

# Huawei FusionServer G2500 Server 1.0.0

## White Paper

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# Contents

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<b>1 Overview.....</b>	<b>1</b>
<b>2 Product Features.....</b>	<b>3</b>
<b>3 Logical Architecture.....</b>	<b>5</b>
<b>4 Hardware Description.....</b>	<b>7</b>
4.1 Physical Structure.....	7
4.2 Front Panel Components.....	12
4.3 Front Panel Indicators and Buttons.....	12
4.4 Rear Panel Components.....	14
4.5 Rear Panel Indicators.....	15
4.6 Hard Disk Slot Numbers and Indicators.....	16
4.6.1 Hard Disk Slot Numbers.....	17
4.6.2 Hard Disk Indicators.....	17
4.7 PCIe Slots.....	17
4.8 DIMMs.....	20
4.9 PSUs.....	22
<b>5 System Management.....</b>	<b>25</b>
<b>6 Product Specifications.....</b>	<b>28</b>
<b>7 Environmental Specifications.....</b>	<b>32</b>
<b>8 Component Compatibility.....</b>	<b>35</b>
8.1 CPU.....	35
8.2 Memory.....	36
8.3 Storage.....	37
8.4 RAID Controller Card.....	38
8.5 PCIe Card.....	39
8.6 OS and Software.....	40
<b>9 Warranty.....</b>	<b>42</b>
<b>10 Certifications.....</b>	<b>45</b>

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## Figures

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<b>Figure 1-1</b> G2500 appearance.....	2
<b>Figure 3-1</b> Logical structure of the G2500 (19 PCIe cards).....	5
<b>Figure 3-2</b> Logical structure of the G2500 (10 PCIe cards).....	6
<b>Figure 4-1</b> Components of the G2500 (configured with 19 PCIe cards).....	8
<b>Figure 4-2</b> Components of the G2500 (configured with 10 PCIe cards).....	9
<b>Figure 4-3</b> Front panel.....	12
<b>Figure 4-4</b> Indicators and buttons on the front panel.....	12
<b>Figure 4-5</b> Rear panel.....	14
<b>Figure 4-6</b> Indicators on the rear panel.....	15
<b>Figure 4-7</b> Hard disk slot numbers.....	17
<b>Figure 4-8</b> Hard disk indicators.....	17
<b>Figure 4-9</b> PCIe slot layout.....	18
<b>Figure 4-10</b> DIMM installation positions.....	22
<b>Figure 4-11</b> PSUs.....	23

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# Tables

---

<b>Table 3-1</b> Configurations of the G2500.....	6
<b>Table 4-1</b> Configurations.....	7
<b>Table 4-2</b> G2500 components.....	10
<b>Table 4-3</b> Indicators and buttons on the front panel.....	13
<b>Table 4-4</b> Ports on the rear panel.....	14
<b>Table 4-5</b> Indicators on the rear panel.....	16
<b>Table 4-6</b> SAS/SATA hard disk indicators.....	17
<b>Table 4-7</b> PCIe slot description.....	19
<b>Table 4-8</b> Memory configuration parameters.....	20
<b>Table 4-9</b> DIMM installation sequence.....	21
<b>Table 4-10</b> DIMM positions.....	21
<b>Table 4-11</b> PSU redundancy modes.....	23
<b>Table 4-12</b> PSU parameters.....	24
<b>Table 5-1</b> iBMC features.....	26
<b>Table 6-1</b> Product specifications of the G2500.....	28
<b>Table 6-2</b> Component specifications of the G2500.....	29
<b>Table 7-1</b> Environmental specifications.....	32
<b>Table 8-1</b> Supported CPUs.....	36
<b>Table 8-2</b> Supported DIMMs.....	36
<b>Table 8-3</b> Supported hard disks.....	37
<b>Table 8-4</b> Supported M.2 SSD card.....	38
<b>Table 8-5</b> Supported RAID controller card.....	38
<b>Table 8-6</b> RAID Level.....	38
<b>Table 8-7</b> Supported PCIe cards.....	39
<b>Table 8-8</b> Supported OSs.....	40
<b>Table 9-1</b> Response time.....	42
<b>Table 9-2</b> Warranty services.....	43
<b>Table 10-1</b> Certifications.....	45

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# 1 Overview

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Rapid advancements in applied computing, such as artificial intelligence (AI) and deep learning algorithms, mean growing demand for computing power. The computing performance of servers needs to be improved much faster than that of general-purpose CPUs. A viable solution is heterogeneous computing, which allows for flexible combinations of CPU, GPU, FPGA, and ASIC processors.

Huawei FusionServer G2500 (G2500 for short) is a 4U edge rack server dedicated for heterogeneous computing. In addition to high-performance general-purpose computing capabilities, the G2500 supports heterogeneous processors, such as GPUs, and provides large-capacity local storage.

The G2500 features outstanding computing performance, large-capacity storage, flexible configuration, compact design, strong environment adaptability, and easy maintenance and management, and can operate in a wide temperature range.

The G2500 is ideal for intelligent video surveillance, analysis, and data storage application scenarios. It can be deployed in various edge and central equipment rooms, meeting application requirement in complex environments, such as public security departments, communities, campuses, shopping malls, and supermarkets.

