Gooxi

Intel Dual-Socket 4U 5-GPU Rackmount Server User Manual

Document version: 01
Release date: 2023/12/28

Shenzhen Gooxi Digital Intelligence Technology Co., Ltd.

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Foreword

This manual is the product technical manual for the AS4105G Whitley platform 4U model servers. It primarily provides an introduction and explanation of the product's appearance, structure, hardware installation, and basic configuration.

Please note that this manual is intended for reference and research purposes for professional technical personnel. The installation and maintenance of this product should only be performed by experienced technical personnel.

Modification Record

Manual version	Release date	Modification instructions
V1.0	2023-07-25	First release
V1.1	2023-12-28	Optimization

Contents

1. Product Introduction

1.1 Product Overview

Gooxi Intel Whitley 4U Dual-Socket Standard Server, supporting 1 or 2 third-generation Intel® Xeon® Scalable processors, with 16 DIMM DDR4 memory slots, integrated with 1 M.2 interface, 2 Gigabit Ethernet ports, 1 RJ45 management port, and 10 PCIe expansion slots. It is suitable for applications such as artificial intelligence, virtualization, cloud computing, big data processing, distributed storage, enterprise markets, or telecommunications services.

- Supports 1 or 2 Intel® Xeon® Scalable processors (Ice Lake) with a maximum TDP of 205W.
- Supports 10 high-speed PCIe expansion slots, providing extensive expandability.
- Supports 5 full-height, dual-width high-performance GPU cards to meet high computational demands.
- Supports 16 DDR4 memory slots, with memory frequencies of 2666/2933/3500 MHz.

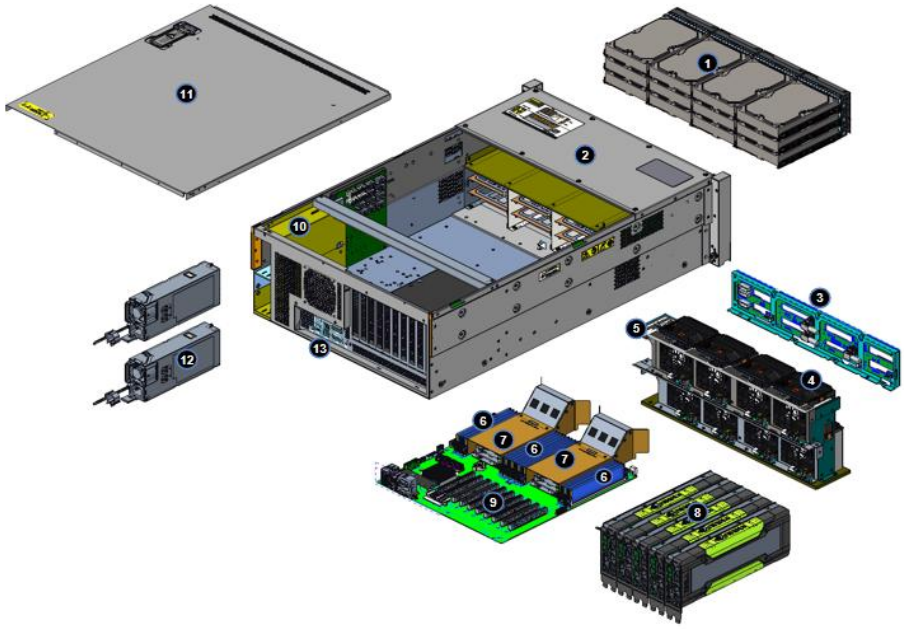
physical illustration of the server with a 24-bay configuration is shown below:

Front view 1-1

Rear view 1-2

1.2 Product Structure

The physical structure of the Intel Whitley 4U Dual-Socket Server is described using the 12-bay model as an example, with various server components shown in the diagram below:



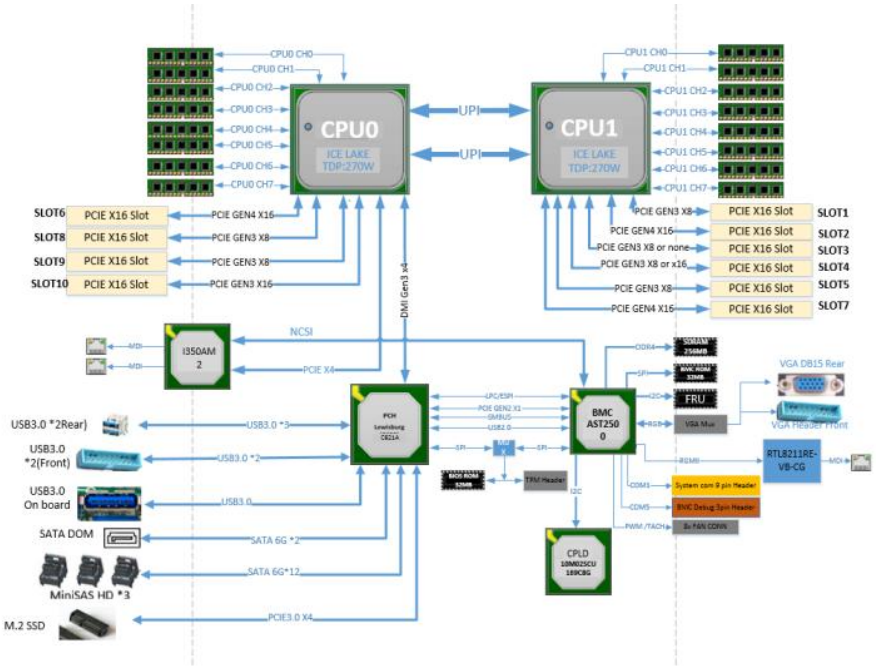
Structure diagram 1-3

No.	Name	No.	Name
1	Front Hard Drive	8	GPU
2	Front Drive Bracket Module	9	PCIe Expansion Channel
3	Front Backplane Assembly	10	Power Supply Bracket Assembly
4	Fan Module	11	Top Cover
5	Fan Frame	12	Power Supply
6	Memory Modules	13	Rear Panel Assembly
7	CPU and Heatsink	-	-

Table 1-1

1.3 Logical Structure

The motherboard logic is shown in the diagram below:



Motherboard logic block diagram 1-4

- The CPU utilizes the 3rd Generation Intel® Xeon® Scalable Processor, LGA4189 socket, with a TDP of 205W.
- A single CPU supports 8 DDR4 channels, and with 2 CPUs, the system supports a total of 16 DDR4 slots, compatible with 16GB, 32GB, 64GB, and 128GB memory modules.
- DDR4 types: DDR4 2400/2666/2933/3200MHz ECC-RDIMM/LRDIMM.
- 6 PCIe 3.0x8 (in PCIe 3.0 x16 slots), 1 PCIe 3.0x16, and 3 PCIe 4.0x16 slots.
- The G3DE-B motherboard provides 1 M.2 M Key SSD slot, supporting the 2280 size, with PCIe X4 signal only.
- Integrated on the motherboard are 2 Gigabit Ethernet ports, using the I350 chip from PCH.
- PCH uses the Intel LEWISBURG C621 chipset.
- The G3DE-B motherboard has 3 onboard MiniSAS SFF-8643 connectors and 2 SATA 6.0Gbps ports.
- The BMC chip on this board uses the AST2500 control chip from ASPEED for IPMI remote management. It features a VGA output port and a dedicated Gigabit RJ45 management port.

1.4 Product Specifications

Product Series	AS4105G-D12R-G3
Form Factor	4U 12-bay
Dimension	695*444*176.5mm(D*W*H)
Processor	Supports one or two 3rd Gen Intel® Xeon® Scalable processors, with a maximum CPU TDP of 205W
Memory	16 DDR4 memory slots, supports DDR4 LRDIMM/RDIMM 2666/2933/3200 MHz
Internal Storage Interface	3 MiniSAS HD interfaces, 2 SATA DOM interfaces, 1 NVMe PCIe 4.0 M.2 interface (2280)
External Hard Drive	Front supports 12 x 3.5/2.5-inch SATA/SAS hard drives
External Ports	Front ports: 2 x USB 3.0
	Rear: 1 x VGA, 1 x COM port, 2 x USB 3.0, 1 x RJ45 Gigabit management port, 2 x Gigabit RJ45 network ports
PCIe Expansion	10 full-height PCIe slots: Supports 6 x PCIe 3.0 x8 (in PCIe 3.0 x16 slot), 1 x PCIe 3.0 x16, and 3 x PCIe 4.0 x16 (slots 2, 6, 7)
Power Supply	Supports AC 220V 1600W, 2000W, 2200W, 2600W redundant power supplies (adaptable based on actual power)
Fan	Standard 8 x 8038 hot-swappable N+1 redundant fans (optional rear 2 x 8038 fan module)
Security	Supports TPM module
Certification	CCC
RoHS	Temperature 5℃～35℃/Humidity 20%～80%RH non-condensing
Working Temperature& Humidity	Short-term storage (≤72H): Temperature -40℃ ～ 70℃/Humidity 20% ～ 90%RH non-condensing (including packaging) Long-term storage (>72H): Temperature 20℃ ～ 28℃/Humidity 30% ～ 70%RH non-condensing (including packaging)

