OPEN
Industry Standard, Flexible Architecture

GREEN
Less Heat, Less Power Consumption

STABLE
Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation
Motherboard

8U8X-GNR2 SYN B200

User Manual

English

Version 1.00
Published Jan. 2026

Copyright Notice:

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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

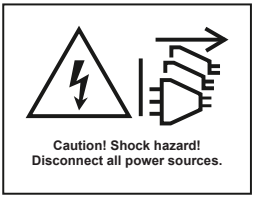
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

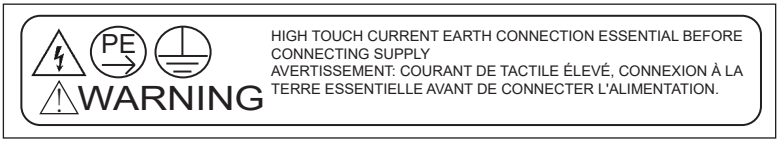
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

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

Thank you for purchasing 8U8X-GNR2 SYN B200, 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
8U8X-GNR2 SYN B200	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.
https://www.asrockrack.com/support/

English

1.1 Shipping Box Contents

Item	Quantity
Server Barebone: 8U8X-GNR2 SYN B200	1
CPU Heatsink	2
Rail Kit	1
Accessory Box - 12 Power Cords - 1 Quick Installation Guide - 1 Screw for M.2 Socket - 4 CPU Non-fabric Carriers (2 E2A, 2 E2B)	1

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

1.2 Specifications

8U8X-GNR2 SYN B200	
System	
Form Factor	8U Rackmount
Dimension	930 x 448 x 353.6mm (36.6'' x 17.6'' x 13.9'')
Support MB	GNR2D32G-2L+
Front Panel	
Button	Power button w/ LED, reset button, NMI button, UID button
LED	System fault LED, hard drive activity LED
I/O Port	2 RJ45 (1GbE) by Intel® i350, share with rear I/O 1 Dedicated IPMI, shares with rear I/O 4 Type-A (USB3.2 Gen1) 1 DB15 (VGA)
External Drive Bay / Storage	
Front Side Drive Bay	8 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	6+6 CRPS
Output Watt	3002.4W @ 220-240Vac input 2900W @ 200-220Vac input
Efficiency	80-PLUS Titanium
AC Input	200-240Vrms, 50/60Hz
System Fan	
Fan	29 PWM 80x80mm fans 4 PWM 40x40mm fans
Processor System	
GPU	NVIDIA® HGX B200 8-GPU with NVIDIA® NVSwitch™
CPU	Supports Intel® Xeon® 6700P-series, 6500P-series, and 6700E-series Processors
Socket	1+1 Socket E2 (LGA 4710)
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, RDIMM-3DS DDR5 MRDIMM (1DPC only)
Max. Capacity per DIMM	RDIMM: 128GB RDIMM-3DS: 256GB MRDIMM: 64GB
Max. DIMM Frequency	RDIMM, RDIMM-3DS: 6400MT/s (1DPC), 5200MT/s (2DPC) MRDIMM: 8000MT/s (1DPC only)
Voltage	1.1V
PCIe Expansion Slot	
PCIe x16	**Rear:** 8 HHHL PCIe5.0 x16 2 FHHL PCIe5.0 x16
Ethernet	
Additional GbE Controller	Intel® i350: 2 RJ45 (1GbE)
Server Management	
BMC Controller	ASPEED AST2600: IPMI2.0 with iKVM and vMedia support
IPMI Dedicated GLAN	1 Realtek RTL8211F for dedicated management GLAN
Graphics	
Controller	ASPEED AST2600
VRAM	DDR4 512MB
Rear I/O	
UID Button/ LED	1 UID button
VGA Port	1 DB15 (VGA)
USB3.2 Gen1 Port	2 Type-A (USB3.2 Gen1)
RJ45	2 RJ45 (1GbE) by Intel® i350, share with front panel 1 Dedicated IPMI, shares with front panel

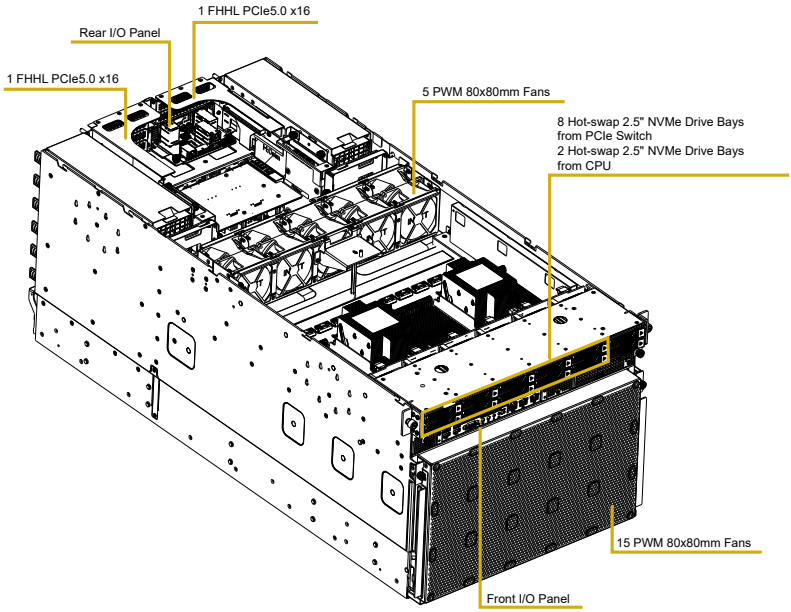
System BIOS	
BIOS Type	AMI UEFI BIOS; 512Mb SPI Flash ROM
BIOS Features	Plug and Play, ACPI 4.0 and above compliance wake up events, SMBIOS 3.4 and above, ASRock Rack instant flash
Hardware Monitor	
Temperature	CPU, MB, card side temperature sensing
Fan	Fan tachometer CPU quiet fan (allows chassis fan 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	Operation temperature: 10°C ~ 35°C Non operation temperature: -40°C ~ 70°C
Humidity	Non operation 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.