Figure 1-1 G2500 appearance



# 2 Product Features

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## High-Performance x86 Computing

- Supports two Intel® Xeon® E5-2600 v4 processors to provide high-performance general-purpose computing capabilities.
- Supports up to twelve 2400 MT/s DDR4 ECC DIMMs, allows RDIMMs and LRDIMMs to be configured, and provides a maximum theoretical memory bandwidth of 153.6 GB/s.

## Flexible and Configurable Heterogeneous Computing

- Provides 19 PCIe slots to support up to 16 half-height half-length PCIe heterogeneous computing cards for intelligent analysis of about 256 people, vehicles, and things.
- Allows customers to determine the number of heterogeneous computing cards flexibly.

## Large-Capacity and High-Reliability Storage

- Provides an independent OS disk controller to support two M.2 SSD cards, which form a RAID 0 or 1 array and function as OS disks.
- Provides an independent data disk RAID controller to support up to twenty-four 3.5-inch or 2.5-inch SATA/SAS HDDs or SSDs.
- Supports pure SSD configuration. The I/O performance of pure SSDs is higher than that of mixed configurations of SSDs and HDDs, and 100 times that of pure HDDs.
- Uses hot-swappable data disks that support RAID 1, 5, 6, 10, 50, and 60, provides RAID cache, and uses a supercapacitor to protect RAID cache data from power failures.

## Strong Environment Adaptability

- (Standard configuration) Supports a maximum operating temperature of 40°C, which is 5°C higher than that of a common server.
- (Enhanced configuration) Supports a long-term operating temperature of 50°C and a short-term operating temperature of 55°C, which is 15°C higher than that of a common server.
- Supports a wide temperature range to meet the requirements of complex edge computing equipment room scenarios and deliver high system reliability in harsh environments.
- Reduces the chassis depth to only 675 mm (26.57 in.) to enable flexible installation.



## Easy Management and Maintenance

- Provides the UID/HLY indicators and fault diagnosis LED on the panel to display the device status, and provides USB ports, a VGA port, and a management network port to facilitate local maintenance.
- Integrates the iBMC management module to monitor the system status in real time and separate the in-band service system from the out-of-band management system. Even if the in-band system breaks down, remote maintenance is not affected.
- Supports remote and centralized management of multiple devices, facilitating batch deployment and maintenance.

## Energy-saving and Redundancy Design

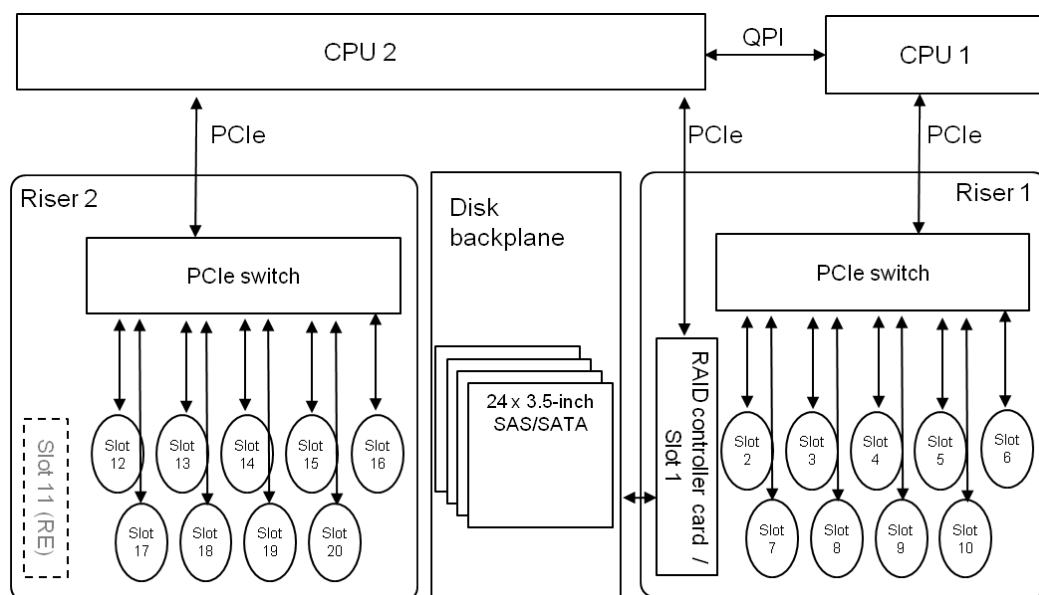
- Supports Platinum power supply units (PSUs), which provide 94% power efficiency at 50% load.
- Supports area-based fan speed adjustment and proportional-Integral-Derivative (PID) intelligent speed adjustment, reducing power consumption and saving energy.
- Optimizes the thermal design to ensure optimal heat dissipation and reduce overall system power consumption.
- Uses redundant fans and PSUs to improve reliability. The fans work in N+1 mode and the PSUs work in N+N or N+1 mode.

