

**Gooxi**

# **SR101 1U Rack 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 of Gooxi SR101 1U rackmount server, which mainly describes the appearance, structure, hardware installation and basic configuration of this product.

This manual is for reference and research by professional technicians. This product should only be installed and maintained by experienced technicians.

### Convention:

 Note: it is used to transmit equipment or environmental safety warning messages, if not avoided, it may lead to equipment damage, data loss, equipment performance degradation or other unpredictable results.

 Warning: indicates a potentially hazardous situation which, if not avoided, it may result in death or serious personal injury.

 Red arrow: means pointing to a certain location.

 Blue arrows: means the action of pulling out or inserting at an angle.

 Dark blue rotation arrow 1: represents the action of turning the screw clockwise or pulling it outward.

 Dark blue rotating arrow 2: represents the action of turning the screw counterclockwise or buckling inward.

 Hollow arrow: represents the next action or result.

# Modification record

Manual version	Release date	Remarks
01	2022/October/16	Initial release
02	2022/November/16	Optimized description

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# 1 Product Description

## 1.1 Product overview

The SR101 1U rackmount server is a new generation of 2U dual-socket rack server with a wide range of uses launched by Gooxi for the needs of the Internet, IDC (Internet Data Center), cloud computing, enterprise market, and telecom business applications. It is suitable for IT core business, cloud computing virtualization, high-performance computing, distributed storage, big data processing, enterprise and telecom business applications and other complex workloads. The server has the advantages of low energy consumption, strong scalability, high reliability, easy management, easy deployment, etc.

The main configurations are:

- Supports 2 AMD EPYC™ 7003/7002/7001 processors.
- Supports 2 types of panel frame: ① 4\*3.5-inch hard disk frame; ② 10\*2.5-inch hard disk frame.
- The rear window supports 2 PCIe expansion slots and 1 standard OCP 3.0 interface.
- The physical picture of the server is as follows:



① SR101-D04R (Figure 1-1)



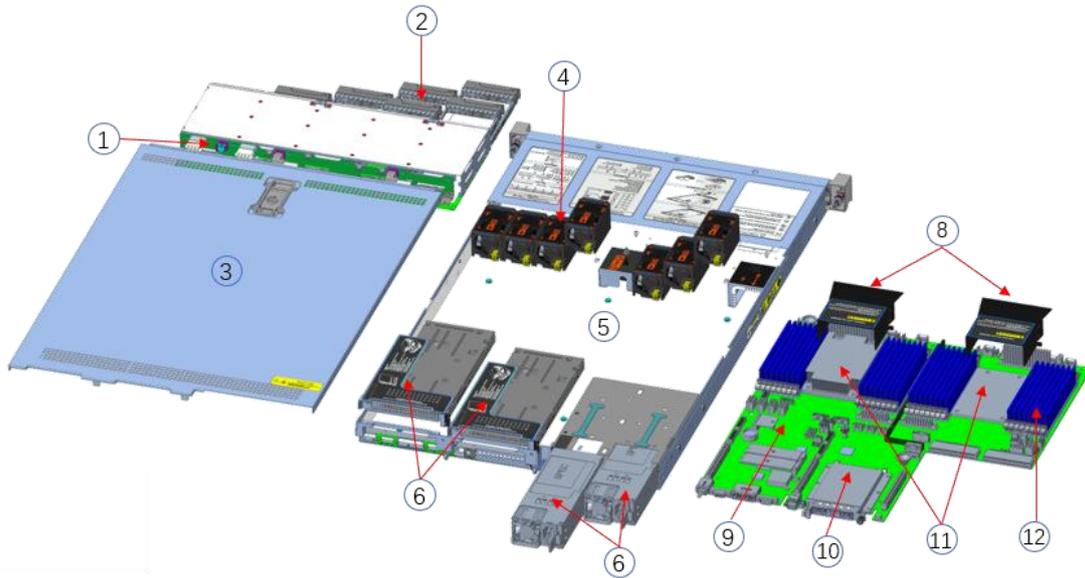
② SR101-D010R (Figure 1-2)



2-PCIe expansion rear window (Figure 1-3)

## 1.2 Product structure

The physical structure of the SR101 1U rack-mounted server is different due to different requirements, and the configuration will be different. Taking the 10-bay model as an example, describe the components of the server, as shown in the figure below:

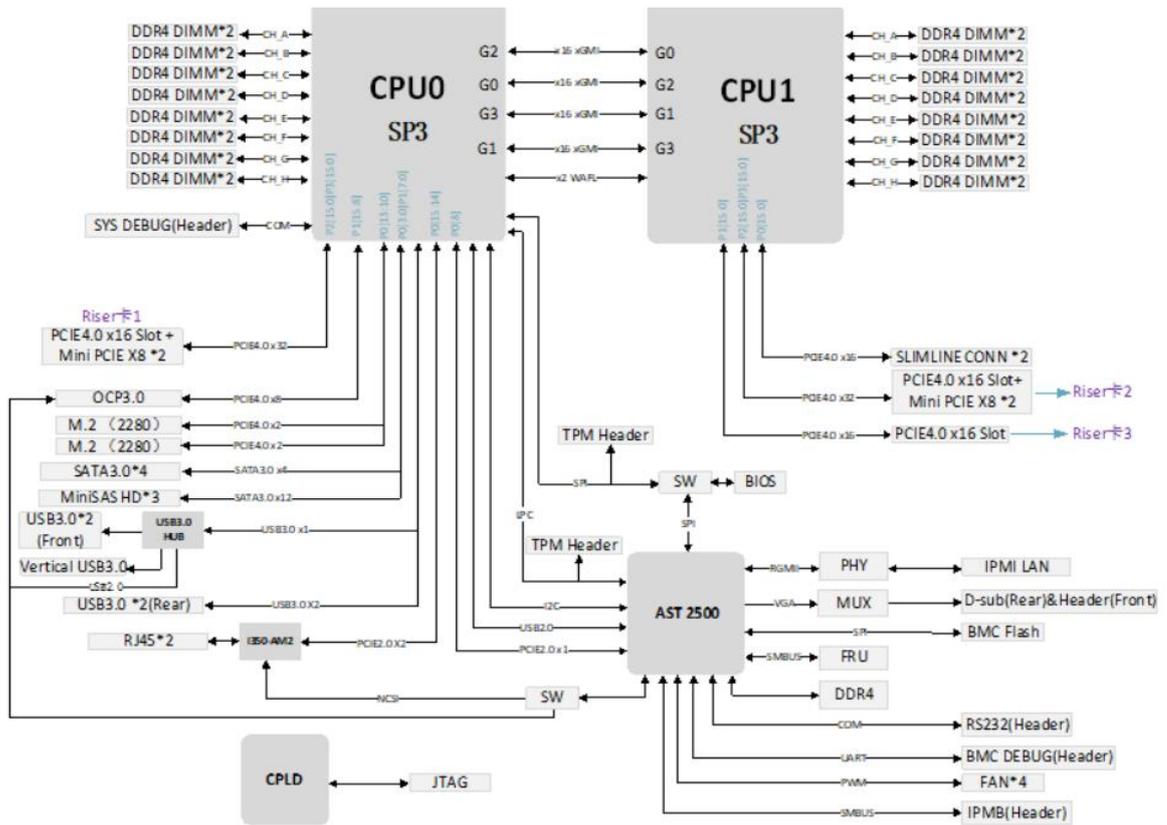


Structure diagram

S/N	Name	S/N	Name
1	Backplane	8	Wind shield
2	Hard disk slot	9	Motherboard
3	Upper cover	10	OCP3.0 network card (optional)
4	Fan module	11	CPU cooler
5	Chassis frame	12	Memory
6	PCIe module		
7	Power		

## 1.3 Logical structure

The logic of SR101 1U rack server is shown in the figure below:



Motherboard logic block diagram

- 2 SP3 Sockets, supporting two AMD EPYC™ 7003/7002/7001 series processors;
- Single CPU supports 8 DDR4 channels, each channel supports 2 DIMMs, and the two CPUs support 32DIMM DDR4 memory;
- G1DLRO-B motherboard provides 2 M.2 M Key SSD slots, only supports 2280 size, PCIe X2 signal;
- 2 Gigabit Ethernet ports are integrated on the motherboard, using I350-AM2 chip;
- The BMC chip in this board adopts ASPEED company's AST2500 control chip, which is used for IPMI remote management, VGA output port, and dedicated Gigabit RJ45 management network port.

## 1.4 Product parameters

System		
System model	SR101-D04R	SR101-D10R/SR101-D10R-NV
Chassis	1U rackmount chassis	
Motherboard	G1DLRO-B	
CPU	Supports 2 AMD EPYC™ 7003/7002/7001 processors	
Memory	Type supports DDR4 RDIMM/LRDIMM; Frequency supports 2400/2666/2933/3200MHz; Support single capacity of 8G/16GB/32GB/64GB/128GB/256GB, and the maximum memory capacity of the whole machine is 8TB.	

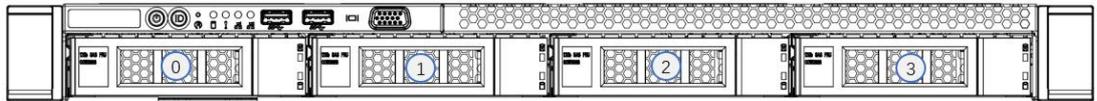
Hard drive	4* 3.5/2.5 inch SATA/SAS hard drives	10* 2.5 inch SATA/SAS/NVMe hard drives
Internet function	2 RJ45 Gigabit Ethernet ports	
Management interface	1 RJ45 IPMI management network port	
Display function	Onboard Aspeed® AST2500 chip, support VGA output	
M.2	Support 2 M.2 ports (M key, only support 2280 size specifications)	
USB	Front 2 USB3.0 ports, built-in 1 USB3.0, rear USB3.0 port	
Expansion slot	Support 2 PCIe expansion slots	
Power	System supports 550W, 800W, 1200W, 1300W, 1600W hot-swap redundant power supply	
Fan	7* 4056 temperature-controlled fans	
Size	748mm*433.4mm*43.6mm (length*width*height)	
<b>Operating system support</b>		
OS	CentOS 7.6/CentOS 8.0 SLES11 SP4 Ubuntu 17.04/Ubuntu 18.04/Ubuntu 20.04 Windows server 2016/Windows server 2019 VMware ESXi vSphere6/VMware ESXi vSphere7	
<b>System environment parameters</b>		
Operating temperature and humidity	Temperature 5°C ~ 35°C; Humidity: 20% ~ 80% non-condensing	
Storage temperature and humidity	Short time (≤72 H): temperature -40°C~70°C/ Humidity 20%~90% non-condensing (including packaging) Long time (>72 H): temperature 20°C~28°C/ Humidity 30%~70% non-condensing (including packaging)	
<b>Certification</b>		
Certification	CE, CCC, ROHS	

