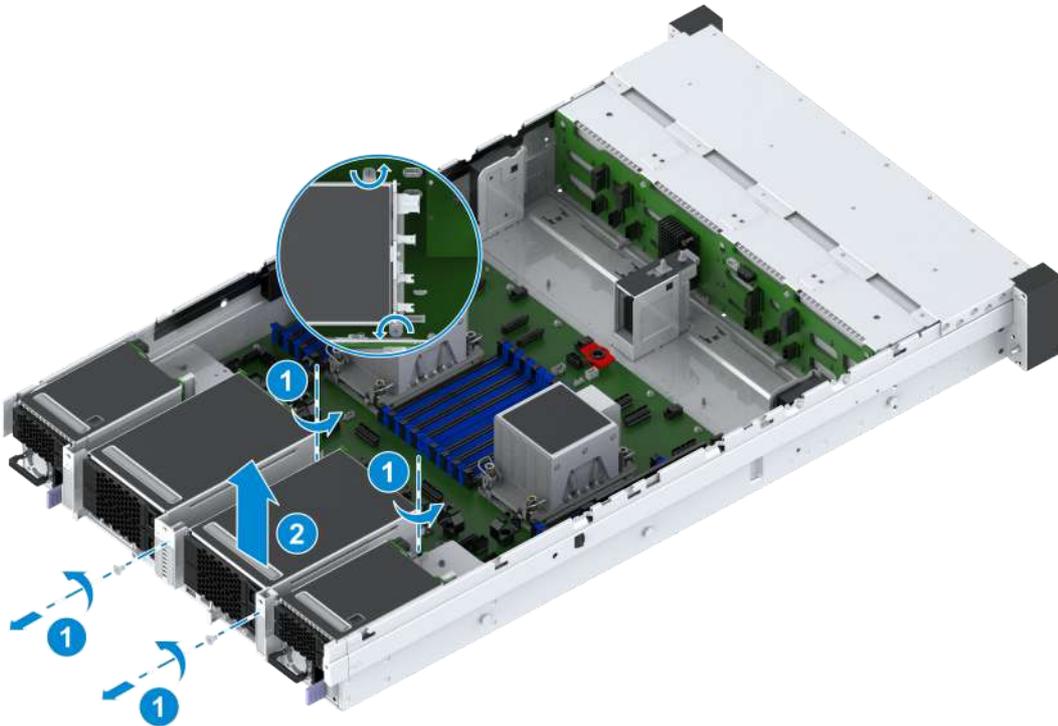


Figure 3-29 Removing the Hard Disk Cage of I/O Module 2 or 3



7. Record the bar code of the removed hard disk cage and put it into an anti-static bag.

### 3.16 Installing a Rear Hard Disk Cage

#### Abstract

To replace a mainboard or I/O module, you need to install a hard disk cage.

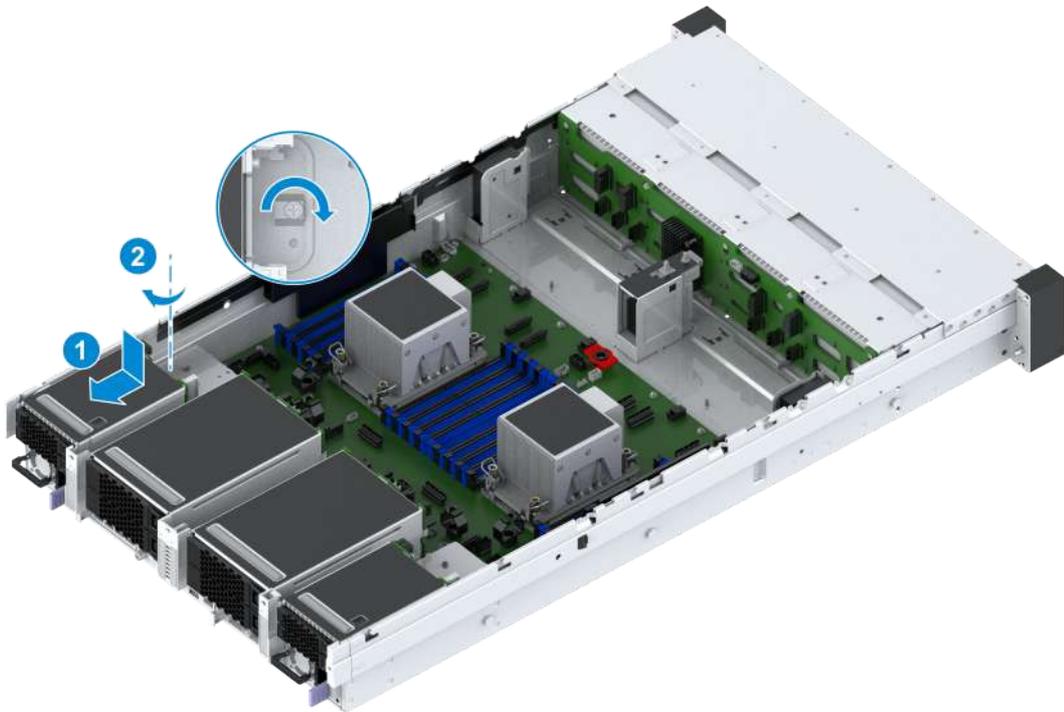
#### Steps

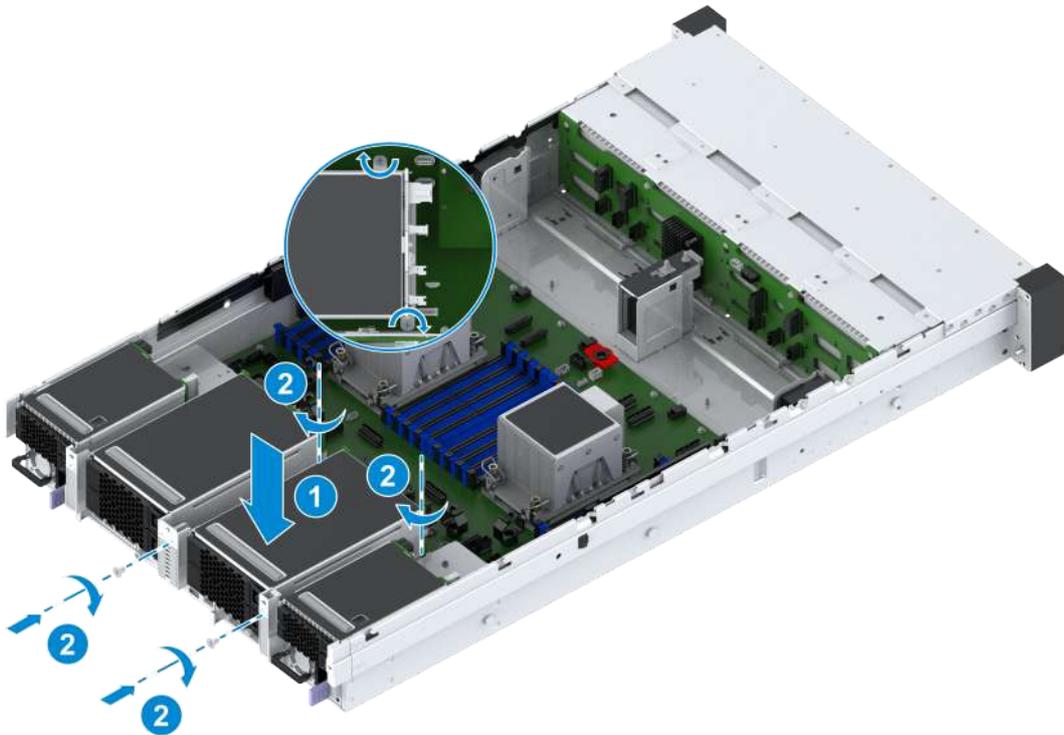
1. Put on an anti-static wrist strap.
2. Take the spare hard disk cage from an anti-static bag and record the bar code of the hard disk cage.
3. Perform the following operations in accordance with the location of the I/O module where the hard disk cage is located.

If...	Then...
The hard disk cage is located in I/O module 1 or 4	<ol style="list-style-type: none"> <li>a. Slowly slide the hard disk cage into the corresponding I/O module slot until the slot at the rear of the cage is secured into the T-shaped stud of the server power socket. Push the hard disk cage to the rear of the server until the observation holes are overlapped, see © in <a href="#">Figure 3-30</a>.</li> <li>b. Tighten the captive screw of the hard disk cage by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-30</a>.</li> </ol>

If...	Then...
The hard disk cage is located in I/O module 2 or 3	<ol style="list-style-type: none"><li>Slowly slide the hard disk cage into the corresponding I/O module slot, see ① in <a href="#">Figure 3-31</a>.</li><li>Tighten the captive screws and fastening screws of the hard disk cage by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-31</a>.</li></ol>

**Figure 3-30 Installing the Hard Disk Cage of I/O Module 1 or 4**



**Figure 3-31 Installing the Hard Disk Cage of I/O Module 2 or 3**

4. Reconnect the cables of the rear-disk backplane.
5. Install all hard disks in the hard disk cage. For detailed operations, refer to [3.2 Installing a Hard Disk](#).
6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.17 Removing the Hard Disk Backplane of an I/O Module

### Abstract

Before replacing a faulty hard disk backplane of an *I/O* module, you need to first remove the hard disk backplane.

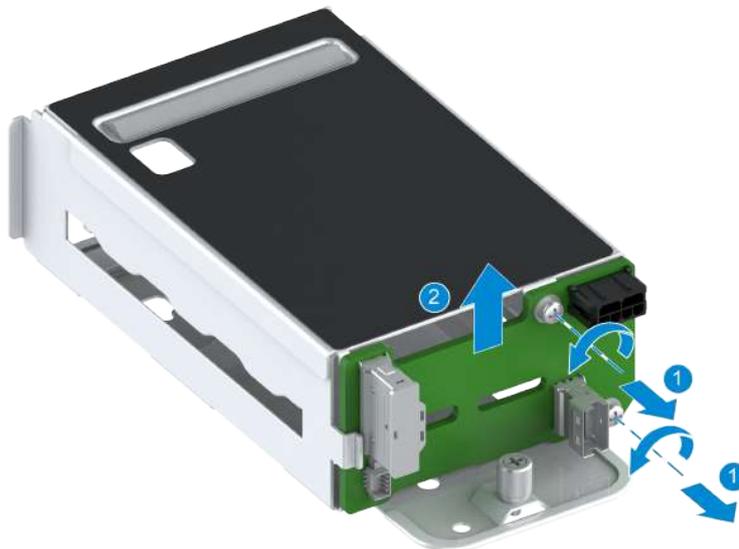
### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the hard disk backplane to be replaced in the server, and paste a replacement label on the hard disk backplane.
4. Remove all hard disks in the hard disk cage. For detailed operations, refer to [3.1 Removing a Hard Disk](#).
5. Label all the cables connected to the hard disk backplane, and unplug these cables.

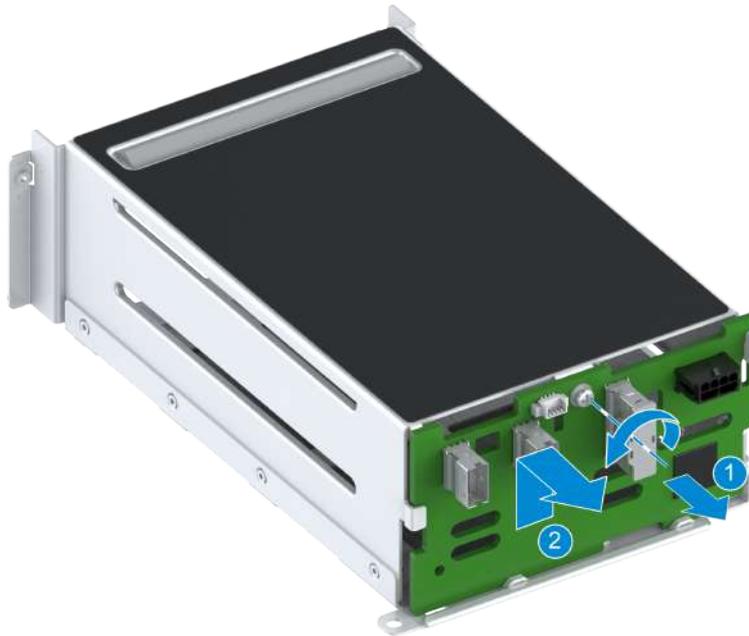
6. Perform the following operations in accordance with the location of the I/O module where the hard disk backplane is located.

If...	Then...
The hard disk backplane is located in I/O module 1 or 4	<ol style="list-style-type: none"> <li>a. Loosen the fastening screws of the hard disk backplane by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-32</a>.</li> <li>b. Lift the hard disk backplane up and out, see ② in <a href="#">Figure 3-32</a>.</li> </ol>
The hard disk backplane is located in I/O module 2 or 3	<ol style="list-style-type: none"> <li>a. Loosen the fastening screw of the hard disk backplane by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-33</a>.</li> <li>b. Lift the hard disk backplane upwards until the backplane is detached from the latches of the I/O module bracket, and horizontally take out the backplane, see ② in <a href="#">Figure 3-33</a>.</li> </ol>

**Figure 3-32 Removing the Hard Disk Backplane of I/O Module 1/4**



**Figure 3-33 Removing the Hard Disk Backplane of I/O Module 2/3**



7. Record the bar code of the removed hard disk backplane, and put it into an anti-static bag.

### 3.18 Installing the Hard Disk Backplane of an I/O Module

#### Abstract

To replace the faulty hard disk backplane of an I/O module, you need to install a new hard disk backplane.

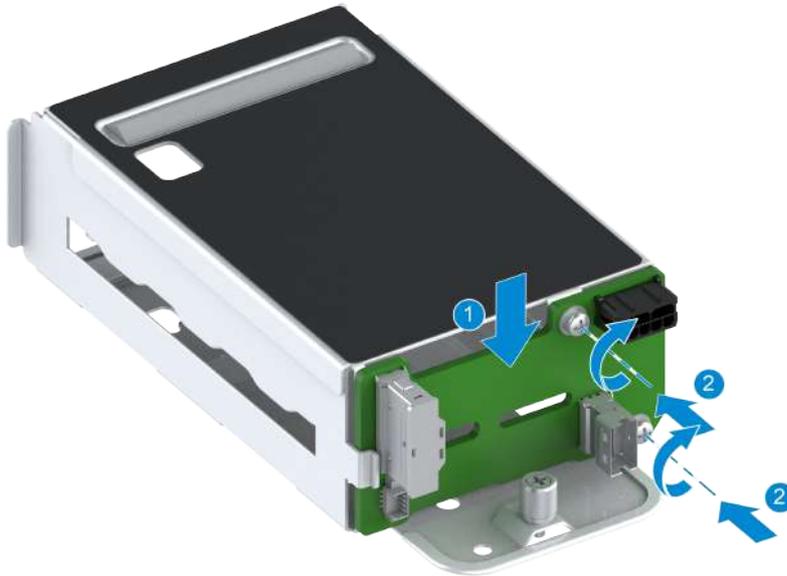
#### Steps

1. Put on an anti-static wrist strap.
2. Take the spare hard disk backplane from an anti-static bag and record the bar code of the backplane.
3. Perform the following operations in accordance with the location of the I/O module where the hard disk backplane is located.

If...	Then...
The hard disk backplane is located in I/O module 1 or 4	<ol style="list-style-type: none"> <li>a. Place the hard disk backplane down along the positioning slot of the I/O module bracket, see © in <a href="#">Figure 3-34</a>.</li> <li>b. Tighten the fastening screws of the hard disk backplane by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-34</a>.</li> </ol>
The hard disk backplane is located in I/O module 2 or 3	<ol style="list-style-type: none"> <li>a. Horizontally attach the hard disk backplane to the latches of the I/O module bracket, and press down the hard disk backplane slowly until the hard disk backplane is fixed by the latches, see © in <a href="#">Figure 3-35</a>.</li> </ol>

If...	Then...
	b. Tighten the fastening screw of the hard disk backplane by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-35</a> .

**Figure 3-34 Installing the Hard Disk Backplane of I/O Module 1/4**



**Figure 3-35 Installing the Hard Disk Backplane of I/O Module 2/3**



4. Reconnect the cables to the hard disk backplane.
5. Install all hard disks in the hard disk cage. For detailed operations, refer to [3.2 Installing a Hard Disk](#).

6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.19 Removing a PCIe Card

### 3.19.1 Removing a PCIe Card from a General-Purpose Server

#### Abstract

To replace a faulty [PCIe](#) card, an existing PCIe card with a PCIe card of a different module, or a riser card connected to a PCIe card, you need to remove the PCIe card.



#### Notice

When removing a PCIe card, do not touch the golden fingers of the PCIe card and Riser card.

#### Steps

##### Removing the I/O Module Bracket

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the PCIe card to be replaced in the server, and paste a replacement label on the PCIe card.
4. (Optional) If cables are connected to the PCIe card, use labels to mark the cables and unplug the cables.
5. Perform the following operations in accordance with the location of the [I/O](#) module where the PCIe card is located.

If...	Then...
The PCIe card is located in I/O module 1 or 4	<ol style="list-style-type: none"> <li>a. Loosen the captive screw of the bracket of the I/O module where the PCIe card is located by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-36</a>.</li> <li>b. Push the I/O module bracket in the direction of the arrow until the bracket cannot be moved, and lift the I/O module bracket up and out, see ② in <a href="#">Figure 3-36</a>.</li> </ol>
The PCIe card is located in I/O module 2 or 3	<ol style="list-style-type: none"> <li>a. Loosen the captive screw and fastening screws of the I/O module bracket by using a PH2 crosshead screwdriver, see © in <a href="#">Figure 3-37</a>.</li> <li>b. Hold the protruding part on the I/O module bracket with both hands, and slowly lift the bracket up and out, see ② in <a href="#">Figure 3-37</a>.</li> </ol>

Figure 3-36 Removing the I/O module Bracket 1 or 4

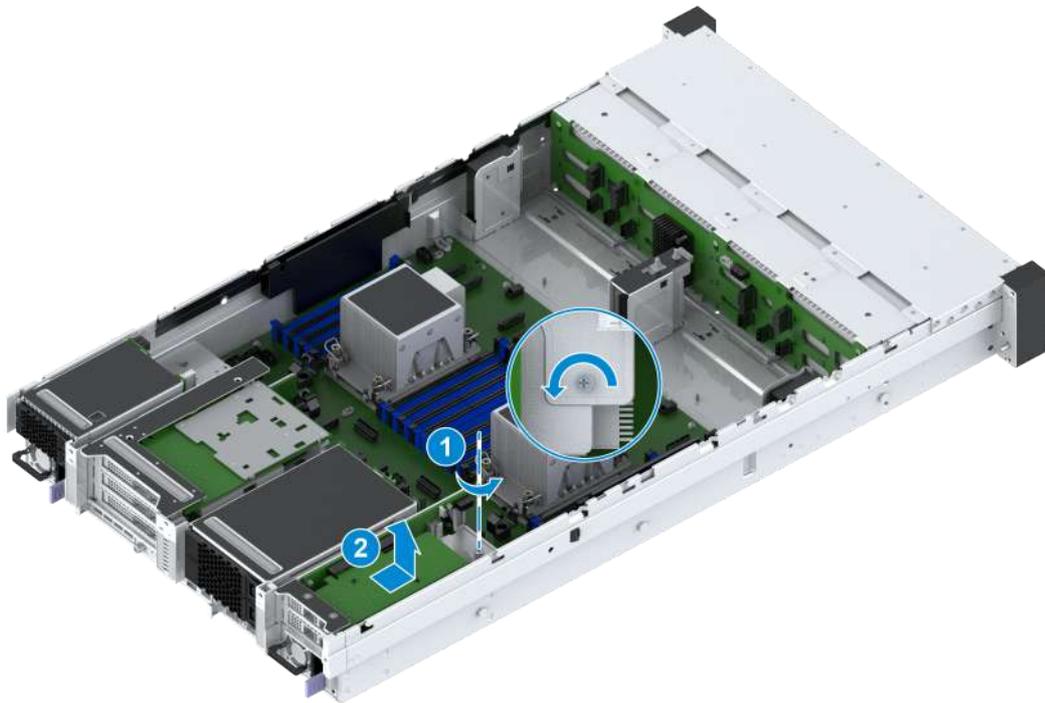
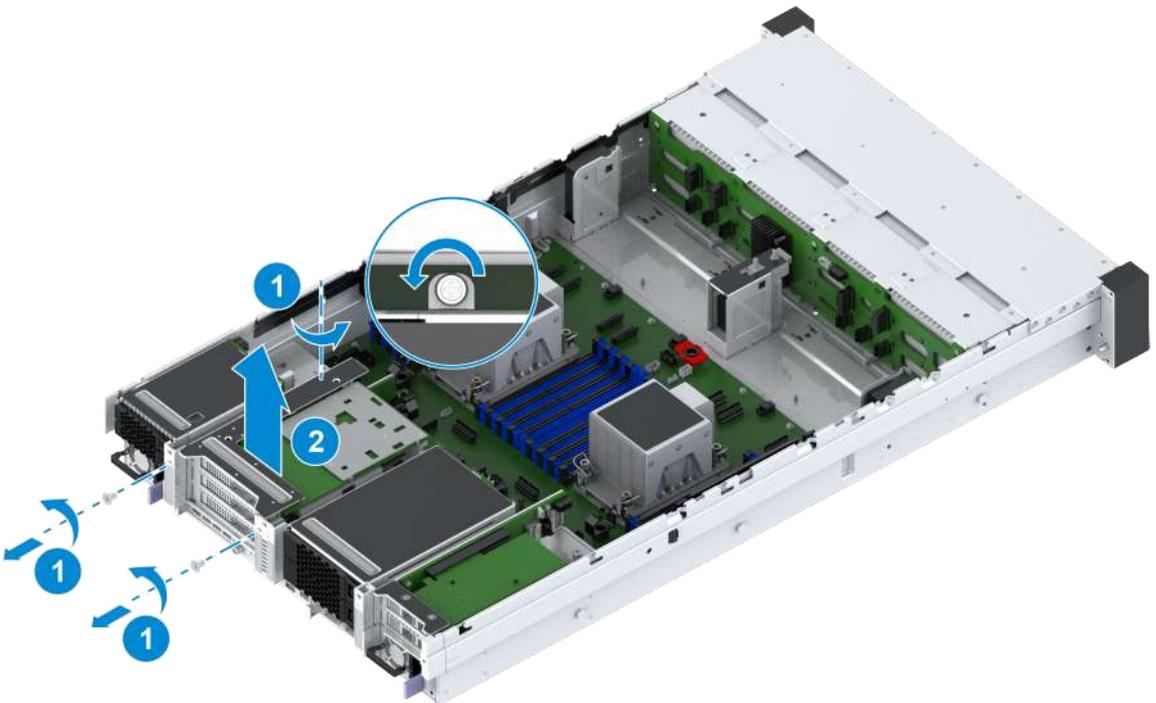


Figure 3-37 Removing the I/O module Bracket 2 or 3



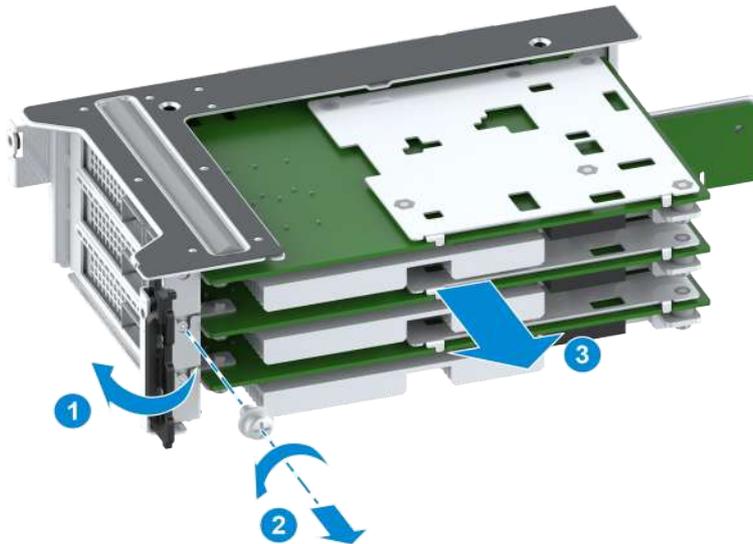
**Removing a PCIe Card**

 **Note**

This procedure describes how to remove a PCIe card from I/O module 2 or 3. The operations for removing a PCIe card from I/O module 1 or 4 are the same, and you can refer to this procedure.

6. Rotate the cover plate of the PCIe cards, see ① in [Figure 3-38](#).

**Figure 3-38 Removing a PCIe Card**



7. Loosen the fastening screw of the PCIe card by using a PH2 crosshead screwdriver, as indicated by ② in [Figure 3-38](#).
8. Horizontally pull the PCIe card out, see ③ in [Figure 3-38](#).
9. Record the bar code of the removed PCIe card and put it into an anti-static bag.

### Related Tasks

For the 2240-RE configured with a [RAID](#) controller card, in some scenarios, for example, when the RAID controller card is upgraded, the RAID controller card needs to be reset to make related operations effective. Perform the following steps to reset the RAID controller card:

1. Log in to the Web portal of the [BMC](#) by using the default username and password.

 **Note**

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

2. Select a reset method based on the reset scenario. For reset scenarios and corresponding reset methods, refer to [Table 3-2](#).

