



OPEN Industry Standard, Flexible Architecture

GREEN Less Heat, Less Power Consumption

STABLE Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation
Motherboard

4U16X-GNR2/DLC B300

User Manual

English



Version 1.00

Published Jul. 2026

Copyright©2026 ASRock Rack Inc. All rights reserved.

Copyright Notice:

No part of this documentation may be reproduced, transcribed, transmitted, or translated in any language, in any form or by any means, except duplication of documentation by the purchaser for backup purpose, without written consent of ASRock Rack Inc.

Products and corporate names appearing in this documentation may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

Disclaimer:

Specifications and information contained in this documentation are furnished for informational use only and subject to change without notice, and should not be constructed as a commitment by ASRock Rack. ASRock Rack assumes no responsibility for any errors or omissions that may appear in this documentation.

With respect to the contents of this documentation, ASRock Rack does not provide warranty of any kind, either expressed or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose.

In no event shall ASRock Rack, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like), even if ASRock Rack has been advised of the possibility of such damages arising from any defect or error in the documentation or product.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this server motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.

“Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate”

Setting up the Server in a Restricted Access Location/Restricted Access Area

- Access can only be gained by service persons or by users who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.
- Access is through the use of a tool or lock and key, or other means of security, and is controlled by the authority responsible for the location.
- Leave enough clearance (25 inches in the front and 30 inches in the back of the rack) to allow the front door to be opened completely and to allow for sufficient airflow.
- This product is for installation merely in a Restricted Access Location.
- This product is not suitable for use with visual display work place devices according to §2 of the the German Ordinance for Work with Visual Display Units.
- Only skilled person and Instructed person can remove the chassis covers to access the inside of the system.

ASRock Rack's Website: www.ASRockRack.com

Replaceable Batteries

CAUTION

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS**

Warning

When removal of the chassis lid required for servicing:

- Turn off power and unplug any power cords/cables, and
- Reinstall the chassis lid before restoring power.



Important Safety Instructions

Pay close attention to the following safety instructions before performing any of the operation. Basic safety precautions should be followed to protect yourself from harm and the product from damage:

- Operation of the product should be carried out by suitably trained, qualified, and certified personnel only to avoid risk of injury from electrical shock or energy hazard.
- Disconnect the power cord from the wall outlet when installing or removing main system components, such as the server motherboard and power supply unit.
- Place the system on a stable and flat surface.
- Use extreme caution when working with high-voltage components.
- When handling parts, use a grounded wrist strap designed to prevent static discharge.
- Keep the area around the system clean and clutter-free.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags when not in use.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- The power cord must be connected to a socket or outlet with a ground connection.

Contents

Chapter 1 Introduction	1
1.1 Shipping Box Contents	2
1.2 Specifications	3
Chapter 2 Server System Overview	6
2.1 System Components	6
2.2 Internal Features	7
2.3 System Front Panel	9
2.4 System Rear Panel	10
2.5 I/O Panel	11
2.6 LED	15
Chapter 3 Hardware Installation and Maintenance	18
3.1 Server Top Cover	19
3.2 Drive	21
3.3 Power Supply	23
3.4 System Fan	25
3.5 Add-in Card	27
3.6 GPU Tray Cover	30
Chapter 4 Server Motherboard (GNR2D32G-2L+)	34
4.1 Layout	34
4.2 Block Diagram	38
4.3 Installing the Memory Modules (DIMM)	39
Appendix	40
Installing the Server in a Rack	40

Chapter 1 Introduction

Thank you for purchasing 4U16X-GNR2/DLC B300, a reliable barebone system produced under ASRock Rack's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock Rack's commitment to quality and endurance.

This guide provides the instructions of insertion and extraction of chassis components, such as chassis covers, system fans, power supplies, hard drive trays, and other main components this system supports. If the system is pre-installed a server motherboard, refer to the server motherboard user manual for the information of the server motherboard components, specifications and BIOS settings.

System	ASRock Rack Server Motherboard
4U16X-GNR2/DLC B300	GNR2D32G-2L+



Because the hardware specifications might be updated, the content of this documentation will be subject to change without notice.



The illustrations shown in this manual are for reference purposes only and may not exactly match the model purchased.



If requiring technical support related to this system, please visit the website for specific information about the using model.
<http://www.asrockrack.com/support/>

1.1 Shipping Box Contents

Item	Quantity
Server Barebone: 4U16X-GNR2/DLC B300	1
Rail Kit	1
Accessory Box	1
- 10 Power Cords	
- 4 Server Handles	

 If any items are missing or appear damaged, contact the authorized dealer.

1.2 Specifications

4U16X-GNR2/DLC B300	
System	
Form Factor	4U Rackmount
Dimensions	919 x 435 x 175 mm (36.2" x 17.1" x 6.9" without front protrusion; 939 mm (37") in length with front protrusion)
Support Motherboard	GNR2D32G-2L+
Front Panel	
Button	Power button w/ LED, reset button, NMI button, UID button w/ LED
LED	System fault LED, HDD activity LED
I/O Port	8 OSFP (800Gb/s) via NVIDIA® ConnectX®-8 SuperNIC™ 2 RJ45 (1 GbE) by Intel® i350, shared with rear I/O 1 Dedicated IPMI, shared with rear I/O 4 Type-A (USB 3.2 Gen1) 1 DB15 (VGA)
Drive Bay / Storage	
Front Side Drive Bay	10 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from PCIe Switch 2 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from CPU
Internal Side	1 M-key (PCIe5.0 x2), supports 22110/2280 form factor [CPU0]
Power Supply	
Type	5+5 CRPS
Output Watt	3002.4 W @ 220-240 Vac input 2900 W @ 200-220 Vac input
Efficiency	80-PLUS Titanium
AC Input	200-240 Vrms, 50/60 Hz
System Fan	
Fan	2 PWM 80 x 80 mm fans 8 PWM 60 x 56 mm fans
Processor System	
GPU	NVIDIA® HGX™ B300 NVL8
CPU	Supports Intel® Xeon® 6700P-series, 6500P-series, and 6700E-series processors
Socket	Dual Socket E2 (LGA4710)
Chipset	System on Chip

System Switch Board	
Switch IC	PEX89104
Topology	Synthetic mode for optimized performance of GPU-to-CPU, GPUDirect RDMA NIC, and GPUDirect Storage
System Memory	
Supported DIMM Quantity	16+16 DIMM slots (2DPC)
Supported Type	DDR5 RDIMM DDR5 RDIMM-3DS DDR5 MRDIMM
Max. Capacity per DIMM	RDIMM: 128 GB MRDIMM: 64 GB
Max. DIMM Frequency	RDIMM: 6400MT/s (1DPC), 5200MT/s (2DPC) RDIMM-3DS: 6400MT/s (1DPC), 5200MT/s (2DPC) MRDIMM: 8000MT/s (1DPC only)* *Only available for Intel® Xeon® 6500P/6700P-series processors
Voltage	1.1 V
PCIe Expansion Slot	
PCIe x16	Rear: 2 FHHL PCIe5.0 x16
Ethernet	
Additional Ethernet Controller	Intel® i350: 2 RJ45 (1 GbE)
Server Management	
BMC Controller	ASPEED AST2600
Dedicated IPMI LAN	1 Realtek RTL8211F for dedicated management LAN
Graphics	
Controller	ASPEED AST2600
VRAM	DDR4 512MB

Rear I/O	
UID Button/ LED	1 UID button w/ LED
Other Button/ LED	1 Power button w/ LED
USB 3.2 Gen1 Port	2 Type-A (USB 3.2 Gen1)
RJ45	2 RJ45 (1 GbE) by Intel® i350, shared with front panel 1 Dedicated IPMI, shared with front panel
System BIOS	
BIOS Type	AMI UEFI BIOS; 512 MB SPI Flash ROM
BIOS Feature	Plug and Play, ACPI 4.0 (and above) compliance wake-up events, SMBIOS 3.4 and above, ASRock Rack Instant Flash
Hardware Monitor	
Temperature	CPU, MB, Card Side temperature sensing
Fan	Fan tachometer CPU quiet fan (allows chassis fan speed auto-adjust by CPU temperature) Fan multi-speed control
Voltage	P0_VDDCR_CPU0, P0_VDDCR_CPU1, P0_VDDCR_SOC, P0_ VDD_18_DUAL, P0_VDD_11_S3, P0_VDDIO, P1_VDDCR_CPU0, P1_VDDCR_CPU1, P1_VDDCR_SOC, P1_VDD_18_DUAL, P1_ VDD_11_S3, P1_VDDIO, +BAT, +12V, +3VSB, +5VSB
Environment	
Temperature	Operating temperature: 10°C ~ 35°C Non-operating temperature: -40°C ~ 70°C
Humidity	Non-operating humidity: 20% ~ 90% (non-condensing)

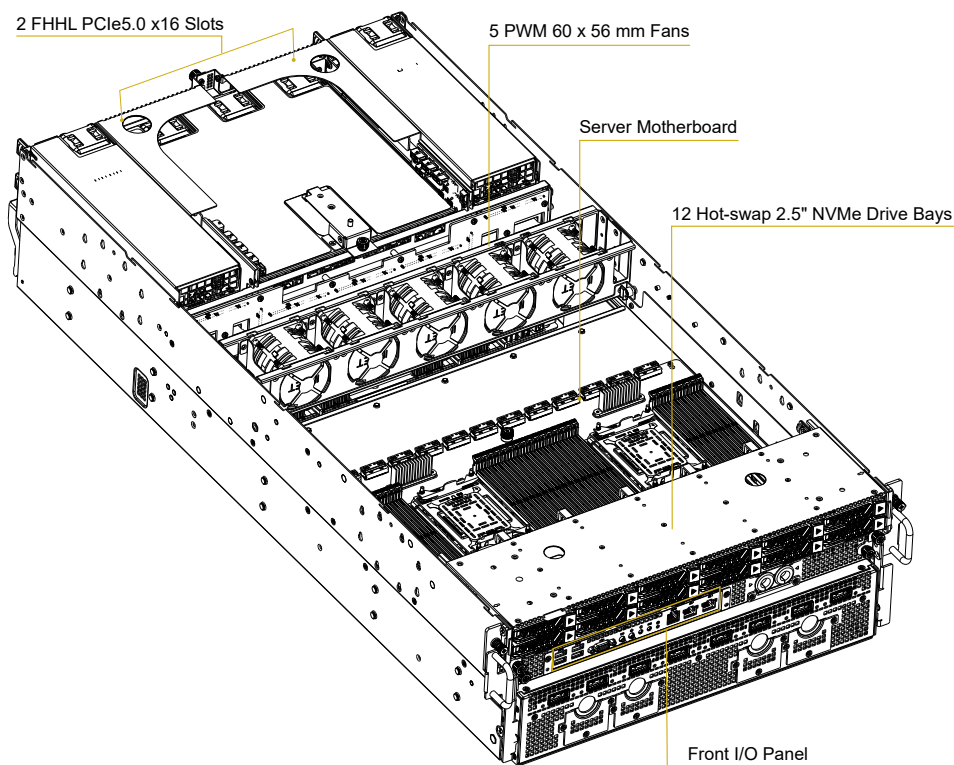


The functions are supported depending on the type of the server motherboard. Refer to the server motherboard manual for more information.

