

IEA8-B300 User Manual

Revision History

Refer to the table below for changes made on this version of the IEA8-B300 User Manual.

Date	Version	Updates
12/10/2025	FIRST DRAFT	
12/12/2025	V1.00	

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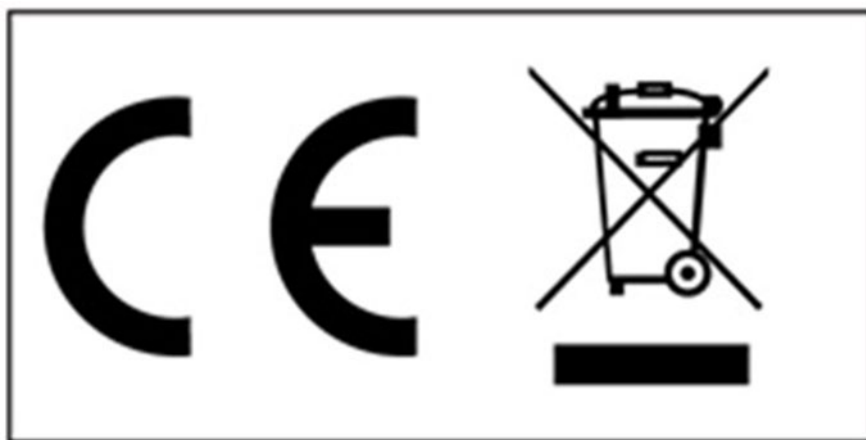
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Compliance Information

CE Notice: European Conformity (Conformité Européenne)

This is a Class A product. In a domestic environment, this product may cause radio frequency interference, in which case the user may be required to take adequate measures. This device bears the CE mark in accordance with Directive 2014/53/EU. This device complies with the following Directives:

- EMC Directive A, I.T.E Equipment.
- Low Voltage Directive for electrical safety.
- RoHS Directive for hazardous substances.
- Energy-related Products Directive (ErP).



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NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. California Department of Toxic Substances Control: Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/perchlorate.

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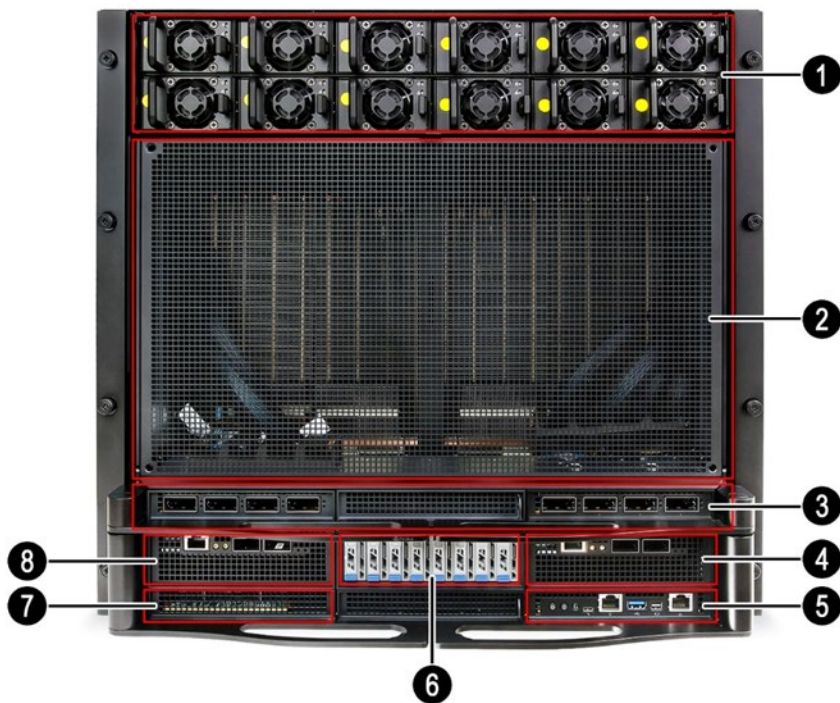
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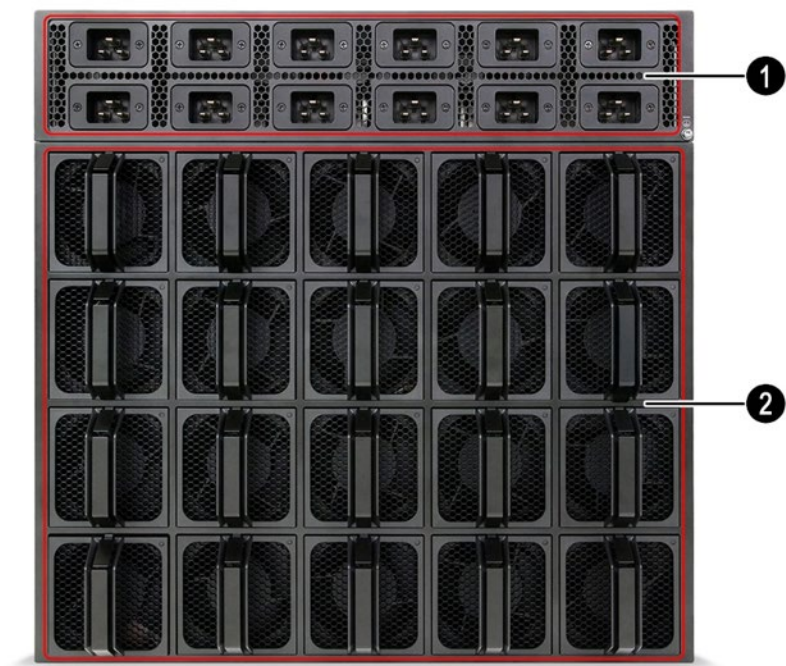
System Tour



Front View

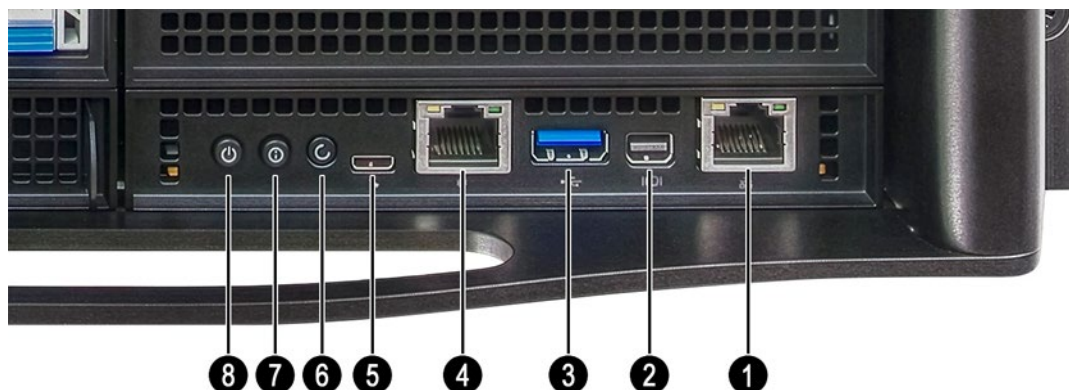
Item	Description
1	Power Supply Units
2	GPU Sled
3	OSFP Module
4	BF3
5	DC-SCM Module
6	E1.S NVMe
7	M.2 Board
8	BF3

Rear View



Item	Description
1	AC Sockets
2	Fan Module

DC-SCM Module



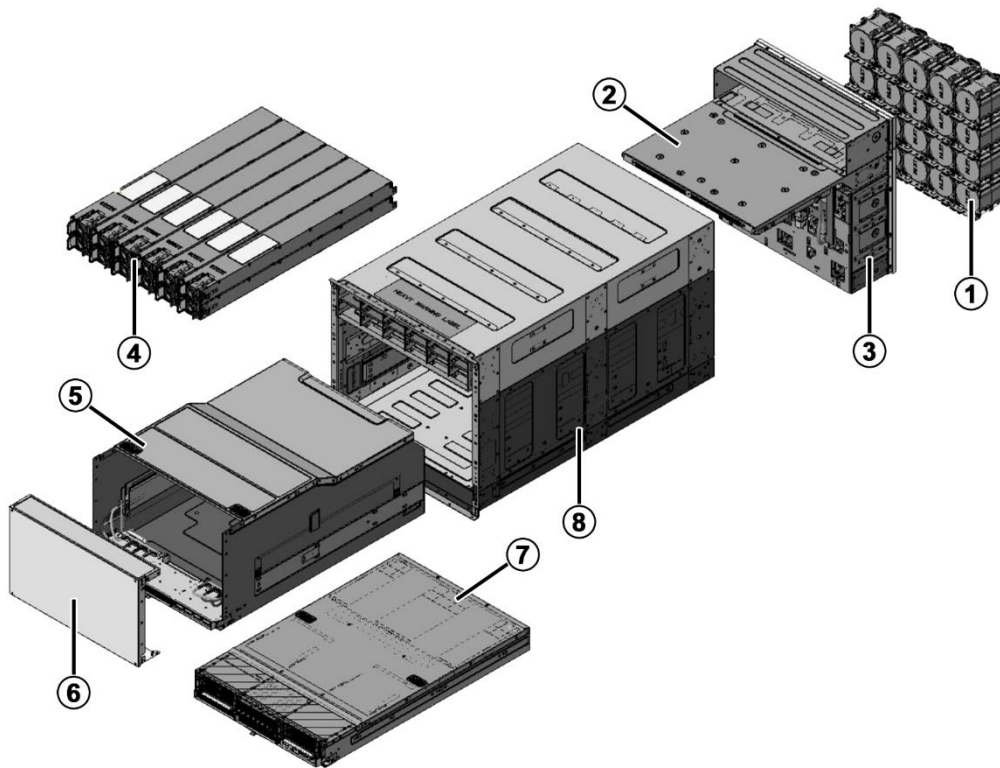
Item	Description
1	RJ45
2	Mini Display Port
3	USB 3.0 Type-A port
4	RJ45 for Management Ethernet Port
5	Micro USB for Debug Port
6	Reset Button
7	Button with Unit Identification LED
8	Button with Power LED

NOTE: We recommend using the mini-DP to VGA adapter for video output.

If an external adapter is needed (for example, DP to VGA, DP to HDMI, or DP to DVI) please use an active-type adapter only.

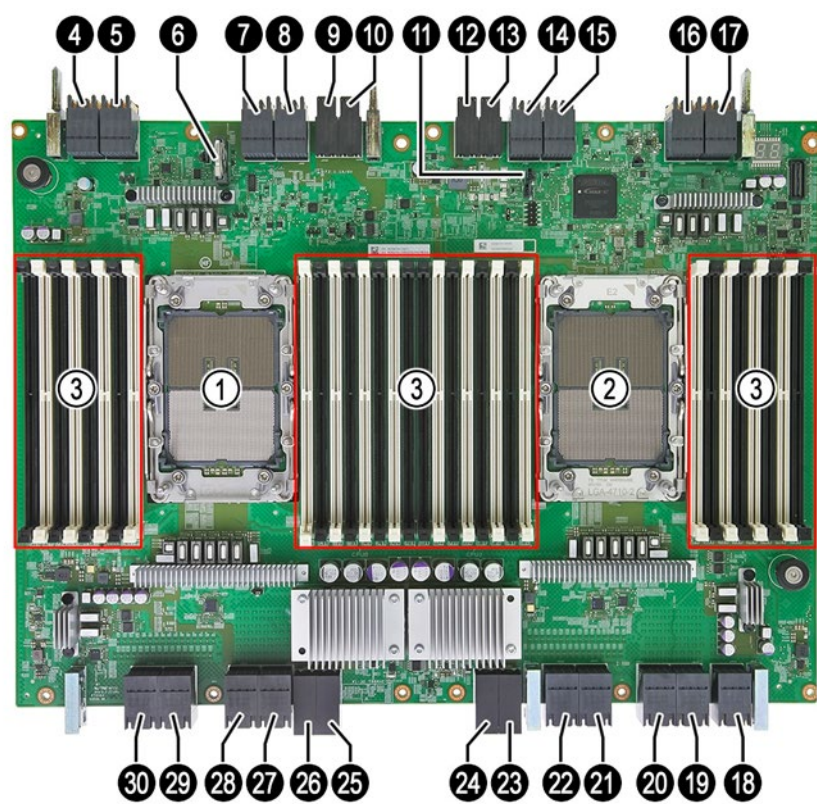
This module DOES NOT SUPPORT the DP++ type adapter.