## 2 Hardware Description

### 2.1 Front panel

#### 2.1.1 Appearance

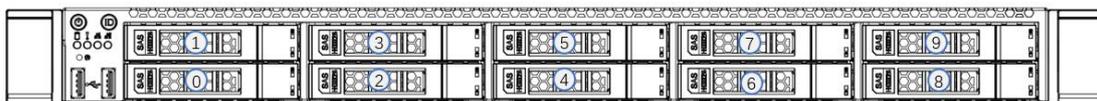
- 4x3.5 inch hard drive configuration



Logo	LED/button	Status description
	Power LED	<p>Description of the power LED:</p> <p>Green on: Indicates that the device has been powered on normally.</p> <p>Green flashing: Indicates that the device is in standby.</p> <p>Green off: Indicates that the device is not powered on.</p> <p>Power button description:</p> <p>Press the button shortly in the power-on state, and the OS will shut down normally.</p> <p>Press and hold the button for 6 seconds in the power-on state to force the server to power off.</p> <p>Press the button shortly in the power-on state to start the machine.</p>
	UID button/LED	<p>The UID button/LED is used to conveniently locate the server to be operated, and the LED can be turned off or on by manually pressing the UID button or remotely controlling the BMC command.</p> <p>Description of UID LED:</p> <p>Blue (on/flashing): Indicates that the server is located.</p> <p>Off: Indicates that the server is not located.</p> <p>UID button description: Short press this button to turn on/off the positioning light.</p>
	Reset restart server button	Press to restart the server
	HDD LED	Green flashing: The hard disk is operating normally

	System Alarm LED	System warning LED. Including system alarms, fan alarms, power supply alarms, etc., which can be viewed through the IPMI management software
	Network port connection status LED	Corresponds to the Ethernet port LED of the network card. Green on: Indicates that the network port is connected normally. Off: Indicates that the network port is not in use or faulty. Note: Corresponds to 1GE network port1 on the motherboard.
	Network port connection status LED	Corresponds to the Ethernet port LED of the network card. Green on: Indicates that the network port is connected normally. Off: Indicates that the network port is not in use or faulty. Note: Corresponds to 1GE network port2 on the motherboard.
	USB3.0	USB3.0 interface
	VGA output	VGA port from the motherboard

● 10x2.5 inch hard drive configuration



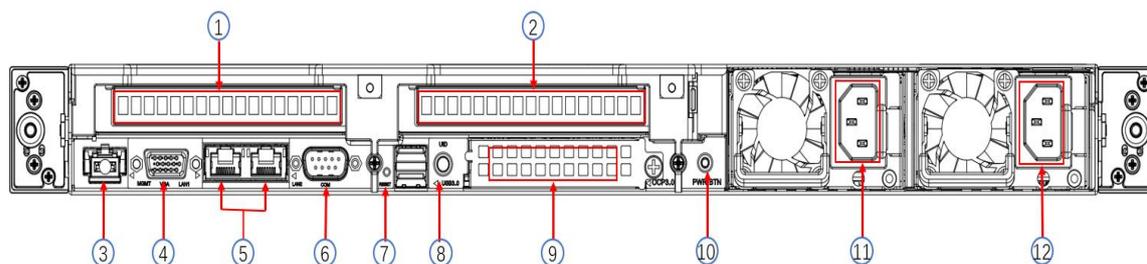
Logo	LED/button	Status description
	Power LED	Description of the power LED: Green on: Indicates that the device has been powered on normally. Green flashing: Indicates that the device is in standby. Green off: Indicates that the device is not powered on. Power button description: Press the button shortly 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. Press the button shortly in the power-on state to start the machine.
	UID button/LED	The UID button/LED is used to conveniently locate the server to be operated, and the LED

		<p>can be turned off or on by manually pressing the UID button or remotely controlling the BMC command.</p> <p>Description of UID LED:          Blue (on/flashing): Indicates that the server is located.          Off: Indicates that the server is not located.</p> <p>UID button description: Short press this button to turn on/off the positioning light.</p>
	Reset restart server button	Press to restart the server
	HDD LED	Green flashing: The hard disk is operating normally
	System Alarm LED	System warning LED. Including system alarms, fan alarms, power supply alarms, etc., which can be viewed through the IPMI management software
	Network port connection status LED	<p>Corresponds to the Ethernet port LED of the network card.</p> <p>Green on: Indicates that the network port is connected normally.</p> <p>Off: Indicates that the network port is not in use or faulty.</p> <p>Note: Corresponds to 1GE network port1 on the motherboard.</p>
	Network port connection status LED	<p>Corresponds to the Ethernet port LED of the network card.</p> <p>Green on: Indicates that the network port is connected normally.</p> <p>Off: Indicates that the network port is not in use or faulty.</p> <p>Note: Corresponds to 1GE network port2 on the motherboard.</p>
	USB2.0	USB2.0 interface

## 2.2 Rear panel

### 2.2.1 Appearance

- Appearance of the rear panel



S/N	Name	S/N	Name
1	Riser 1 module	7	Riser 2 module
2	Management network port	8	UID button
3	VGA interface	9	OCP3.0 network card (optional)
4	Gigabit Ethernet port LAN1, LAN2	10	Power switch button
5	COM port	11	PSU0
6	2 USB 3.0 ports	12	PSU1

● Rear panel port/button description

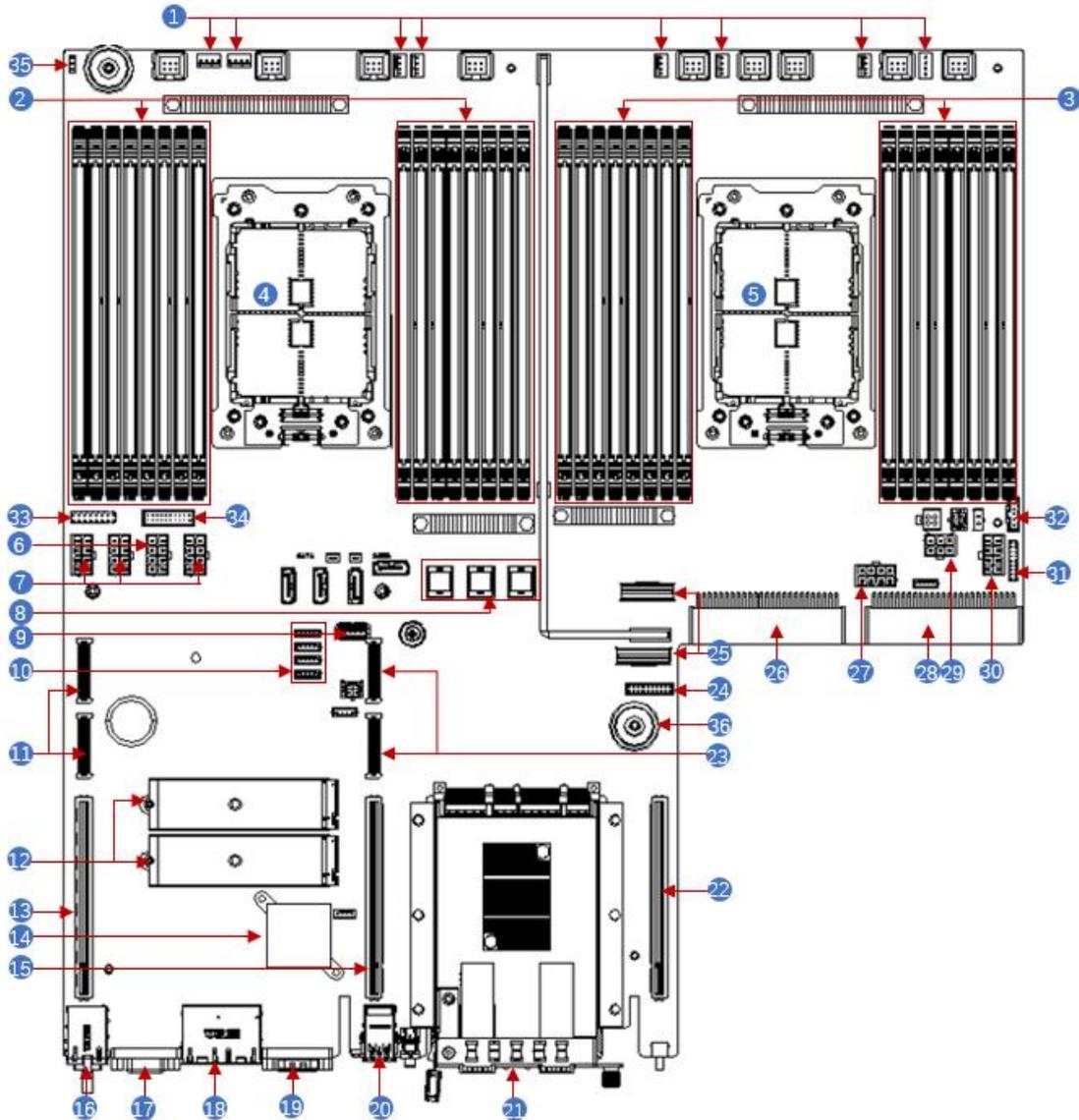
Name	Type	No.	Description
VGA interface	DB15	1	Used to connect a display terminal, such as a monitor.
Management network port	GE BASE-T	1	Provide outgoing 1000Mbit/s Ethernet port. The server can be managed through this interface.
USB interface	USB 3.0	2	Provide an external USB interface through which USB devices can be connected. Note: When using an external USB device, please make sure that the USB device is in good condition, otherwise it may cause the server to work abnormally.
RJ45 Gigabit Ethernet port	GE BASE-T	2	Server network port.
PSU	CRPS power module	2	You can choose the number of power supplies according to your actual needs, but make sure that the rated power of the power supply is greater than the rated power of the whole machine.
COM port	DB9	1	Serial communication port
OCP3.0 interface	OCP3.0	1	Install OCP3.0 network card
UID button	Button+LED	1	User-defined LED, used to mark a specific motherboard. This LED can be turned on or off through the IPMI remote control web interface. For example, when a server is found to have an error through remote management and needs to

			be maintained in the computer room, the UID LED can be turned on on the web interface Mark the problem server, then enter the computer room to find the server, and turn off the UID LED after the maintenance is OK.
Power switch button		1	Onboard power switch button

● Description of power module LED

LED/button	Status description
Power module LED	<p>Green on: Indicates that the input and output are normal.</p> <p>Orange on: Indicates that the AC power cord is unplugged or the power module is lost, and only one parallel-connected power module has AC input; the power module failure causes the output to be turned off, such as OVP, OCP, fan failure, etc.</p> <p>Green (1Hz/flashing): Indicates that the input is normal, that the input is normal, the voltage is too low (less than 12V) or the power supply is in the smart open state.</p> <p>Green (2Hz/flashing): Indicates that the Firmware is being upgraded online.</p> <p>Orange (1Hz/flashing): Indicates a power supply warning event that the power supply continues to run, high temperature, high power, high current</p> <p>Off: Indicates no AC power input.</p>
Network connection status light	<p>Green: indicates 1 Gigabit Link.</p> <p>Orange: indicates a 100M link.</p> <p>Off: 10M Link.</p>
Data transmission status indicator	<p>Yellow (flashing): indicates data is being transmitted.</p> <p>Off: indicates no data transmission.</p>
UID indicator	The blue light is on when it is on. It can be controlled through the IPMI page or the UID button on the server