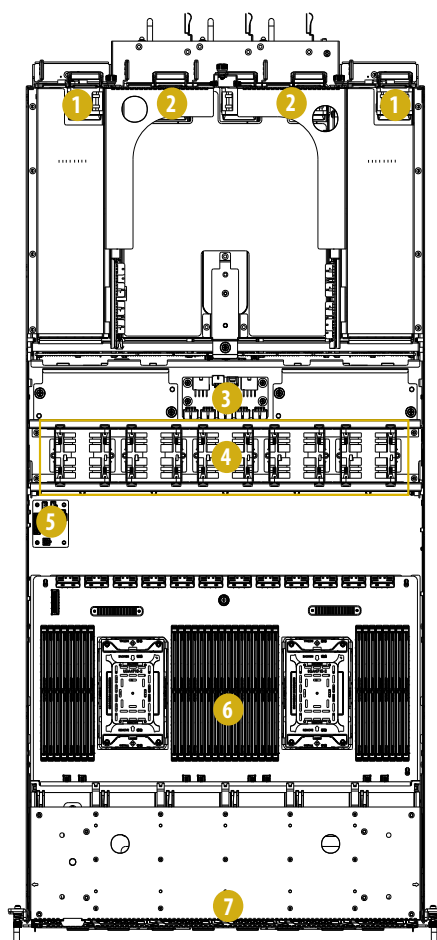
Chapter 2 Server System Overview

This chapter provides diagrams showing the location of important components of the server system.

2.1 System Components

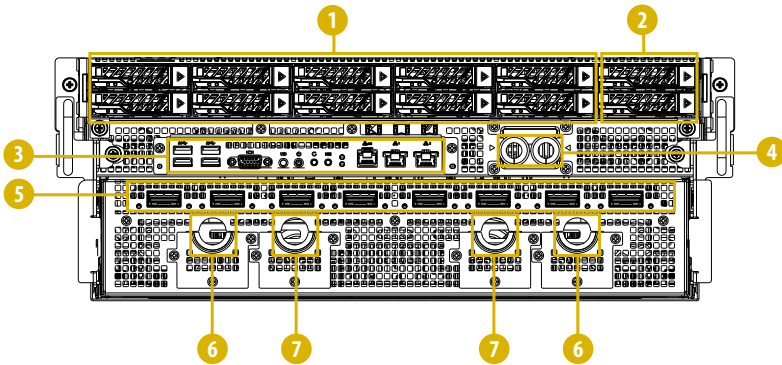


2.2 Internal Features



No.	Description
1	Top: 4 Power supply units Bottom: 2 PWM 80 x 80 mm internal fans
2	Top: 2 FHHL PCIe5.0 x16 slots Middle: 6 Power supply units Bottom: Rear I/O panels 3 PWM 60 x 56 mm rear fans
3	Fan board
4	5 PWM 60 x 56 mm top fans Left-to-right: FAN1 ~ FAN5
5	Leakage detection board (LDB)
6	Server motherboard
7	Top: 10 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from PCIe switch 2 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from CPU Middle: Front I/O panel (<i>depends on the specification of the server motherboard</i>) 1 Quick disconnecter (blue/cold) and 1 quick disconnecter (red/hot) for CPU Bottom: 8 OSFP (800Gb/s) via NVIDIA® ConnectX®-8 SuperNIC™ 2 Quick disconnectors (blue/cold) and 2 quick disconnectors (red/hot) for GPU

2.3 System Front Panel



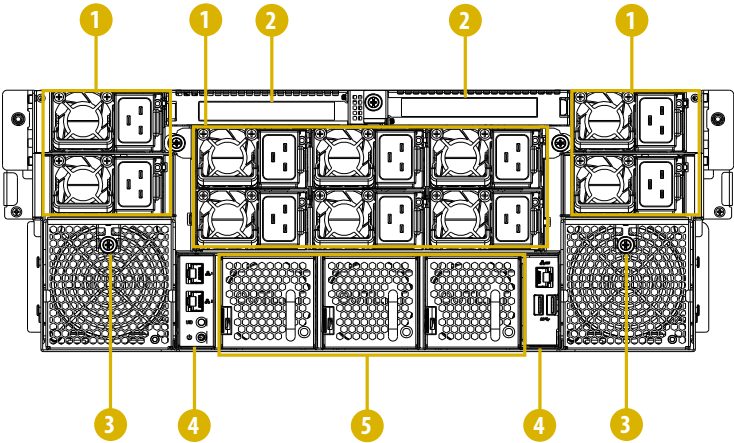
No.	Description
1	10 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from PCIe switch Top: NVME2, NVME4, NVME6, NVME8, NVME10 Bottom: NVME1, NVME3, NVME5, NVME7, NVME9
2	2 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from CPU Top: NVME12 Bottom: NVME11
3	Front I/O panel (<i>depends on the specification of the server motherboard</i>)
4	Left: 1 Quick disconnect (blue/cold) for CPU* Right: 1 Quick disconnect (red/hot) for CPU*
5	8 OSFP (800Gb/s) via NVIDIA® ConnectX®-8 SuperNIC™
6	2 Quick disconnects (red/hot) for GPU**
7	2 Quick disconnects (blue/cold) for GPU**

Please prepare compatible manifolds as below:

*1 set of Staubli UQD02 (1 piece of hot UQD and 1 piece of cold UQD)

**2 sets of Staubli UQD04 (2 pieces of hot UQD and 2 pieces of cold UQD)

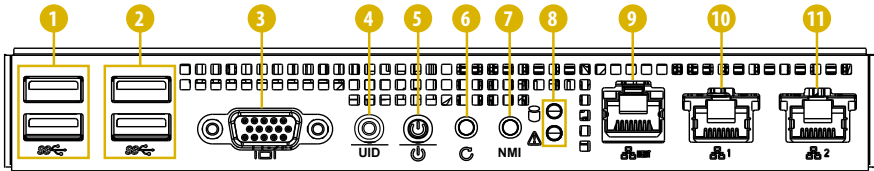
2.4 System Rear Panel



No.	Description
1	5+5 CRPS
2	2 FHHL PCIe5.0 x16 slots Left: Riser_L Right: Riser_R
3	2 PWM 80 x 80 mm internal fans
4	Rear I/O panels
5	3 PWM 60 x 56 mm rear fans Left-to-right: FAN10, FAN9, FAN8

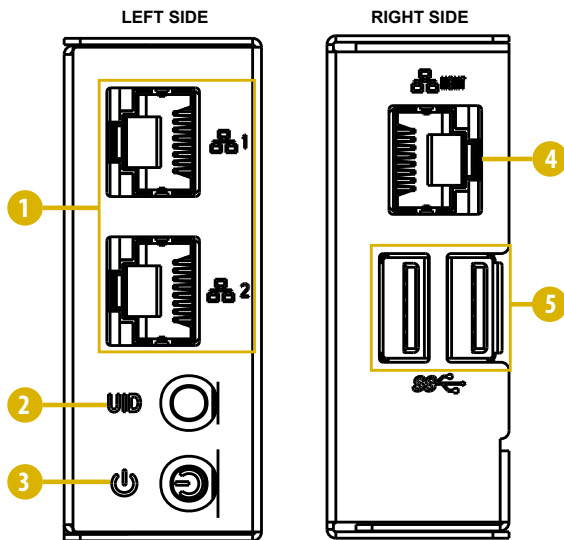
2.5 I/O Panel

Front I/O Panel



No.	Description
1	2 Type-A (USB 3.2 Gen1) ports (USB3_1_2)
2	2 Type-A (USB 3.2 Gen1) ports (USB3_3_4)
3	DB15 (VGA) port
4	UID button w/ LED
5	Power button w/ LED
6	Reset button
7	NMI button
8	Top: HDD activity LED Bottom: System fault LED
9	Dedicated IPMI LAN port, shared with rear I/O panels
10	RJ45 (1 GbE) LAN port (LAN1), shared with rear I/O panels
11	RJ45 (1 GbE) LAN port (LAN2), shared with rear I/O panels

Rear I/O Panels



No.	Description
1	2 RJ45 (1 GbE) LAN ports (LAN1, LAN2), shared with front I/O panel
2	UID button w/ LED
3	Power button w/ LED
4	Dedicated IPMI LAN port, shared with front I/O panel
5	2 Type-A (USB 3.2 Gen1) ports

UID Button

Press the UID button to toggle the front and rear UID LEDs on and off. Use this button to locate the server working on behind a rack of servers.



1. Press and hold the UID button for 4 seconds, BMC will trigger an external reset.
2. Press and hold the UID button for 10 seconds, BMC will reset and load default values.

Power Button

Press the power switch button to toggle the system power on and standby/sleep modes. To remove all power from the system completely, disconnect the power cord from the server.

Reset Button

When the system is completely unresponsive, press the system reset button to reboot the server without shutting it off and initialize the system.

NMI (Nonmaskable Interrupt) Button

Press the NMI button with a paper clip or pin to generate a nonmaskable interrupt and to put the server in a halt state for examination.

Status LED Definitions

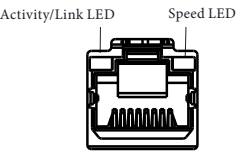
UID LED	
Status	Description
Off	System identification is disabled.
Blue	System identification is active.