# 3 Logical Architecture

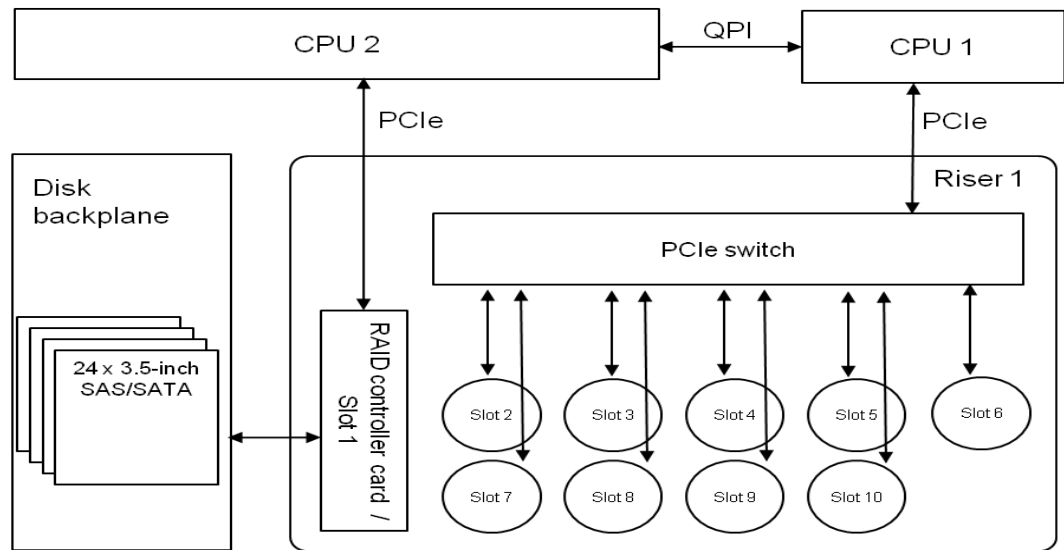
Logically, the G2500 includes five types of modules: general-purpose computing module (x86), PCIe module, hard disk module, fan module, and PSU.

The x86 module is connected to two PCIe modules (Riser 1 and Riser 2 in [Figure 3-1](#)) through PCIe buses to provide up to 19 half-height half-length PCIe slots. A RAID controller card is installed in a specific PCIe card slot and forms a hard disk module with a hard disk backplane to support a maximum of twenty-four 3.5-inch or 2.5-inch SAS/SATA hard disks. The system management sub-module integrated in the x86 module connects to all the other components through the management bus and manages them by using the system management software. The G2500 supports two types of logical structures. See [Figure 3-1](#) and [Figure 3-2](#).

**Figure 3-1** Logical structure of the G2500 (19 PCIe cards)



**Figure 3-2** Logical structure of the G2500 (10 PCIe cards)



The G2500 supports two types of product configurations. See [Table 3-1](#).

**Table 3-1** Configurations of the G2500

Configuration Type	Configuration of Key Components	Maximum Number of PCIe Cards	Logical Structure
Standard configuration	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	19 x PCIe cards	<a href="#">Figure 3-1</a>
	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	10 x PCIe cards	<a href="#">Figure 3-2</a>
Enhanced configuration	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	10 x PCIe cards	<a href="#">Figure 3-2</a>

# 4 Hardware Description

## About This Chapter

- [4.1 Physical Structure](#)
- [4.2 Front Panel Components](#)
- [4.3 Front Panel Indicators and Buttons](#)
- [4.4 Rear Panel Components](#)
- [4.5 Rear Panel Indicators](#)
- [4.6 Hard Disk Slot Numbers and Indicators](#)
- [4.7 PCIe Slots](#)
- [4.8 DIMMs](#)
- [4.9 PSUs](#)

## 4.1 Physical Structure

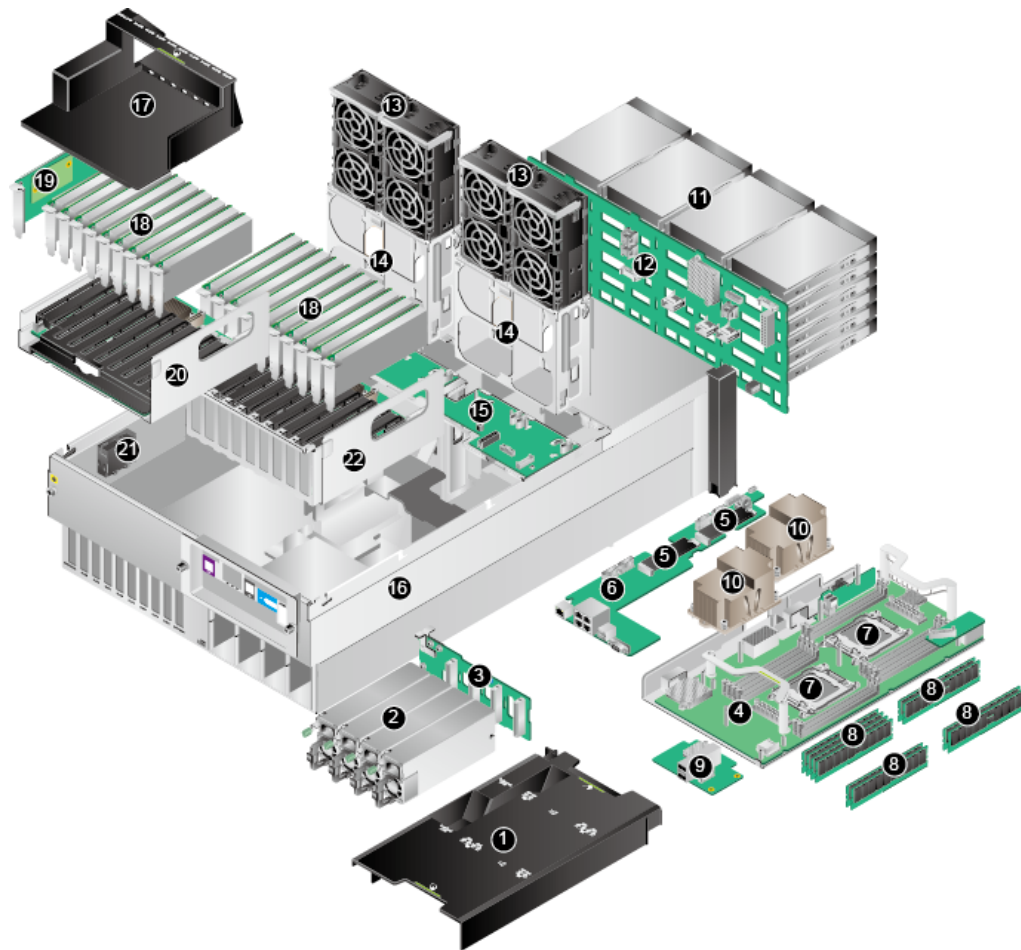
The G2500 comes in two configurations, which support different numbers of PCIe cards, as shown in [Figure 4-1](#) and [Figure 4-2](#).