## 2.3 Motherboard components



S/N	Module Name
1	4U chassis fan control 4 pin interface
2	Memory slot (corresponding to CPU 0)
3	Memory slot (corresponding to CPU1)
4	CPU0
5	CPU1
6	GPU Power 2*4 pin interfaces
7	BP Power 2*4pin interfaces
8	SFF8643 SATA interface
9	USB3.0 interface
10	BP I2C interface
11	PCIe3.0 or 4.0 X8
12	M.2

13	PCIe3.0 or 4.0 X16
14	I350
15	PCIe3.0 or 4.0 X16
16	IPMI RJ45 1Gb
17	VGA
18	LAN RJ45 1Gb*2
19	DB-9 COM port
20	USB3.0
21	OCP3.0 network card (optional)
22	CPU1 PCIe3.0 or 4.0 X16
23	CPU1 PCIe3.0 or 4.0 X8
24	BP HDD LED
25	Slimline PCIe3.0 or 4.0 X8
26	CPRS PSU
27	GPU Power
28	CPRS PSU
29	Riser POW
30	BP Power
31	FP BIN LED
32	PMBUS/BP5 I2C
33	FP VGA
34	FP USB3.0
35	Chassis Intrusion
36	Motherboard handle

## 2.4 Memory

### 2.4.1 Memory slot location

The motherboard supports 8 DDR4 channels, each channel supports 2 DIMMs, and 2 CPUs support 32 DDR4 slots in total (when only one memory is inserted, insert the blue slot on the motherboard first). Support DDR4 RDIMM/LRDIMM server memory, memory frequency support 2400/2666/2933/3200MHz.

- Memory slot location

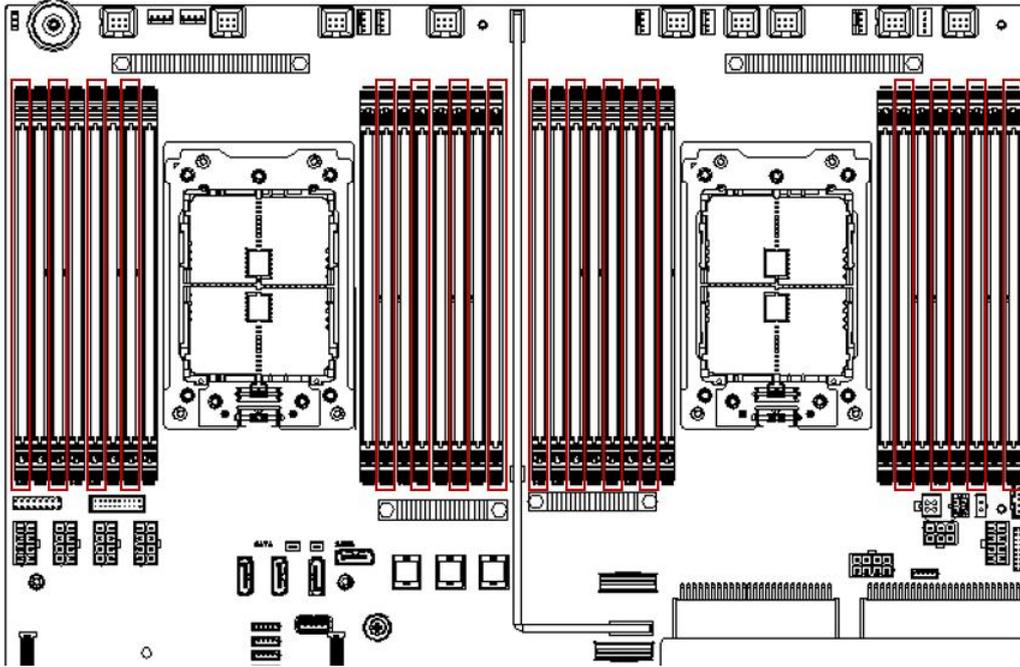


Figure (2-10)

### 2.4.2 Memory compatibility information

The motherboard supports DDR4 RDIMM/LRDIMM server memory, and the memory frequency supports 2400/2666/2933/3200;

Notice:

- The same server must use the same type of DDR4 memory, and all memory must run at the same speed, and the speed value is the lowest value of the following items:
- Memory speed supported by a particular CPU.
- Maximum operating speed for a specific memory configuration.
- Different types (RDIMM, LRDIMM) and specifications (capacity, bit width, rank, height, etc.) do not support mixed use.
- The maximum memory capacity supported by different models of AMD EPYC CPUs is different. (See attachment-AMD CPU memory installation guide for details)

# Channels populated (with 1 or 2 DIMMs/ch)	Memory Channel								Interleave for selected NPS								Notes
	M = total DIMM capacity on indicated channel and can be one or two DIMMs.																
	A	B	C	D	E	F	G	H	NPS=1		NPS=2		NPS=4				
1			M1						A	A			C			1	
2			M1	M1					CD	CD			CD			2	
			M1				M2		C, G	C	G		C		G	3	
3			M1	M1				M2	CD, G	CD	G		CD		G	4	
4	M1	M1	M1	M1					AB, CD	ABCD			AB	CD			
	M1	M1	M2	M2					AB, CD	AB, CD			AB	CD		5	
	M1	M1			M2	M2			AB, EF	AB	EF		AB		EF		
	M1	M1					M2	M2	AB, GH	AB	GH		AB		GH		
			M1	M1	M2	M2			CD, EF	CD	EF		CD	EF			
			M1	M1			M2	M2	CDGH	CD	GH		CD		GH	6	
			M1	M1				M2	M2	CD, GH	CD	GH		CD		GH	5
	M1	M1		M2		M3			AB, (C,D), (E,F)	AB, (C,D)	(E,F)		AB	(C,D)	(E,F)		
	M1	M1		M2			M3		AB, (C,D), (G,H)	AB, (C,D)	(G,H)		AB	(C,D)	(G,H)		
	M1	M1			M2		M3		AB, (E,F), (G,H)	AB	(E,F), (G,H)		AB		(E,F), (G,H)		
	M1		M2	M2		M3			(A,B), CD, (E,F)	(A,B), CD	(E,F)		(A,B)	CD	(E,F)		
	M1		M2	M2			M3		(A,B), CD, (G,H)	(A,B), CD	(G,H)		(A,B)	CD	(G,H)		
	M1		M2		M3	M3			(A,B), (C,D), EF	(A,B), (C,D)	EF		(A,B)	(C,D)	EF		
	M1		M2			M3	M3		(A,B), (C,D), GH	(A,B), (C,D)	GH		(A,B)	(C,D)	GH		
M1		M2				M3	M4	(A,B), (C,D), (E,F), (G,H)	(A,B), (C,D)	(E,F), (G,H)		(A,B)	(C,D)	(E,F), (G,H)			
5	M1	M1	M1	M1	M2 (in one of the 4 channels)				AB, CD, (E,F,G,H)	ABCD	(E,F,G,H)		AB	CD	(E,F,G,H)		
	M1	M1	M2	M2		M3			AB, CD, (E,F,G,H)	AB, CD	(E,F,G,H)		AB	CD	(E,F,G,H)		
	M1	M1		M2	M3	M3			AB, (C,D), EF	AB, (C,D)	EF		AB	(C,D)	EF		
	M1	M1		M2		M3	M3		AB, (C,D), GH	AB, (C,D)	GH		AB	(C,D)	GH		
	M1	M1			M2	M2	M3		AB, EF, (G,H)	AB	EF, (G,H)		AB		EF, (G,H)		
	M1	M1			M2		M3	M3	AB, (E,F), GH	AB	(E,F), GH		AB		(E,F), GH		
	M1		M2	M2	M3	M3			(A,B), CD, EF	(A,B), CD	EF		(A,B)	CD	EF		
	M1		M2	M2		M3	M3		(A,B), CD, GH	(A,B), CD	GH		(A,B)	CD	GH		
		M1			M2	M2	M2	M2	(A,B,C,D), EF, GH	(A,B,C,D)	EF, GH		(A,B,C,D)		EF	GH	
		M1			M2	M2	M3	M3	(A,B,C,D), EF, GH	(ABCD)	EF, GH		(A,B,C,D)		EF	GH	
6	M1	M1	M1	M1	M2	M2			AB, CD, EF	ABCD	EF		AB	CD	EF		
	M1	M1	M2	M2	M3	M3			AB, CD, EF	AB, CD	EF		AB	CD	EF	5	
	M1	M1	M1	M1			M2	M2	AB, CD, GH	ABCD	GH		AB	CD	GH		
	M1	M1	M2	M2			M3	M3	AB, CD, GH	AB, CD	GH		AB	CD	GH	5	
	M1	M1	M1	M1		M2		M3	AB, CD, (E,F), (G,H)	ABCD	(E,F), (G,H)		AB	CD	(E,F), (G,H)		
	M1	M1	M2	M2		M3	M4		AB, CD, (E,F), (G,H)	AB, CD	(E,F), (G,H)		AB	CD	(E,F), (G,H)	5	
	M1	M1			M2	M2	M2	M2	AB, EF, GH	AB	EF, GH		AB		EF, GH		
	M1	M1			M2	M2	M3	M3	AB, EF, GH	AB	EF, GH		AB		EF, GH	7	
			M1	M1	M2	M2	M2	M2	CD, EF, GH	CD	EF, GH		CD		EF, GH		
			M1	M1	M2	M2	M3	M3	CD, EF, GH	CD	EF, GH		CD		EF, GH	7	
M1		M2	M3	M3	M3	M3		(A,B), (C,D), EF, GH	(A,B), (C,D)	EF, GH		(A,B)	(C,D)	EF	GH		
M1		M2	M3	M3	M4	M4		(A,B), (C,D), EF, GH	(A,B), (C,D)	EF, GH		(A,B)	(C,D)	EF	GH		
7	M1	M1	M1	M1	M2	M2		M3	AB, CD, EF, (G,H)	ABCD	EF, (G,H)		AB	CD	EF	(G,H)	
	M1	M1	M2	M2	M3	M3		M4	AB, CD, EF, (G,H)	AB, CD	EF, (G,H)		AB	CD	EF	(G,H)	
	M1	M1	M1	M1		M2		M3	AB, CD, (E,F), GH	ABCD	(E,F), GH		AB	CD	(E,F)	GH	
	M1	M1	M2	M2		M3		M4	AB, CD, (E,F), GH	AB, CD	(E,F), GH		AB	CD	(E,F)	GH	
	M1	M1		M2	M3	M3	M3	M3	AB, (C,D), EF, GH	AB, (C,D)	EF, GH		AB	(C,D)	EF	GH	
	M1	M1		M2	M3	M3	M4	M4	AB, (C,D), EF, GH	AB, (C,D)	EF, GH		AB	(C,D)	EF	GH	
	M1		M2	M2	M3	M3	M3	M3	(A,B), CD, EF, GH	(A,B), CD	EF, GH		(A,B)	CD	EF	GH	
	M1		M2	M2	M3	M3	M4	M4	(A,B), CD, EF, GH	(A,B), CD	EF, GH		(A,B)	CD	EF	GH	
8	M1	M1	M1	M1	M1	M1	M1	M1	ABCDEFGH	ABCD	EF, GH		AB	CD	EF	GH	
	M1	M1	M1	M1	M2	M2	M2	M2	AB, CD, EF, GH	ABCD	EF, GH		AB	CD	EF	GH	
	M1	M1	M1	M1	M2	M2	M3	M3	AB, CD, EF, GH	ABCD	EF, GH		AB	CD	EF	GH	
	M1	M1	M2	M2	M3	M3	M3	M3	AB, CD, EF, GH	AB, CD	EF, GH		AB	CD	EF	GH	
	M1	M1	M2	M2	M3	M3	M4	M4	AB, CD, EF, GH	AB, CD	EF, GH		AB	CD	EF	GH	

Note:

1: M1 can be inserted in any slot, C or D is recommended.