Power LED	
Status	Description
Off	Power off
Green	Power on

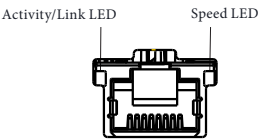
Drive Activity LED	
Status	Description
Off	Drive inactive
Green	Drive active

System Fault LED	
Status	Description
Off	Normal
Red	System fault

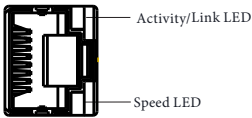
Front Dedicated IPMI LAN Port



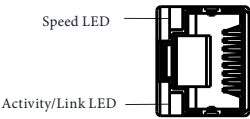
Front RJ45 (1 GbE) LAN Ports (LAN1 and LAN2)



Rear Dedicated IPMI LAN Port



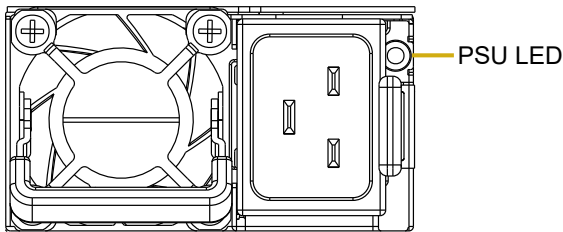
Rear RJ45 (1 GbE) LAN Ports (LAN3 and LAN4)



Activity/Link LED		Speed LED	
Status	Description	Status	Description
Off	No link	Off	10Mbps connection or no link
Blinking Yellow	Data activity	Orange	100Mbps connection
On	Link	Green	1Gbps connection

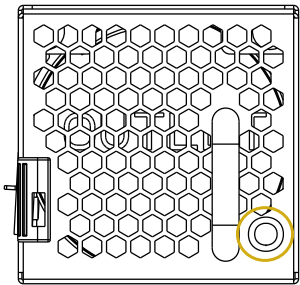
2.6 LED

PSU LED



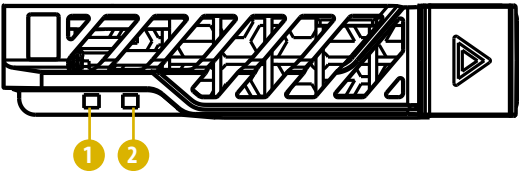
Status	Description
Green	Normal work; output ON and OK
Blinking Green at 0.5Hz	AC Present Only 12VSB on (PS off) or PSU in Smart Redundant state
Amber	Module fault/protection in operating mode (failure, OCP, OVP, Fan Fail, OTP, UVP) AC cord unplugged
Blinking Amber at 0.5Hz	Warning (high temp, high power, high current, slow fan)

Rear Fan LED



Status	Description
Off	Normal or no power
Red	Abnormal

Drive Tray LED



No.	Description
1	Drive tray status LED
2	Drive tray activity LED

LED Definitions

Status (No. 1)	Activity (No. 2)	Description
Off	Off	Drive not present
Blue	Green	Drive present but not active
Blue	Blinking Green at 4Hz	Drive present and active
Blinking Blue at 4Hz	Green	Locate
Red	Green	Fail
Blinking Red at 1Hz	Blinking Green at 4Hz	Rebuild

Chapter 3 Hardware Installation and Maintenance

This chapter helps user to assemble the chassis and install components.

Before You Begin

Before working with the server, pay close attention to the “Important Safety Instructions” at the beginning of this manual.



1. Ensure the motherboard battery is installed before unplugging the power cord or installing/removing the motherboard.
2. Before installing or removing any component, ensure that the power supply is off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

1. Make sure the server is powered off.

Power down the server if it is still running.

- (1) Press the Power button to power off the server from full-power mode to standby-power (sleep) mode. The Power LED at the front turns from solid green to blinking green.
- (2) Disconnect the power cord first from the AC outlet and then from the server.
The power LED turns off.



The server is not completely powered down when pressing the Power button on the front panel. The Power button lets the server toggle between Power On and Standby (Sleep) modes. Some internal circuitry remain active in the Standby mode. To remove all power from the system completely, be sure to disconnect the power cord from the server.

2. Ensure having a clean and stable working environment. Avoid dust and dirt because contaminants may cause malfunctions.
3. Ground properly before touching any system component. A discharge of static electricity may damage components. Wear a grounded wrist strap if available.



1. Some components are already pre-installed. Simply properly connect the relevant cables before or after installation.
2. Refer to the server motherboard user manual for instructions on how to install server motherboard components.

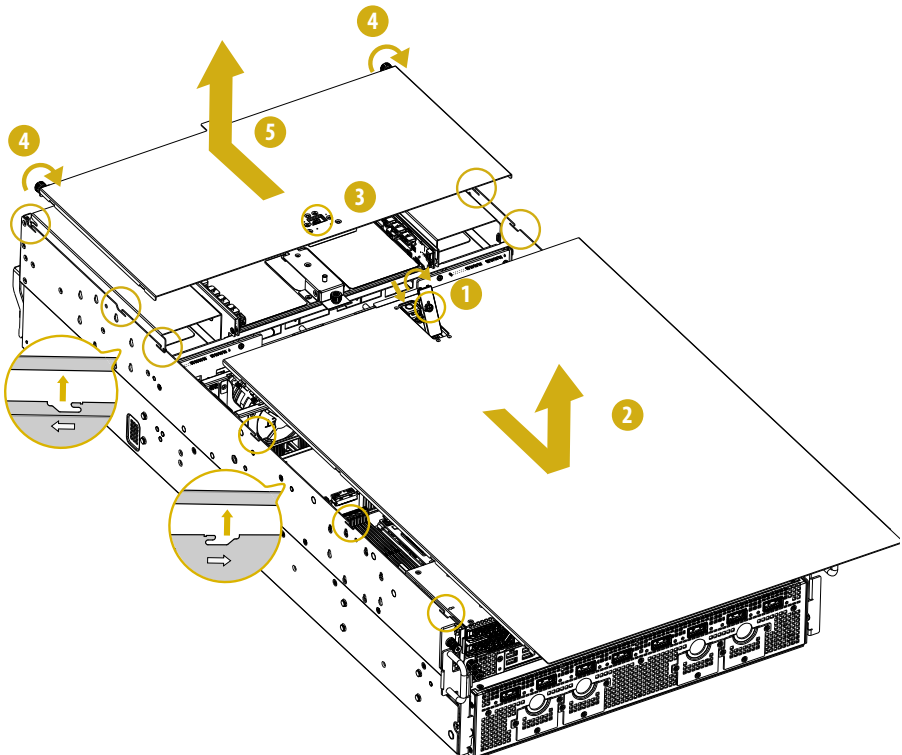
3.1 Server Top cover

Removing the Server Front Top Cover



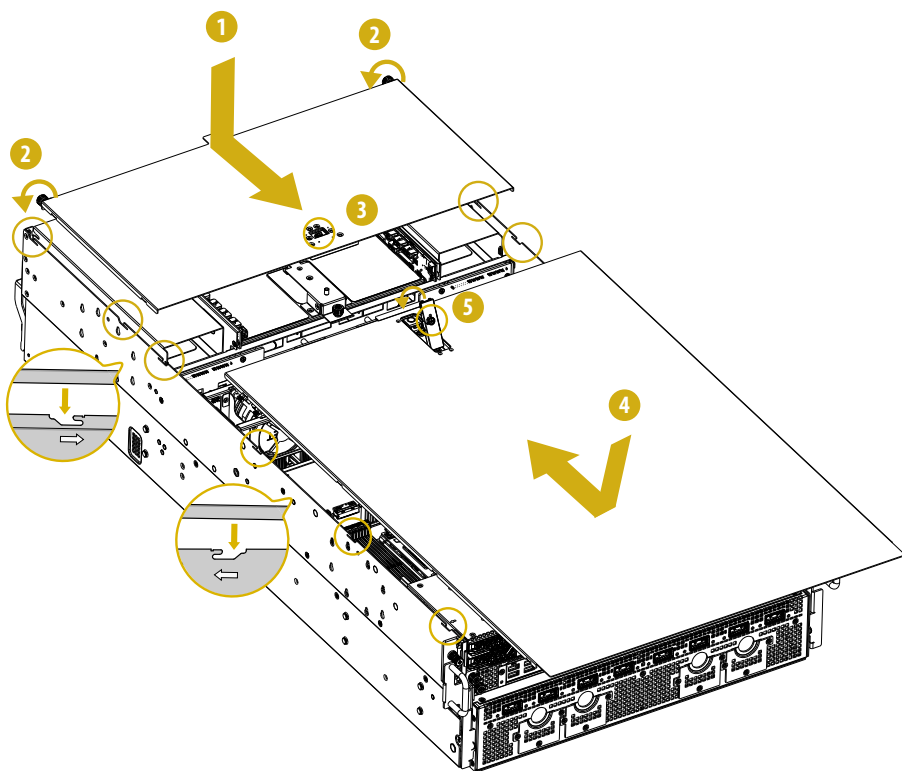
1. Before removing the top covers, power off the server and unplug the power cord.
2. The system must be operated with the chassis top covers installed to ensure proper cooling.
3. Front top cover and rear top cover can be removed and installed separately.

1. Loosen the screw on the locking tab and press the button to unlock the front top cover.
2. Push the front top cover toward the FRONT of the chassis to release it from the locked position. Lift up and remove the cover.
3. Release the spring screw.
4. Hand-release the thumbscrews on the rear side of the chassis.
5. Push the rear top cover toward the REAR of the chassis to release it from the locked position. Lift up and remove the cover.



Installing the Server Rear Top Cover

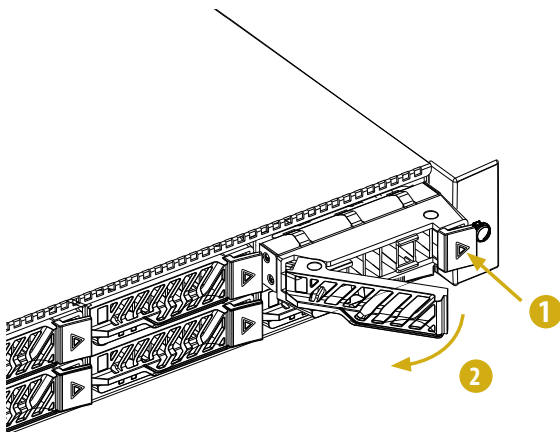
1. Lower the rear top cover on the chassis, making sure the side latches align with the cutouts. Slide the cover toward the FRONT of the chassis.
2. Hand-tighten the thumbscrews on the rear side of the chassis.
3. Tighten the spring screw.
4. Lower the front top cover on the chassis, making sure the side latches align with the cutouts. Slide the cover toward the REAR of the chassis.
5. Press down the locking tab and tighten the screw to secure the cover.



