Gooxi

SL101-G3 Rackmount Server
User Manual

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Shenzhen Gooxi Information Security Co., Ltd.

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Foreword

This manual is the product technical manual for the Gooxi Whitely platform 1U 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	2023-12-28	Manual Optimization

Contents

1. Product Introduction

1.1 Product Overview

SL101 Whitely 1U dual-socket rackmount server is a new generation 1U 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 (ICE Lake), and a single CPU supports 16 DDR4 DIMMs.
- Supports 2 types of panel chassis, 4*3.5-inch hard drive chassis, and 10*2.5-inch hard drive chassis. Each hard drive can be repaired separately.
- Supports up to 3 PCIE expansion slots, which can be used to expand network cards, retimer cards, etc.

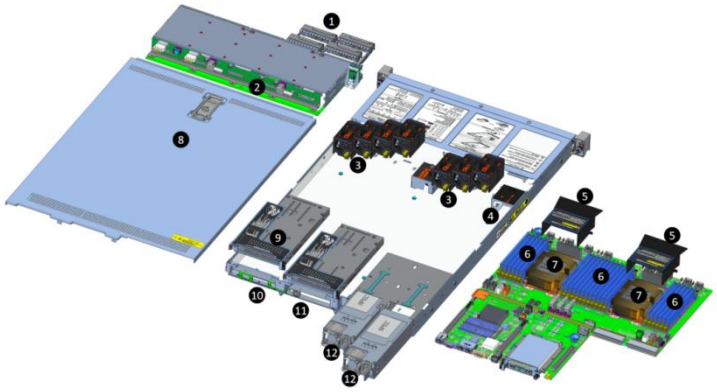
The physical image of the server with a 10-bay configuration is shown below:

Front view 1-1

Rear view 1-2

1.2 Product Structure

Product exploded view of SL101 Whitely 1U dual-socket rack server (example of 10-bay model)



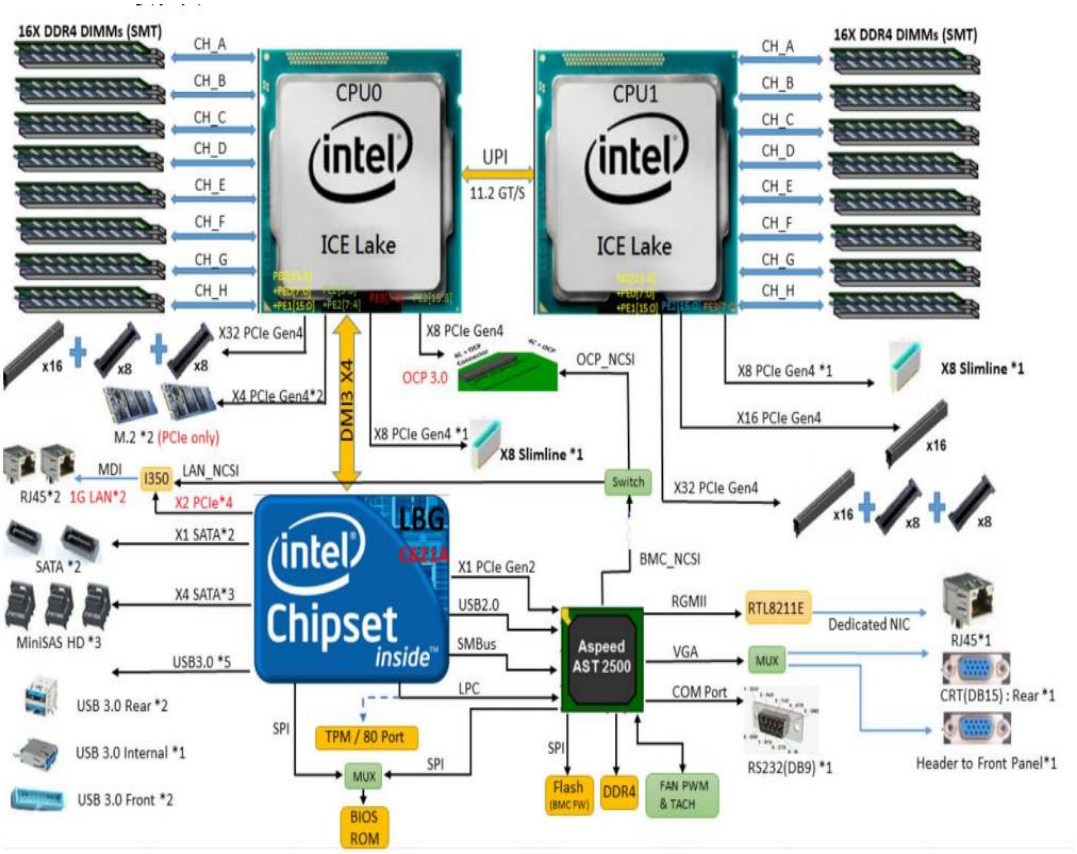
Structure diagram 1-3

No.	Name	No.	Name
1	Hard Drive	7	CPU Heatsink
2	Backplane Assembly	8	Top Cover
3	Fan Module	9	Half-Height PCIe Module
4	Cable Management Hole	10	Rear I/O Panel
5	Air Shroud	11	OCP3.0
6	Memory Stick	12	Power Module

Table 1-1

1.3 Logical Structure

The logic of the SL101 Whitely 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, LGA 4189 socket, TDP power consumption 270W.
- Each CPU supports 8 channels of DDR4, and each channel supports 2 memory modules, RDIMM/LRDIMM. Two CPUs support a maximum capacity of 12 TB (including Optane memory).
- DDR4 type: DDR4-2666/2933 /3200 ECC-RDIMM, ECC-LRDIMM.
- There are 3 PCIe riser slots on the motherboard: RISER1 has 32 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 I350 chip, from PCH.
- The PCH uses INTEL LEWISBURG C621 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	SL101-D04R-G3	SL101-D10R-G3 SL101-D10R-NV-G3
Form Factor	1U 4-bay	1U 10-bay
Dimension	748*433.4*43.6mm(depth*width*height)	
Processor	Supports 1 or 2 3rd generation Intel® Xeon® Scalable series processors	
Memory	32 DDR4 memory slots, supporting DDR4 LRDIMM/RDIMM2666/2933/3200 MHz; the maximum capacity of a single slot is 256GB, compatible with Optane memory, and the entire machine supports a maximum memory capacity of 12 TB	
Internal Storage Interface	3 MiniSAS HD interfaces, 2 SATA DOM interfaces, 2 NVMe PCIe4.0 M.2 interfaces (2280)	
External Hard Drive	Supports 4 hot-swappable 3.5/2.5-inch SAS/SATA hard drives in the front	Supports 10 hot-swappable 2.5-inch SAS/SATA/U.2 hard drives in the front
External Port	Front ports: 1 VGA, 2 USB 3.0	Front ports: 2 USB 2.0
	Rear: 1 VGA, 1 COM port, 2 USB3.0, 1 RJ45 Gigabit management network port, 2 Gigabit RJ45 network ports	
PCIE Expansion Form	Supports up to 2 PCIe full-height, single-width, half-length slots, and 1 OCP 3.0 slot	
PCIE Expansion Specification	Riser1/2：1*PCIe4.0x16 1*OCP3.0(PCIe3.0x8)	
Security	Supports TPM module	
Power Supply	Supports AC 220V redundant power supplies: 550W, 800W, 1300W, 1600W, and 2200W (adapted according to actual power requirements)	
Fan	Standard configuration includes 7 hot-swappable 4056 N+1 redundant fans	
IPMI	IPMI 2.0	
Management Port	1 dedicated RJ45 management network port	
Certification	CCC、CE、FCC、ROHS	
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℃ to 70℃ / Humidity 20% to 90% RH non-condensing (including packaging) Long-term storage (>72H): Temperature 20℃ to 28℃ / Humidity 30% to 70% RH non-condensing (including packaging)	