2: M1, M2 can be inserted in any slot, C or G is recommended.

3: M1 can be in any slot. M2 can be inserted in any other slot.

4: M1 ≠ M2; M2 ≠ M3; M3 ≠ M4.

## 2.5 Storage

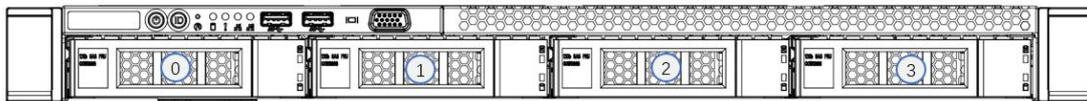
### 2.5.1 Hard disk configuration

Configuration	Max no. of front hard	*Max no. of rear hard disks (piece)	Description
---------------	-----------------------	-------------------------------------	-------------

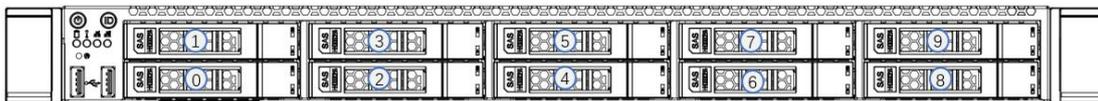
	disks (piece)		
4x3.5 (2.5) inch hard drive pass-thru configuration	Slots 0–3 support four 3.5 inch (2.5 inch) SAS/SATA hard drives	Riser1 and Riser2 do not support the expansion of the rear hard disk	SAS hard drives need to be supported by optional SAS pass-through card or RAID card.
10x 2.5 inch hard drive pass-thru configuration	Slots 0–9 support ten 2.5 inch SAS/SATA hard drives	Riser1 and Riser2 do not support the expansion of the rear hard disk	10-bay three-mode backplane, NVMe/SAS/SATA hard drives need different cable support; SAS hard drives need optional SAS pass-through card or RAID card support.

### 2.5.2 Hard disk serial number

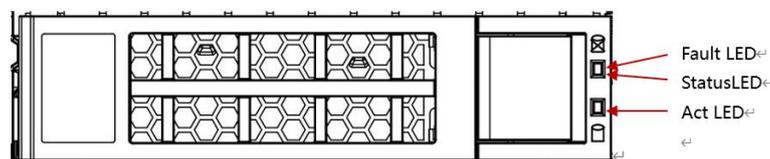
- 4x3.5 inch hard drive configuration (SAS/SATA)



- 10x2.5 inch hard drive configuration (SAS/SATA or NVMe)



### 2.5.3 Hard disk status LED



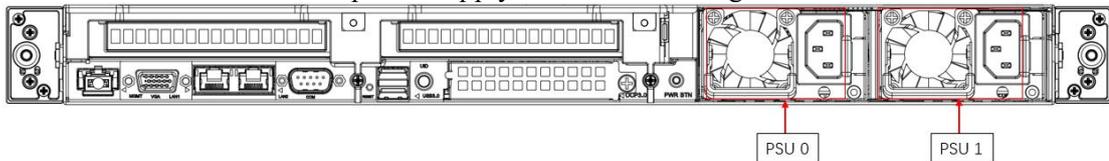
- Hard Disk Status LED Description

Function	Act LED	Fault LED	Status LED
Hard disk in place	On	Off	Off
Hard disk activity	On	Off	Off

Hard disk positioning	On	Flashing 4Hz/sec	Off
Hard disk error	On	Off	On
RAID rebuild	On	Off	Flashing 1Hz/second

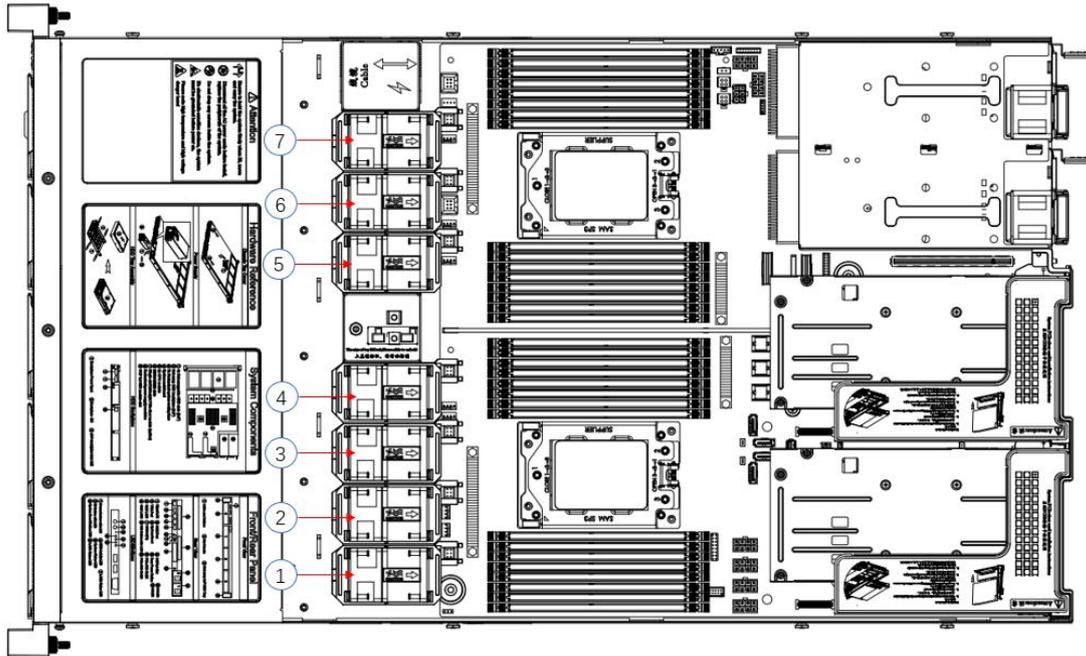
## 2.6 Power supply

- Support 1 or 2 power modules;
- Supports AC or DC power modules;
- Support 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 purchasing system options, please consult Gooxi sales rep;
- The location of the power supply is shown in the figure below:



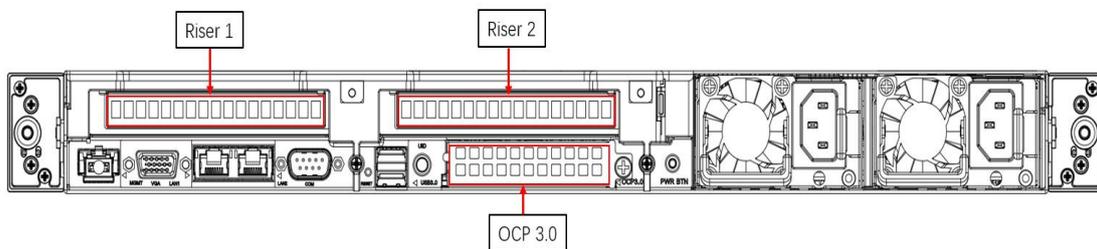
## 2.7 Fan

- Support 7 fan modules;
- Support hot swap;
- Support single fan failure;
- Support 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:



## 2.8 I/O expansion

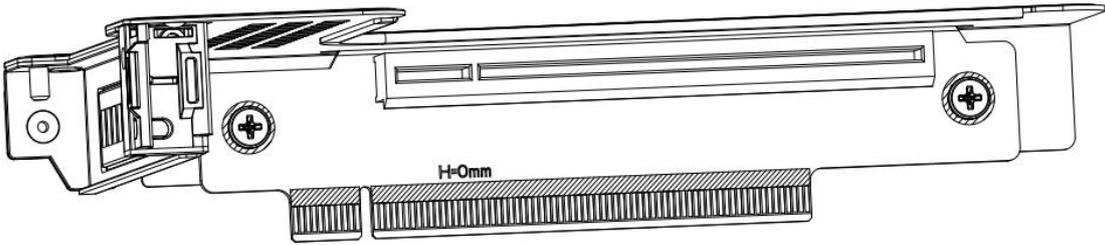
### 2.8.1 PCIe slot distribution



- Riser1 and Riser2 can be equipped with optional rear hard disk module or a PCIe Riser module.
- The slot provided by Riser1 is Slot0, which adopts Gooxi self-developed Riser card and outputs 1 PCIe×16
- The slot provided by Riser2 is Slot1, which uses Gooxi self-developed Riser card and outputs 1 PCIe×16
- This figure is for reference only, and the actual configuration shall prevail.

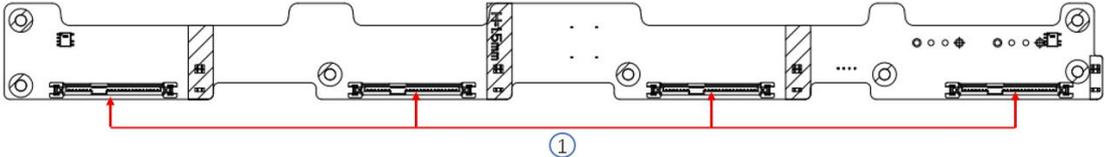
### 2.8.2 PCIe expansion module

- PCIe expansion module
  - Installed in Riser1/2 position, providing 1 PCIe x16



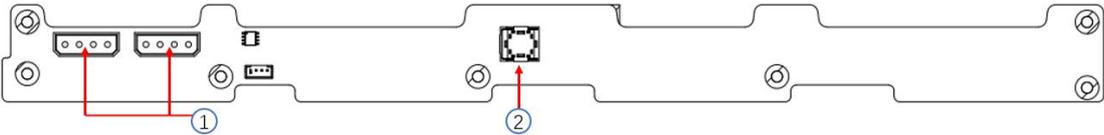
2.8.3 Hard disk backplane

- Front 4 × 3.5 inch hard drive backplane  
TOP surface



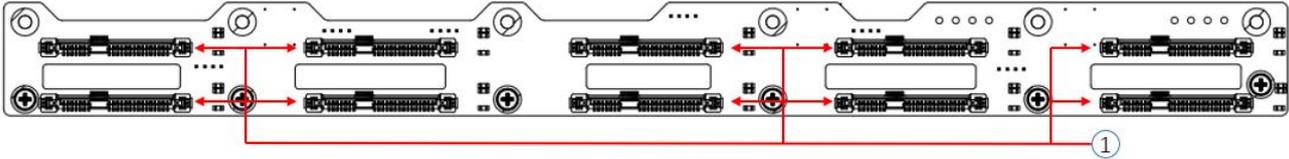
S/N	Description	Function
SAS0~3	SAS/SATA hard disk connector	1. Support for 12Gb/s SAS hard disk; 2. Support for 6Gb/s SATA hard disk; 3. Support SAS/SATA hard disk hot swap.