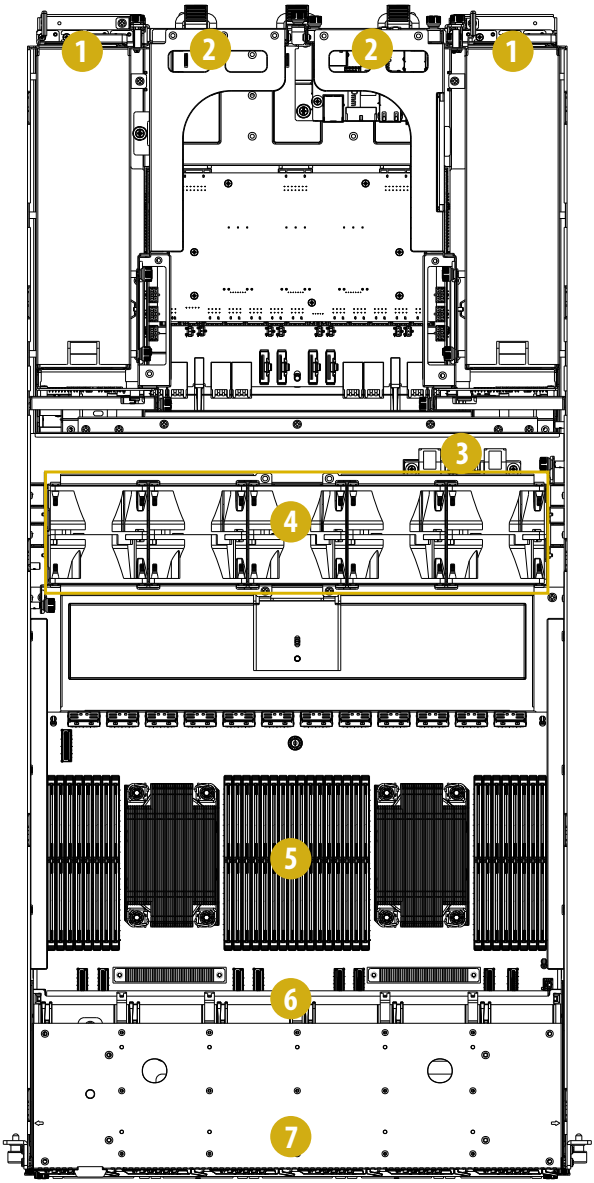
Chapter 2 Server System Overview

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

2.1 System Components

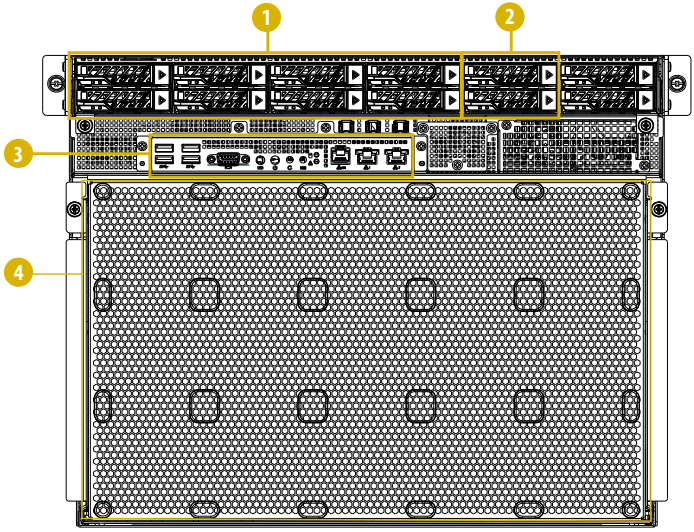


2.2 Internal Features



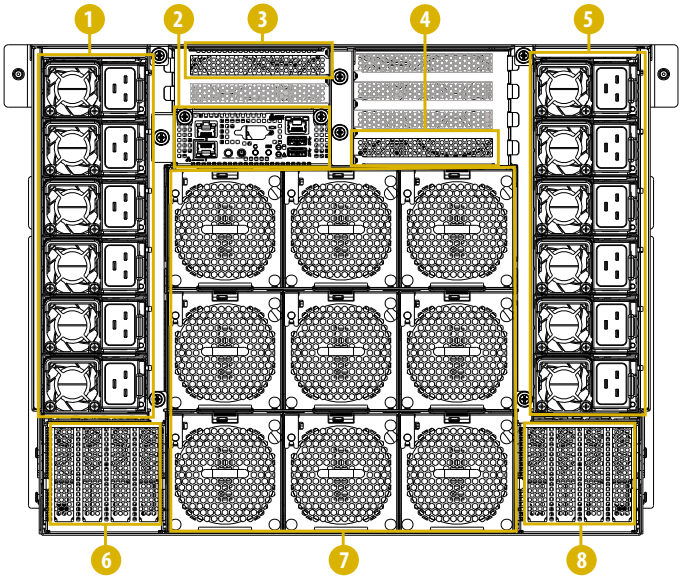
No.	Description
1	**Top:** 6+6 CRPS **Bottom:** 8 HHHL PCIe5.0 x16 slots 4 PWM 40x40mm internal fans (FAN_L2, FAN_L1, FAN_R2, FAN_R1)
2	**Top:** 2 FHHL PCIe5.0 x16 slots Rear I/O panel **Bottom:** 9 PWM 80x80mm rear fans (FAN21 ~ FAN29)
3	Fan board (FB)
4	5 PWM 80x80mm top fans (**left-to-right:** FAN16 ~ FAN20)
5	Server motherboard (MB)
6	Backplane board (BPB)
7	**Top:** 8 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 CPU1 PE1 Front I/O panel *(depends on the specification of the server motherboard)* **Bottom:** 15 PWM 80x80mm front fans (FAN1 ~ FAN15)

2.3 System Front Panel



No.	Description
1	8 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from PCIe switch **Top:** NVME2, NVME4, NVME6, NVME8 **Bottom:** NVME1, NVME3, NVME5, NVME7
2	2 Hot-swap 2.5" NVMe (PCIe5.0 x4) drive bays from CPU1 PE1 **Top:** NVME10 **Bottom:** NVME9
3	Front I/O panel *(depends on the specification of the server motherboard)*
4	15 PWM 80x80mm front fans **Top:** FAN11 ~ FAN15 **Middle:** FAN6 ~ FAN10 **Bottom:** FAN1 ~ FAN5

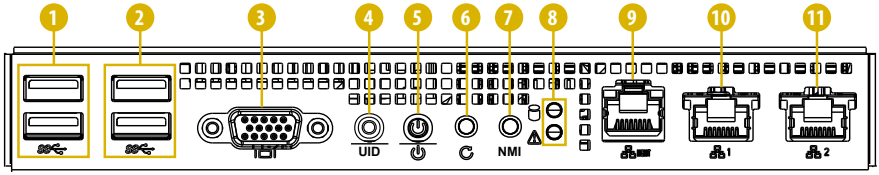
2.4 System Rear Panel



No.	Description
1	6 Power supply units **Top-to-bottom:** PSU1 ~ PSU6
2	Rear I/O panel
3	1 FHHL PCIe5.0 x16 slot (Riser_L1)
4	1 FHHL PCIe5.0 x16 slot (Riser_R4)
5	6 Power supply units **Top-to-bottom:** PSU7 ~ PSU12
6	4 HHHL PCIe5.0 x16 slots (PCIE8 ~ PCIE5) 2 PWM 40x40mm internal fans (FAN_L2, FAN_L1)
7	9 PWM 80x80mm rear fans **Top:** FAN29 ~ FAN27 **Middle:** FAN26 ~ FAN24 **Bottom:** FAN23 ~ FAN21
8	4 HHHL PCIe5.0 x16 slots (PCIE4 ~ PCIE1) 2 PWM 40x40mm internal fans (FAN_R2, FAN_R1)

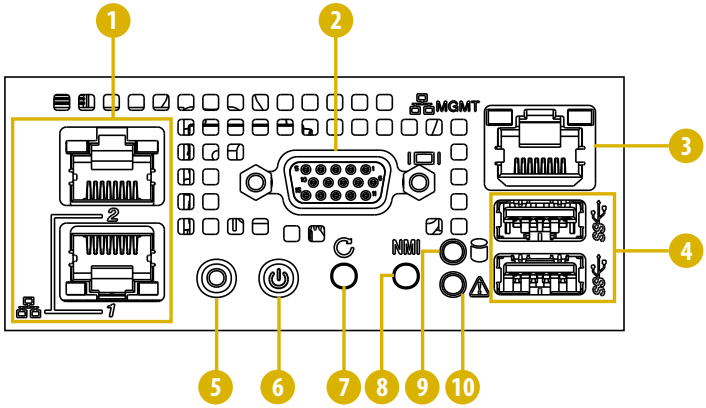
2.5 I/O Panel

Front I/O Panel



No.	Description
1	2 Type-A (USB3.2 Gen1) ports (USB3_1_2)
2	2 Type-A (USB3.2 Gen1) ports (USB3_3_4)
3	1 DB15 (VGA) port
4	1 UID button w/ LED
5	1 Power button w/ LED
6	1 Reset button
7	1 NMI button
8	**Top:** 1 Hard drive activity LED **Bottom:** 1 System fault LED
9	1 Dedicated IPMI LAN port
10	1 RJ45 (1GbE) LAN port (LAN1)
11	1 RJ45 (1GbE) LAN port (LAN2)

Rear I/O Panel



No.	Description
1	2 RJ45 (1GbE) LAN ports (LAN1, LAN2)
2	1 DB15 (VGA) port
3	1 Dedicated IPMI LAN port
4	2 Type-A (USB3.2 Gen1) ports
5	1 UID button w/ LED
6	1 Power button w/ LED
7	1 Reset button
8	1 NMI button
9	1 Hard drive activity LED
10	1 System fault LED

UID Button

Press the UID button to toggle the front (MB) UID LED and the rear UID LED 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.

English

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

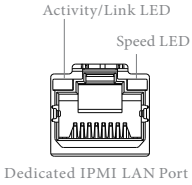
UID LED	
Status	**Description**
Off	System identification is disabled.
Blue	System identification is active.

Power LED	
Status	**Description**
Off	Power off
Green	Power on

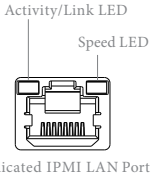
Hard Drive Activity LED	
Status	**Description**
Off	Hard drive inactive
Green	Hard drive active

System Fault LED	
Status	**Description**
Off	Normal
Red	System fault

Front Dedicated IPMI LAN Port



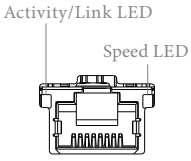
Rear Dedicated IPMI LAN Port



Activity/Link LED	
Status	**Description**
Off	No link
Blinking Yellow	Data activity
On	Link

Speed LED	
Status	**Description**
Off	10Mbps connection or no link
Orange	100Mbps connection
Green	1Gbps connection

Front RJ45 (1GbE) LAN Port

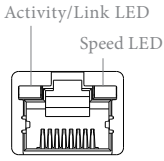


RJ45 (1GbE) LAN Port

Activity/Link LED	
Status	**Description**
Off	No link
Blinking Yellow	Data activity
On	Link

Speed LED	
Status	**Description**
Off	10Mbps connection or no link
Orange	100Mbps connection
Green	1Gbps connection

Rear RJ45 (1GbE) LAN Port



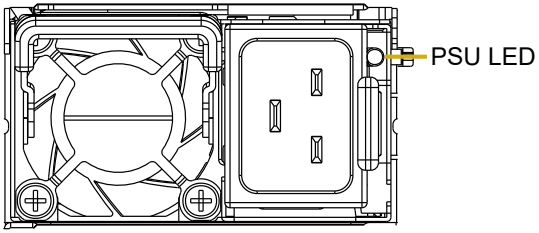
RJ45 (1GbE) LAN Port

Activity/Link LED	
Status	**Description**
Off	No link
Blinking Yellow	Data activity
On	Link

Speed LED	
Status	**Description**
Off	10Mbps connection or no link
Green	100Mbps connection
Orange	1Gbps connection

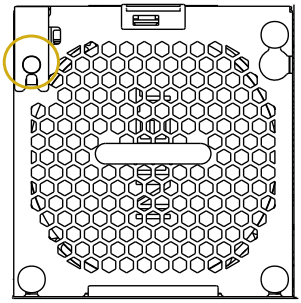
2.6 LED

PSU LED



PSU Status 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)

FAN21 ~ FAN29 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.

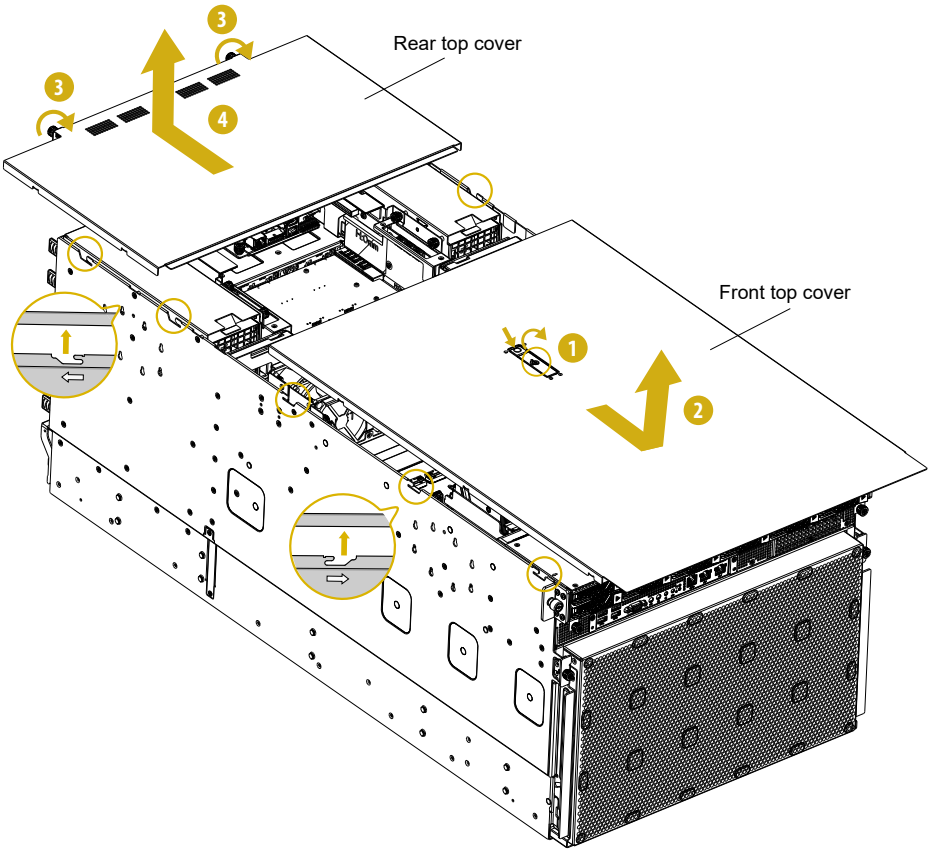
1. *Some components are already pre-installed. Simply properly connect the relavant cables before or after installation.*
2. *Refer to the server motherboard user manual for instructions on how to install server motherboard components.*