**Table 3-2 Reset Scenarios and Reset Methods**

Reset Scenario	Reset Method
Firmware upgrade	Power cycling
E2PROM programming	
Default configuration setting	
RAID key configuration item setting	
MCTP setting (PMC)	
MCTP setting (LSI)	Power restarting
Driver upgrade	
RAID information deletion	Immediately applied
RAID mode setting	

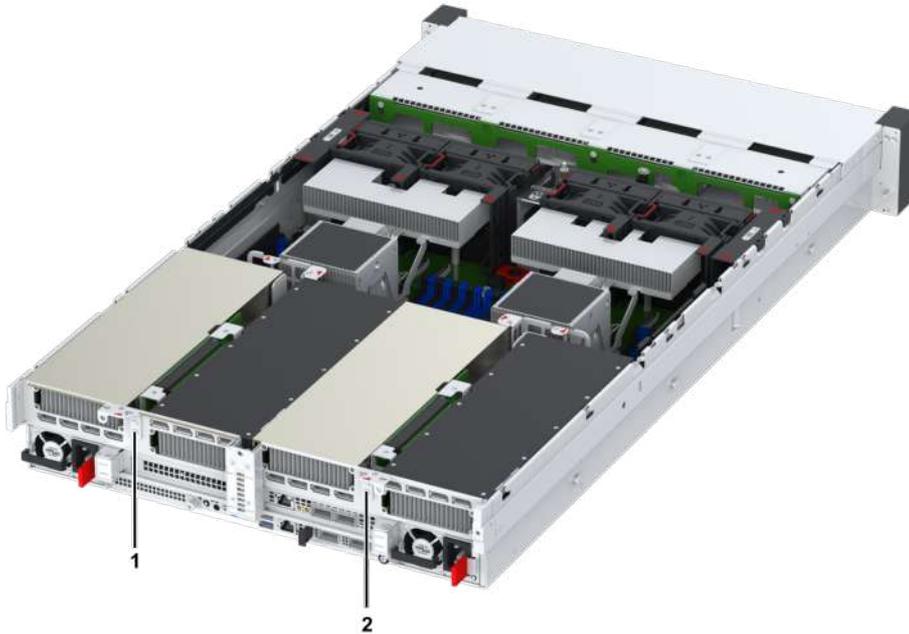
3. Perform the corresponding operations in accordance with the reset method.

To...	Do...
Reset through power cycling	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Cycle</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b>. The server is shut down and then started.</li> </ol>
Reset through power restarting	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Reset</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b> to restart the server.</li> </ol>

### 3.19.2 Removing a PCIe Card from a 4-GPU Server

#### Abstract

The 2240-RE 4-GPU server model is installed with two GPU modules. Each GPU module can be configured with two GPU cards and one PCIe card, as shown in [Figure 3-39](#).

**Figure 3-39 GPU Module Positions**

1. Right GPU module
2. Left GPU module

To replace a faulty **PCIe** card, an existing PCIe card of a different model, or a riser card connected to a PCIe card, you need to first remove the PCIe card.

- The steps for removing the PCIe card from the left GPU module are as follows:
  1. Remove the GPU module brackets on the right and left sides of the server (the right GPU module bracket is removed first).
  2. Remove the PCIe card.
- The steps for removing the PCIe card from the right GPU module are as follows:
  1. Remove the GPU module bracket on the right side of the server.
  2. Remove the PCIe card.

This procedure uses the PCIe card in the left GPU module as an example to describe how to remove a PCIe card. For how to remove the PCIe card from the right GPU module, you can also refer to this procedure.

**Notice**

When removing a PCIe card, do not touch the golden fingers of the PCIe card and riser card.

**Steps****Removing the GPU Module Bracket**

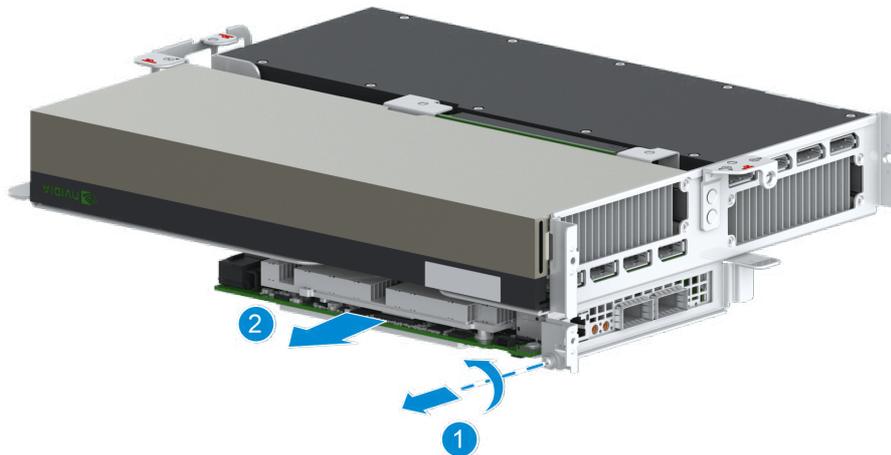
1. Put on an anti-static wrist strap.

2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#), and [2.4.3 Removing the Server Cover](#).
3. Locate the PCIe card to be replaced in the server, and paste a replacement label on the PCIe card.
4. (Optional) If cables are connected to the PCIe card, use labels to mark the cables and unplug the cables.
5. Remove the GPU module bracket. For detailed operations, refer to [Removing the GPU Module Bracket](#).

### Removing the PCIe Card

6. Loosen the fastening screw of the PCIe card by using a PH2 crosshead screwdriver, as indicated by ① in [Figure 3-40](#).

**Figure 3-40 Removing the PCIe Card**



7. Horizontally pull the PCIe card out, as indicated by ② in [Figure 3-40](#).
8. Record the bar code of the removed PCIe card and put it into an anti-static bag.

### Related Tasks

For the 2240-RE configured with a [RAID](#) controller card, in some scenarios, for example, when the RAID controller card is upgraded, the RAID controller card needs to be reset to make related operations effective. Perform the following steps to reset the RAID controller card:

1. Log in to the Web portal of the [BMC](#) by using the default username and password.

#### Note

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

2. Select a reset method based on the reset scenario. For reset scenarios and corresponding reset methods, refer to [Table 3-3](#).

**Table 3-3 Reset Scenarios and Reset Methods**

Reset Scenario	Reset Method
Firmware upgrade	Power cycling
E2PROM programming	
Default configuration setting	
RAID key configuration item setting	
MCTP setting (PMC)	
MCTP setting (LSI)	Power restarting
Driver upgrade	
RAID information deletion	Immediately applied
RAID mode setting	

3. Perform the corresponding operations in accordance with the reset method.

To...	Do...
Reset through power cycling	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Cycle</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b>. The server is shut down and then started.</li> </ol>
Reset through power restarting	<ol style="list-style-type: none"> <li>a. On the <b>Homepage</b> of the Web portal of the BMC, click the green power icon in the menu bar, and select <b>Power Reset</b>. The <b>Confirm</b> dialog box is displayed.</li> <li>b. Click <b>Submit</b> to restart the server.</li> </ol>

## 3.20 Installing a PCIe Card

### 3.20.1 Installing a PCIe Card for a General-Purpose Server

#### Abstract

To replace a faulty PCIe card, an existing PCIe card with a PCIe card of a different module, or a Riser card connected to a PCIe card, you need to install a PCIe card.

#### Notice

When replacing a PCIe card, do not touch the golden fingers of the PCIe card and Riser card.

## Steps

### Installing a PCIe Card

#### Note

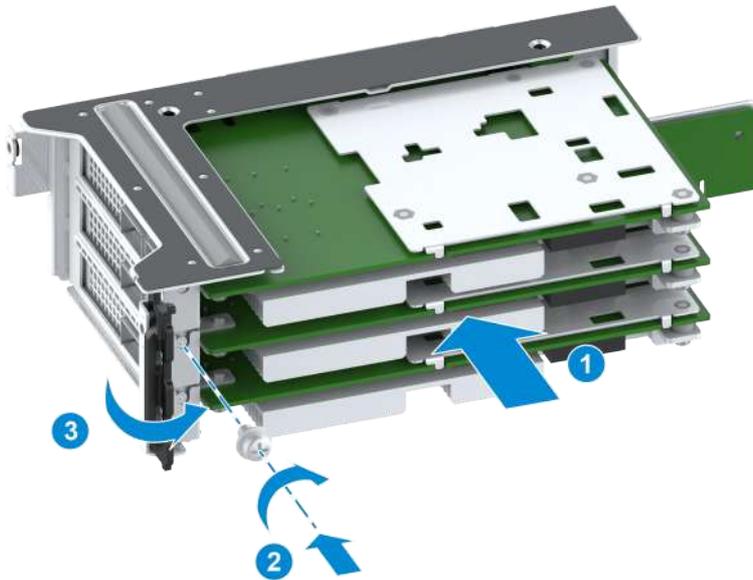
This procedure describes how to install a PCIe card in I/O module 2 or 3. The operations for installing a PCIe card in I/O module 1 or 4 are the same, and you can refer to this procedure.

1. Put on an anti-static wrist strap.
2. Take the spare PCIe card from an anti-static bag and record the bar code of the PCIe card.
3. Horizontally insert the PCIe card into the slot, see ① in [Figure 3-41](#).

#### Notice

If there are multiple PCIe cards in the I/O module, when you install a PCIe card, you should leave some space for two adjacent PCIe cards to avoid collision.

**Figure 3-41 Installing a PCIe Card**



4. Tighten the fastening screw of the PCIe card by using a PH2 crosshead screwdriver, as indicated by ② in [Figure 3-41](#).
5. Rotate and close the cover plate of the PCIe cards, see ③ in [Figure 3-41](#).

### Installing the I/O Module Bracket

6. Perform the following operations in accordance with the location of the I/O module where the PCIe card is located.

If...	Then...
The PCIe card is located in I/O module 1 or 4	<ol style="list-style-type: none"><li>a. Slowly slide the I/O module bracket into the corresponding I/O module slot until the slot at the rear of the bracket is secured into the T-shaped stud of the server power socket. Push the I/O module bracket to the rear of the server until the observation holes are overlapped, see © in <a href="#">Figure 3-42</a>.</li><li>b. Tighten the captive screw of the I/O module bracket by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-42</a>.</li></ol>
The PCIe card is located in I/O module 2 or 3	<ol style="list-style-type: none"><li>a. Slowly slide the I/O module bracket into the corresponding I/O module slot, see © in <a href="#">Figure 3-43</a>.</li><li>b. Tighten the captive screw and fastening screws of the I/O module bracket by using a PH2 crosshead screwdriver, see ② in <a href="#">Figure 3-43</a>.</li></ol>

**Figure 3-42** Installing the I/O Module Bracket 1 or 4

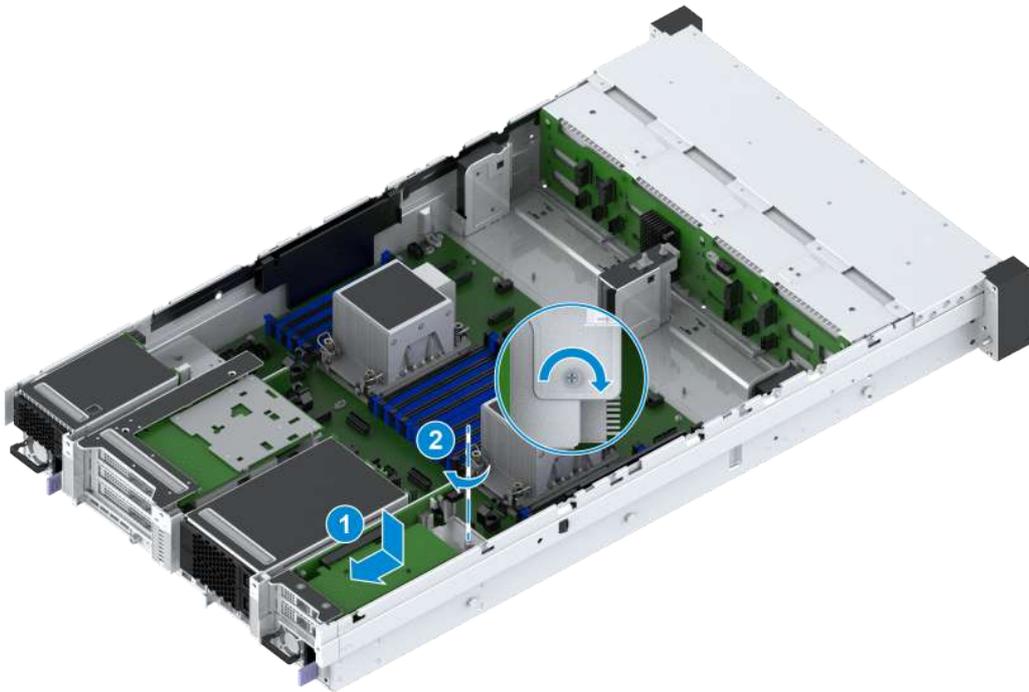
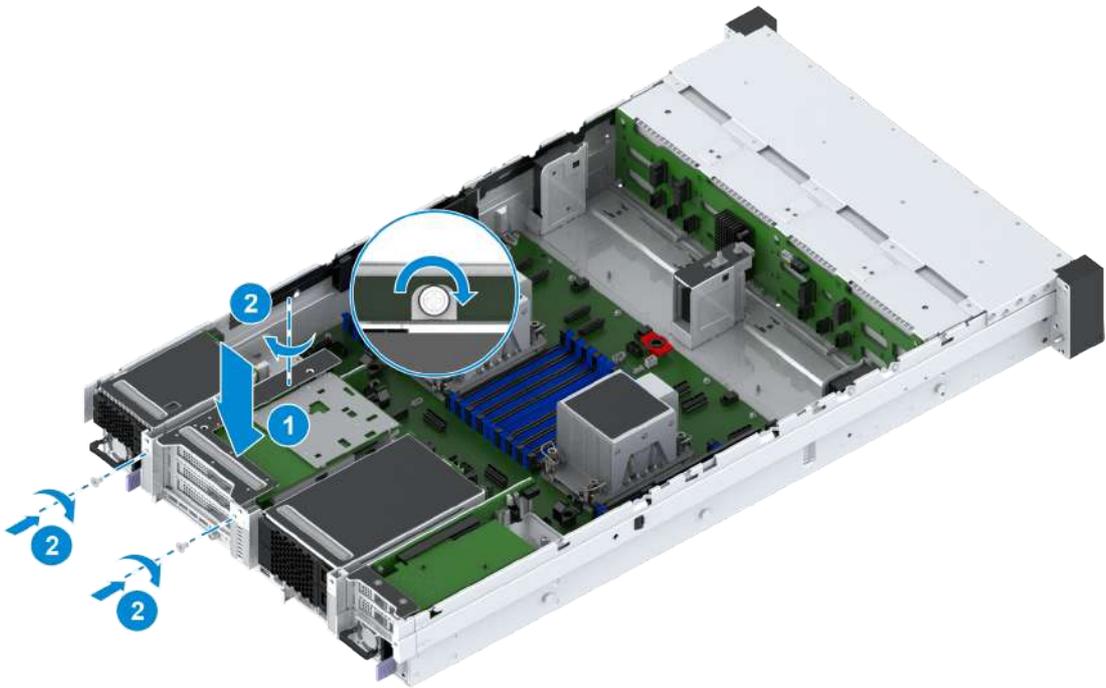


Figure 3-43 Installing the I/O Module Bracket 2 or 3



7. (Optional) If the PCIe card was previously connected with cables, reconnect the cables to the newly installed PCIe card.
8. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.20.2 Installing a PCIe Card for a 4-GPU Server

#### Abstract

To replace a faulty **PCIe** card, an existing PCIe card of a different model, or a riser card connected to a PCIe card, you need to install a PCIe card.

- The steps for installing the PCIe card in the left GPU module are as follows:
  1. Install the PCIe card.
  2. Install the GPU module brackets on the left and right sides of the server.
- The steps for installing the PCIe card in the right GPU module are as follows:
  1. Install the PCIe card.
  2. Install the GPU module bracket on the right side of the server.

This procedure uses how to install the PCIe card in the left GPU module as example to describe how to install a PCIe card. For how to install the PCIe card in the right GPU module, you can also refer to this procedure.



#### Notice

When installing a PCIe card, do not touch the golden fingers of the PCIe card and riser card.

## Steps

### Installing a PCIe Card

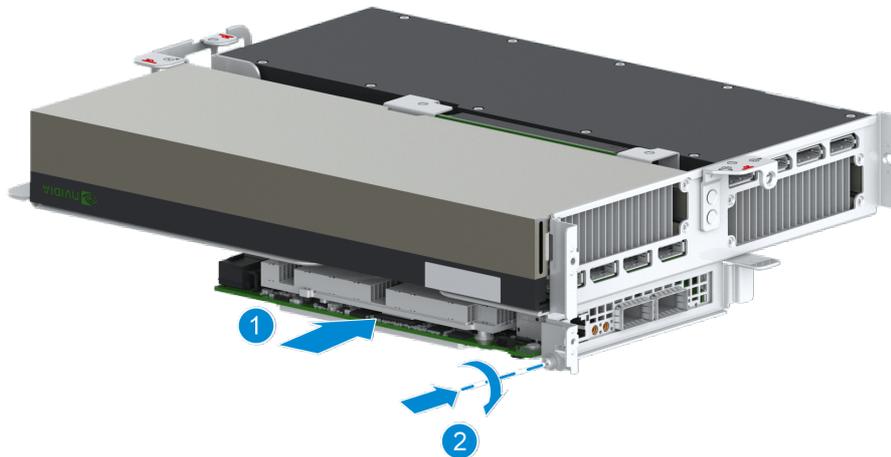
1. Put on an anti-static wrist strap.
2. Take the spare PCIe card from its anti-static bag and record the bar code of the PCIe card.
3. Insert the PCIe card into the corresponding slot of the left GPU module bracket, as indicated by ① in [Figure 3-44](#).



#### Notice

If there are GPU cards in the GPU module bracket, when you install a PCIe card, you should leave some space for two adjacent GPU cards to avoid collision.

**Figure 3-44** Installing a PCIe Card



4. Tighten the fastening screw of the PCIe card by using a PH2 crosshead screwdriver, as indicated by ② in [Figure 3-44](#).

### Installing the GPU Module Bracket

5. Install the GPU module bracket. For detailed operations, refer to [Installing the GPU Module Bracket](#).
6. (Optional) If the PCIe card was previously connected with cables, reconnect the cables to the newly installed PCIe card.
7. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#), and [2.4.6 Powering On the Server](#).

## 3.21 Removing a GPU Card

### 3.21.1 Removing a GPU Card for a General-Purpose Server

#### Abstract

To replace a faulty GPU card or an existing GPU card with a GPU card of a different model, you need to remove the GPU card.



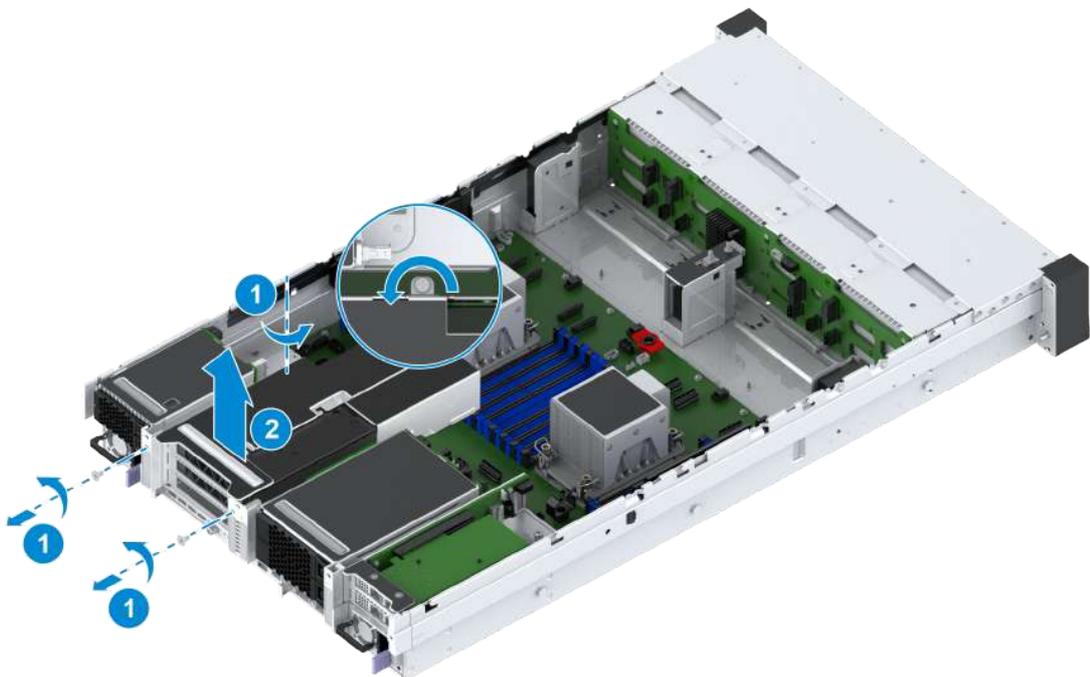
#### Notice

When replacing a GPU card, do not touch the golden fingers of the GPU card and Riser card.

#### Steps

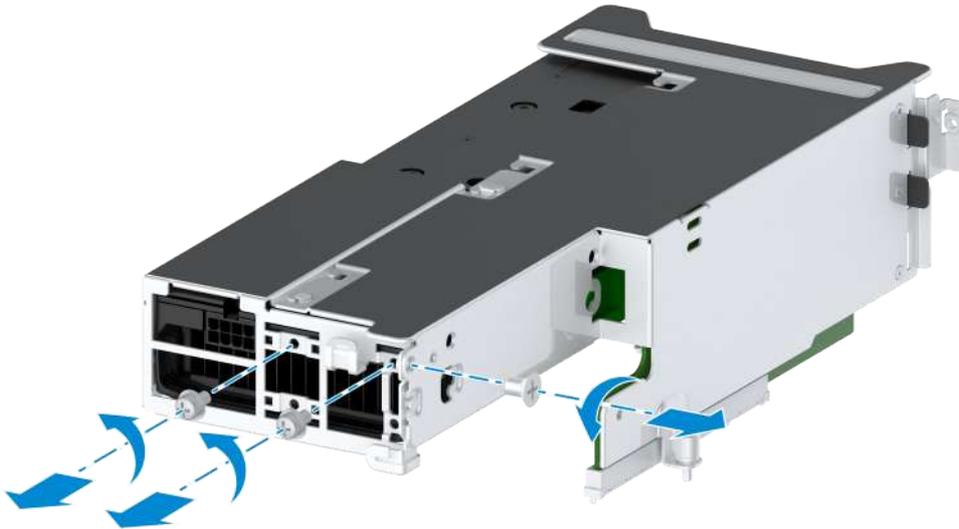
1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the GPU card to be replaced in the server, and paste a replacement label on its panel.
4. (Optional) If cables are connected to the GPU card, use labels to mark the cables and unplug the cables.
5. Loosen the captive screw and fastening screws of the bracket of the I/O module where the GPU card is located by using a PH2 crosshead screwdriver, see © in [Figure 3-45](#).

**Figure 3-45 Removing the I/O Module Bracket**



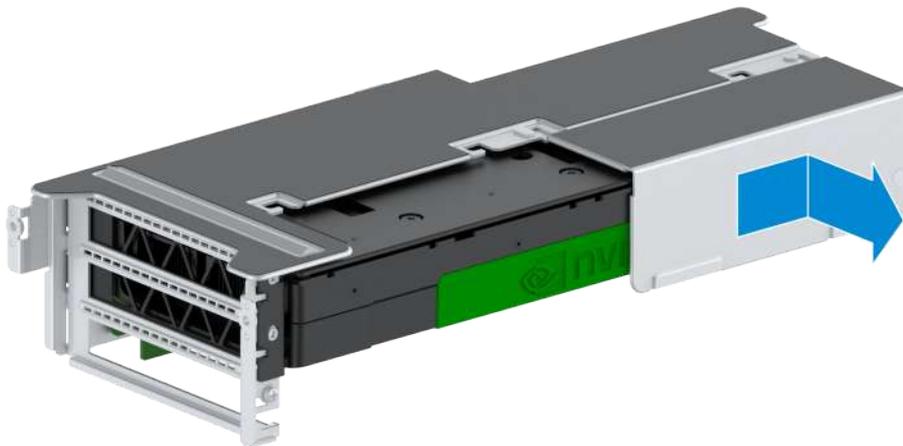
6. Hold the protruding part on the I/O module bracket with both hands, and slowly lift the bracket up and out, see ② in [Figure 3-45](#).
7. Loosen the fastening screws of the GPU support bracket by using a PH2 crosshead screwdriver, see [Figure 3-46](#).

**Figure 3-46 Loosening the Fastening Screws of the GPU Support Bracket**

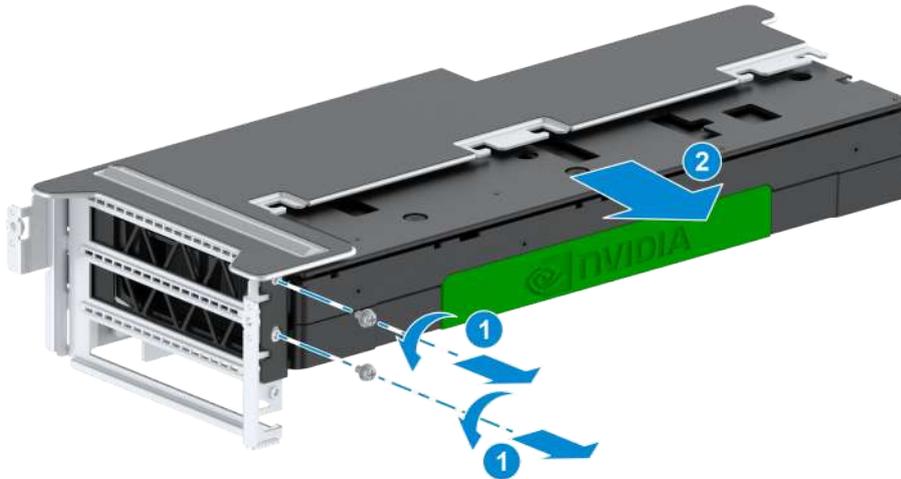


8. Remove the GPU support bracket in the direction of the arrow, see [Figure 3-47](#).

**Figure 3-47 Removing the GPU Support Bracket**



9. Loosen the fastening screws of the GPU card by using a PH2 crosshead screwdriver, see © in [Figure 3-48](#).

**Figure 3-48 Removing a GPU Card**

10. Horizontally pull the GPU card out, see ② in Figure 3-48.
11. Record the bar code of the removed GPU card and put it into an anti-static bag.