Bottom side



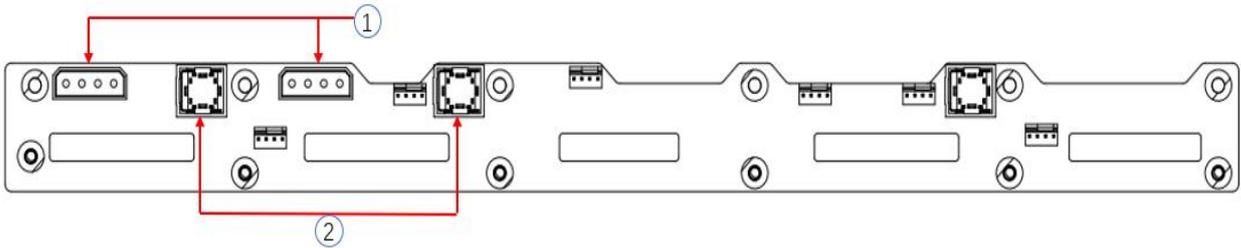
S/N	Description	Function
1, 2	ATX power input	Backplane power transmission connector, used for 12V power transmission
3	MiniSAS HD high-speed connector	For 12Gb/s SAS or 6Gb/s SATA signal transmission

- 10 x 2.5 inch backplane  
TOP surface



S/N	Description	Function
1	SAS/SATA hard disk connector	1. Support 12Gb/s SAS hard disk; 2. Support 6Gb/s SATA hard disk; 3. Support SAS/SATA hard disk hot swap.

Bottom surface



S/N	Description	Function
1	Power connector	Backplane power transmission connector, used for 12V power transmission
3	MiniSAS HD high-speed connector	For 12Gb/s SAS or 6Gb/s SATA signal transmission

## 3 Installation Notes

### 3.1 Chassis upper cover installation

- Step 1: Align the nails on the upper cover with the opening of the box and place it downwards;
- Step 2: Push forward to lock in the direction of the arrow.

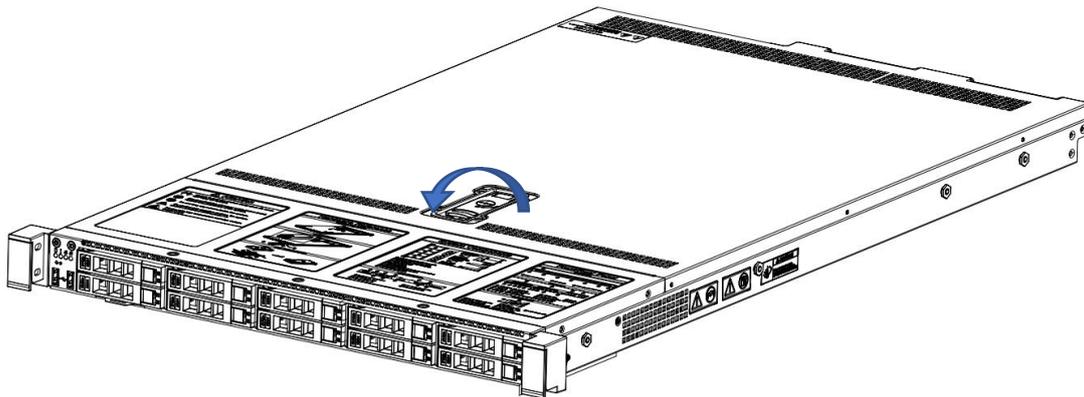


Figure (3-1)

### 3.2 Mounting accessories

#### 3.2.1 Install the CPU

Starting to install the CPU, please read the following guides:

- Make sure the motherboard supports the CPU.
- Before installing the CPU, be sure to turn off the computer and unplug the power cord from the electrical outlet to prevent damage to the hardware.
- Unplug all cables from electrical outlets.
- Disconnect all communication cables from their ports.
- Place the system unit on a flat and stable surface.
- Follow the instructions to turn on the system.

**⚠ Warning!**

Serious damage could result if the server is not properly shut down before component installation begins. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

Follow the instructions below to install the CPU:

1. In sequence (3 → 2 → 1), loosen the 3 fixing screws that secure the CPU cover.

2. Flip open the CPU cover.
3. Use the handle on the CPU tray to remove the CPU tray from the CPU rack.
4. Using the handle on the CPU tray, insert the new CPU tray with the CPU installed into the CPU rack.

 **Note:** Make sure the CPU is installed in the correct orientation in the CPU tray, with the triangle on the CPU aligned with the upper left corner of the CPU carrier.

5. Flip the CPU rack with the CPU installed into the proper position in the CPU socket.
6. Flip the CPU cover into place over the CPU socket.
7. Tighten the CPU cover screws in sequence (1 → 2 → 3) to secure the CPU cover in place. Torque: 16.1 kgf-cm (14.0 lbf-in)
8. Repeat steps 1-7 for the second CPU.
9. To remove the CPU, perform steps 1-7 in reverse order.

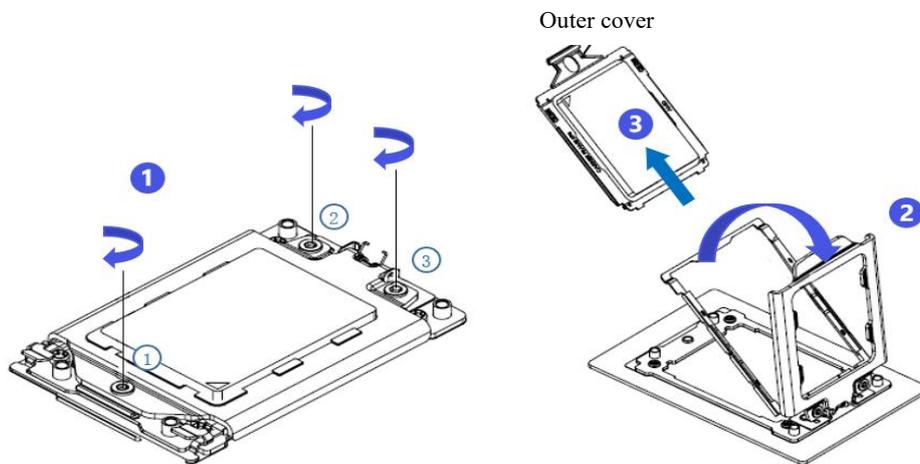


Figure (3-2)

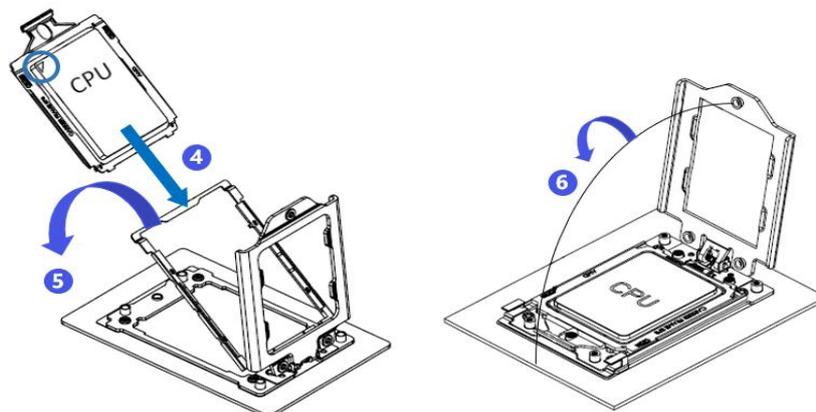


Figure (3-3)

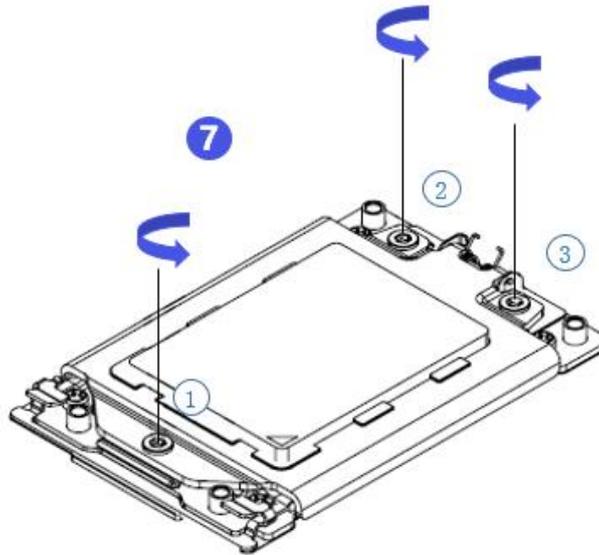


Figure (3-4)

### 3.2.2 Install heat-sink

Before starting to install the heat-sink, please read the following guidelines:

- Always turn off the computer and unplug the power cord from the electrical outlet before installing the heat sink to prevent damage to the hardware.
- Unplug all cables from electrical outlets.
- Disconnect all communication cables from their ports.
- Place the system unit on a flat and stable surface.
- Follow the instructions to turn on the system.

 Warning!

Failure to shut down the server before beginning component installation could result in serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

 Note: When installing the heat-sink to the CPU, use a Phillips screwdriver to tighten the 4 fixing nuts in the order of 1-4.

Follow the instructions below to disassemble and install the heat-sink:

1. Loosen the screws holding the heat sink in place in reverse order (4 → 3 → 2 → 1).
2. Lift the heat sink and remove it from the system.
3. To install the heat-sink, reverse steps 1-2 while making sure to tighten the set screws in order (1 → 2 → 3 → 4) as shown in the image below.

