Gooxi

SL401-G2 Rackmount Server
User Manual

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Shenzhen Gooxi Information Security Co., Ltd.

Statement

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Foreword

This manual is the product technical manual for the Gooxi Purley 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
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V1.1	2023-12-29	Manual Optimization

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1. Product Introduction

1.1 Product Overview

SL401 Purley 4U dual-socket rackmount server is a new generation 4U dual-socket rack server launched by Gooxi to meet the diverse needs of the Internet, IDC (Internet Data Center), cloud computing, enterprise markets, and telecommunications services. It is suitable for IT core operations, cloud computing virtualization, high-performance computing, distributed storage, big data processing, enterprise or telecommunications services, and other complex workloads. This server boasts advantages such as low power consumption, strong scalability, high reliability, easy management, and deployment. Its main configurations include:

- Supports 2 Intel® Xeon® Scalable series processors (Sky Lake & Cascade Lake), and a single CPU supports 12 DDR4 DIMMs.
- Supports 2 types of panel chassis, 24 *3.5-inch hard drive chassis and 36 *3.5-inch hard drive chassis. Each hard drive can be repaired separately.
- The rear window supports expansion of 4*3.5-inch hard drive bay / 4*2.5-inch hard drive bay.
- Supports up to 11 PCIE expansion slots, which can be used to expand GPU cards, network cards, retimer cards, etc.

The physical image of the server with a 36-bay configuration is shown below:

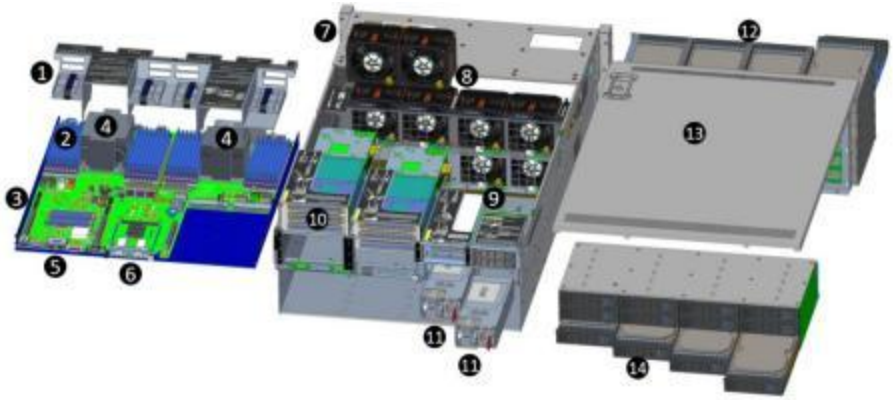
Front view 1-1

Rear view of 24-bay configuration 1-2

Rear view of 36-bay configuration 1-3

1.2 Product Structure

Product exploded view of SL401 Purley 4U dual-socket rack server (example of 36-bay model)



Structure diagram 1-3

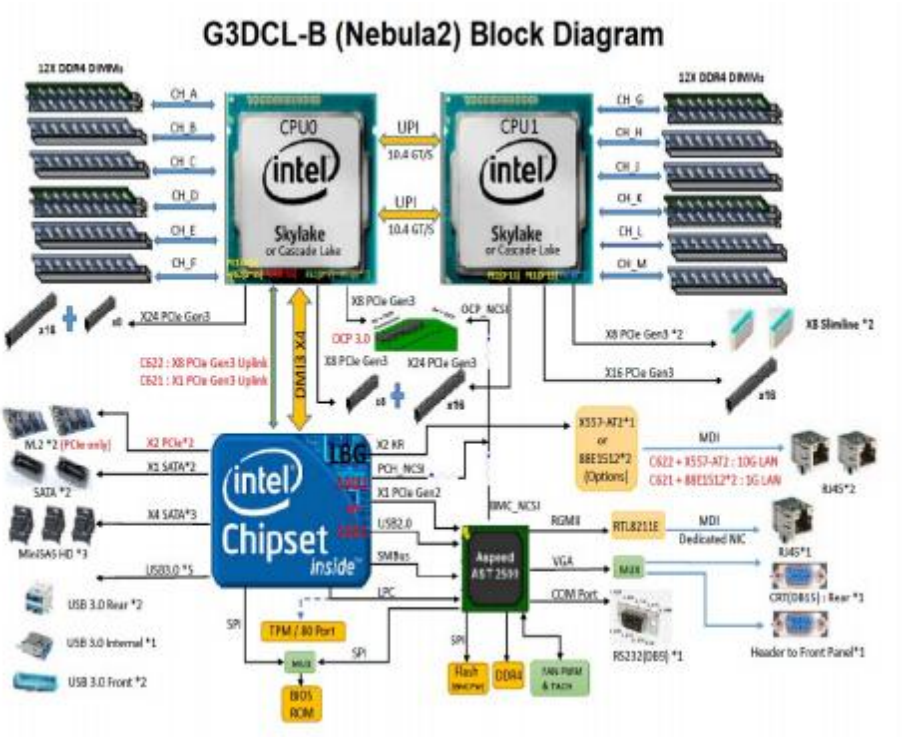
No.	Name	No.	Name
1	Wind shield	8	Fan module
2	Memory slot	9	Fan rack
3	Motherboard	10	PCIE module
4	CPU heat sink	11	Power module

5	IO panel	12	Front hard drive module
6	OCP 3.0	13	Top cover
7	Chassis	14	Rear hard drive module

Table 1-1

1.3 Logical Structure

The logic of the SL401 Purley 4U dual-socket rack server is as shown in the following diagram:



Motherboard logic block diagram 1-4

- The CPU uses the third generation Intel® Xeon® Scalable processor, LGA3647 socket, TDP power consumption 205W.
- Each CPU supports 12 channels of DDR4, and each channel supports 2 memory modules, RDIMM/LRDIMM. Two CPUs support a maximum capacity of 9 TB (including Optane memory).
- DDR4 type: DDR4-2400/2666/2933ECC-RDIMM, ECC-LRDIMM.
- There are 3 PCIe riser slots on the motherboard: RISER1 has 24 PCIe lanes all from CPU0, RISER2 has 24 PCIe lanes all from CPU1, and RISER3 has 16 PCIe lanes from CPU1.
- The G4DCL-B motherboard provides 2 M.2 M Key SSD slots, supporting 2280 size, and only supporting PCIe X2 signal.
- The motherboard integrates 2 Gigabit network ports, using 88E1512 chip, from PCH.
- The PCH uses INTEL LEWISBURG C621/C622 series chipset.
- The PCH provides 14 SATA ports, with a maximum speed of 6Gb/s, compatible with SATA 1.5Gb/s and 3.0Gb/s. The SATA controller has 8 SATA ports, while the SSATA has 6 SATA ports. Among them, 8 SATA ports are introduced to 2 SFF8643 connectors in sequence, while the front 4 ports of SSATA are introduced to one

SFF8643 connector, and the rear 2 ports are introduced to 7PIN SATA connectors for connecting SATA DOM and DVD.

- The BMC (Baseboard Management Controller) chip in the motherboard uses the AST2500 control chip from ASPEED company for IPMI remote management. It includes a VGA output port, a dedicated Gigabit RJ45 management network port, and is connected to the PCH via RMII/NCSI.

1.4 Product Specifications

Product Series	SL401-D24RE	SL401-D36RE
Product Type	4U24 bay	4U36 bay
System Size	798 *433.4* 176.5 mm (depth*width*height)	
Processor	Supports 1 or 2 3rd generation Intel® Xeon® Scalable series processors	
Memory	24 DDR4 memory slots, supporting DDR4 LRDIMM/RDIMM2400/2666/2933 MHz; the maximum capacity of a single slot is 256GB, compatible with Optane memory, and the entire machine supports a maximum memory capacity of 9 TB	
Internal Storage Interface	3 MiniSAS HD interfaces, 2 SATA DOM interfaces, 2 M.2 (NVMe) interfaces	
External Hard Drive	The front supports 24 hot-swappable 3.5/2.5-inch SAS/SATA hard drives, and the rear optionally supports two 2×3.5-inch hard drive modules or two 2×2.5-inch hard drive modules.	The front supports 24 hot-swappable 3.5/2.5-inch SAS/SATA hard drives, and the rear supports 12 hot-swappable 3.5/2.5-inch SAS/SATA hard drives. The rear optionally supports two 2×3.5-inch hard drive modules or two 2×2.5-inch hard drive modules.
External Port	Front port: 2 USB3.0	
	Rear: 1 VGA, 1 COM port, 2 USB3.0, 1 RJ45 Gigabit management network port, 2 Gigabit RJ45 network ports	
PCIE Expansion Form	6*PCIe 3.0 full-height slots, 4*PCIe 3.0 half -height slots, 1* OCP 3.0 slot	
PCIE Expansion Specification	Riser1/2： 1*PCIe3.0x16+1*PCIe3.0x8 or 3*PCIe3.0x8 Riser3： 1*PCIe3.0x16 or 1*PCIe3.0 x8+PCIe3.0x8(PCIe3.0x16 Slot) Riser4： 1*PCIe3.0 x16 or 2*PCIe3.0 x8 OCP: 1*OCP3.0	
Safety	Supports TPM module	
Power Supply	Supports AC 220V 550W, 800W, 1300W, 1600W, 2200W redundant power supply (adapted according to actual power)	
Fan	Standard 8*8038 hot-swappable N+1 redundant fans, optional 8056 hot-swappable N+1 redundant fans	
IPMI	IPMI 2.0	
Management Port	1 dedicated RJ45 management network port	
Certification	CCC	
RoHS	Comply with RoHS2.0	
Working Temperature & Humidity	Temperature 5℃～35℃/humidity 20%～80%RH non-condensing	
Storage 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