Server Components



Item	Description
1	Fan Module
2	Power Sled
3	Rear Cage
4	Redundant PSU
5	GPU Sled
6	Front Bezel
7	CPU Sled
8	Main Chassis

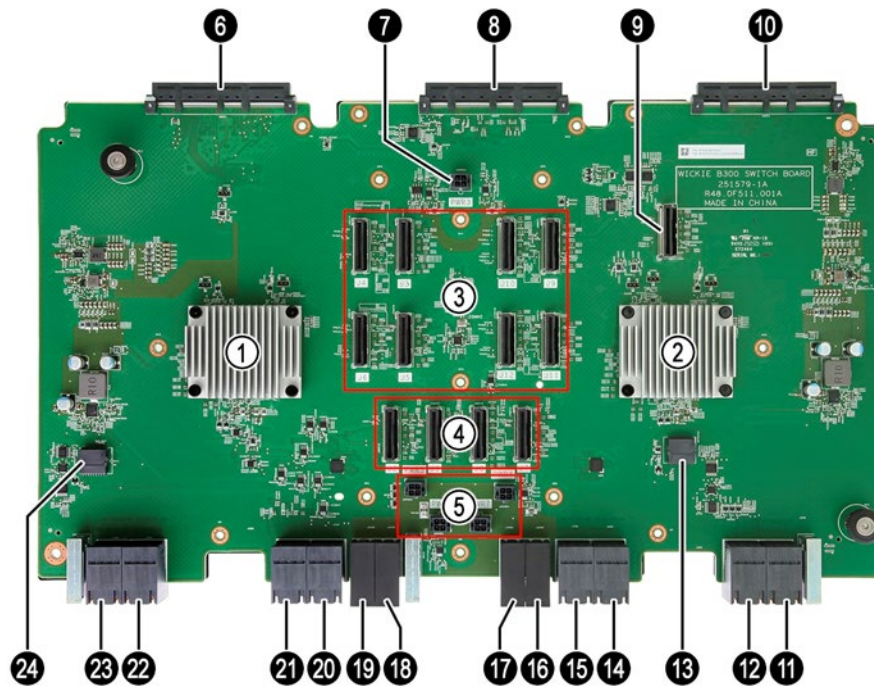
System Boards



MGX HPM Board Components

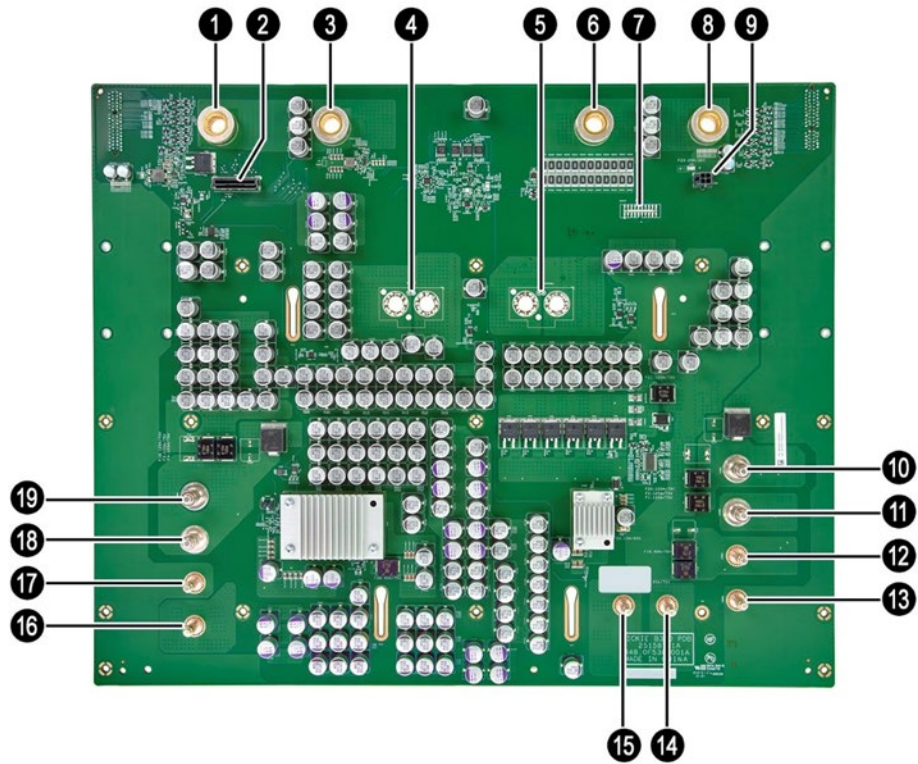
Item	Description
1	CPU0 Socket
2	CPU1 Socket
3	DDR5 DIMM Slots
4-5	Switch Connectors
6	CMOS Battery
7-10	Switch Connectors
11	CMOS Clear
12-17	Switch Connectors
18-30	Backplane Connectors

Switch Board Components



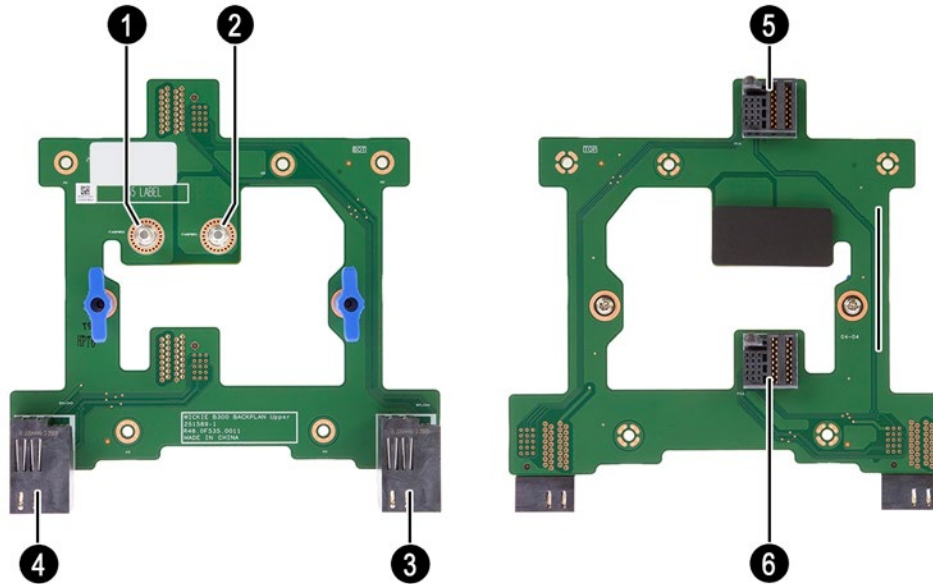
Item	Description
1-2	Switch
3	BF3 Cable Connectors
4	E1.S Cable Connectors
5	BF3 Power Connectors
6	DC-SCM Connector
7	E1.S Power Connector
8	OCP Connector
9	Reserved
10	M.2 Connector
11-12	MB Connectors
13	Switch SPI Flash
14-23	MB Connectors
24	Switch SPI Flash

Power Distribution Board Components



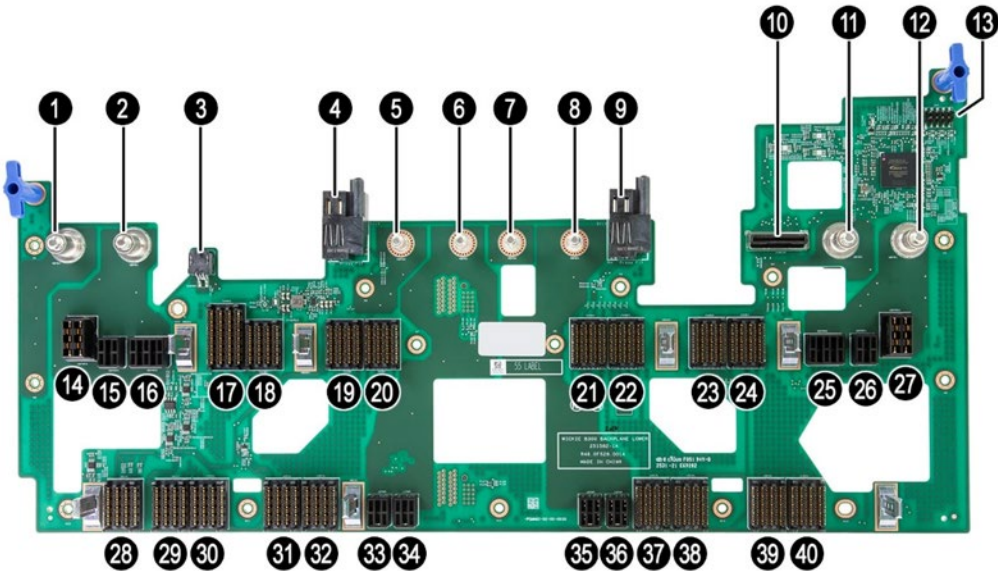
Item	Description
1	P50V from PSU
2	PSU Sideband
3	P50V from PSU
4-5	Reserve
6	P50V from PSU
7	Reserved
8	P50V from PSU
9	P12V_STBY
10-13	P50V B300 Baseboard Power
14-15	P50V Fan Power
16-19	P50V MB Power

Backplane-Upper Board Components



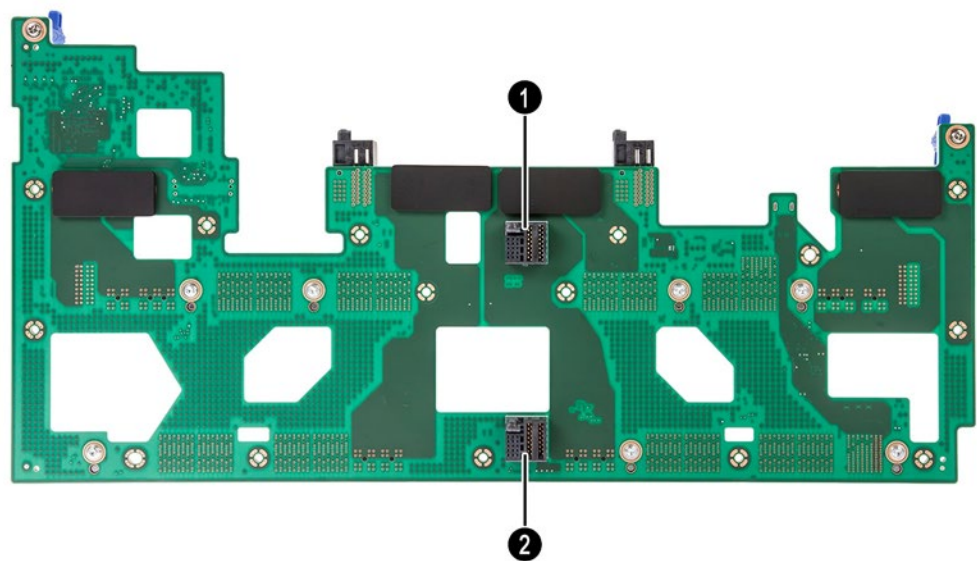
Item	Description
1-2	P50V Fan Power
3-4	Backplane-Lower Connectors
5-6	Fan Connectors

Backplane-Lower Board Components (Front)



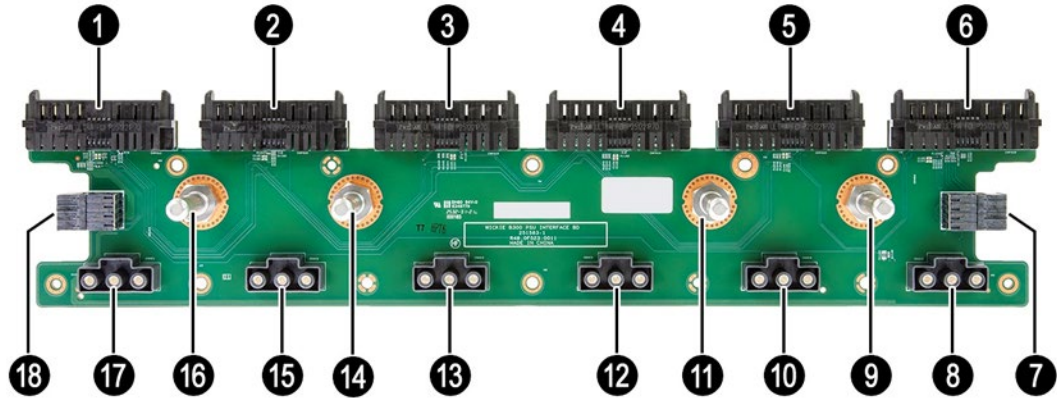
Item	Description
1-2	GB Baseboard 50V
3	Standby Power Connector
4	Fan Control
5-8	MB 50V Connectors
9	Fan Control
10	PDB Sideband Connector
11-12	GB Baseboard 50V
13	Reserved
14-16	GB Baseboard Power Connectors
17-24	GB Baseboard Connectors
25-27	GB Baseboard Power Connectors
28-40	MB Connectors

Backplane-Lower Board Components (Back)



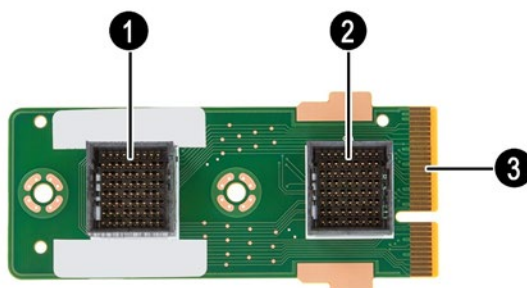
Item	Description
1-2	Fan Controls

PSU Interface Board Components



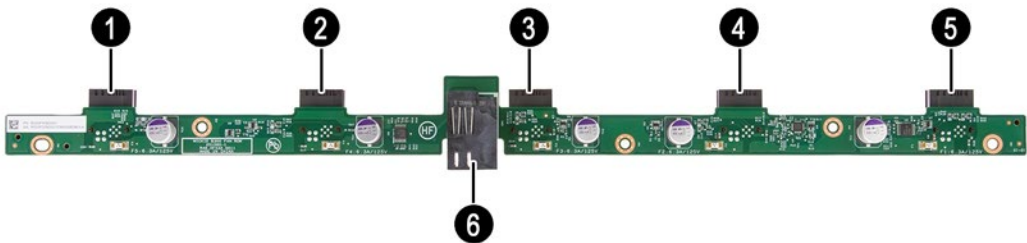
Item	Description
1-6	PSU Connectors
7	PSU Sideband Connector
8	AC Input
9	P50V to PSU Interface
10	AC Input
6	USB3.0 Type-A Ports
12-13	AC Input
14	P50V to PSU Interface
15	AC Input
16	P50V to PSU Interface
17	AC Input
18	PSU Sideband Connector