**Table 4-1** Configurations

Configuration	Description	Operating Temperature	Figure
Standard configuration	19 PCIe cards	Long-term operating temperature: 5°C to 40°C	<a href="#">Figure 4-1</a>
	10 PCIe cards		<a href="#">Figure 4-2</a>

Configuration	Description	Operating Temperature	Figure
Enhanced configuration	10 PCIe cards	Long-term operating temperature: 5°C to 50°C Short-term operating temperature: 5°C to 55°C	<a href="#">Figure 4-2</a>
<p><b>NOTE</b></p> <p>"10 PCIe cards" in configuration 1 and configuration 2 are similar in appearance and hardware. However, the fan speed adjustment policy, temperature alarm threshold, and CPU heat sink are different. Configuration 1 supports only the highest operating temperature of 40°C.</p>			

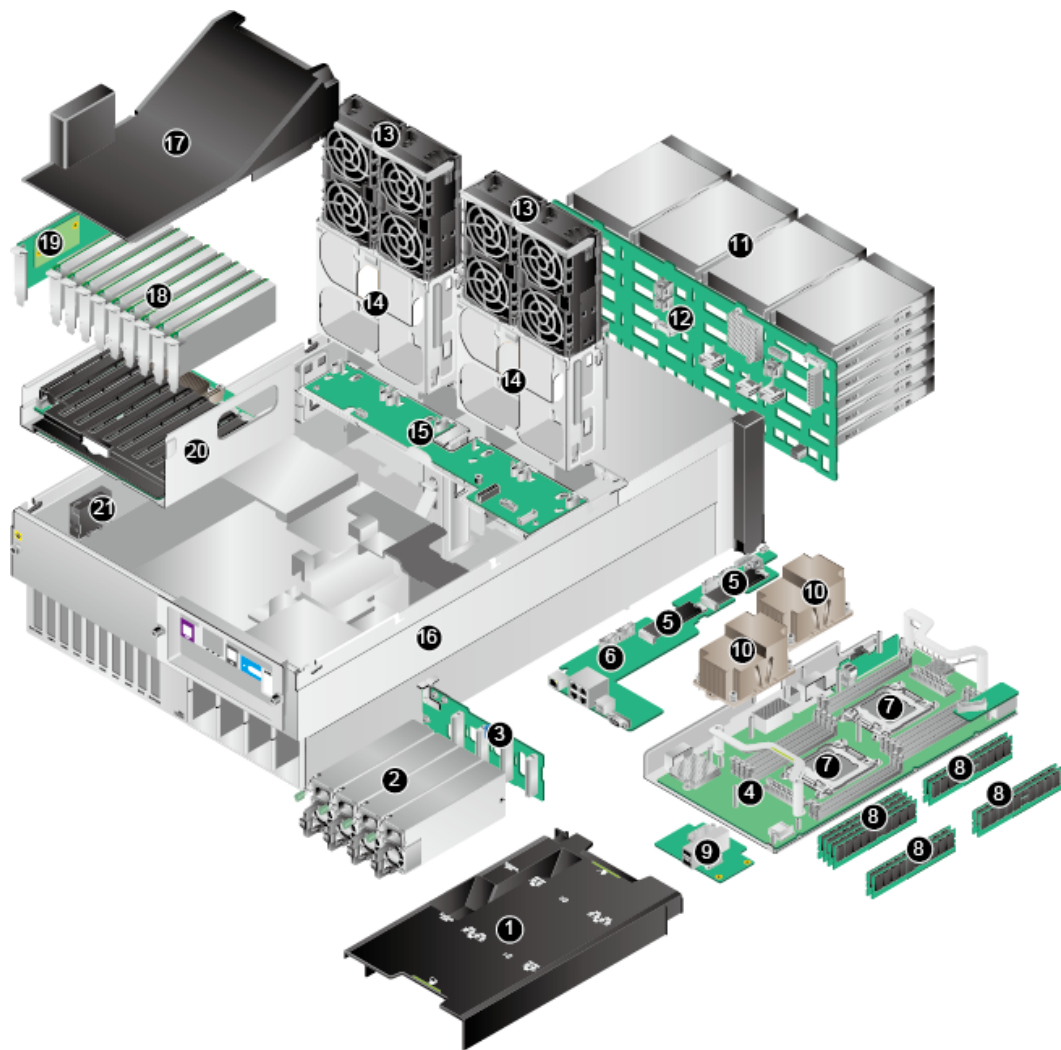
**Figure 4-1** Components of the G2500 (configured with 19 PCIe cards)