- 24x3.5 -inch hard drive configuration

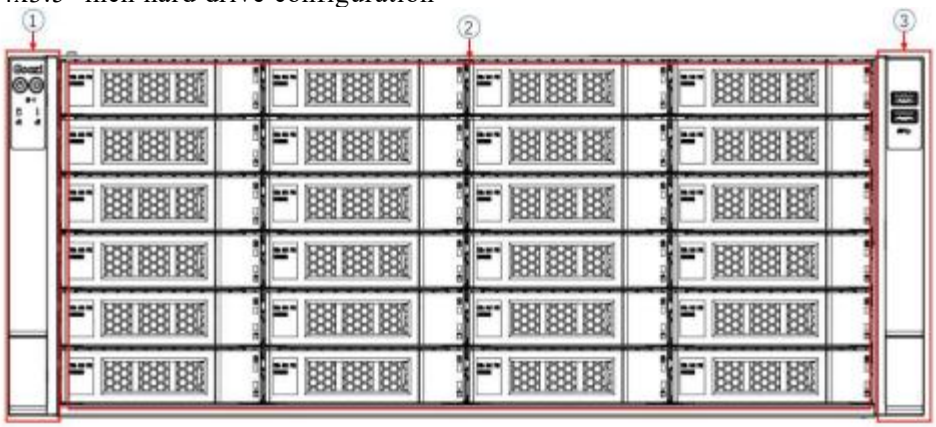


Figure 2-1

No.	Name	No.	Name
1	Left ear assembly	3	Right ear assembly
2	3.5-inch hard drive		

Table 2-1

- 36 x3.5-inch hard drive configuration

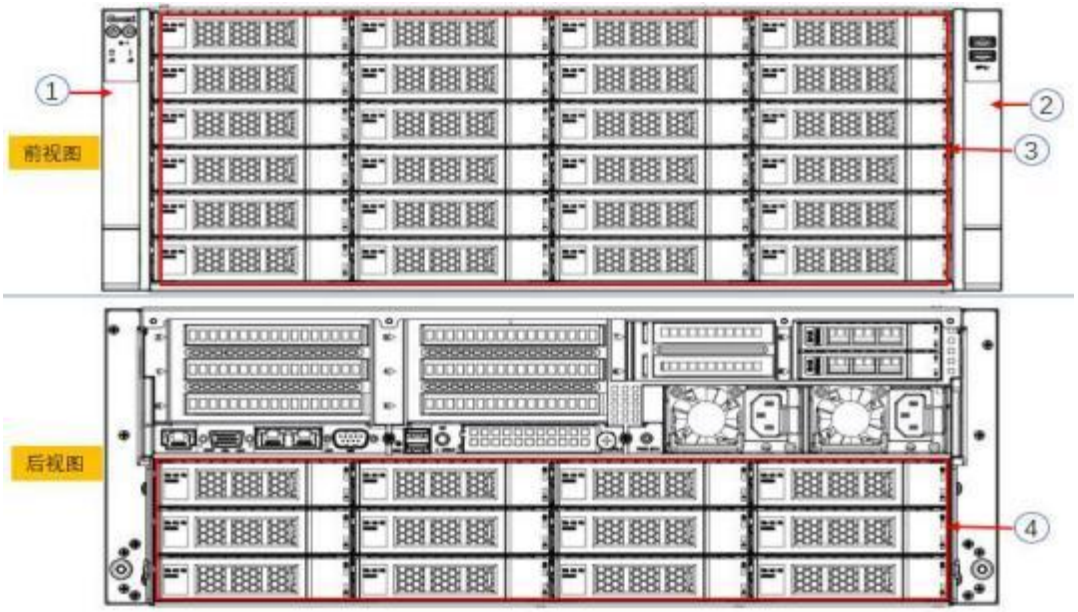


Figure 2-2

No.	Name	No.	Name
1	Left ear assembly	3	Front 3.5-inch hard drive
2	VGA interface	4	Rear 3.5-inch hard drive

Table 2-2

2.1.2 Indicator lights and buttons

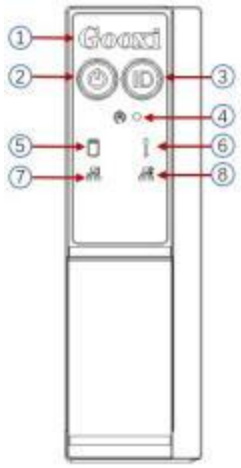


Figure 2-3

No.	Indicator light/button	No.	Indicator light/button
1	GOOXI logo	5	Hard drive indicator light
2	Power switch button/indicator light	6	System alarm indicator light
3	UID button/light	7	Network port 1 connection status indicator light
4	Reset server button	8	Network port 2 connection status indicator light

LED status description		
logo	Indicator light/button	Status description
	Power Indicator	Power Indicator Light Explanation: Green (Solid): Indicates the device is powered on normally. Green (Blinking): Indicates the device is in standby mode. Green (Off): Indicates the device is not powered on. Power Button Explanation: When the server is powered on, a short press of this button initiates a normal shutdown of the operating system. When the server is powered on, a long press of this button for 6 seconds forces the server to power off. When the server is in standby mode, a short press of this button powers on the server.

	UID button/light	UID Button/Indicator Light is used for conveniently locating the server to be operated. It can be turned on or off manually by pressing the UID button or remotely controlled via BMC command. UID Indicator Light Explanation: Blue (Solid/Blinking): Indicates the server is located. Off: Indicates the server is not located. UID Button Explanation: A short press of this button can turn on/off the locator light.
	Reset server button	Press to restart the server
	Hard drive indicator light	Green light flashes: the hard drive is operating normally.
	System alarm indicator light	System Alarm Indicator Light: This includes system alarms, fan alarms, power supply alarms, etc. Specific details can be viewed through IPMI management software.
	Network port connection status indicator light	Ethernet Port Indicator Lights for Corresponding Network Card Insertion: Green (Solid): Indicates a normal Ethernet connection. Off: Indicates the Ethernet port is not in use or there is a fault. Note: Corresponds to the two 1G Ethernet ports on the motherboard.
	Network port connection status indicator light	Ethernet Port Indicator Lights for Corresponding Network Card Insertion: Green (Solid): Indicates a normal Ethernet connection. Off: Indicates the Ethernet port is not in use or there is a fault. Note: Corresponds to the two 1G Ethernet ports on the motherboard.

Table 2-3

2.1.3 Interface

- Interface location

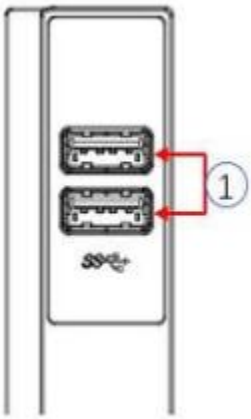


Figure 2-4

No.	Name
1	USB 3.0 interface

Table 2-4

- Interface Description

Name	Type	Quantity	Description
USB interface	USB 3.0	2	For connecting USB devices

Table 2-5

2.2 Rear Panel

2.2.1 Appearance

- Rear panel appearance

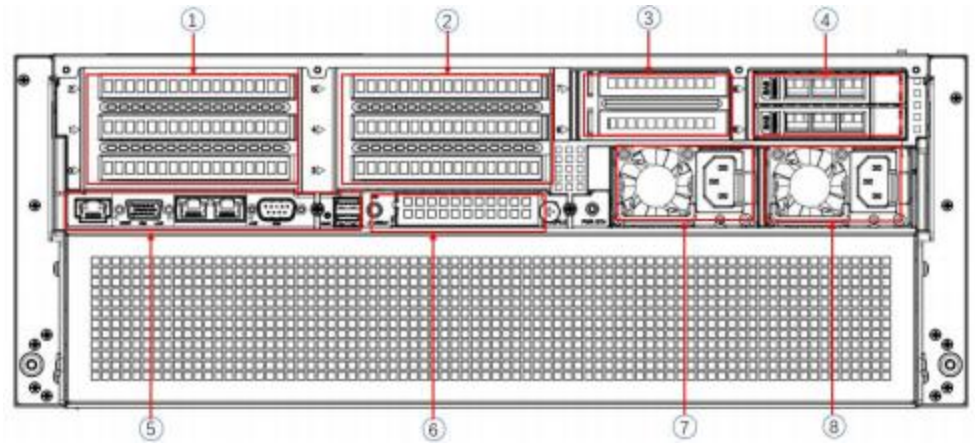


Figure 2-5

No.	Name	No.	Name
1	Riser 1 module	5	I/O port
2	Riser 2 module	6	OCP Network card (optional)
3	Riser 3 module	7	Power module 1
4	Riser 4 module	8	Power module 2

Table 2-7

Note:

- 1. Riser1 module, Riser2 module, Riser3 module, and Riser4 module can be optionally equipped with rear hard drive modules or PCIe riser modules.
- 2. This picture is for reference only. The actual configuration shall prevail.