Table 1-2

2. Hardware Description

2.1 Front Panel

2.1.1 Appearance

- 4x3.5-inch hard drive configuration

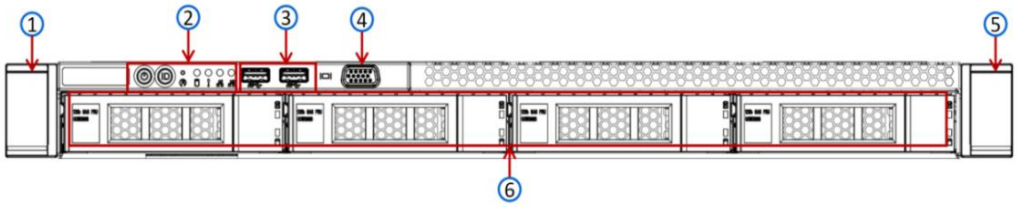


Figure 2-1

No.	Name	No.	Name
1	Left Ear Hanging	4	VGA Port
2	Front Panel Indicator Light	5	Right Ear Hanging
3	USB3.0 Port	6	3.5-inch Hard Drive

Table 2-1

- 10x2.5-inch hard drive configuration

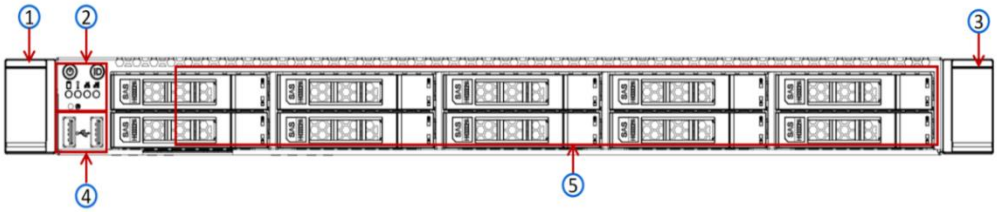


Figure 2-2

No.	Name	No.	Name
1	Left Ear Hanging	4	USB3.0 Port
2	Front Panel Indicator Light	5	2.5-inch Hard Drive
3	Right Ear Hanging		

Table 2-2

2.1.2 Indicator lights and buttons

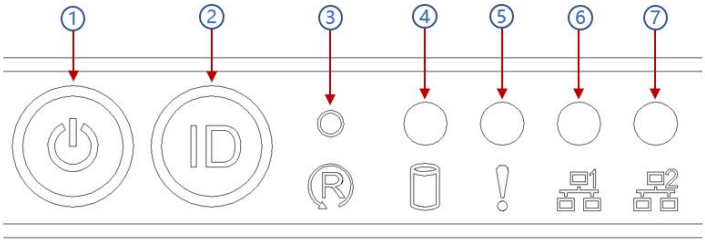


Figure 2-3

No.	Indicator light/button	No.	Indicator light/button
1	Power switch button/indicator light	5	System alarm indicator light
2	UID button/indicator light	6	Network port 1 connection status indicator light
3	Server restart button	7	Network port 2 connection status indicator light
4	Hard drive 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.
	Server restart 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 2-4

2.2 Rear Panel

2.2.1 Appearance

- Rear panel appearance

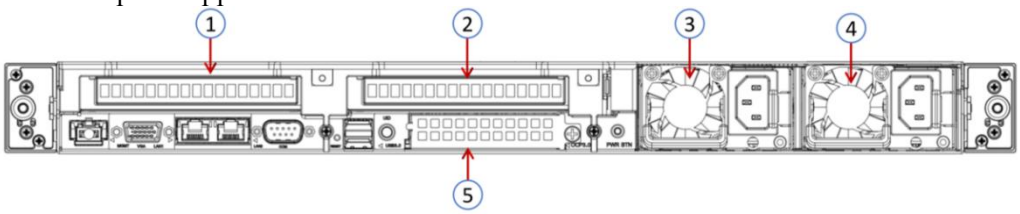


Figure 2-4

No.	Name	No.	Name
1	Riser 1 module	4	Power module 2
2	Riser 2 module	5	OCP3.0 interface
3	Power module 1		

Table 2-5

Note:

- This diagram is for reference only; please refer to the actual configuration for details.

2.2.2 Indicator lights and buttons

- Rear panel indicator lights

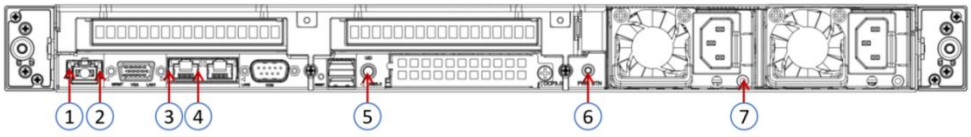


Figure 2-5

No.	Name	No.	Name
1	Connection Status Indicator	5	UID Light
2	Data Transfer Status Indicator	6	Power Button
3	Connection Status Indicator	7	Power Module Indicator
4	Data Transfer Status Indicator		

Table 2-6

- 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 2-7

2.2.3 Interface

- Rear panel interface

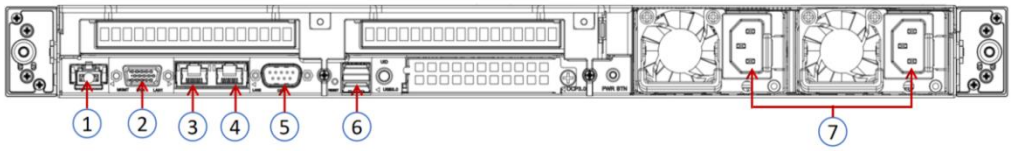


Figure 2-6

No.	Name	No.	Name
1	Management network port	2	VGA interface
3	Gigabit network port (onboard network port 1)	4	Gigabit network port (onboard network port 2)
5	COM interface	6	USB3.0 interface
7	Power module interface	-	-