1	Mainboard air duct	2	PSU
3	Power adapter board	4	x86 mainboard
5	M.2 SSD cards	6	Mezzanine card 1

7	CPU	8	DIMMs
9	Mezzanine card 2	10	CPU heat sinks
11	Hard disk	12	Hard disk backplane
13	Fan modules	14	Fan module brackets
15	Fan adapter board	16	Chassis
17	PCIe card air duct	18	PCIe card
19	RAID controller card	20	PCIe module 1 (providing slots 1 to 10)
21	RAID controller card supercapacitor	22	PCIe module 2 (providing slots 11 to 20)

Figure 4-2 Components of the G2500 (configured with 10 PCIe cards)



1	Mainboard air duct	2	PSU
3	Power adapter board	4	x86 mainboard
5	M.2 SSD cards	6	Mezzanine card 1
7	CPUs	8	DIMMs
9	Mezzanine card 2	10	CPU heat sinks
11	Hard disk	12	Hard disk backplane
13	Fan modules	14	Fan module brackets
15	Fan adapter board	16	Chassis
17	PCIe card air duct	18	PCIe card
19	RAID controller card	20	PCIe module (providing slots 1 to 10)
21	RAID controller card supercapacitor	-	-

**Table 4-2** describe the components of the G2500.

**Table 4-2** G2500 components

No.	Component	Description
1	Mainboard air duct	Provides heat dissipation channels for the mainboard area to improve heat dissipation efficiency of fans modules.
2	PSU	Supplies power to the chassis and supports 2+2 redundancy, hot swap, and 100 V/220 V AC and 240 V high-voltage DC input.
3	Power adapter board	Connects to PSUs and supplies power to components in the chassis.
4	x86 mainboard	One of the core components of the server. It integrates the following components: <ul style="list-style-type: none"> <li>● Basic x86 components, which are used for installing components such as CPUs and DIMMs</li> <li>● A display chip</li> <li>● An M.2 SSD card controller, supporting RAID 0 and RAID 1</li> <li>● A management module, which supports device status monitoring, remote maintenance, and management</li> </ul>
5	M.2 SSD card	Two M.2 (2280) SATA SSD cards
6	Mezzanine card 1	Integrates a NIC with four GE ports.

No.	Component	Description
7	CPU	Provides the universal computing capability for the system and supports the Intel Broadwell-EP E5-2600 v4 series processors. The maximum TDP is 135 W.
8	DIMM	A maximum of 12 DDR4 RDIMMs or LRDIMMs.
9	Mezzanine card 2	Integrates a NIC with two 10GE ports.
10	CPU heat sink	Dissipates heat from x86 system CPUs and comes in two models: Standalone heat sink, used for standard configuration (maximum temperature: 40°C) Conjoined heat sink, used for enhanced configuration (maximum temperature: 50°C)
11	Hard disk	<ul style="list-style-type: none"> <li>● Provides data storage media and supports hot swap.</li> <li>● Supports a maximum of twenty-four 2.5-inch or 3.5-inch SAS/SATA hard disks.</li> </ul>
12	Hard disk backplane	Provides power and data transmission channels for hard disks.
13	Fan module	Dissipates heat from the server, supports hot swap, and allows one-fan failures.
14	Fan module bracket	Houses a fan module.
15	Fan adapter board	Provides power supply and speed adjustment management channels for fan modules.
16	Chassis	Houses all components.
17	PCIe card air duct	Provides heat dissipation channels for the PCIe card area to improve heat dissipation efficiency of fans modules.
18	PCIe card	Optional component. Nineteen half-height half-length standard PCIe cards are supported, which can GPU cards, RAID controller cards, and NICs.
19	RAID controller card	Installed in slot 1 and provides a driver and RAID functions for the 24 hard disks.
20	PCIe module 1 (providing slots 1 to 10)	PCIe module at the rear of the chassis, providing slots 1 to 10 on the rear panel for half-height half-length standard PCIe cards.
21	RAID controller card supercapacitor	Provides power-off protection for a RAID controller card.



No.	Component	Description
22	PCIe module 2 (providing slots 11 to 20)	<p>PCIe module inside the chassis, providing slots 12 to 20 for half-height half-length standard PCIe cards. Slot 11 is reserved.</p> <p><b>NOTE</b> This module is optional and cannot be used on a server with 10 PCIe cards.</p>