3.1 Server Top Cover

Removing the Server Top Cover

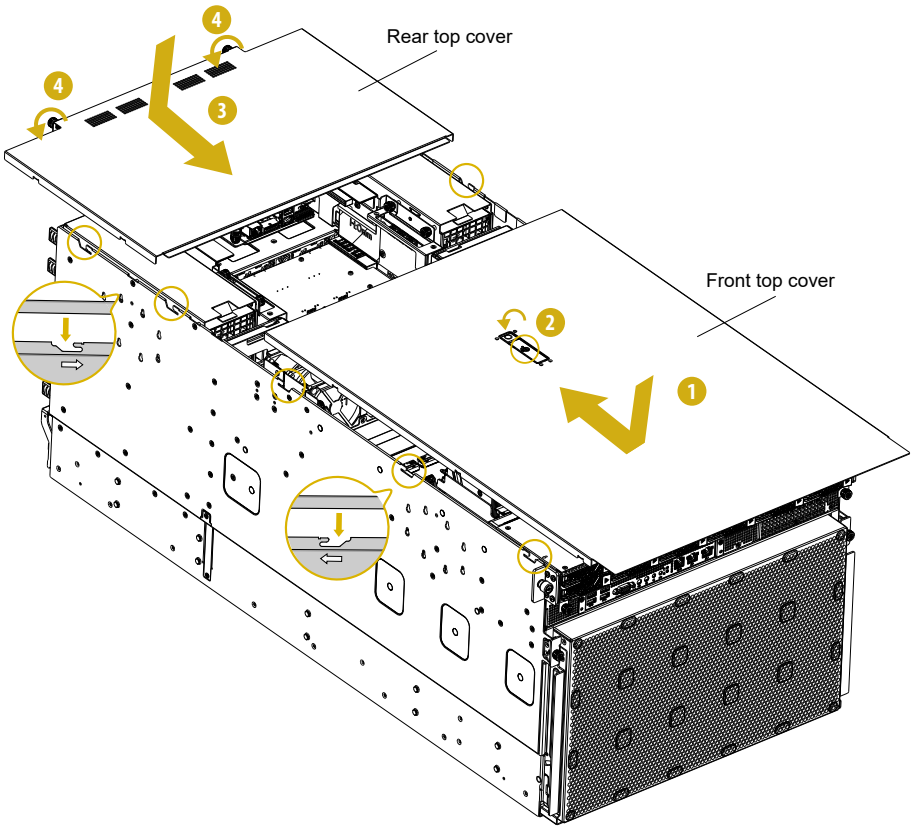
> *1. Before removing the top covers, power off the server and unplug the power cord.*
> *2. The system must be operated with the chassis top covers installed to ensure proper cooling.*
> *3. Front top cover and rear top cover can be removed and installed separately.*

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. Hand-release the thumbscrews on the rear side of the chassis.
4. 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 Top Cover

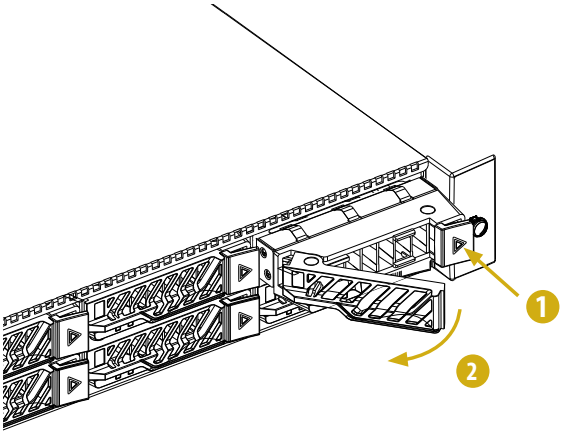
1. Lower the front top cover on the chassis, making sure the side latches align with the cutouts. Slide the cover toward the REAR of the chassis.
2. Press down the locking tab and tighten the screw to secure the cover.
3. Lower the rear top cover on the chassis, making sure the side latches align with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



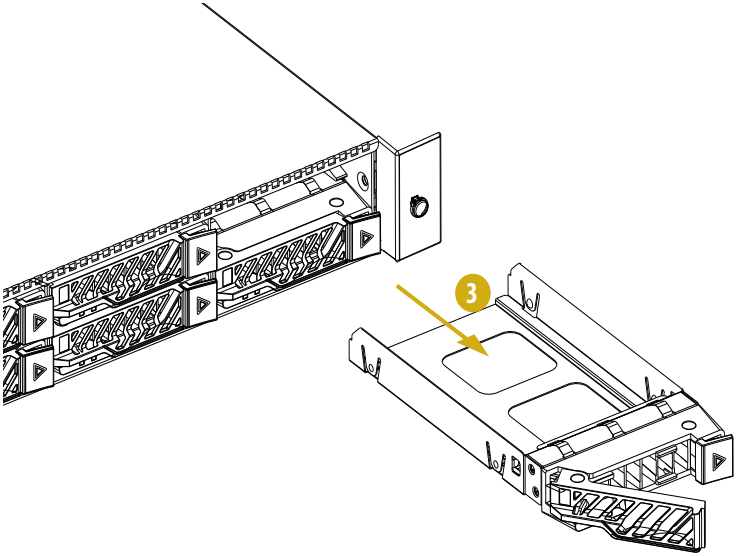
3.2 Hard Drive

Removing Hard Drive Tray from the Chassis

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

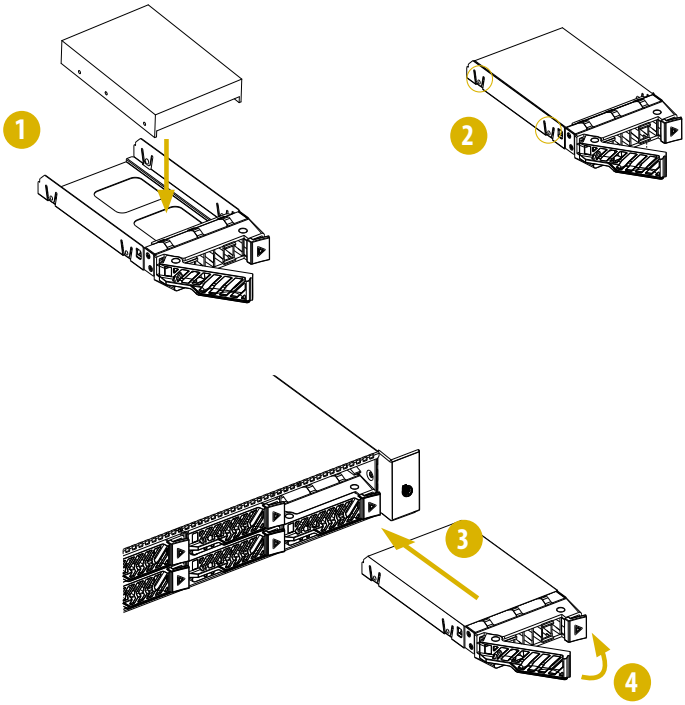


3. Pull the drive tray out.



Installing 2.5" Hard Drive to the Chassis

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

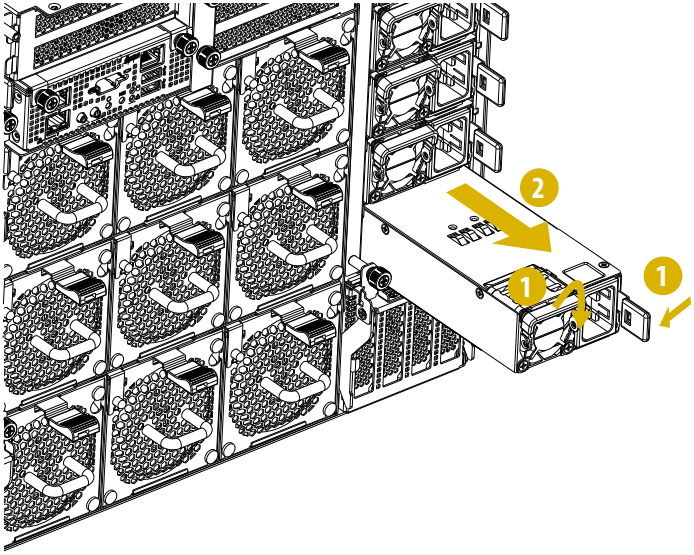


3.3 Power Supply

Removing the Power Supply Unit

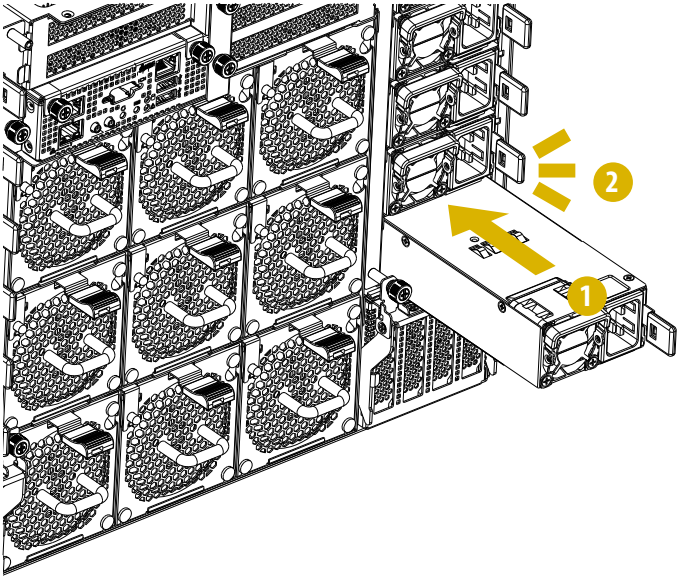
1. Before replacing the power supply unit, power off the server, unplug the power cord, and disconnect all wiring from the power supply unit.
2. The redundant system does not require powering down the server.