Table 2-8

2.3 Processor

- Supports 1 or 2 Intel third-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:

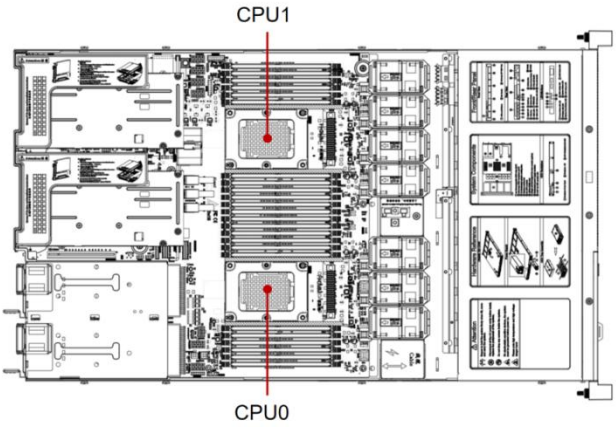


Figure 2-7

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, with 2 DIMMs per channel. The motherboard can support 32 DIMMs in total. When only one DIMM is inserted, it should be prioritized to be inserted into the slot highlighted in blue on the diagram (the plastic color of the slot on the slot board is blue). It supports DDR4 ECC RDIMMs/LRDIMMs server memory, with memory frequencies supported at 2666/2933/3200MHz. The location is as shown in the diagram below.

- memory slot location

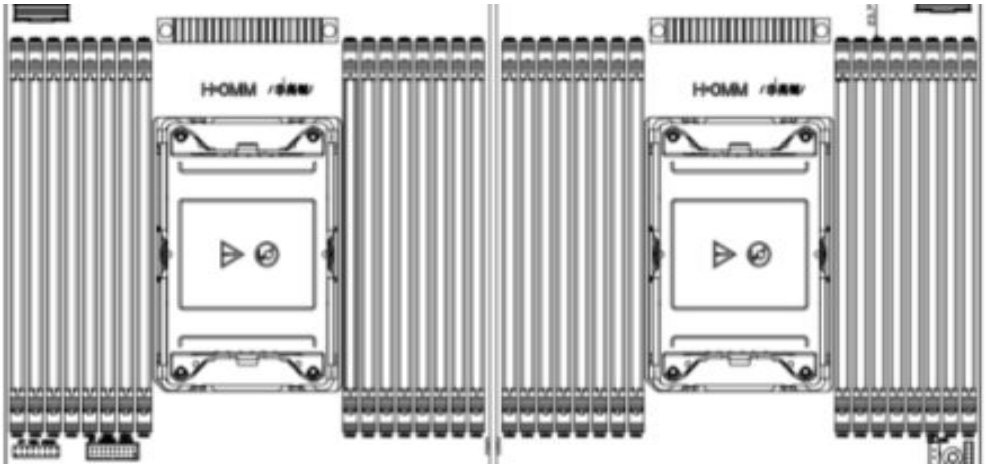


Figure 2-10

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 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 support different maximum memory capacities.

2.5 Storage

2.5.1 Hard drive configuration

Configuration	Maximum number of front hard drives (pcs)	Description
4 x 3.5-inch hard drive passthrough configuration	(4 x 3.5/2.5) – Slots 0~7 support SAS/SATA hard drives	SAS hard drives require an optional SAS passthrough card or RAID card for support
10 x 2.5-inch hard drive passthrough configuration	(10 x 2.5) – Slots 0~7 support NVMe/SAS/SATA hard drives	10-bay tri-mode backplane, NVMe/SAS/SATA hard drives require different cables for support; SAS hard drives require an optional SAS passthrough card or RAID card for support

Table 2-9

2.5.2 Hard drive serial number

- 4x3.5-inch hard drive configuration

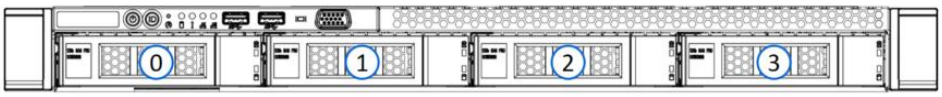


Figure 2-9

- 10x2.5-inch hard drive configuration

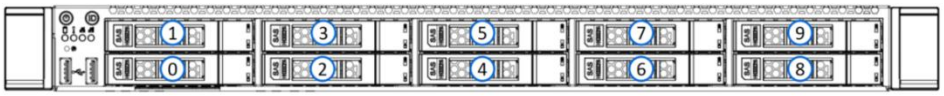


Figure 2-10

- 10x2.5-inch NVMe hard drive configuration

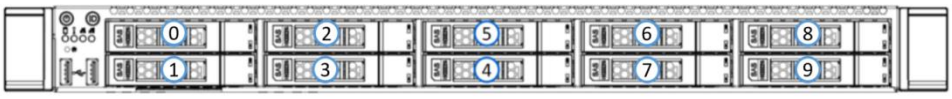


Figure 2-11

2.5.3 Hard drive status indicator

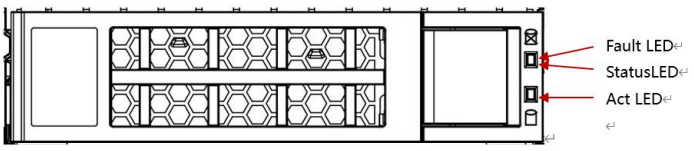


Figure 2-11

- 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 2-10

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:

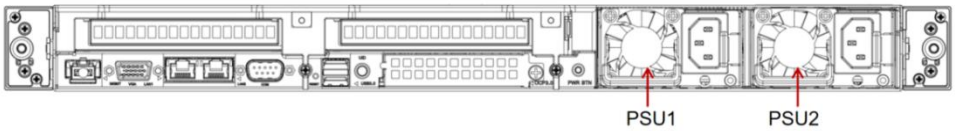


Figure 2-12

2.7 Fans

- Supports 7 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.
- The fan position is shown in the figure below:

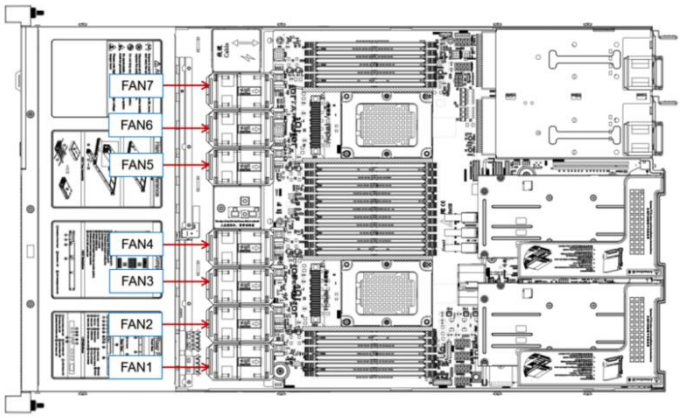


Figure 2-13

2.8 I/O Expansion

2.8.1 PCIe slot location

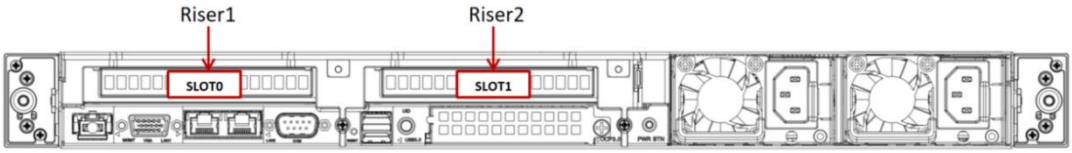


Figure 2-14

- The Riser1 module provides Slot 0; the Riser2 module provides Slot 1.

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	CPU0	PCIe 3.0	X8	-
Slot 0	CPU0	PCIe 4.0	X16	half height full length
Slot 1	CPU1	PCIe 4.0	X16	half height full 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 2-11

2.8.3 PCIe expansion module

- PCIE expansion module 1
  x16 to x16 adapter card

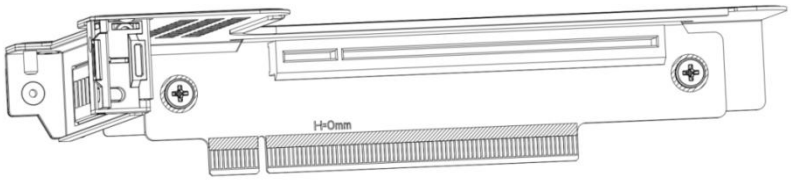
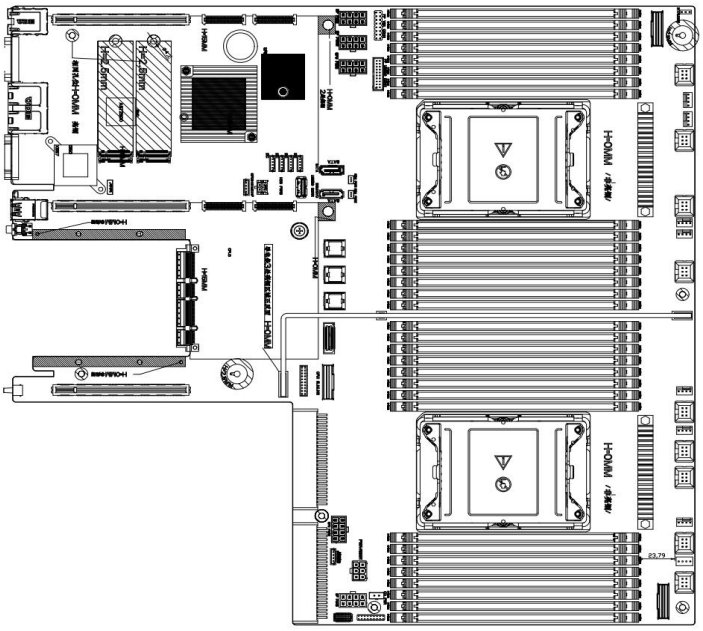


Figure 2-15

2.9 PCBA

2.9.1 Motherboard



Motherboard Figure 2-18

No.	Name
J16	BMC_UART5, BMC debugging serial port
PJ1	Used for CPU0 VR upgrade and burning, no jumper cap is connected by default
PJ2	Used for CPU1 VR upgrade and burning, no jumper cap is connected by default
J12	Front VGA bracket connector
J36	Front USB 3.0 connectors (x2)
J35	Built-in USB3.0 connector

J34	Rear USB3.0 connector q(x2)
J1	Trusted Platform Module (TPM)
SSD1/SSD2	M.2 PCIE X2 CONN, only supports PCIe Only 2280 size specification
J15	CPLD JTAG Header, used to burn CPLD programs
J32	Front panel buttons, LED connector
J48	2X10 BP HDD LED Connector (for Rear HDD BP backplane)
J27	sSATA, SATA 3.0 Connection from PCH (8643 miniSAS HD with PCH sSATA SGPIO Pins) *Nebula 3 Ver.A motherboard must use J27 and J48 to connect RM2112-SHDB-D1 /D2 to turn on the hard drive light*
J29	SATA, SATA 3.0 Connection from PCH (8643 miniSAS HD with PCH SATA SGPIO Pins)
J31	SATA, SATA 3.0 Connection from PCH (8643 miniSAS HD with PCH SATA SGPIO Pins)
FAN1~FAN9	6 P in fan connector (total 9 pcs)
J40~J47	4 P in fan connector (total 8 pcs)
SATA1/SATA2	SATA DOM CONN (SATA 7 Pin) (with PWR design)
J37/J38	SATA DOM PWR CONN
J64	Chassis Intrusion Header, chassis cover intrusion detection
J24/J25	Slimline PCIe X 8 CONN (defined according to SFF-9402 specification standard)
B1	buzzer
DIMMA0-DIMMH0 DIMMA1-DIMMH1	CPU0 DIMM, 16 Slots
DIMMA3-DIMMH3 DIMMA4-DIMMH4	CPU1 DIMM, 16 Slots
SW3	Rear BMC Reset Button
COM1	Rear COM Port
J4	Rear BMC IPMI LAN Port
J2	1X2 Gigabit data network port
CN1	Rear VGA Connector
SW2	Rear UID Button (Blue LED)
SW1	Rear Power Button
J51/J53/J56/J58	2X4 Front BP HDD Power Connectors (White)
J59/J61	2X4 Risers and GPU Card Power Connectors (Black)
J52/J54/J55	2X2 Rear BP HDD Power Connectors (Black)
J60	2X3 Riser 4 Power Connector (Black)
J69	PEHP CPU0 (1.8V CPU I2C Reserved for U.2 hard drive backplane)
J70	PEHP CPU1 (1.8V CPU I2C Reserved for U.2 hard drive backplane)
J49/J50	CRPS Slots
SW4	SKU IDs (Reserved)
J7/J8/J9/J10	BP1~BP4 BMC I2C Connector (Reserved for HDD BP backplane)