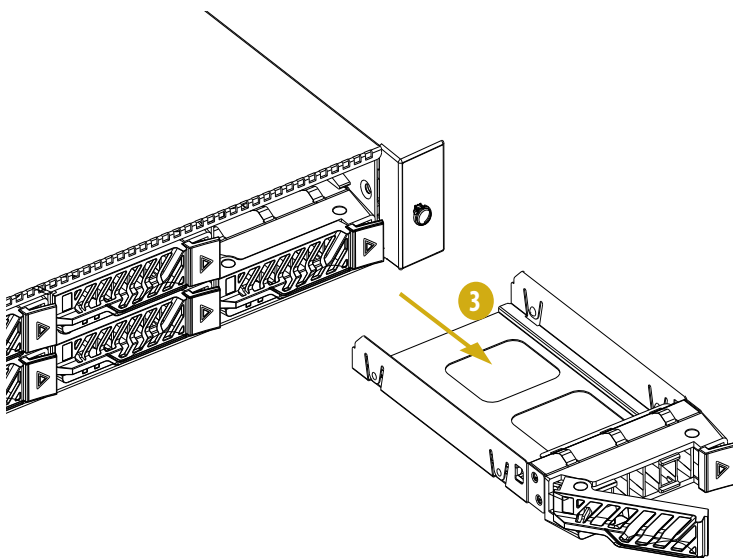
3.2 Drive

Removing Drive Tray from the Chassis

1. Press the locking lever latch.
2. Open the lever.

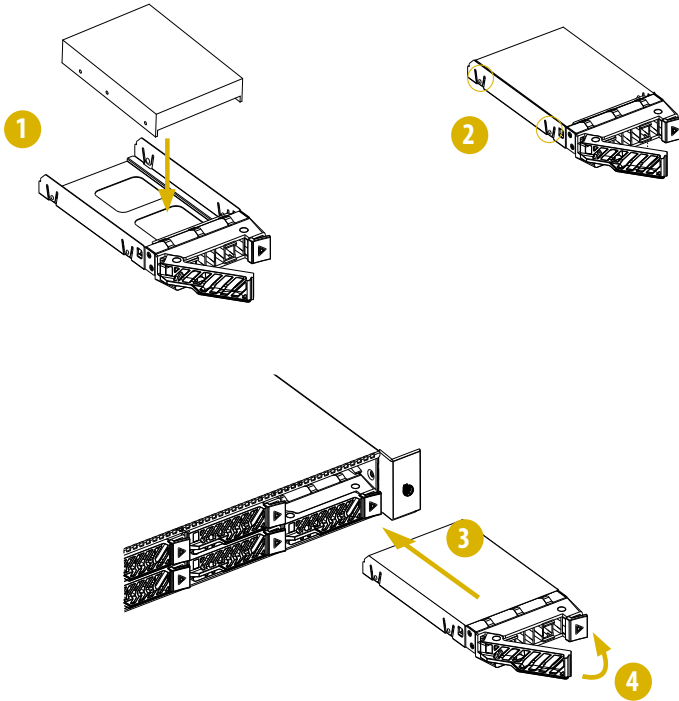


3. Pull the drive tray out.



Installing 2.5" Drive to the Chassis

1. Place the drive into the drive tray with printed circuit board side facing down.
2. Use the bumps on both sides of tray to secure the drive.
3. Slide the drive assembly into the drive bay.
4. Push in the locking lever to lock the drive assembly into place.



3.3 Power Supply

The system can accommodate 10 power supply units in the bay at the rear of the chassis. 5 PSUs are required for full load operation, with the other 5 units purely as redundant, load-sharing backup. 5 PSUs can be removed without affecting system operation.

Removing the Power Supply Unit

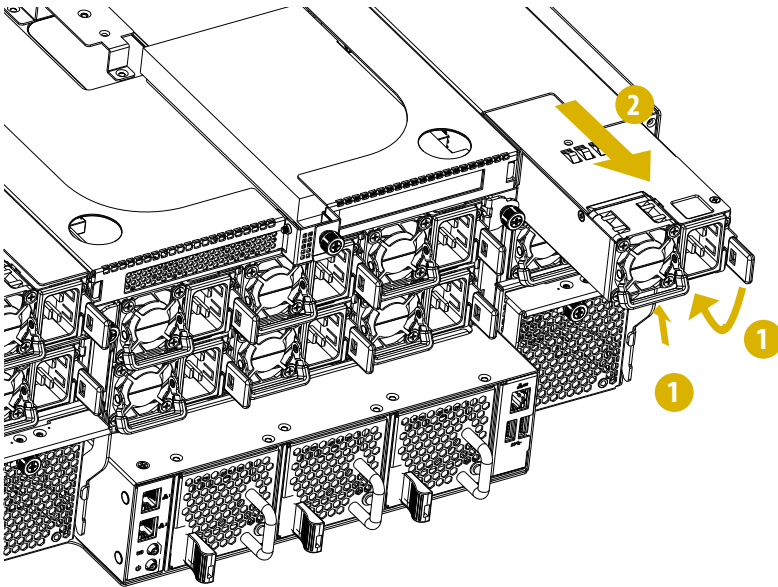


1. Before replacing the power supply unit, power off the server, unplug the power cord, and disconnect all wiring from the power supply unit.
2. The redundant system does not require powering down the server.

1. Hold onto the power supply handle while pressing the locking lever towards the power supply handle.

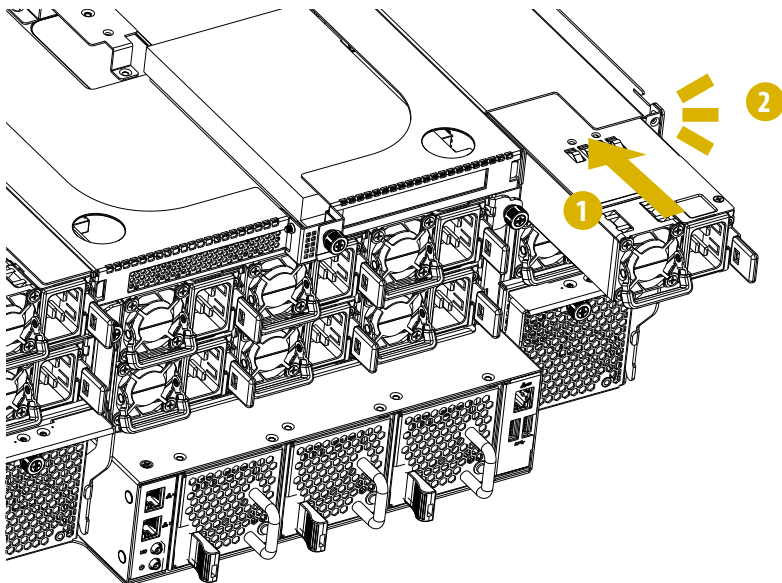
Note: The illustration is for references only. The actual PSU type may be slightly different by models.

2. Pull out the power supply unit from the chassis.



Installing the Power Supply Unit

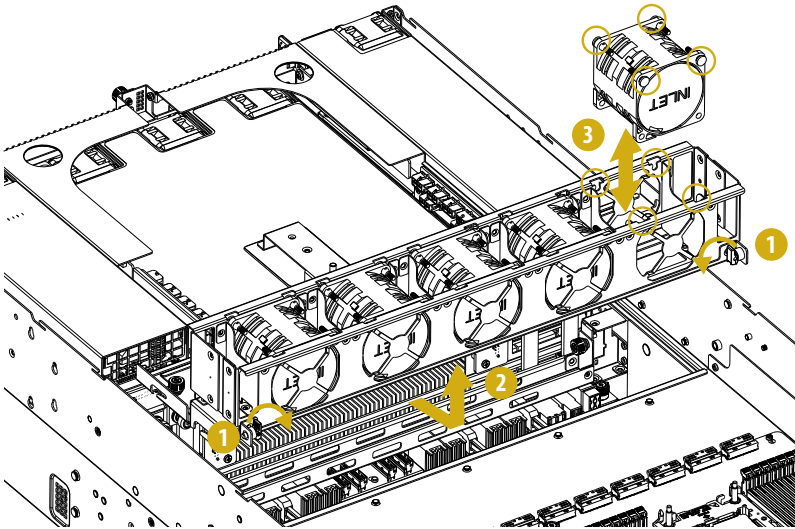
1. Align the power supply unit with the power supply bay.
2. Carefully slide the PSU all the way into the bay until the PSU clicks in place.



3.4 System Fan

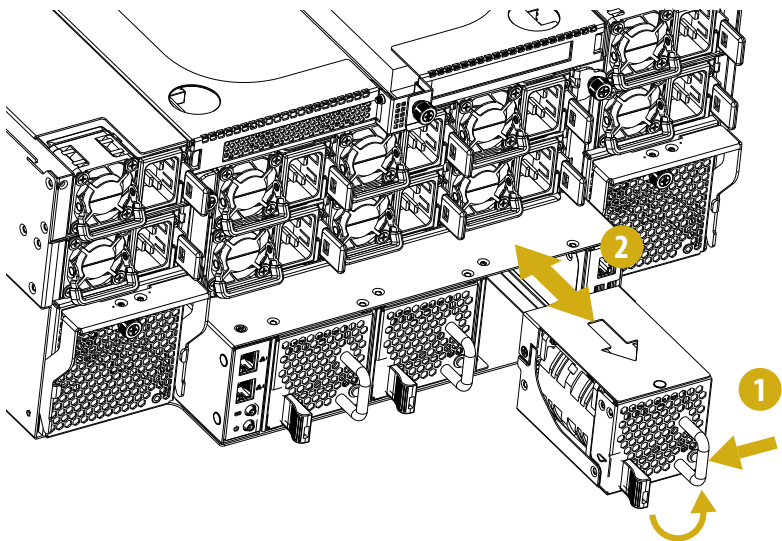
Replacing the Top Fan

1. Rotate two plungers 90° inward.
2. Pull the fan bar toward the FRONT of the chassis. Lift up and remove it.
3. Remove the failed fan.
4. Align the mounting holes on the replacement fan with the fan mounts on the fan bar.
Gently place the fan onto the mounts. Make sure the fan is well seated.
5. Place the fan bar into the chassis.
6. Rotate two plungers up.



Replacing the Rear Fan

1. Hold onto the fan handle while pressing the locking lever towards the fan handle.
2. Pull out the fan from the chassis.
3. Gently place the replacement fan into the bay.
4. Make sure the fan is well seated.