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 differnet by models.
2. Pull out the power supply unit from the chassis.



Installing the Power Supply Unit

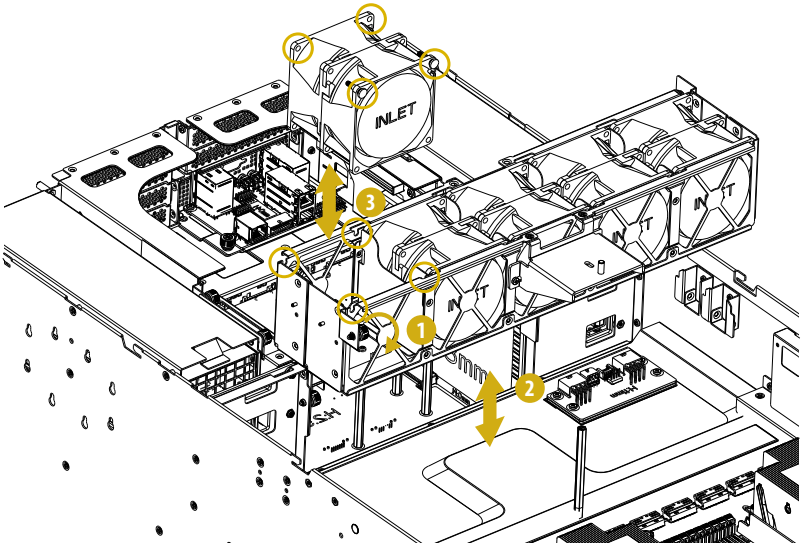
1. Align the power supply unit with the power supply bay.
2. Carefully slide the PSU all the way into the power supply bay until it clicks in place.



3.4 System Fan

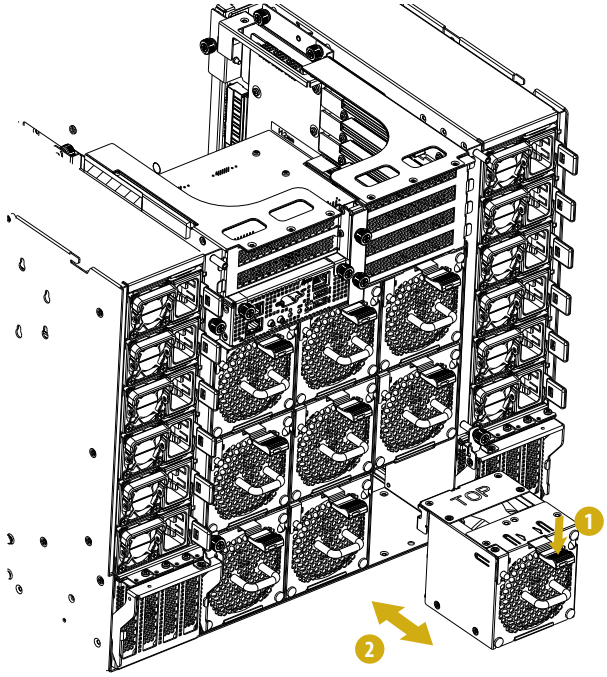
Replacing the FAN16 ~ FAN20

1. Hand-release the thumbscrew on the side of the fan bar.
2. Lift up the fan bar.
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. Hand-tighten the thumbscrew to secure the fan bar in place.



Replacing FAN21 ~ FAN29

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.



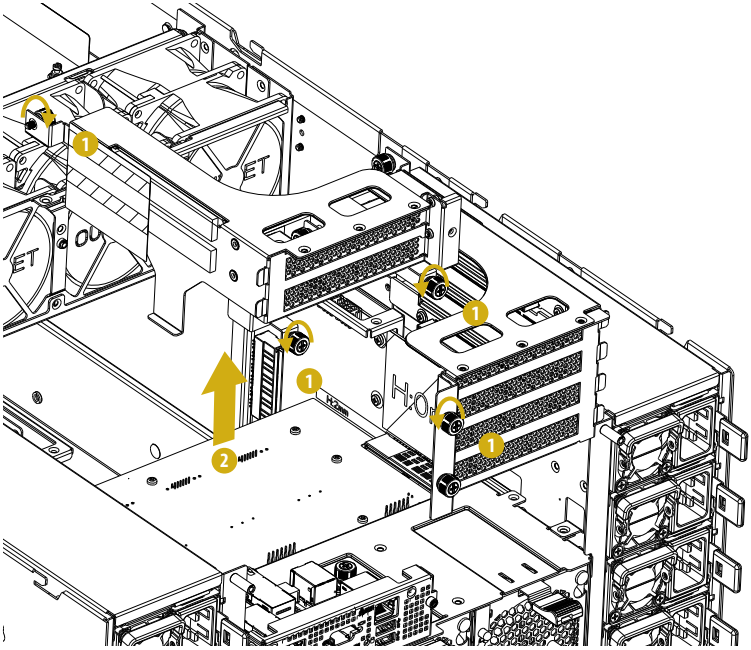
3.5 Add-in Card

1. Before installing the add-in card, power off the server and unplug the power cord.
2. Left bracket and right bracket can be removed independently.

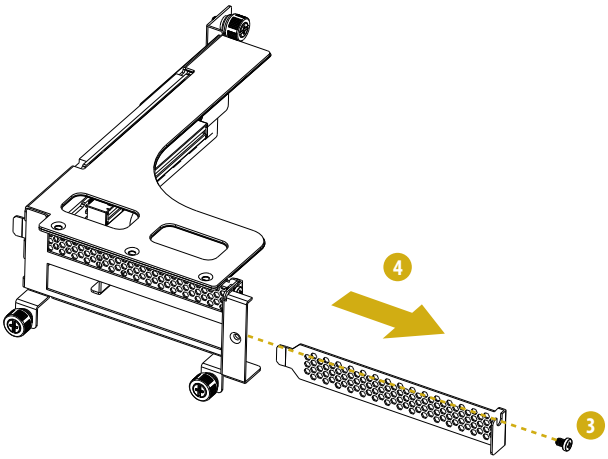
Installing the Add-in Card

FHHL PCIe 5.0 x16 (left)

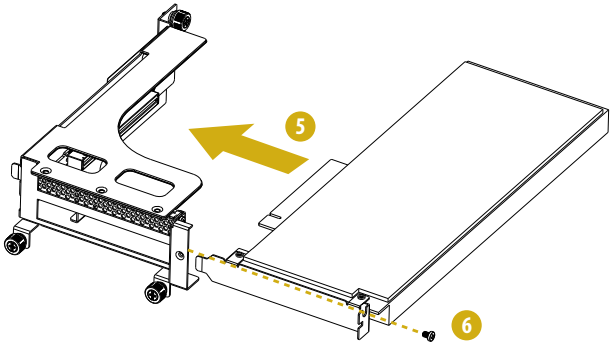
1. Hand-release 3 thumbscrews of left bracket and 1 thumbscrew of right bracket.
2. Lift up the left bracket.



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

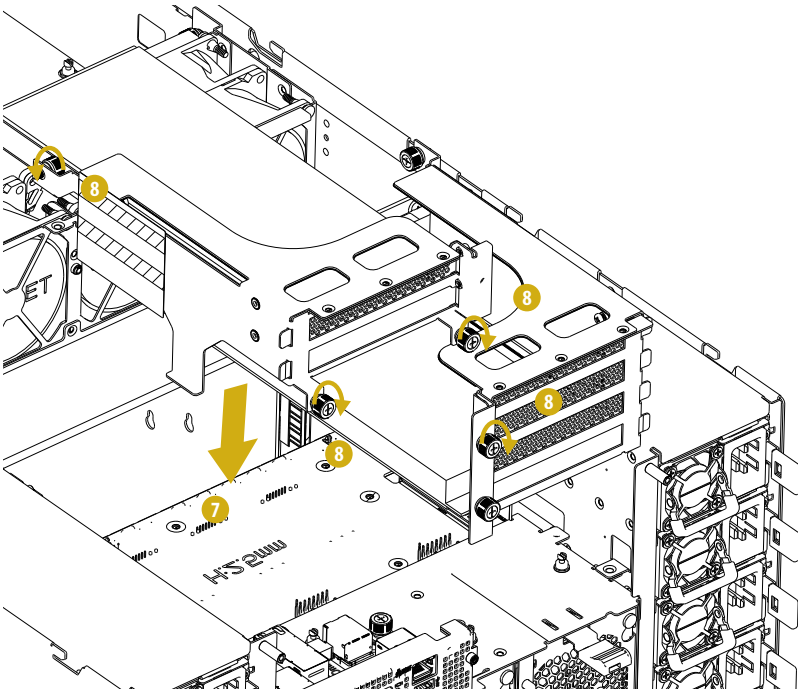


5. Install the add-in card to the bracket.
6. Secure the add-in card to the bracket with the screw.



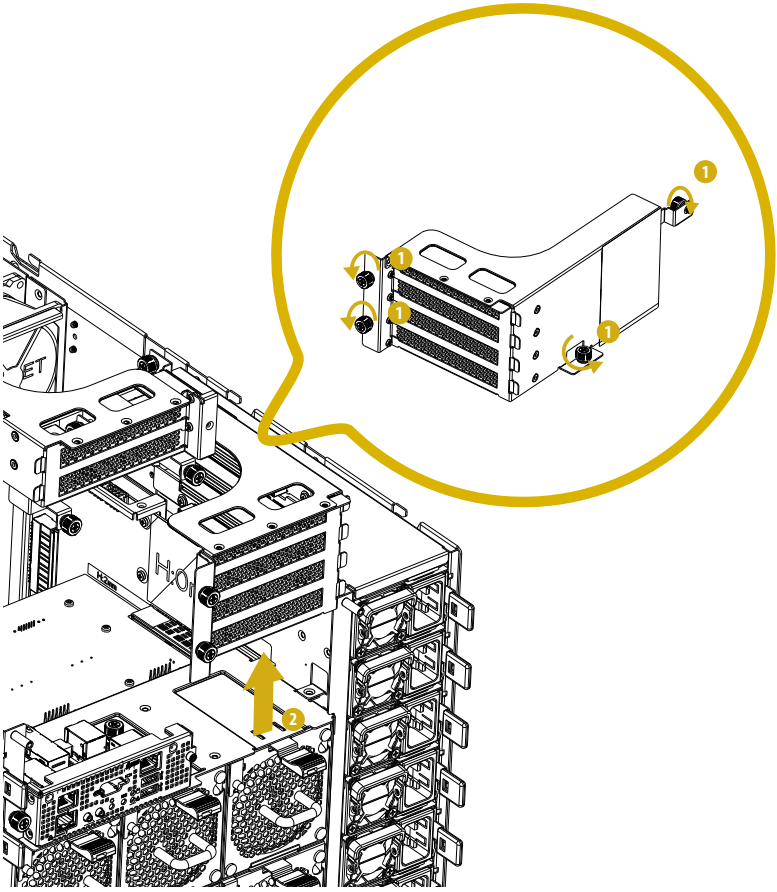
Note: The illustration is for references only. The actual location may be slightly different by models.