J57	1X2 CD/DVD Power Connector
J63	NVME Key (VROC)
J13	VR Debug Mode Jump (Reserved for RD test Only)
J14	CPLD No CPU Power ON Jump (Reserved for RD test Only)
J30	2X4 SATA sGPIO Header (for 8643 miniSAS HD Conn J29/J31)
J28	2X4 sSATA sGPIO Header (for 8643 miniSAS HD Conn J28)
J33	BMC Watch Dog Timer Enable (Reserved for RD test Only)
J5	IPMB Connector
J67	SCY Strap, (2/3) High = Disable Flash Descriptor Security
J11	PCH_HOST I2C Header (Reserved for RD test Only)
J68	PCH I2C Header Pin.1/2 Clear CMOS Pin.3/4 Password Clear Pin.5/6 ME FW Recovery Status Pin.7/8 BMC Disable Pin.9/10 BIOS Recovery Mode Enable
J3	SD Card Slot (BMC Log Storage)
OCP1	OCP3.0 Slot (CPU0 PCIE X8)
J17+J18+J19	Riser1 Slot (CPU0 PCIE X32)
J20+J21+J22	Riser2 Slot (CPU1 PCIE X32)
J23	Riser3 Slot (CPU1 PCIE X16)

Table 2-12

2.9.2 Hard drive backplane

- 4×3.5-inch expansion backplane
  TOP surface

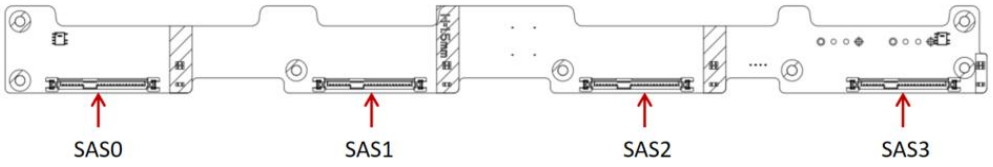


Figure 2-19

No.	Description	Function
SAS0~4	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 2-13

Bottom surface

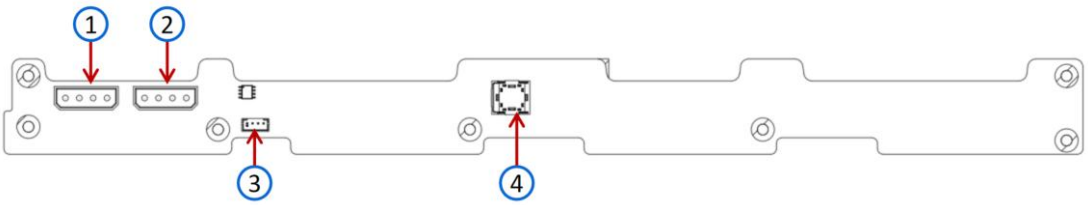


Figure 2-20

No.	Description	Function
1、2	ATX power input	Backplane power transmission connector, used for 12V power transmission
3	Temperature controlled fan socket	For 4pin fan interface
4	SFF-8643 12Gb SAS interface	Backplane bay signal interface

Table 2-14

- 10×2.5-inch direct-connect backplane

TOP surface

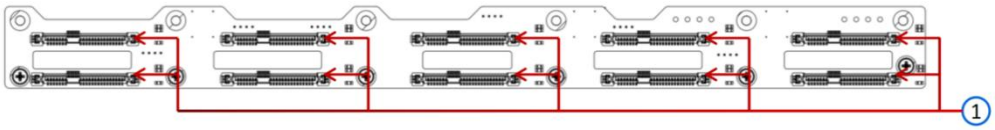


Figure 2-21

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

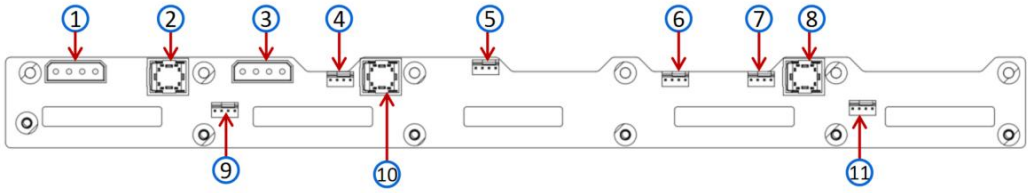


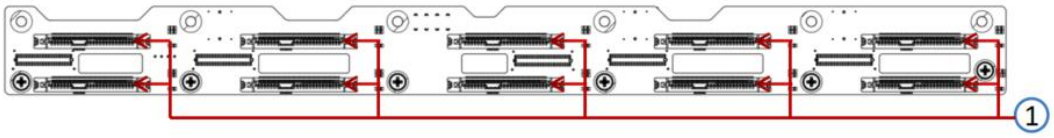
Figure 2-22

No.	Description	Function
1、3	ATX Power Input	Backplane power transmission connector, used for 12V power transmission
2、8、10	SFF-8643 12Gb SAS Interface	Backplane drive bay signal interface
4、5、6、7、9、11	Temperature-Controlled Fan Socket	Used for 4-pin fan interface

Table 2-16

- 10×2.5-inch NVME tri-mode direct-connect backplane

  TOP surface



No.	Description	Function
1	NVMe/SAS/SATA Hard Drive Connector	1. Supports up to 32G/b NVME hard drive 2. Supports up to 12G/b SAS hard drive 2. Supports up to 6G/b SATA hard drive 4. Supports NVME/SAS/SATA hard disk hot swapping

Table 2-17

3. Installation Instructions

3.1 Chassis Top Cover Installation

- Step 1: Lift the slot at the opening position and push it in the direction shown in the diagram.
- Push forward in the direction of the arrow until it locks into place.

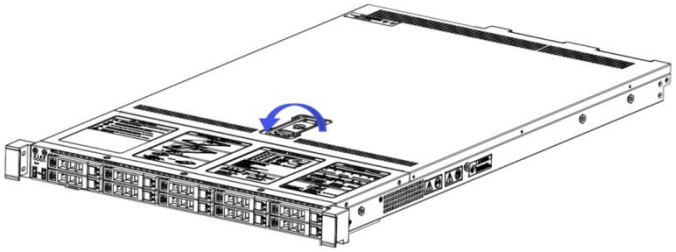


Figure 3-1

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.