Table 1-2

2. Hardware Description

2.1 Front Panel

2.1.1 Appearance

- 12x3.5-inch hard drive configuration

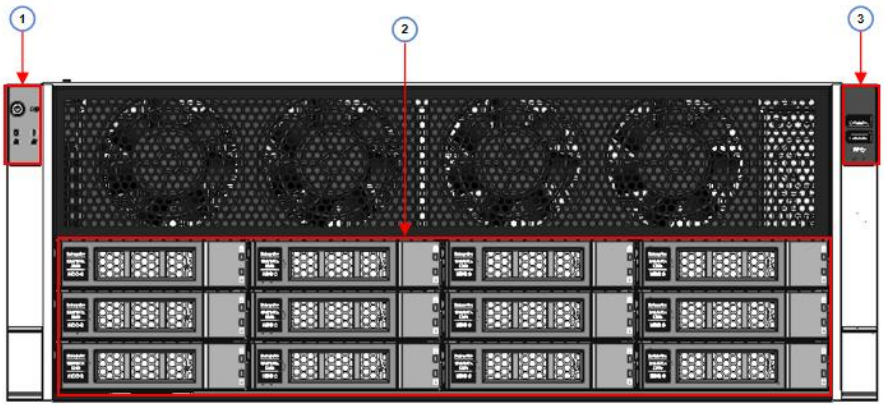


Figure 2-1

No.	Name	No.	Name
1	Left Ear Integrated Module	2	3.5-inch Hard Drive Module
3	Right Ear Integrated Module		

Table 2-1

2.1.2 Indicator lights and buttons

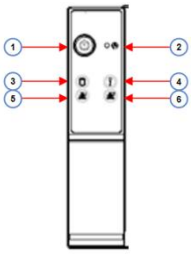


Figure 2-3

No.	Indicator/button	No.	Indicator/button
1	Power switch button/indicator	4	System alarm indicator
2	Reset server button	5	Network port 1 connection status indicator
3	Hard drive indicator	6	Network port 2 connection status indicator
LED status description			
Logo	Indicator/button	Status description	

	Power indicator	Description of the power indicator light: Green (steady on): Indicates that the device has been powered on normally. Green (blinking): Indicates that the device is in standby. Green off: Indicates that the device is not powered on. Power button description: Short press this button in the power-on state, and the OS will shut down normally. Press and hold the button for 6 seconds in the power-on state to force the server to Power off. Short pressing this button in the standby state allows for powering on.
	Reset server button	Press to restart the server
	Hard drive indicator	Blinking green light: The hard drive is operating normally
	System alarm indicator light	System alarm indicator light. It includes system, fan, and power alarms, etc. Specific details can be viewed through the IPMI management software.
	Network port connection status indicator light	Indicator lights for Ethernet ports corresponding to the network card slots. Green (steady): Indicates a normal network connection. Off: Indicates an unused or faulty network port. Note: Corresponds to the two 1GE Ethernet ports on the motherboard.
	Network port connection status indicator light	Indicator lights for Ethernet ports corresponding to the network card slots. Green (steady): Indicates a normal network connection. Off: Indicates an unused or faulty network port. Note: Corresponds to the two 1GE Ethernet ports on the motherboard.

Table 2-2

2.1.3 Interface

- Interface location

Figure 2-3

No.	Name	No.	Name
1		USB 3.0 interface	

Table 2-3

- Interface description

Name	Type	Qty	Description
USB interface	USB 3.0	2	For accessing USB devices

Table 2-4

2.2 Rear Panel

2.2.1 Appearance

- Appearance interface on the rear panel
- 4U with 5 dual-width, full-height, full-length high-performance GPU cards

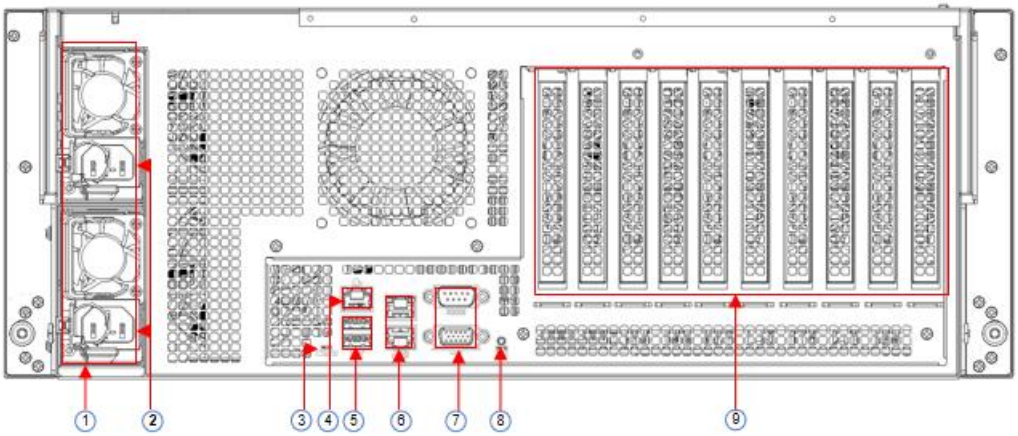


Figure 2-4

No.	Name	No.	Name
1	Power Module	6	RJ45 Gigabit Network Port
2	Power Module AC Interface	7	COM Port, VGA Interface
3	BMC Reset Button	8	UID Button
4	Management Network Port	9	Riser Module
5	USB 3.0 Interface	-	-

Table 2-5

Note:

- The rear window of this product can be customized according to the needs. The above picture is for reference only, and the actual configuration shall prevail.
- Rear panel interface description

Name	Type	Qty	Description
VGA interface	DB 15	1	Used to connect a display terminal, such as a monitor or KVM.
Management network port	GE BASE -T	1	Provides an outgoing 1000Mbit/s Ethernet port. Through this interface, the local server can be

			managed.
USB interface	USB 3.0	2	Provides external USB interface, through which USB devices can be connected. Note: When using external USB devices, please ensure the USB device is in good condition, as otherwise it may lead to abnormal server operation.
RJ45 Gigabit Ethernet port	GEBASE -T	2	Server network port.
Power module AC port	/	1 or 2	You can select the number of power supplies according to your actual needs, but it is essential to ensure that the rated power of the power supplies is greater than the rated power of the whole system.
COM port		1	Serial communication port

Table 2-6

2.2.2 Indicator lights and buttons

- Rear Panel Indicators

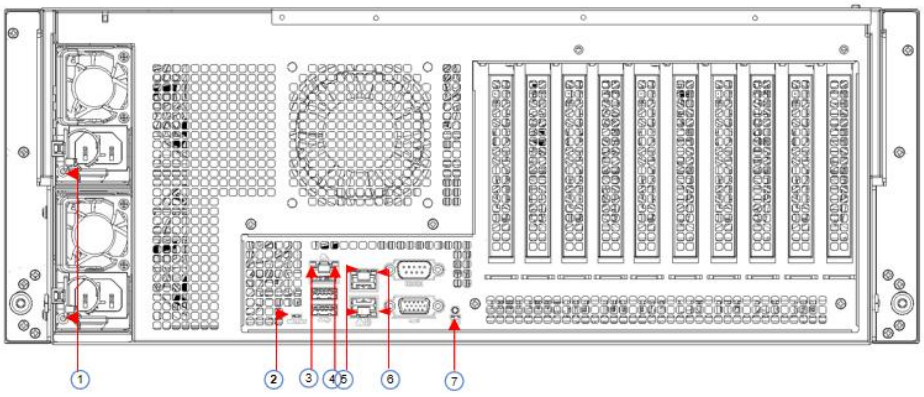


Figure 2-5

No.	Name	No.	Name
1	Power module indicator	2	BMC reset button
3	Connection Status Indicator	4	Data transmission status indicator
5	Connection Status Indicator	6	Data transmission status indicator
7	UID button		

Table 2-7

- Description of Power Module Indicators

Indicator light /button	Status description

Power module indicator	Green (steady): Indicates normal input and output. Orange (steady): Indicates AC power cord unplugged or power module missing. Only one parallel-connected power module has AC input. Power module malfunction leads to output shutdown, such as OVP, OCP, fan failure, etc. Green (1Hz/blinking): Indicates normal input, but low voltage (less than 12V) or the power supply is in intelligent on state. Green (2Hz/blinking): Indicates firmware online upgrade process. Orange (1Hz/blinking): Indicates continuous power-running warning events such as high temperature, high power, high current. Off: Indicates no AC power input.
Connection Status Indicator	Steady green: Indicates Gigabit Link. Steady orange: Indicates 100-megabit link. Off: Indicates 10-megabit link.
Data transmission status indicator	Yellow (blinking): Indicates that data is being transmitted. Off: Indicates no data transmission.
UID button	UID button on the server provides control
BMC reset button	BMC button on the server provides control

Table 2-8

2.3 Processors

- Supports 1 or 2 Intel third-generation Xeon scalable CPU.
- When configuring 1 processor, it needs to be installed in CPU 0 position.
- Processors configured on the same server must have the same model.
- For specific available system options, please consult Gooxi sales.
- The location of the processor is shown in the figure below:

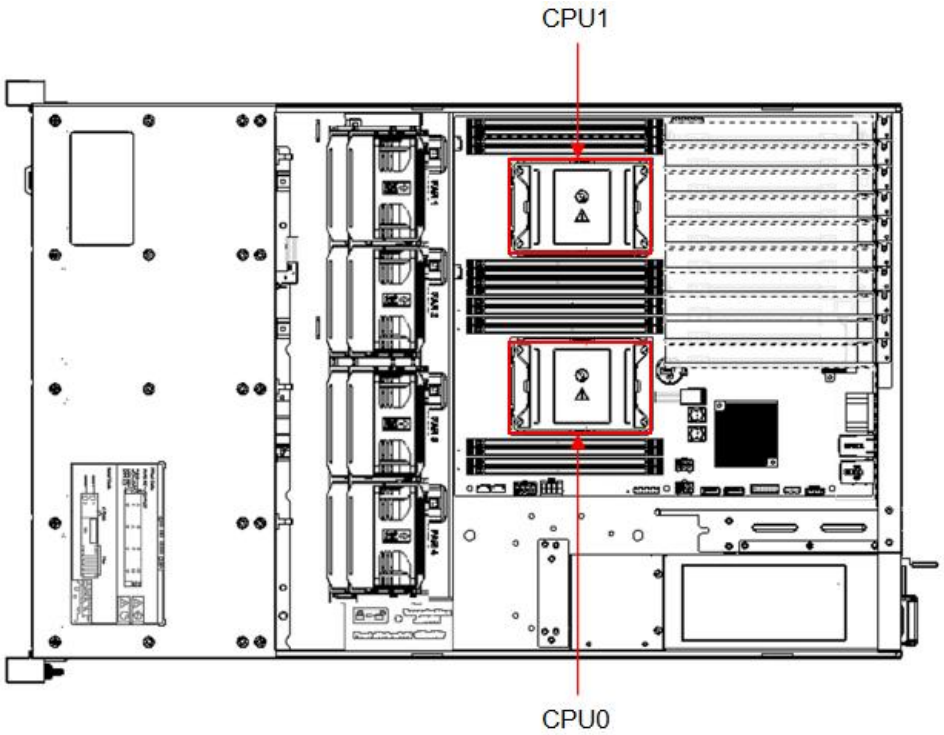


Figure 2-6

2.4 Memory

2.4.1 Memory slot location

This motherboard utilizes the Intel Whitely platform, paired with Intel Xeon ICE Lake CPUs. Each CPU supports 8 channels, and each channel supports 2 DIMMs. The motherboard can accommodate up to 16 DIMMs. When using a single memory module, it is recommended to prioritize installation in the blue-bordered slots as indicated in the diagram below (slots with blue-colored plastic on the slot board). It supports DDR4 ECC RDIMMs/LRDIMMs server memory with memory frequencies of 2666/2933/3200MHz. The placement is illustrated in the following diagram:

- memory slot location

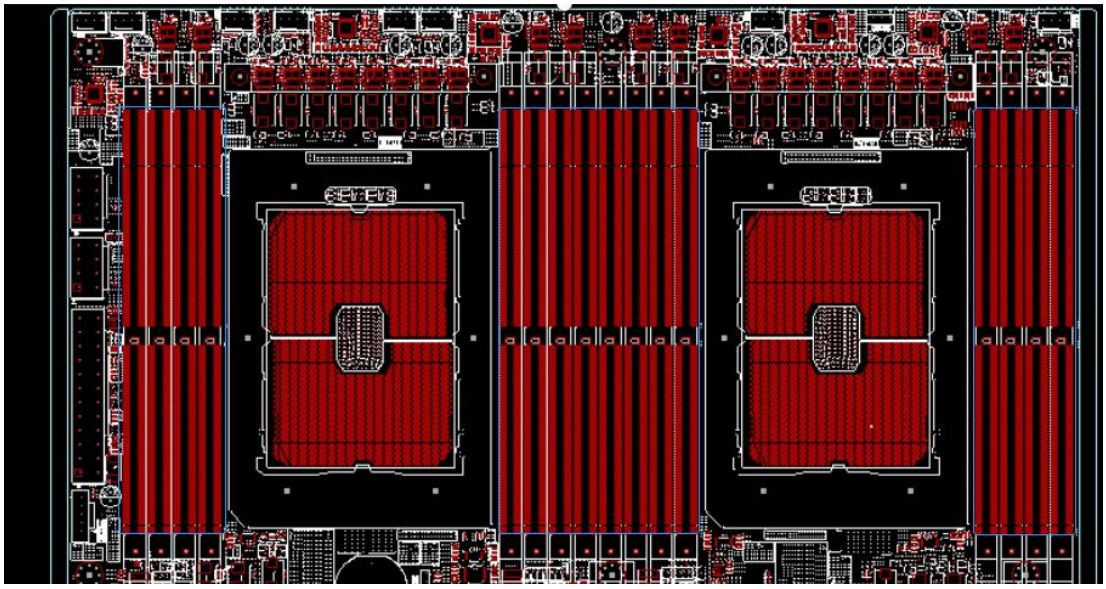


Figure 2-7

2.4.2 Memory compatibility information

The motherboard supports DDR4 RDIMM/LRDIMM server memory, and the memory frequency supports 2666/2933/3200.

Note:

- The same server must use the same model of DDR4 memory, and all memory must run at the same speed. Likewise, the velocity value is the lowest of the following.
- The memory speed supported by the specific CPU.
- Specific memory configuration maximum operating speed.
- Different types (RDIMM, LRDIMM) and different specifications (capacity, bit width, rank, height, etc.) of DDR4 memory is not supported.
- Different models of Intel® Xeon® Scalable processors support different maximum memory capacity.

2.5 Storage

2.5.1 Hard drive configuration

Configuration	Maximum front hard drive quantity (units)	Maximum rear hard drive quantity (units)	Description
12x3.5-inch hard drive EXP configuration	Front Hard Drives (12x 3.5/2.5) – Slots 0 to 11 only support SAS/SATA hard drives	Rear Hard Drive Module (2x 2.5) – Supports SAS/SATA hard drives	Requires optional SAS pass-through card or RAID card for support
Note: *The maximum rear hard drive quantity is determined by the type of NVMe/SAS/SATA hard drives.			

Table 2-9

2.5.2 Hard drive serial number

- 12 x 3.5/2.5" hard drive configuration

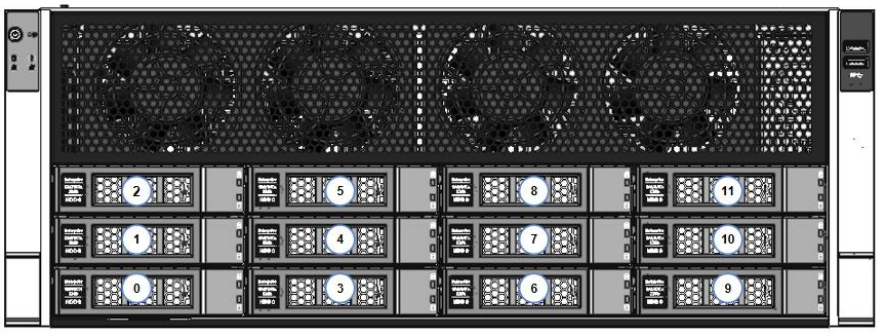


Figure 2-8

2.5.3 Hard drive status indicator

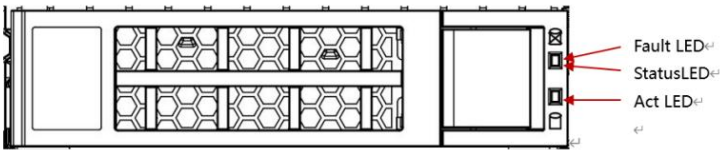


Figure 2-9

- Hard drive status indicator description

Function	Act LED	Fault LED	Status LED
Hard drive status	Steady on	Off	Off
Hard drive activity	Blinking at 4Hz/sec	Off	Off
Hard drive positioning	Steady on	Blinking at 4Hz /sec	Off
Hard drive error	Steady on	Off	Steady on
Raid rebuilding	Steady on	Off	Blinking at 1Hz/sec

Table 2-10

2.6 Power Supply

- Supports 1 or 2 power modules.
- Supports AC or DC power modules.
- Supports hot swap.
- When configuring 2 power modules, it supports 1+1 redundant backup.
- For power modules configured on the same server, the power module models must be the same.
- For specific optional system options, please consult Gooxi sales.

- The location of the power supply is shown in the figure below:

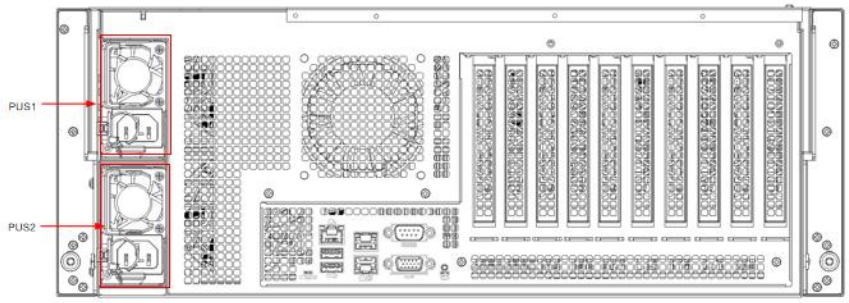


Figure 2-10

⚠ The device is equipped with two identical specification hot-swappable power modules, both of which must be powered simultaneously for the product to function properly.