7. Align the add-in card assembly with the opening of the chassis and put it in place.
8. Hand-tighten 4 thumbscrews to secure the assembly to the chassis.

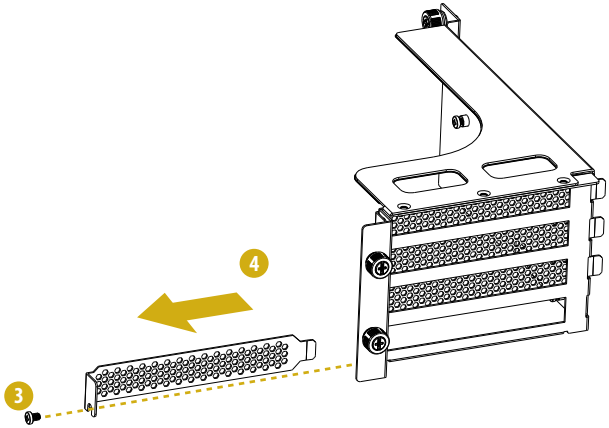


FHHL PCIe5.0 x16 (right)

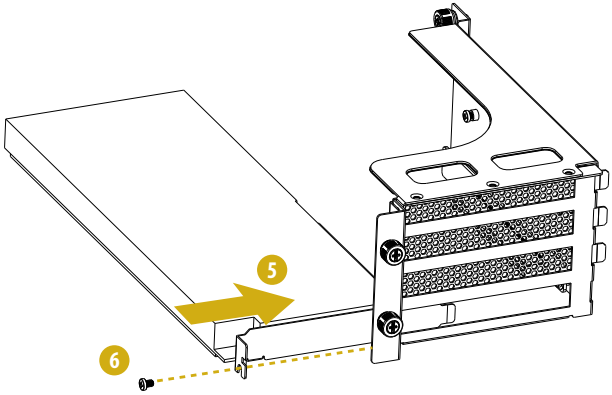
1. Hand-release 4 thumbscrews securing the right bracket on the chassis.
2. Lift up the right bracket.



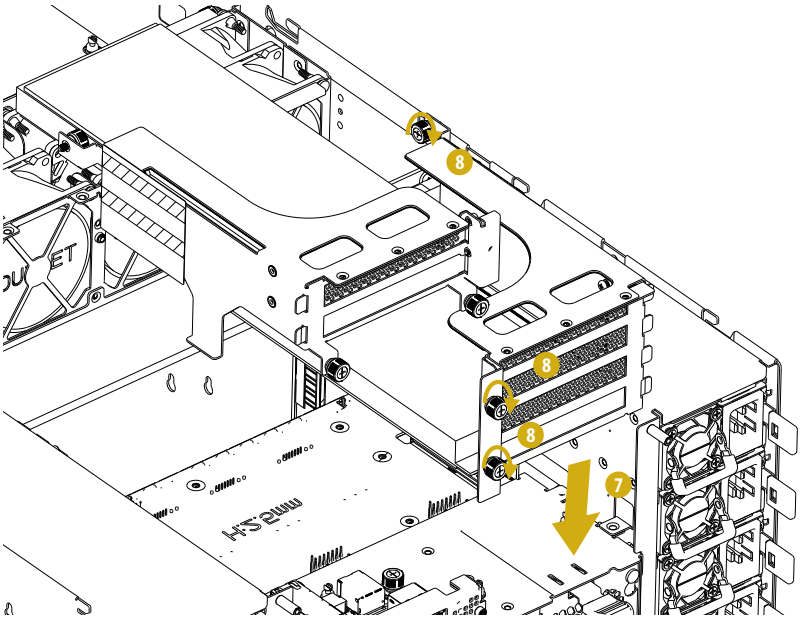
3. Remove the screw securing the blanking plate on the bracket.
4. Slide the blanking plate out sideways.



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

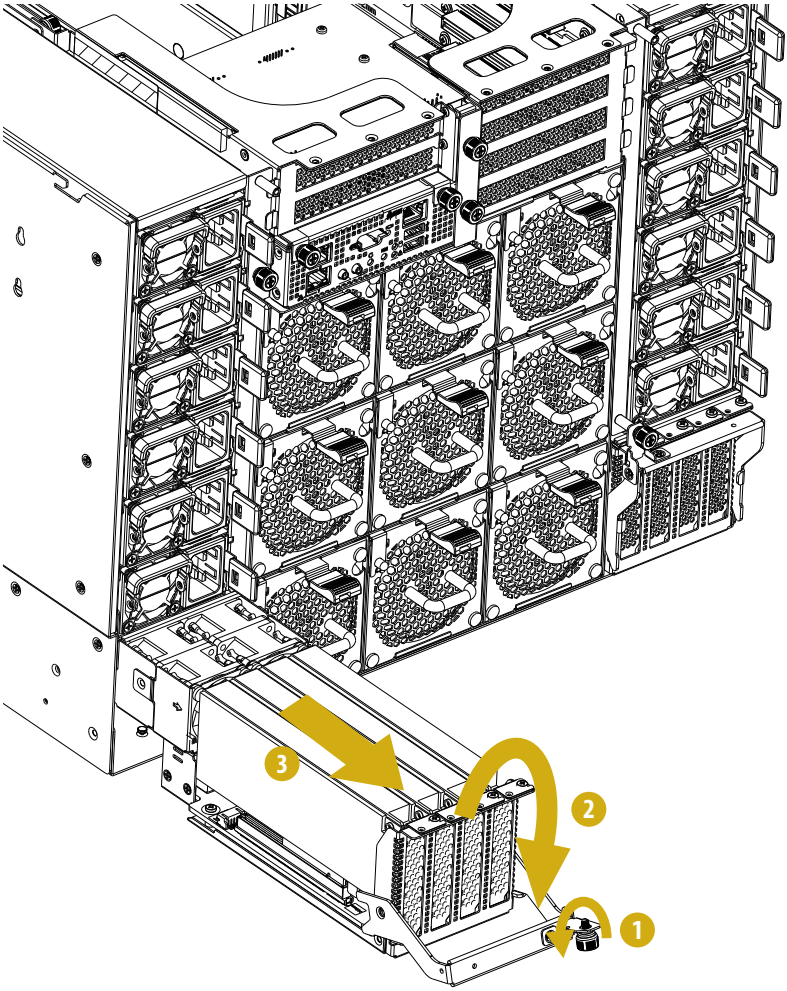


7. Align the add-in card assembly with the opening of the chassis and put it in place.
8. Hand-tighten 4 thumbscrews to secure the assembly to the chassis.

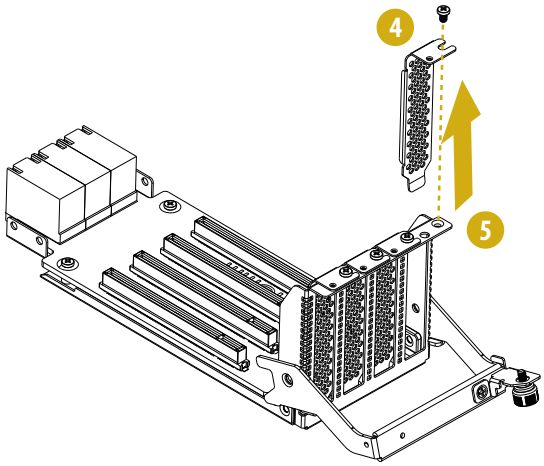


HHHL PCIe5.0 x16:

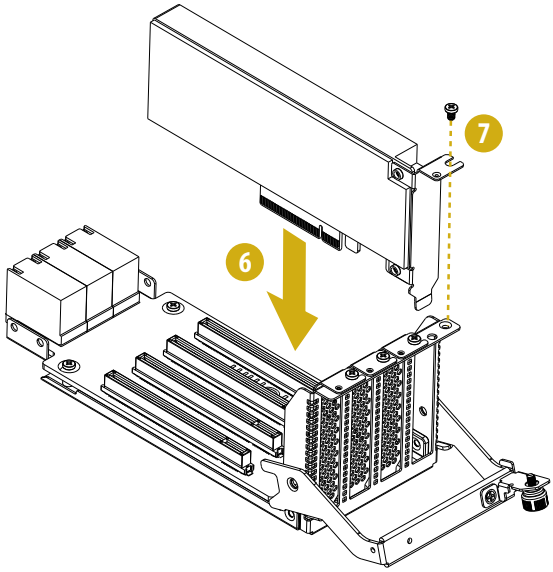
1. Hand-release the thumbscrew securing the bracket on the chassis.
2. Pull the latch down.
3. Pull to remove the bracket from the chassis.