PSU Signal Board Components



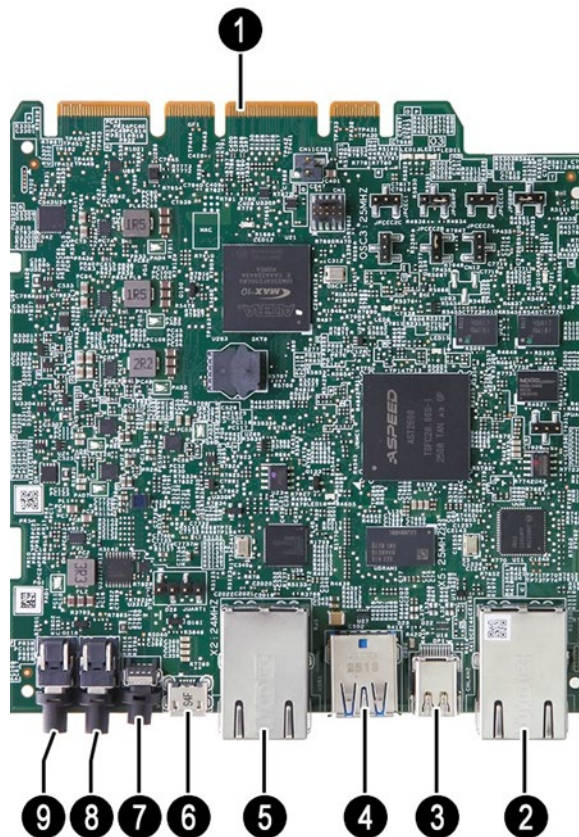
Item	Description
1	PSU Sideband to PSU Interface Lower
2	PSU Sideband to PSU Interface Upper
3	GF PSU Sideband to PDB

Fan Board Components



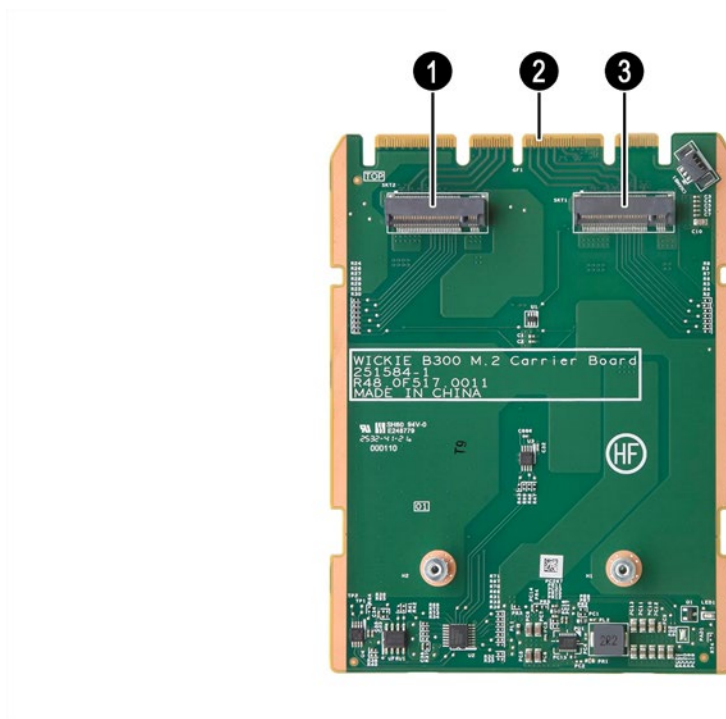
Item	Description
1-5	Fan Module Connectors
6	Backplane Connector

DC-SCM Board Components



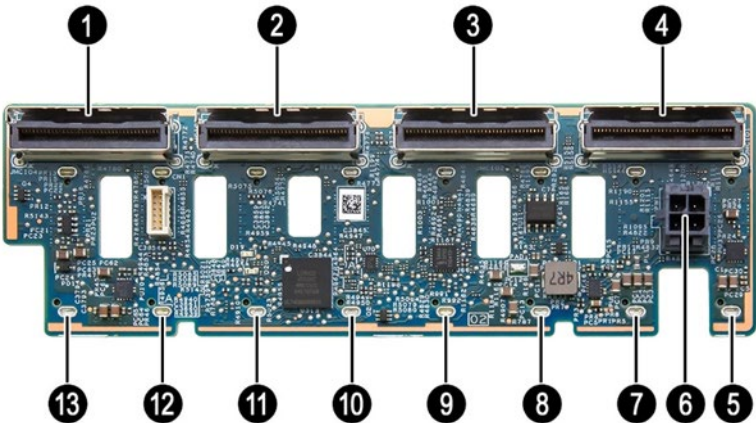
Item	Description
1	GF to Switch Board
2	RJ45 for the System
3	Mini-Display Port
4	USB3.0 Type-A
5	RJ45 for BMC Management
6	Micro USB Debug Port
7	Reset Button
8	UID Button
9	Power Button

M.2 Board Components



Item	Description
1	M.2 Connector
2	GF to Switch Board
3	M.2 Connector

E1.S Backplane Board Components



Item	Description
1-4	Switch Connectors
5	E1.S Connector
6	Switch Power Connector
7-13	E1.S Connector

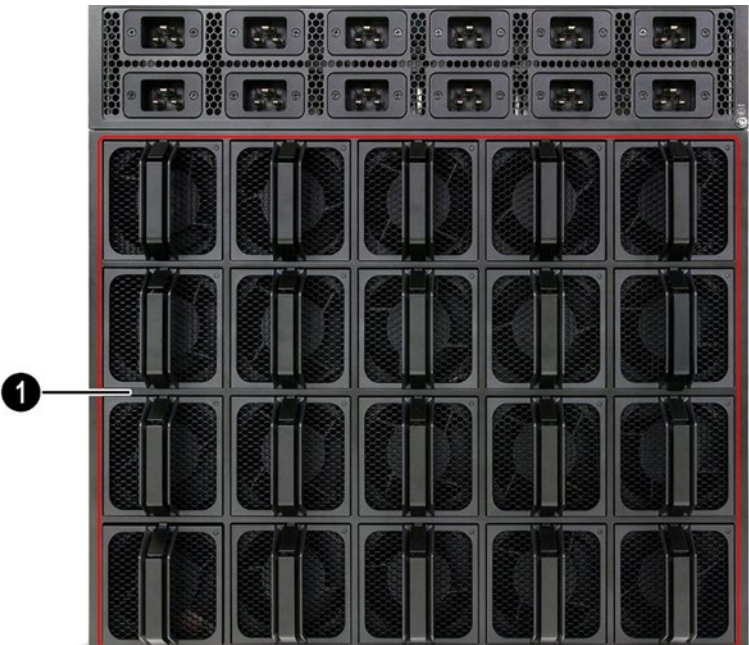
OSFP Board Components



Item	Description
1	Sideband Connector
2	Power Connector
3	Sideband Connector
4-7	B300 Baseboard Connectors

Fan and Storage Locations

Dual Rotor Fans



Item	Description
1	80x80 Dual Rotor Fans

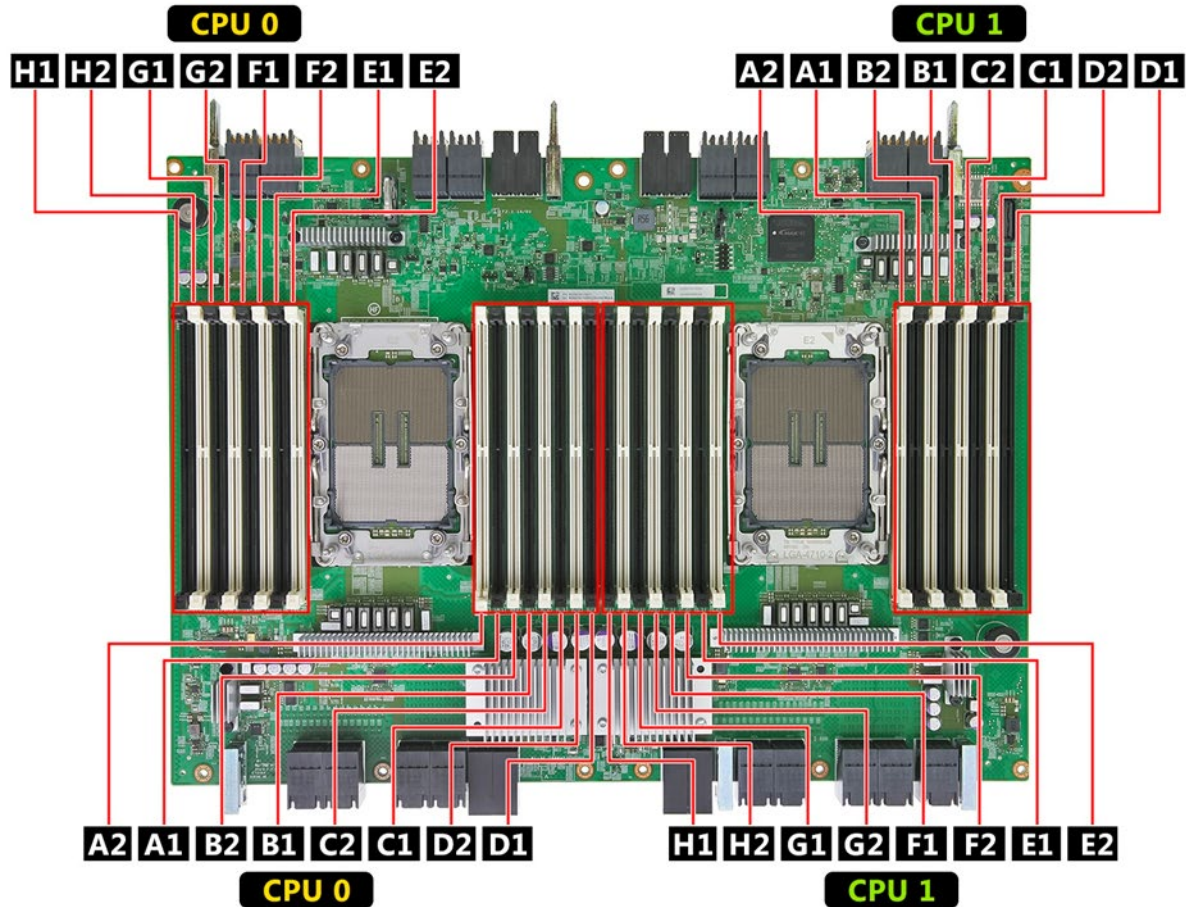
E1.s NVMe Storage



Item	Description
1	PCIe5 E1.s NVMe

DIMM Slot Locations

DIMM slots are labeled sequentially (as shown) for each CPU. Use the Recommended Memory Channels per Configuration below for spare replacement. CH0 corresponds to A, CH1 corresponds to B, CH7 corresponds to H, and so on.



Memory Population Table

Number of DIMM(s) to populate	DIMM (s) Population Order																															
	CPU 1																CPU 0															
	CH D Slot 1	CH C Slot 2	CH B Slot 1	CH A Slot 2	CH E Slot 1	CH F Slot 2	CH G Slot 1	CH H Slot 2	CH D Slot 1	CH C Slot 2	CH B Slot 1	CH A Slot 2	CH E Slot 1	CH F Slot 2	CH G Slot 1	CH H Slot 2	CH D Slot 1	CH C Slot 2	CH B Slot 1	CH A Slot 2	CH E Slot 1	CH F Slot 2	CH G Slot 1	CH H Slot 2	CH D Slot 1	CH C Slot 2	CH B Slot 1	CH A Slot 2	CH E Slot 1	CH F Slot 2	CH G Slot 1	CH H Slot 2
2																																
8																																
16																																
24																																
32																																

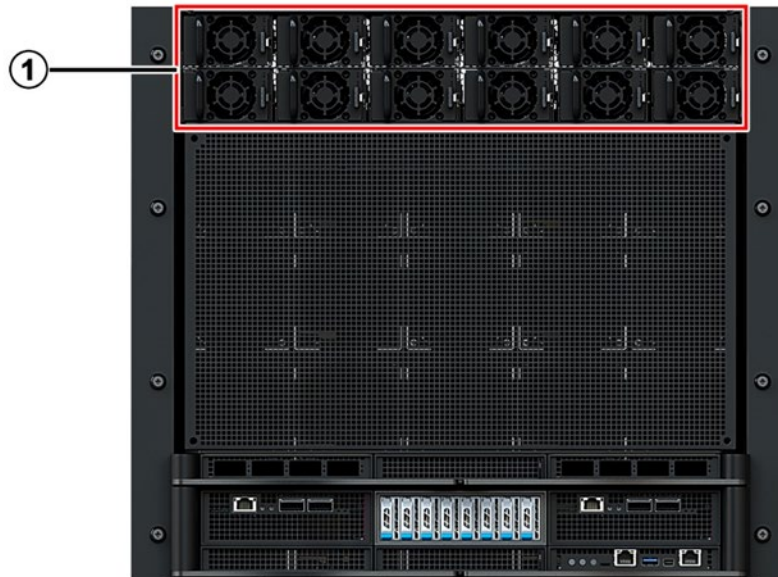
Memory Module Population Rules

All DIMMs must be DDR5 DIMMs. 16GB density DRAMs are supported. The following DIMM types and bit widths are supported:

- DIMM capacities from 64GB to 2TB, depending on type and configuration
- RDIMM: 2Rx4

Type	Ranks and Data Width	DRAM Density	Size	Speed	Vendor
RDIMM	2Rx4	16 GB	64	GB	SKH, Samsung, Micron

Redundant PSU Locations



Item	Description
1	50V Redundant Power Supply Units

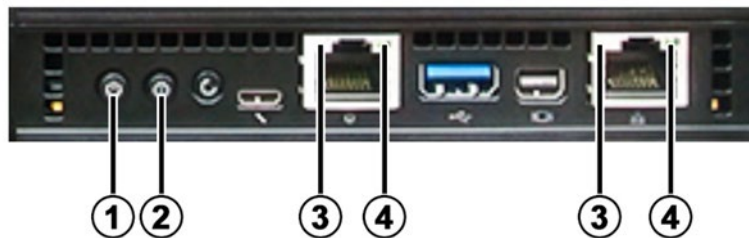
Support for PSU Redundancy and Continuous Operation

The system includes twelve power supply units (PSUs) configured for 50V 6+6 redundancy. See the following additional considerations:

- For 50V 6+6
 - If one PSU fails, troubleshoot the cause and replace the failing PSU immediately. System keeps running at full performance. Healthy LED shows amber LED.