2.2.2 Indicator lights and buttons

- Rear panel indicator lights

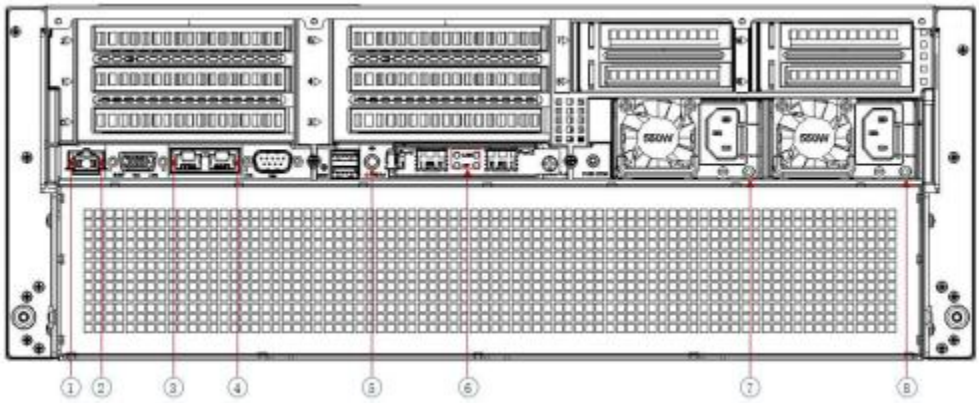


Figure 2-6

No.	Name	No.	Name
1	Management network port connection status indicator	5	UID indicator light
2	Management network port data transmission status indicator light	6	OCP Network port indicator
3	Network port connection status indicator light	7	Power module indicator light
4	Network port data transmission status indicator light	8	Power module indicator light

Table 2-8

- Power module indicator light description

Indicator light/button	Status description
Power module indicator light	Green (Solid): Indicates normal input and output. Yellow (Solid): Indicates that the AC power cord is unplugged or the power module is missing, and only one parallel power module has AC input; power module failure resulting in output shutdown, such as OVP, OCP, fan failure, etc. Green (1Hz/Blinking): Indicates normal input, but the power supply turns off the output due to power-up or out-of-service; input under-voltage. Green (2Hz/Blinking): Indicates the Firmware is in the online upgrade process. Yellow (1Hz/Blinking): Indicates a continuous power warning event; power supply over-temperature protection, power output over-current/over-voltage, slow fan speed. Off: Indicates no AC power input.

Table 2-9

2.2.3 Interface

- Rear panel interface

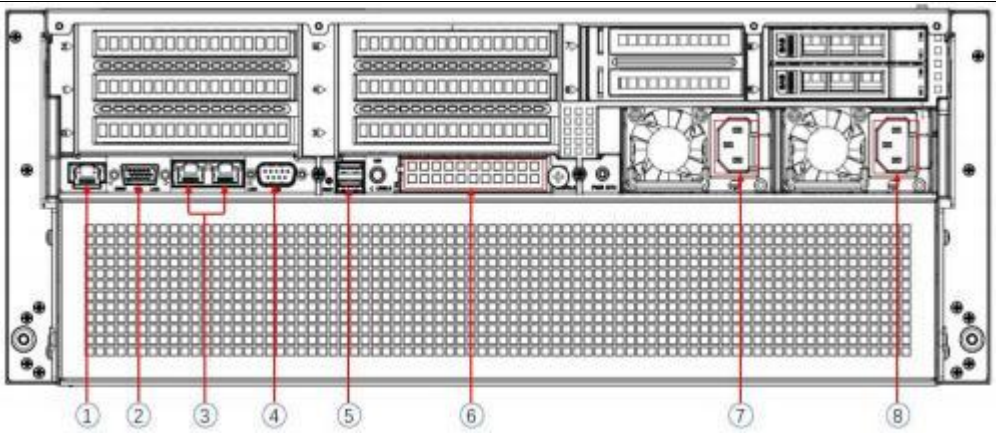


Figure 2-7

No.	Name	No.	Name
1	Management network port	5	USB 3.0 interface
2	VGA interface	6	OCP 3.0 interface
3	Gigabit network port	7	Power module
4	COM interface		

Table 2-10

2.3 Processor

- Supports 1 or 2 Intel first-generation and second-generation Xeon scalable CPUs.
- When configuring 1 processor, it needs to be installed at CPU 0 position.
- Processors configured on the same server must be of the same model.
- For specific optional system configurations available for purchase, please consult with Gooxi sales.
- The location of the processor is as shown below:

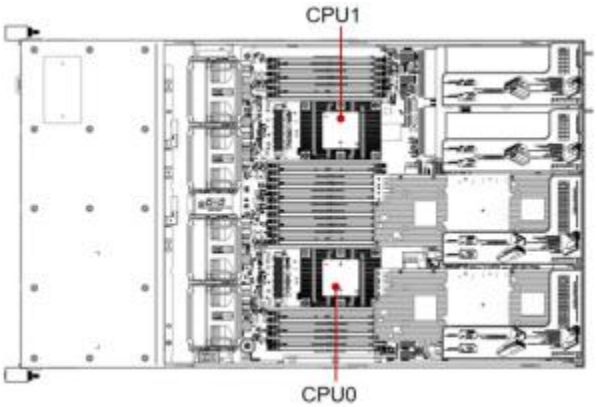


Figure 2-8

2.4 Memory

2.4.1 Memory slot location

The motherboard supports 12 DDR4 channels, with each channel supporting 2 DIMMs. With 2 CPUs, a total of 24 DDR4 slots are supported. (When only one memory module is inserted, it is preferred to insert it into the slots marked in red in the diagram below. The slots on the motherboard are colored blue.)

- memory slot location

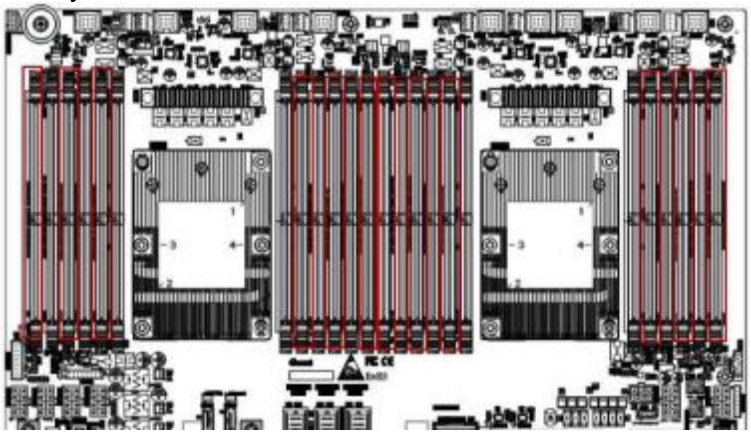


Figure 2-9

2.4.2 Memory compatibility information

The motherboard supports DDR4 RDIMM/LRDIMM server memory, and the memory frequency supports 2400/2666/2933.

Note:

- The same server must use the same model of DDR4 memory, and all memories must run at the same speed. The speed value is the lowest of the following:
- The memory speed supported by a specific CPU.
- Maximum operating speed for a specific memory configuration.
- Mixing of DDR4 memories of different types (RDIMM, LRDIMM) and specifications (capacity, bit width, rank, height, etc.) is not supported.
- Different models of Intel® Xeon® Scalable processors (Skylake, Cascade Lake) support different maximum memory capacities.
- Skylake CPU:

  M-series CPUs support a maximum memory capacity of 1.5TB per socket.

  Non-M-series CPUs support a maximum memory capacity of 768GB per socket.

Cascade Lake CPU:

L-series CPUs support a maximum memory capacity of 4.5TB per socket.

M-series CPUs support a maximum memory capacity of 2TB per socket.

Other models support a maximum memory capacity of 1TB per socket.

The calculation formula for total memory capacity supported is as follows:

Total memory capacity equals the sum of the capacities of all DDR4 memory modules.