2.7 Fans

- Supports 8 fan modules
- Supports hot swap
- Supports single fan failure
- Supports variable fan speed
- For fan modules configured on the same server, the fan module models must be the same

- The location of the fan is shown in the figure below:

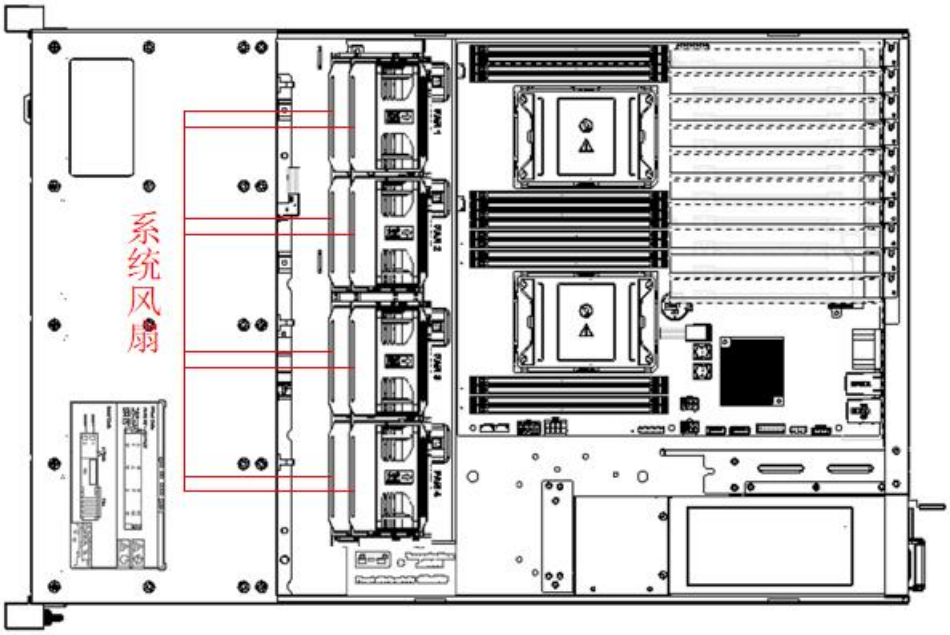


Figure 2-11

2.8 I/O expansion

2.8.1 PCIe slot location

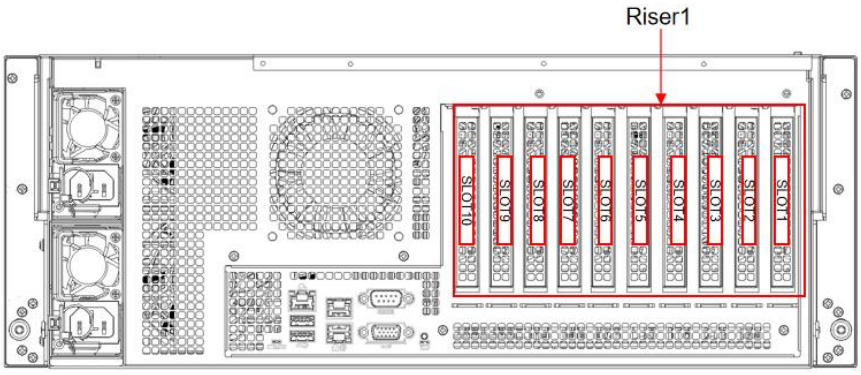


Figure 2-12

- The device is equipped with two identical hot-swappable power modules, both of which must be powered simultaneously for the product to function properly. The use of a single power module is prohibited.

2.8.2 PCIe slot description

When CPU1 is not in place, its corresponding PCIe slot is unavailable.

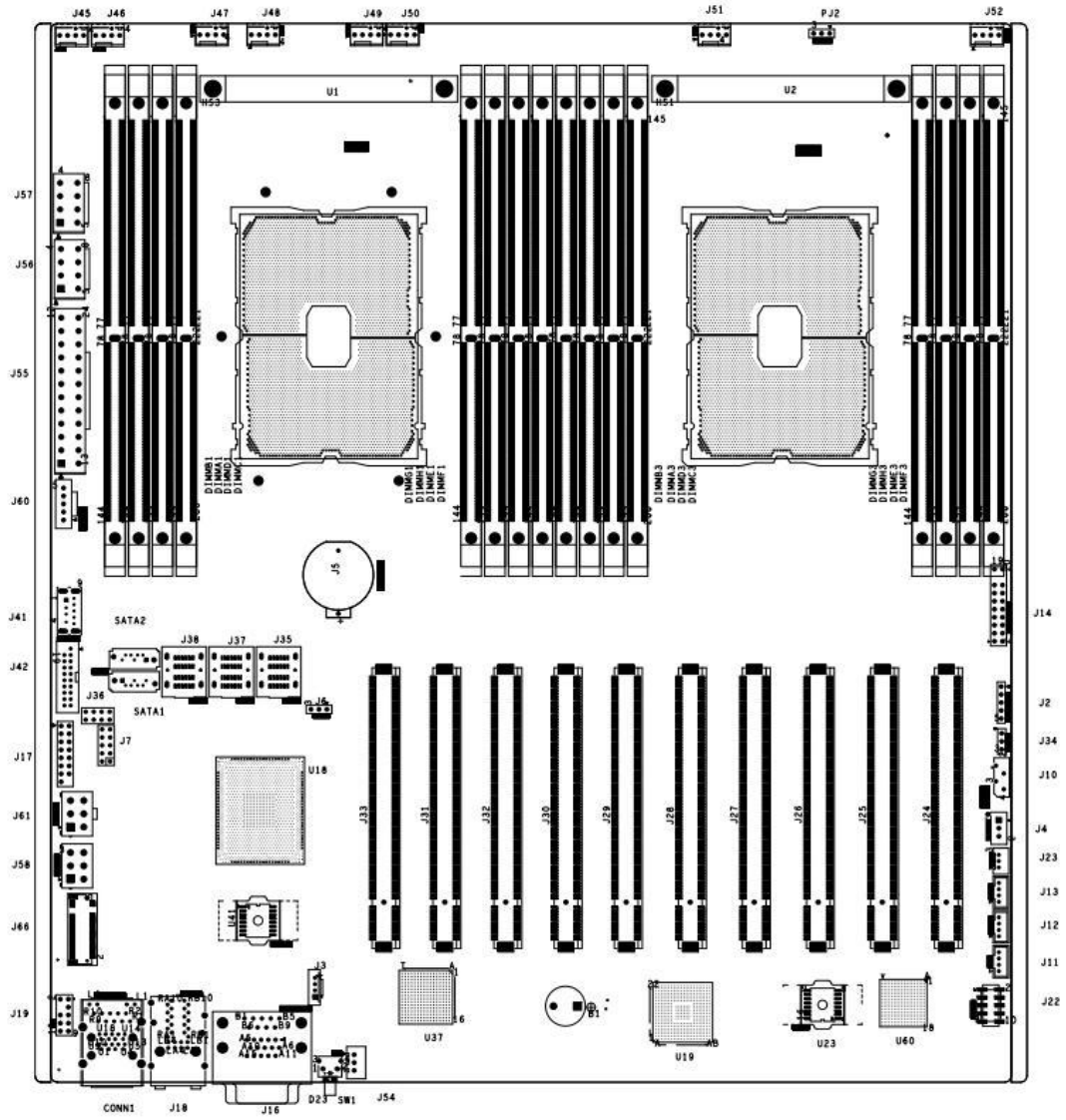
PCIe slot	Subordinate CPU	PCIe standard	Bus bandwidth	Slot size
Slot 1	CPU1	PCIe 3.0	X8	FHFL

Slot 2	CPU1	PCIe 4.0	X16	FHFL
Slot 3	CPU1	PCIe 3.0	X8	FHFL
Slot 4	CPU1	PCIe 3.0	X8 or x16	FHFL
Slot 5	CPU1	PCIe 3.0	X8	FHFL
Slot 6	CPU0	PCIe 4.0	X16	FHFL
Slot 7	CPU1	PCIe 4.0	X16	FHFL
Slot 8	CPU0	PCIe 3.0	X8	FHFL
Slot 9	CPU0	PCIe 3.0	X8	FHFL
Slot 10	CPU0	PCIe 3.0	X16	FHFL
Note: ◆PCIe x16 slots are backward compatible with PCIe x8, PCIe x4, and PCIe x1 cards. However, upward compatibility is not supported, meaning the slot bandwidth cannot be smaller than the PCIe card's bandwidth. ◆Full-height, full-length PCIe slots are backward compatible with half-height, half-length PCIe cards. ◆All slots can supply up to 75W of power to PCIe cards, though the actual power consumption depends on the specific model of the PCIe card.				

Table 2-11

2.9 PCBA

2.9.1 Motherboard



Motherboard Figure 2-13

No.	Name
J45~J52	Connectors for system fans 1, 5, 2, 6, 3, 7, 4, 8 in order
PJ2	VR upgrade programming I2C connector
J56, J57	2X 8Pins ATX CPU power connector
J55	2x 12Pins ATX system power connector
J60	Power PMBus Connector
J41	Onboard USB 3.0 connector
J42	Front USB 3.0 Header x2
J17	Front VGA connector
SATA1 SATA2	SATA DOM connector
J66	M.2 connector

J7	PCH hardware strapping
J61, J58	4U 12V Power connector, GPU power connector for atx power supply
J3	RAID KEY connector
J36	SSATA Sgpio connector
J62	Rear window 2 hard drive small board power supply connector
J35	S-SATA port 0~3 connector
J37, J38	ISATA PORT 0~7 connector
J5	RTC battery connector
DIMMB1/A1/D1/C1	The 2,1,4,3 channel memory of CPU0 is connected to the machine
DIMMG1/H1/E1/F1	The 7,8,5,6 channel memory of CPU0 is connected to the machine
DIMMB3/A3/D3/C3	The 2,1,4,3 channel memory of CPU1 is connected to the machine
DIMMG3/H3/E3/F3	The 7,8,5,6 channel memory of CPU1 is connected to the machine
J14	Front panel connector
J2	CPU1 NVME SSD Sideband I2C
J34	Select the PCIe lane configuration connector for PCIE SLOT4 and PCIE SLOT5
J10	IPMB Connector
J8	Connector for storing jumper caps
J4	Chassis Intrusion Connector
J23	BMC Debug serial port
J11, J12, J13	Reserved SMBus and BMC I2C7, I2C13 connectors
J22	The programming connector for the CPLD
U1	CPU 0
U2	CPU 1
U18	PCH
U37	I350 network card chip
U19	BMC
U60	CPLD
U23	BMC FLASH
U41	BIOS FLASH
J66	ME update
SW2	BMC reset button
CONN1	2 RJ45 for USB3.0 and BMC
J19	TPM connector
J18	2 RJ45 for the system
J16	VGA and system serial port
SW1	UID button
J54	Reserved IPMB Device Power Connector
J24	Lane0~7 of PCIE SLOT1(x8)CPU1 PORT3
J25	PCIe SLOT2(x16) CPU1 PORT2
J26	PCIe Slot3 (X8) LANE8 ~ 15 of CPU1 PORT3
J27	PCIe Slot4 (X8 OR X16) Labe8 ~ 15 of CPU1 Port1
J28	PCIe Slot5 (X8 or None) Lane0 ~ 7 of CPU1 Port1