Status LED Indicators

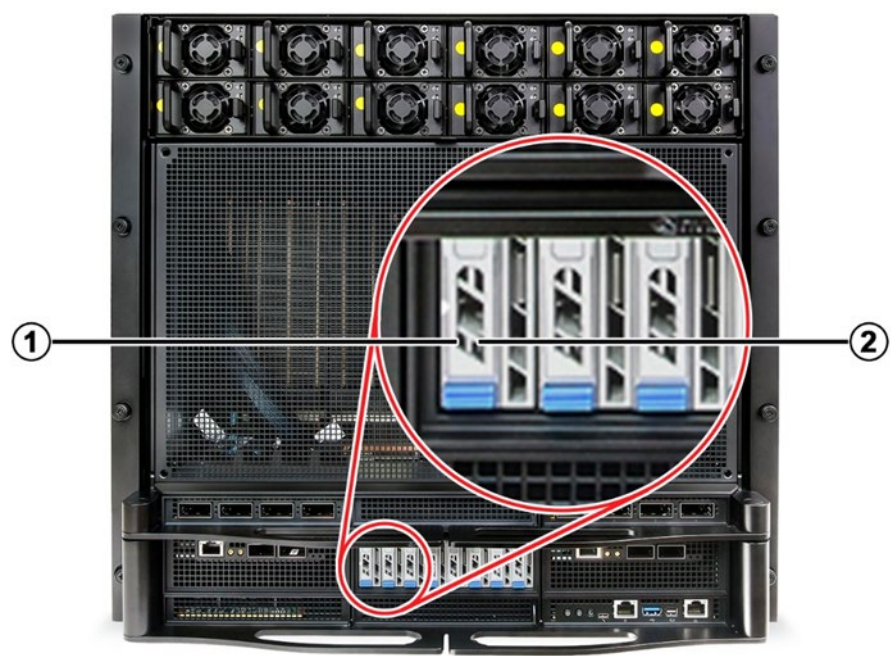
The status LED indicators aid in problem diagnosis by indicating the status of system components and operations of the server.



DC-SCM LED Indicators

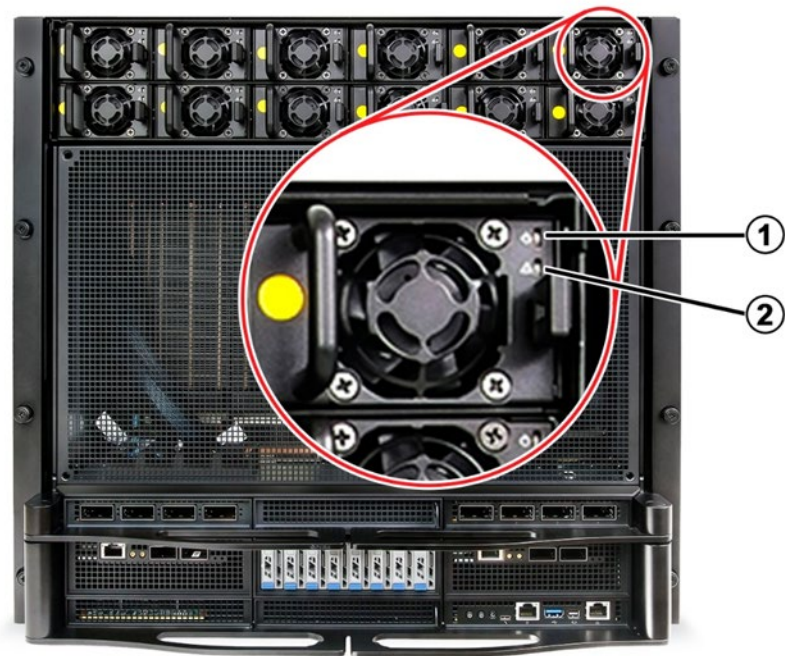
Item	Function	Status	Status Description
1	Power Button LED	Off Green flashing (1Hz) Green flashing (4Hz) Green solid on Amber solid on	Power is off Stand by (BMC booted) System running POST Power on System fault
2	UID Button LED	Off Blue flashing (1Hz)	Normal status Identify server location
3	RJ45 Left LED	Off Green solid on Amber solid on	10Mbps 100Mbps 1000Mbps
4	RJ45 Right LED	Off Blinking Solid on	No connection Transmit/receive activity Active connection

E1.S NVMe LED Indicators



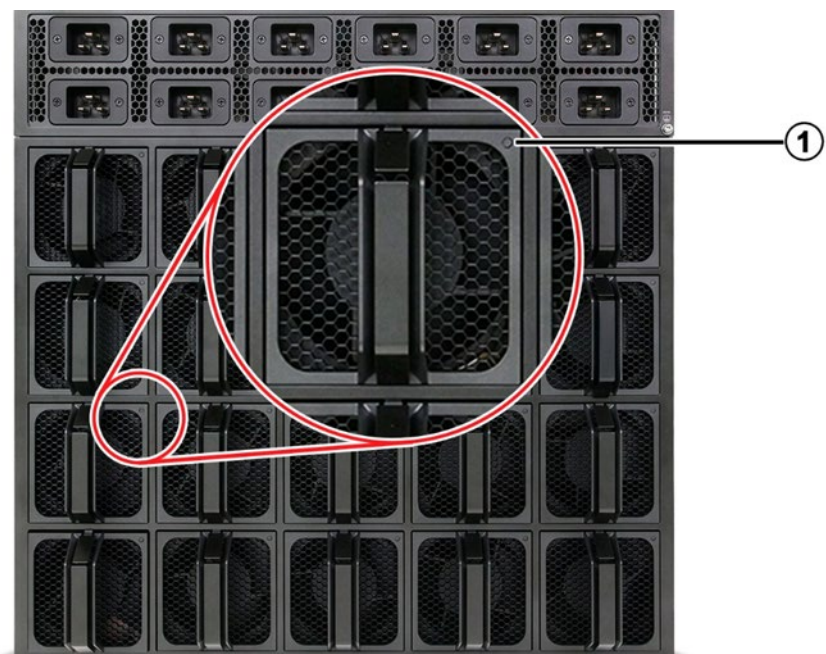
Item	Function	Status	Status Description
1	Green LED	Green solid on	Hard drive powered
		Green flashing (4Hz)	Hard drive read/write
2	Amber LED	Amber solid on	Hard drive fault

Redundant PSU LED Indicators



Item	Function	Status	Status Description
1	PSU LED (top)	Off Green solid on Green flashing (4Hz)	Vout Off Vout On AC OK, Vout Off
2	PSU LED (bottom)	Off Amber solid on Amber flashing (4Hz)	Fault not present Loss of Vout by fault event Bootloading

Fan LED Indicators



Item	Function	Status	Status Description
1	Fan LED	Off Amber solid on	Fan functioning normally Fan fault

System Utilities

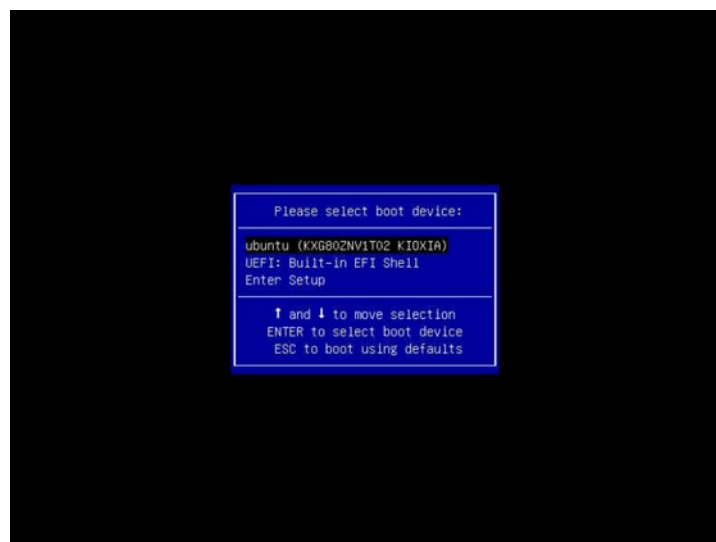
Boot Menu

Accessing the Boot Menu Screen

- 1 To access the Boot menu screen, turn on the server. If the server is already turned on, save your data and close all open applications, then restart the server.
- 2 During POST, press the F7 key to enter the Boot menu.



NOTE: The server takes approximately 3 minutes from turning the power on, booting the system, and loading system setup. If you fail to press the F7 key before POST is completed, you must restart the server.



3 Use the Up/Down arrow keys to move between the menu options, then press **ENTER** to select the boot device. Press **ESC** to boot using the default device.

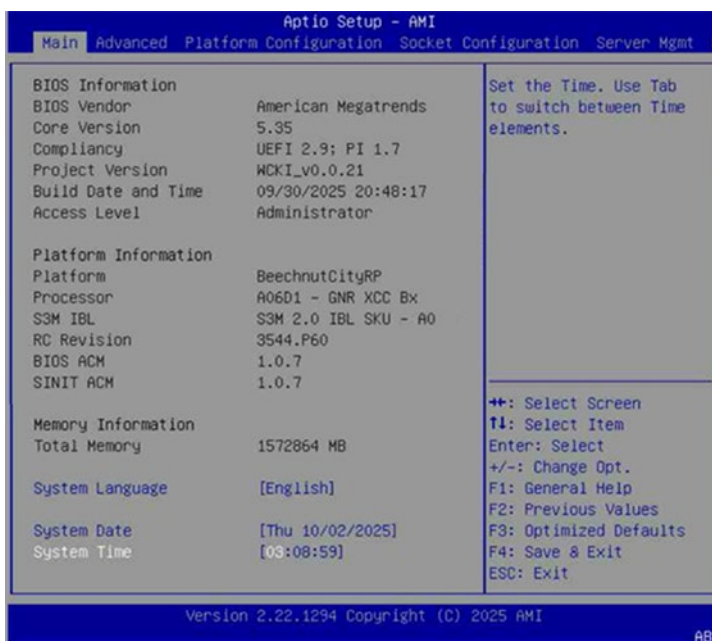
BIOS Setup

Accessing the BIOS Setup Menu Screen

- 1 To access the BIOS setup menu screen, turn on the server. If the server is already turned on, save your data and close all open applications, then restart the server.
- 2 During POST, press the **DEL** or **ESC** key to enter the BIOS setup menu.



NOTE: The server takes approximately 3 minutes from turning the power on, booting the system, and loading system setup. If you fail to press the **DEL** or **ESC** key before POST is completed, you must restart the server.



Use the Left/Right arrow keys to move between the menu screens, then press **ENTER** to view that menu tab.

Use the Up/Down arrow keys to move between the menu options, then press **ENTER** to execute that option.

Some options lead to pop-up dialog boxes that prompt you to confirm that you want to execute that option.

Other options lead to dialog boxes that prompt you for information.

Some options (marked with a ►) lead to submenus that enable you to change the values for the option.

Use the Up/Down/Left/Right arrow keys to scroll through the items in the submenu.

Navigating the BIOS Setup Menu Screen

Use the keys listed on the bottom right of the Setup screen to view through the various BIOS menu and submenu screens. The following table lists these keys and their respective functions.

Key	Function
Left / Right arrow keys	Moves the cursor to the menu screen you want. The currently selected screen is highlighted, and the items it contains are shown.
Up / Down arrow keys	Moves the cursor to the item you want. The currently selected field is highlighted.
Enter	• Opens the page for the currently selected menu/submenu • Applies a field value
+ / - keys	Selects a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display all possible entries. A parameter that is enclosed in square brackets ([]) is user-configurable. Parameters displayed in black font are not user-configurable for one of the following reasons: • The field value is auto-configured or auto-detected. • The field value is informational only. • The field is password-protected.
F1	Displays the General Help window. The General Help window describes other setup navigation keys that are not displayed on the legend bar.
F2	Restores the saved User Default settings.
F3	Loads optimized default system values.
F4	Saves and exits the BIOS setup screen.
Esc	If you press this key: • On one of the primary menu screens, the Exit menu displays. • On a submenu screen, the previous screen displays. • When you are making selections from a pop-up menu, closes the pop-up without selecting.