2.5 Storage

2.5.1 Hard drive configuration

Configuration	Maximum number of front hard drives (pcs)	Maximum number of rear hard drives (pcs)	Description
24x3.5-inch Hard drive pass-through set 1	(24x3.5/2.5) – Slot 0~7 support SAS / SATA hard drives	Riser 1: (2x3.5/2.5) *2-Support SAS / SATA hard drives Riser 2: (2x3.5/2.5) *2-Support SAS / SATA hard drives Riser 3: (2x2.5) *2-Support NVMe / SAS / SATA hard drives Riser 4: (2x2.5) * 2-Support NVMe / SAS / SATA hard drives	SAS hard drives require optional SAS pass-through cards or RIAD cards.
36x3.5-inch Hard drive pass-through set 1	(36x3.5/2.5) – Slot 0~7 support SAS / SATA hard drives	Riser 1: (2x3.5/2.5) *2-Support SAS / SATA hard drives Riser 2: (2x3.5/2.5) *2-Support SAS / SATA hard drives Riser 3: (2x2.5) *2-Support NVMe / SAS / SATA hard drives Riser 4: (2x2.5) * 2-Support NVMe / SAS / SATA hard drives	SAS hard drives require optional SAS pass-through cards or RIAD cards.

Table 2-11

2.5.2 Hard drive serial number

- 24x3.5 -inch hard drive configuration

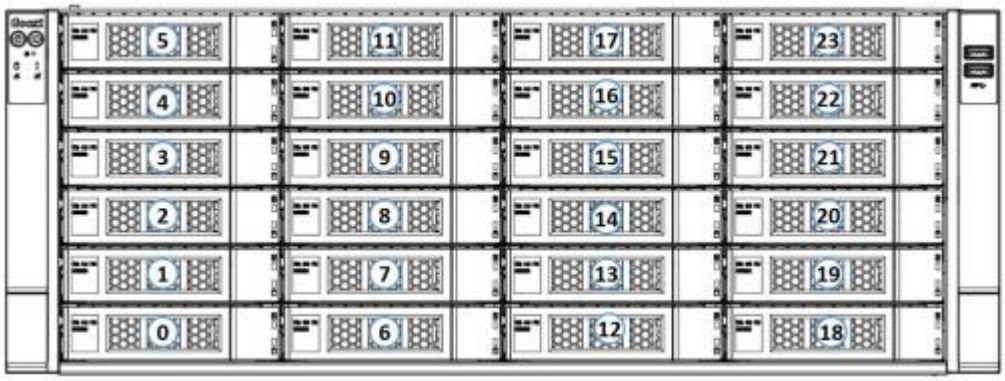
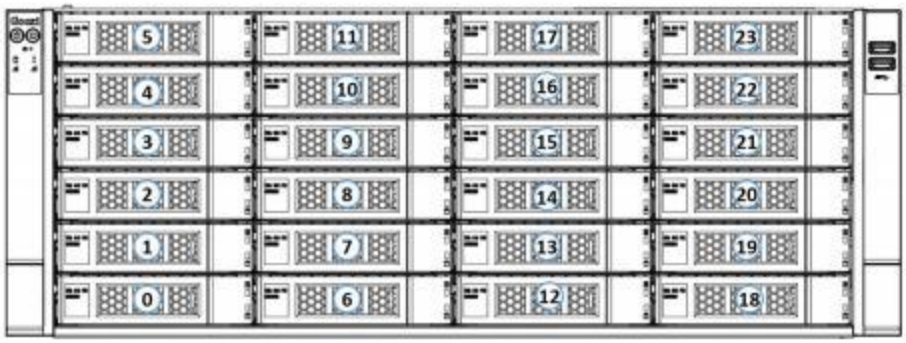
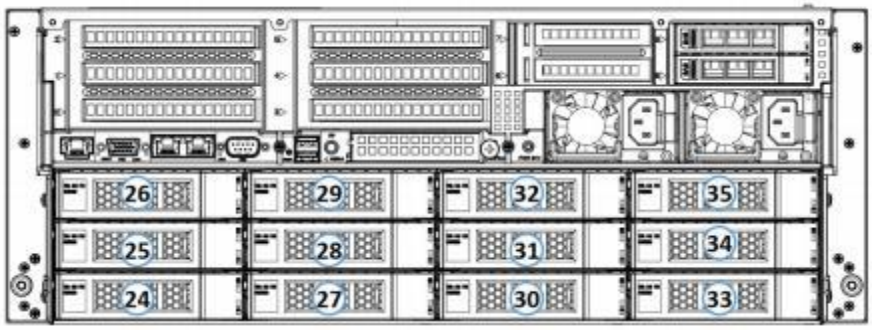


Figure 2-10

- 36 x3.5-inch hard drive configuration



Front 24-bay figure 2-11



Rear 12-bay figure 2-12

2.5.3 Hard drive status indicator

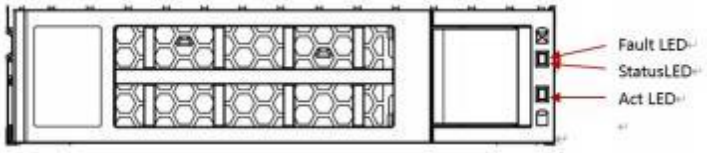


Figure 2-14

- Hard drive status indicator light description

Function	Act LED	Status LED	Fault LED
Hard drive in place	Steady on	OFF	OFF
hard drive activity	Flashing 4Hz/second	OFF	OFF
Hard drive location	Steady on	Flashing 4Hz/second	OFF
Hard drive error	Steady on	OFF	Steady on
RAID rebuild	Steady on	OFF	Flashing 1Hz/second

Table 2-12

2.6 Power Supply

- Supports 1 or 2 power modules.
- Supports AC or DC power module.
- Support hot swap.
- When configuring 2 power modules, 1+1 redundancy backup is supported.
- 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 power supply location is shown in the figure below:

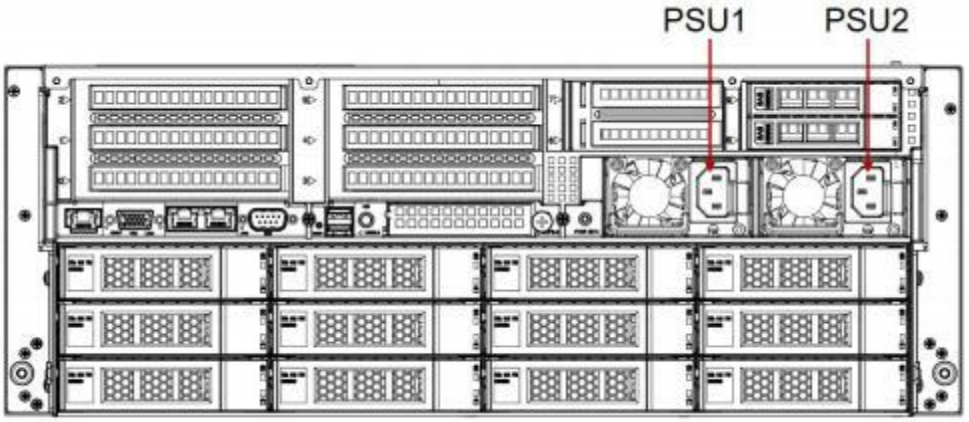


Figure 2-14

2.7 Fans

- Supports 8 fan modules.
- Supports hot swap.
- Supports single fan failure.
- Supports variable fan speed.
- Fan modules configured on the same server must have the same fan module model.

2.8 I/O Expansion

2.8.1 PCIe slot location

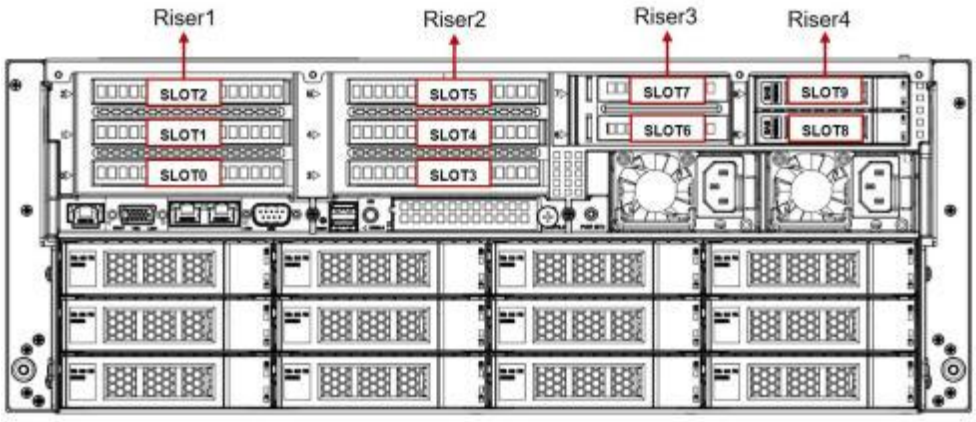


Figure 2-15

- The slots provided by the Riser1 module are Slot 0, Slot 1, and Slot 2. When using a 2-slot PCIE expansion module, Slot 1 is unavailable.
- The slots provided by the Riser2 module are Slot 3, Slot 4, and Slot 5. When using a 2-slot PCIE expansion module, Slot 4 is unavailable.
- The slots provided by the Riser3 module are Slot 6 and Slot 7. When using a 1-slot PCIE expansion module, Slot 6 is unavailable.
- The slots provided by the Riser4 module are Slot 8 and Slot 9. When using a 1-slot PCIE expansion module, Slot 8 is unavailable.