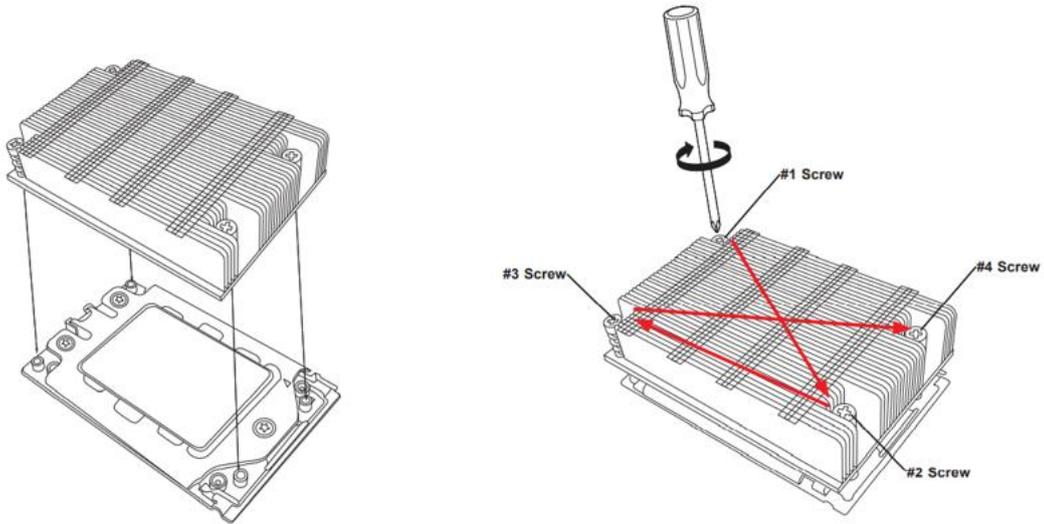


Figure (3-5)

### 3.2.3 Install memory

The 16 memory slots controlled by CPU 0 of the motherboard are: DIMMA1, A2, DIMMB1, B2, DIMM C1, C2, DIMM D1, D2, DIMM E1, E2, DIMM F1, F2, DIMM G1, G2 and DIMM H1, H2 ; The 16 memory slots controlled by CPU 1 are: DIMMA3, A4, DIMMB3, B4, DIMMC3, C4, DIMMD3, D4, DIMM E3, E4, DIMM F3, F4, DIMM G3, G4 and DIMM H3, H4. Note that the notch of the memory is consistent with the notch of the DIMM slot, and snap the memory vertically into place to prevent incorrect installation.

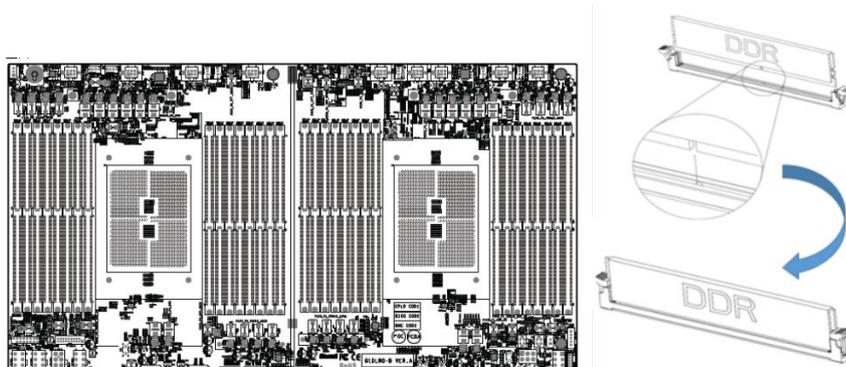


Figure (3-6)

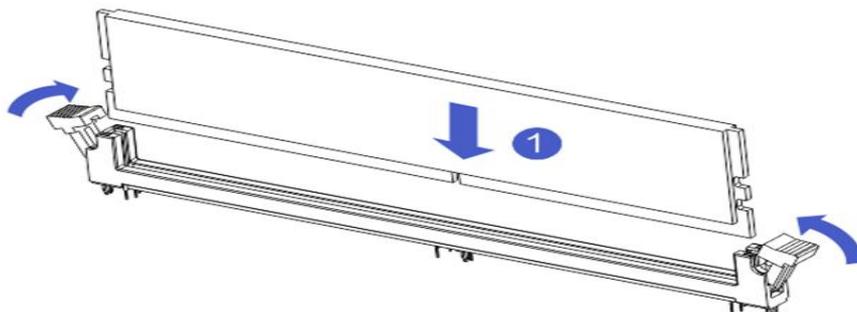


Figure (3-7)

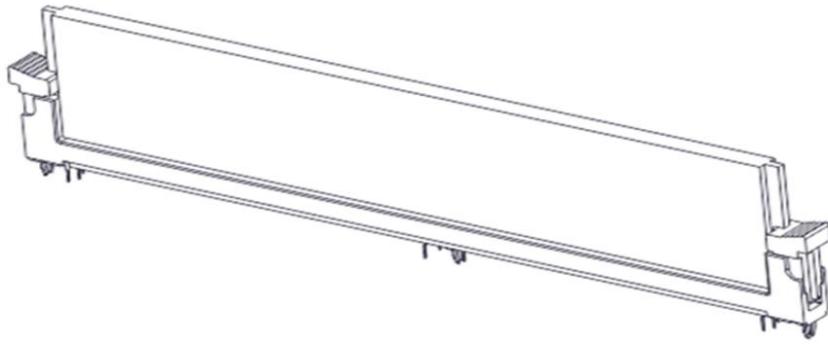


Figure (3-8)

### 3.2.4 Install the server rails

- Step 1: Prepare 2 slide rails and pull out the inner rail

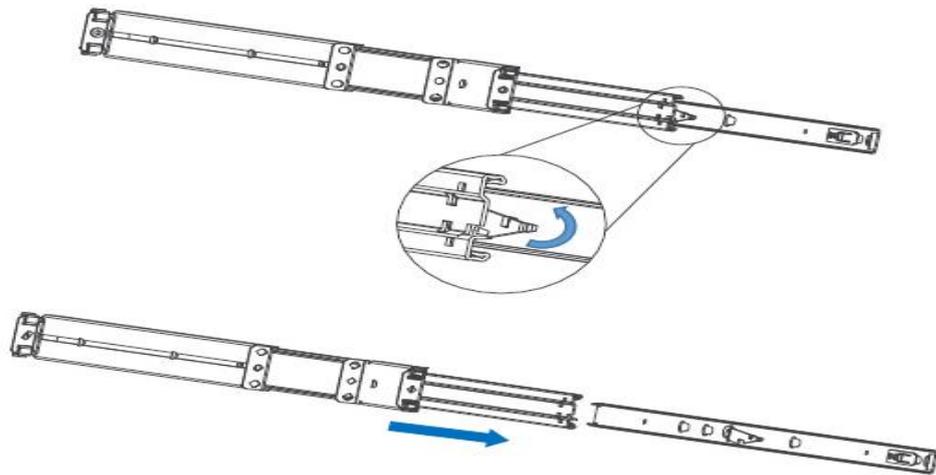


Figure (3-9)

- Step 2: Fasten the inner rails to the sides of the case

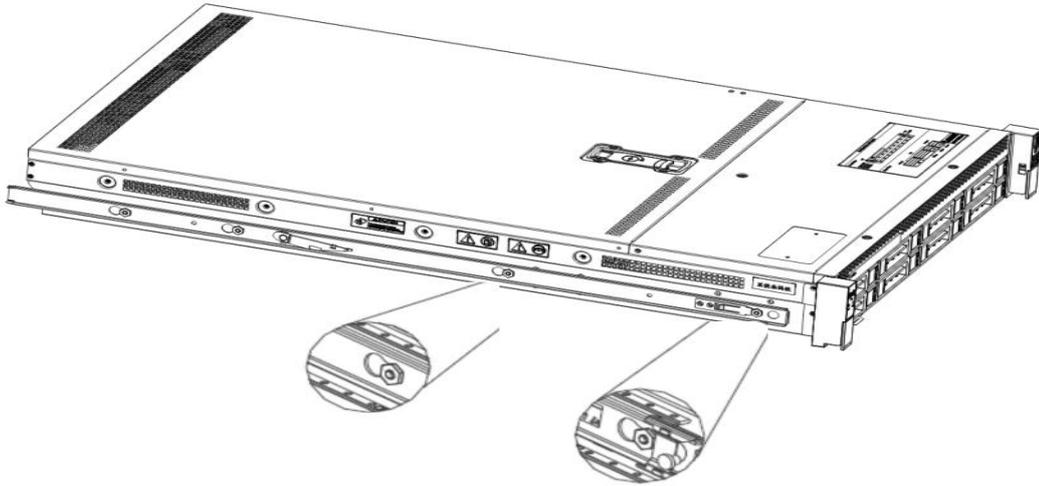


Figure (3-10)

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

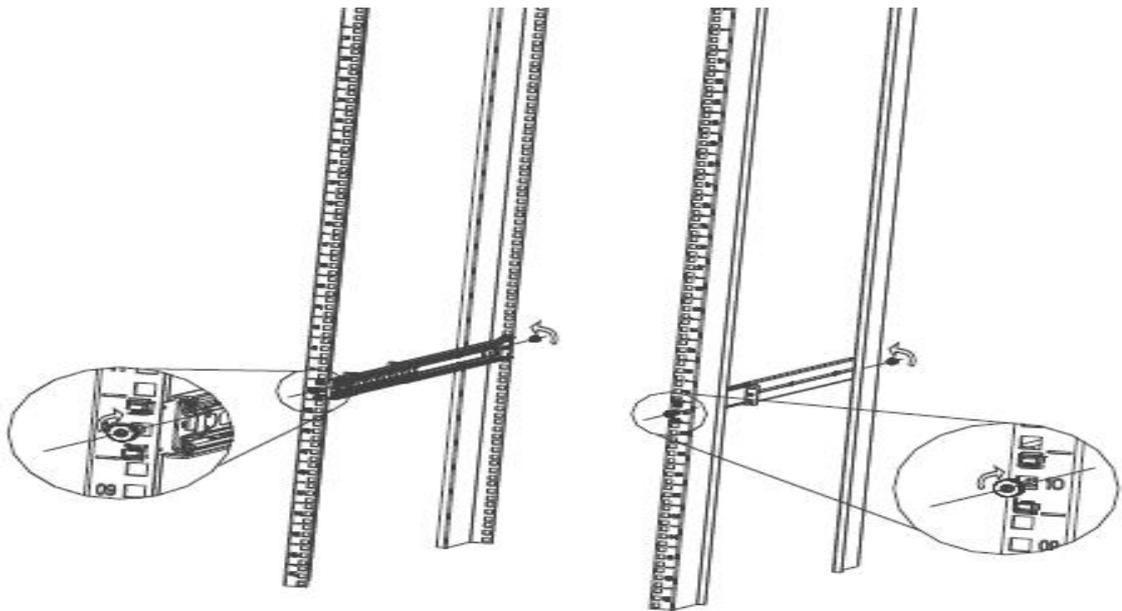


Figure (3-11)



Note: When installing the guide rail, it is necessary to align with the U mark, and when it is installed in place with a snap, secure it with M5 screws.

