H281-PE0 Hardware Installation Guide
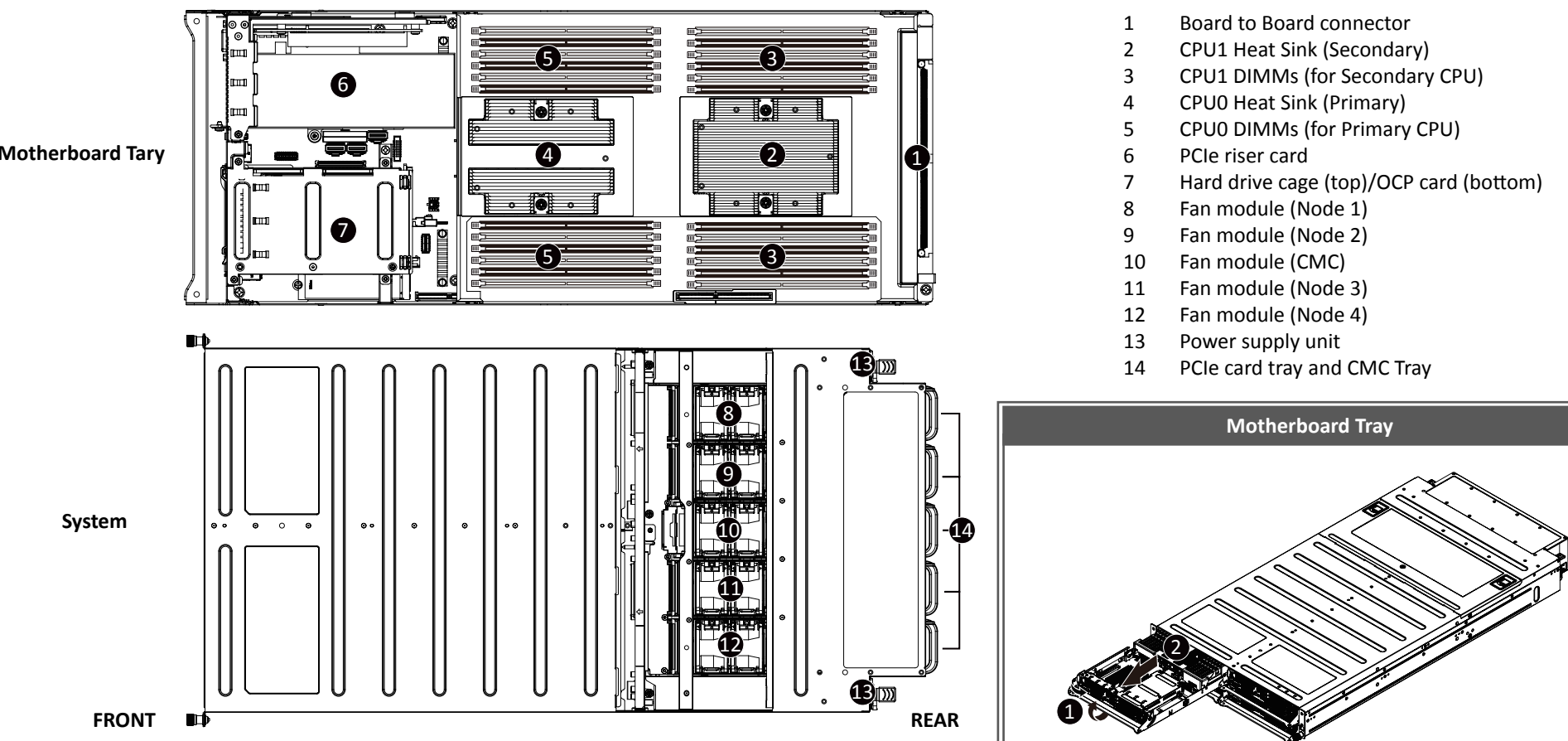
Motherboard Component
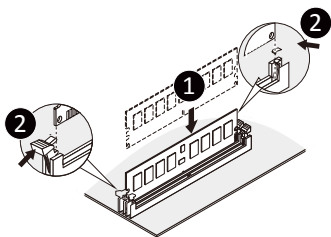

J1		ON	OFF
1	HOST_SMBUS_SEL	BIOS defined	
2	PMBUS_SEL	BIOS defined	
3	S3_MASK	Stop initial power on when BMC is not ready	Normal [Default]
4	DB_PLD	CPLD debug mode	Normal [Default]

J2		ON	OFF
1	ME_UPDATE	Force ME update	Normal [Default]
2	BIOS_PWD	Clear supervisor password	Normal [Default]
3	BIOS_RCVR	BIOS recovery mode	Normal [Default]
4	ME_RCVR	ME recovery mode	Normal [Default]