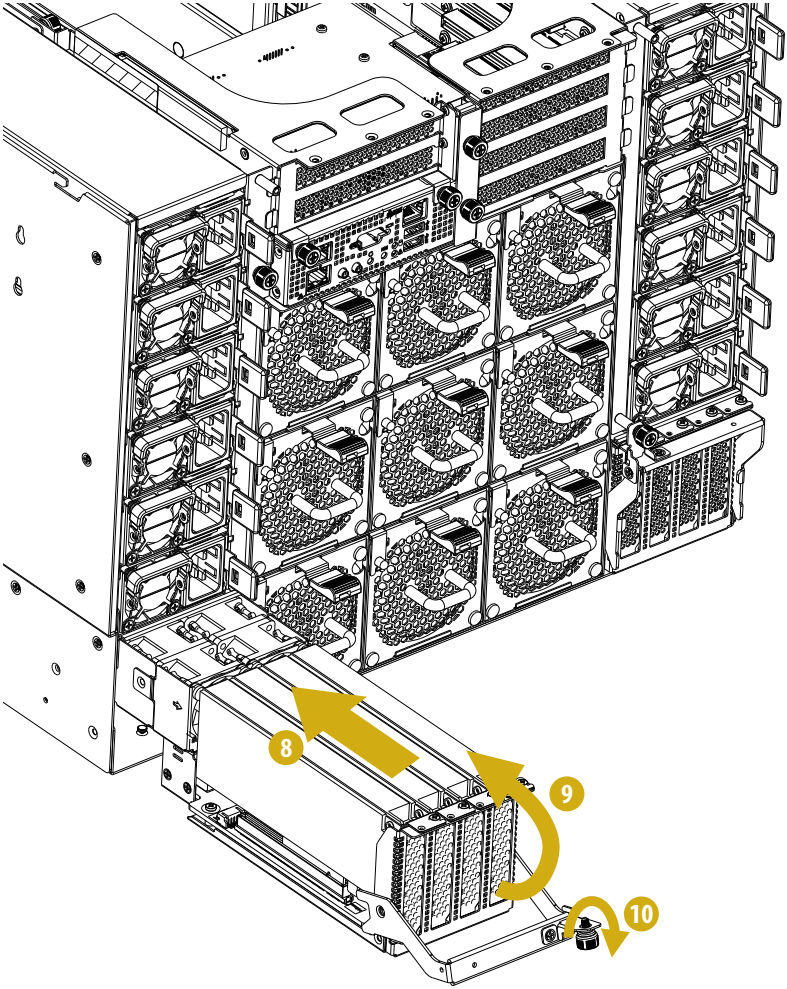
4. Remove the screw securing the blanking plate on the bracket.
5. Slide the blanking plate out from above.



6. Slot the add-in card to the board.
7. Secure the add-in card to the bracket with the screw.



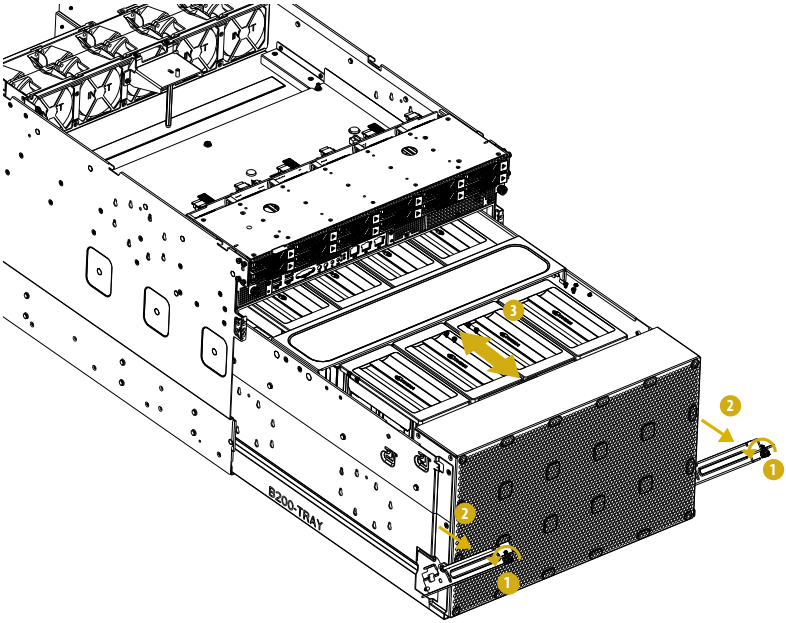
8. Align the add-in card assembly with the bay and slide it in place.
9. Lift the latch up.
10. Hand-tighten the thumbscrew to secure the assembly to the chassis.



3.6 GPU Tray

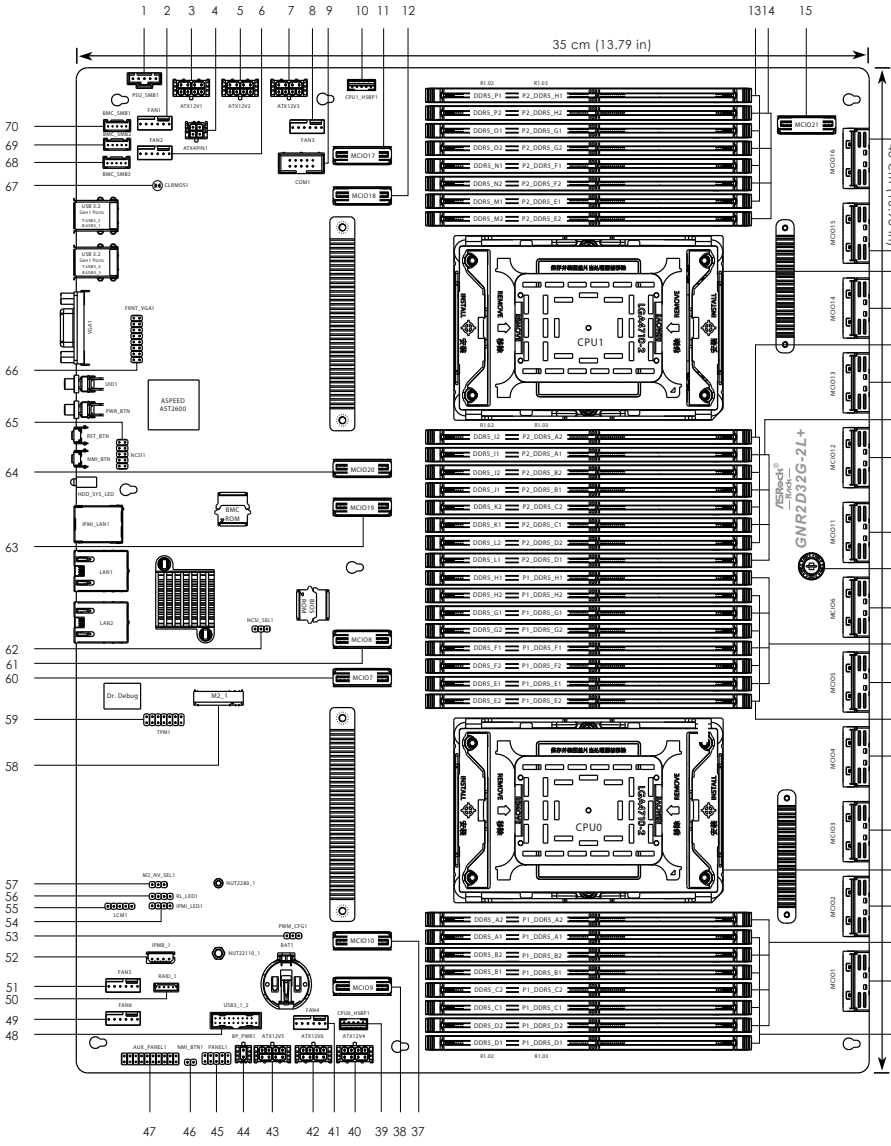
Opening the GPU Tray

1. Hand-release the thumbscrews securing the GPU tray to the chassis.
2. Pull the latches down gently.
3. Pull to remove the GPU tray from the chassis.



Chapter 4 Server Motherboard (GNR2D32G-2L+)

4.1 Layout

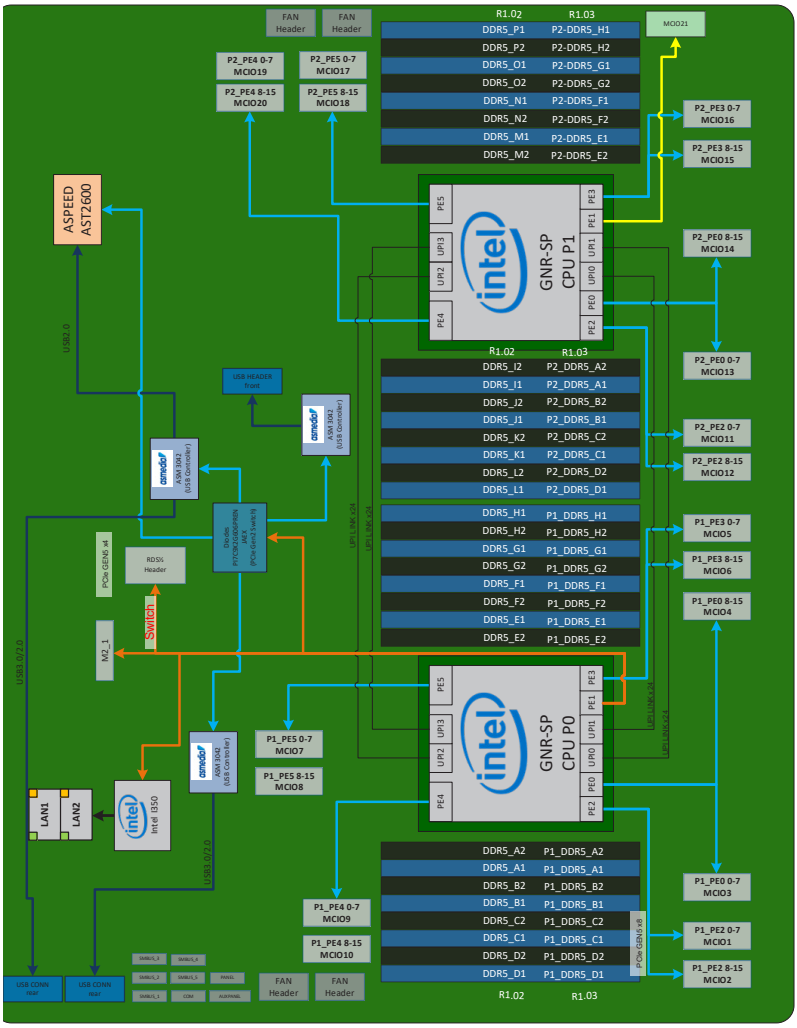


No.	Description
1	PSU SMBus (PSU_SMB1)
2	System Fan Header (FAN1)
3	ATX 12V Power Connector (ATX12V1)
4	Micro-Fit Power Connector (ATX4PIN1)
5	ATX 12V Power Connector (ATX12V2)
6	System Fan Header (FAN2)
7	ATX 12V Power Connector (ATX12V3)
8	System Fan Header (FAN3)
9	COM Port Header (COM1)
10	Backplane 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 (NCSI1)
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