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
OCP network card	CPU 0	PCIe 3.0	X8	
Slot 0	CPU 0	PCIe 3.0	2 slots PCIE Expansion module:X16 3 slots PCIE Expansion module:X8	full height full length
Slot 1	CPU 0	PCIe 3.0	2 slots PCIE Expansion module: NA 3 slots PCIE Expansion module:X8	full height full length
Slot 2	CPU 0	PCIe 3.0	X8	Full height and half length
Slot 3	CPU 1	PCIe 3.0	X8	Full height and half length
Slot 4	CPU 1	PCIe 3.0	2 slots PCIE Expansion module: NA 3 slots PCIE Expansion module:X8	full height full length
Slot 5	CPU 0	PCIe 3.0	2 slots PCIE Expansion module:X16 3 slots PCIE Expansion module:X8	full height full length
Slot 6	CPU 1	PCIe 3.0	X8	half height half length
Slot 7	CPU 1	PCIe 3.0	1 slot PCIE Expansion module:X16 2 slots PCIE Expansion module:X8	half height half length
Slot 8	CPU 1	PCIe 3.0	X8	half height half length

Slot 9	CPU 1	PCIe 3.0	1 slot PCIE Expansion module:X16 2 slots PCIE Expansion module:X8	half height half length

Note:

◆Slots with a bus bandwidth of PCIe x16 are backward compatible with PCIe cards of PCIe x8, PCIe x4, and PCIe x1. It is not compatible upward, that is, the bandwidth of the PCIe slot cannot be less than the bandwidth of the inserted PCIe card.

◆PCIe slots with full-height and full-length slots are backward compatible with full-height, half-length, and half-height and half-length PCIe cards; PCIe slots with full-height and half-length slots are backwards compatible with half-height, half-length PCIe cards.

◆The power supply capacity of all slots can support PCIe cards up to 75W. The power of the PCIe card depends on the model of the PCIe card.

Table 2-13

2.8.3 PCIe expansion module

- PCIE expansion module 1
  Adapter card for x24 to x16+x8

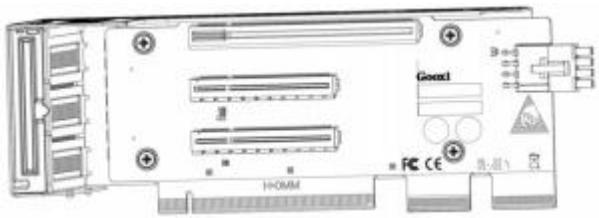


Figure 2-16

- PCIE expansion module 2
  Adapter card for x24 to x8+x8+x8

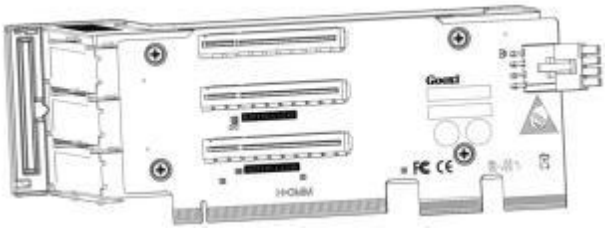


Figure 2-17

- PCIE expansion module 3
  x16 to x8 (x16 slot) +x8 adapter card

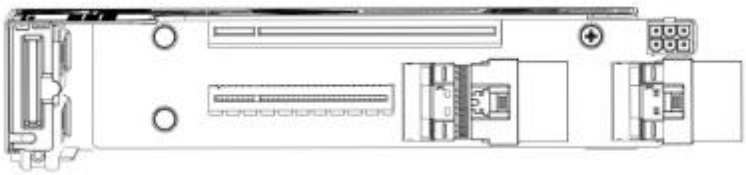


Figure 2-18

- 3.5-inch hard drive module

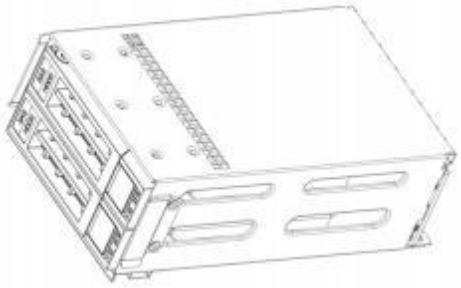


Figure 2-19

- 2.5-inch hard drive module

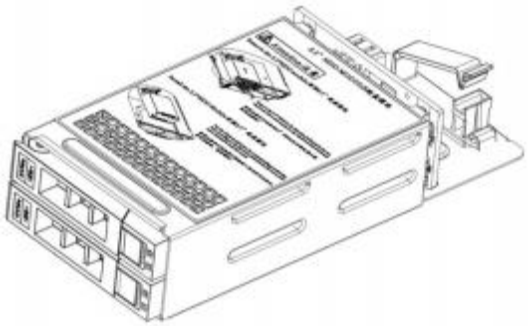
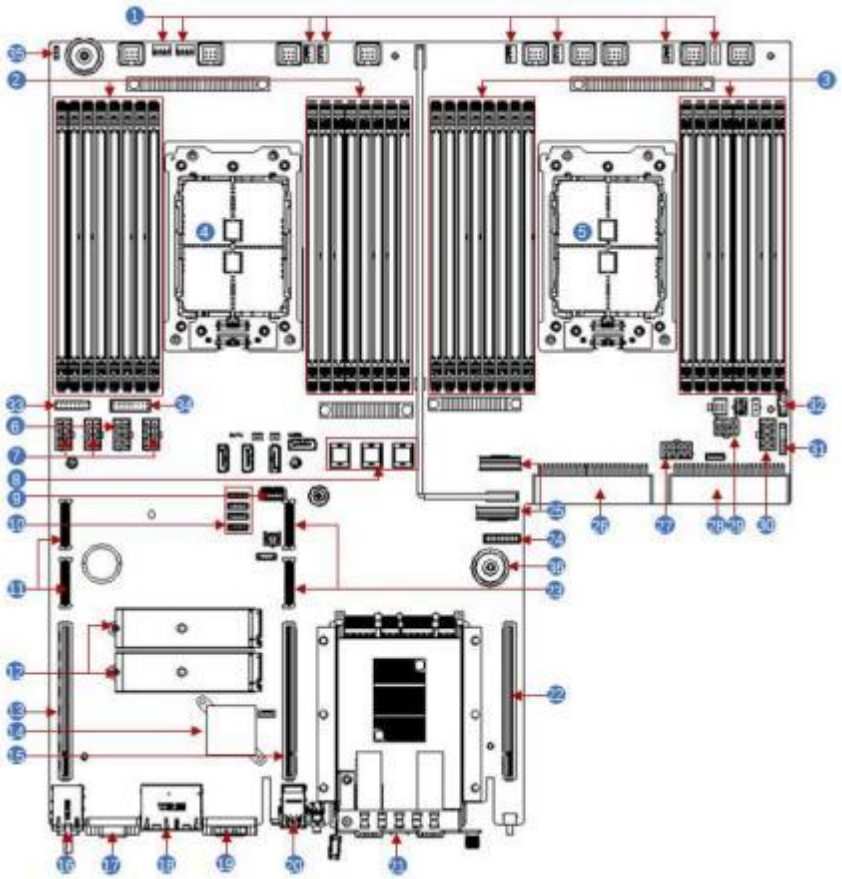


Figure 2-20

2.9 PCBA

2.9.1 Motherboard



Motherboard Figure 2-21

No.	Name
1	4U Chassis fan control 4 pins interface
2	Memory slot (corresponding to CPU 0)
3	Memory slot (corresponding to CPU 1)
4	CPU 0
5	CPU 1
6	GPU Power 2*4 pin interface
7	BP Power 2*4 pin interface
8	SFF 8643 SATA interface
9	USB 3.0 interface
10	BP I 2C interface
11	PCIe 4.0 X8
12	M.2
13	PCIe 4.0 X16
14	I350
15	PCIe 4.0 X16
16	IPMI RJ 45 1GB _

17	VGA
18	LAN RJ 45 1Gb * 2
19	DB -9 COM port
20	USB 3.0
21	OCP 82599
22	CPU 1 PCIe 4.0 X16
23	CPU 1 PCIe 4.0 X8
24	BP HDD led
25	Slimline PCIe 4.0 X8
26	CPRS PSU
27	GPU Power
28	CPRS PSU
29	RISER POW
30	BP Power
31	FP BIN led
32	PMBUS / BP 5 I2C
33	FP VGA
34	FP USB 3.0
35	Chassis Infrusion
36	Motherboard handle

Table 2-14

2.9.2 Hard drive backplane

- 24 × 3.5-inch expansion backplane
  TOP surface

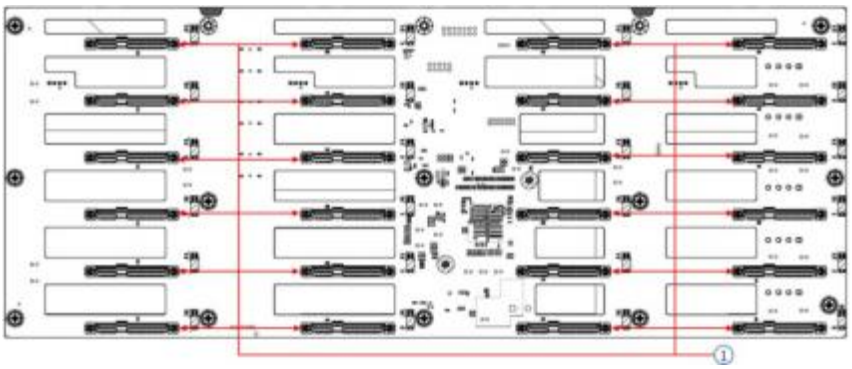


Figure 2-22

No.	Description	Function
1	SAS / SATA hard drive connector	1. Supports up to 12G/b SAS hard drive. 2. Supports up to 6G/b SATA hard drive. 3. Supports SAS/SATA hard drive hot swap.