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

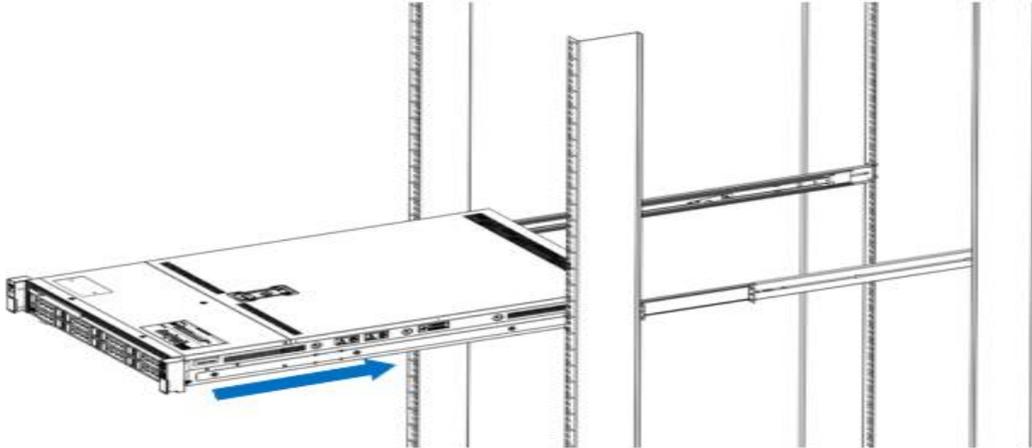


Figure (3-12)



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: When the chassis is pushed forward and cannot slide, the screws are firmly installed and the installation is complete

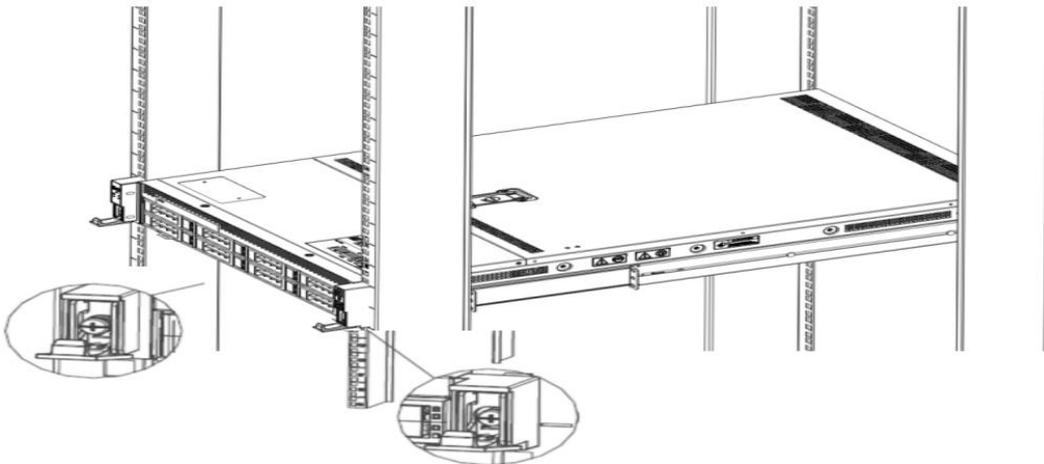


Figure (3-13)



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

- 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 disks, 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 LED is yellow.  
Power on, the server starts up, and the power LED is green.
- How to power on the server:  
The server's system defaults to "power-on strategy", that is, the server will automatically start after power-on. Users can modify it on 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:

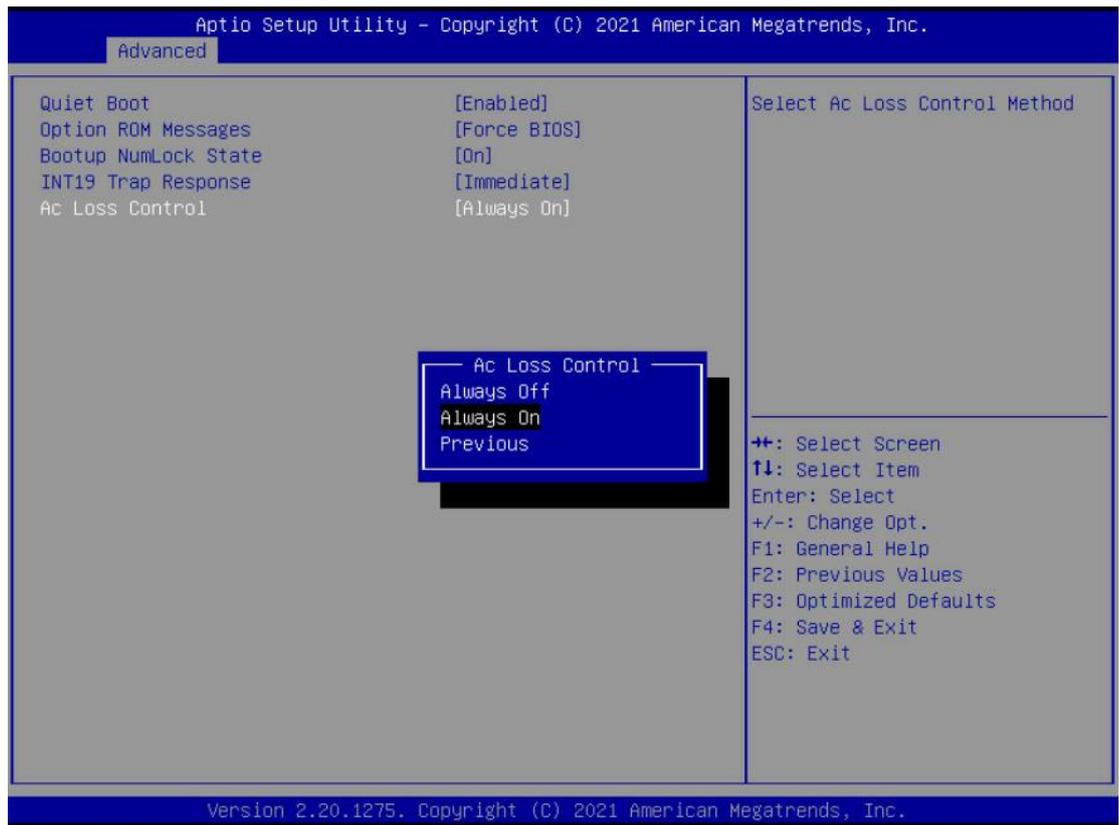


Figure 4-1

- AC Loss Control power-on control  
Status setting, the menu options are:  
Always off: power on directly  
Always on: You need to press the Power button to turn on the power  
Previous: Leave Power State Unchanged
- 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-> can execute according to requirements.

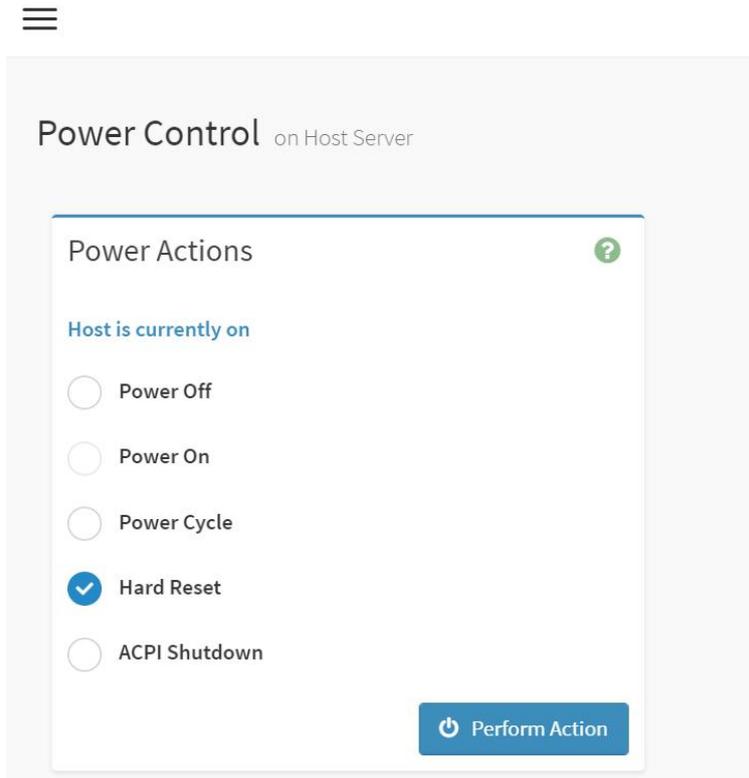


Figure 4-2

 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: admin
- 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:

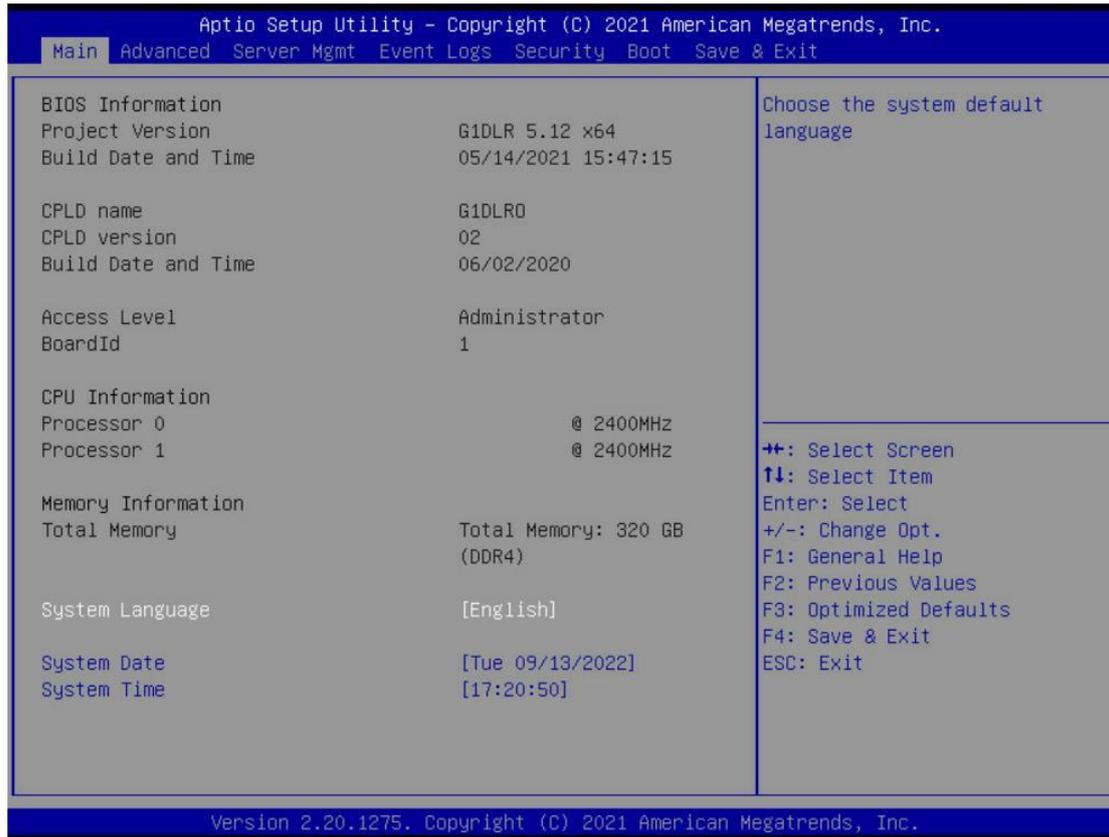


Figure 4-3

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 to enter the IP address in the same LAN as the BMC management network , and the login interface is as shown in the figure:

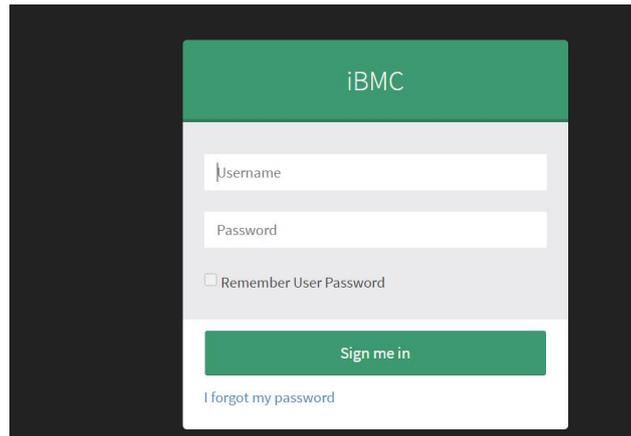


Figure (4-4)

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 :

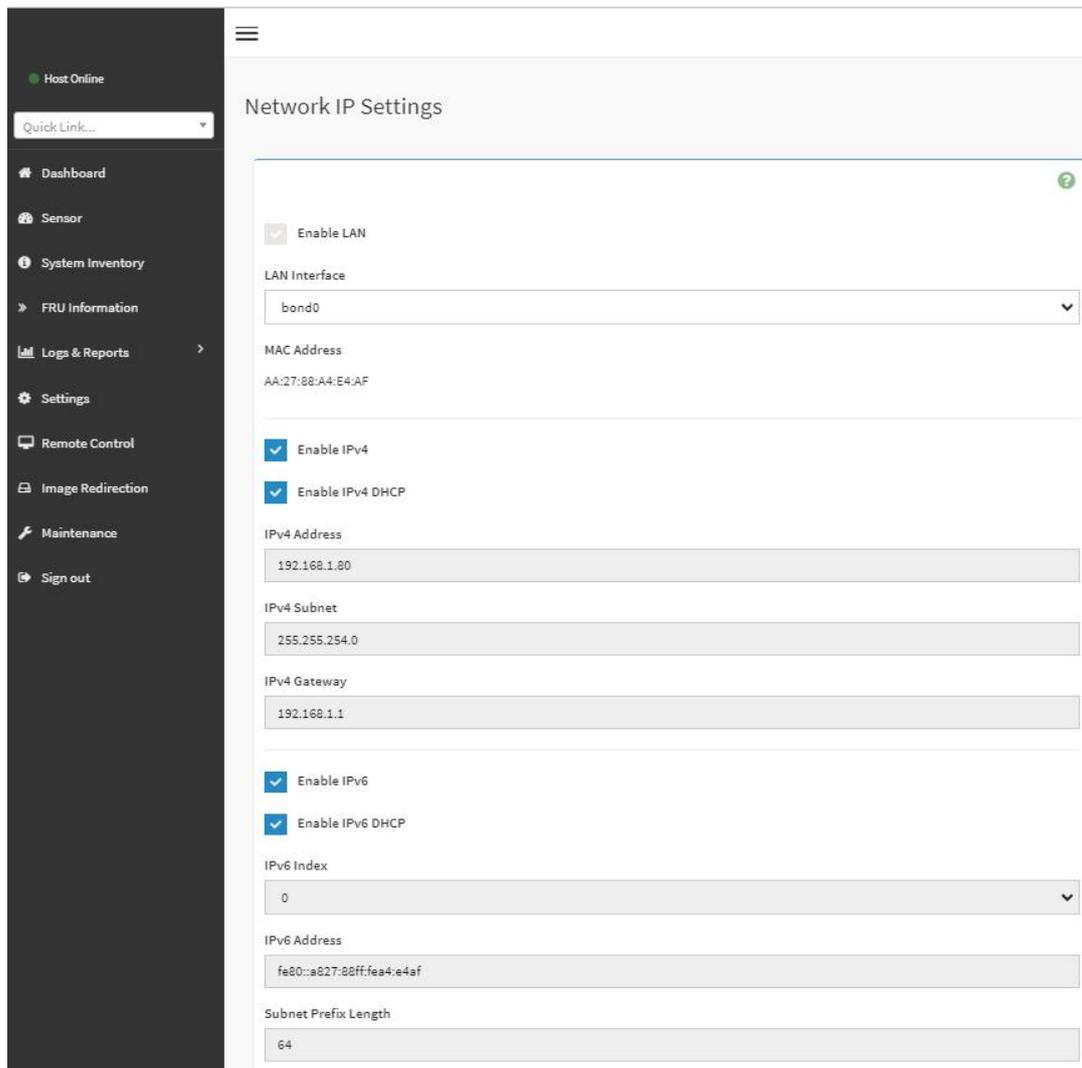


Figure (4-5)

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 is powered on, turn it on, pay attention to the POST process, press the keyboard <DEL> or <ESC> key, ready to enter the BIOS Setup interface, switch to the following interface :

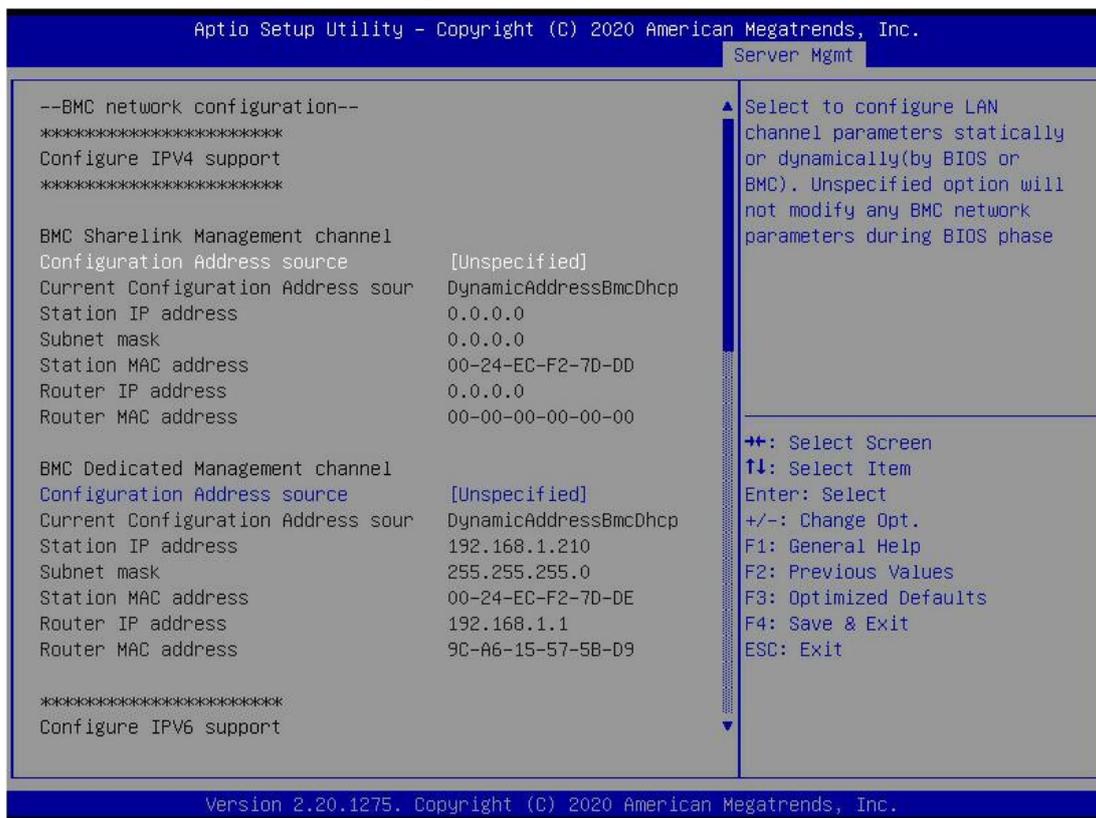


Figure (4-6)

- Configure IPV4 support
- BMC sharelink Management Channel
- Configuration Address source configures the BMC IP address allocation mode, the menu options are:
  - Unspecified : Do not change BMC parameters (default)
  - Static : BIOS static IP setting
  - DynamicBmcDhcp : BMC runs DHCP to dynamically assign IP
  - DynamicBmcNonDhcp : BMC runs Non-DHCP protocol to dynamically assign IP
- BMC Dedicated Management Channel
- Configuration Address source configures the BMC IP address allocation mode, the menu options are:

Unspecified : Do not change BMC parameters (default)

Static : BIOS static IP setting

DynamicBmcDhcp : BMC runs DHCP to dynamically assign IP

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

- Configure IPV6 support Choose whether to support IPV6, the menu options are:
  - Enabled: support IPV6 (default)
  - Disabled: does not support IPV6



Change from Unspecified to other parameters, save and restart the execution, the option will restore the value of Unspecified, no need to configure BMC IP every time the startup process. When the Configuration Address source option is Unspecified, it will display the network parameter information (IPV4) of the system shared network port, the current IP configuration mode, BMC IP, subnet mask, MAC address, routing IP, and routing MAC.

## 5 Appendix

Common fault diagnosis:

No display after power on

- Make sure the monitor cable is fully seated and that the monitor's power light is on when the monitor is powered on
- Make sure the monitor is connected to the server
- If the above operation does not solve the fault problem, it is recommended to replace the known correct monitor to confirm whether the original monitor is faulty
- If there are no problems, please contact Gooxi technical team to solve the problem

Warning light on the front panel

- Please confirm the specific alarm information of the alarm LED according to the instructions of the front panel LEDs and buttons in the manual
- The power failure LED warning, please check whether the LED of the power module on the rear window of the server is abnormal.  
-If the LED of the power module is normal, please contact Gooxi technical end to solve the problem  
-If the LED of the power module is abnormal, please confirm whether the server & power module & power cord are working normally
- The system alarm LED warning, please check the external environment first
- Other LED alarming, please contact Gooxi technical end to solve the problem

Hard disk LED is abnormal

- Make sure the hard drive is installed properly.
- Please confirm the specific alarm information of the alarm LED according to the instructions on the rear panel LEDs and buttons in the manual
- Please confirm whether the Raid card is configured correctly
- Install the OS to confirm whether there is a phenomenon of hard disk failure. If there is such a phenomenon, please contact Gooxi technical team to solve it

Raid card cannot be used

- Make sure that the Raid card assembly is in place

- Re-insert the Raid card & PCIe adapter card to confirm whether it can work normally
- Please replace the Raid card that is known to be available. After troubleshooting the problem of the card itself, it still cannot work normally. Please restore the factory settings and update the BIOS version, and contact Gooxi technical team to solve the problem.

#### IPMI connection failed

- Check whether the BMC function is enabled correctly in the BIOS.
- Confirm that the switch and network cable are normal, and the regular connection to the IPMI port is still invalid. Check the network environment.
- PING can be enabled by setting static or dynamic. If the WEB interface is invalid, please change to a new version of IE to connect.
- If the problem is still not resolved, please contact Gooxi technical team to solve it.