## 4.2 Front Panel Components

Figure 4-3 Front panel



1	Hard disk	2	Label (with the ESN label)
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



## 4.3 Front Panel Indicators and Buttons

Figure 4-4 Indicators and buttons on the front panel



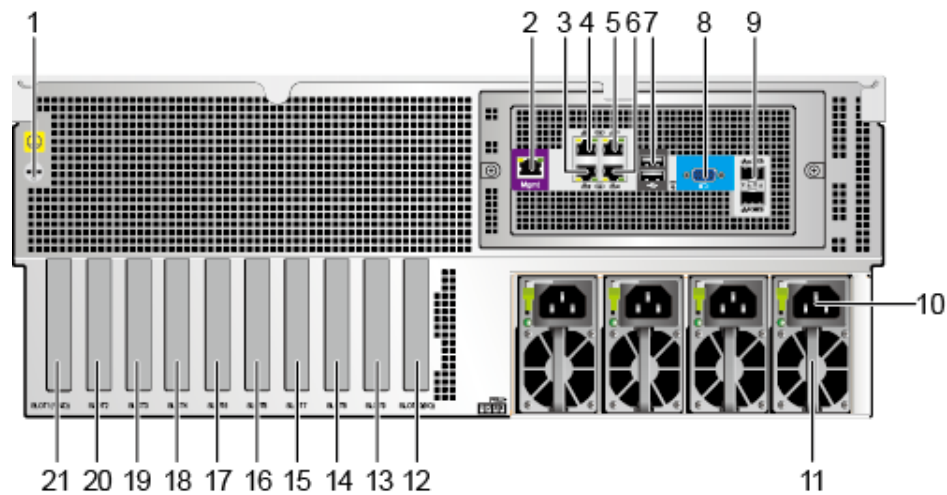
1	Fault diagnosis LED	2	Health indicator
3	UID button/indicator	4	Power button/indicator

**Table 4-3** Indicators and buttons on the front panel

Silk Screen	Indicator and Button	State Description
	Fault diagnosis LED	<ul style="list-style-type: none"> <li>● ---: The server is operating normally.</li> <li>● Fault code: A server component is faulty. For details about fault code, see the <i>HUAWEI G2500 Server Alarm Handling (iBMC)</i>.</li> </ul>
	Power button/indicator	<p>Power indicator:</p> <ul style="list-style-type: none"> <li>● Steady yellow: The server is ready to be powered on.</li> <li>● Steady green: The server has been properly powered on.</li> <li>● Blinking yellow: The iBMC is starting.</li> <li>● Off: The server is not connected to a power source.</li> </ul> <p>Power button:</p> <ul style="list-style-type: none"> <li>● When the server is powered on, you can press and hold down this button for 6 seconds to power off the server.</li> </ul>
	UID button/indicator	<p>UID indicator:</p> <ul style="list-style-type: none"> <li>● Steady or blinking blue: The server is being located.</li> <li>● Off: The server is not being located.</li> </ul> <p>UID button:</p> <ul style="list-style-type: none"> <li>● You can press this button to turn on or off the UID indicator.</li> <li>● You can press and hold down this button for 4 to 6 seconds to reset the iBMC.</li> </ul>
	Health indicator	<ul style="list-style-type: none"> <li>● Steady green: The server is operating properly.</li> <li>● Blinking red at 1 Hz: A major alarm has been generated on the server.</li> <li>● Blinking red at 5 Hz: A critical alarm has been generated on the server.</li> </ul>

## 4.4 Rear Panel Components

Figure 4-5 Rear panel



1	Grounding screw	2	Management network port (Mgmt)
3 to 6	GE LOM ports (electrical ports)	7	USB 2.0 port
8	VGA port	9	10GE LOM port (optical port)
10	PSU socket	11	PSU
12 to 20	PCIe slots	21	RAID controller card slot

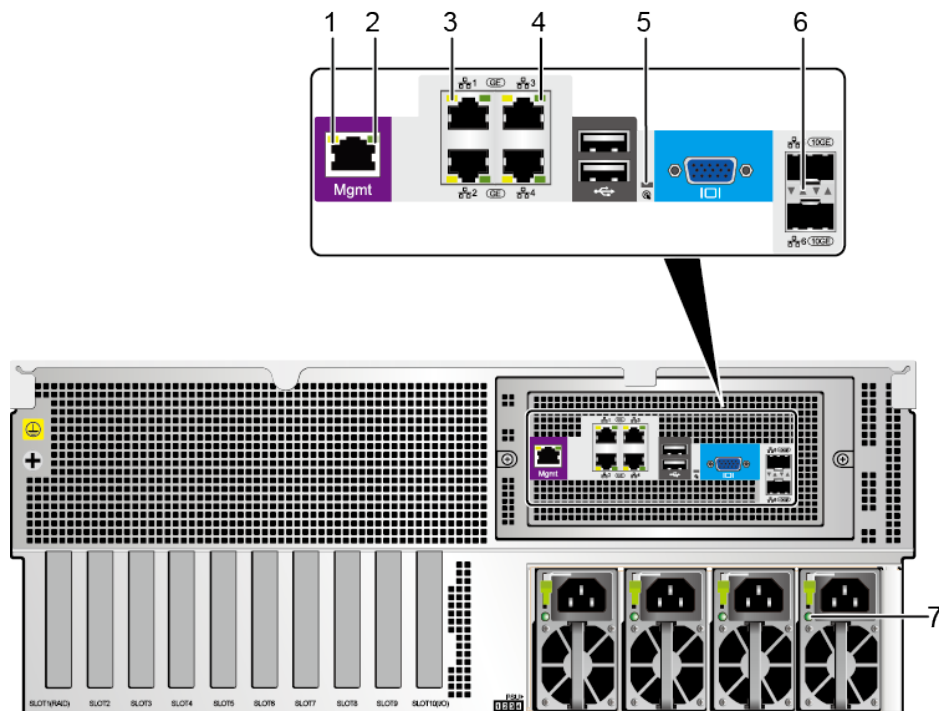
Table 4-4 Ports on the rear panel

Port	Type	Quantity	Description
VGA port	DB15	1	The VGA port is used to connect a terminal, such as a monitor or KVM.
USB port	USB 2.0	2	The USB ports connect USB devices to the server. <b>NOTE</b> Before connecting an external USB device, check that the USB device functions properly. A server may operate abnormally if an abnormal USB device is connected.