Table 2-15

Bottom surface

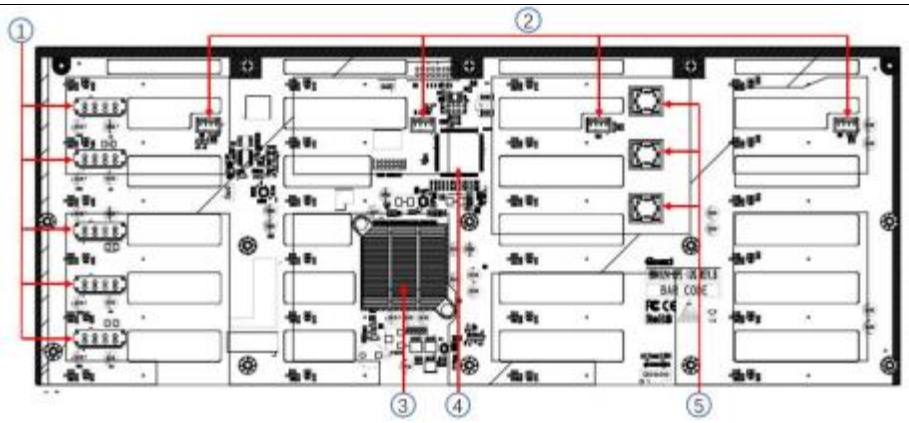


Figure 2-23

No.	Description	Function
1	ATX power input	Backplane power transmission connector, used for 12V power transmission
2	Temperature controlled fan socket	For 4pin fan interface
3	Expander chip controller	PM8044 SXP 24Sx12G 24-port 12G SAS Expander
4	CPLD	Used for data logic processing
5	SFF-8643 12Gb SAS interface	Backplane bay signal interface

Table 2-16

- 12×3.5-inch expansion backplane
  TOP surface

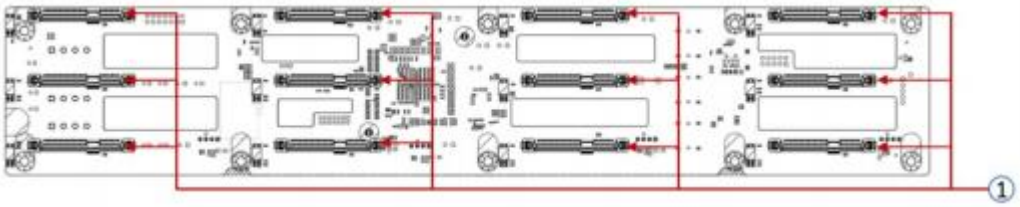


Figure 2-24

No.	Description	Function
1	SAS/SATA hard drive connector	1. Supports up to 12G/b SAS hard drive. 2. Supports up to 6G/b SATA hard drive. 3. Supports SAS/SATA hard drive hot swap.

Table 2-17

Bottom surface

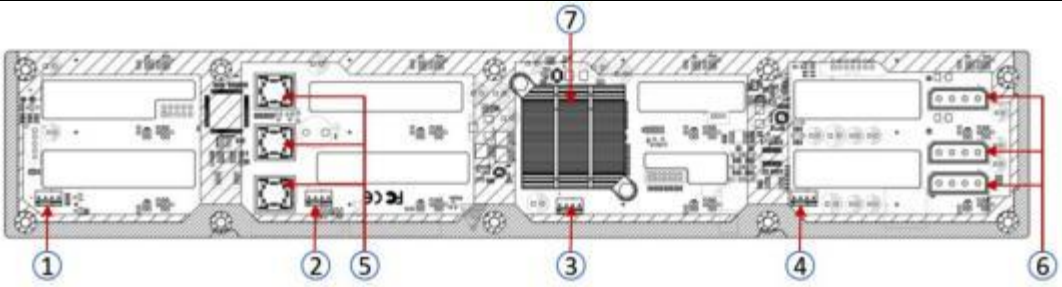


Figure 2-25

No.	Description	Function
1, 2, 3, 4	Temperature controlled fan socket	For 4pin fan interface
5	MINI SAS HD High Speed Connector	For transmission of 12G/b SAS or 6G/b SATA signals
6	power connector	Backplane power transmission connector, used for 12V power transmission
7	EXPANDER chip	PM8043 SXP 24Sx12G 24-port 12G SAS Expander

Table 2-18

Note: Directly connected backplane does not have this expansion chip.

- 2×2.5 rear hard drive backplane-1

TOP surface

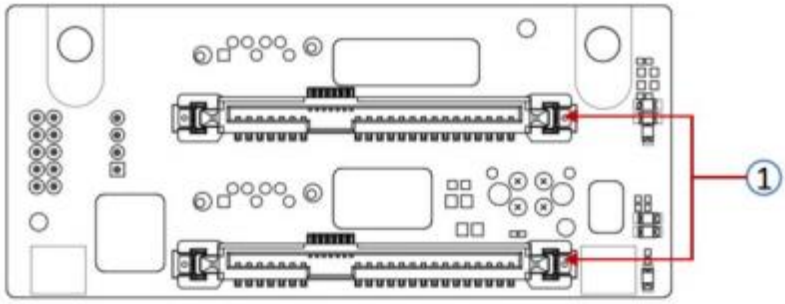


Figure 2-26

No.	Description	Function
1	SATA hard drive connector	maximum support 6G/ b SATA hard drive;

Table 2-19

Bottom surface

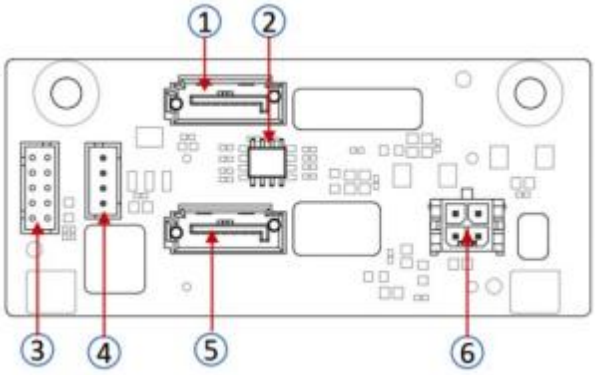


Figure 2-27

No.	Description	Function
1, 5	7PIN SATA interface	SATA disk signal cable interface
2	Temperature sensor IC	temperature sensor chip
3	SGPIO lighting signal	Used for hard drive LED positioning lighting and fault LED indication functions.
4	I2C interface	For I2C signal interface
6	Power interface	Backplane power transmission connector, used for 12V power transmission

Table 2-20

3. Installation Instructions

3.1 Chassis Top Cover Installation

- Step 1: Align the hooks on the top cover with the openings on the chassis, and place it downwards.
- Step 2: Rotate the top cover lock latch in the direction of the arrow until it locks into place.

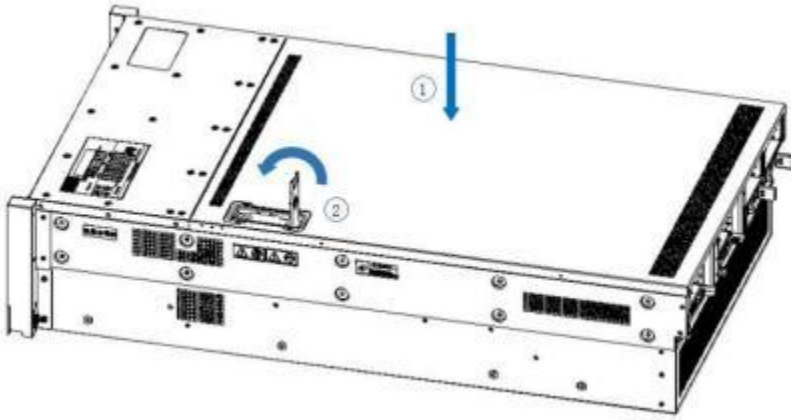


Figure 3-1

3.2 Installation of Accessories

3.2.1 CPU installation

- Step 1: Install the retaining clip, tilt the CPU angle as shown in the diagram, aligning with the A1 angle (triangular mark), and insert it into one end of the retaining clip. Press down on the other end of the retaining clip to secure the CPU onto the clip.