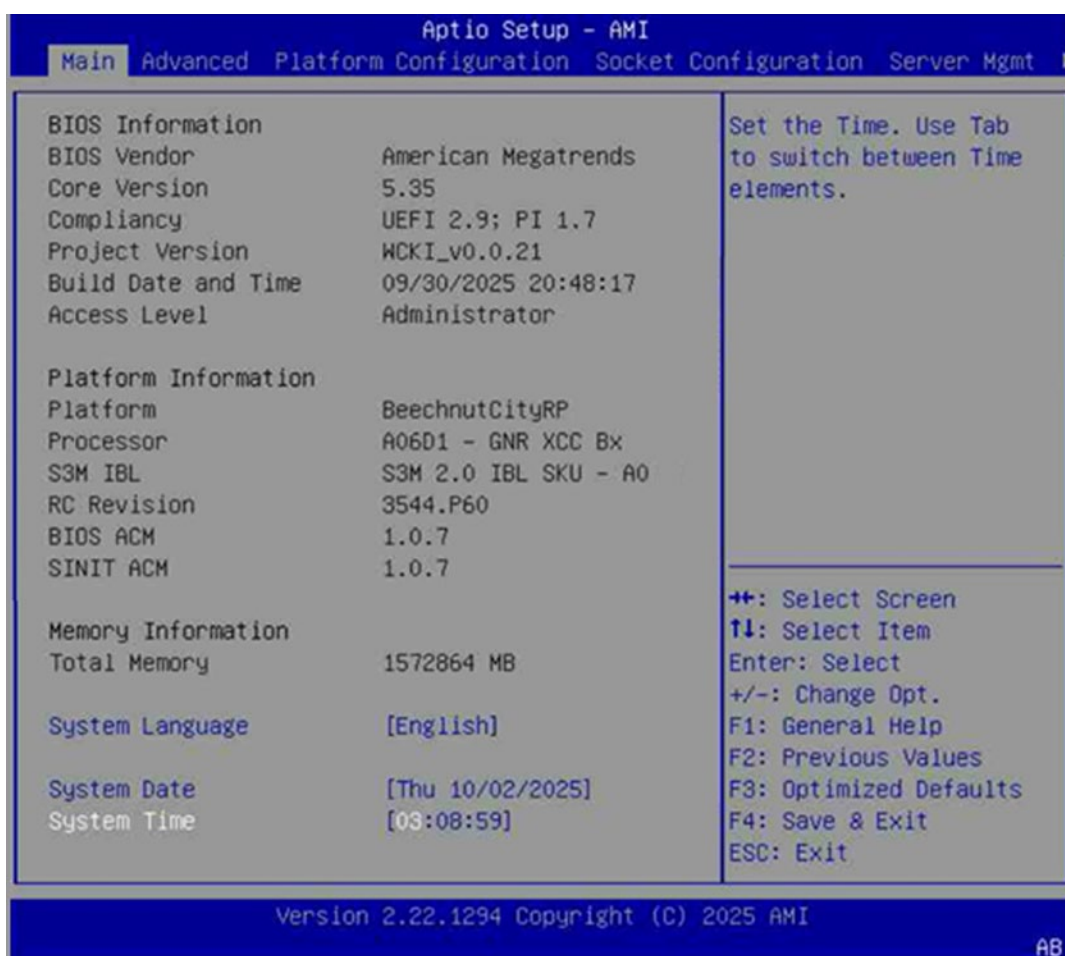
Remote Flash BIOS

To remotely flash BIOS on IEA8-B300, contact your Penguin Solutions Service Representative for complete instructions.

BIOS Setup Menu Screen

NOTE: The screenshots used in this section are for illustration only. The values displayed may not be the same as those on your server. In the tables following each of the menu screen illustrations, settings in boldface are the default and suggested settings.

Main menu



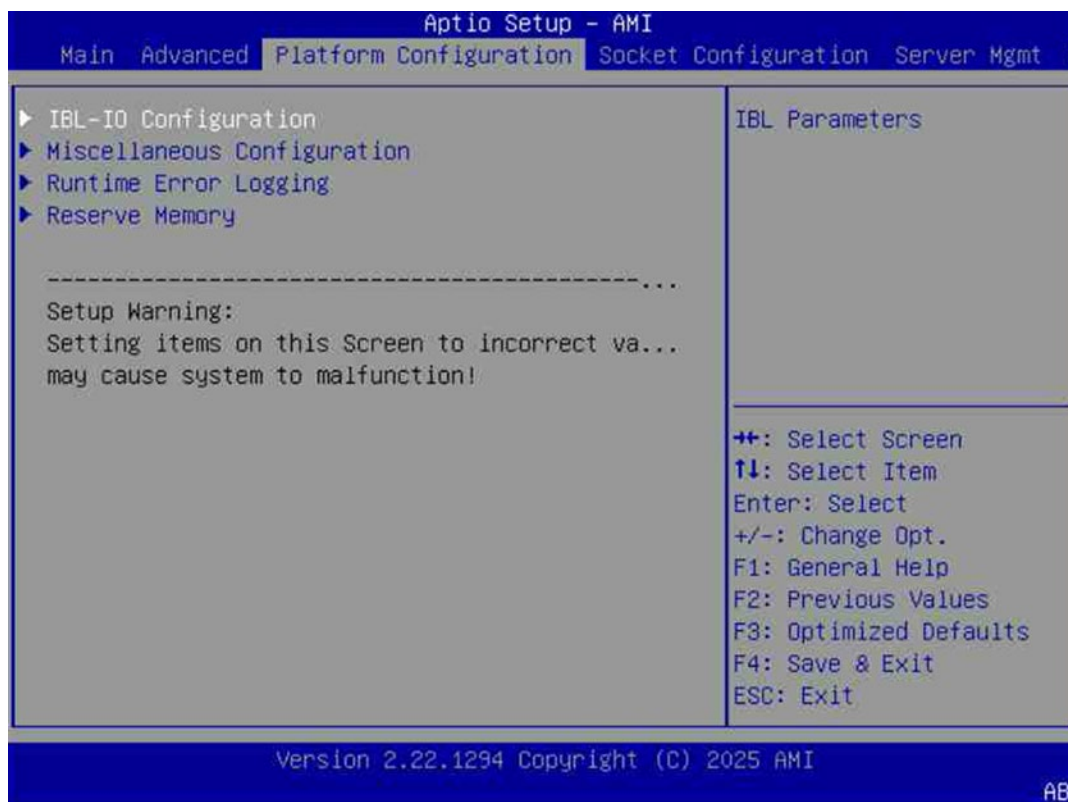
Parameter	Description	Value
BIOS Information	Power Button LED	
BIOS Vendor	BIOS vendor	
Core Version	Current system core version	
Compliance	BIOS compliance information	
Project Version	Official project version code of the server	
BIOS Build Date and Time	Date when the system BIOS was built	
Access Level	Current access level of the logged-in user	
Platform Information		
Platform	Platform name	
Processor	Extended CPUID, die type, and CPU stepping	
S3M IBL	S3M/IBL Info	
RC Revision	RC revision	
BIOS ACM	BIOS ACM	
SINIT ACM	SINIT ACM	
Memory Information		
Total Memory	Size of system memory detected during boot-up.	
System Language	Choose the system default language	English
System Date	Set the date. Use Tab to switch between date elements. Default Ranges: Year: 1998-9999 Months: 1-12 Days: dependent on month Range of years may vary	
System Time	Set the time. Use Tab to switch between time elements.	

Advanced Menu



Parameter	Description
Trusted Computing	Trusted Computing Settings
ACPI Settings	System ACPI Parameters
Redfish Settings	Redfish Options
UEFI Variables Protection	NVRAM Runtime Variable Protection Settings
Serial Port Console Redirection	Serial port console redirection
SIO Common Setting	SIO common setting
SIO Configuration	SIO configuration
Option ROM Dispatch Policy	Option ROM dispatch policy
PCI Subsystem Settings	PCI, PCI-X, and PCI Express settings
USB Configuration	USB configuration parameters
Network Stack Configuration	Network stack settings
NVMe Configuration	NVMe device options settings
Emulation Configuration	Displays and provides options to change the DFX emulation settings
Tls Auth Configuration	Press <Enter> to select Tls Auth Configuration
All Cpu Information	Displays all CPU information
RAM Disk Configuration	Press <Enter> to add/remove RAM disks
PCIe device Information	Plugged-in PCIe device information
Driver Health	Provides health status for the drivers/controllers

Platform Configuration Menu



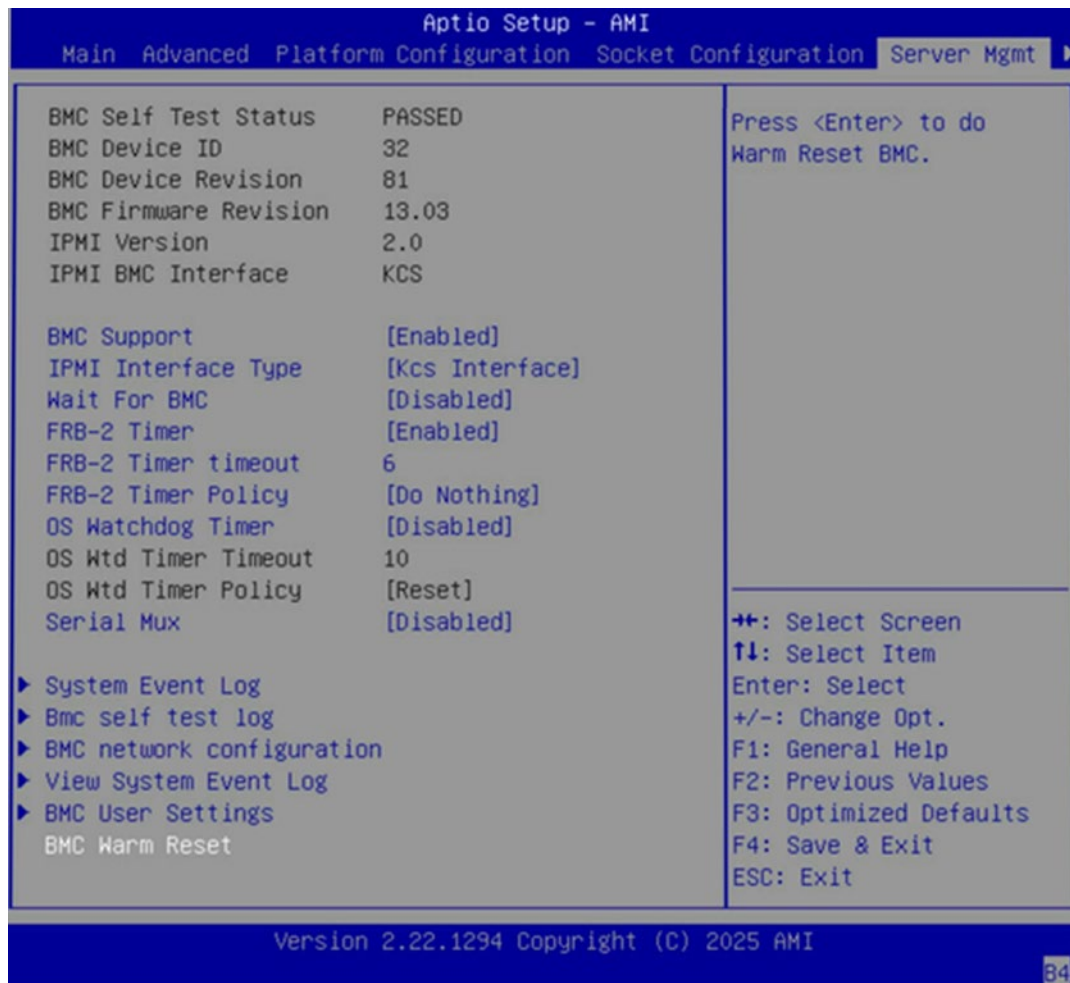
Parameter	Description
IBL-IO Configuration	IBL parameters
Miscellaneous Configuration	
Runtime Error Logging	Press <Enter> to view or change the runtime error log configuration
Reserved Memory	Reserved memory

Socket Configuration Menu



Parameter	Description
Processor Configuration	Displays/modifies processor settings
Common RefCode Configuration	Displays/modifies common RefCode settings
Uncore Configuration	Displays/modifies UnCore settings
Memory Configuration	Displays/modifies memory settings
Security Configuration	Displays/modifies security information and settings
IIO Configuration	Displays/modifies IIO settings
Advanced Power Management Configuration	Displays/modifies power management settings

Server Mgmt Menu



Parameter	Description	Value
BMC Self Test Status	BMC self-test status	
BMC Device ID	BMC device ID	
BMC Device Revision	BMC device revision	
BMC Firmware Revision	BMC firmware revision	
IPMI Version	IPMI version	
IPMI BMC Interface	IPMI BMC interface	
BMC Support	Enables/disables interfaces to communicate with BMC	Enabled (Default) Disabled

IPMI Interface Type	Type of interface to communicate with BMC from host	Kcs Interface (Default) Bt Interface
Wait For BMC	Waits for BMC response for specified timeout. In PILOTII, BMC starts at the same time when BIOS starts during AC power ON. It takes around 30 seconds to initialize the host to BMC interfaces.	Enabled Disabled (Default)
FRB-2 Timer	Enable or Disable FRB-2 Timer (POST timer)	Enabled (Default) Disabled
FRB-2 Timer timeout	Enter value between 1 to 30 min for FRB-2 timer expiration	6 (Default)