J29	PCIE SLOT6(x16)CPU0 PORT2
J30	PCIE SLOT7(x16)CPU1 PORT0
J31	PCIe SLOT8(x8) lane 8~15 of CPU0 PORT1
J32	PCIe SLOT9(x8) lane 0~7 of CPU0 PORT1
J33	PCIe SLOT10(x16) CPU0 PORT0

Table 2-12

2.9.2 Hard drive backplane

- 12×3.5 inch expansion backplane

TOP surface

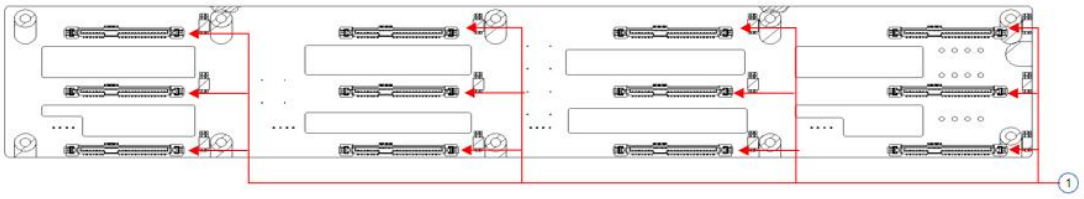


Figure 2-14

No.	Description	Function
1	SAS/SATA Hard Drive Connector	1. Up to 12G/b SAS hard drive 2. Up to 6G/b SATA hard drive 3. Supports SAS/SATA hard drive hot swap

Table 2-13

Bottom surface

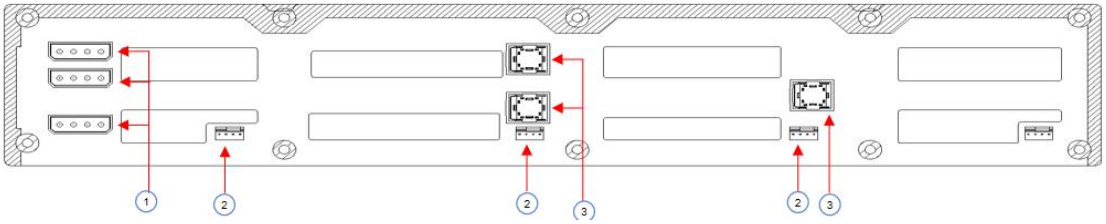


Figure 2-15

No.	Description	Function
1	BP Power Connector	Backplane power transmission connector for 12V and 5V power
2	Temperature-Controlled Fan Socket	For 4-pin fan interface
3	SFF-8643 12Gb SAS interface	For transmitting 12Gb/s SAS or 6Gb/s SATA signals

Table 2-14

3. Installation Instructions

3.1 Chassis Top Cover Installation

- Step 1: Lift the slot at the opening position, push and lift it in the direction indicated by the diagram.

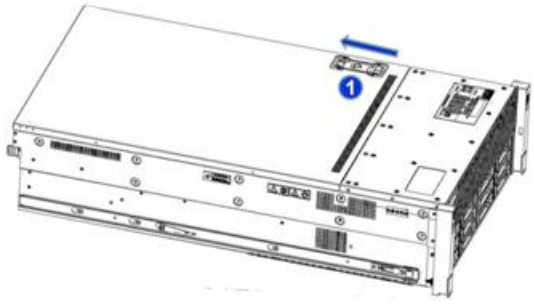


Figure 3-1

3.2 Installation of Accessories

3.2.1 CPU installation

- Step 1: Install the retention clip, tilt the CPU at the angle shown in the diagram, align corner A1 (triangular mark), secure it on one end of the retention clip, and press down on the other end to secure the CPU onto the retention clip.

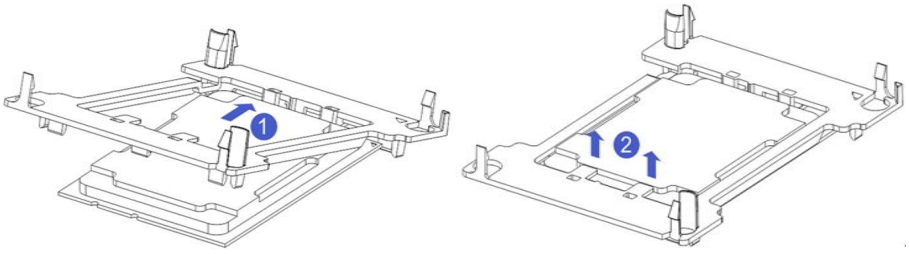


Figure 3-2

- Step 2: Install the CPU onto the heatsink, ensuring that both the CPU and heatsink surfaces are clean and free from oil or debris. Apply approximately 0.4ml of thermal grease evenly across the CPU surface.

- Step 3: Align corner A1 (triangular mark) and secure the CPU onto the heatsink. (As shown in the diagram below)

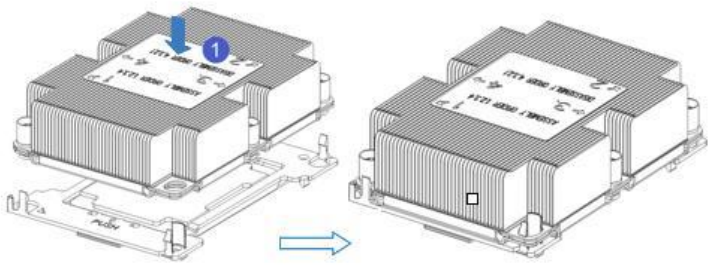


Figure 3-3

3.2.2 Heatsink installation

- Step 1: Remove the processor baffle (as shown in the figure below).

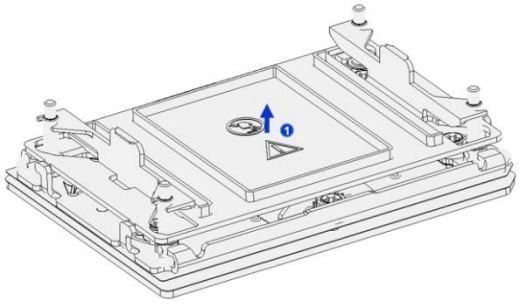


Figure 3-4

- Step 2: Align the heatsink with the mounting screws on the CPU socket bracket, and then tighten the heatsink's fixing screws in the indicated sequence (As shown below).

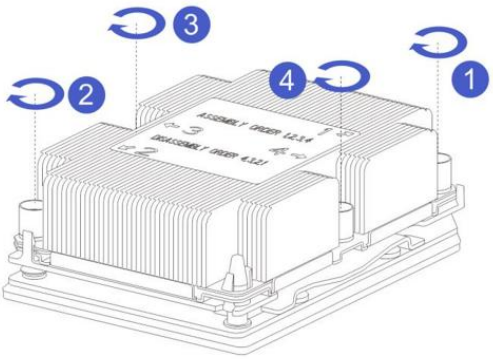


Figure 3-5

⚠ Note: The pins on the motherboard are very fragile and can easily be damaged. To prevent damage to the motherboard, do not touch the processor or the processor socket contacts.

3.2.3 Memory installation

The 8 memory slots controlled by CPU0 on the motherboard are as follows: DIMM A1, A2,

DIMM B1, DIMM C1 and DIMM D1, D2, DIMM E1, DIMM F1.

The 8 memory slots controlled by CPU1 on the motherboard are as follows: DIMM A1, A2, DIMM B1, DIMM C1, and DIMM D1, D2, DIMM E1, DIMM F1.

It's important to ensure that the notch on the memory module matches the notch on the DIMM slot. Insert each DIMM module vertically into place to prevent incorrect installation.

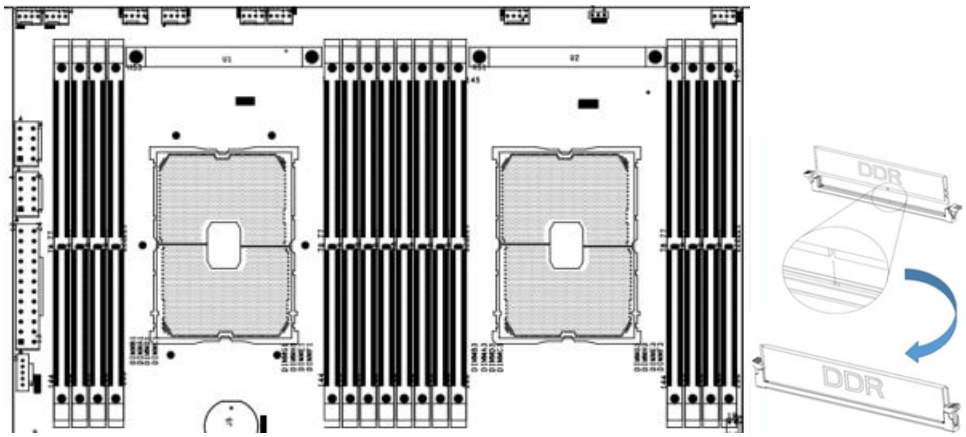


Figure 3-6

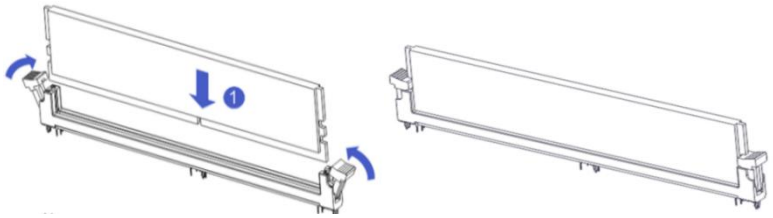


Figure 3-6

Note:

Use memory modules with identical CAS latency values on this motherboard. We recommend using memory modules of the same capacity, frequency, and from the same manufacturer.