Clear CMOS CLR_CMOS: 1 Default, 3 Enable

1. VGA port
2. GbE LAN port #2
3. GbE LAN port #1
4. NMI button
5. Reset button
6. System status LED
7. Power button (top)/ID button (bottom)
8. USB3.0 ports
9. Server Management LAN port
10. Fan connector for primary CPU
11. Fan connector for secondary CPU
12. IPMB connector
13. M.2 connector
14. Omni-path connector (for primary CPU)
15. HDD back plane power connector
16. Mezzanine slot#1 (x8 bandwidth)
17. Mezzanine slot#2 (x16 bandwidth)
18. Board to Board connector#1
19. Board to Board connector#2
20. Power connector
21. Omni-path connector (for secondary CPU)
22. NCSI connector
23. System battery
24. VROC upgrade module
25. Slimline SAS connector (SSATA0)
26. SATA connector (SSATA2)
27. HDD back plane board connector
28. Slimline SAS connector (SATA0)
29. Slimline SAS connector (SATA1)
30. OCP mezzanine connector

CPU and Heat Sink

Secondary CPU Heat Sink

Primary CPU Heat Sink

WARNING!
Please make sure the heat sink installtion orientation for CPU0 and CPU1.
Failure to observe the warning could result in damage to the equipment.

System Component

1. Board to Board connector
2. CPU1 Heat Sink (Secondary)
3. CPU1 DIMMs (for Secondary CPU)
4. CPU0 Heat Sink (Primary)
5. CPU0 DIMMs (for Primary CPU)
6. PCIe riser card
7. Hard drive cage (top)/OCP card (bottom)
8. Fan module (Node 1)
9. Fan module (Node 2)
10. Fan module (CMC)
11. Fan module (Node 3)
12. Fan module (Node 4)
13. Power supply unit
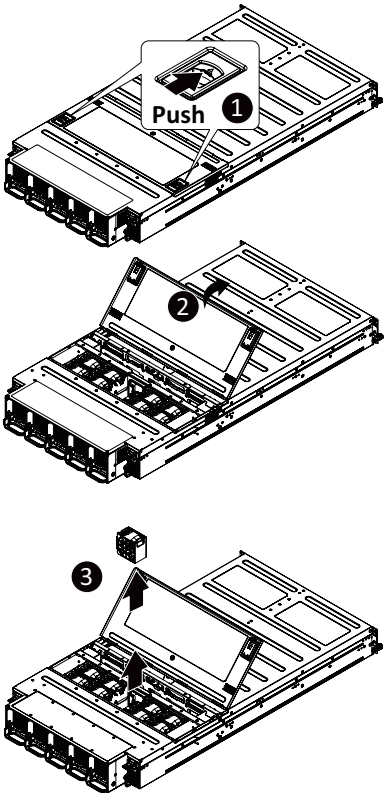14. PCIe card tray and CMC Tray

Motherboard Tray

Memory

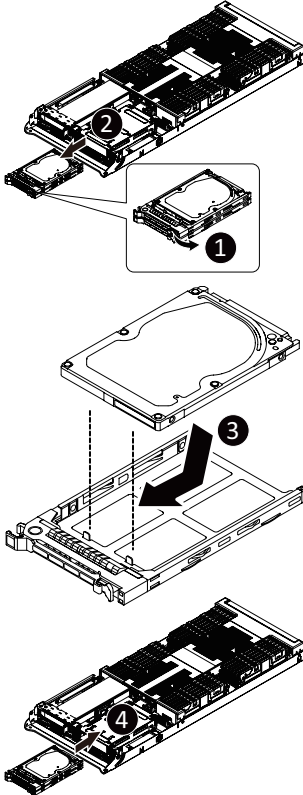| Type	Ranks Per DIMM and Data Width	DIMM Capacity (GB)		Speed (MT/s); Voltage (V) Slot Per Channel (SPC) DIMM Per Channel (DPC)		
				1 Slot per Channel	2 Slot per Channel	
		DIMM Density		1DPC	1DPC	2DPC
		4Gb	8Gb	1.2V	1.2V	1.2V
RDIMM	SRx4	8GB	16GB			
RDIMM	SRx8	4GB	8GB			
RDIMM	DRx8	8GB	16GB			
RDIMM	DRx4	16GB	32GB	2666	2666	2666
RDIMM 3DS	QRx 4	N/A	2H-64GB			
	8Rx 4	N/A	4H-128GB			
LRDIMM	QRx4	32GB	64GB			
LRDIMM 3DS	QRx4	N/A	2H 64GB			
	8Rx4	N/A	4H 128GB			