Port	Type	Quantity	Description
Management network port (Mgmt)	RJ45	1	The GE management port can be used for logging in to the iBMC for server management.
GE LOM port	RJ45	4	These GE service ports are in-band ports of the x86 system.
10GE LOM port (optical port)	SFP+	2	These 10GE service ports are in-band ports of the x86 system.

## 4.5 Rear Panel Indicators

Figure 4-6 Indicators on the rear panel



1	Management network port activity indicator	2	Management network port link indicator
3	GE electrical port activity indicator	4	GE electrical port link indicator
5	UID indicator	6	10GE optical port indicator
7	PSU indicator	-	-

 **NOTE**

The indicator of each 10GE optical port is indicated by a triangle mark.

**Table 4-5** Indicators on the rear panel

Indicator	State Description
Management network port activity indicator	Blinking yellow: Data is being transmitted. Off: No data is being transmitted.
Management network port link indicator	Steady green: The network port is properly connected. Off: The network port is not connected.
GE electrical port activity indicator	<ul style="list-style-type: none"> <li>● Blinking yellow: Data is being transmitted.</li> <li>● Off: No data is being transmitted.</li> </ul>
GE electrical port link indicator	<ul style="list-style-type: none"> <li>● Steady green: The network port is properly connected.</li> <li>● Off: The network port is not connected.</li> </ul>
Data transmission rate indicator for a 10GE network port	<ul style="list-style-type: none"> <li>● Steady green: The data transmission rate is 10 Gbit/s.</li> <li>● Off: The network port is not connected.</li> </ul>
Connection status indicator for the 10GE port	<ul style="list-style-type: none"> <li>● Steady yellow: The network port is properly connected.</li> <li>● Blinking yellow: Data is being transmitted.</li> <li>● Off: The network port is not connected.</li> </ul>
UID indicator	<ul style="list-style-type: none"> <li>● Steady blue: The server has been located.</li> <li>● Off: The server is not located.</li> </ul>
PSU indicator	<ul style="list-style-type: none"> <li>● Steady green: The input and 12 V output are normal.</li> <li>● Blinking green at 1 Hz:                             <ul style="list-style-type: none"> <li>- Input overvoltage or undervoltage</li> <li>- Standby node in cold standby mode</li> <li>- PSU in deep sleep mode</li> </ul> </li> <li>● Blinking green at 4 Hz: Online upgrade is being performed.</li> <li>● Steady orange: The input is normal, but there is no power output due to overheat protection, overcurrent protection, short circuit protection, output overvoltage protection, or some component failures.</li> <li>● Off: There is no AC input.</li> </ul>