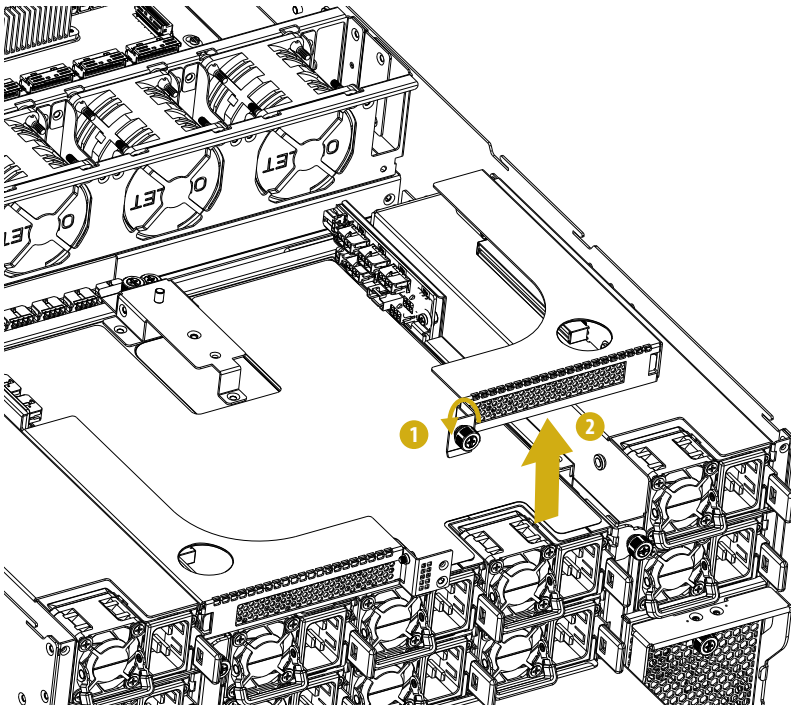
3.5 Add-in Card



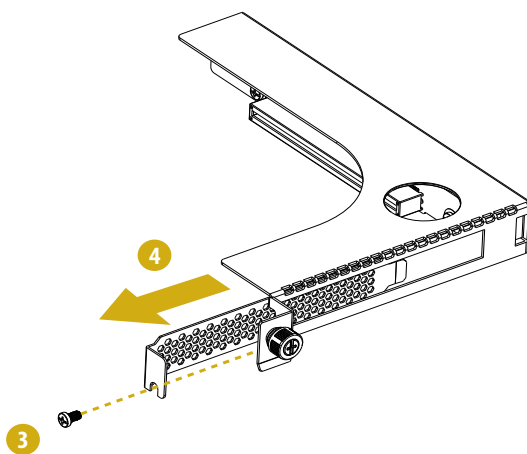
1. Before installing the add-in card, power off the server and unplug the power cord.
2. Remove Riser_R bracket first, then Riser_L bracket. The installations of add-in cards into the Riser_R bracket and Riser_L bracket are similar.

Installing the Add-in Card to Riser_R Slot

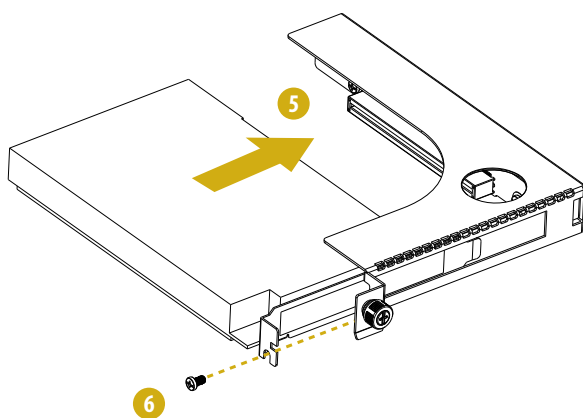
1. Hand-release the thumbscrew securing the bracket on the chassis.
2. Lift up the bracket.



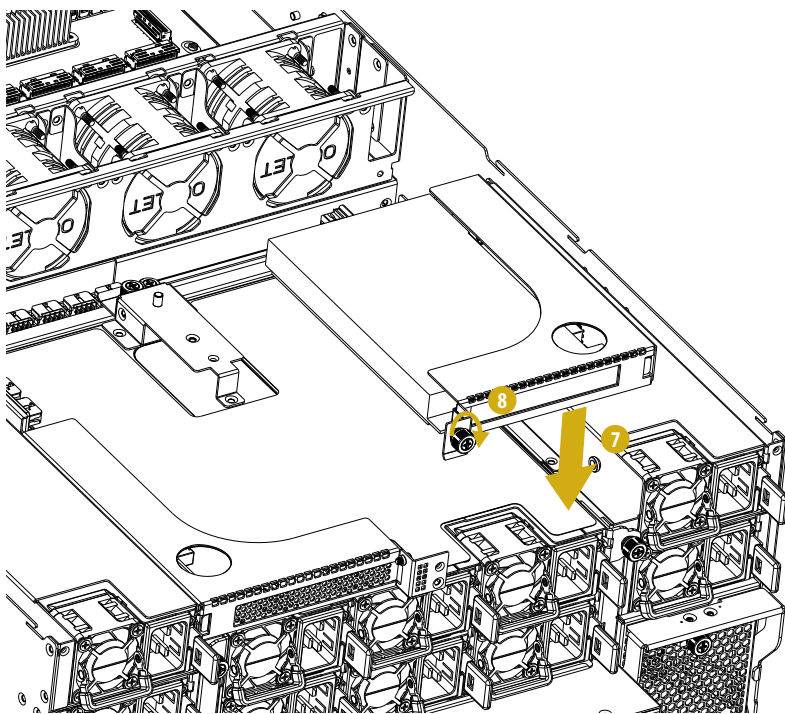
3. Remove the screw securing the blanking plate on the bracket.
4. Slide the blanking plate out sideways.



5. Install the add-in card to the bracket.
6. Secure the card to the bracket with the screw.



7. Align the add-in card assembly with the opening of the chassis and put it in place.
8. Hand-tighten the thumbscrew to secure the assembly to the chassis.

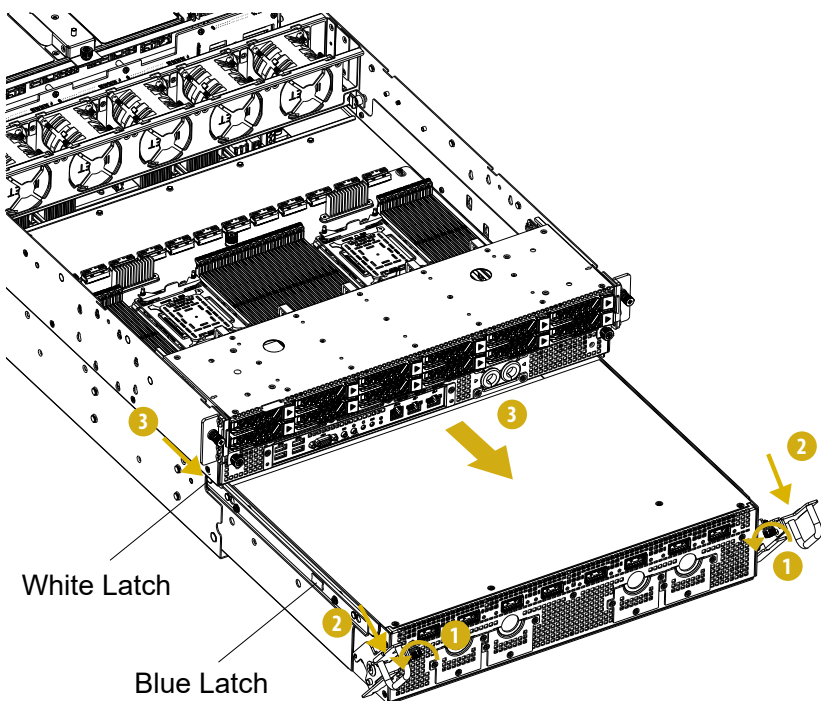


3.6 GPU Tray Cover

Removing the GPU Tray from the Chassis

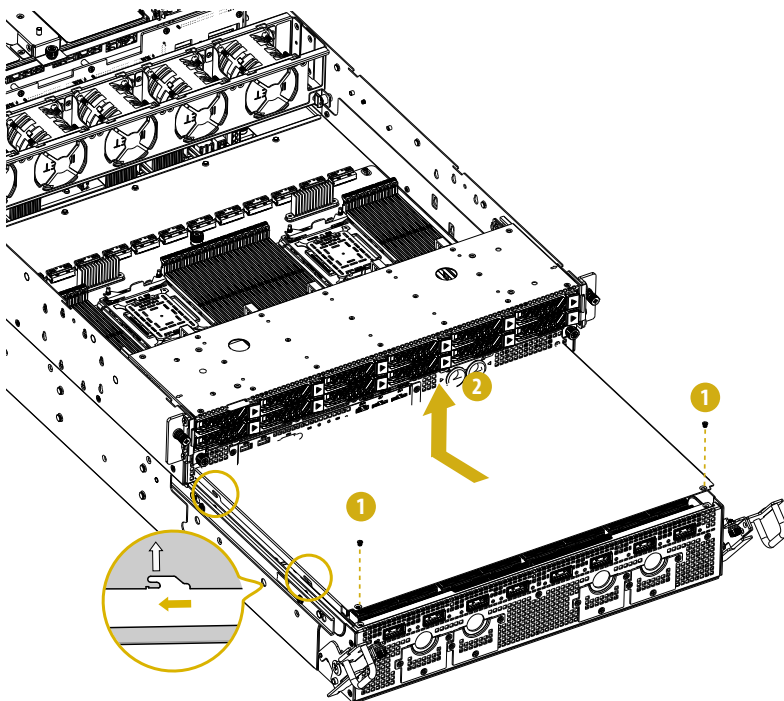
1. Hand-release the thumbscrews securing the GPU tray to the chassis.
2. Pull the GPU handles down gently.
3. Hold onto the GPU handles to pull the tray out until it is locked. Slide the WHITE latches toward the FRONT of the chassis to remove the whole tray out.

Note: The GPU handles are for pulling and pushing the GPU tray only. To lift the whole GPU tray, place your hands underneath the GPU tray to move it. To move the whole server, use the server handles in the accessory box and refer to [Appendix Installing the Server in a Rack](#) for details.