### Related Tasks

After the GPU card firmware is upgraded or the GPU card is restarted, the GPU card needs to be reset to make related operations effective. Perform the following steps to reset the GPU:

1. Log in to the Web portal of the [BMC](#) by using the default username and password.

### Note

The default username and password are as follows:

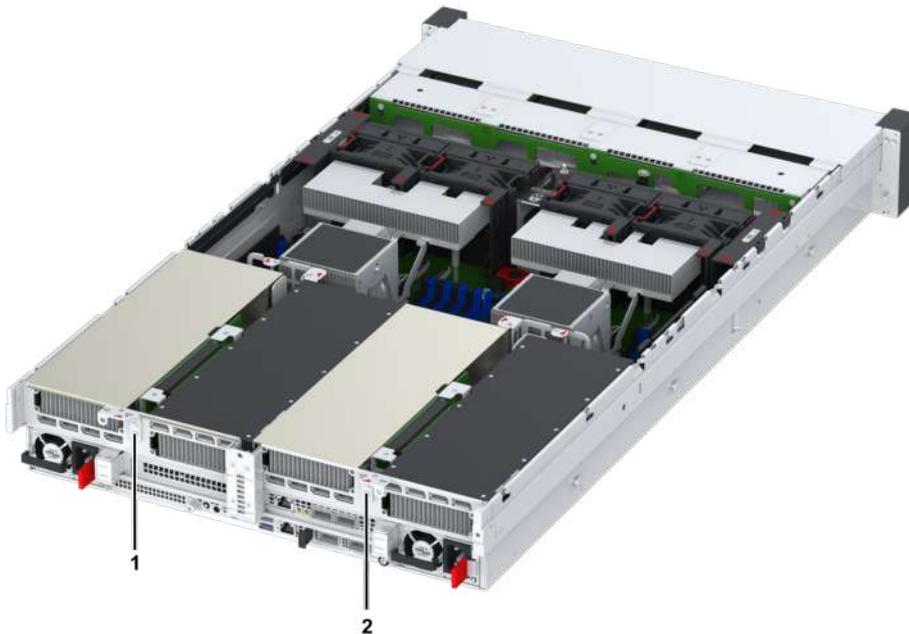
- Username: Administrator
- Password: Superuser9!

2. On the **Homepage** of the Web portal of the BMC, click the green power icon in the menu bar, and select **Power Cycle**. The **Confirm** dialog box is displayed.
3. Click **Submit**. The server is shut down and then started.

## 3.21.2 Removing a GPU Card from a 4-GPU Server

### Abstract

The 2240-RE 4-GPU server model can be configured with two GPU modules. Each GPU module can be configured with two GPU cards and one PCIe card, as shown in Figure 3-49.

**Figure 3-49 Positions of GPU Modules**

1. Right GPU module
2. Left GPU module

To replace a faulty **GPU** card, an existing GPU card of a different model, or a riser card connected to a GPU card, you need to first remove the GPU card.

- The steps for removing a GPU card from the left GPU module are as follows:
  1. Remove the GPU module brackets on the left and right sides of the server (the right GPU module bracket is removed first).
  2. Remove the support bracket of the left GPU module.
  3. Remove the GPU card.
- The steps for removing a GPU card from the right GPU module are as follows:
  1. Remove the right GPU module bracket of the server.
  2. Remove the support bracket of the right GPU module.
  3. Remove the GPU card.

This procedure uses a GPU card in the left GPU module as an example to describe how to remove a GPU card. For how to remove a GPU card from the right GPU module, you can also refer to this procedure.

**Notice**

When removing a GPU card, do not touch the golden fingers of the GPU card and riser card.

**Steps****Removing the GPU Module Bracket**

1. Put on an anti-static wrist strap.
2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#), and [2.4.3 Removing the Server Cover](#).
3. Remove the air baffle. For detailed operations, refer to [3.9 Removing an Air Baffle](#).
4. Locate a GPU card to be replaced in the server, and paste a replacement label on its panel.
5. Label the power cables connected to the GPU card to be removed, and unplug these cables.

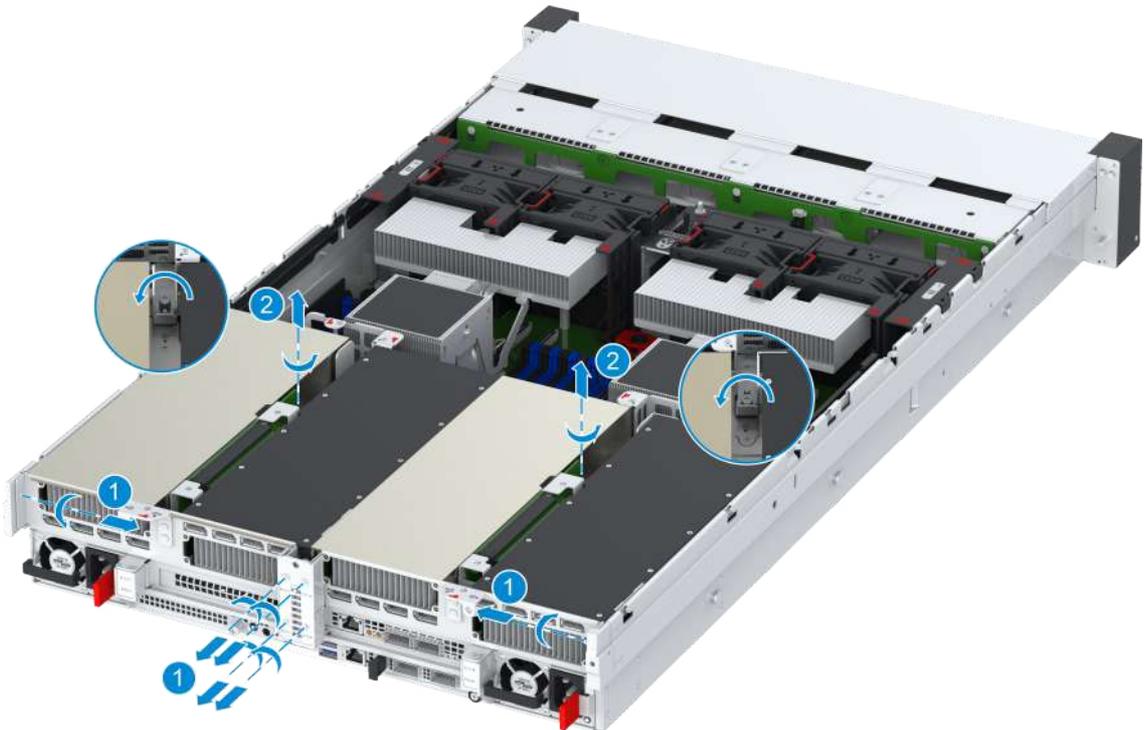
---

 **Note**

If only the right GPU module is removed, unplug the power cables connected to the GPU card of the right GPU module.

6. Loosen the six fastening screws and two captive screws at the tail of the left and right GPU module brackets by using a PH2 crosshead screwdriver, as indicated by ① and ② in [Figure 3-50](#).

**Figure 3-50 Removing the GPU Module Bracket**



---

 **Note**

If only the right GPU module is removed, loosen the three fastening screws and one captive screw at the tail of the right GPU module bracket.

7. Hold the position where you can apply force on the right GPU module bracket with both hands, and slowly lift the bracket up and out.
8. Remove the power cable installed in the PCIe slot from the left GPU module. Hold the position where you can apply force on the left GPU module bracket with both hands, and slowly lift the bracket up and out.

---

 **Note**

If only the right GPU module is removed, you can ignore this procedure.

9. Remove the heat sink. For detailed operations, refer to [Removing the Heat Sink](#).
10. Remove two MCIO cables from each of the left and right GPU modules on one end of the mainboard.

---

 **Note**

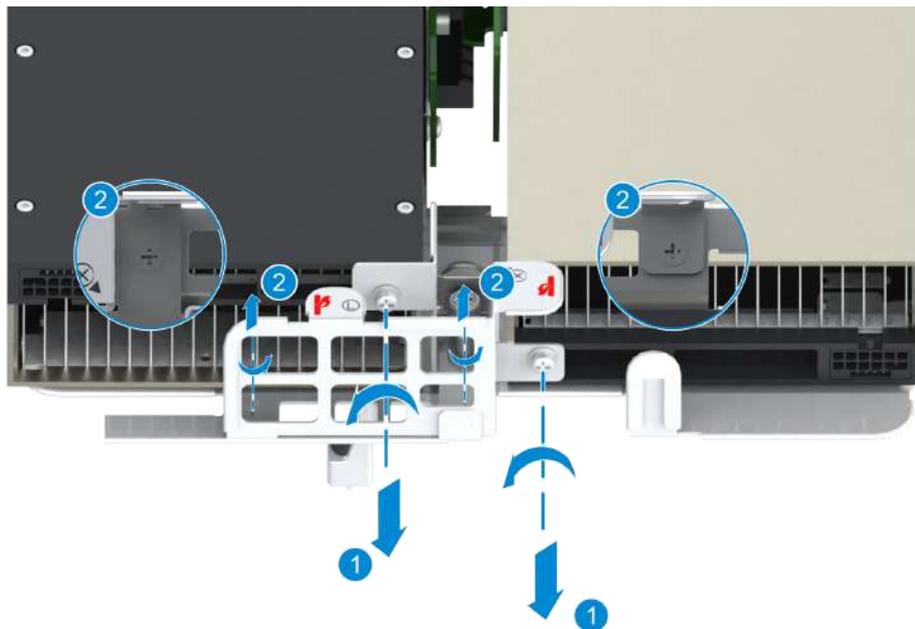
If only the right GPU module is removed, remove two MCIO cables connected to the right GPU module.

---

### Removing the Support Bracket

11. Loosen fastening screws between the support bracket and the GPU card and between the support bracket and the GPU module bracket by using a PH2 crosshead screwdriver, as indicated by ① and ② in [Figure 3-51](#).

**Figure 3-51 Removing the Support Bracket**

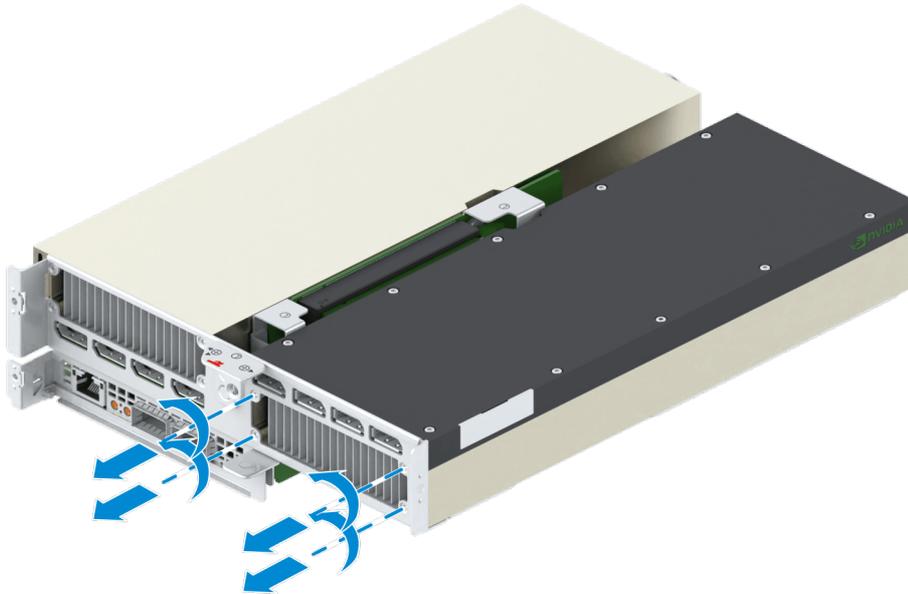


12. Horizontally remove the support bracket.

### Removing a GPU card

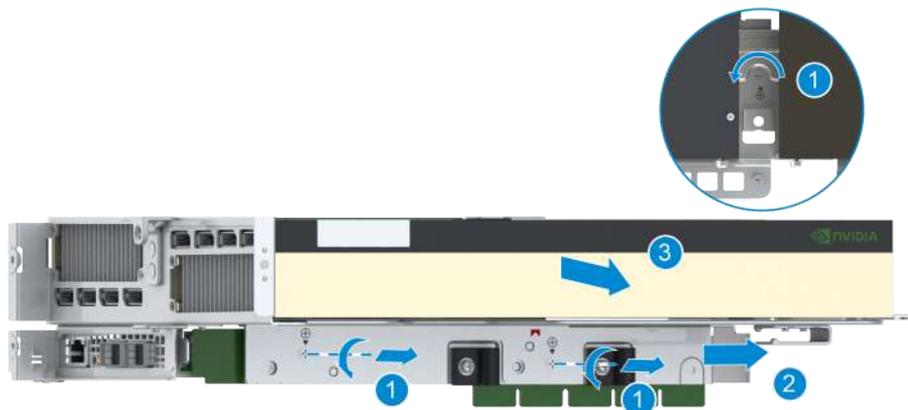
13. Loosen the four fastening screws of the GPU module bracket by using a PH2 crosshead screwdriver, and keep the screws, as shown in [Figure 3-52](#).

**Figure 3-52 Removing a GPU Card—1**



14. Loosen the three fastening screws of the riser bracket by using a PH2 crosshead screwdriver, as indicated by ① in [Figure 3-53](#).

**Figure 3-53 Removing a GPU Card—2**



15. Slightly separate the riser bracket from the GPU module bracket, so that the front panel of the GPU card is completely separated from the GPU module bracket, as indicated by ② in [Figure 3-53](#).

**Notice**

Ensure that the front panel of the GPU card is completely separated from the GPU module bracket. Otherwise, the anti-static coils at the interface may be damaged when the GPU card is removed.

16. Horizontally pull the GPU card out, as indicated by © in [Figure 3-53](#).
17. Use four fastening screws to attach the GPU card to the front panel of the GPU card.
18. Record the bar code of the removed GPU and put it into an anti-static bag.

**Related Tasks**

After a GPU card is upgraded or the GPU firmware is restarted, the GPU card needs to be reset to make related operations effective. Perform the following steps to reset the GPU card:

1. Log in to the Web portal of the [BMC](#) by using the default username and password.

**Note**

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

2. On the **Homepage** page of the Web portal of the BMC, click the power icon in the menu bar, and select **Power Cycle**. The **Confirm** dialog box is displayed.
3. Click **Submit**. The server is shut down and then started.

## 3.22 Installing a GPU Card

### 3.22.1 Installing a GPU Card for a General-Purpose Server

**Abstract**

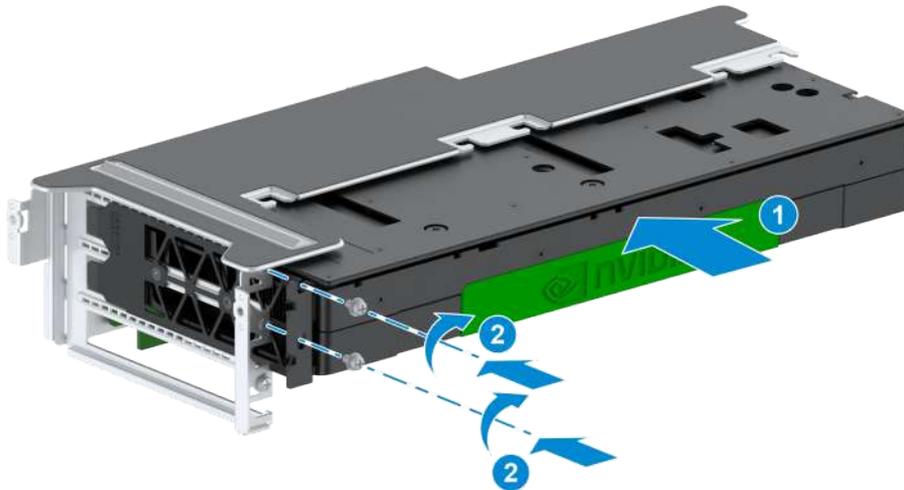
To replace a faulty [GPU](#) card or an existing GPU card with a GPU card of a different model, you need to install a [GPU](#) card.

**Notice**

When installing a GPU card, do not touch the golden fingers of the GPU card and Riser card.

**Steps**

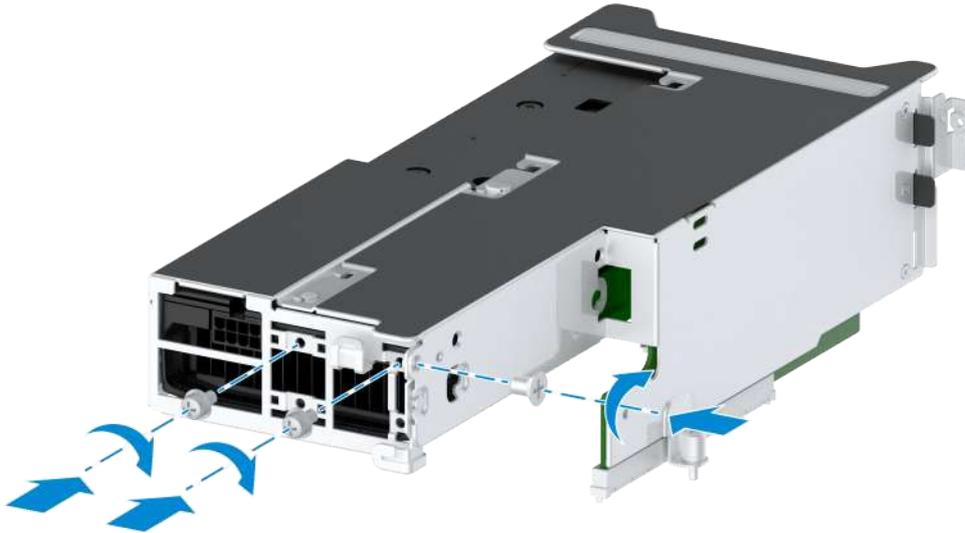
1. Put on an anti-static wrist strap.
2. Take the spare GPU card from an anti-static bag and record the bar code of the GPU card.
3. Horizontally insert the GPU card into the slot, see © in [Figure 3-54](#).

**Figure 3-54 Installing an GPU Card**

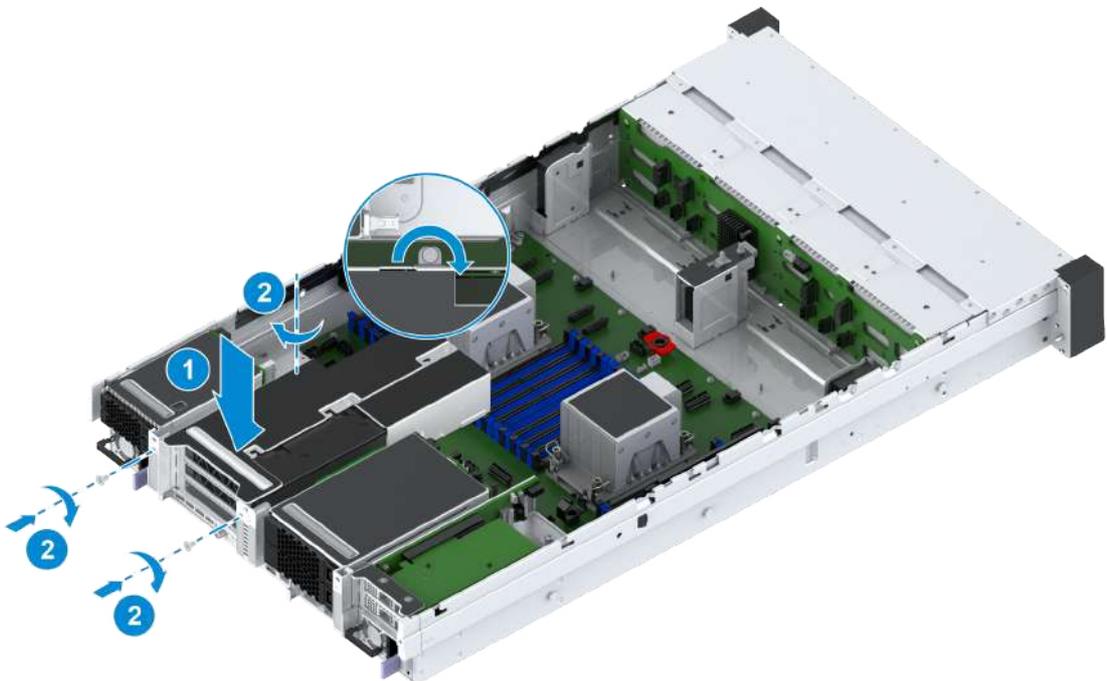
4. Tighten the fastening screws of the GPU card by using a PH2 crosshead screwdriver, see ② in [Figure 3-54](#).
5. Install the GPU support bracket in the direction of the arrow, see [Figure 3-55](#).

**Figure 3-55 Installing the GPU Support Bracket**

6. Tighten the fastening screws of the GPU support bracket by using a PH2 crosshead screwdriver, see [Figure 3-56](#).

**Figure 3-56 Tightening the Fastening Screws of the GPU Support Bracket**

7. Slowly slide the I/O module bracket where the GPU card is installed into the corresponding I/O module slot, see © in [Figure 3-57](#).

**Figure 3-57 Installing the I/O Module Bracket**

8. Tighten the captive screw and fastening screws of the I/O module bracket by using a PH2 crosshead screwdriver, see ② in [Figure 3-57](#).
9. (Optional) If the GPU card was previously connected with cables, reconnect the cables to the newly installed GPU card.
10. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.22.2 Installing a GPU Card for a 4-GPU Server

#### Abstract

To replace a faulty GPU card, an existing GPU card of a different model, or a riser card connected to a GPU card, you need to install the GPU card.

- The steps for installing a GPU card in the left GPU module are as follows:
  1. Install a GPU card.
  2. Remove the support bracket of the left GPU module.
  3. Install the GPU module brackets on the left and right sides of the server.
- The steps for installing a GPU card in the right GPU module are as follows:
  1. Install a GPU card.
  2. Install the support bracket of the right GPU module.
  3. Install the right GPU module bracket of the server.

This procedure uses a GPU card in the left GPU module as an example to describe how to install a GPU card. For how to install a GPU card from the right GPU module, you can also refer to this procedure.



#### Notice

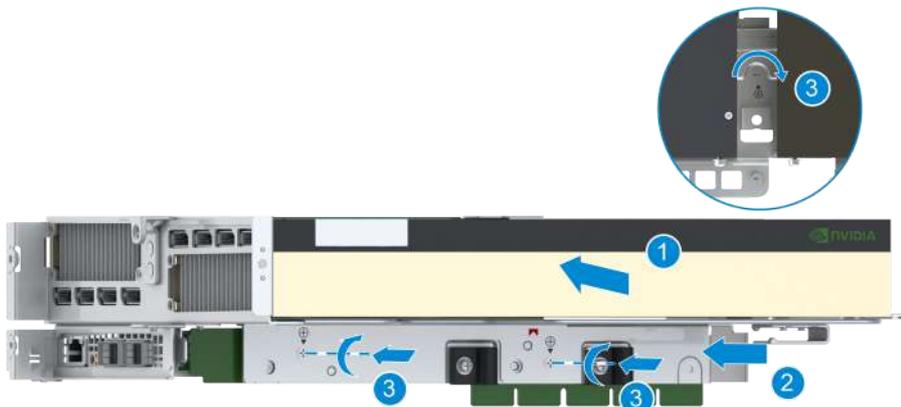
When installing a GPU card, do not touch the golden fingers of the GPU card and riser card.

#### Steps

##### Install a GPU card

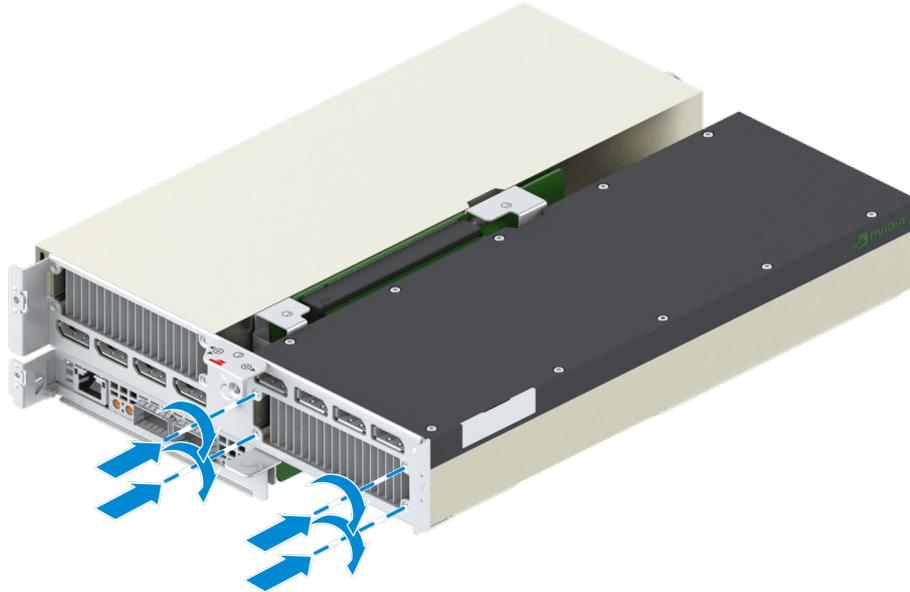
1. Put on an anti-static wrist strap.
2. Take the spare GPU card from its anti-static bag and record the bar code of the GPU card.
3. Remove the panel of the GPU card, and keep the four screws removed from the panel.
4. Insert the GPU card into the slot of the riser card, as indicated by © in [Figure 3-58](#).

**Figure 3-58 Installing a GPU Card—1**



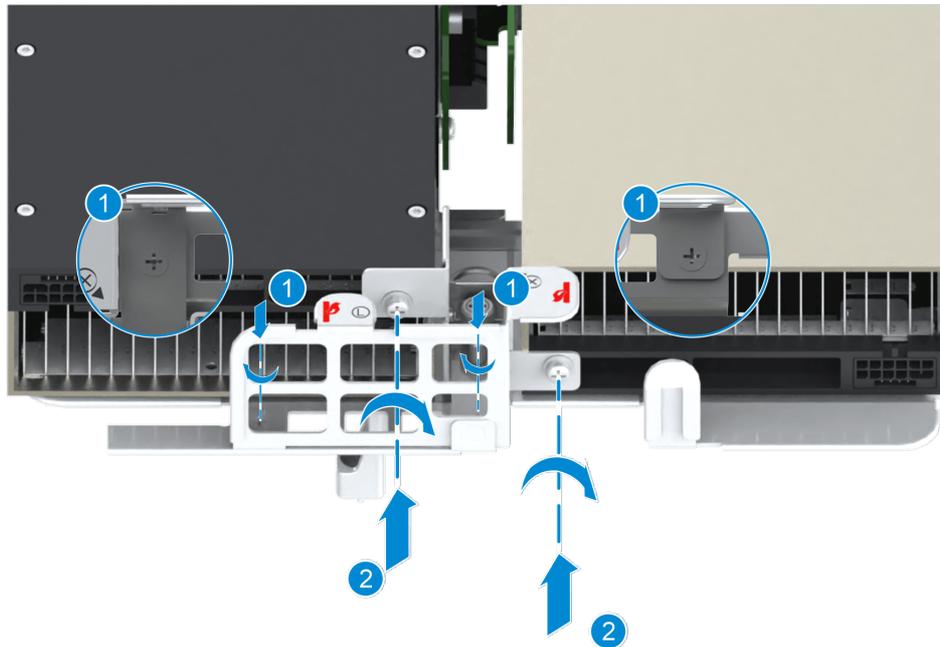
5. Install the riser bracket to the GPU module, so that the front panel of the GPU card can be embedded in the GPU module bracket, as indicated by ② in [Figure 3-58](#).
6. Tighten the three fastening screws of the riser bracket by using a PH2 crosshead screwdriver, as indicated by © in [Figure 3-58](#).
7. Tighten the four fastening screws of the GPU module bracket by using a PH2 crosshead screwdriver, as shown in [Figure 3-59](#).