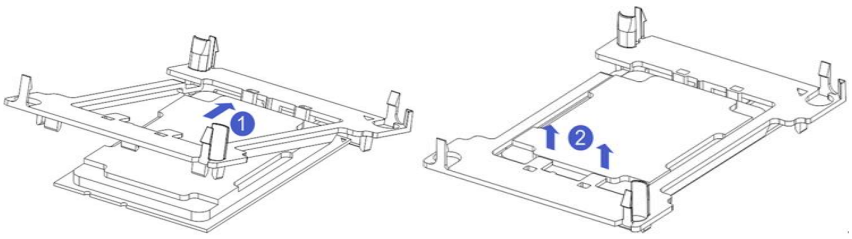


Figure 3-2

- 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)

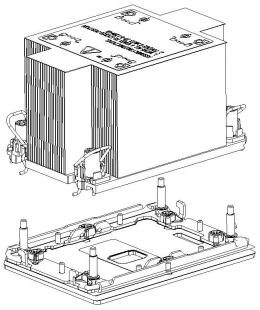


Figure 3-3

3.2.2 Heatsink installation

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

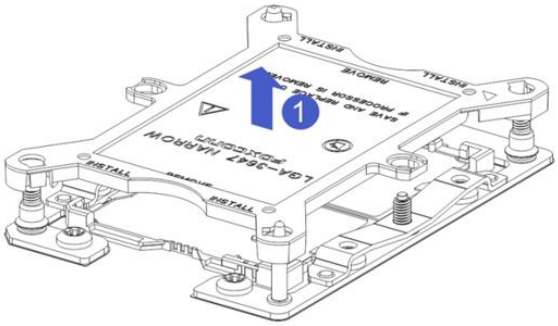


Figure 3-4

- 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)

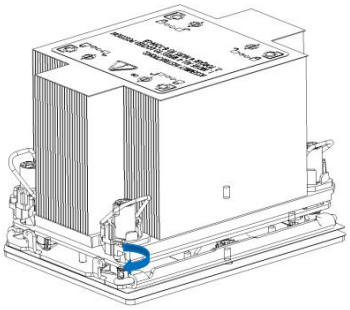


Figure 3-5

⚠ 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 16 memory slots controlled by CPU0 on the motherboard are as follows: DIMMB0/B1, DIMMA0/A1, DIMMD0/D1, DIMMC0/C1, DIMMG1/G0, DIMMH1/H0, DIMME1/E0, DIMMF1/F0. The 16 memory slots controlled by CPU1 are as follows: DIMMB0/B1, DIMMA0/A1, DIMMD0/D1, DIMMC0/C1, DIMMG1/G0, DIMMH1/H0,

DIMME1/E0, DIMMF1/F0. It is important to note that the notch on the memory module should align with the notch on the DIMM slot. Insert each DIMM module vertically to prevent incorrect installation.

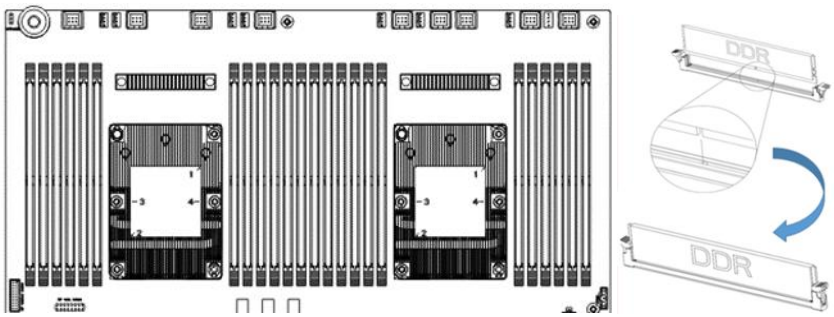


Figure 3-6

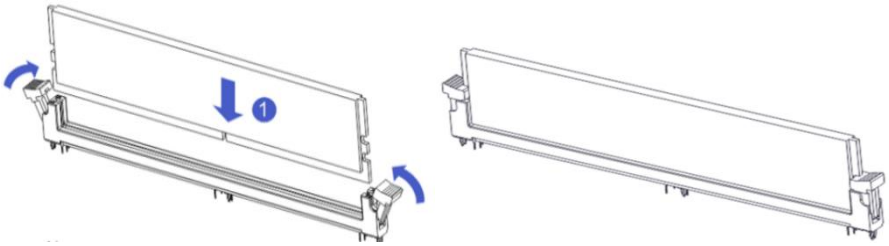


Figure 3-7

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.
The memory installation method is as follows:

ICX iMC#		iMC2				iMC3					iMC1				iMC0									
	Channel	Chan 1 (F)		Chan 0 (E)		Chan 1 (H)		Chan 0 (G)			Chan 0 (C)		Chan 1 (D)		Chan 0 (A)		Chan 1 (B)		1LM SNC2	1LM Hemi	1LM UMA X-skt	1LM Mirror	SGX (Note #1)	BPS AD Interleave	POR / Validated
DDR4 +BPS	Mode	Slot0	Slot1	Slot0	Slot1	Slot0	Slot1	Slot0	Slot1		Slot1	Slot0	Slot1	Slot0	Slot1	Slot0	Slot1	Slot0							
1+0	1LM									CPU		DDR4													POR & Val
														DDR4											POR & Val
																		DDR4							POR & Val
								DDR4																	POR & Val
						DDR4																			POR & Val
				DDR4																					POR & Val
		DDR4																							POR & Val
2+0				DDR4										DDR4						Y					POR & Val
								DDR4				DDR4								Y					POR & Val
												DDR4													POR & Val
				DDR4				DDR4																	POR & Val
		DDR4												DDR4				DDR4		Y					POR
						DDR4								DDR4						Y					POR
														DDR4				DDR4							POR
		DDR4				DDR4																			POR
4+0				DDR4				DDR4				DDR4				DDR4				Y	Y	Y			POR & Val
				DDR4								DDR4		DDR4							Y				POR & Val
		DDR4				DDR4								DDR4				DDR4		Y	Y	Y			POR
		DDR4						DDR4				DDR4						DDR4			Y				POR
6+0		DDR4		DDR4				DDR4				DDR4				DDR4		DDR4							POR & Val
				DDR4		DDR4		DDR4				DDR4		DDR4		DDR4									POR & Val
		DDR4		DDR4				DDR4				DDR4		DDR4		DDR4		DDR4							POR
		DDR4				DDR4		DDR4				DDR4		DDR4				DDR4							POR
8+0		DDR4		DDR4		DDR4		DDR4				DDR4		DDR4		DDR4		DDR4		Y	Y	Y	Y	Y	POR & Val
12+0		DDR4	DDR4	DDR4	DDR4			DDR4	DDR4		DDR4	DDR4			DDR4	DDR4	DDR4	DDR4							POR & Val
				DDR4	DDR4	DDR4	DDR4	DDR4	DDR4		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4										POR & Val
		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4					DDR4	DDR4	DDR4												POR
		DDR4	DDR4			DDR4	DDR4	DDR4	DDR4		DDR4	DDR4	DDR4	DDR4												POR
		DDR4		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4		DDR4	DDR4		DDR4	DDR4	DDR4		DDR4		Y	Y	Y		Y	POR & Val
		DDR4		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4			DDR4	DDR4	DDR4	DDR4	DDR4		DDR4			Y					POR
		DDR4	DDR4	DDR4		DDR4	DDR4	DDR4				DDR4	DDR4	DDR4		DDR4	DDR4	DDR4		Y	Y	Y				POR
		DDR4	DDR4	DDR4		DDR4		DDR4	DDR4		DDR4	DDR4		DDR4		DDR4	DDR4	DDR4			Y					POR
16+0		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4		DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4	DDR4		Y	Y	Y	Y	Y	POR & Val

Table 3-1

Note: In the same channel, memory with a larger capacity must be inserted into the first slot.