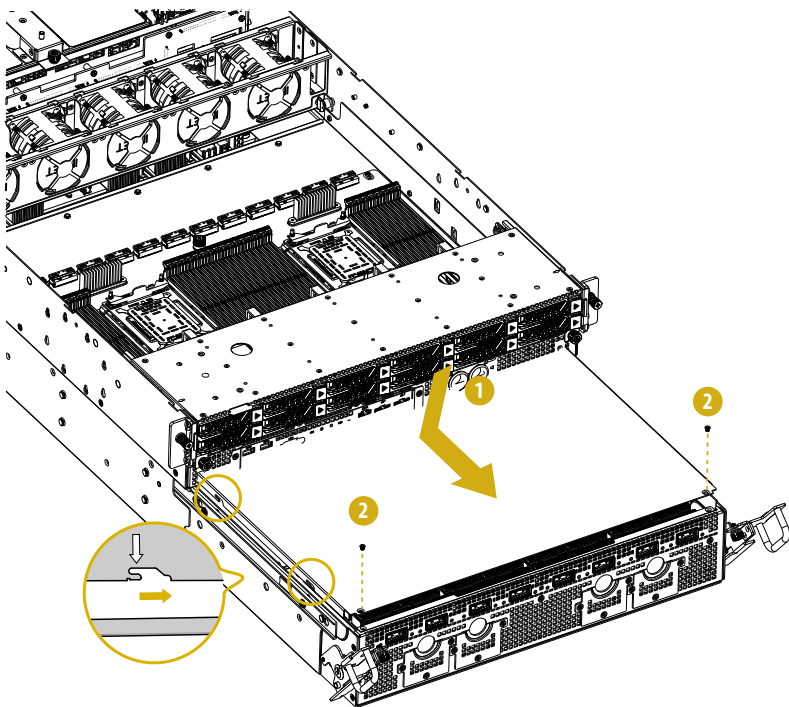
Removing the GPU Tray Cover

1. Remove the screws securing the GPU tray cover to the GPU tray.
2. Push the cover toward the REAR of the tray to release it from the locked position. Lift up and remove the cover.



Installing the GPU Tray Cover

1. Lower the GPU tray cover on the GPU tray, making sure the side latches align with the cutouts. Slide the cover toward the FRONT of the tray.
2. Secure the cover to the tray with the screws.

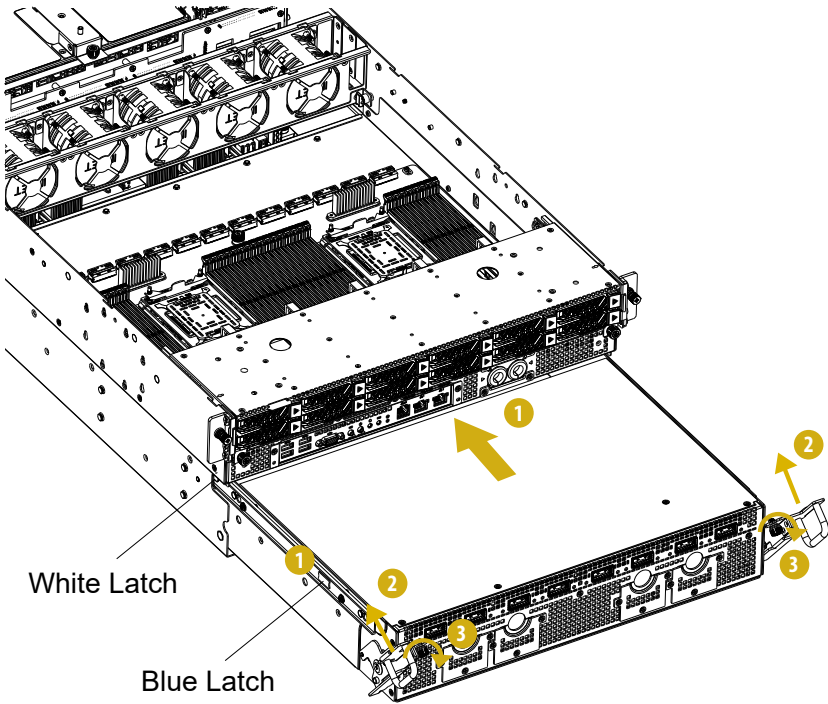


Installing the GPU Tray to the Chassis

1. Push the BLUE latches toward the FRONT of the chassis and slide the GPU tray all the way into the bay.

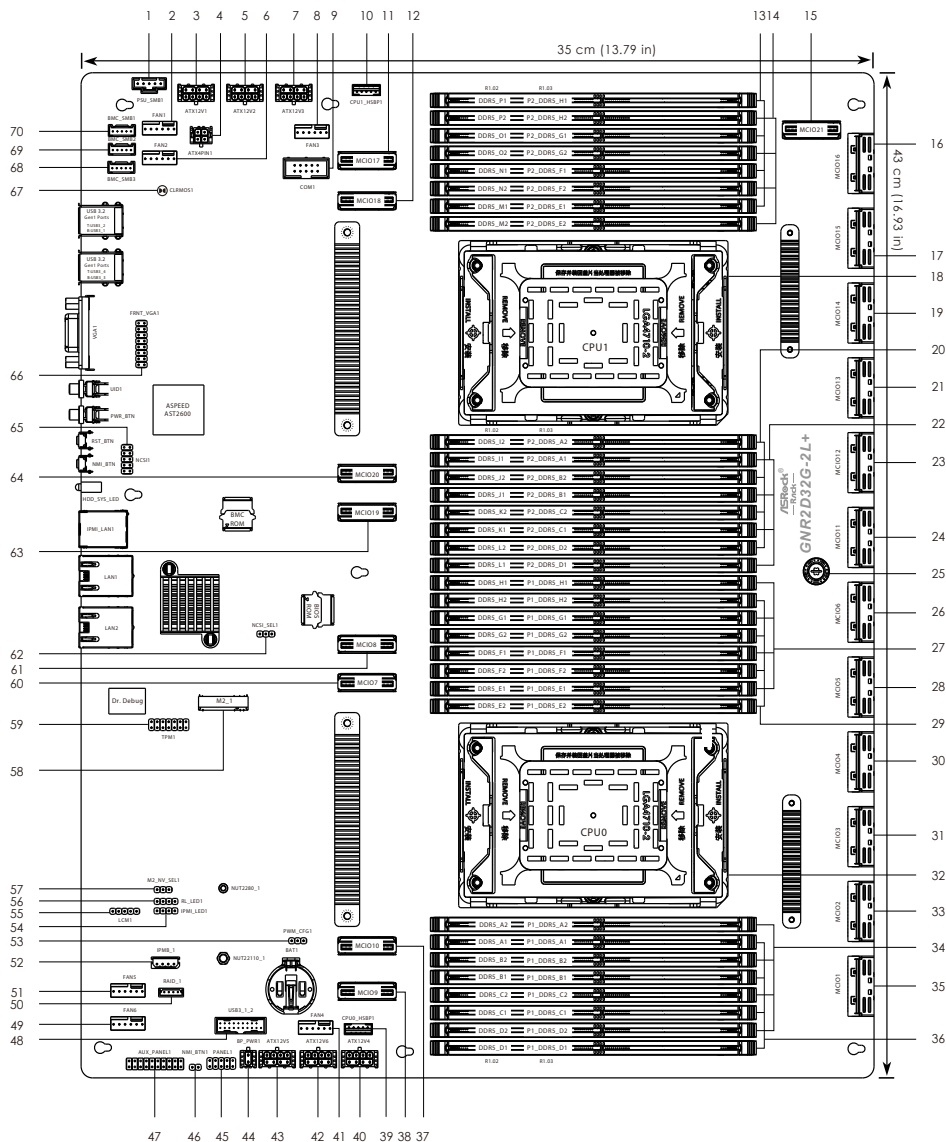
Note: Place the system on a stable and flat surface to make sure the smooth sliding.

2. Lift the GPU handles up.
3. Hand-tighten the thumbscrews to secure the tray to the chassis.



Chapter 4 Server Motherboard (GNR2D32G-2L+)