**Figure 3-59 Installing a GPU Card—2**



### Installing the Support Bracket

8. Align the support bracket with the end of the GPU card, and install the bracket into the GPU module bracket.

**Figure 3-60 Installing the Support Bracket**

9. Tighten the fastening screws between the support bracket and the GPU module bracket and between the support bracket and the GPU card by using a PH2 crosshead screwdriver, as indicated by ① and ② in [Figure 3-60](#).

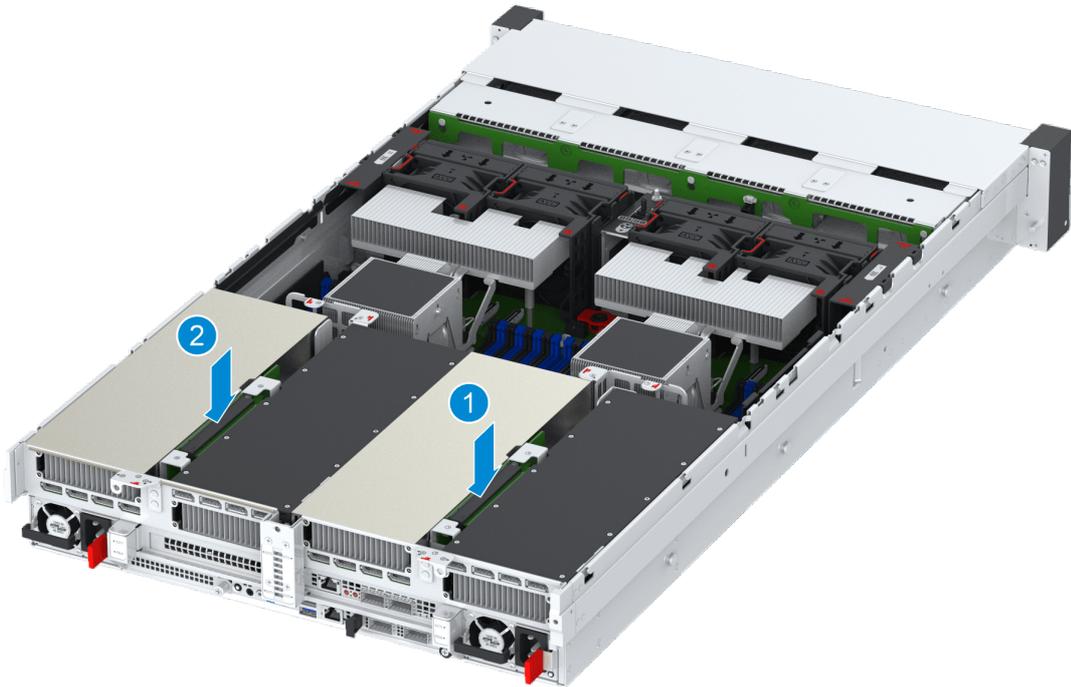
### Installing the GPU Module Bracket

10. Reconnect two MCIO cables from each of the left and right GPU modules to the mainboard.

#### Note

If only the right GPU module is installed, reconnect two MCIO cables of the right GPU module to the mainboard.

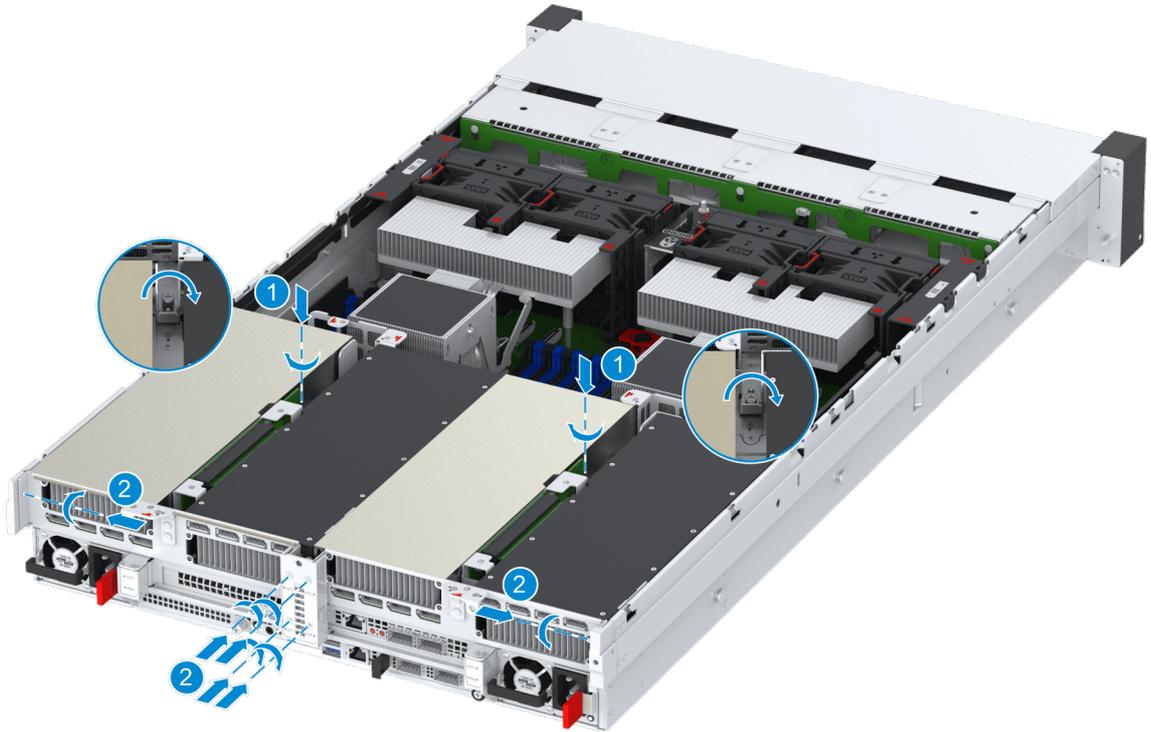
11. Install the heat sink. For detailed operations, refer to [Installing the Heat Sink](#).
12. Slowly insert the left GPU module bracket into the corresponding slot along the rails of the GPU module, and reconnect the PCIe cable of the left GPU module bracket to the mainboard, as indicated by ① in [Figure 3-61](#).

**Figure 3-61 Installing GPU Module Brackets—1** **Note**

If only the right GPU module is installed, you can ignore this procedure.

13. Slowly insert the right GPU module bracket into the corresponding slot along the rails of the GPU module, as indicated by ② in [Figure 3-61](#).
14. Tighten the six fastening screws and two captive screws on the left and right GPU module brackets by using a PH2 crosshead screwdriver, as indicated by © and ② in [Figure 3-62](#).

Figure 3-62 Installing GPU Module Brackets—2



### Note

If only the right GPU module is installed, tighten the three fastening screws and one captive screw of the right GPU module bracket.

15. Reconnect all the power cables of the GPU card.

### Note

If only the right GPU module is installed, reconnect power cables of the GPU card of the right GPU module.

16. Install the air baffle. For detailed operations, refer to [3.10 Installing an Air Baffle](#).
17. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#), and [2.4.6 Powering On the Server](#).

## 3.23 Removing a Riser Card

### 3.23.1 Removing a Riser Card for a General-Purpose Server

#### Abstract

To replace a faulty Riser card, you need to remove the Riser card.

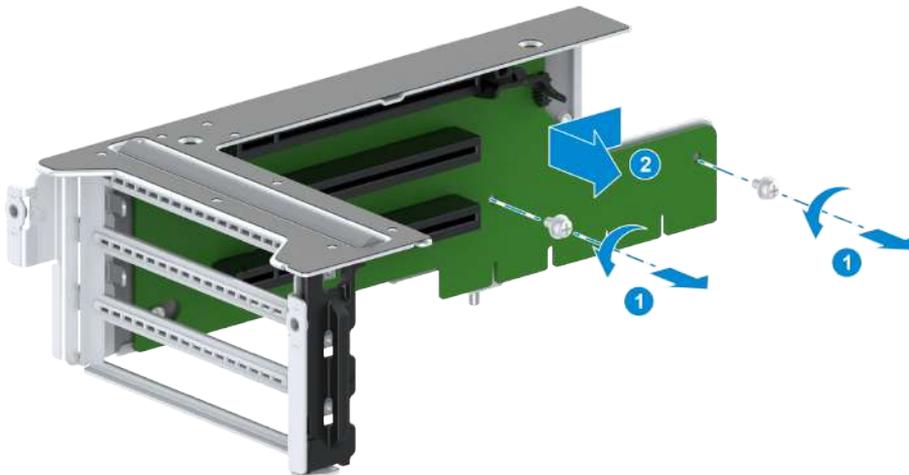
 **Notice**

When removing a Riser card, do not touch the golden fingers of the Riser card.

**Steps**

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the Riser card to be replaced in the server, and paste a replacement label on its panel.
4. Remove function cards connected to the Riser card.
  - Remove the [PCIe card](#). For detailed operations, refer to [3.19.1 Removing a PCIe Card from a General-Purpose Server](#).
  - Remove the [GPU card](#). For detailed operations, refer to [3.21.1 Removing a GPU Card for a General-Purpose Server](#).
5. Loosen the fastening screw of the Riser card by using a PH2 crosshead screwdriver, see ① in [Figure 3-63](#).

**Figure 3-63 Removing a Riser Card**



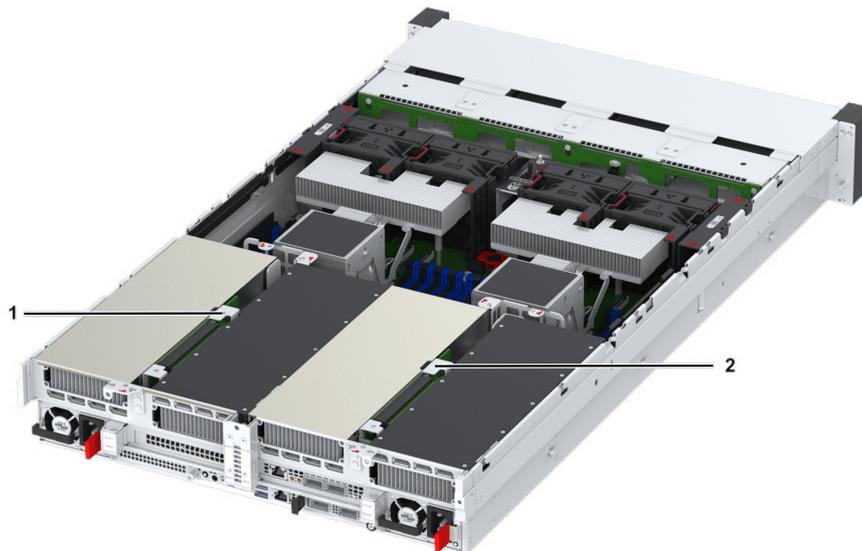
6. Push the Riser card in the direction of the arrow until the card cannot be moved, and take out the Riser card, see ② in [Figure 3-63](#).
7. Record the bar code of the removed Riser card and put it into an anti-static bag.

### 3.23.2 Removing a Riser Card from a 4-GPU Server

#### Abstract

The R2240-RE 4-GPU server model is configured with two riser brackets, and each riser bracket is configured with three riser cards, as shown in [Figure 3-64](#).

**Figure 3-64 Riser Bracket Positions**



1. One riser bracket is installed in the right GPU module.
2. One riser bracket is installed in the left GPU module.

To replace a faulty riser card in the left GPU module, you need to remove all the riser brackets.



#### Notice

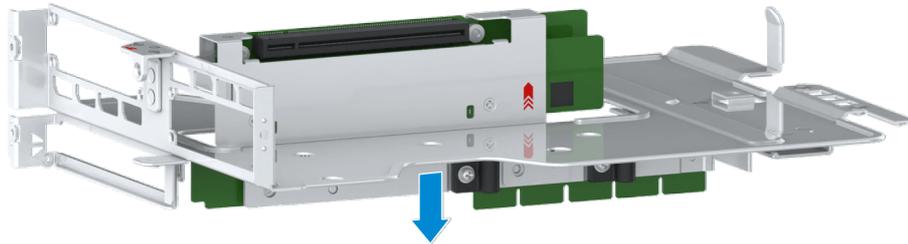
When removing a riser bracket, do not touch the golden fingers of the riser card.

#### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#), and [2.4.3 Removing the Server Cover](#).
3. Locate a riser bracket to be replaced in the server, and paste a replacement label on its panel.
4. Remove function cards connected to the riser bracket.
  - Remove the [PCIe](#) card. For detailed operations, refer to [3.19.2 Removing a PCIe Card from a 4-GPU Server](#).
  - Remove [GPU](#) cards. For detailed operations, refer to [3.21.2 Removing a GPU Card from a 4-GPU Server](#).

5. Remove the riser bracket from the GPU module bracket, as shown in [Figure 3-65](#).

**Figure 3-65 Removing a Riser Bracket**



6. Record the bar code of the removed riser bracket and put it into an anti-static bag.

## 3.24 Installing a Riser Card

### 3.24.1 Installing a Riser Card for a General-Purpose Server

#### Abstract

To replace a faulty Riser card, you need to install a new Riser card.

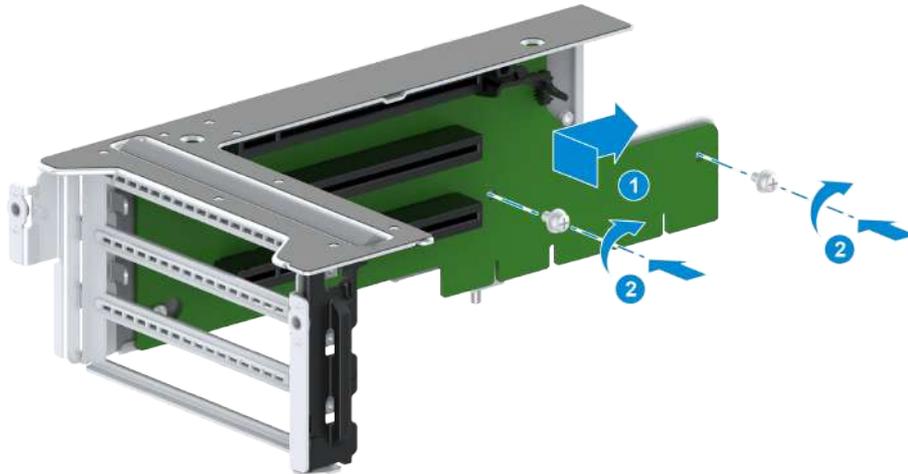


#### Notice

When replacing a Riser card, do not touch the golden fingers of the Riser card.

#### Steps

1. Put on an anti-static wrist strap.
2. Take the spare Riser card from an anti-static bag and record the bar code of the Riser card.
3. Put the gourd-shaped hole of the Riser card on the T-shaped stud of the Riser card frame, and push the Riser card in the direction of the arrow until it cannot be moved, see © in [Figure 3-66](#).

**Figure 3-66 Installing a Riser Card**

4. Tighten the fastening screw of the Riser card by using a PH2 crosshead screwdriver, see ② in [Figure 3-66](#).
5. Install the removed function cards.
  - Install the [PCIe card](#). For detailed operations, refer to [3.20.1 Installing a PCIe Card for a General-Purpose Server](#).
  - Install the [GPU card](#). For detailed operations, refer to [3.22.1 Installing a GPU Card for a General-Purpose Server](#).
6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.24.2 Installing a Riser Bracket for a 4-GPU Server

#### Abstract

The 2240-RE 4-GPU server model is configured with two riser brackets, and each riser bracket is configured with three riser cards.

To replace a faulty riser card in the left GPU module, you need to install all the riser brackets.



#### Notice

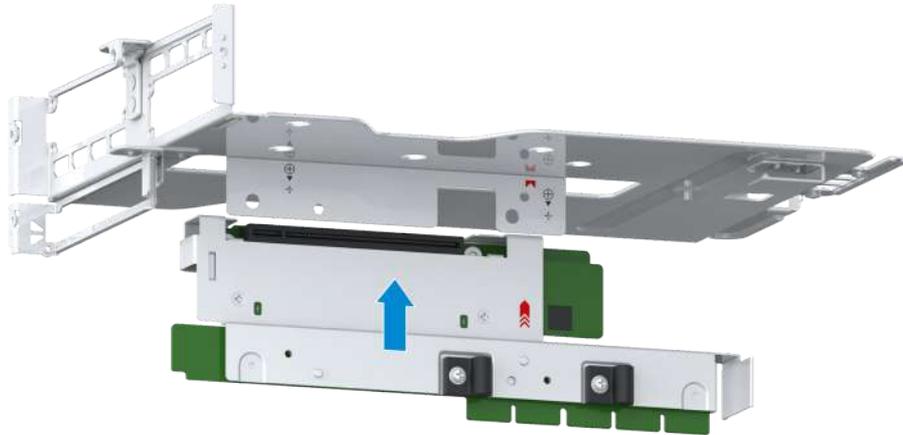
When installing a riser bracket, do not touch the golden fingers of the riser card.

#### Steps

1. Put on an anti-static wrist strap.
2. Take the spare riser bracket from an anti-static bag and record the bar code of the riser bracket.
3. Align the riser bracket with the red silkscreen on the GPU module bracket, and pass the riser bracket through the installation hole on the GPU module bracket from bottom to top un-

til the tail of the riser bracket is in contact with the bottom of the GPU module bracket, as shown in [Figure 3-67](#).

**Figure 3-67 Installing a Riser Bracket**



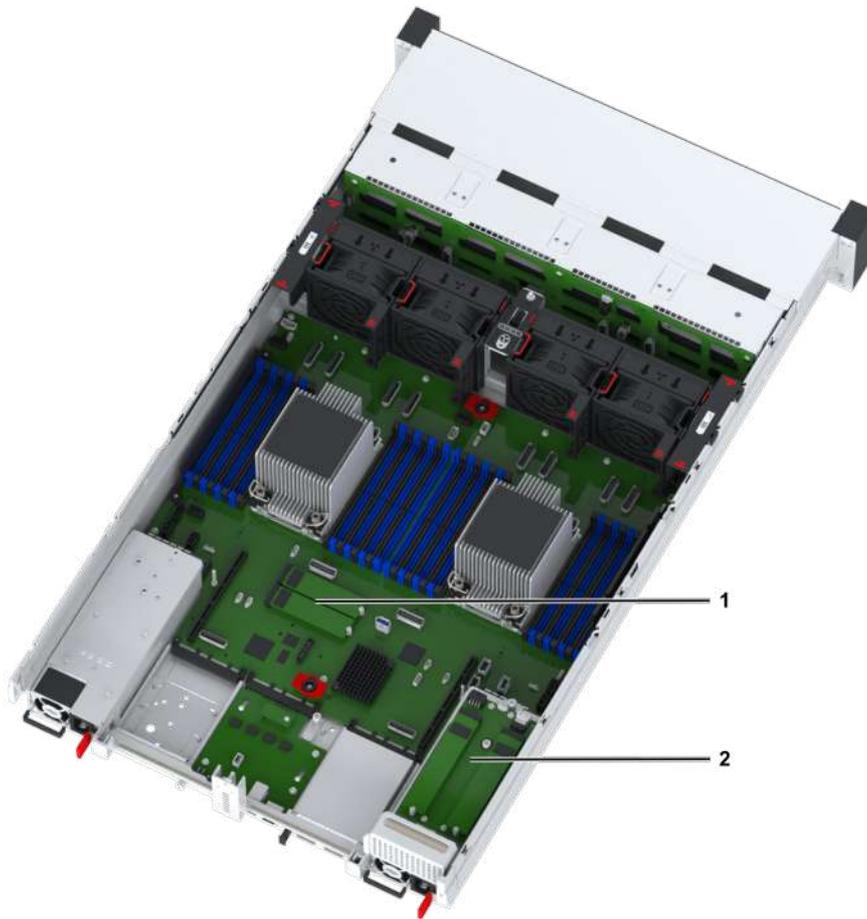
4. Install the removed function cards.
  - Install the [PCIe](#) card. For detailed operations, refer to [3.20.2 Installing a PCIe Card for a 4-GPU Server](#).
  - Install the [GPU](#) cards. For detailed operations, refer to [3.22.2 Installing a GPU Card for a 4-GPU Server](#).
5. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#), and [2.4.6 Powering On the Server](#).

## 3.25 Removing an M.2 SSD

### Abstract

The 2240-RE general-purpose server model can be configured with two M.2 SSDs located on the mainboard and [I/O](#) module 4. The 2240-RE 4-GPU server model can be configured with two M.2 SSDs located on the mainboard, as shown in [Figure 3-68](#).

**Figure 3-68 M.2 SSD Positions**



1. Two M.2 SSDs are located on the mainboard.
2. Two M.2 SSDs are located in I/O module 4.

To replace a faulty M.2 SSD, you need to first remove the M.2 SSD.

**Steps**

1. Put on an anti-static wrist strap.
2. Open the server cover. For detailed operations, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#), and [2.4.3 Removing the Server Cover](#).
3. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a full-height and full-length PCIe card, you need to remove the I/O module bracket where the PCIe card is located. For detailed operations, refer to <a href="#">Removing the I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Remove the left and right GPU modules. For detailed operations, refer to <a href="#">Removing the GPU Module Bracket</a> .

4. Use a PH2 crosshead screwdriver to loosen the fastening screws at the rear of an M.2 SSD, as indicated by ① in [Figure 3-69](#).

**Figure 3-69 Removing an M.2 SSD**



5. Lift the rear end of the M.2 SSD to an angle of 20 to 30 degrees above the horizontal line and pull the M.2 SSD out in the arrow direction, as indicated by ② in [Figure 3-69](#).
6. Record the bar code of the removed M.2 SSD and put it into an anti-static bag.

## 3.26 Installing an M.2 SSD

### Abstract

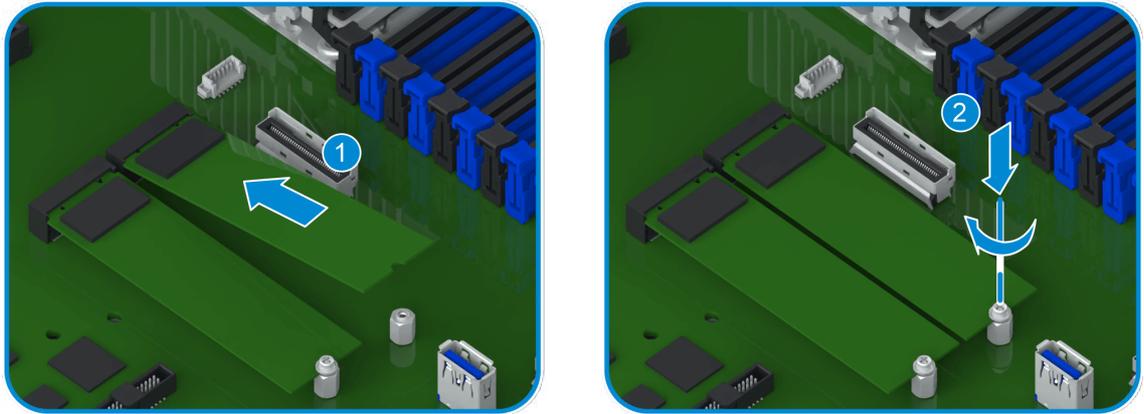
The 2240-RE general-purpose server model can be configured with two M.2 SSDs located on the mainboard and *I/O* module 4. The 2240-RE 4-GPU server model can be configured with two M.2 SSDs located on the mainboard.

To replace a faulty M.2 SSD, you need to install a new M.2 SSD.

### Steps

1. Put on an anti-static wrist strap.
2. Take a spare M.2 SSD from an anti-static bag and record the bar code of the M.2 SSD.
3. Insert the M.2 SSD to the corresponding slot at an angle of 20 to 30 degrees above the horizontal line, as indicated by ③ in [Figure 3-70](#).

Figure 3-70 Installing an M.2 SSD



4. Use a PH2 crosshead screwdriver to tighten the fastening screws at the rear of the M.2 SSD, as indicated by ② in Figure 3-70.
5. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a full-height and full-length PCIe card, you need to install the I/O module bracket where the PCIe card is located. For detailed operations, refer to <a href="#">Installing the I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Install the left and right GPU modules. For detailed operations, refer to <a href="#">Installing the GPU Module Bracket</a> .

6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#), and [2.4.6 Powering On the Server](#).

### 3.27 Removing a Supercapacitor

#### Abstract

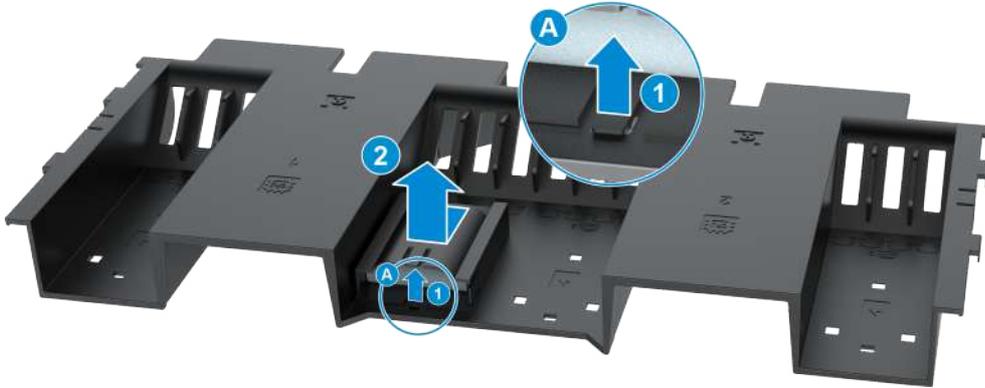
To replace a faulty supercapacitor or a supercapacitor whose power is completely consumed, you need to remove the supercapacitor.

#### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Locate the supercapacitor to be replaced in the server, and paste a replacement label on its panel.
4. Label the cable of the supercapacitor connected to the RAID controller card, and unplug the cable.

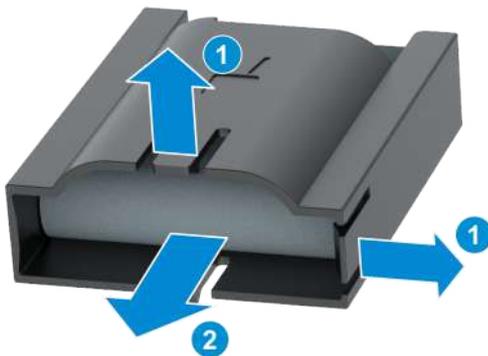
- Pull the latch of the supercapacitor box in the direction indicated by arrow ①, and push and remove the supercapacitor box in the direction indicated by arrow ②, see [Figure 3-71](#).

**Figure 3-71 Removing a Supercapacitor Box**



- Pull the latch of the supercapacitor in the direction indicated by arrow ①, and slowly pull out the supercapacitor in the direction indicated by arrow ②, see [Figure 3-72](#).

**Figure 3-72 Removing a Supercapacitor**



- Record the bar code of the removed supercapacitor and put it into an anti-static bag.

## 3.28 Installing a Supercapacitor

### Abstract

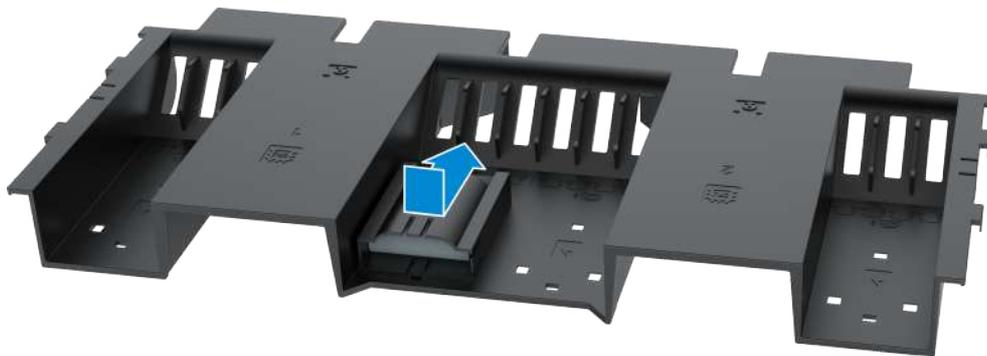
To replace a faulty supercapacitor or a supercapacitor whose power is completely consumed, you need to install a new supercapacitor.

### Steps

- Put on an anti-static wrist strap.
- Take the spare supercapacitor from an anti-static bag and record the bar code of the supercapacitor.
- Insert the supercapacitor into the supercapacitor box horizontally, see [Figure 3-73](#).

**Figure 3-73 Installing a Supercapacitor**

4. Align the three fixing studs at the bottom of the supercapacitor box with the three holes on the air baffle, and install the supercapacitor box on the air baffle in the direction of the arrow until the latches of the supercapacitor box lock the jacks of the air baffle, see [Figure 3-74](#).

**Figure 3-74 Installing a Supercapacitor Box**

5. Reconnect the cable of the supercapacitor to the [RAID](#) controller card.
6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

## 3.29 Removing a TPM Card

### Abstract

To replace a faulty [TPM](#) card or an existing TPM card with a TPM card of a different model, you need to remove the TPM card.

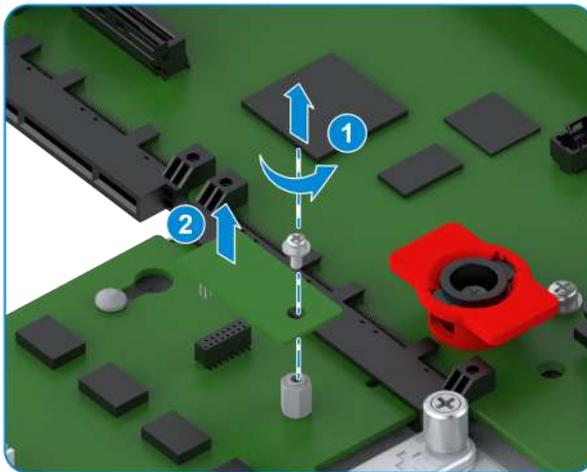
### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a PCIe card or a hard disk, you need to remove the corresponding I/O module bracket. For details, refer to <a href="#">Removing an I/O Module Bracket</a> or <a href="#">3.15 Removing a Rear Hard Disk Cage</a> .
The 2240-RE is a 4-GPU server model	Remove the right GPU module. For detailed operations, refer to <a href="#">Removing the GPU Module Bracket</a> .

- Loosen the fastening screws of the TPM card by using a PH2 crosshead screwdriver, see © in [Figure 3-75](#).

**Figure 3-75 Removing a TPM Card**



- Slowly pull out the TPM card upwards, see ② in [Figure 3-75](#).
- Record the bar code of the removed TPM card and put it into an anti-static bag.

### 3.30 Installing a TPM Card

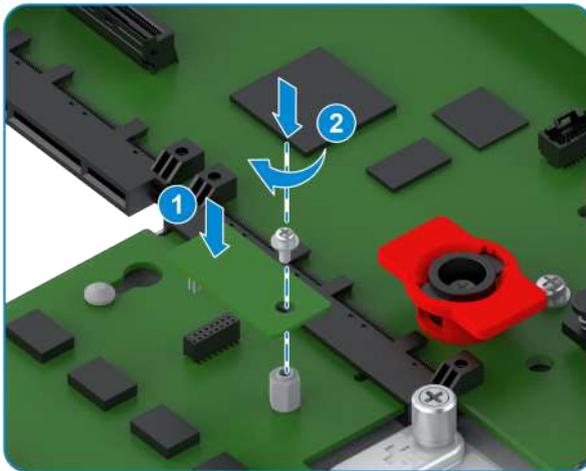
#### Abstract

To replace a faulty TPM card or an existing TPM card with a TPM card of a different model, you need to install a TPM card.

#### Steps

- Put on an anti-static wrist strap.
- Take the spare TPM card from an anti-static bag and record the bar code of the TPM card.
- Align the pins of the TPM card with the slots on the mainboard, and insert the TPM card into the mainboard, see © in [Figure 3-76](#).

Figure 3-76 Installing a TPM Card



4. Tighten the fastening screw of the TPM card by using a PH2 crosshead screwdriver, see ② in [Figure 3-76](#).
5. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a <a href="#">PCIe card</a> or a hard disk, you need to install the removed I/O module bracket. For details, refer to <a href="#">Installing an I/O module Bracket</a> or <a href="#">3.16 Installing a Rear Hard Disk Cage</a> .
The 2240-RE is a 4-GPU server model	Install the right GPU module. For detailed operations, refer to <a href="#">Installing the GPU Module Bracket</a> .

6. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.31 Removing a DIMM

#### Abstract

To replace a faulty [DIMM](#) or an existing DIMM with a DIMM of a different model, you need to remove the DIMM.

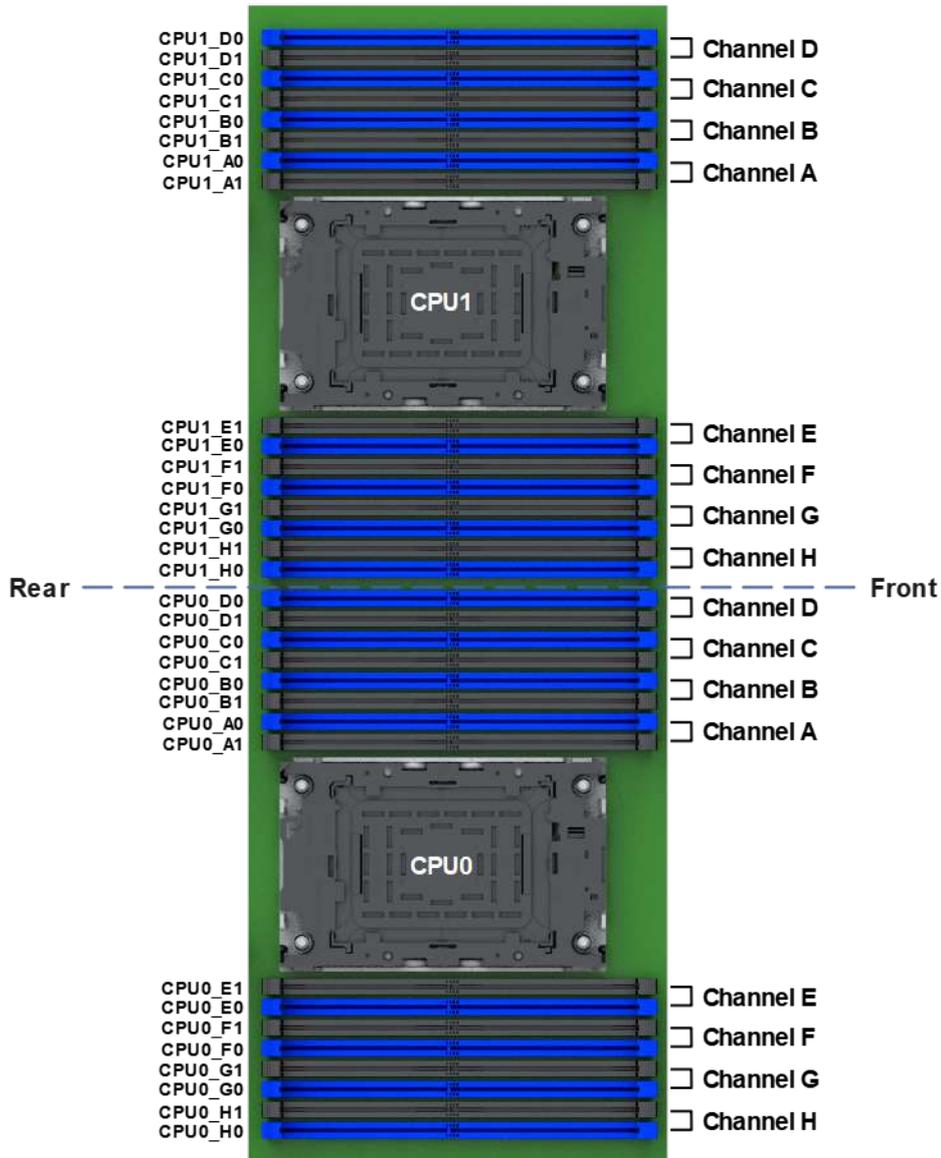
#### Notice

When removing a DIMM, do not touch the memory chips or golden fingers of the DIMM.

#### Context

DIMMs are located on the internal mainboard of the 2240-RE. [Figure 3-77](#) shows the mapping relations between the DIMM slots, [CPUs](#) and the DIMM numbers.

Figure 3-77 CPUs and DIMM Slots



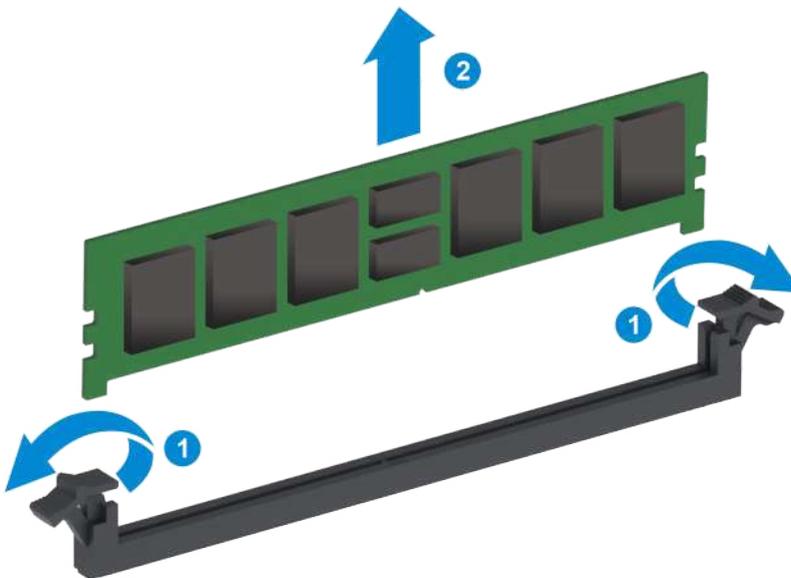
### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Remove the air baffle, For detailed operations, refer to [3.9 Removing an Air Baffle](#).
4. Locate the DIMM in the server, and paste a replacement label on its panel.
5. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a full-height and full-length PCIe card, you need to remove the bracket of the I/O module where the PCIe card is located. For details, refer to <a href="#">Removing an I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Remove the left and right GPU modules. For detailed operations, refer to <a href="#">Removing the GPU Module Bracket</a> .

- Open the fixing clips on both sides of the DIMM slot, see ① in [Figure 3-78](#).

**Figure 3-78 Removing a DIMM**



- Slowly pull out the DIMM upwards, see ② in [Figure 3-78](#).
- Record the bar code of the removed DIMM and put it into an anti-static bag.

## 3.32 Installing a DIMM

### Abstract

To replace a faulty DIMM or an existing DIMM with a DIMM of a different model, you need to install a DIMM.



### Notice

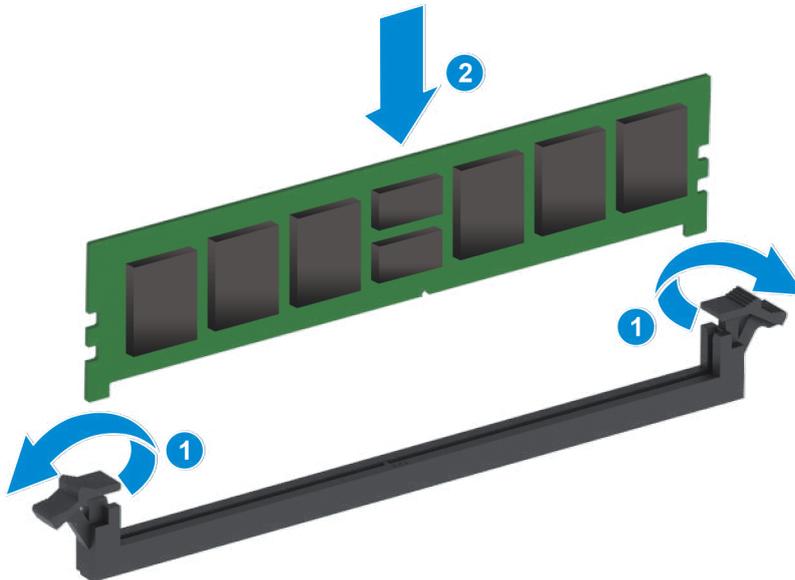
- The brand and model of the DIMM to be installed must be the same as those of the removed DIMM.
- When installing a DIMM, do not touch the memory chips or golden fingers of the DIMM.

### Steps

- Put on an anti-static wrist strap.
- Take the spare DIMM from an anti-static bag and record the bar code of the DIMM.

3. Open the fixing clips on both sides of the DIMM slot, see ① in [Figure 3-79](#).

**Figure 3-79 Installing a DIMM**



4. Align the fool-proofing notch of the DIMM with the protrusion in the slot of the mainboard, and insert the DIMM into the slot slowly. The fixing clips are automatically closed, see ② in [Figure 3-79](#).
5. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If <a href="#">I/O</a> module 2 or 3 is configured with a full-height and full-length <a href="#">PCIe</a> card, you need to install the bracket of the I/O module where the PCIe card is located. For details, refer to <a href="#">Installing an I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Install the left and right GPU modules. For detailed operations, refer to <a href="#">Installing the GPU Module Bracket</a> .

6. Install the air baffle. For detailed operations, refer to [3.10 Installing an Air Baffle](#).
7. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.33 Removing a CPU

#### Abstract

To replace a faulty [CPU](#) or an existing CPU with a CPU of a different model, you need to remove the CPU.

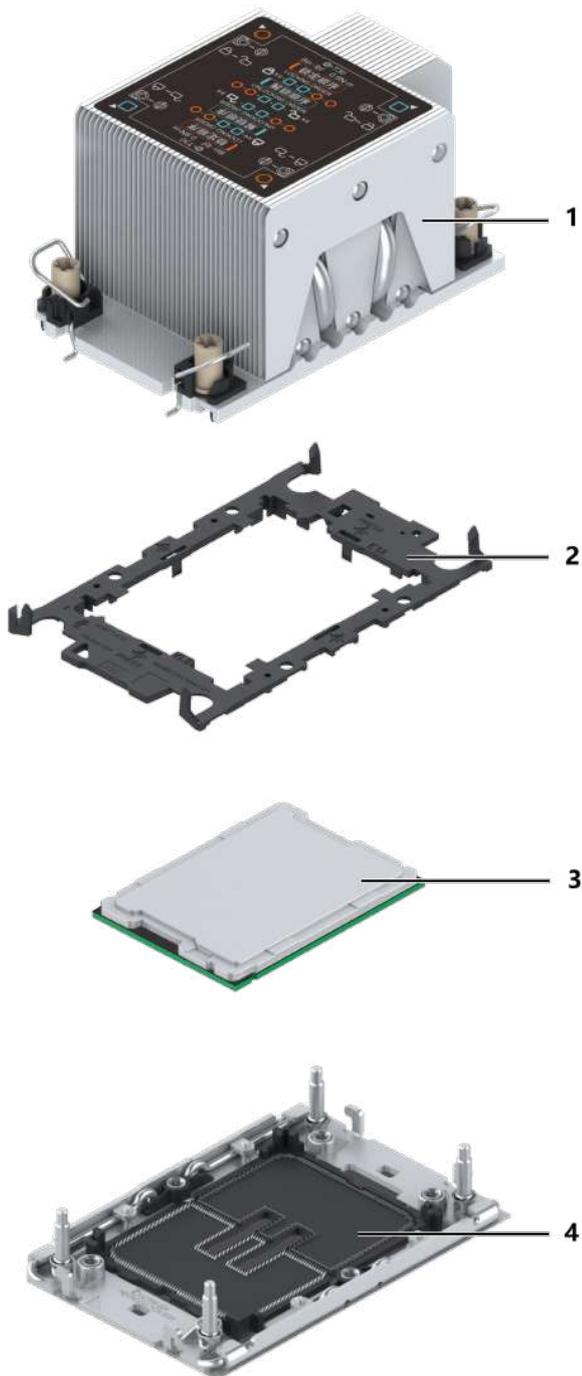
**!** Notice

When removing a CPU, do not touch the pins of the CPU.

**Context**

A CPU is fastened to the bottom of a heat sink by using a CPU bracket, see [Figure 3-80](#).

**Figure 3-80 CPU Location**



1. CPU heat sink
2. CPU bracket
3. CPU
4. CPU socket

## Steps

### Removing the Heat Sink

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Remove the air baffle. For detailed operations, refer to [3.9 Removing an Air Baffle](#).
4. Locate the CPU in the server.
5. (Optional) If the heat sink of the 4-GPU server model is to be removed, remove the corresponding GPU module first. For detailed operations, refer to [Removing the GPU Module Bracket](#).
6. Use a T30 Torx screwdriver to loosen the screws used to fasten the CPU heat sink by following the sequence marked on the heat sink.



### Notice

To remove the CPU heat sink, you need to use a T30 Torx screwdriver. Other types of screwdrivers may damage the screws.

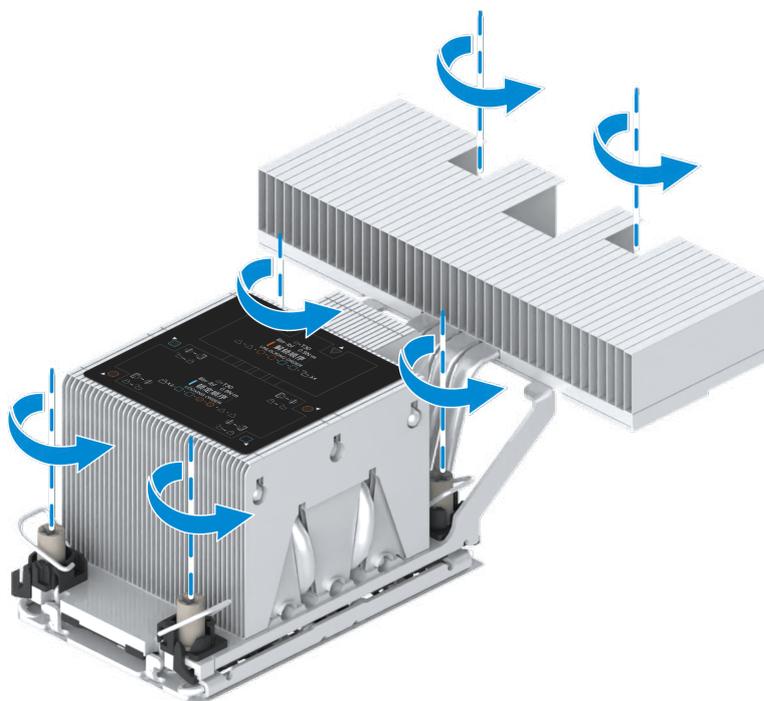
- For a general-purpose server model, there are four fastening screws on the heat sink. [Figure 3-81](#) shows the screw loosening sequence.

**Figure 3-81 Loosening the Fastening Screws of the Heat Sink for the General-Purpose Server Model**



- For a 4-GPU server, there are six fastening screws on the heat sink. [Figure 3-82](#) shows the screw loosening sequence.

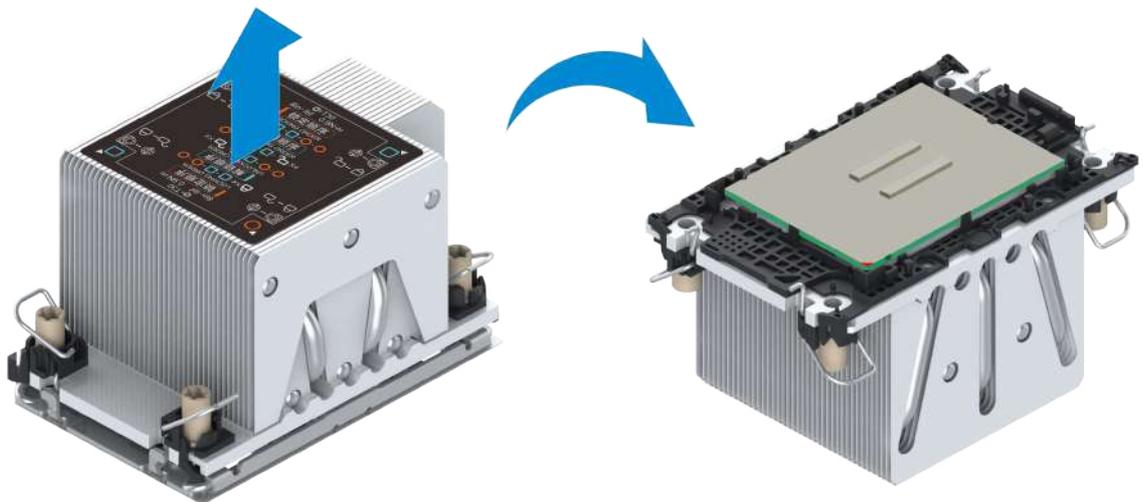
**Figure 3-82 Loosening the Fastening Screws of the Heat Sink for the 4-GPU Server Model**



7. Pull the anti-tilt latches in the following directions to unlock the heat sink, see [Figure 3-83](#).

**Figure 3-83 Unlocking the Anti-Tilt Latches of the Heat Sink**

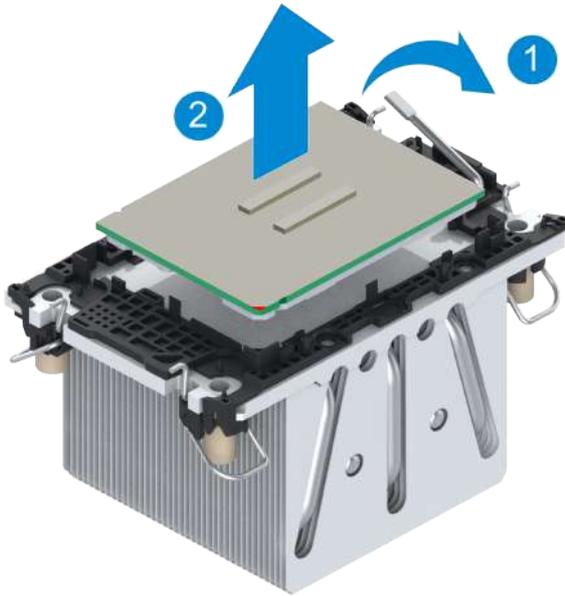
8. Slowly take out the CPU heat sink in vertical direction, turn it upside down, and place the CPU heat sink on an anti-static table, see [Figure 3-84](#).

**Figure 3-84 Removing the Heat Sink**

9. Cover the CPU socket with a dust cover.

### Removing the CPU

10. Pull the rod upwards until the rod is perpendicular to the CPU bracket to detach the CPU from the CPU bracket, see © in [Figure 3-85](#).

**Figure 3-85 Removing the CPU**

11. Remove the CPU from the CPU bracket, see ② in [Figure 3-85](#).
12. Clean the thermally conductive silicone grease on the CPU surface, and put the removed CPU into an anti-static bag.

**Notice**

If multiple CPUs are removed, pack them separately and separate them with foam to prevent them from being stacked. Otherwise, the CPUs may be damaged.

### 3.34 Installing a CPU

**Abstract**

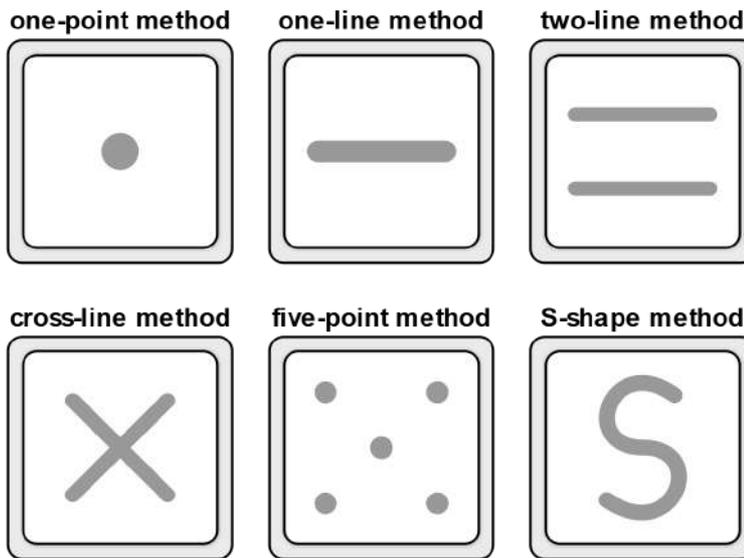
When replacing a faulty [CPU](#) or an existing CPU with a CPU of a different model, you need to install a CPU.