The method for inserting the memory is as follows:

内存条接入原则：（1个CPU）

处理器	内存通道	内存位置	内存数量（推荐：√ 不推荐：O）							
			√	√	√	√	O	√	O	√
			1	2	3	4	5	6	7	8
CPU0	A	CPU1 DIMM A1	x	x	x	x	x	x	x	x
		CPU1 DIMM A2							x	x
	B	CPU1 DIMM B1		x	x	x	x	x	x	x
	C	CPU1 DIMM C1			x		x	x	x	x
	D	CPU1 DIMM D1				x	x	x	x	x
		CPU1 DIMM D2								x
	E	CPU1 DIMM E1				x	x	x	x	x
	F	CPU1 DIMM F1						x	x	x

内存条接入原则：（2个CPU）

处理器	内存通道	内存位置	内存数量（推荐：√ 不推荐：O）														
			O	√	O	√	O	√	O	√	O	O	O	√	O	O	O	√
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CPU0	A	CPU1 DIMM A1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		CPU1 DIMM A2													x	x	x	x
	B	CPU1 DIMM B1			x	x	x	x	x	x	x	x	x	x	x	x	x	x
	C	CPU1 DIMM C1					x	x	x	x	x	x	x	x	x	x	x	x
	D	CPU1 DIMM D1							x	x	x	x	x	x	x	x	x	x
		CPU1 DIMM D2															x	x
	E	CPU1 DIMM E1									x	x	x	x	x	x	x	x
	F	CPU1 DIMM F1											x	x	x	x	x	x
CPU1	A	CPU2 DIMM A1		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		CPU2 DIMM A2														x	x	x
	B	CPU2 DIMM B1				x	x	x	x	x	x	x	x	x	x	x	x	x
	C	CPU2 DIMM C1						x	x	x	x	x	x	x	x	x	x	x
	D	CPU2 DIMM D1								x	x	x	x	x	x	x	x	x
		CPU2 DIMM D2																x
	E	CPU2 DIMM E1										x	x	x	x	x	x	x
	F	CPU2 DIMM F1												x	x	x	x	x

Table 3-1

⚠ It is important to note that: In the same channel, memory modules with larger capacities must be installed in the first slot.

3.2.4 M.2 card installation

- Step 1: Install locating screw A according to the length of the M.2 card to be installed.
- Step 2: Install the M.2 card

Insert the connector end of the M.2 card into the motherboard connector, as shown in the diagram below:

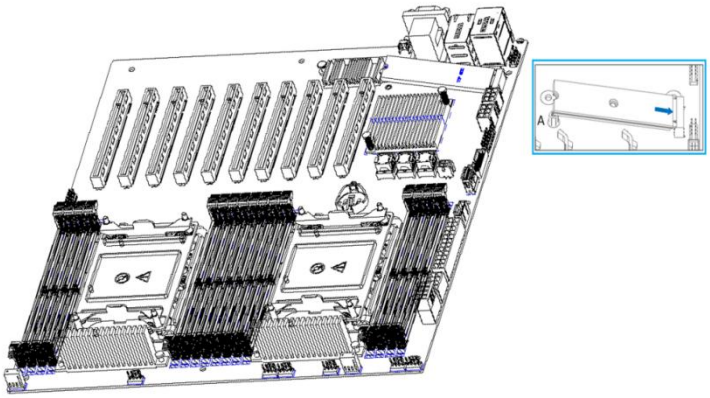


Figure 3-7

3.2.5 GPU card installation

- Step 1: Install according to the length of the GPU card to be installed.
- Step 2: Install the GPU card.

Insert the connector end of the GPU card into the motherboard connector, secure it with screws, as shown in the diagram below:

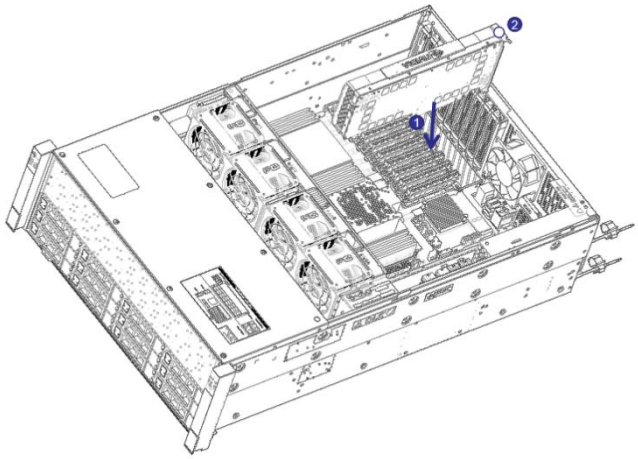


Figure 3-8

3.2.6 Server slide rail installation

- Step 1: Prepare two slide rails and pull out the inner rail.

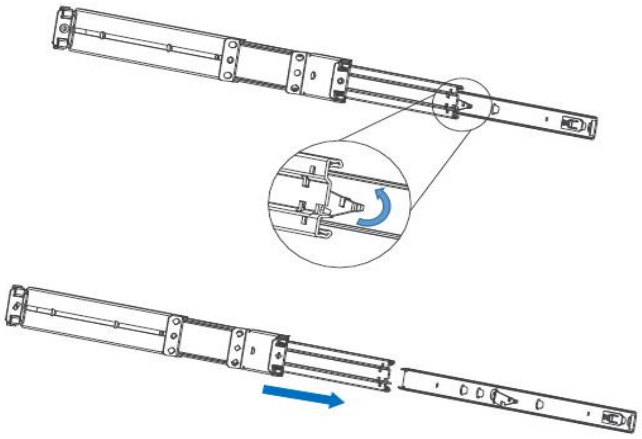


Figure 3-9

- Step 2: Fasten the inner rails to the sides of the chassis.

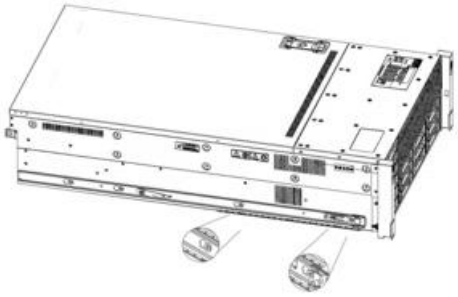


Figure 3-10

- Step 3: Install the outer rails on the cabinet brackets and secure the screws.

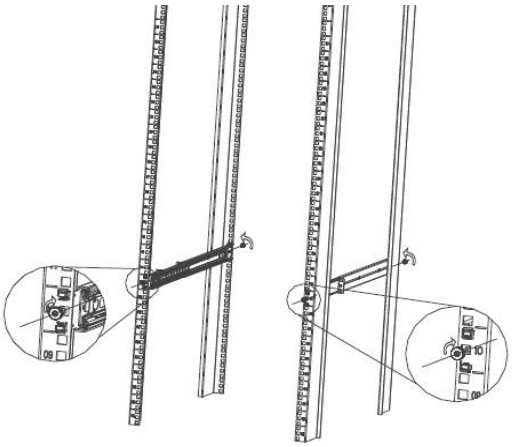


Figure 3-11

⚠ Note: When installing the guide rail, align it with the U-mark, and push it into place until you hear a click sound. Secure it firmly using M5 screws.

- Step 4: Align the chassis with the inner rails installed with the outer rails for installation.

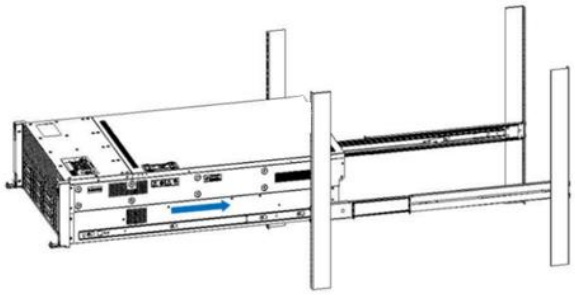


Figure 3-12

⚠ Note: When you push the chassis forward, you will hear a snapping sound. If you can't push it, you need to pull down the buckle of the inner rail to continue to push the chassis gently.

- Step 5: Push the chassis forward until it cannot slide and make sure that the screws are securely installed to complete the installation.

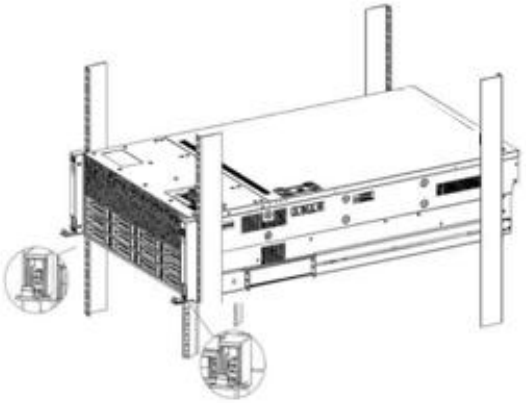


Figure 3-13

⚠ Note: During equipment maintenance, it is necessary to loosen the panel screws and pull the chassis lightly. Do not push or pull the chassis at random speed to avoid damage to the equipment.