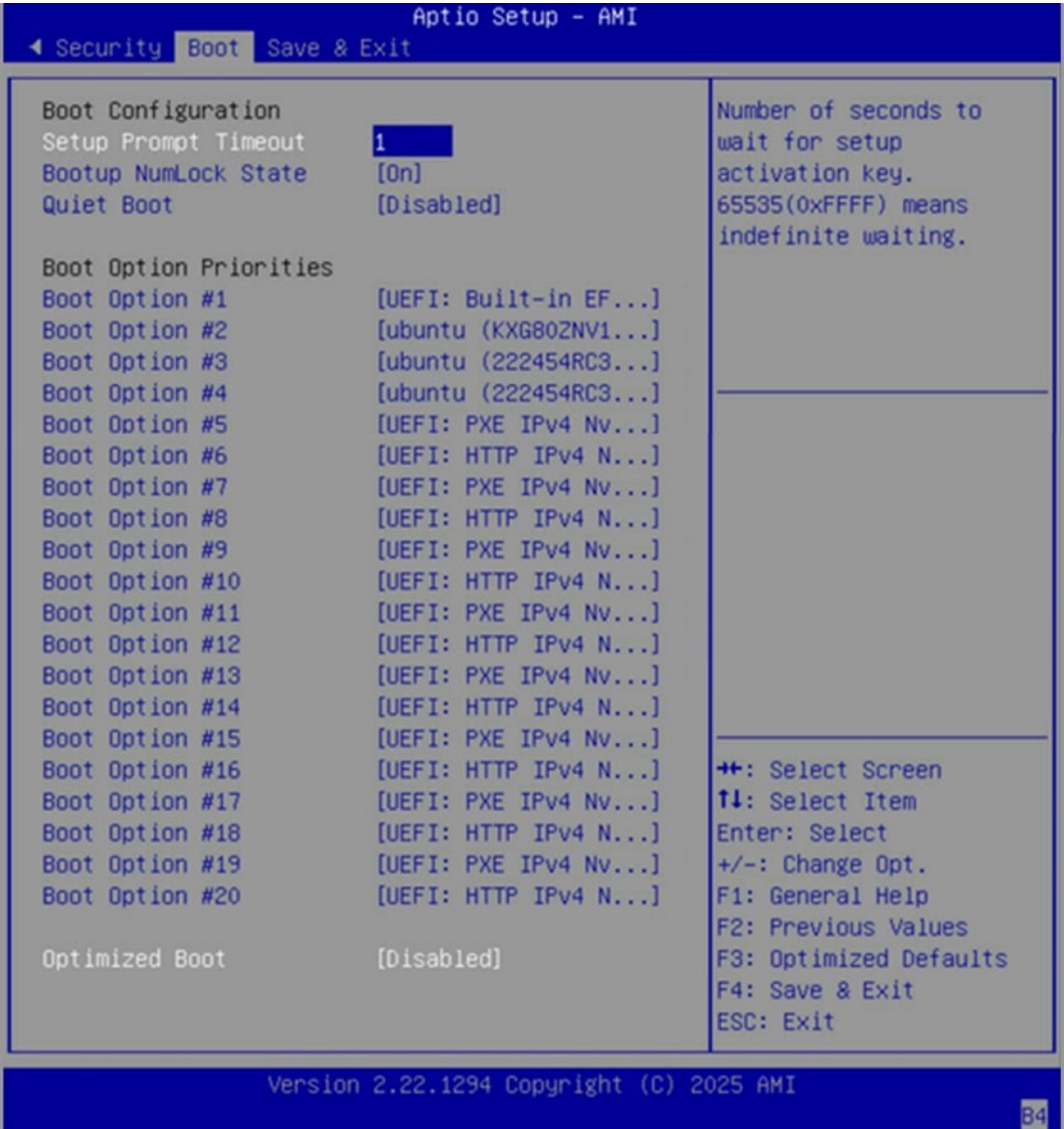
Security Menu



Parameter	Description	Value
Disable Block Sid and Freeze Lock	Allows override to allow SID authentication of TCG storage device and to skip freeze lock command for SAT3 device. Modified value is applicable only for next boot.	Enabled
Administrator Password	Sets administrator password	
User Password	Sets user password	
Secure Boot	Configures Secure Boot	Enabled (Default)

		Disabled
TCG Storage Security Configuration:		
(Storage Device Information)	Configures TCG Storage device security	

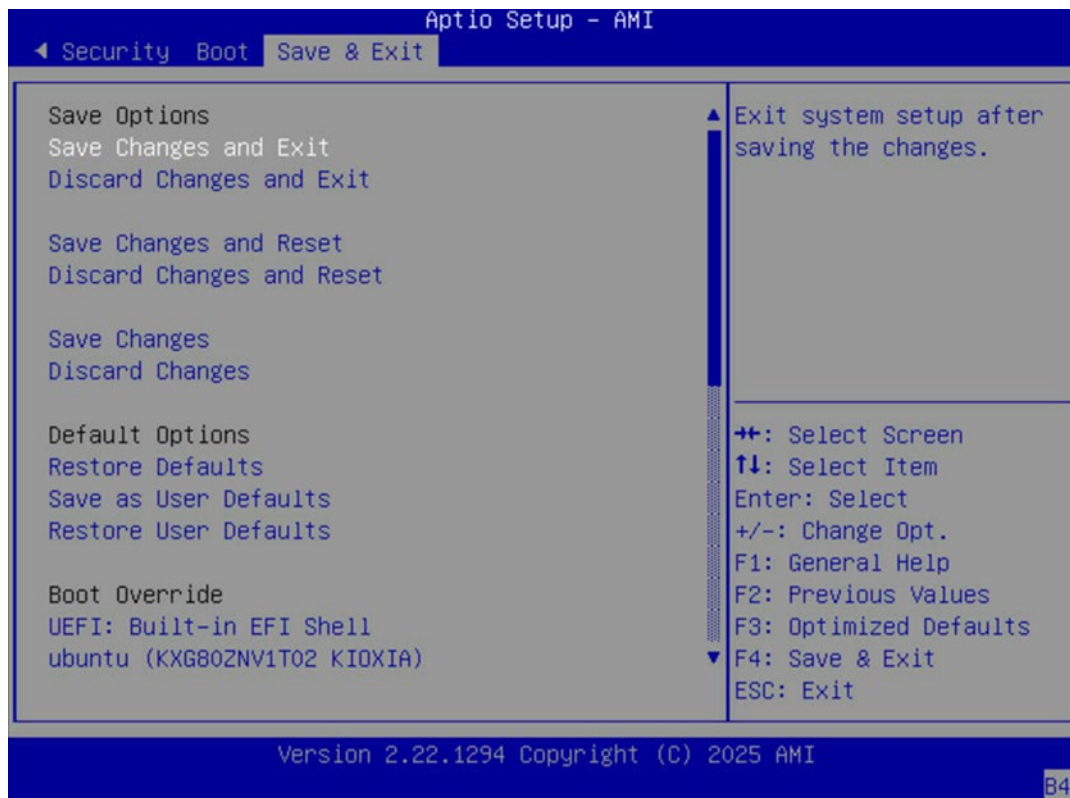
Boot Menu



Parameter	Description	Value
Boot Configuration		
Setup Prompt Timeout	Sets the number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.	1 (Default)
Bootup NumLock State	Selects the keyboard NumLock state	On (Default) Off

Quiet Boot	Enables/disables Quiet Boot	Enabled Disabled (Default)
Boot Option Priorities		
Boot Option #	Sets the system boot order	
Optimized Boot	Enables/disables Optimized Boot. Enabling Optimized Boot disables Csm Support and disables connecting network devices to decrease boot time. While disabling Optimized Boot, make sure to restore the Csm Support option to its previous value before enabling Optimized Boot.	Enabled Disabled (Default)

Save & Exit Menu



Parameter	Description
Save Options	
Save Changes and Exit	Exits system setup after saving the changes
Discard Changes and Exit	Exits system setup without saving any changes
Save Changes and Reset	Resets the system after saving the changes
Discard Changes and Reset	Resets system setup without saving any changes
Save Changes	Saves changes done so far to any of the setup options
Discard Changes	Discards changes done so far to any of the setup options
Default Options	
Restore Defaults	Restores/loads default values for all setup options
Save as User Defaults	Saves the changes done so far as user defaults

Restore User Defaults	Restores the user defaults to all setup options
Boot Override	
(Current boot options)	

System Upgrades

Required Tools

You need the following items for some procedures:

- ESD glove or ESD wrist strap
- Anti-static mat
- T-20 Torx screwdriver
- Phillips-head screwdriver
- Wire stripper
- Crimping tool
- Grounding wire

Additional requirements for AC-specific configurations according to the IEC 60417-5019 grounding symbol.

- Wire diameter: Minimum 14 AWG
- Wire type: Green/Yellow (green with a yellow stripe), stranded wire (safety ground)

Connecting the System to Ground

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions.



CAUTION: To prevent damage to electrical components, wear an ESD wrist strap or use ESD gloves and take the appropriate anti-static precautions before starting any installation procedure. Improper grounding can cause electrostatic discharge.



WARNING: Properly earth ground the system to prevent electrical shock:

- Before working on the system, ensure correct grounding and disconnect all power sources.
- If unsure about grounding procedures, consult a qualified electrician or refer to the manufacturer's documentation
- Always maintain proper grounding when handling the system.



WARNING: When installing or replacing the system, install the grounding wire first. Remove it last during system maintenance.

To connect the system to ground

1. Ground via AC inlet cable.
2. Ground according to IEC 60417-5019 grounding terminal symbol.
 - a. Wear an ESD glove or use an ESD wrist strap.
 - b. Remove the M4 x L10 grounding screw from the system.

NOTE: Use a 14 AWG green wire with a yellow stripe to ground the system.
 - c. Place the flat washer and secure the grounding wire using a screw(M4).
 - d. Attach one end of the grounding wire to an appropriate grounding point at your site (for example, the rack or a grounding terminal).

Safety Considerations

The equipment is intended only for use in a restricted access area. All product service and maintenance work should be performed by a qualified service person. Before performing service procedures, review all of the safety information.

Preventing Electrostatic Discharge

To prevent damaging the system, be aware of the precautions you must follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage mainboards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

Stability hazard - The rack may tip over, causing serious personal injury. Before extending the rack to the installation position, read the installation instructions. Do not put any load on the slide-rail mounted equipment in the installation position. Do not leave the slide-rail mounted equipment in the installation position.

Only use a Laser Class 1 optical transceiver.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Symbols on Equipment

The following symbols may be placed on equipment to indicate the presence of potentially hazardous conditions.



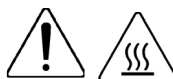
This symbol indicates the presence of hazardous energy circuits or electric shock hazards. Refer all servicing to qualified personnel.

WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure. Refer all maintenance, upgrades, and servicing to qualified personnel.



This symbol indicates the presence of electric shock hazards. The area contains no user or field serviceable parts. Do not open for any reason.

WARNING: To reduce the risk of injury from electric shock hazards, do not open this enclosure.



This symbol indicates the presence of a hot surface or hot component. If this surface is contacted, the potential for injury exists.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.



This symbol indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.



These symbols, on power supplies or systems, indicate that the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to disconnect power from the system completely.



This symbol indicates the presence of a moving fan blade.

WARNING: To reduce the risk of personal injury or damage to the equipment, please keep body parts away from fan blades if access panel is open.

Warnings and Cautions

Before installing a server, be sure that you understand the following warnings and cautions.



WARNING: To reduce the risk of electric shock or damage to the equipment:

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Connect the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect the power cord from the power supply to disconnect power to the equipment.
- Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the rack.



CAUTION: Do not operate the rack for long periods with the access panel open or removed. Operating the rack in this manner results in improper airflow and improper cooling that can lead to thermal damage.



CAUTION: Risk of fire or explosion if the battery is replaced by an incorrect type. Please follow local regulations for disposal of used batteries.

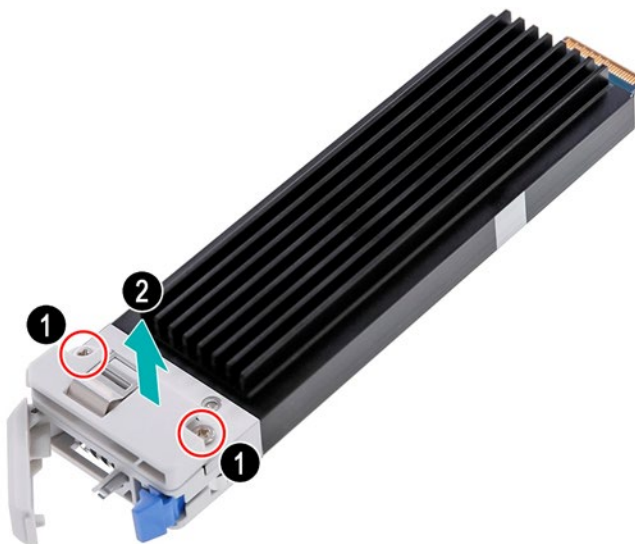
Storage

To remove the E1.s NVMe drive

- A. Remove the E1.s NVMe carrier assembly from the chassis:
 - 1 Push the drive-carrier button to disengage the drive-carrier bezel.
 - 2 Pull the drive-carrier bezel to detach the carrier assembly from the chassis.
 - 3 Remove the carrier assembly from the chassis.



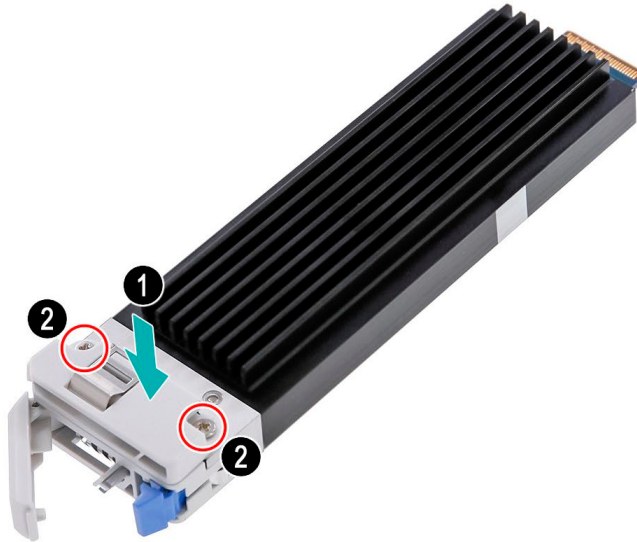
- B. Remove the E1.s NVMe drive from the carrier:
 - 1 Remove the two screws.
 - 2 Remove the E1.s NVMe drive from the carrier.



To replace the E1.s NVMe drive

A. Install the E1.s NVMe drive to the carrier:

- 1 Place the E1.s NVMe drive into the chassis.
- 2 Use two screws to secure the E1.s NVMe drive to the carrier.



B. Install E1.s NVMe carrier assembly to the chassis:

- 1 Place the E1.s NVMe carrier assembly into the chassis.
- 2 Push the carrier assembly into the chassis until it latches into place.



Power Supply

CAUTION: Replace all cut cable ties during removal and replacement procedure. Failure to do so results in improper airflow that can lead to thermal damage.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to disconnect power from the system completely.

To remove the 50V redundant power supply unit

A. Remove the 50V redundant power supply unit:

- 1 Press the latch to disengage the power supply from the chassis.
- 2 Pull the handle to detach the power supply while still pressing the latch.



To replace the 50V redundant power supply unit

A. Install the 50v redundant power supply unit:

- 1 Push the new power supply into the CPU tray until it locks into place.



Fan Module

To remove the hot-swap fan module

A. Remove the hot-swap fan module:

- 1 Press the latch to disengage the fan module from the cage.
- 2 Pull the handle to detach the fan module from the server.