3.2.4 Server slide rail installation

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

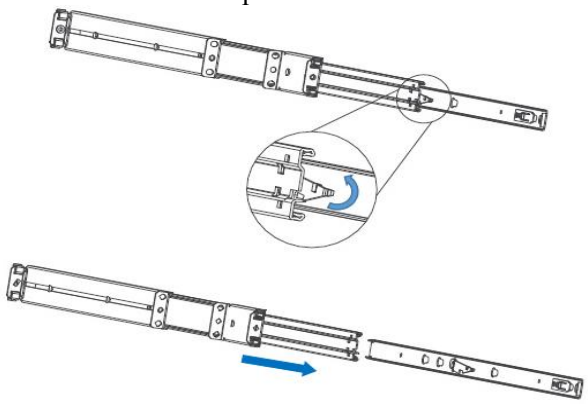


Figure 3-8

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

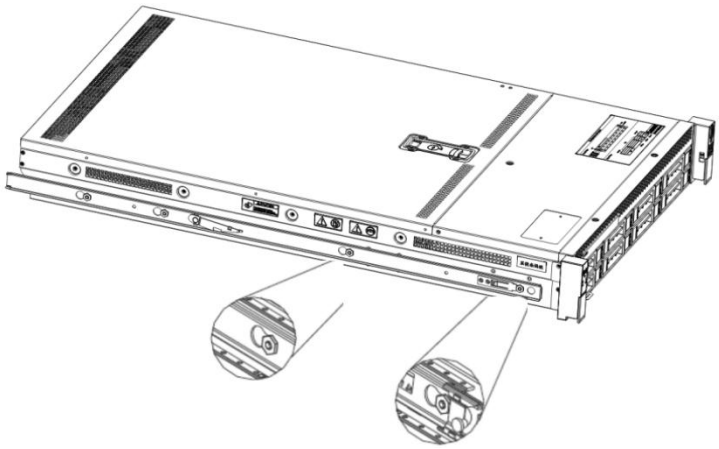


Figure 3-9

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

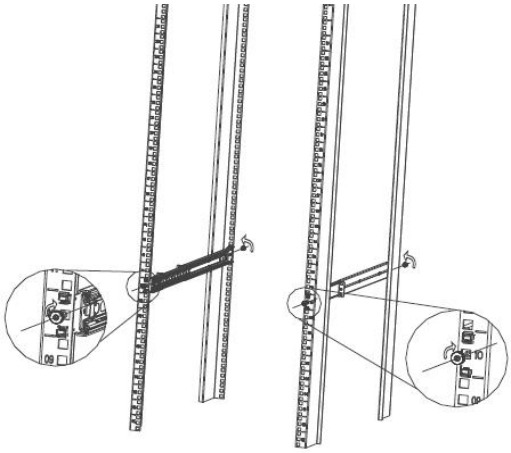


Figure 3-10

⚠ Note: When installing the slide rail, align it with the U mark, and once you hear a “click” sound, it is securely in place. Use M5 screws to fasten it firmly.

- Step 4: Align the chassis with the outer rail and proceed with the installation

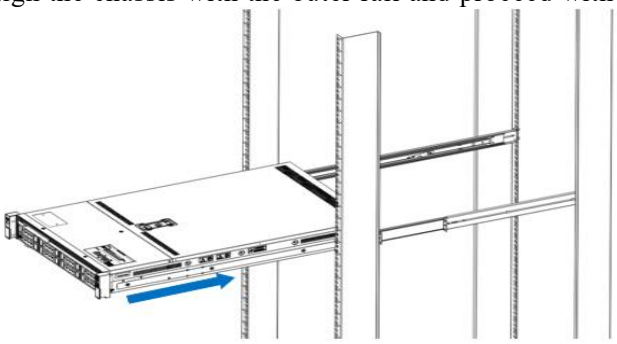


Figure 3-11

⚠ Note: When pushing the chassis forward, you will hear a snapping sound. When the chassis cannot be pushed further, you need to pull the inner rail buckle downward before you can continue to push the chassis gently.

- Step 5: Once the chassis cannot be pushed forward anymore, securely fasten the screws to complete the installation.

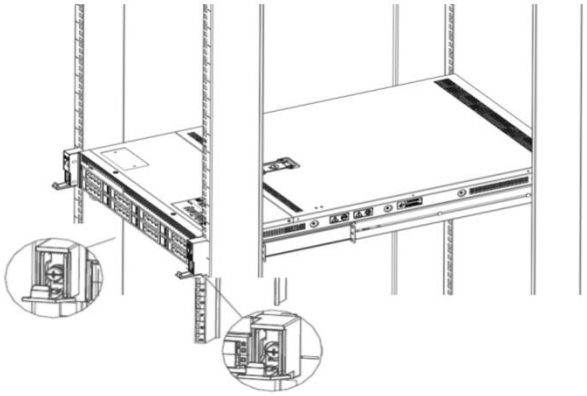


Figure 3-12

⚠ Note: During equipment maintenance, loosen the panel screws, gently pull the chassis, and avoid accelerating the pushing or pulling of the chassis to prevent 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 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: N/A

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:

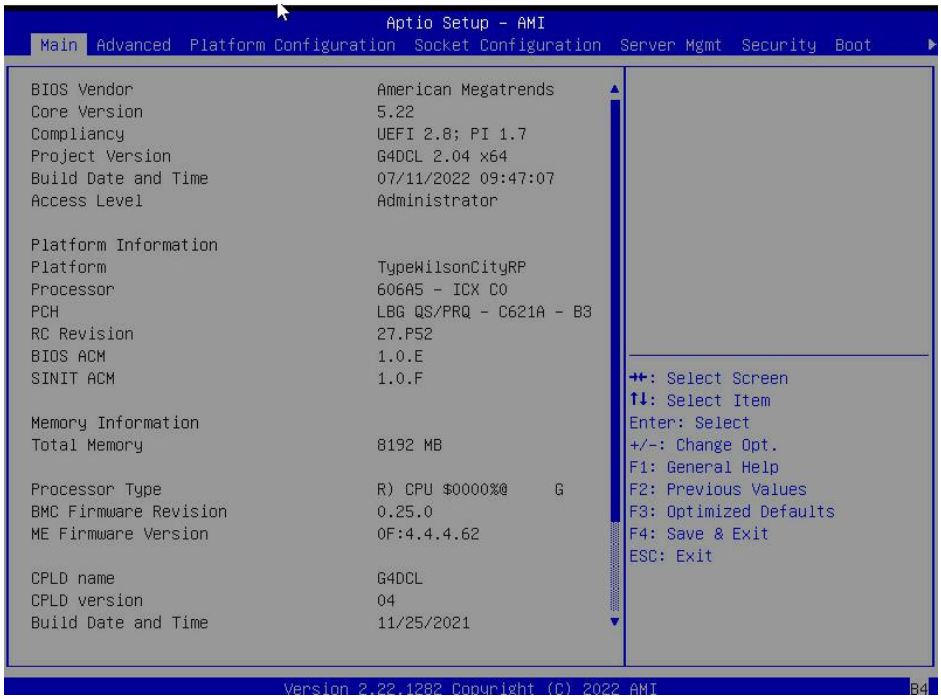


Figure 4-3

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:

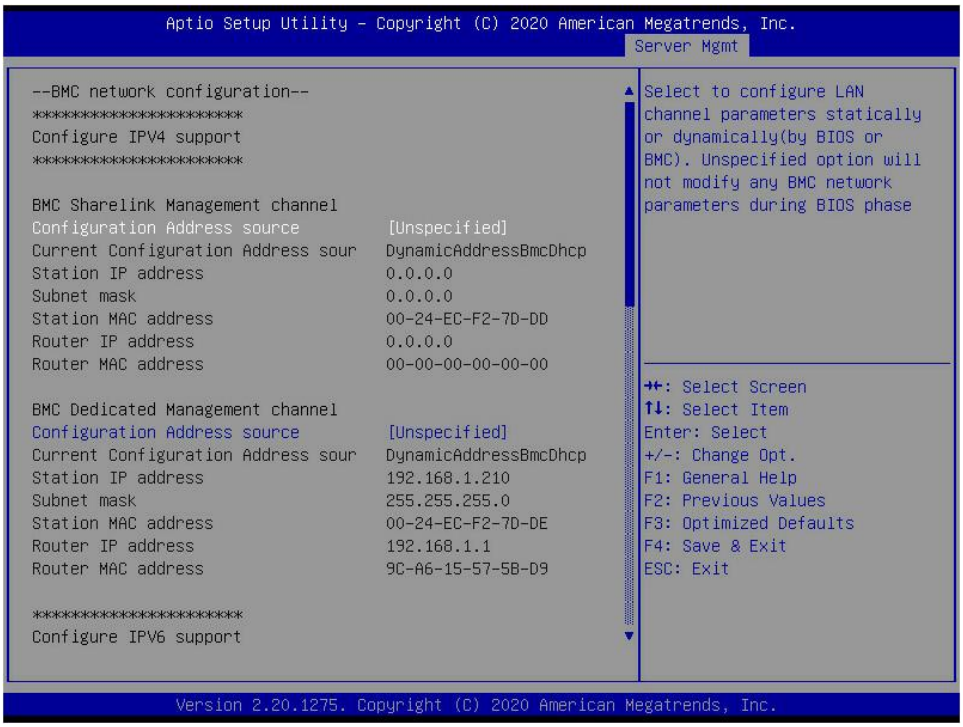


Figure 4-4

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:

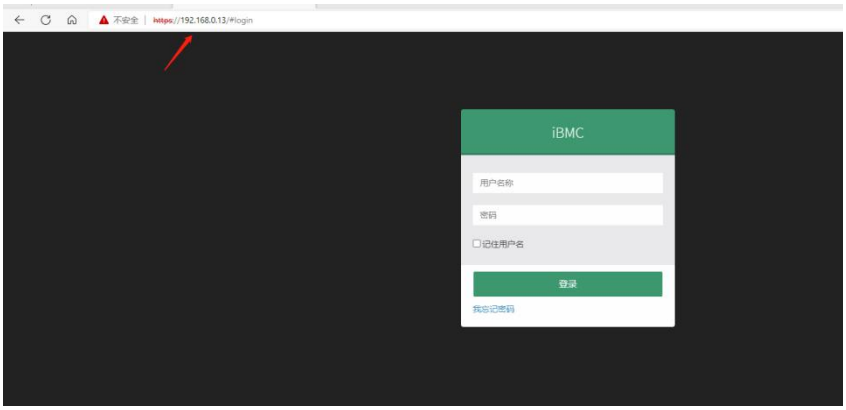


Figure 4-5

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:

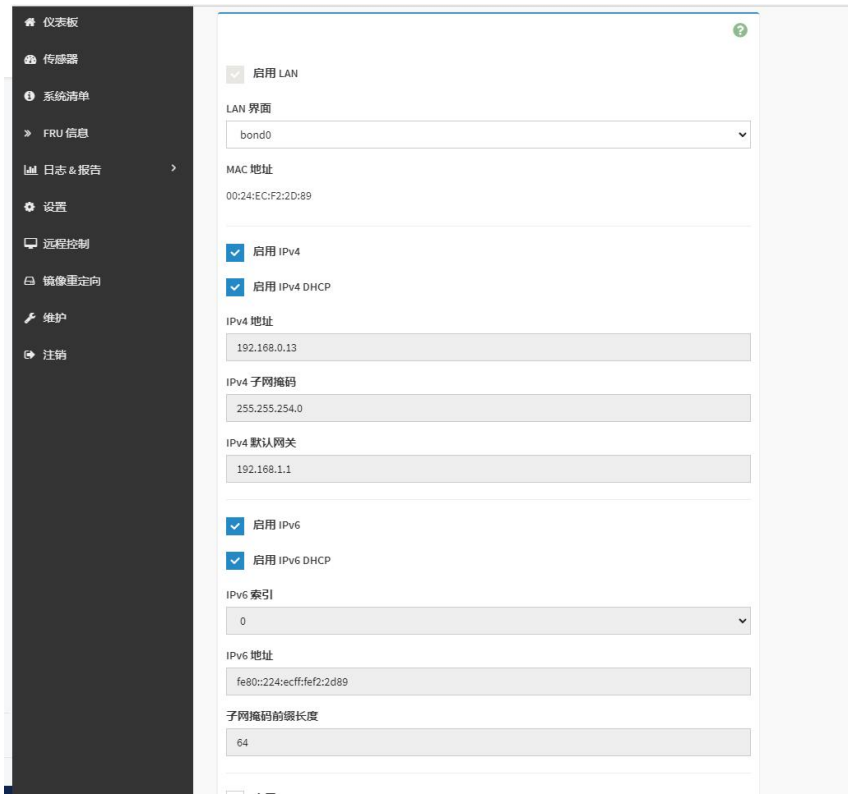


Figure 4-6

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.