System Fan

Push

Hard Drive

Hard Drive LED
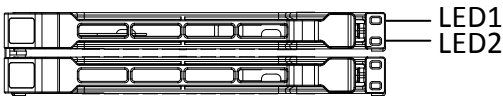
LED1
LED2

RAID SKU	LED1	Locate	HDD Fault	Rebuilding	HDD Access	HDD Present (No Access)
No RAID configuration (via HBA, ICH)	Disk LED (LED on Back Panel)	Green	ON(*1)	OFF	Green	OFF
		Amber	OFF	OFF	Amber	OFF
	Removed HDD Slot (LED on Back Panel)	Green	ON(*1)	OFF	Green	--
		Amber	OFF	OFF	Amber	--
RAID configuration (via HW RAID Card or SW RAID Card)	Disk LED	Green	ON	OFF	Alternately	OFF
		Amber	OFF	ON	(Low Speed: 2 Hz)	OFF
	Removed HDD Slot	Green	ON(*1)	OFF	(*3)	--
		Amber	OFF	ON	(*3)	--

| LED 2	HDD Present	No HDD
Green	ON	OFF

(*1) Depend on HBA/Utility Spec.
(*2) Blink cycle depend on HDD's activity signal.
(*3) If HDD is pulled out during rebuilding, Disk status of this HDD is regarded as fault.

Intel Optane DCPMM DIMM Population Rule

Thermal conditions for DCPMM DIMM support:
- The ambient temperature must be at or below 35°C
- The Cascade Lake CPU used must have a maximum TDP of 165W
- A maximum of 2 pcs 256G DCPMM may be installed. (Per Node)
- RDIMM / DCPMM must be installed into CPU0 memory first
- You must install one RDIMM into any slot #0 of CPU0 before installing the DCPMM. (e.g. A0/D0)
- The DCPMM must be installed into the DIMM slot #1 next to the corresponding RDIMM in slot #0 (e.g. if RDIMM is installed into DIMM slot A0, the DCPMM must be installed into DIMM slot A1)
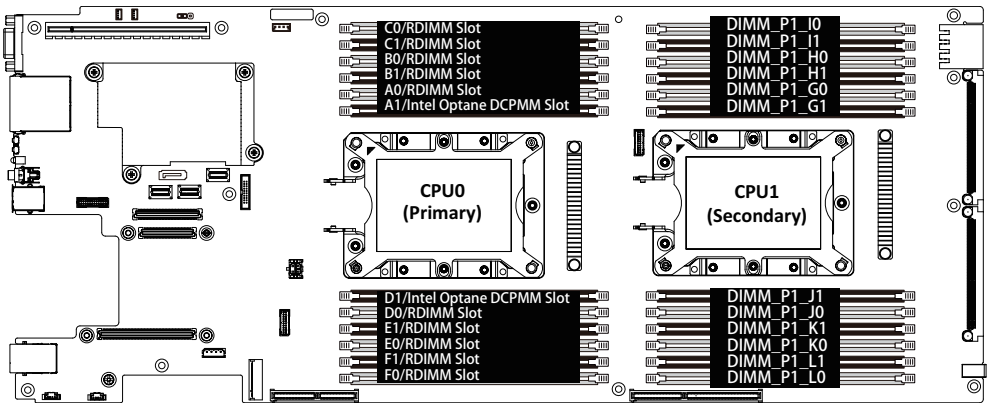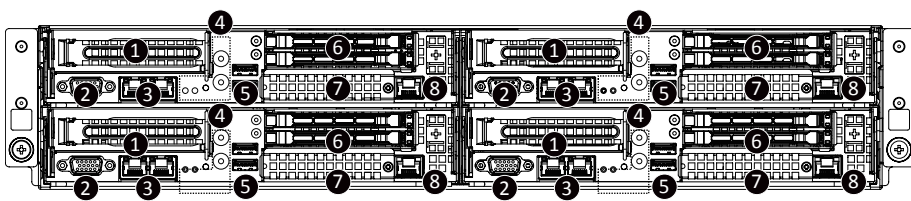

Power Supply
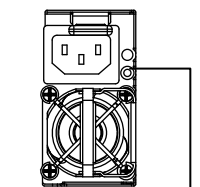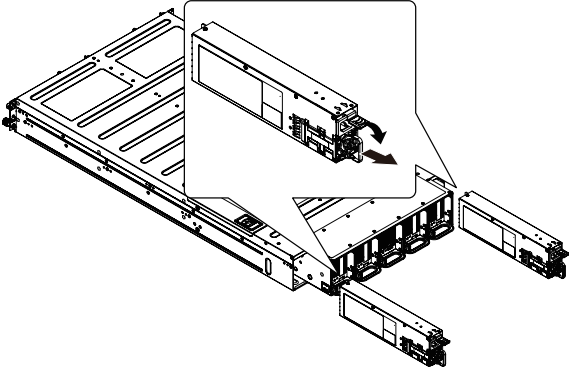
Power Supply LED