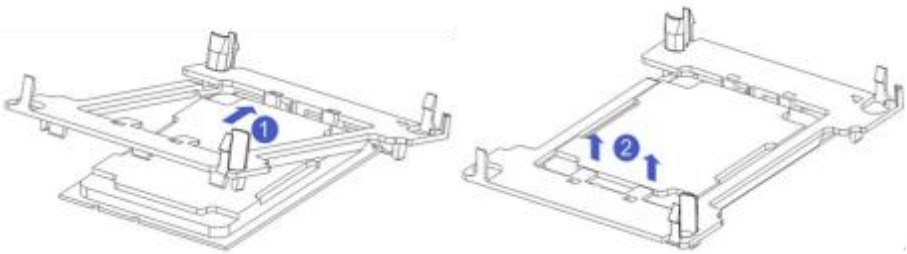


Figure 3-2

- Step 2: Install the CPU onto the heatsink, ensuring that both the CPU and heatsink surfaces are clean, free of oil, and devoid of any foreign objects.
- Apply approximately 0.4ml volume of thermal grease onto the CPU, spreading it evenly and smoothly.
- Step 3: Align the A1 corner (triangular mark) and attach the CPU to the heatsink. (As shown in the figure below)

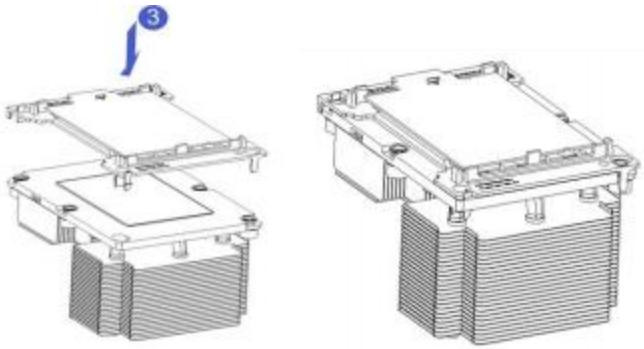


Figure 3-3

3.2.2 Heatsink installation

- Step 1: Remove the processor idle bracket. (As shown in the figure below)

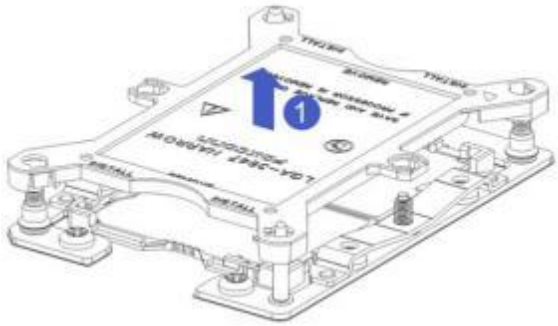


Figure 3-4

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

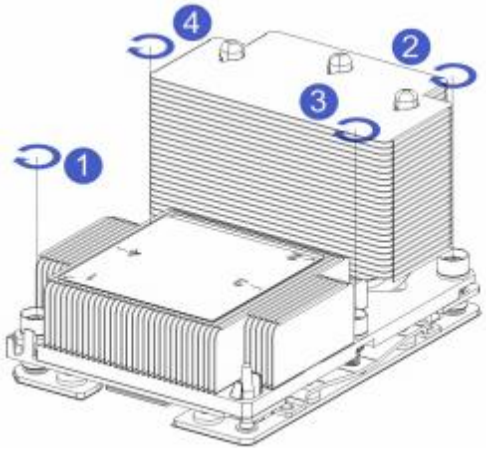


Figure 3-5

⚠ Caution: The pins on the motherboard are very fragile and can be easily damaged. To avoid damaging the motherboard, please do not touch the processor or the processor socket contacts.

3.2.3 Memory installation

The six memory slots controlled by CPU1 are: DIMMA1, A2, DIMMB1, B2, DIMMC1, C2; The six memory slots controlled by CPU2 are: DIMMD1, D2, DIMME1, E2, DIMMF1, F2. Ensure that the notch on each memory module aligns with the slot's notch and insert the DIMM vertically to ensure correct installation and prevent any errors.

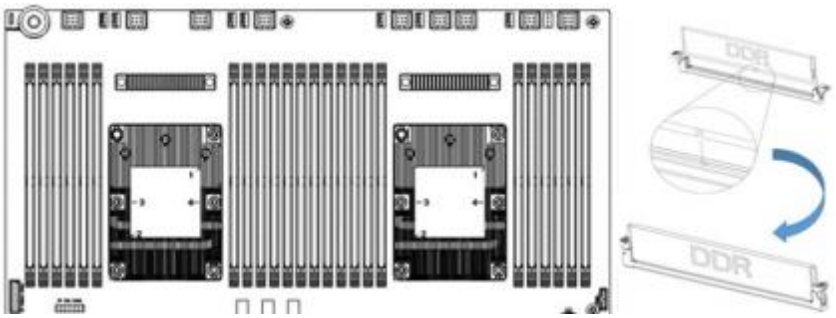


Figure 3-6

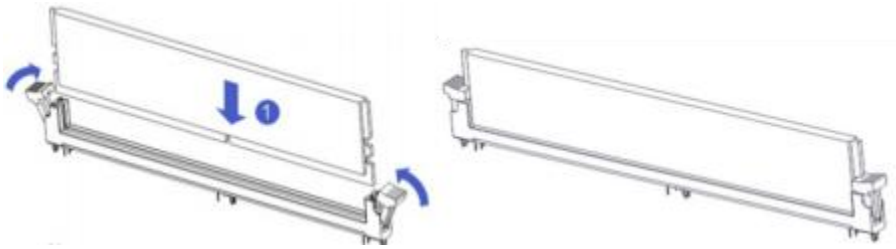


Figure 3-7

⚠ Note: Please use memory modules with the same CAS delay value on this motherboard. It is recommended that you use memory of the same capacity and frequency produced by the same manufacturer.

It is recommended to install 1 CPU, and the settings are as follows:

Memory Module Installation Guidelines: (1 CPU)													
Processor	Channel	Memory location	Number of memory (recommended: √ Not recommended: O)										
			√	√	√	√	O	√	O	√	O	O	O	√
			1	2	3	4	5	6	7	8	9	10	11	12
CPU0	A	A1	●	●	●	●	●	●	●	●	●	●	●	●
		A2							●	●	●	●	●	●
	B	B1		●	●	■	■	■	■	■	■	■	●	■
		B2								■	■	■	●	■
	C	C1			●		■	■	■		■	■	●	■
		C2									■		●	■
	D	D1				●	●	●	●	●	●	●	●	●
		D2								■		■	●	●
	E	E1				●	●	●	●	●	■	●	●	●
		E2								●		●	●	●
	F	F1						●	●		●	●	●	●
		F2												■

Table 3-1

Note: If the situation involves the 5th, 7th, 9th, 10th, or 11th memory slot, it must adhere to the following rules: Single memory modules should be inserted into the blue slots on the motherboard; For dual memory module configurations, follow the configuration of the nearest memory slots as mentioned above, then add additional memory accordingly.

It is recommended to install 2 CPUs, and the settings are as follows:

Memory Module Installation Guidelines: (2 CPUs)																										
Processor	Channel	Memory location	Number of memory (recommended: √ Not recommended: O)																								
			O	√	O	√	O	√	O	√	O	O	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	17	18	19	20	21	22	23	24	
CPU0	A	A1	●	■	●	●	■	■	■	●	●	■	●	●	●	●	●	●	■	■	■	■	●	●	●	●	
		A2													●	●	●	●	●	●	●	●	●	●	●	●	
	B	B1			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		B2															●	●	●	●	●	●	●	●	●	●	
	C	C1					●	●			●	●	●	●	●	●			●	■	■	●	●	●	●	●	
		C2																	●	■			●	●	●	●	
	D	D1							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		D2															●	●			■	■	●	●	●	●	
	E	E1							■	●	●	■	●	●	●	●	●	●	■	■	■	■	●	●	●	●	
		E2															●	●			■	■	●	●	●	●	
	F	F1											●	●	●	■			■	■	■	■	●	●	●	●	
		F2																							■	■	
CPU1	A	A1		■	●	●	■	■	■	●	●	■	●	●	■	●	●	●	■	■	■	■	●	●	■	●	
		A2														●	●	●	■	■	■	■	●	●	●	●	
	B	B1				●	■	■	■	●	●	■	●	●	●	●	●	●	■	■	■	■	●	●	●	●	
		B2																●	●	●	●	●	●	●	●	●	
	C	C1						●	●			●	●	●	●	●	●			●	●	●	●	●	●	●	
		C2																		●	●		●	●	●	●	
	D	D1								●	●	■	●	●	●	●	●	●	●	■	■	●	●	●	●	●	
		D2																●	●			●	●	●	●	●	
	E	E1								●	●	●	●	●	●	●	●	●	●	■	●	●	●	●	●	●	
		E2																●	●			●	●	●	●	●	
	F	F1												●	●	●	●			■	■	■	●	●	●	●	
		F2																									●

Table 3-2

Note: In the same channel, the memory with a larger capacity must be inserted into the first slot (e.g., A1/B1/C1/D1/E1/F1): colored blue. It is not allowed to mix RDIMM and LRDIMM. If only one memory module is used, install it into CPU0.