**Notice**

When removing a CPU, do not touch the pins of the CPU.

**Context**

When installing a CPU, you need to re-apply the thermally conductive silicone grease to the CPU. [Figure 3-86](#) shows the common methods to apply the thermally conductive silicone grease. The two-line method, cross-line method, five-point method, and S-shape method are recommended.

**Figure 3-86 Methods for Applying Thermally Conductive Silicone Grease****Steps****Installing a CPU**

1. Put on an anti-static wrist strap.
2. Remove the CPU dust cover, and check the CPU base to ensure that it is not polluted and the pins are not bent.

 **Note**

If there is pollution or bent pin, stop the operation and contact VANTAGEO technical support.

3. Take the spare CPU from an anti-static bag and record the bar code of the spare CPU.
4. Determine the area on the base of the heat sink that is in contact with the CPU. Squeeze 0.4 ml thermally conductive silicone grease to the area and evenly apply it.

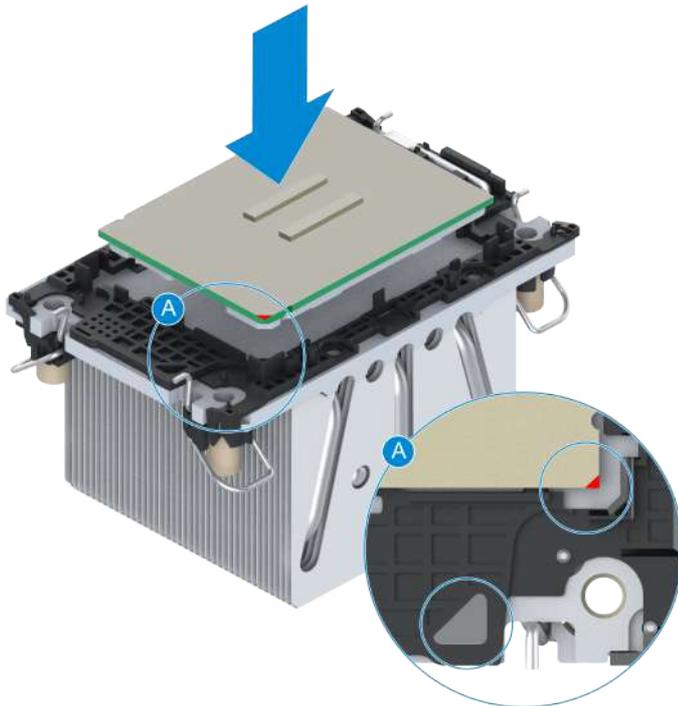
 **Note**

Do not apply too much thermally conductive silicone grease. Too little or too much silicone grease will affect the heat dissipation of the CPU.

5. Pull the CPU rod down to the CPU bracket, see [Figure 3-87](#).

**Figure 3-87 Closing the CPU Rod**

6. Align the corner of the CPU with a triangle mark with the triangle mark on the CPU bracket, place the CPU vertically into the CPU bracket, and gently press the sides of the CPU so that the clips on the CPU bracket are locked to the edges of the CPU, see [Figure 3-88](#).

**Figure 3-88 Installing the CPU on the Heat Sink**

### Installing the Heat Sink

7. Turn the heat sink to align the corner of the CPU with a triangle mark with the triangle mark on the CPU socket, and insert the heat sink vertically into the CPU socket, see [Figure 3-89](#).

**Figure 3-89 Installing the Heat Sink**



8. Pull the anti-tilt latches in the following directions to lock the heat sink, see [Figure 3-90](#).

**Figure 3-90 Locking the Anti-Tilt Latches of the Heat Sink**



9. Use a T30 Torx screwdriver to tighten the screws used to fasten the CPU heat sink by following the sequence marked on the heat sink.

**Notice**

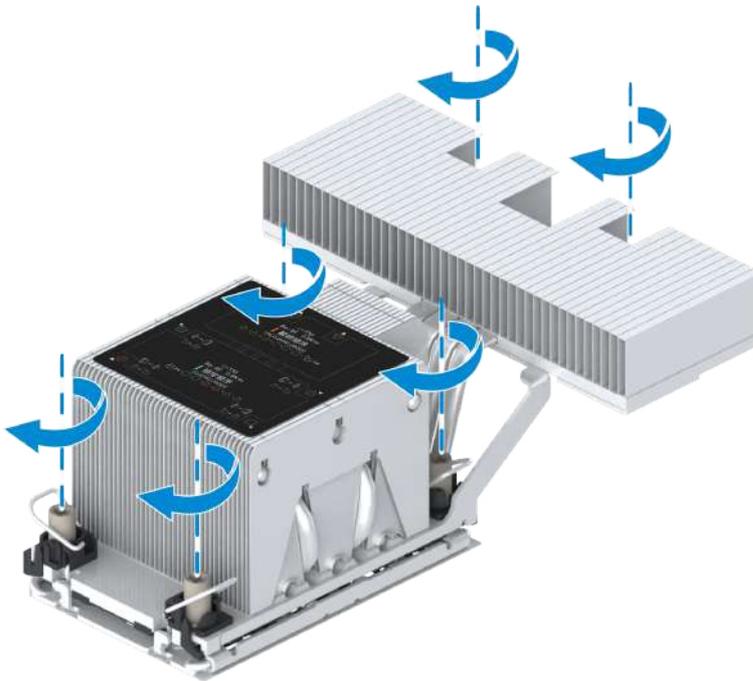
The sequence cannot be reversed. Otherwise, the CPU may be damaged. To install the CPU heat sink, you need to use a T30 Torx screwdriver. Other types of screwdrivers may damage the screws.

- For a general-purpose server model, there are four fastening screws on the heat sink. [Figure 3-91](#) shows the screw tightening sequence.

**Figure 3-91 Tightening the Fastening Screws of the Heat Sink for the General-Purpose Server Model**

- For a 4-GPU server, there are six fastening screws on the heat sink. [Figure 3-92](#) shows the screw tightening sequence.

**Figure 3-92 Tightening the Fastening Screws of the Heat Sink for the 4-GPU Server Model**



- 10.(Optional) If the heat sink of the 4-GPU server model is to be installed, install the corresponding GPU module first. For detailed operations, refer to [Installing the GPU Module Bracket](#).
11. Install the air baffle, For detailed operations, refer to [3.10 Installing an Air Baffle](#).
12. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.35 Removing the Mainboard Battery

#### Abstract

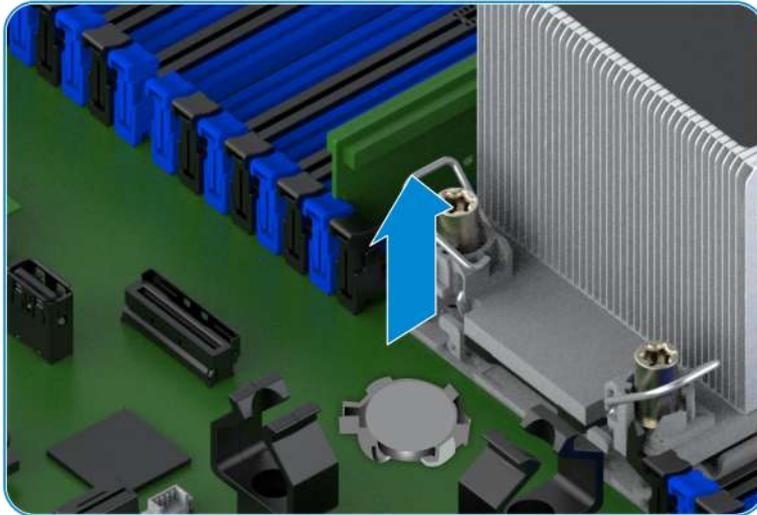
To replace a faulty mainboard battery or replace a mainboard battery whose power is completely consumed, you need to remove the mainboard battery.

#### Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a full-height and full-length PCIe card, you need to remove the bracket of the I/O module where the PCIe card is located. For details, refer to <a href="#">Removing an I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Remove the left and right GPU modules. For detailed operations, refer to <a href="#">Removing the GPU Module Bracket</a> .

4.

**Figure 3-93 Removing a Mainboard Battery**

5. Record the bar code of the removed mainboard battery and put it into an anti-static bag.

## 3.36 Installing the Mainboard Battery

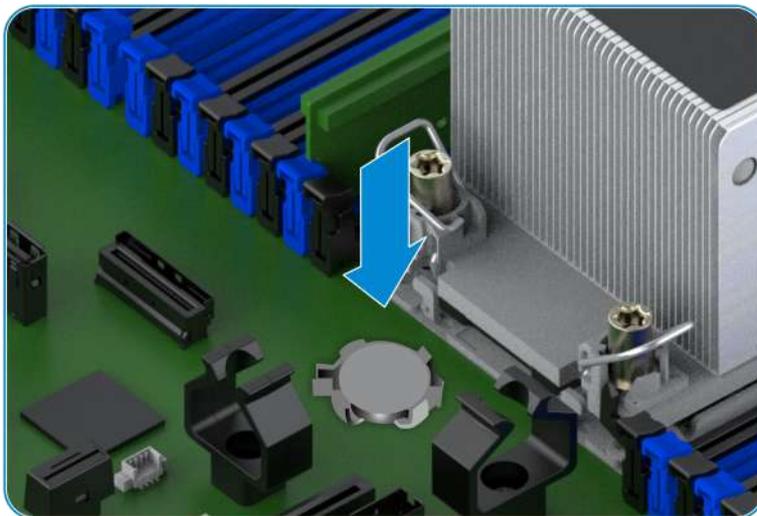
**Abstract**

To replace a faulty mainboard battery or a mainboard battery whose power is completely consumed, you need to install a new mainboard battery.

**Steps**

1. Put on an anti-static wrist strap.
2. Take the spare mainboard battery from an anti-static bag and record the bar code of the mainboard battery.
3. Turn the battery side with text upwards, insert the left side of the battery into the slot, and then gently press the battery into the slot, see [Figure 3-94](#).

**Figure 3-94 Installing a Mainboard Battery**



4. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	(Optional) If I/O module 2 or 3 is configured with a full-height and full-length PCIe card, you need to install the bracket of the I/O module where the PCIe card is located. For details, refer to <a href="#">Installing an I/O Module Bracket</a> .
The 2240-RE is a 4-GPU server model	Install the left and right GPU modules. For detailed operations, refer to <a href="#">Installing the GPU Module Bracket</a> .

5. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).

### 3.37 Removing the Mainboard

#### Abstract

To replace a faulty mainboard, you need to remove the mainboard.

#### Note

The mainboard must be removed together with the I/O card at the rear of the mainboard.

After the mainboard of the server is replaced, the following impacts will be caused:

- The BMC configuration of the server is restored to the default configuration.
- The BIOS configuration of the server is restored to the default configuration.
- The firmware version of the server is the same as the version of the spare mainboard, which is different from the firmware version of the faulty mainboard.
- The serial number of the server queried on the BMC is null.

Therefore, before removing the mainboard, you need to back up the product serial number, firmware version, BMC configuration data, and BIOS configuration data of the mainboard.

## Prerequisite

The serial number, firmware version number, BMC configuration data, BIOS configuration data and the cable connections are backed up. For details, refer to [4.1 Backing Up Data](#).

## Steps

1. Put on an anti-static wrist strap.
2. Open the server cover. For details, refer to [2.4.1 Powering Off the Server](#), [2.4.2 Removing the Server from the Rack](#) and [2.4.3 Removing the Server Cover](#).
3. Remove the air baffle. For detailed operations, refer to [3.9 Removing an Air Baffle](#).
4. Remove all fan units. For detailed operations, refer to [3.7 Removing a Fan Unit](#).
5. Label all the cables connected to the mainboard, and unplug these cables.
6. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	Removing all I/O modules. <ul style="list-style-type: none"> <li>● If the I/O modules are configured with PCIe cards, you need to remove the brackets of the I/O modules where the PCIe cards are located. For details, refer to <a href="#">Removing an I/O Module Bracket</a>.</li> <li>● If the I/O modules are configured with hard disk cages, you need to remove the hard disk cages. For details, refer to <a href="#">3.15 Removing a Rear Hard Disk Cage</a>.</li> </ul>
The 2240-RE is a 4-GPU server model	Remove the left and right GPU modules. For detailed operations, refer to <a href="#">Removing the GPU Module Bracket</a> .

7. Remove all M.2 SSDs. For detailed operations, refer to [3.25 Removing an M.2 SSD](#).
8. Remove the TPM card. For detailed operations, refer to [3.29 Removing a TPM Card](#).
9. Remove all DIMMs. For detailed operations, refer to [3.31 Removing a DIMM](#).
10. Remove all CPUs. For detailed operations, refer to [3.33 Removing a CPU](#).

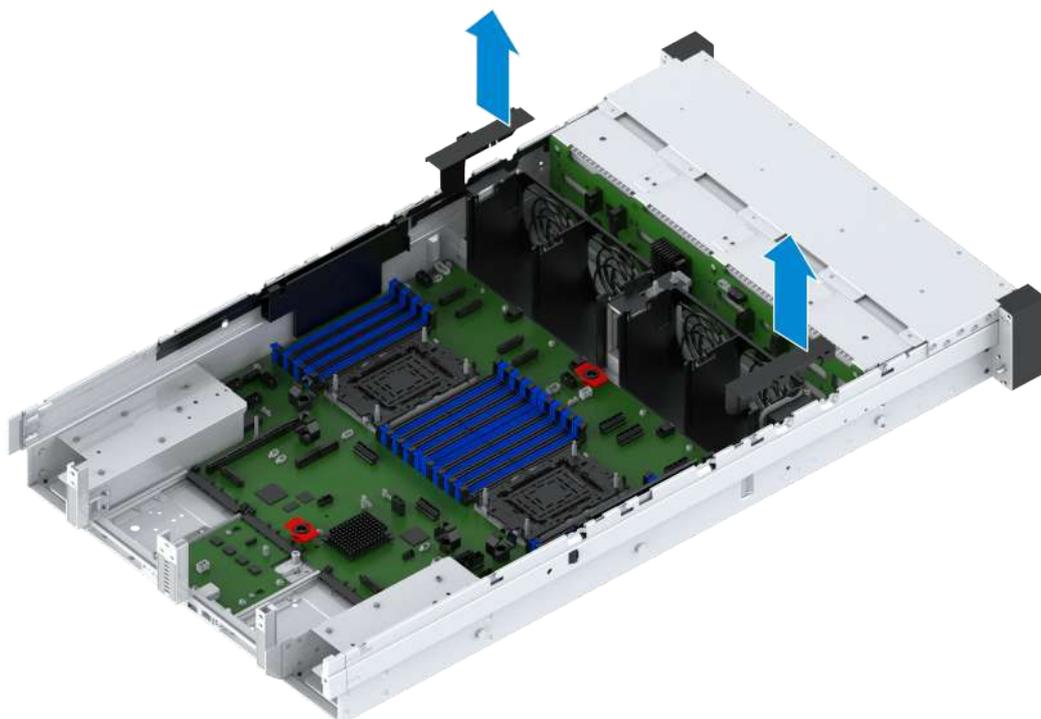


### Notice

Cover the CPU sockets on the mainboard with dust covers after the CPUs are removed.

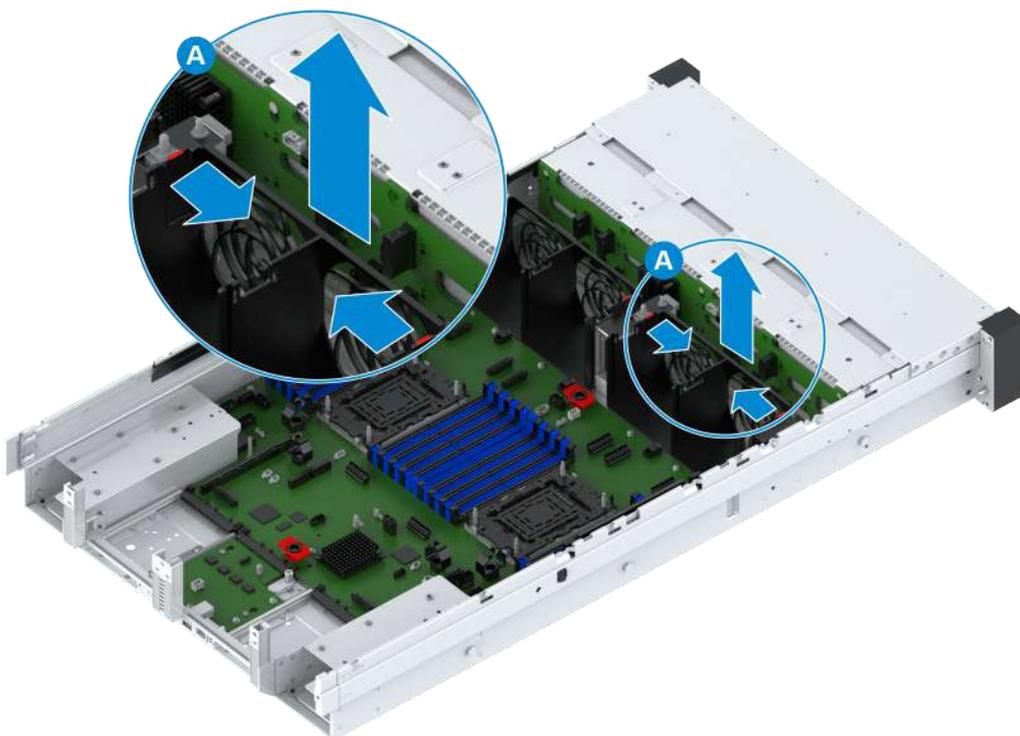
11. Remove all power modules. For detailed operations, refer to [3.3 Removing a Power Module](#).
12. Remove the OCP card. For detailed operations, refer to [3.5 Removing an OCP Card](#).
13. Remove the cable managers on both sides of the fan tray, see [Figure 3-95](#).

**Figure 3-95 Removing the Cable Managers**



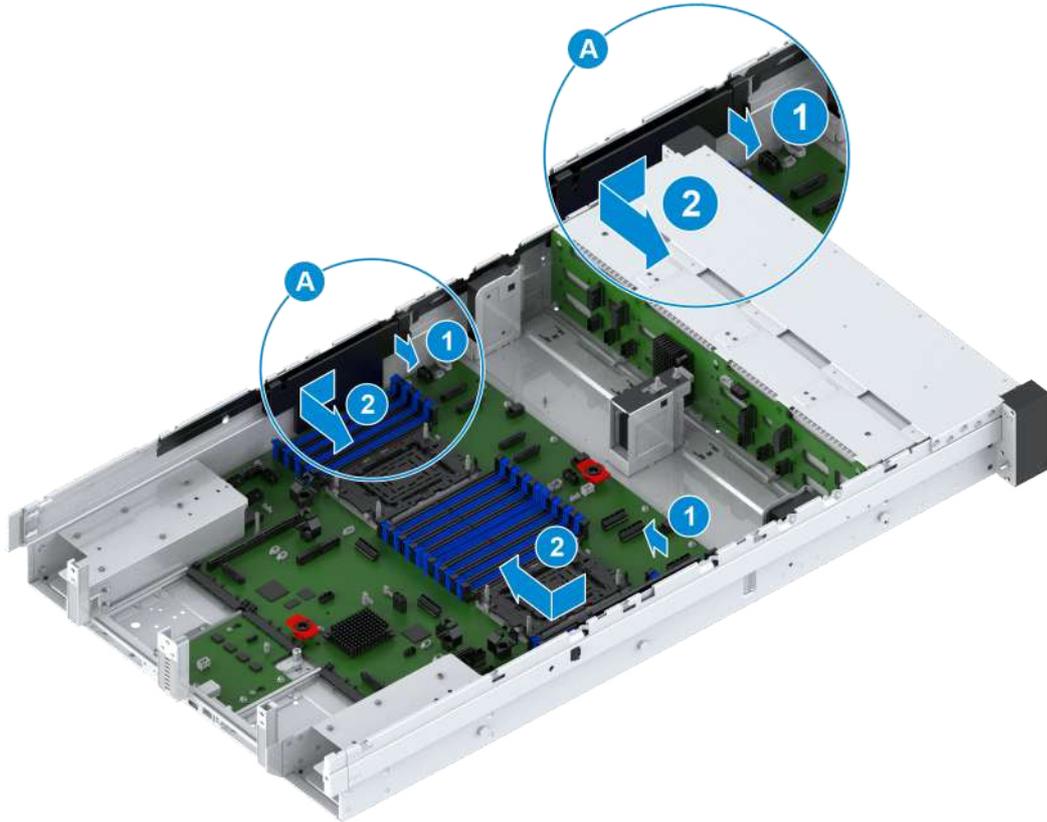
14. Raise the fan tray while pressing the lockers on both sides of the fan tray inward, see [Figure 3-96](#).

**Figure 3-96 Removing the Fan Tray**

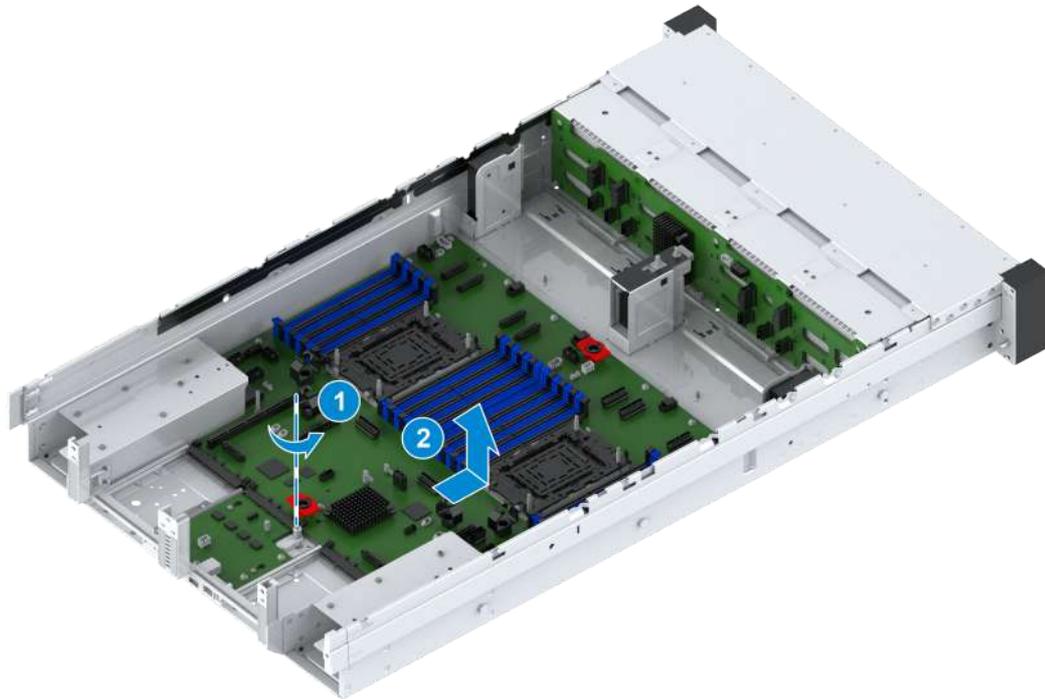


15. Pull the clips of the cable tray in the direction indicated by arrow ①, and push and remove the cable tray in the direction indicated by arrow ②, see [Figure 3-97](#).

**Figure 3-97 Removing the Cable Tray**



16. Loosen the captive screw of the mainboard by using a PH2 crosshead screwdriver, see ① in [Figure 3-98](#).

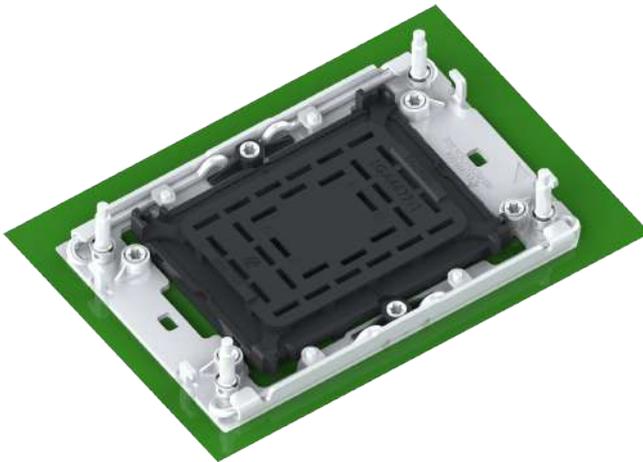
**Figure 3-98 Removing the Mainboard**

17. Hold the two handles on the mainboard, and slowly push the mainboard in the direction indicated by the arrow until it reaches the stop, and remove the mainboard, see ② in [Figure 3-98](#).

**Notice**

- It is forbidden to lift the mainboard through any protruding components on the mainboard to avoid damaging the components.
- Be careful not to hit the chassis with the rear end of the I/O card.

18. Record the bar code of the removed mainboard, and feed back the bar code of the faulty mainboard to the local representative office.
19. Verify that the CPU sockets on the faulty mainboard are installed with CPU dust covers, see [Figure 3-99](#).

**Figure 3-99 CPU Dust Covers are Installed****Note**

The dust covers of the spare mainboard can be installed on the CPU sockets of the removed mainboard.

20. Pack the removed mainboard with anti-static bags, place the mainboard in the packing box, and fix the mainboard with the foam inside the box.