4. Configuration Instructions

4.1 Initial Configuration

4.1.1 Power on and start

- Before powering on, it is necessary to ensure that all configurations of the server are installed in accordance with the corresponding specifications and standards, and keep the server turned off but not unplugged from the power supply. And all cables are connected properly, and the power supply voltage is consistent with that of the device.

- During the power-on process, please do not plug in hard drives, power modules, network cables or other external devices and cables.

- If the server has just been unplugged from the power supply, please wait for 1 minute before turning on the power.

- Server power-on power status:
  The power is on, but the server is not booting up. The power indicator light is yellow.
  Power on, the server starts up, and the power indicator light is green.

- How to power on the server:
  The server's default power-on policy is "Power-On Boot," which means the server will automatically power on when it receives power. Users can modify this setting in the BIOS Setup interface.

- Press the <DEL> or <ESC> key on the keyboard during the boot process to enter the BIOS Setup interface, and find the following interface:

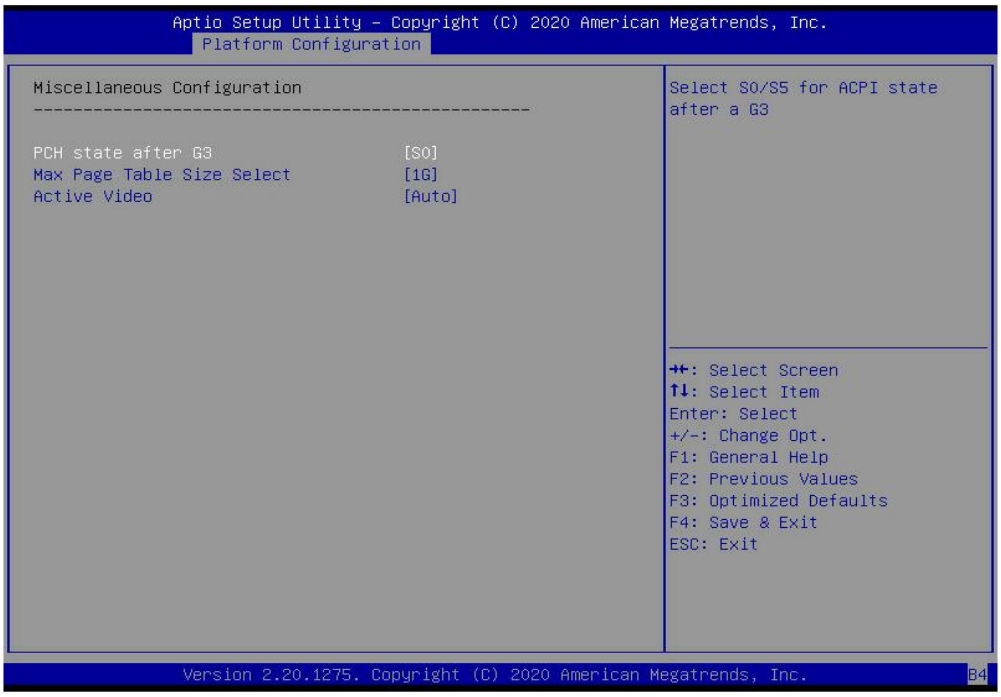


Figure 4-1

- PCH state after G3

  PCH state setting after G3, the menu options are:

  S0: Power on and start up directly

  S5: You need to press the Power button to turn on the power

  leave power state unchanged: Leave the power state unchanged .

  Default: S0

- Log in to the iBMC management interface to perform remote power-on and power-off control.

- Enter the BMC IP address -> enter the BMC account&password -> find the remote control interface -> power controller -> It can be executed according to requirements.

Figure 4-2

For detailed usage of BMC and BIOS, please refer to the corresponding user manual.

4.1.2 Initial data

- BMC default account: admin
- BMC default password: Gooxi@123.
- BMC default address: 192.168.100.1
- BIOS Default Password: N/A

Pay attention to password management and make sure to change the login password!!!

4.1.3 Configure BIOS

Press the <DEL> or <ESC> key on the keyboard during power-on and start-up to enter the BIOS Setup interface, as shown below:

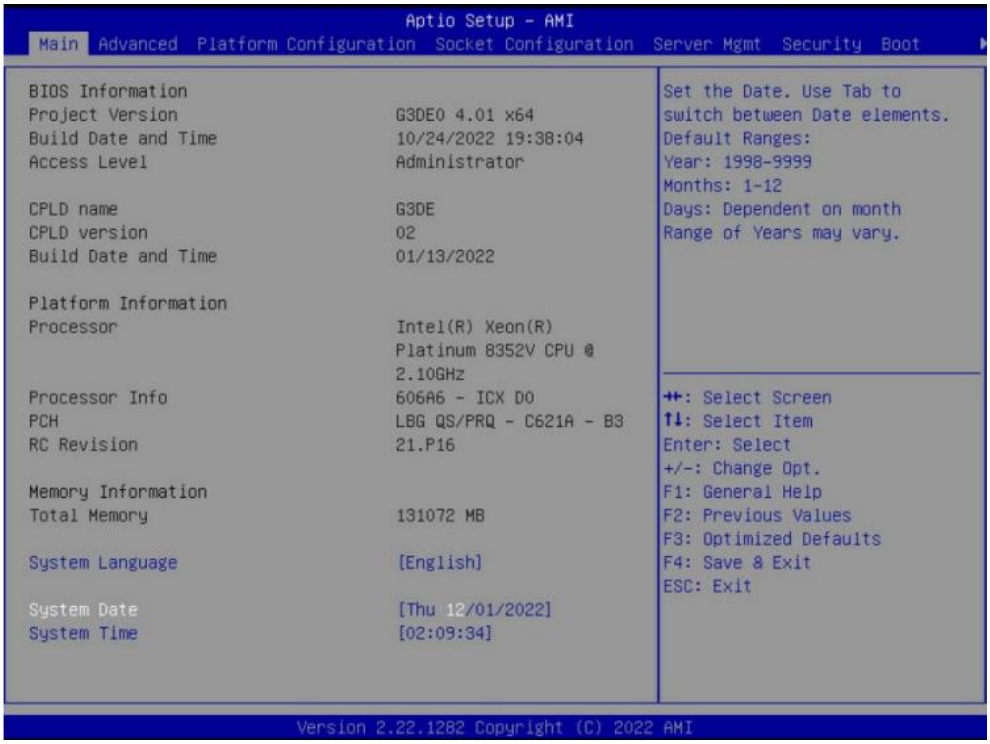


Figure 4-3

The Main interface contains the basic information of the BIOS system, such as the BIOS version number, CPU model, memory capacity, and the system time can be set. For detailed instructions, please refer to the "BIOS User Manual".

- Navigation key description:

→←: Select Screen

↑↓: Select Item

Enter: Select

+/-: Change Opt.

F1: General Help

F2: Previous Values

F3: Optimized Defaults

F4: Save & Reset

ESC: Exit

4.1.4 Configure BMC

When the server is powered on, make sure that the BMC dedicated management network port cable is properly connected.

Use another device, make sure it is in the same LAN as the BMC management network, and enter the BMC IP address on the web page.

Check the BMC IP address as follows:

- After the server is powered on, turn it on. Pay attention to the POST process

when starting the server. In the lower left corner of the logo screen, the IP address is displayed.

- After the server powers on, pay attention to the POST process. Press the <DEL> or <ESC> key on the keyboard to enter the BIOS Setup interface. Switch to the following screen:

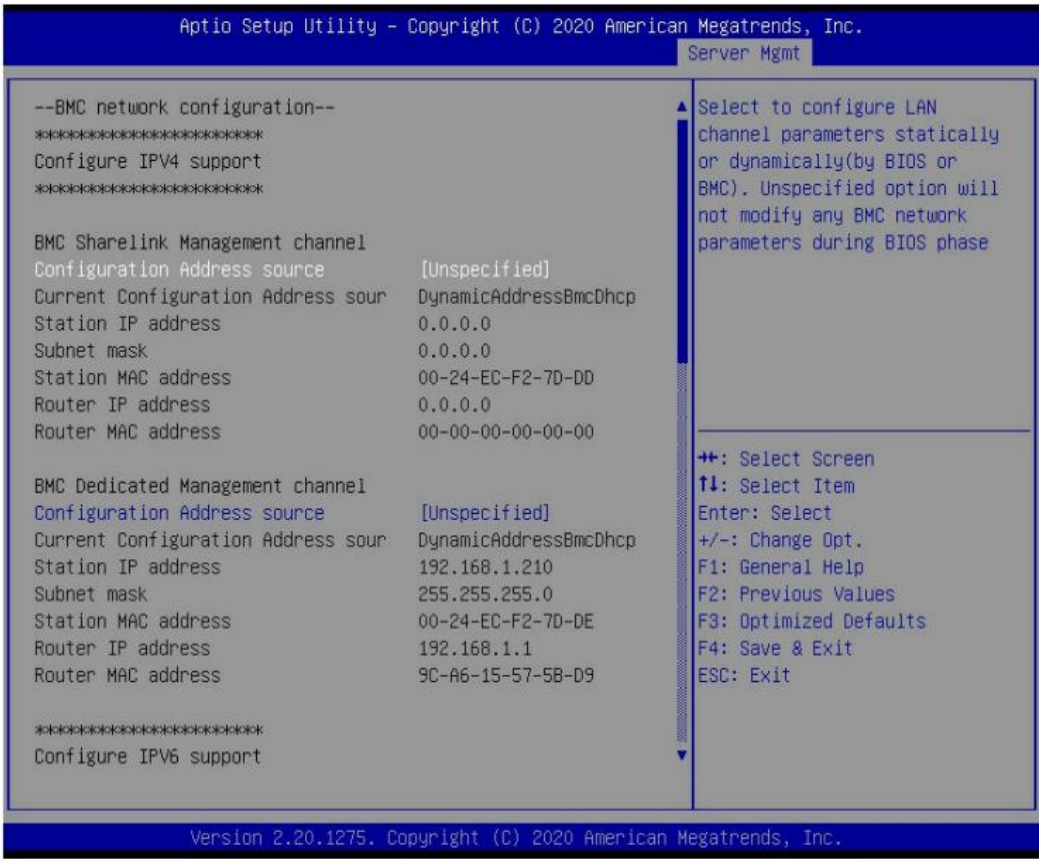


Figure 4-4

Configure IPV4 support :