To replace the hot-swap lower fan module

B. Install the hot-swap fan module:

- 1 Push the new fan module into the cage until it locks into place.



Cabling

Cabling Overview

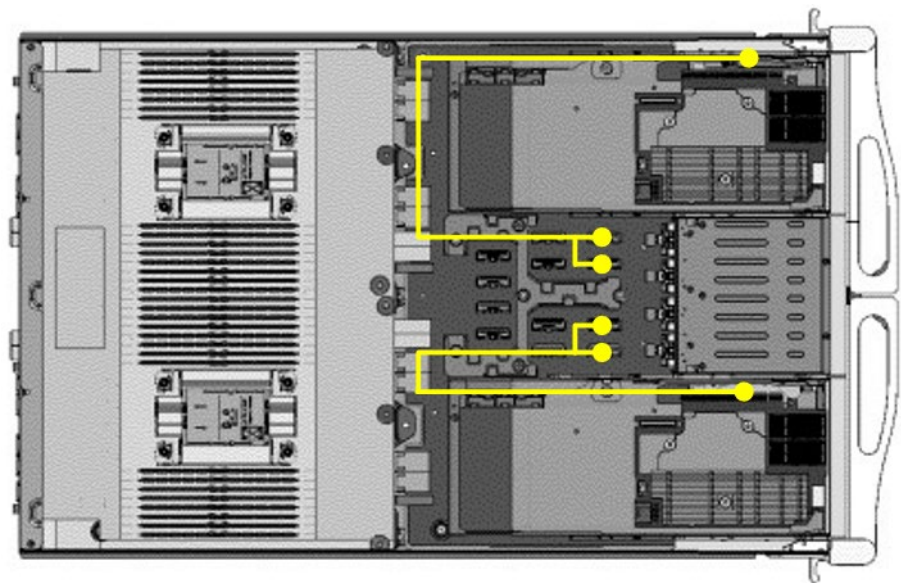
This section provides reference information only to help make informed decisions about cabling the server and hardware options to optimize performance.

For information on cabling peripheral components, see the white paper on high-density deployment at the vendor's website.



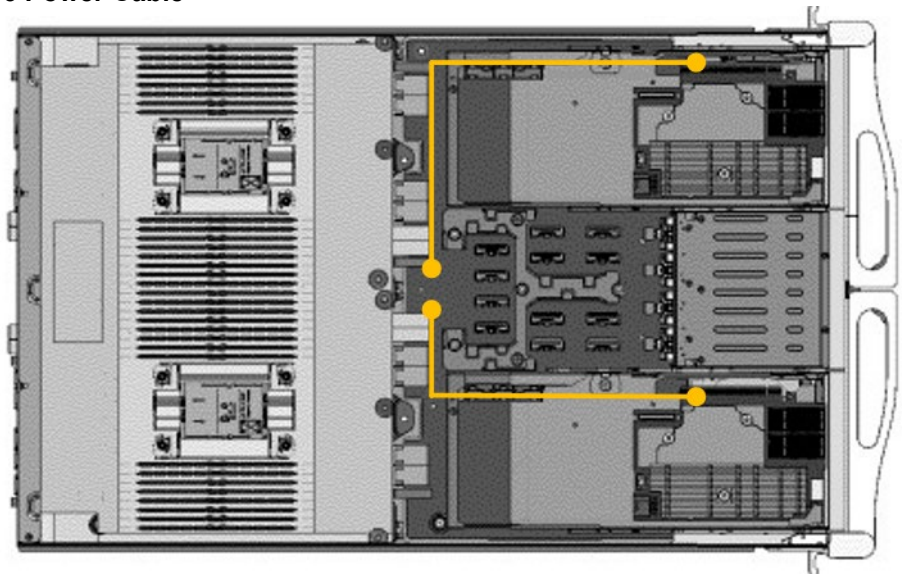
CAUTION: When routing cables, always be sure that the cables are not in a position where they can be pinched or crimped.

DA-CEM Riser x16 Cable



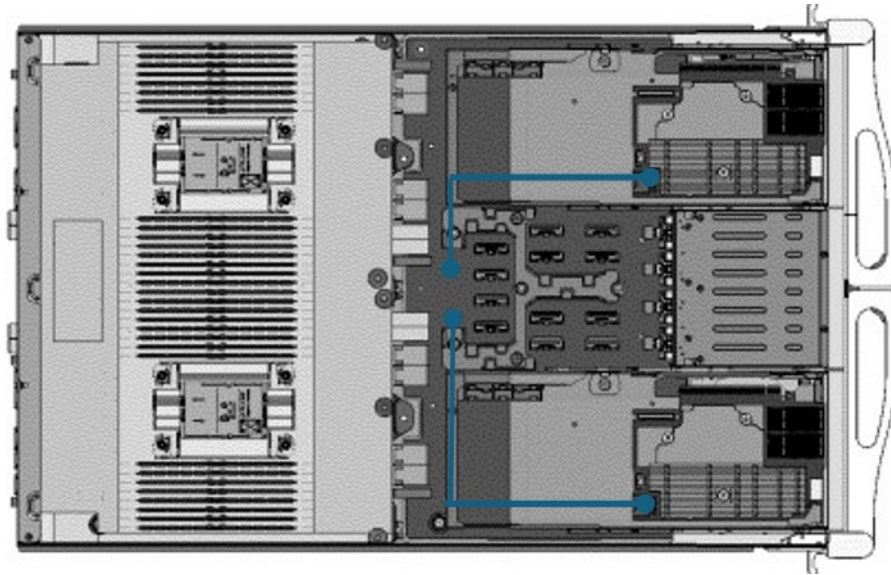
Description	SWB Location	DA-CEM Riser Location
DA-CEM Riser x16 Cable	J10MCIO/J9MCIO	x16 Cable
	J4MCIO/J3MCIO	x16 Cable

DA-CEM Riser x16 Power Cable



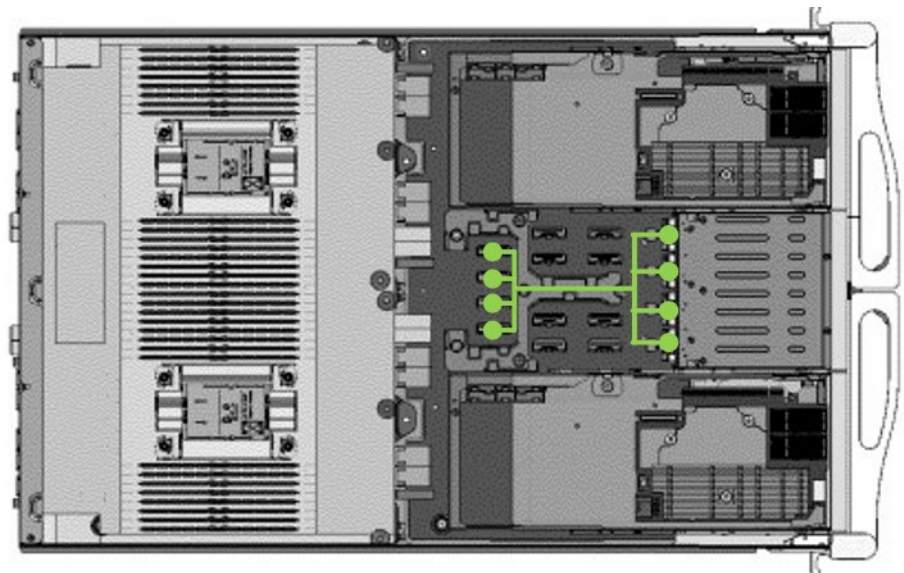
Description	SWB Location	DA-CEM Riser Location
DA-CEM Riser x16 Power Cable	CNPWR7	x16 Power Cable
	CNPWR6	x16 Power Cable

BF3 Power Cable



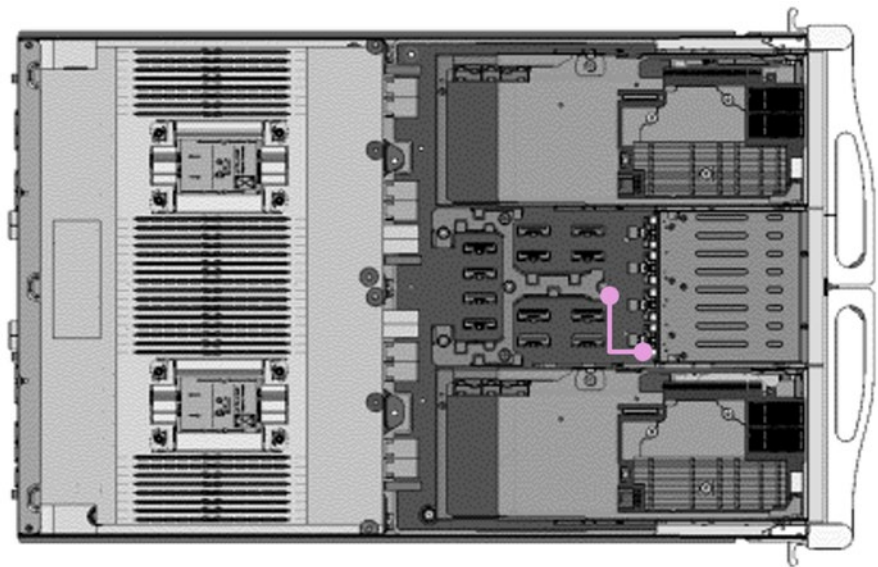
Description	SWB Location	BF3 Riser Location
BF3 Power Cable	CNPWR4	BF3-L
	CNPWR5	BF3-R

E1.S BP MCIO Cable BZR



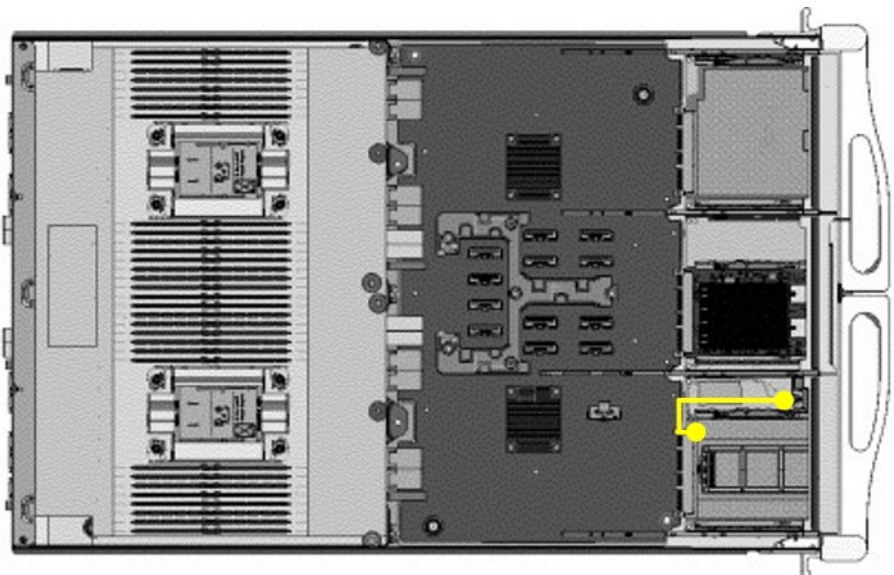
Description	SWB Location	E1.S BP Board Location
E1.S BP MCIO Cable BZR	J2MCIO	JMCIO4
	J1MCIO	JMCIO3
	J8MCIO	JMCIO2
	J7MCIO	JMCIO1

E1.S BP Power Cable BZR



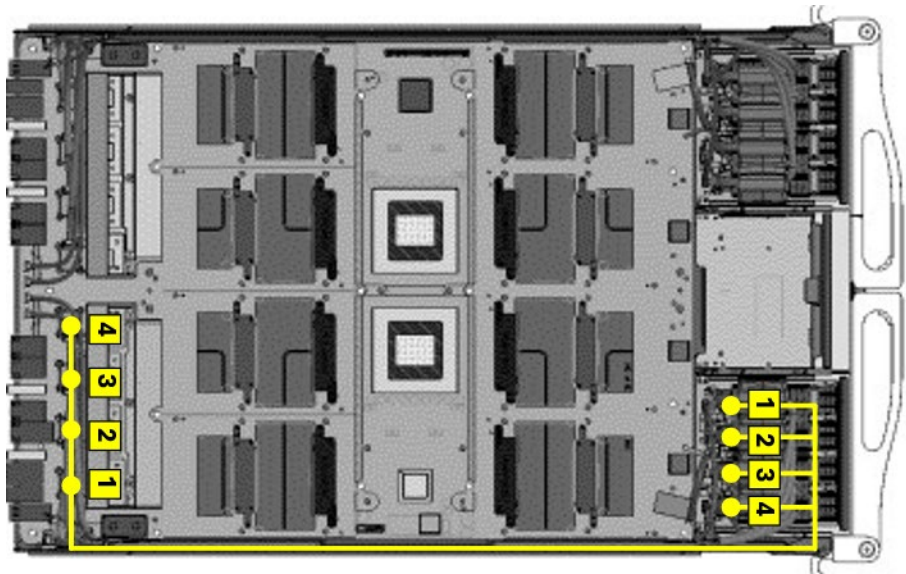
Description	SWB Location	E1.S BP Board Location
E1.S BP Power Cable BZR	CNPWR3	JPW1