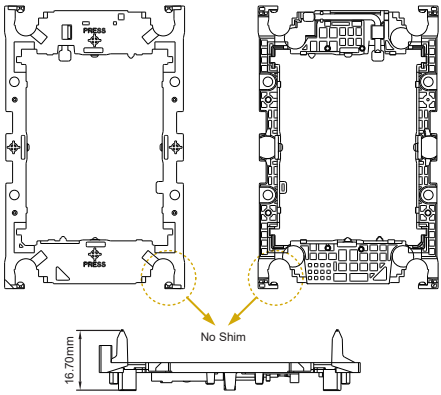
4.3 Installing the CPU and Heatsink (LGA 4710 Socket)

1. *Unplug all power cables before installing the CPU.*
2. *Illustration in this documentation are examples only.*

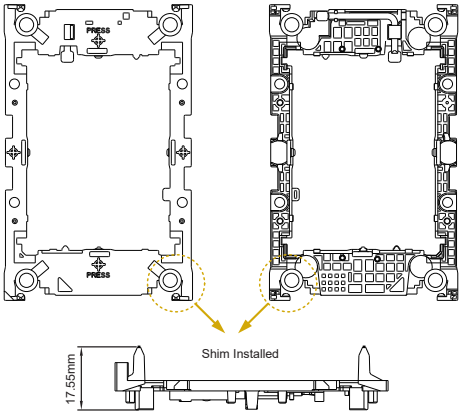
Carrier Used

Carrier Type	Xeon® SP XCC	Xeon® SP HCC/LCC/HDCC
Carrier Code	E2A	E2B
Shim	No	Yes
Carrier Height	16.70mm	17.55mm

XCC Carrier

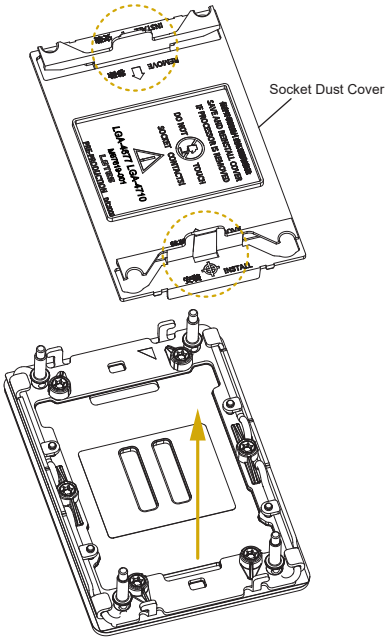


HCC/LCC/HDCC Carrier



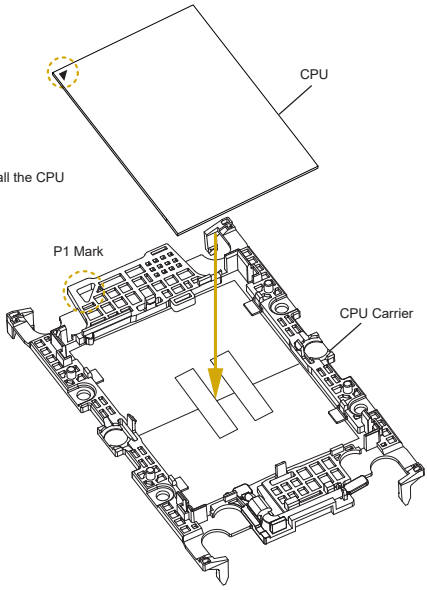
Before inserting the CPU into the socket, check if the PnP cap is on the socket, if the CPU surface is unclean, or if there are any bent pins in the socket. Do not force to insert the CPU into the socket if above situation is found. Otherwise, the CPU will be seriously damaged.

1

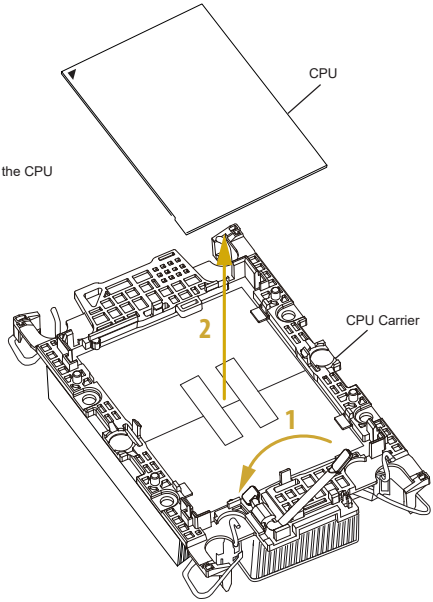


2

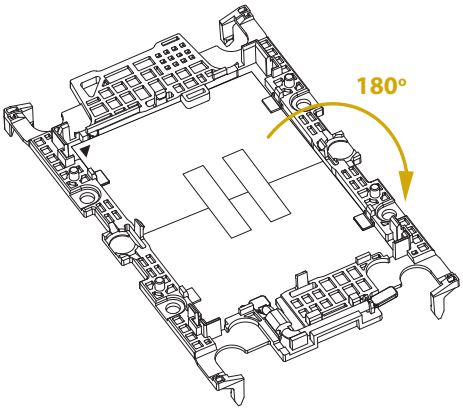
Installing CPU:
Align the Pin1 mark to install the CPU



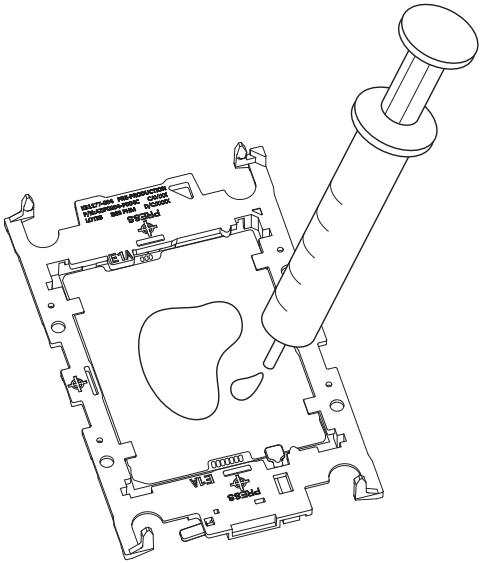
Removing CPU:
Press the lever to remove the CPU



3



4



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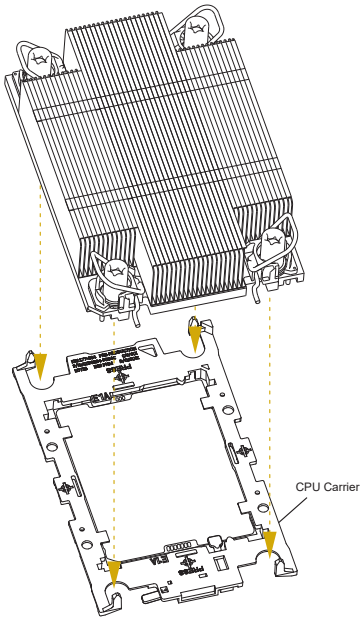
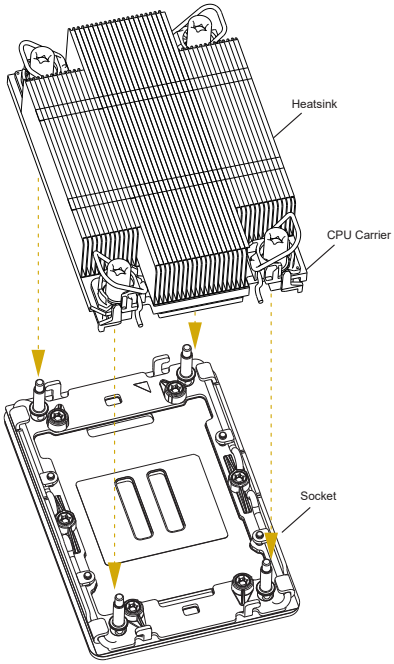
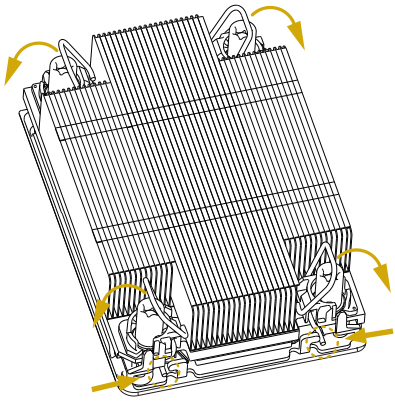


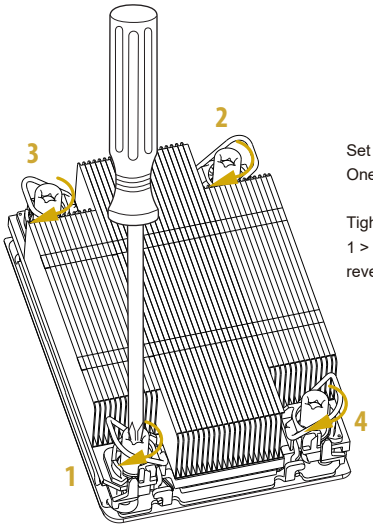
6



7



8



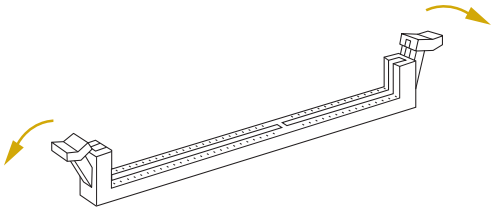
Set the torque wrench to 6-12 in-lb.
One fourth a turn each time.