4.1 Layout

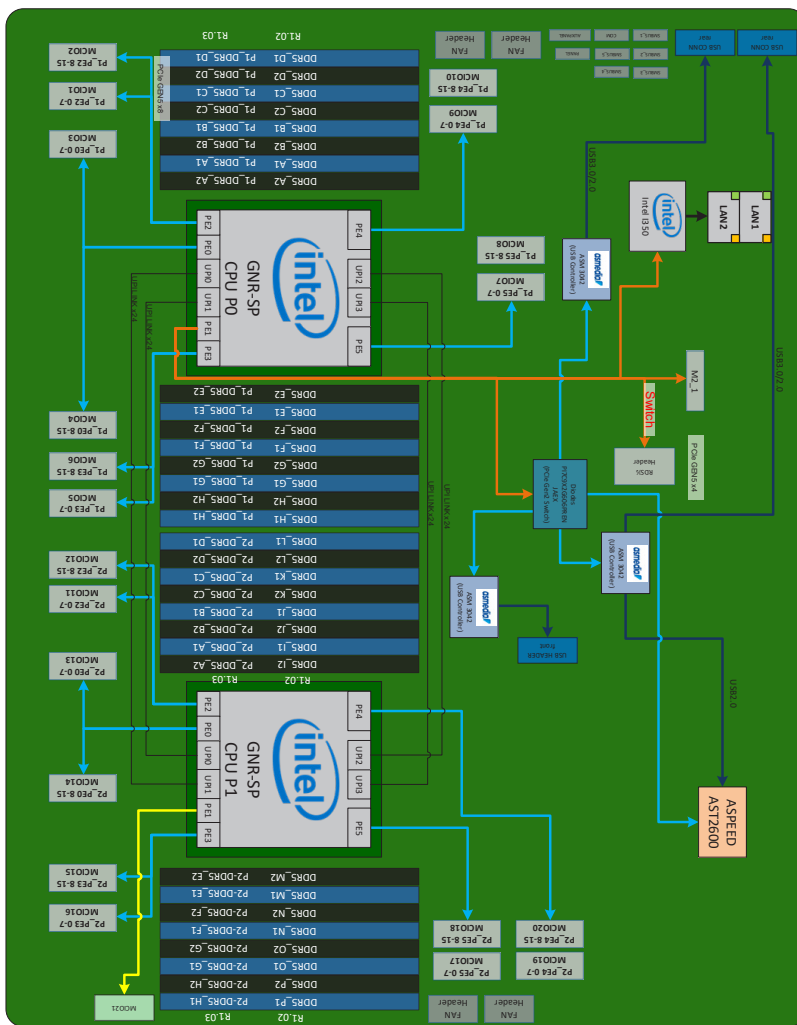


No.	Description
1	PSU SMBus (PSU_SMB1)
2	System Fan Header (FAN1)
3	ATX 12V Power Connector (ATX12V1)
4	Micro-Fit Power Connector (ATX4PIN1)
5	ATX 12V Power Connector (ATX12V2)
6	System Fan Header (FAN2)
7	ATX 12V Power Connector (ATX12V3)
8	System Fan Header (FAN3)
9	COM Port Header (COM1)
10	Backplane PCI Express Hot-Plug Connector (CPU1_HSBP1)
11	Mini Cool Edge IO Connector (MCIO17)
12	Mini Cool Edge IO Connector (MCIO18)
13	R1.02: 4 DDR5 DIMM Slots (DDR5_M1/N1/O1/P1)
	R1.03: 4 DDR5 DIMM Slots (P2_DDR5_E1/F1/G1/H1)
14	R1.02: 4 DDR5 DIMM Slots (DDR5_M2/N2/O2/P2)
	R1.03: 4 DDR5 DIMM Slots (P2_DDR5_E2/F2/G2/H2)
15	Mini Cool Edge IO Connector (MCIO21)
16	Mini Cool Edge IO Connector (MCIO16)
17	Mini Cool Edge IO Connector (MCIO15)
18	Socket E2 (LGA4710) (CPU1)
19	Mini Cool Edge IO Connector (MCIO14)
20	R1.02: 4 DDR5 DIMM Slots (DDR5_I2/J2/K2/L2)
	R1.03: 4 DDR5 DIMM Slots (P2_DDR5_A2/B2/C2/D2)
21	Mini Cool Edge IO Connector (MCIO13)
22	R1.02: 4 DDR5 DIMM Slots (DDR5_I1/J1/K1/L1)
	R1.03: 4 DDR5 DIMM Slots (P2_DDR5_A1/B1/C1/D1)
23	Mini Cool Edge IO Connector (MCIO12)
24	Mini Cool Edge IO Connector (MCIO11)
25	Thumbscrew
26	Mini Cool Edge IO Connector (MCIO6)
27	R1.02: 4 DDR5 DIMM Slots (DDR5_E1/F1/G1/H1)
	R1.03: 4 DDR5 DIMM Slots (P1_DDR5_E1/F1/G1/H1)
28	Mini Cool Edge IO Connector (MCIO5)
29	R1.02: 4 DDR5 DIMM Slots (DDR5_E2/F2/G2/H2)
	R1.03: 4 DDR5 DIMM Slots (P1_DDR5_E2/F2/G2/H2)
30	Mini Cool Edge IO Connector (MCIO4)

No.	Description
31	Mini Cool Edge IO Connector (MCIO3)
32	Socket E2 (LGA4710) (CPU0)
33	Mini Cool Edge IO Connector (MCIO2)
34	R1.02: 4 DDR5 DIMM Slots (DDR5_A2/B2/C2/D2) R1.03: 4 DDR5 DIMM Slots (P1_DDR5_A2/B2/C2/D2)
35	Mini Cool Edge IO Connector (MCIO1)
36	R1.02: 4 DDR5 DIMM Slots (DDR5_A1/B1/C1/D1) R1.03: 4 DDR5 DIMM Slots (P1_DDR5_A1/B1/C1/D1)
37	Mini Cool Edge IO Connector (MCIO10)
38	Mini Cool Edge IO Connector (MCIO9)
39	Backplane PCI Express Hot-Plug Connector (CPU0_HSBP1)
40	ATX 12V Power Connector (ATX12V4)
41	System Fan Header (FAN4)
42	ATX 12V Power Connector (ATX12V6)
43	ATX 12V Power Connector (ATX12V5)
44	HDD Backplane Power Connector (BP_PWR1)
45	System Panel Header (PANEL1)
46	Non Maskable Interrupt Button (NMI_BTN1)
47	Auxiliary Panel Header (AUX_PANEL1)
48	USB 3.2 Gen1 Header (USB3_1_2)
49	System Fan Header (FAN6)
50	Virtual RAID On CPU Header (RAID_1)
51	System Fan Header (FAN5)
52	Intelligent Platform Management Bus Header (IPMB_1)
53	PWM Configuration Header (PWM_CFG1)
54	IPMI LAN LED Header (IPMI_LED1)
55	Liquid Crystal Module Header (LCM1)
56	Rear Panel LAN LED (RL_LED1)
57	M.2 Signal Source Selection Jumper (M2_NV_SEL1)
58	M.2 Socket (M2_1) (Type 22110 / 2280)
59	SPI TPM Header (TPM1)
60	Mini Cool Edge IO Connector (MCIO7)
61	Mini Cool Edge IO Connector (MCIO8)
62	NCSI Mode Jumper (NCSI_SEL1)

No.	Description
63	Mini Cool Edge IO Connector (MCIO19)
64	Mini Cool Edge IO Connector (MCIO20)
65	Network Controller Sideband Interface Header (NCSII)
66	Front VGA Header (FRNT_VGA1)
67	Clear CMOS Pad (CLRMOS1)
68	BMC SMBus Header (BMC_SMB3)
69	BMC SMBus Header (BMC_SMB2)
70	BMC SMBus Header (BMC_SMB1)

4.2 Block Diagram

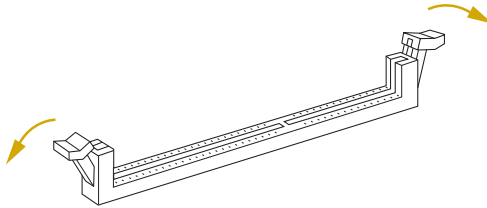


4.3 Installing the Memory Modules (DIMM)

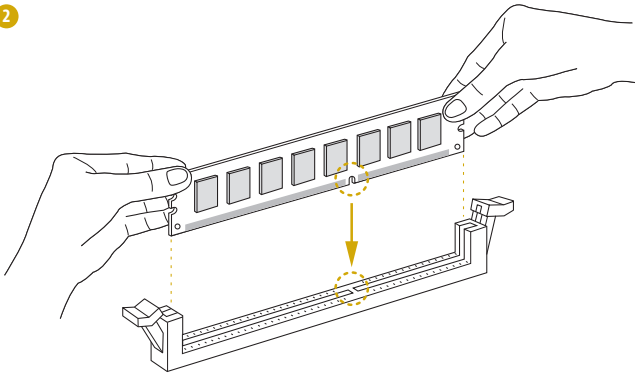


The DIMM only fits in one correct orientation. It will cause permanent damage to the server motherboard and the DIMM if forcing the DIMM into the slot at incorrect orientation. For more information about DIMM installation, refer to the server motherboard user manual.

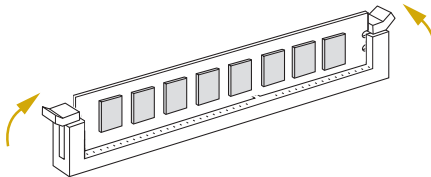
1



2



3



Appendix

Installing the Server in a Rack

The section describes how to rackmount the server with slide rail assembly.



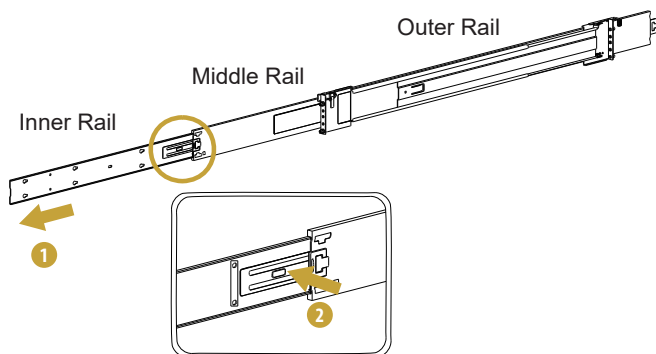
The rails installation instructions in this manual are example only; the actual rail assembly procedure may differ slightly.



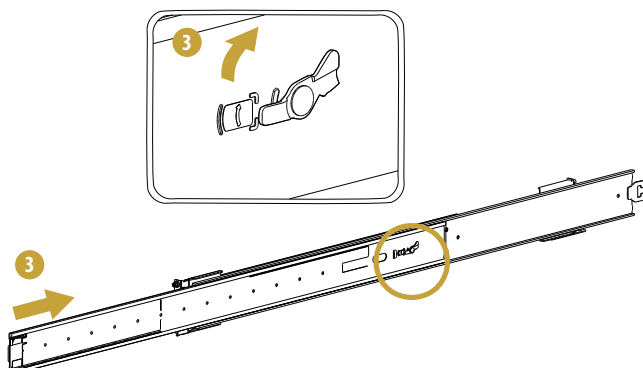
Some slide rails are labeled with either L or R, please identify prior to rail installation. Install the rail labeled with L on the left side of rack, and the rail labeled with R on the right side.