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 supply is powered on, but the server is not turned on, and the power indicator is flashing green.
  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 view 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: None

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:

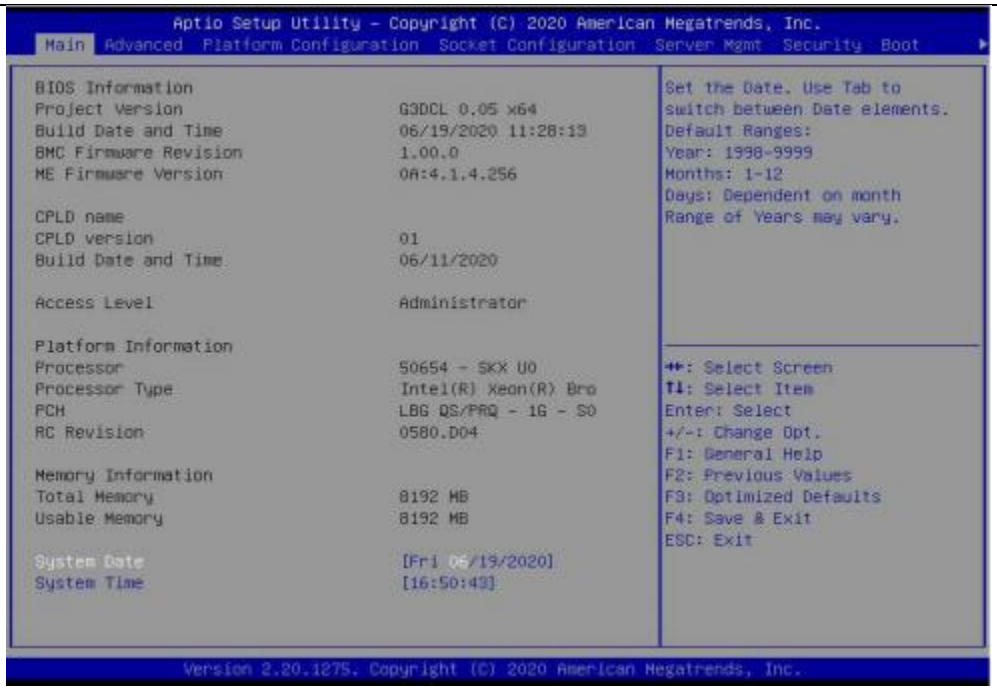


Figure 4-3

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 interface:

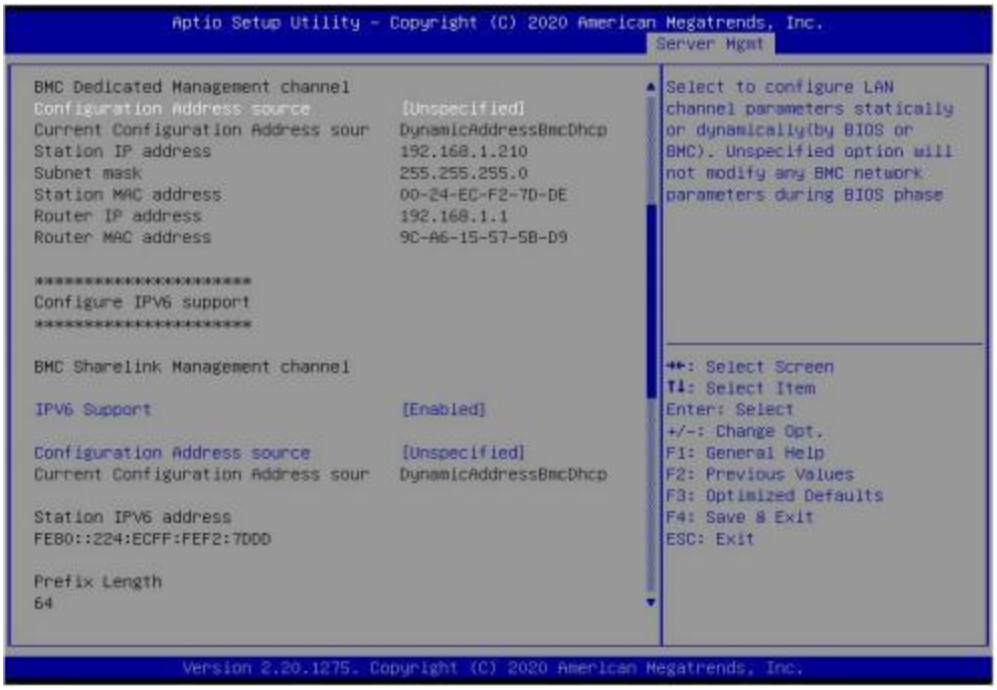


Figure 4-4

Configure IPV4 support :

- BMC sharelink Management Channel

- Configuration Address source

- Configure the BMC IP address allocation mode, the menu options are:

  Unspecified: Do not change 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

- Select 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:

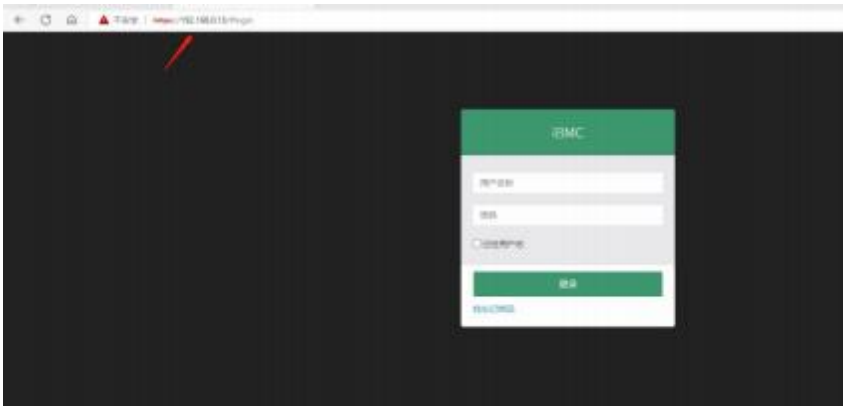


Figure 4-5

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:

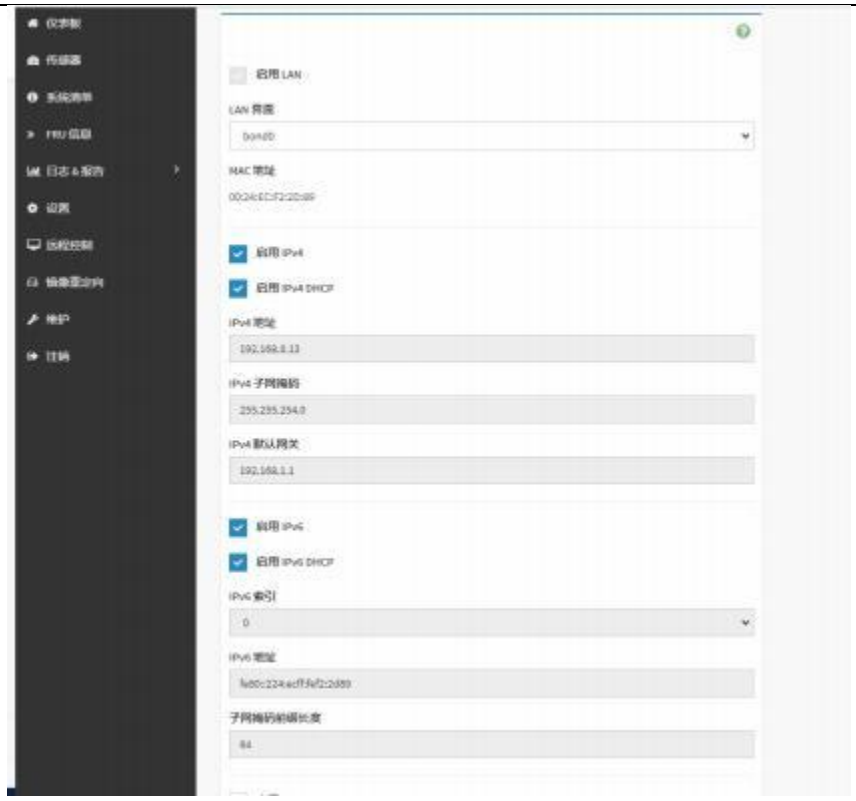


Figure 4-6

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

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.