- BMC sharelink Management Channel
- Configuration Address source
- Configure the BMC IP address allocation mode, the menu options are:

  Unspecified: No changes made to BMC parameters

  Static: BIOS static IP setting

  DynamicBmcDhcp: BMC runs DHCP to dynamically assign IP

  DynamicBmcNonDhcp: BMC runs the Non-DHCP protocol to dynamically assign IP

  Default: Unspecified

When changing from "Unspecified" to other parameters, saving and rebooting will result in the options reverting to the "Unspecified" value. There is no need to configure the BMC IP

during every startup process.

- When the "Configuration Address Source" option is set to "Unspecified," it will display the network parameters (IPv4) for the system's shared Ethernet port. The displayed information includes the current IP configuration method, BMC IP, subnet mask, MAC address, router IP, and router MAC.

- BMC Dedicated Management Channel

- Configuration Address source

- Configure the BMC IP address allocation mode, the menu options are:
  Unspecified: No change to BMC parameters
  Static: BIOS static IP setting
  DynamicBmcDhcp: BMC runs DHCP to dynamically assign IP
  DynamicBmcNonDhcp: BMC runs the Non-DHCP protocol to dynamically assign IP
  Default: Unspecified

- When changing from "Unspecified" to other parameters, saving and rebooting will result in the options reverting to the "Unspecified" value. There is no need to configure the BMC IP during every startup process.

- When the "Configuration Address Source" option is set to "Unspecified," it will display the network parameters (IPv4) for the system's dedicated Ethernet port. The displayed information includes the current IP configuration method, BMC IP, subnet mask, MAC address, router IP, and router MAC.

- Configure IPV6 support

- BMC Sharelink Management Channel

- IPV6 Support

- Choose whether to support IPV6, the menu options are:
  Enabeld: support IPV6
  Disabled: does not support IPV6
  Default: Enabeld

- When changing from "Unspecified" to other parameters, saving and rebooting will result in the options reverting to the "Unspecified" value. There is no need to configure the BMC IP during every startup process.

- When the "Configuration Address Source" option is set to "Unspecified," it

will display the network parameters (IPv6) for the system's shared Ethernet port.

- BMC Dedicated Management Channel
- IPV6 Support
- Choose whether to support IPV6, the menu options are:
  Enabeld: support IPV6
  Disabled: does not support IPV6
  Default: Enabeld
- When changing from "Unspecified" to other parameters, saving and rebooting will result in the options reverting to the "Unspecified" value. There is no need to configure the BMC IP during every startup process.
- When the "Configuration Address Source" option is set to "Unspecified," it will display the network parameters (IPv6) for the system's dedicated Ethernet port.

Log in to the BMC management interface

Enter the IP address on the web page, as shown in the figure:

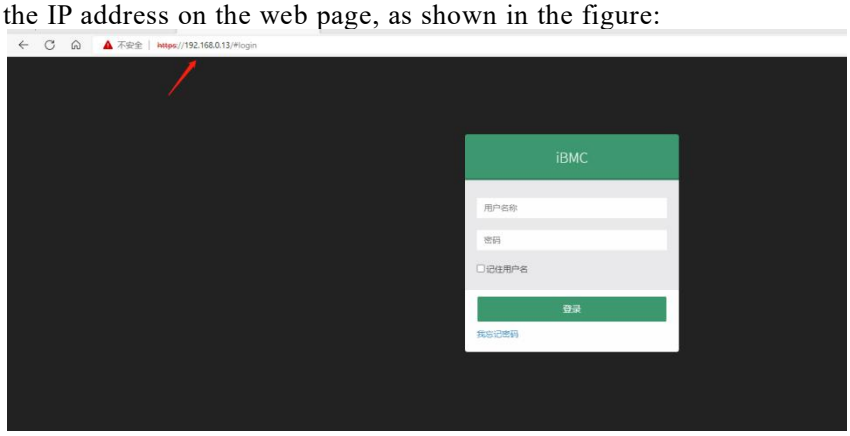


Figure 4-5

Enter the account password to enter the home page, and you can set the BMC IP address on the management interface.

On the left side of the interface, switch to "Settings Page" -> "Network Settings" -> "Network IP Settings". As shown below:

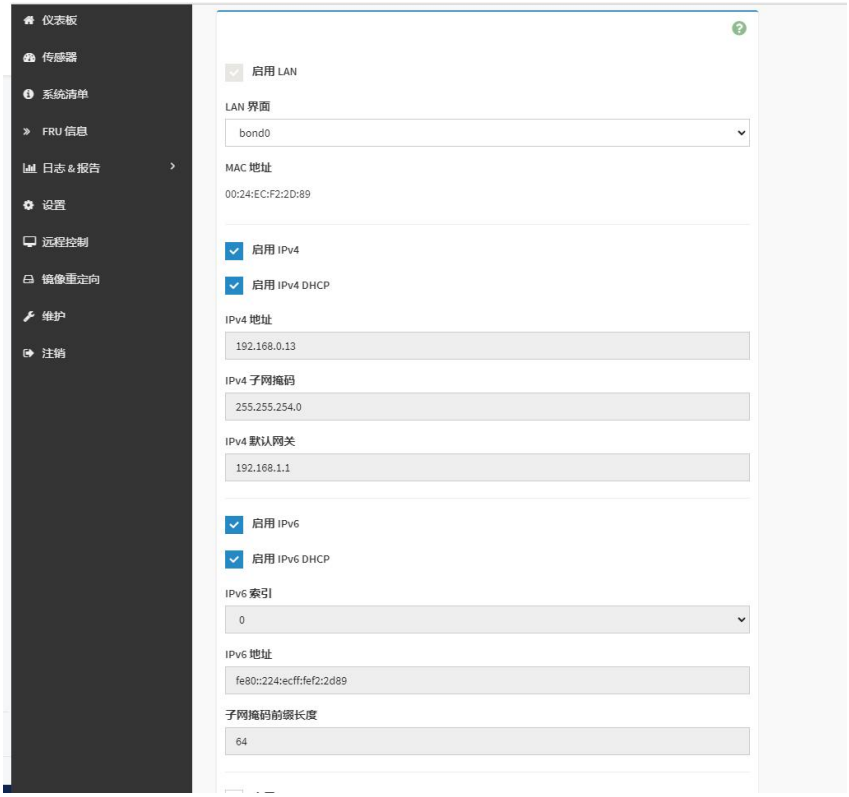


Figure 4-4

This page sets the IP address of the BMC management network port.

5. Appendix

(Common fault diagnosis)

No display after power on

- Make sure the monitor cable is properly connected and the power indicator on the monitor lights up when the monitor is powered on.
- Ensure the monitor is connected to the server.
- If the above steps do not resolve the issue, try replacing the monitor with a known working one to confirm if the original monitor is faulty.
- If the issue persists, please contact Gooxi's customer service department for resolution.

Front Panel Indicator Lights Alarm

- Refer to the instructions in the manual to determine the specific alarm information indicated by the front panel lights and buttons.
- For power failure indicator lights alarm, check if the power module indicator lights on the rear window of the server are abnormal.

  If the power module indicator lights are normal, please log in to the BMC web interface to check the BMC logs for any alarms. If there are alarms, please record the specific alarm information and contact Gooxi’s customer service department for resolution.

  If the power module indicator lights are not normal, please ensure that the server, power module, and power cords are functioning correctly.
- For system alarm indicator lights, first check the external environment.
- For other indicator light alarms, please contact Gooxi’s customer service department for resolution.

Abnormal Hard Drive Indicator Lights

- Ensure the hard drives are properly installed.
- Refer to the instructions in the manual to determine the specific alarm information indicated by the rear panel lights and buttons.
- Confirm if the RAID card is configured correctly.
- Check for any drive dropouts during OS installation. If this occurs, please contact Gooxi’s customer service department for resolution.

Unable to Use RAID Card

- Ensure the RAID card is properly installed.
- Try reseating the RAID card and PCIe adapter to confirm if they are functioning correctly.

- If replacing the known working RAID card doesn't resolve the issue, please restore to factory settings and update the BIOS version. If the problem persists contact Gooxi's customer service department for further assistance and resolution.

IPMI Connection Failure

- Confirm if the BMC function is correctly enabled in the BIOS.
- Check if the switch and network cables are functioning properly. If the regular IPMI connection is not effective, check the network environment.
- Set static or dynamic IP and ensure ping connectivity. If the web interface does not open, try using a newer version of Internet Explorer.
- If the problem is not resolved, please contact Gooxi's customer service department for further assistance and resolution.