### 3.38 Installing the Mainboard

**Abstract**

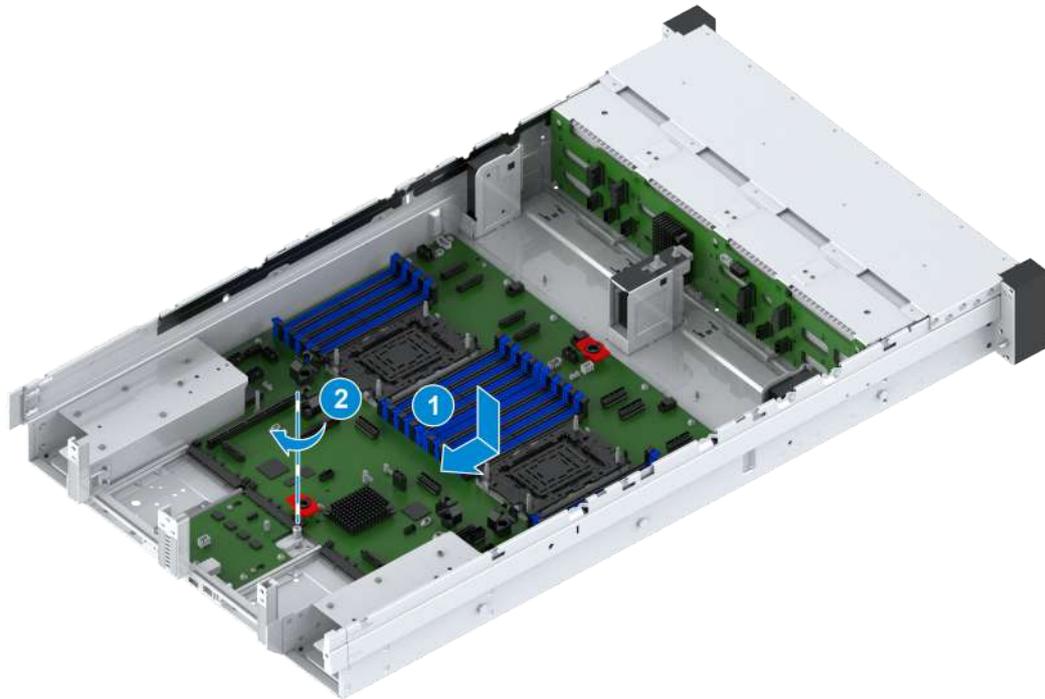
To replace a faulty mainboard, you need to install a mainboard.

**Note**

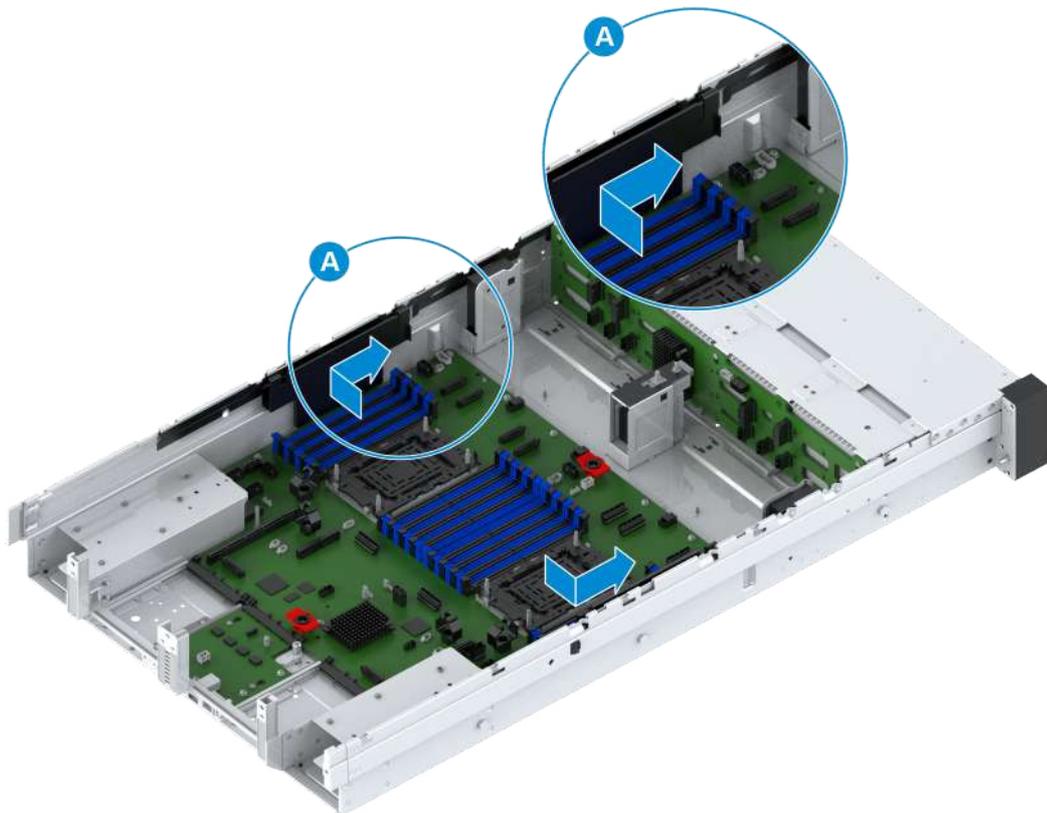
When installing the mainboard, you need to install it together with the I/O card at the rear of the mainboard.

**Steps**

1. Put on an anti-static wrist strap.
2. Remove foreign matter such as cables and screws from the chassis.
3. Take the spare mainboard out of the anti-static bag, and record the bar code of the spare mainboard.
4. Put the mainboard into the chassis by holding the handles on the mainboard, and push the mainboard in the direction of the arrow until the slot next to the captive screw of the mainboard is locked to the fixing post of the server, see © in [Figure 3-100](#).

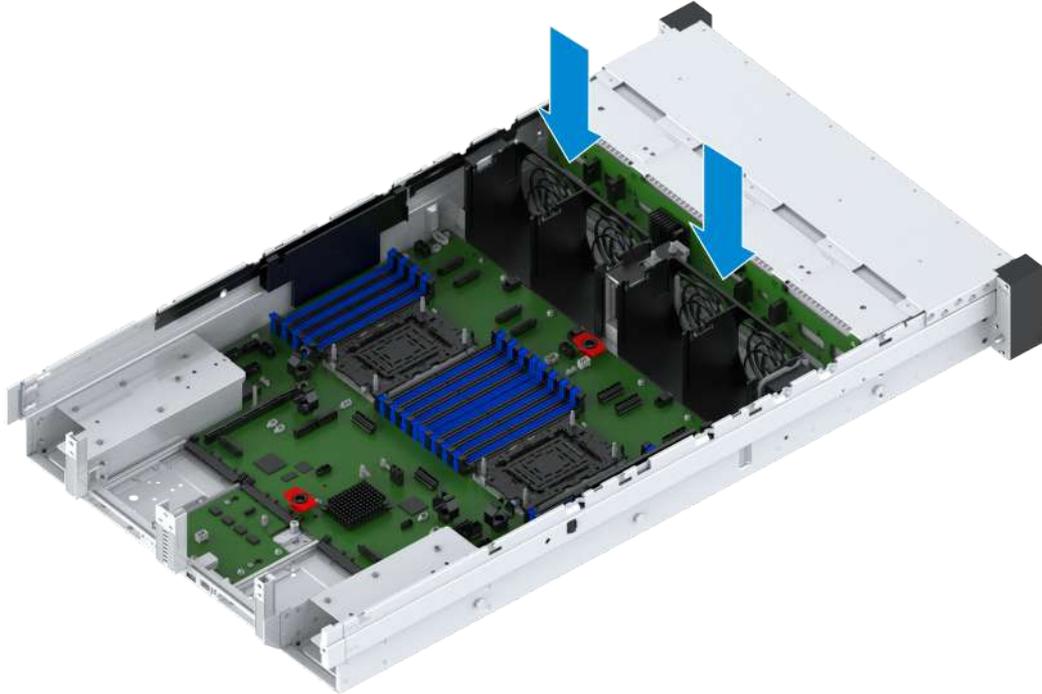
**Figure 3-100 Installing the Mainboard****Notice**

- It is forbidden to move the mainboard through any protruding components on the mainboard to avoid damaging the components.
  - Be careful not to hit the chassis with the rear end of the I/O card.
5. Tighten the captive screw of the mainboard by using a PH2 crosshead screwdriver, see ② in [Figure 3-100](#).
  6. Align the cable trays with the corresponding slots of the server, and push the cable trays in the arrow direction until the clips of the cable trays lock into the slots of the server, see [Figure 3-101](#).

**Figure 3-101 Installing Cable Trays**

7. Make the side of the fan tray with the mesh cover face the front of the server. Insert the fan tray into the chassis along the slide until the location hole at the bottom of the fan tray is inserted by the positioning stud of the chassis, see [Figure 3-102](#).

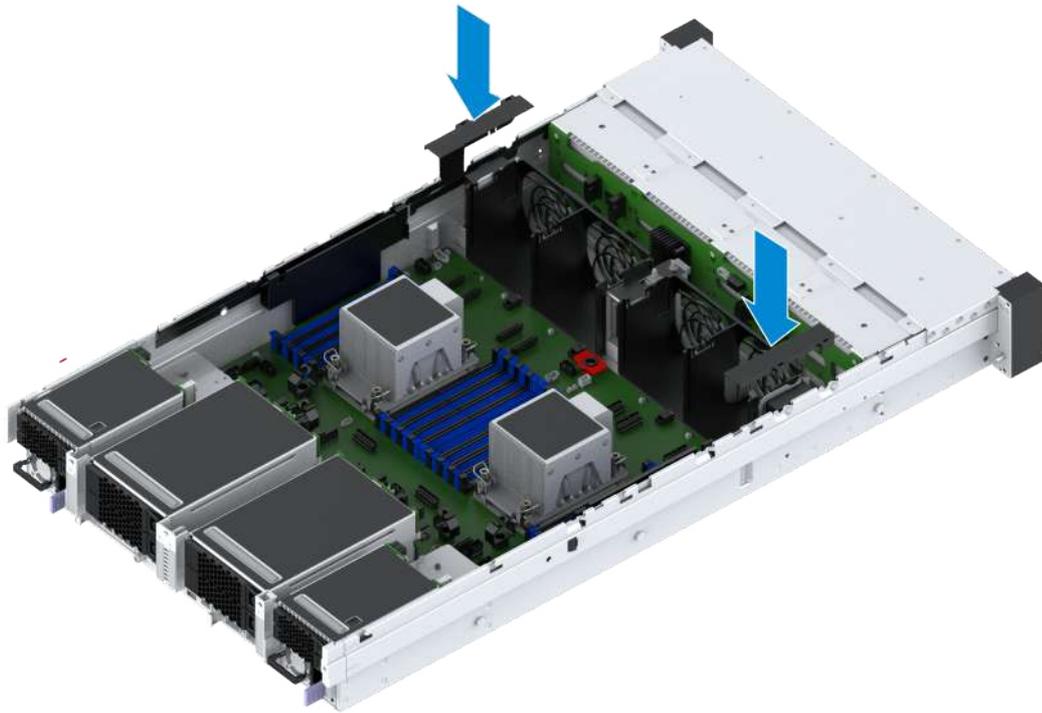
**Figure 3-102 Installing a Fan Tray**



8. Install the [OCP](#) card. For detailed operations, refer to [3.6 Installing an OCP Card](#).
9. Install the power modules. For detailed operations, refer to [3.4 Installing a Power Module](#).
10. Install all [CPU](#)s. For detailed operations, refer to [3.34 Installing a CPU](#).
11. Install all DIMMs. For detailed operations, refer to [3.32 Installing a DIMM](#).
12. Install the [TPM](#) card. For detailed operations, refer to [3.30 Installing a TPM Card](#).
13. Install all M.2 SSDs. For detailed operations, refer to [3.26 Installing an M.2 SSD](#).
14. Perform the following operations as required.

If...	Then...
The 2240-RE is a general-purpose server model	Install all <a href="#">I/O</a> modules. <ul style="list-style-type: none"> <li>● If the I/O modules are configured with <a href="#">PCIe</a> cards, you need to install the brackets of the I/O modules where the PCIe cards are located. For details, refer to <a href="#">Installing an I/O Module Bracket</a>.</li> <li>● If the I/O modules are configured with hard disk cages, you need to install the hard disk cages. For details, refer to <a href="#">3.15 Removing a Rear Hard Disk Cage</a>.</li> </ul>
The 2240-RE is a 4-GPU server model	Install the left and right GPU modules. For detailed operations, refer to <a href="#">Installing the GPU Module Bracket</a> .

15. Reconnect all the cables to the mainboard.
16. Install the cable managers on the side of the fan trays, see [Figure 3-103](#).

**Figure 3-103 Installing the Cable Managers**

17. Install all the fan units. For detailed operations, refer to [3.8 Installing a Fan Unit](#).
18. Install the air baffle, For detailed operations, refer to [3.10 Installing an Air Baffle](#).
19. Mount the server into the rack. For detailed operations, refer to [2.4.4 Installing the Server Cover](#), [2.4.5 Mounting the Server Into the Rack](#) and [2.4.6 Powering On the Server](#).
20. Restore the [BMC IP](#) address, firmware version number, BMC configuration data, [BIOS](#) configuration data and the cable connections. For details, refer to [4.2 Restoring Data](#).

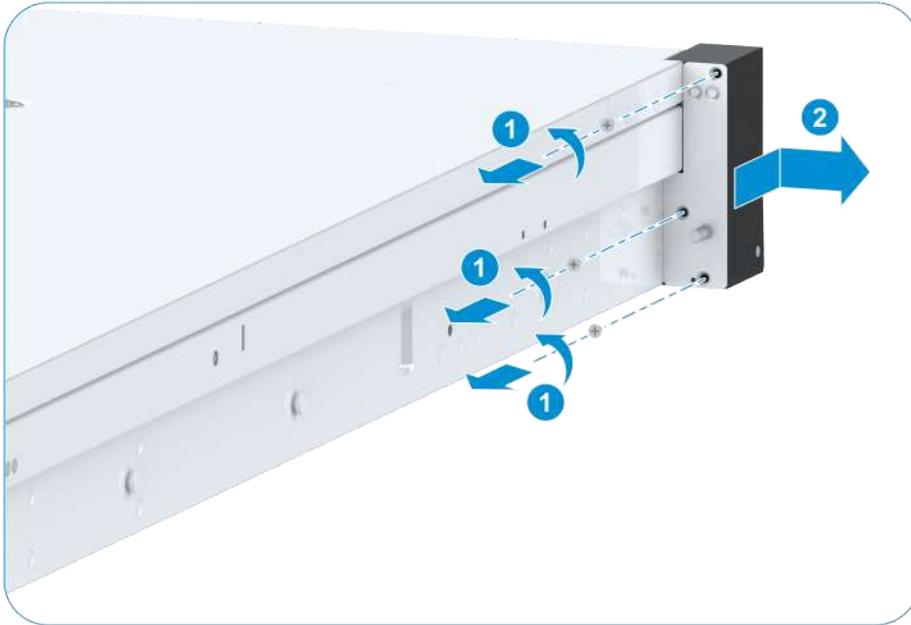
### 3.39 Removing the Left Flange

#### Abstract

To replace the faulty backplane of the left flange, you need to remove the left flange.

#### Steps

1. Put on an anti-static wrist strap.
2. Power off the server. For details, refer to [2.4.1 Powering Off the Server](#).
3. Loosen the three fastening screws of the left flange by using a PH2 crosshead screwdriver, see © in [Figure 3-104](#).

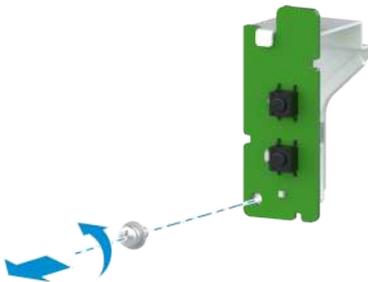
**Figure 3-104 Removing the Fastening Screws on the Left Flange**

4. Push the left flange to the front of the server until it reaches the stop, and slowly remove the left flange to the outside of the server, see ② in [Figure 3-104](#).

**!** Notice

The connection cable of the flange backplane is short. If the left flange is moved beyond the length of the cable, the backplane may be damaged.

5. Take out the backplane from the left flange, and remove the cable connected to the backplane.
6. Loosen the fastening screw of the backplane bracket by using a PH2 crosshead screwdriver, and remove the backplane bracket, see [Figure 3-105](#).

**Figure 3-105 Removing the Backplane Bracket of the Left Flange**

7. Record the bar code of the removed left flange backplane and put the backplane into an anti-static bag.

## 3.40 Installing the Left Flange

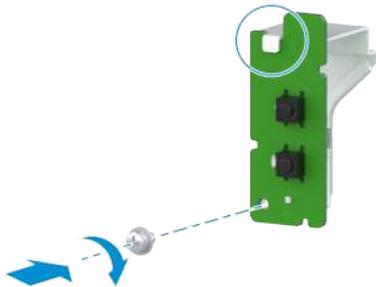
### Abstract

After replacing the faulty backplane of the left flange, you need to install the left flange.

### Steps

1. Put on an anti-static wrist strap.
2. Take the spare left flange backplane from an anti-static bag and record the bar code of the spare left flange backplane.
3. Fasten the hook on the backplane bracket to the notch on the backplane, and secure the backplane with a fastening screw, see [Figure 3-106](#).

**Figure 3-106 Installing the Backplane Bracket of the Left Flange**

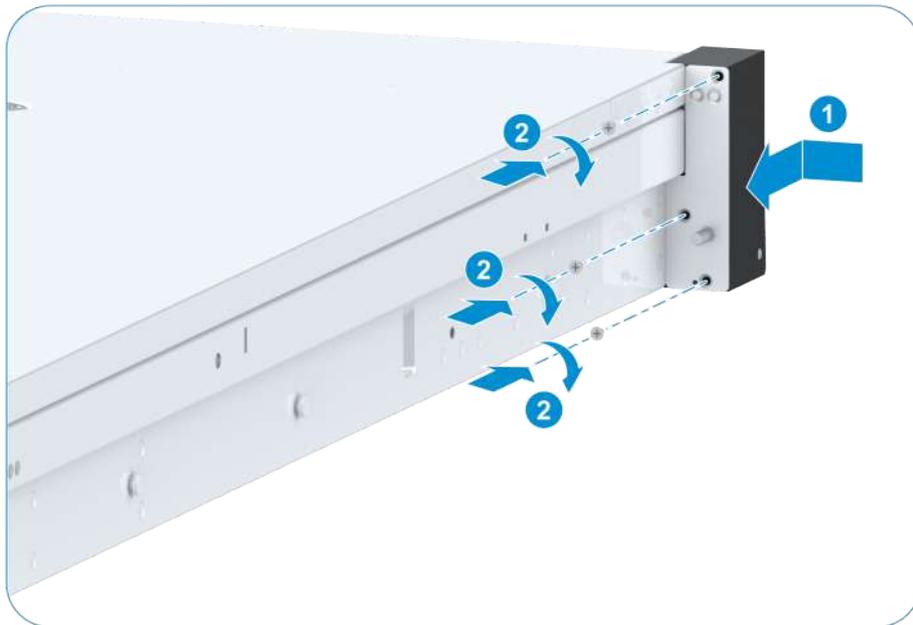


4. Reconnect the cable of the left flange to its backplane.
5. Align the notch on the backplane of the left flange with the slide in the left flange, and insert the backplane into the left flange, see [Figure 3-107](#).

**Figure 3-107 Installing the Backplane of the Left Flange**



6. Lock the large hole of the gourd-shaped hole on the left flange into the T-shaped stud on the left of the server, and push the left flange to the rear of the server until it reaches the stop, see © in [Figure 3-108](#).

**Figure 3-108 Installing the Left Flange**

7. Tighten the three fastening screws of the left flange by using a PH2 crosshead screwdriver, see ② in [Figure 3-108](#).
8. Power on the server. For details, refer to [2.4.6 Powering On the Server](#).

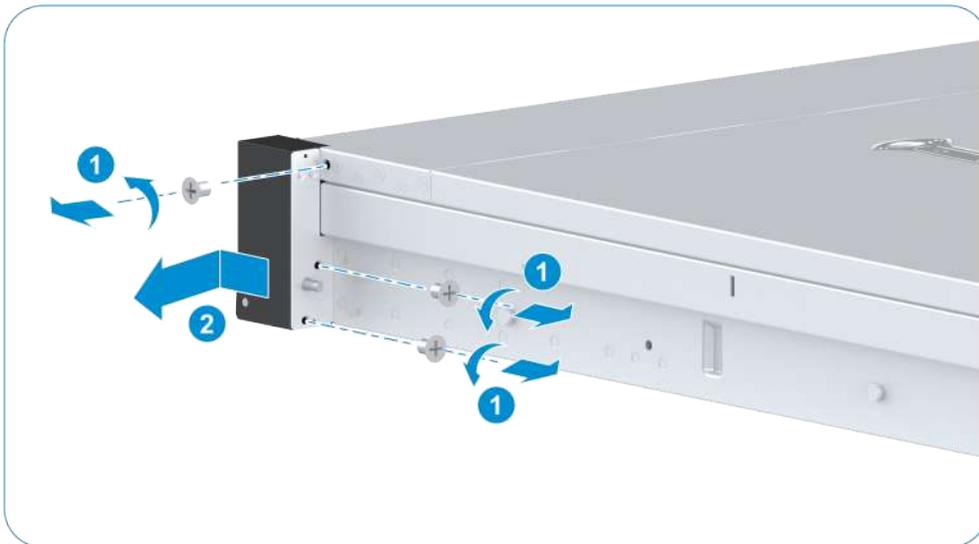
### 3.41 Removing the Right Flange

#### Abstract

To replace the faulty backplane of the right flange, you need to remove the right flange.

#### Steps

1. Put on an anti-static wrist strap.
2. Power off the server, For details, refer to [2.4.1 Powering Off the Server](#).
3. Loosen the three fastening screws of the right flange by using a PH2 crosshead screwdriver, see © in [Figure 3-109](#).

**Figure 3-109 Removing the Right Flange**

4. Push the right flange towards the front of the server until it cannot be moved, and slowly remove the right flange to the outside of the server, see ② in [Figure 3-109](#).

**Notice**

The connection cable of the flange backplane is short. If the right flange is moved beyond the length of the cable, the backplane may be damaged.

5. Take out the backplane from the right flange, and remove the cable connected to the backplane.
6. Record the bar code of the removed right flange backplane and put the backplane into an anti-static bag.

## 3.42 Installing the Right Flange

### Abstract

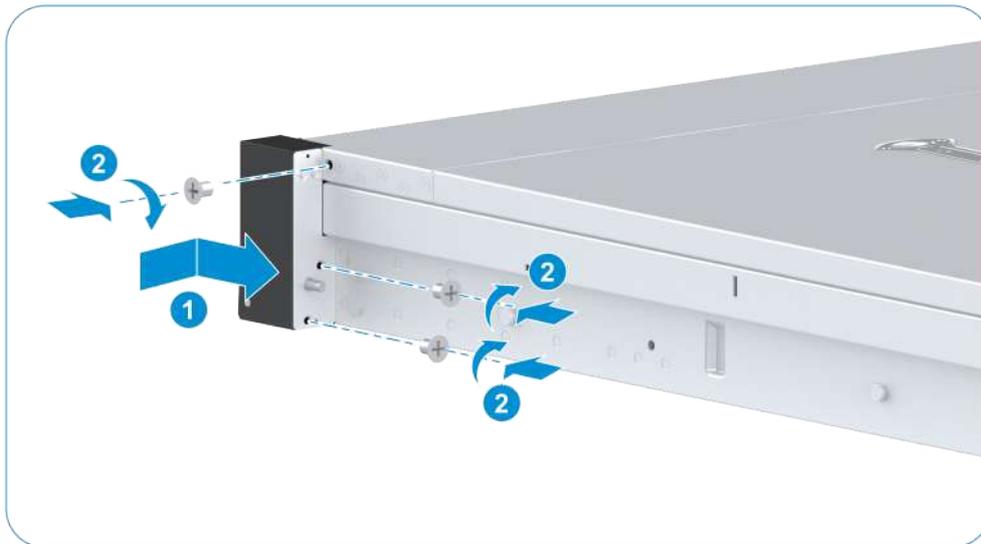
After replacing the faulty backplane of the right flange, you need to install the right flange.

### Steps

1. Put on an anti-static wrist strap.
2. Take the spare right flange backplane from an anti-static bag and record the bar code of the spare right flange backplane.
3. Reconnect the cable of the right flange to its backplane.
4. Align the notch on the backplane of the right flange with the slide in the right flange, and insert the backplane into the right flange, see [Figure 3-110](#).

**Figure 3-110 Installing the Backplane of the Right Flange**

5. Lock the large hole of the gourd-shaped hole in the right flange into the T-shaped column on the right of the server, and push the right flange to the rear of the server until it cannot be moved, see © in [Figure 3-111](#).

**Figure 3-111 Installing the Right Flange**

6. Tighten the three fastening screws of the right flange by using a PH2 crosshead screwdriver, see ② in [Figure 3-111](#).
7. Power on the server. For details, refer to [2.4.6 Powering On the Server](#).

# Chapter 4

# Reference: Mainboard Replacement Operations

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After the mainboard of a server is replaced, the following impacts will be caused:

- The **BMC** and **BIOS** configurations of the server are restored to the default configuration.
- The firmware version of the server is the same as the version of the spare mainboard, which may be different from the firmware version of the faulty mainboard.
- The serial number of the server is displayed as null on the BMC Web portal.

Therefore, before removing the mainboard, you need to back up the BMC and BIOS configuration data for restoration after the mainboard is replaced.

## 4.1 Backing Up Data

The data that needs to be backed up includes the following:

- Product serial number
- Firmware version
- **BMC** configuration data
- **BIOS** configuration data
- Cable connections

Basic principles for backup are as follows:

- If the server is not configured, you do not need to back up the configuration data.
- If you cannot log in to the BMC and BIOS because of a mainboard fault, refer to the configuration data record during initial configuration or the configuration of the same batch of servers to restore the data.
- If you can log in to the BMC and BIOS of the server, you need to perform the following backup and restoration operations on the server.

## 4.1.1 Backing Up Product Serial Number and Firmware Version

### Abstract

The product serial number is the unique identifier of the server. The server cannot be identified if the serial number is changed after the mainboard is replaced. The firmware version includes the **BMC** version and **BIOS** version. There may be connection problems between servers of different firmware versions. Therefore, the product serial number and firmware version must be backed up for restoration after the mainboard is replaced.

### Steps

1. Use a network cable to interconnect the network port of the debugging **PC** with the **iSAC** management network port on the rear panel of the server.