Removing the inner rail from the rail assembly

1. Pull the inner rail out until hearing a click.
2. Push locking plate to remove the inner rail from the rail assembly.

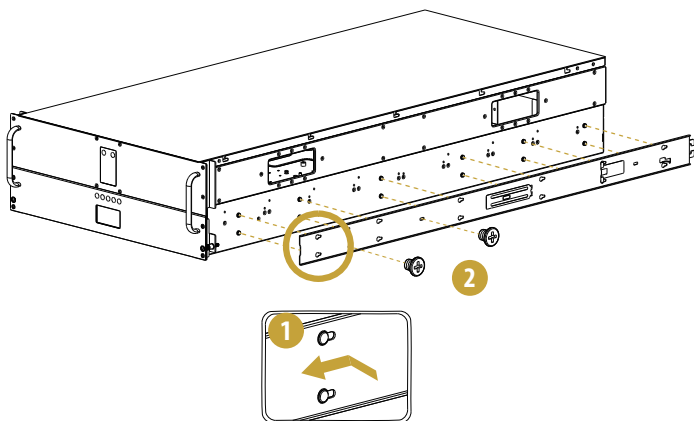


3. Push tab to slide the middle rail back.



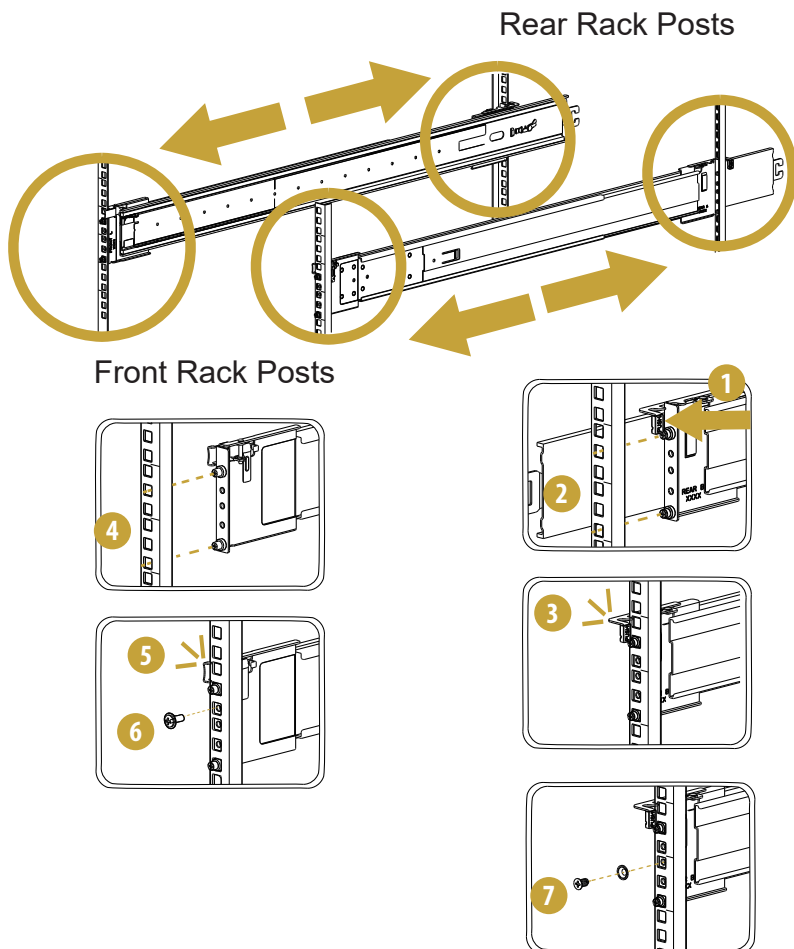
Installing the inner rail onto the chassis

1. Align key holes on the inner rail with the chassis. Slide the inner rail toward the FRONT of the chassis until hearing a click.
2. For safety concern, secure the inner rail to the chassis with the screws.



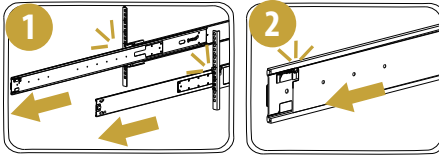
Installing outer rail onto the rack post

1. Push the "Push" button on the **rear of the outer rail**.
2. Align the screws on the **rear of the outer rail** with the rounded-holes on the **rear post**.
3. Release the "Push" button. A click will be heard when the **rear of the outer rail** clamps the **rear post**.
4. Align the screws on the **front of the outer rail** with the rounded-holes on the **front post**.
5. A click will be heard.
6. Secure the **front of the outer rail** to the **front post** with M5x10L screw and M5 washer.
7. Secure the **rear of the outer rail** to the **rear post** with M5x10L screw and M5 washer.
8. Repeat steps 1~7 to install the other outer rail.

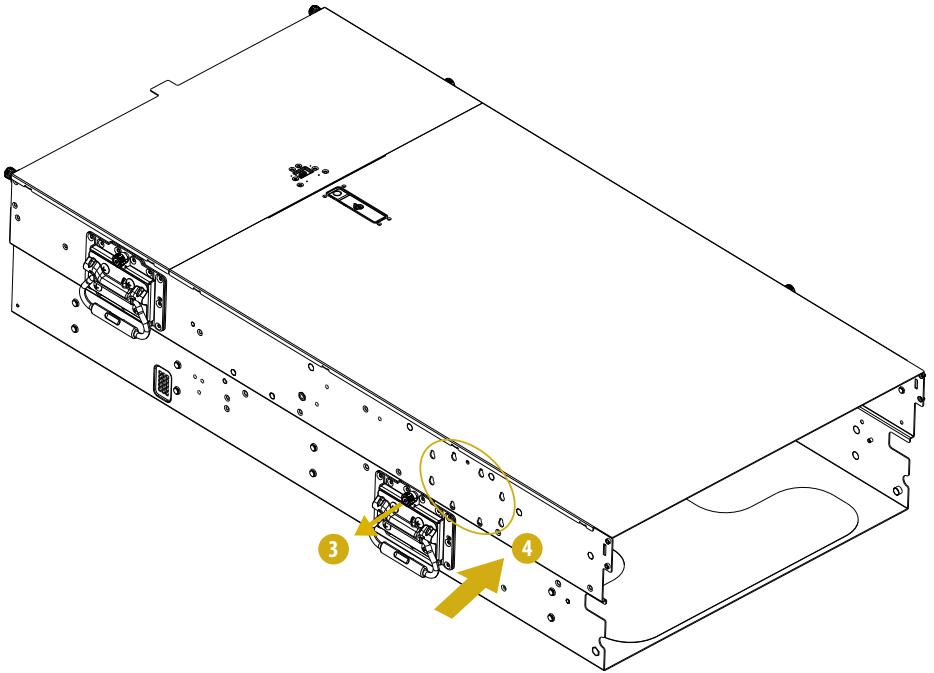


Installing the chassis onto the rack rail

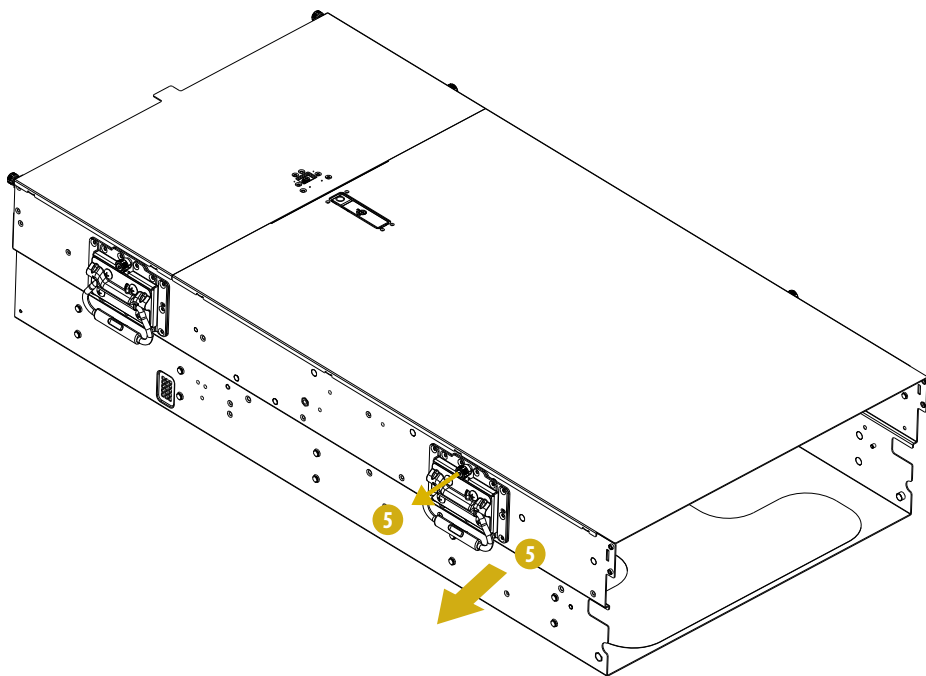
1. Pull out middle rail until hearing a click.
2. Make sure ball bearing retainer is located at the front of the middle rail.



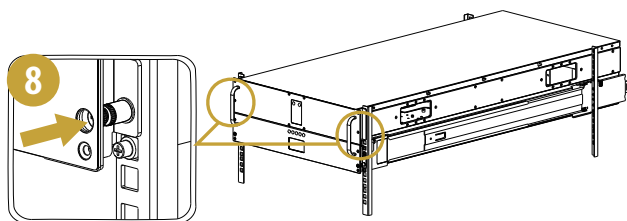
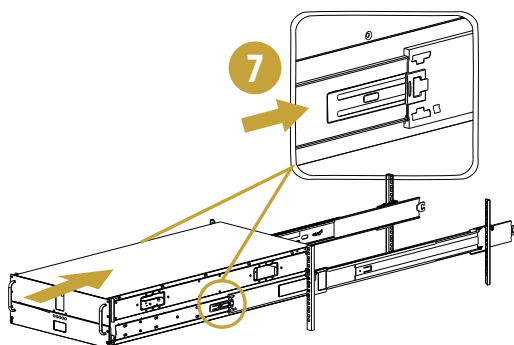
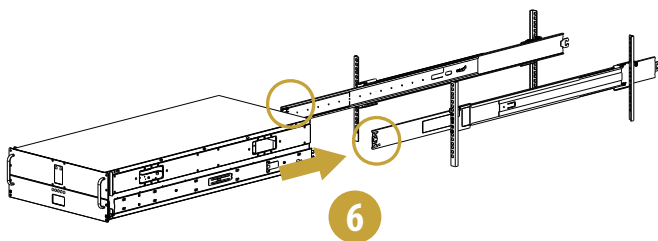
3. Take out four server handles from the accessory box. Pull out the pin of the handle.
4. Align the mounting holes of the handle with the holes on the chassis. Rotate the pin to secure the handle with the chassis.



5. At least four movers are required to use the server handles to place the chassis on the specialized lifting equipment. Once the chassis is on the lifting equipment, pull out the pin and remove the handle.



6. Safely move the chassis to the horizontal level with the rails. Aim the rear of the inner rail to middle rail. Horizontally insert the chassis to middle and outer rail.
7. When chassis is locked, push release tab on both sides and continue sliding the chassis to the rack.
8. Tighten chassis ear screws and secure the rail with shipping screws.



Contact Information

Contact ASRock Rack or want to know more about ASRock Rack, you're welcome to visit ASRock Rack's website at <http://www.asrockrack.com>; or contact the dealer for further information. For technical questions, please submit a support request form at <https://event.asrockrack.com/tsd.asp>

ASRock Rack Incorporation

e-mail: ASRockRack_sales@asrockrack.com

ASRock Rack EUROPE B.V.

Bijsterhuizen 11-11

6546 AR Nijmegen

The Netherlands

Phone: +31-24-345-44-33

ASRock Rack America, Inc.

4331 Eucalyptus Ave, Chino, CA 91710 U.S.A.

Phone: +1-909-590-8308

Fax: +1-909-590-1026