Ambient Sensor Cable



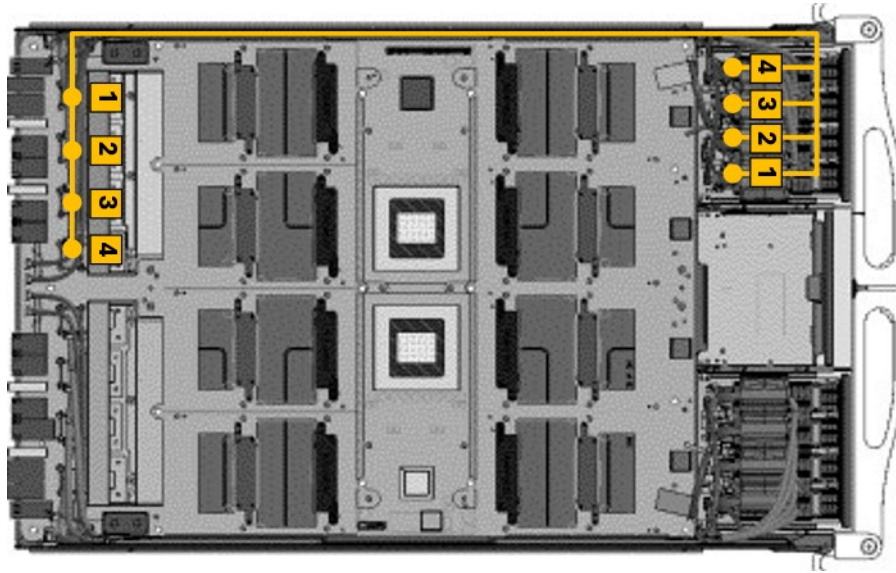
Description	M.2 Board Location	M.2 Board Location
Ambient Sensor Cable	CNAMB1	Front Side

OSFP-L UltraPass Cable



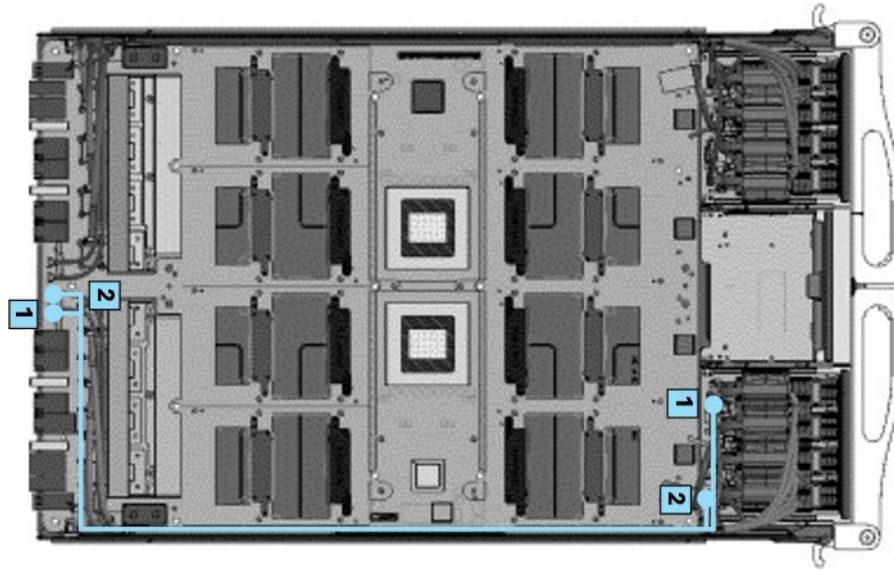
Description	OSFP-L Location	B300 Location
OSFP-L UltraPass Cable	J5	No. 1
	J4	No. 2
	J3	No. 3
	J2	No. 4

OSFP-R UltraPass Cable



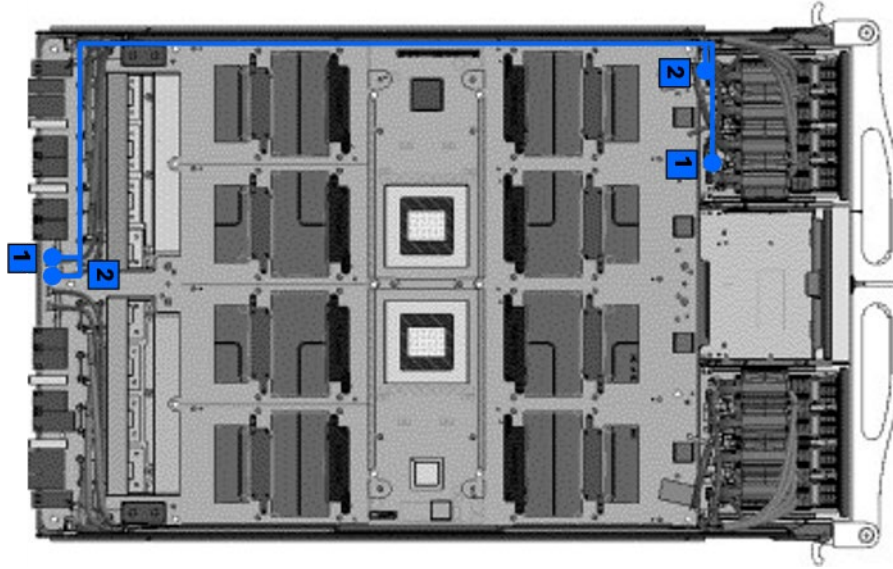
Description	OSFP-R Location	B300 Location
OSFP-R UltraPass Cable	J2	No. 1
	J3	No. 2
	J4	No. 3
	J5	No. 4

OSFP-L Sideband Cable



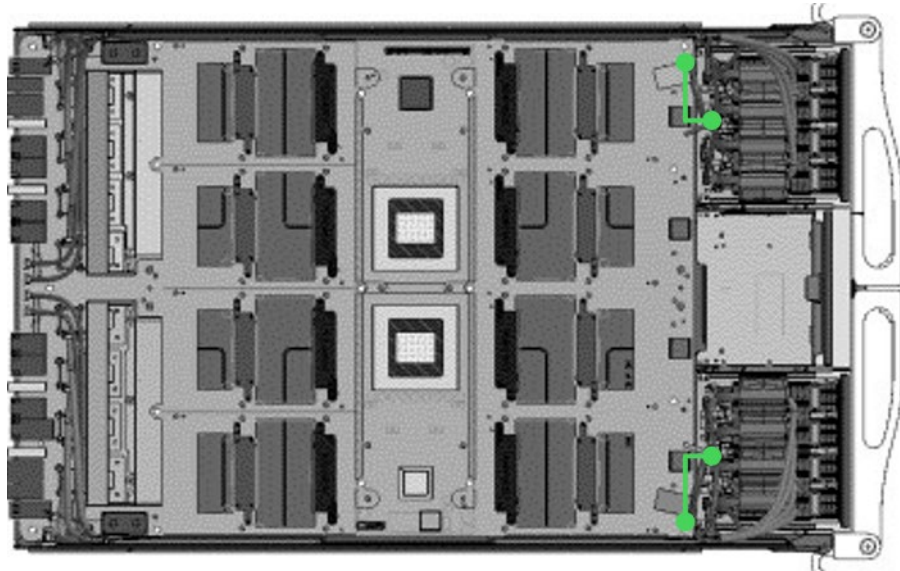
Description	OSFP-L Location	B300 Location
OSFP-L Sideband Cable	CN3	No. 1
	CN2	No. 2

OSFP-R Sideband Cable



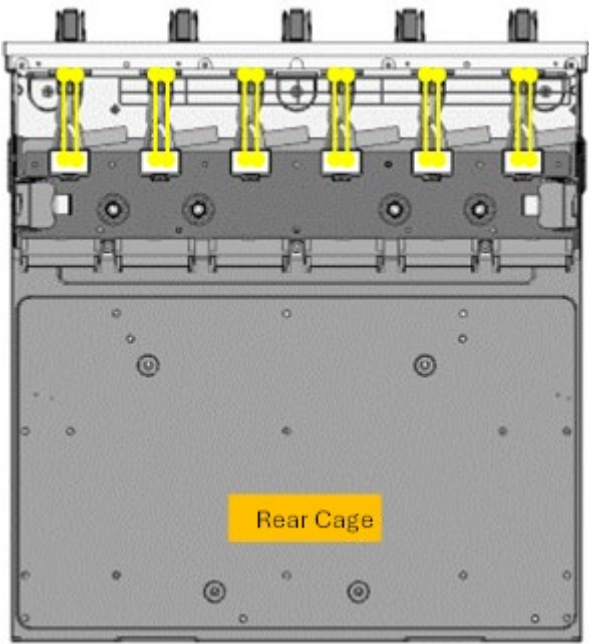
Description	OSFP-R Location	B300 Location
OSFP-R Sideband Cable	CN2	No. 1
	CN3	No. 2

OSFP Power Cable



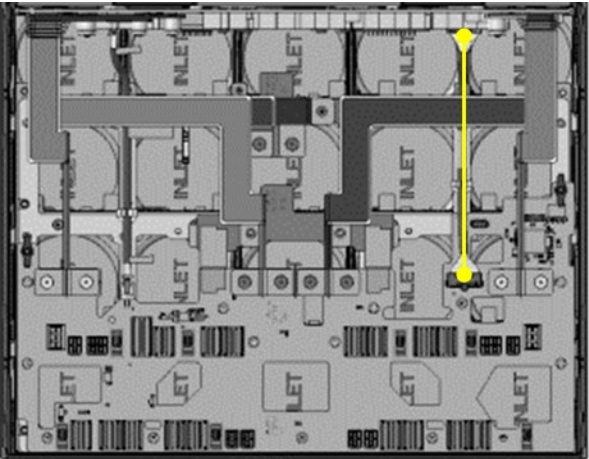
Description	OSFP Location	B300 Location
OSFP Power Cable	L (CN1)	J108
	R (CN1)	J109

AC (C20 inlet) to Conn Cable



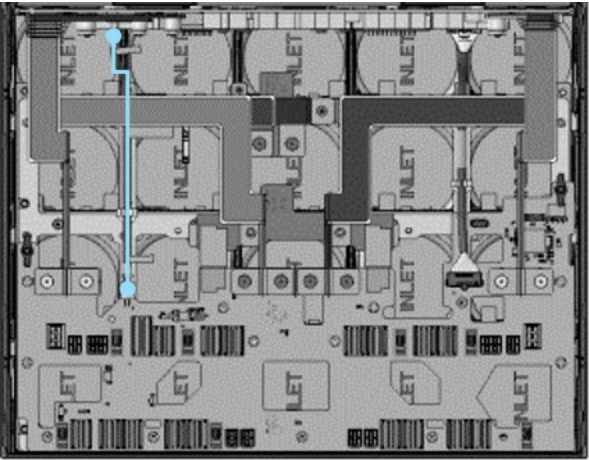
Description	C20 Inlet Location	PSU Interface Location
AC (C20 inlet) to Conn Cable	PSU0	CNAC1 (lower)
	PSU1	CNAC2 (lower)
	PSU2	CNAC3 (lower)
	PSU3	CNAC4 (lower)
	PSU4	CNAC5 (lower)
	PSU5	CNAC6 (lower)
	PSU6	CNAC1 (upper)
	PSU7	CNAC2 (upper)
	PSU8	CNAC3 (upper)
	PSU9	CNAC4 (upper)
	PSU10	CNAC5 (upper)
	PSU11	CNAC6 (upper)

PDB Sideband Cable-1 BZR



Description	PDB Location	BP-Lower Location
PDB Sideband Cable-1 BZR	CNBP1	J1MCIO

PDB Power Cable BZR



Description	PDB Location	BP-Lower Location
PDB Power Cable BZR	CNPWR1	JPW1

Specifications

Environmental Specifications

Specification	Value
Temperature range*	
Operating	5°C to 35°C (41°F to 95°F)
Non-operating	-40°C to 70°C (-40°F to 158°F)
Relative humidity (noncondensing)**	
Operating	20% to 85%
Non-operating	20% to 93%
Emissions Classification (EMC)***	
FCC Rating	Class A
Standards	CE : EN55032: 2015+A11: 2020 and EN 55032:2015+A1: 2020 and CISPR 32: 2015+A1: 2019 Class A UK : BS EN 55032: 2015+A11: 2020 and BS EN 55032: 2020+A1: Class A ACMA : AS/NZS CISPR 32: 2015+A1: 2020 Class A FCC : FCC CFR Title 47 Part 15 Subpart B: Section 15.107 and 15.109 ANSI C63.4-2014 ISED Interference-Causing Equipment Standard ICES-003 Issue 7: 2020 Class A

* All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Maximum rate of change is 20°C/hr (36°F/hr).

** Storage maximum humidity of 90% is based on a maximum temperature of 38.7°C (101.7°F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

*** Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

NOTE: The upper operating-temperature limit and rate of change may be limited by the type and number of options installed.

The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

System Rating

Specification	Value
Total Input	12x 3200W@50V PSUs (6+6, Redundant), 80 PLUS Titanium
For System	AC Input: 200-240Vac, 50/60Hz, 16A per PSU (x12 Max)

Server Specifications

Specification	Value
Processor	2-sockets, Dual Intel® Xeon® 64 cores processor, PCIeG5
Power (TDP)	350W per processor
L3 Cache	336 MB per core
Memory	32x DDR5 DIMM slots (8 channels/CPU, 2x Slot/Channel) - Up to 6400MT/s - Up to 32x DDR5 128GB for DIMM air cooling
Expansion Slots	2x PCIe Gen5 x16 BF3 150W CEM board (CPU)
LAN	2x GbE management LAN
Management	DC-SCM with AST2600
Storage	Up to 8x hot-swap E1.S Up to 2x M.2
System Cooling	20x 8080 Dual-Rotor
System BIOS	AMI® BIOS
System Software	Ubuntu (operating system)

GPU	Supported NV GPU: DGX B300 2.3TB SXM6 with GPU BB; GPU-GPU Interconnect: NVIDIA® NVLink™ with NVSwitch™ CPU-GPU Interconnect: 8x PCIe Gen5 x16
I/O Ports	- 1x USB3.0 type A - 1x USB2.0 micro USB for debug - 1x mini DP - 2x 1Gbs RJ45 - 1x PWR button - 1x UID button - 1x Reset button
System Form Factor	- 10U Rackmount - H:17.39" (441.75mm) x W:17.6" (447mm) x D:31.49" (800mm)