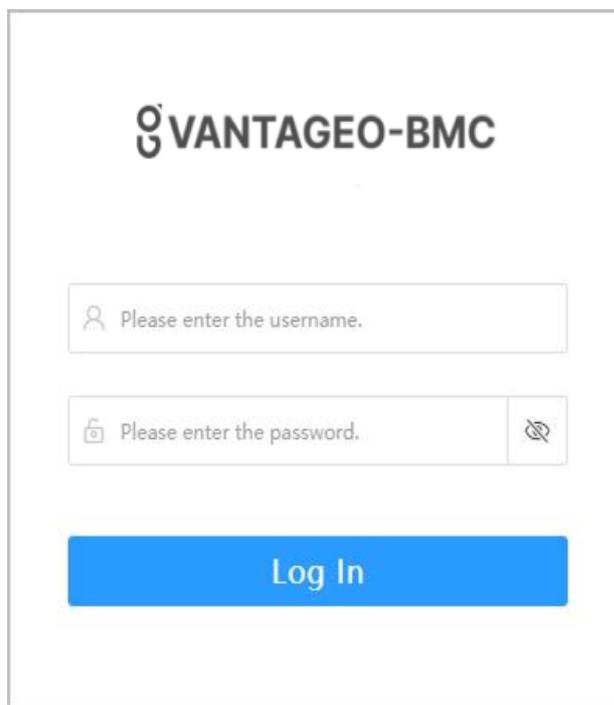


#### Note

The network port with the **iSAC** silk screen on the rear panel of the server is the iSAC management network port.

2. Configure an **IP** address for the debugging **PC** which is in the same network segment as that of the **BMC** of the server.
3. On the debugging **PC**, enter the IP address of the **BMC** (for example, <https://192.120.5.77>) in the browser and press **Enter** to open the login page of the Web portal of the **BMC**, see [Figure 4-1](#).

Figure 4-1 Login Page



4. Enter **Username** and **Password**. Click **Sign me in**, the **Homepage** page of the Web portal of the BMC is displayed, see [Figure 4-2](#).

---

 **Note**

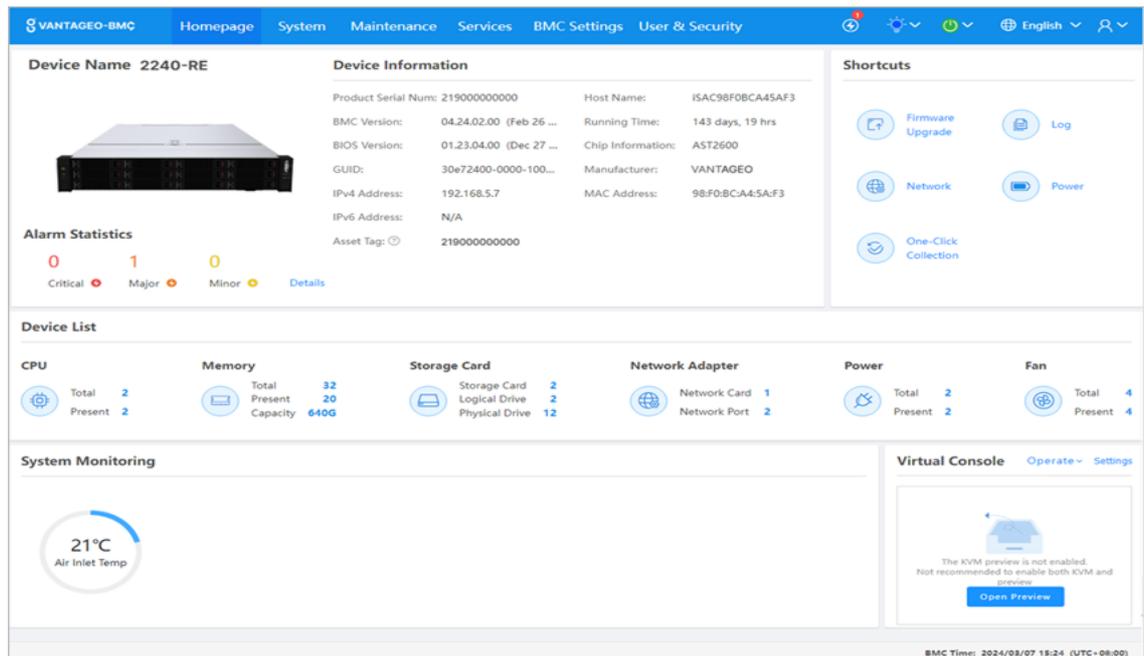
The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

If the password has been changed, enter the actual password. When entering a password, click  to view the entered password.

---

Figure 4-2 Home Page of the Web portal of the BMC



5. Use screenshots or take notes to back up **Product Serial Number**, **BMC Version** and **BIOS Version**.

## 4.1.2 Backing Up BMC Configuration Data

### Abstract

**BMC** configurations include configurations related to the server. Before replacing the main-board, you need to back up the BMC configuration data for restoration after the mainboard is replaced.

### Steps

#### Backing Up Network Settings

1. On the **Homepage** of the BMC Web portal, click **BMC Settings**. The **BMC Settings** page is displayed.
2. From the navigation tree on the left, select **Network Settings**. The **Network Settings** page is displayed, see [Figure 4-3](#).

Figure 4-3 Network Settings Page

**Network Settings**

Host Name  Save

Network Port  Save

Network Protocols

Select Network Port:  Dedicated Port  Shared Port

Network Protocols:  IPv4  IPv6

Settings:

**IPv4**

Acquisition method:  Manually set IP address  Automatically obtain IP address

Address:

Mask:

Default Gateway:

MAC Address: 98:F0:BC:A4:5A:F3

Save

**IPv6**

Acquisition method:  Manually set IP address  Automatically obtain IP address

Address:

Prefix Length:

Default Gateway:

Link Local Address: fe80:9af0:bcff:fea4:5af3

Save

DNS  Save

NCSI VLAN Configuration  Save

3. Take a screenshot of the configuration information in the **Network Protocols** area.

### Backing Up BMC Configuration Data

4. From the navigation tree in the left pane, select **Configuration Update**. The **Configuration Update** page is displayed, see [Figure 4-4](#).

Figure 4-4 Configuration Update Page

The screenshot shows a web interface titled "Configuration Update". It is divided into three main sections:

- Configure Import:** Includes a blue information banner stating: "Supports importing BMC and BIOS configurations. After importing, BMC automatically restarts and the configuration takes effect. BIOS takes effect and requires manual resetting of the host." Below this, there are radio buttons for "Select Type" with "BMC" selected. A "Select File" label is followed by an "Upload" button and an "Import" button.
- Configure Export:** Includes radio buttons for "Select Type" with "BMC" selected, and an "Export" button.
- Restore Factory Settings:** Includes a blue information banner stating: "After restoring BMC factory settings, you need to log in to BMC for the first time. Please use this function with caution." Below this is a "Restore Factory Settings" button.

5. Select **BMC** in the **Configure Export** area.
6. Click **Export** to export the current BMC configurations to your local PC.

### 4.1.3 Backing Up BIOS Configuration Data

#### Abstract

The **BIOS** configuration saves the basic configuration information related to the basic hardware of the server. Before replacing the mainboard, you need to back up the BIOS configuration data for restoration after the mainboard is replaced.

Perform the following operations as required:

- If you know the BIOS configuration items that need to be modified and the corresponding configuration methods, you can skip this procedure, and manually configure the BIOS after replacing the mainboard.
- If you are not familiar with the BIOS, you can back up the BIOS configuration data on the Web portal of the BMC.
  - If the server whose mainboard needs to be replaced can be started properly, export the BIOS configuration data of the server on the Web portal of the BMC.
  - If the server whose mainboard needs to be replaced cannot be started properly, export the BIOS configuration data of a server of the same batch on the Web portal of the BMC.

#### Steps

1. On the **Homepage** of the Web portal of the BMC, click **BMC Settings**. The **BMC Settings** page is displayed.

2. From the navigation tree in the left pane, select **Configuration Update**. The **Configuration Update** page is displayed, see [Figure 4-5](#).

**Figure 4-5 Configuration Update Page**

The screenshot displays the 'Configuration Update' interface. It is divided into three main sections: 'Configure Import', 'Configure Export', and 'Restore Factory Settings'.  
1. **Configure Import**: Includes a help icon and text: 'Supports importing BMC and BIOS configurations. After importing, BMC automatically restarts and the configuration takes effect. BIOS takes effect and requires manual resetting of the host.' Below this, there are radio buttons for 'Select Type' with 'BMC' selected. A 'Select File' label is followed by an 'Upload' button and an 'Import' button.  
2. **Configure Export**: Includes radio buttons for 'Select Type' with 'BIOS' selected. An 'Export' button is located below.  
3. **Restore Factory Settings**: Includes a help icon and text: 'After restoring BMC factory settings, you need to log in to BMC for the first time. Please use this function with caution.' Below this is a 'Restore Factory Settings' button.

3. Select **BIOS** in the **Configure Export** area.
4. Click **Export** to export the current BIOS configurations to your local PC.

## 4.1.4 Cable Connections

### Abstract

Multiple cables are connected to the external and internal parts of the server. Record the cable connection relationship for restoration after the mainboard is replaced.

### Steps

1. Paste cable labels on the network cables, power cables, and other cables on the rear panel of the server.
2. Use a camera to take photos of the cable connections on the rear panel of the server.
3. Open the top cover of the chassis, label the cables inside the server.
4. Use a camera to take photos of the cable connections inside the server.

## 4.2 Restoring Data

### 4.2.1 Restoring the Cable Connections

#### Abstract

After the mainboard is replaced, you need to restore the connections of internal cables and cables on the rear panel of the server.

#### Steps

1. Install the spare mainboard and the internal components of the server. Restore the internal cable connections by referring to the backup internal cable connections.
2. After the server is installed into the rack, restore the connection of external cables by referring to the backup connection status of the cables on the rear panel.

### 4.2.2 Restoring the Product Serial Number

After the mainboard is replaced, the product serial number is also changed. You need to restore the serial number to the original one before the replacement.

#### Notice

Restoring the product serial number involves the modification of the mainboard information. Misoperation may cause failure of the mainboard. In this case, it is recommended to contact VANTAGEO technical support.

### 4.2.3 Restoring the IP Address of the BMC Port

#### Abstract

The IP address of the new mainboard is a pre-configured IP address. After the mainboard is replaced, the IP address of the BMC port must be changed to the actual address before the follow-up restore operations.

#### Note

The default IP address of the new mainboard is **192.168.5.7**.

#### Steps

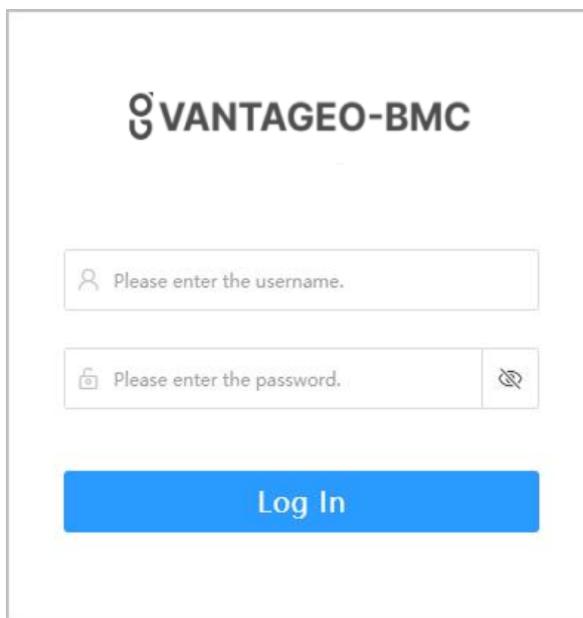
1. Use a network cable to interconnect the network port of the debugging PC with the iSAC management network port on the back panel of the server.

 **Note**

The network port with the **iSAC** silk screen on the rear panel of the server is the iSAC management network port.

2. Configure an IP address for the debugging PC which is in the same network segment as that of the BMC of the server.
3. On the debugging PC, enter the IP address of the BMC (for example, <https://192.168.5.7>) in the browser and press **Enter**. The login page of the Web portal of the BMC is displayed, see [Figure 4-6](#).

**Figure 4-6 Login Window**



4. Enter **Username** and **Password**. Click **Sign me in**. The **Homepage** of the Web portal of the BMC is displayed.

 **Note**

The default username and password are as follows:

- Username: Administrator
- Password: Superuser9!

If the password has been changed, enter the actual password. When entering a password, click  to view the entered password.

5. Click **BMC Settings**. The **BMC Settings** page is displayed.

6. From the navigation tree on the left, select **Network Settings**. The **Network Settings** page is displayed.
7. Set the IP address of the new mainboard in the **Network Protocols** area in accordance with the configuration information that is backed up.
8. Click **Save**.

### Verification

Use the newly configured IP address to log in to the Web portal of the BMC. If you can log in to the portal properly, it indicates that the IP address of the BMC port is restored successfully.

## 4.2.4 Restoring BIOS and BMC Versions

### Abstract

After the mainboard is replaced, if the **BIOS** version or **BMC** version of the mainboard is different from that before the replacement, you need to restore the BIOS version or BMC version to the previous version.



### Notice

- If both the BMC and BIOS versions need to be upgraded, you need to upgrade the BIOS version first, and then upgrade the BMC version.
- You cannot switch to other pages during the version upgrade process. Otherwise, the version upgrade process may be interrupted.

### Prerequisite

The firmware upgrade file is obtained.



### Note

The firmware upgrade file can be downloaded on the **Software Download** page on the Web portal of the servers and storage products (<https://vantageo.com>).

### Steps

1. On the **Homepage** page of the Web portal of the BMC, check whether the BMC version number and BIOS version number in the **Device Information** area are the same as the BMC version number and BIOS version number that are backed up.
  - Yes → End.
  - No → [Step 2](#).
2. Click **BMC Settings**. The **BMC Settings** page is displayed.
3. From the navigation tree on the left, select **Firmware Upgrade**. The **Firmware Upgrade** page is displayed, see [Figure 4-7](#).

Figure 4-7 Firmware Upgrade Page

**Firmware Upgrade**

After the BMC is upgraded, the BMC is automatically restarted. When the system is powered off, the BIOS upgrade takes effect directly. When the system is powered on, the BIOS is updated to the backup version and takes effect automatically after the systems is powered off. It takes a period of time to make the firmware take effect automatically, and firmware upgrade cannot be performed during this period.

Firmware Operation:

Version Information:

BMC Primary Partition Version	04.23.03.00 (Sep 19 2023)
BMC Standby Partition Version	04.23.02.01 (Jul 15 2023)
BIOS Version	01.23.02.01 (Jul 18 2023)
EPLD Version	00.00.00.101

Upgrade  Don't Inherit Configuration When Upgrading BMC  Don't Inherit Configuration When Upgrading BIOS

- Click **Upload**, and select the firmware upgrade file in the displayed dialog box.

**Note**

Only one firmware upgrade file can be selected at a time, and the firmware type is automatically matched when the firmware version is updated.

- Click **Upgrade**.

**Notice**

During the firmware upgrade process, you cannot switch to other pages. Otherwise, the firmware upgrade process will be interrupted.

**Related Tasks**

To upgrade the BIOS and BMC of multiple servers in batches, use the UniKits tool. For details, refer to "3.4.1 Upgrading General Firmware" in the *VANTAGEO Server UniKits User Guide*.

## 4.2.5 Restoring BIOS configurations and Time

**Abstract**

After the mainboard is replaced, the **BIOS** is configured in default values. Therefore, you need to restore the BIOS configurations and the BIOS time to those before the replacement.

**Steps****Restoring BIOS Configurations**

1. On the **Homepage** of the Web portal of the BMC, click **BMC Settings**. The **BMC Settings** page is displayed.
2. From the navigation tree in the left pane, select **Configuration Update**. The **Configuration Update** page is displayed, see [Figure 4-8](#).

**Figure 4-8 Configuration Update Page**

3. Select **BIOS** in the **Configure Import** area.
4. Click **Upload**, and select the backup BIOS configuration file in the displayed dialog box.
5. Click **Import**, and confirm the import in the displayed message box.

### Restoring the BIOS Time

6. Start the KVM on the Web portal of the BMC.



#### Note

For details, refer to "7.4 Starting the KVM" in the *VANTAGEO Server BMC User Guide (BMC V4)*.

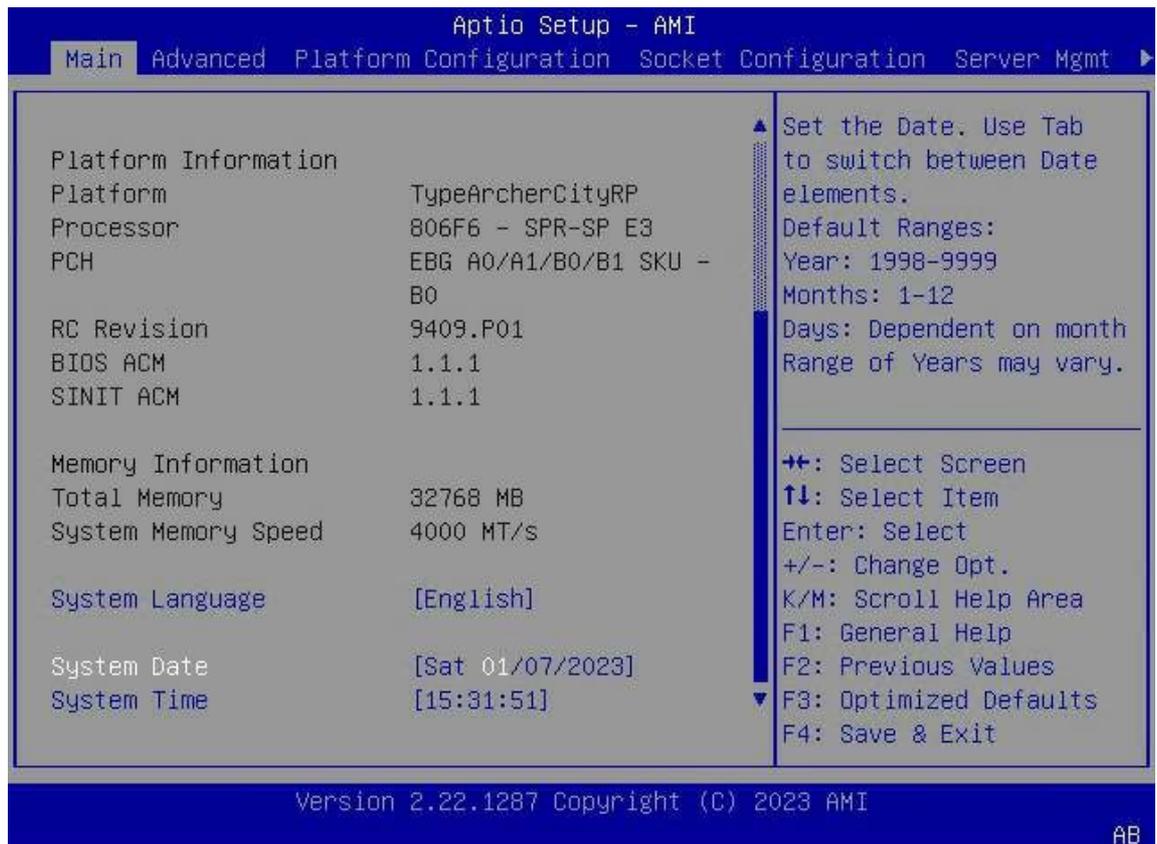
7. Start the server, and the **POST** process starts running. Press the **F2/DEL** key as prompted. The **Setup** screen of the BIOS is displayed, see [Figure 4-9](#).

Figure 4-9 Setup Screen



8. On the **Setup** screen, select the **Main** menu. The **Main** screen is displayed.
9. Select **System Date** and press **Enter** to move the cursor to the date, see [Figure 4-10](#).

Figure 4-10 Setting the Date



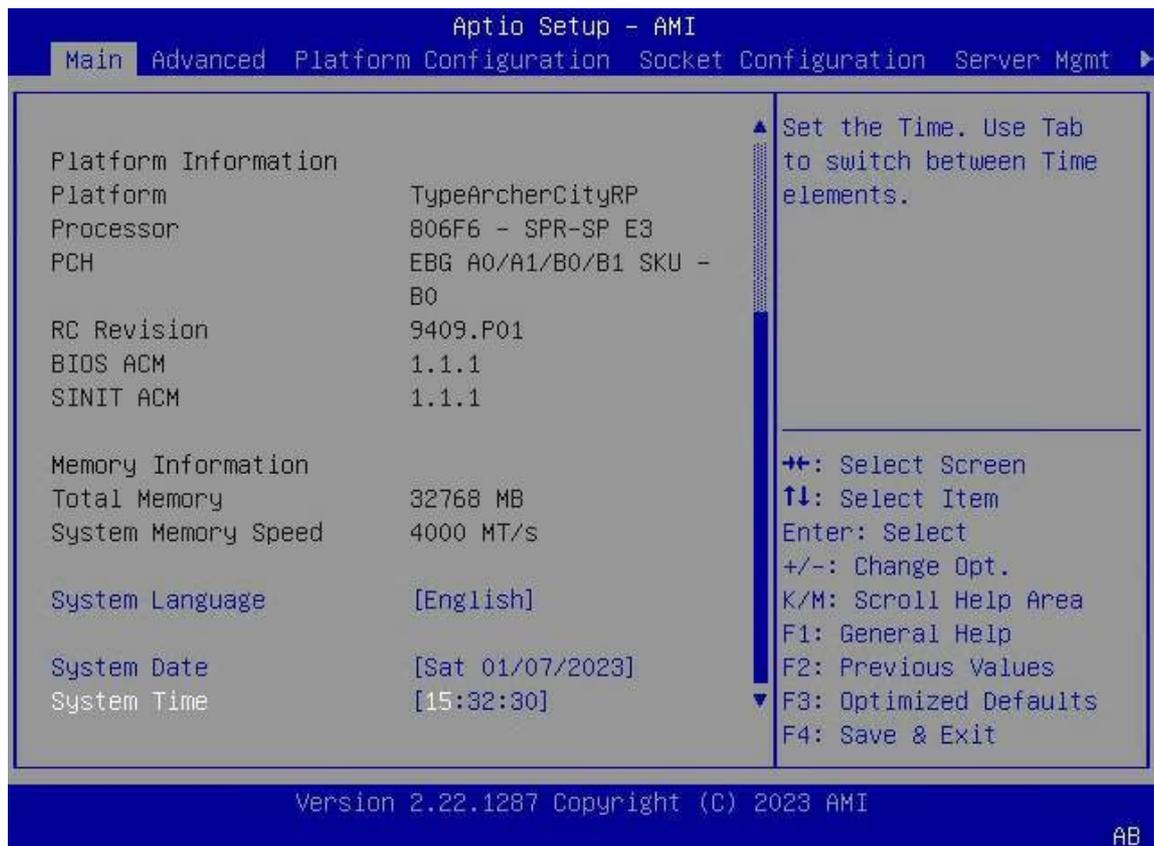
10. Set the date.

The date is displayed in MM/DD/YYYY format. Press **Enter** or **Tab** to switch between the month, date, and year items and change the settings as follows:

- To increase the value by one, press **+**.
- To decrease the value by one, press **-**.
- To specify a value, press the corresponding number key.

11. Select **System Time** and press **Enter** to move the cursor to the time, see [Figure 4-11](#).

Figure 4-11 Setting the Time



#### 12. Set the time.

The time is displayed in HH:MM:SS format based on a 24-hour clock system.

Press **Enter** or **Tab** to switch between the hour, minute, and second items and change the settings as follows:

- To increase the value by one, press **+**.
- To decrease the value by one, press **-**.
- To specify a value, press the corresponding number key.

#### 13. Press **F4**. In the displayed dialog box, select **Yes**.

## 4.2.6 Restoring BMC configurations

### Abstract

After the mainboard is replaced, the **BMC** is configured in default values. Therefore, you need to restore the BMC configurations to those before the replacement.

### Steps

1. On the **Homepage** of the Web portal of the BMC, click **BMC Settings**. The **BMC Settings** page is displayed.

2. From the navigation tree in the left pane, select **Configuration Update**. The **Configuration Update** page is displayed, see [Figure 4-12](#).

**Figure 4-12 Configuration Update Page**

The screenshot shows the 'Configuration Update' page with three main sections:

- Configure Import:** Includes a tip: 'Supports importing BMC and BIOS configurations. After importing, BMC automatically restarts and the configuration takes effect. BIOS takes effect and requires manual resetting of the host.' Below this, there are radio buttons for 'Select Type' with 'BMC' selected and 'BIOS' unselected. There is an 'Upload' button for file selection and an 'Import' button.
- Configure Export:** Includes radio buttons for 'Select Type' with 'BMC' selected and 'BIOS' unselected. There is an 'Export' button.
- Restore Factory Settings:** Includes a tip: 'After restoring BMC factory settings, you need to log in to BMC for the first time. Please use this function with caution.' Below this is a 'Restore Factory Settings' button.

3. Select **BMC** in the **Configure Import** area.
4. Click **Upload**, and select the backup BMC configuration file in the displayed dialog box.
5. Click **Import**, and confirm the import in the displayed message box.

### Note

After the BMC configurations are imported, the BMC is automatically restarted to apply the configurations. Do not perform any other operations until the BMC is restarted.

# Glossary

---

**BIOS**

- Basic Input/Output System

**BMC**

- Baseboard Management Controller

**BMC**

- Baseboard Management Controller

**CPU**

- Central Processing Unit

**DIMM**

- Dual Inline Memory Module

**ESD**

- Electrostatic Discharge

**FC**

- Fiber Channel

**GPU**

- Graphics Processing Unit

**HDB**

- Hard Disk Box

**I/O**

- Input/Output

**IB**

- InfiniBand

**IP**

- Internet Protocol

---

**LSI**

- Large Scale Integration

**MCTP**

- Management Component Transport Protocol

**NVMe**

- Non-Volatile Memory Express

**OCP**

- Open Computer Project

**PC**

- Personal Computer

**PCIe**

- Peripheral Component Interconnect Express

**PDU**

- Power Distribution Unit

**PMC**

- PCI Mezzanine Card

**PN**

- Part Number

**POST**

- Power-On Self-Test

**PXE**

- Preboot eXecution Environment

**RAID**

- Redundant Array of Independent Disks

**SN**

- Serial Number

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**SSD**

- Solid State Drive

**TPM**

- Trusted Platform Module

**VF**

- Virtual Function

**iSAC**

- Integrated Server Administrator Controller