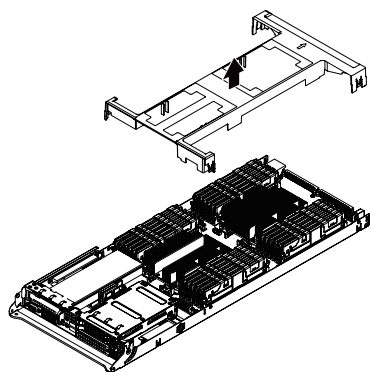| State	Description
Green On	+12V output ON and OK
Off	No AC power to all power supplies
0.5Hz Blink/Green	AC presents/Only +12VSB on (PS Off) Or PSU in Smart standby mode
Amber	AC cord unplugged, or AC power lost; with a second power supply in parallel still with AC input power.
0.5Hz Blink/Amber	Power supply warning events where the power supply continues to operate; high power current, slow fan
Amber	Power supply critical event causing a shutdown; OTP, OCP, UVP, OVP, fan fail
2Hz Blink/Green	Power supply firware updating

System Appearance

System Fron View

1. PCIe Card Bay
2. VGA Port
3. GbE LAN Ports
4. Front Panel Buttons and LEDs
5. USB 3.0 Ports
6. Hard Drives
7. OCP Card Bay (Optional)
8. ServerManagement LAN Port

System Rear View

Secondary PSU

Primary PSU
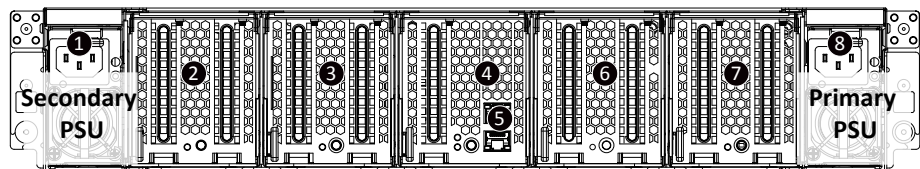
1. Power Supply Module Cord Socket
2. PCIe Card Bay (Node 4)
3. PCIe Card Bay (Node 3)
4. PCIe Card Bay (CMC)
5. CMC LAN Ports
6. PCIe Card Bay (Node 2)
7. PCIe Card Bay (Node 1)
8. Power Supply Module Cord Socket

Fan Duct

Mezzanine OCP Card

PCI Express Card

Front Panel LEDs

NMI RST ID
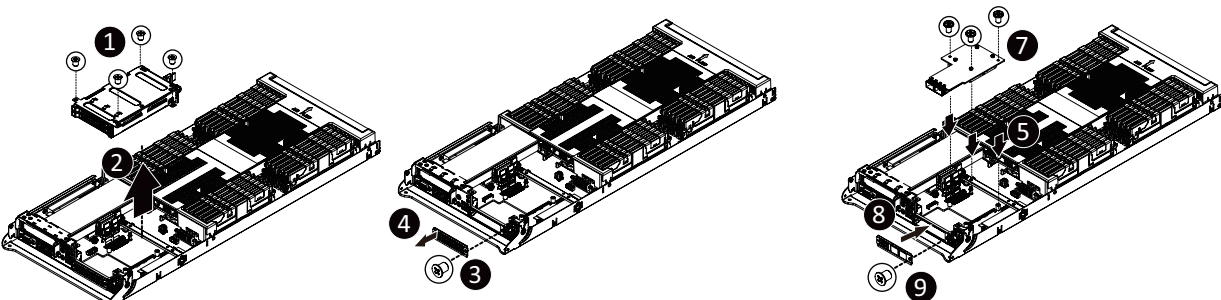
No.	Name	Color	Status	Description
1	NMI Button			Press the button to enable NMI function.
2	Reset Button			Press the button to reset the system.
3	System Status LED	Green	Solid On	System is operating normally.
		Amber	Solid On	Critical condition, may indicates: System fan failure System temperature
			Blink	Non-critical condition, may indicates: Redundant power module failure Temperature and voltage issue Chassis intrusion
		N/A	Off	System is not ready, may indicates: POST error NMI error Processor or terminator missing
4	ID Button	Blue	Solid On	Press the button to activate system identifcation.
5	Power Button with LED	Green	Solid On	System is powered on.
		Green	Blink	System is in ACPI S1 state (sleep mode).
		N/A	Off	System is not powered on or in ACPI S5 state. (power off). System is in ACPI S4 state (hibernate mode).