Tighten the screws in a sequential order 1 > 2 > 3 > 4. Loosen the screws in a reverse order.

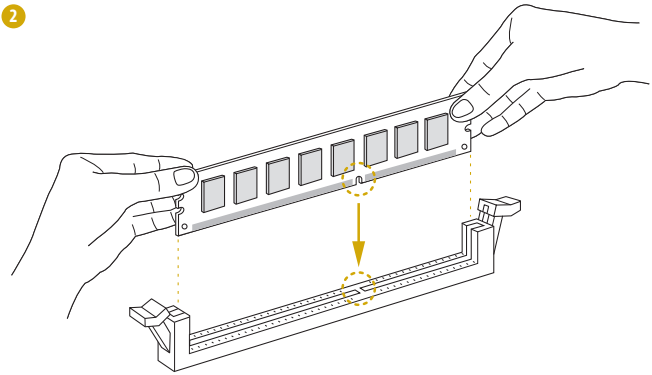
4.4 Installing the Memory Modules (DIMM)

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.

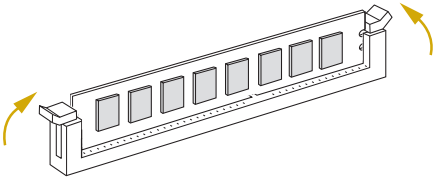
1



2



3



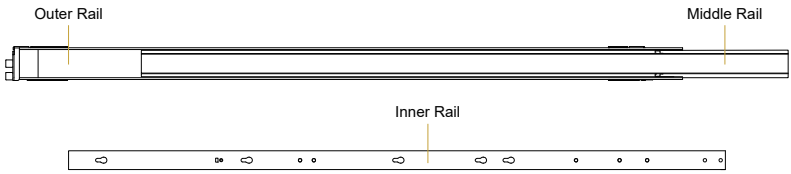
Appendix

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.

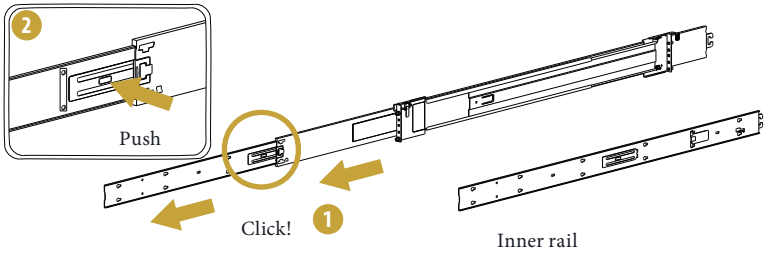
The rail assembly consists of outer, middle and inner rail.



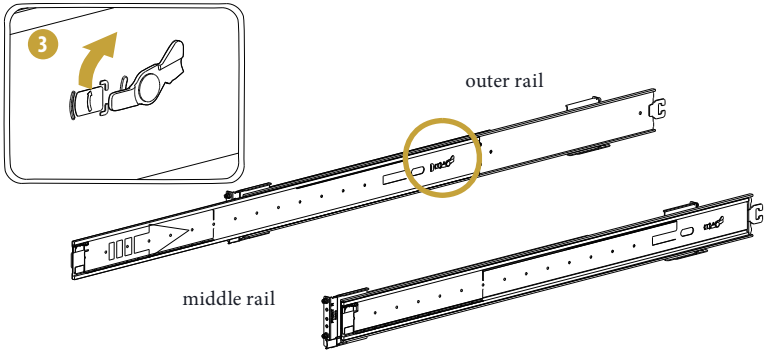
Some slide rails are labeled with either L or R, please identify prior to rail installation. Install the rail labeled with L on the left side of rack, and the rail labeled with R on the right side.

Remove the inner rail

1. Pull the inner rail out.
2. Push locking plate to remove the inner rail from the rail assembly.

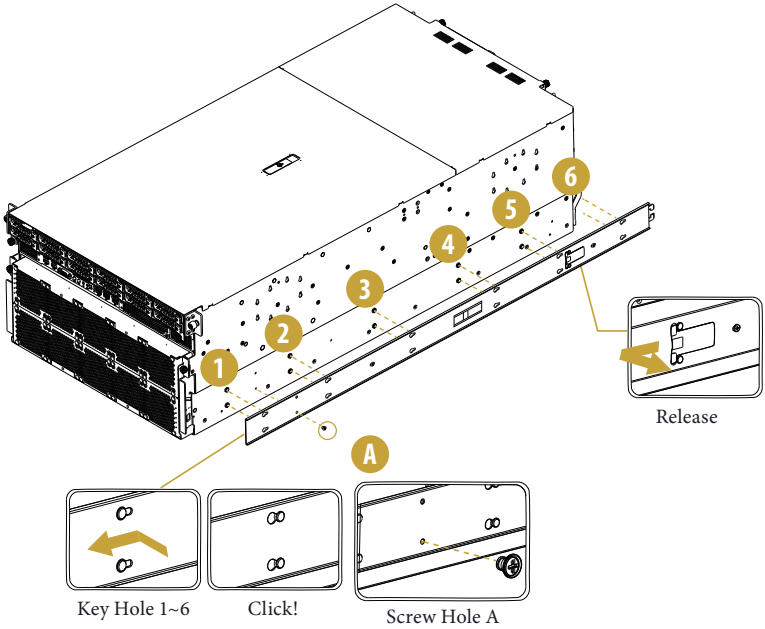


3. Push tab to slide the middle rail.



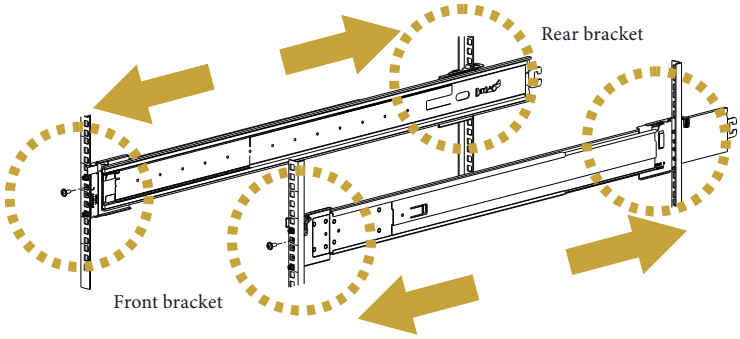
Install inner rail onto the chassis

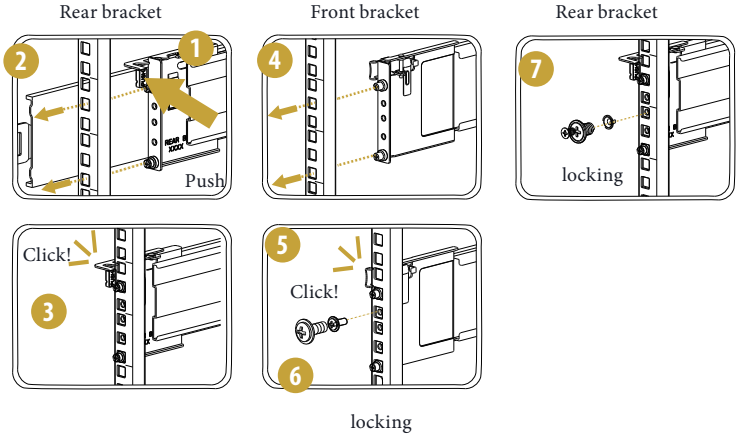
For safety concem, user can fasten the screw (screw hole A as below picture) on the end of inner member while assmbling on the chassis.



Install the inner member onto the chessis by this direction.

Install outer rail onto the rack post

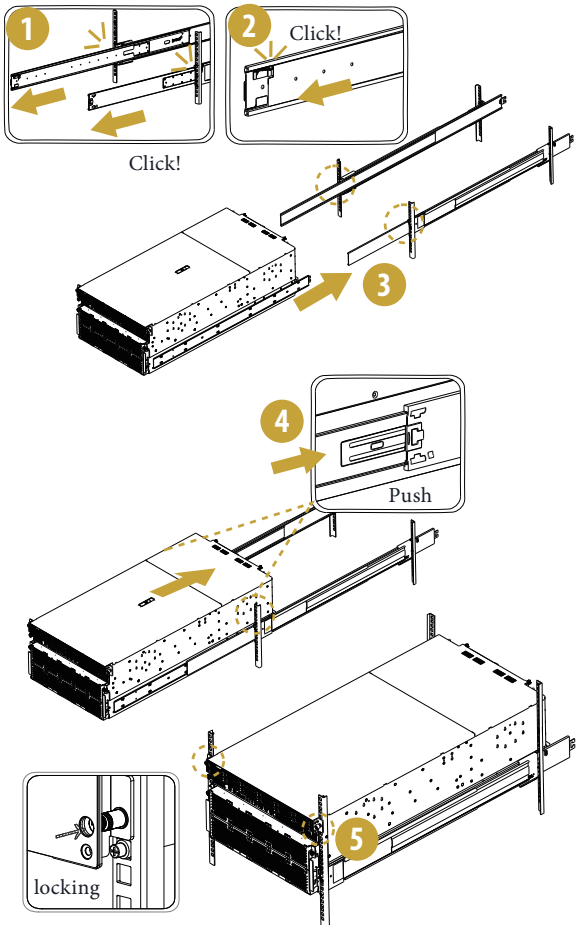




Mount the server in rack

1. Pull out middle rail and confirm if it's locked (Click!).
2. Make sure ball bearing retaniner is located at the front of the middle rail.
3. Aim the rear end of inner rail to middle rail, Horizontally insert the chassis to midde and out rail.
4. When chassis is locked, push release tab on both sides and continue sliding the chassis to the rack.
5. Fasten chassis ear screws and secure the rail with shipping screws.

At least two people are required for chassis installation.



Contact Information

Contact ASRock Rack or want to know more about ASRock Rack, you're welcome to visit ASRock Rack's website at https://www.asrockrack.com **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