## 4.6 Hard Disk Slot Numbers and Indicators

## 4.6.1 Hard Disk Slot Numbers

Figure 4-7 Hard disk slot numbers



## 4.6.2 Hard Disk Indicators

Figure 4-8 Hard disk indicators

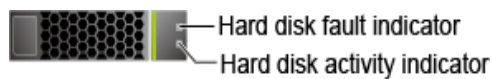


Table 4-6 SAS/SATA hard disk indicators

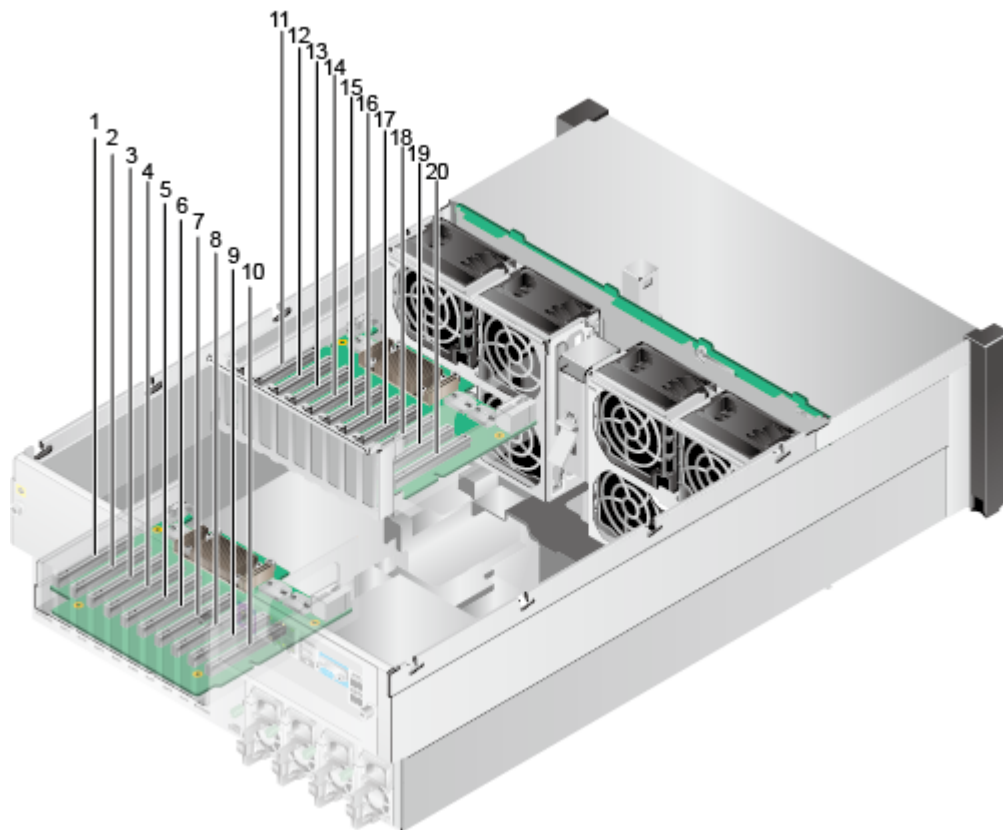
Indicator	State Description
Hard disk fault indicator	<ul style="list-style-type: none"> <li>● Off: The hard disk is operating normally or not detected in a RAID array.</li> <li>● Blinking yellow: The hard disk is being located, or RAID is being rebuilt.</li> <li>● Steady yellow: The hard disk is not detected, the hard disk is faulty, or the RAID array of the hard disk is abnormal.</li> </ul> <p><b>NOTE</b> If the fault indicator is steady yellow, run a command to check the RAID status to determine whether the RAID array is abnormal or whether the hard disk is faulty. For details, see the <a href="#">Huawei V2&amp;V3 Server RAID Controller Card User Guide</a>.</p>
Hard disk activity indicator	<ul style="list-style-type: none"> <li>● Off: The hard disk is faulty or not detected.</li> <li>● Blinking green: Data is being read from or written to the hard disk, or synchronized between hard disks.</li> <li>● Steady green: The hard disk is inactive.</li> </ul>

## 4.7 PCIe Slots

The G2500 contains two PCIe modules for installing standard PCIe cards. One module is at the rear of the chassis and provides slots 1 to 10. The other module is in the chassis and

provides slots 12 to 20. Slot 11 is reserved and a total of 19 PCIe slots are available. All PCIe slots are PCIe 3.0 ports and use x16 connectors. The bus bandwidth is x8. These slots are compatible with half-height half-length standard PCIe x16, x8, x4, and x1 cards.

**Figure 4-9** PCIe slot layout



Slot 1 is dedicated for a RAID controller card.

Slot 10 is dedicated for an I/O card.

Slot 11 is reserved.

Slots 2 to 9 and 12 to 19 are dedicated for standard GPU cards.

Slot 1 is directly connected to CPU 2.

Slots 2 to 10 and 12 to 20 are the expansion slots of the PCIe switch.

Install the PCIe module providing slots 1 to 10 if no more than 10 slots are required.

If the required uplink bandwidth is high or more PCIe slots are required, install the PCIe module providing slots 11 to 20.

**Table 4-7** describes the mapping between PCIe slots and CPUs.

**NOTE**

The PCIe slots mapping to a vacant CPU socket are unavailable.

**Table 4-7** PCIe slot description

PCIe Slot	CPU	Device (B/D/F)	Remarks
Slot 1	CPU 2	81/00/00	This slot is directly connected to CPU 2 and dedicated for the RAID controller card.
Slot 2	CPU 1	08/00/00	These slots are the expansion slots of the PCIe switch and support PCIe cards with ports.
Slot 3		0b/00/00	
Slot 4		0e/00/00	
Slot 5		17/00/00	
Slot 6		1a/00/00	
Slot 7		1d/00/00	
Slot 8		20/00/00	
Slot 9		11/00/00	
Slot 10		14/00/00	
Slot 11	N/A	N/A	Reserved
Slot 12	CPU 2	85/00/00	These ports are the expansion slots of the PCIe switch and located on the PCIe module inside the chassis.
Slot 13		88/00/00	
Slot 14		8b/00/00	
Slot 15		94/00/00	
Slot 16		97/00/00	
Slot 17		9a/00/00	
Slot 18		9d/00/00	
Slot 19		8e/00/00	
Slot 20		91/00/00	

## PCIe Card Configuration Rules

- The RAID controller card can be installed only in slot 1 (directly connected to a CPU).
- It is recommended that an I/O card be installed in slot 10 (with a dedicated ventilation hole).
- If two PCIe modules are configured, it is recommended that the PCIe cards be evenly installed in slots 2 to 10 and slots 12 to 20, ensuring balanced uplink bandwidth distribution.
- If a dedicated slot is vacant, you can install a card in the G2500 compatibility list by strictly follow the installation requirements. An unauthenticated card may result in compatibility issues or reduce the heat dissipation capability of the system.



- Install dedicated PCIe filler modules in vacant slots. Otherwise, the heat dissipation capability of the system will be reduced.

## 4.8 DIMMs

The G2500 provides up to 12 DDR4 DIMM slots (six slots per CPU) for installing either RDIMMs or LRDIMMs. The maximum memory speed is 2400 MT/s, and the theoretical maximum memory bandwidth is 153.6 GB/s.

### Memory Capacity Configuration Rules

Observe the following rules when configuring DIMMs:

- DIMMs of different types (RDIMM and LRDIMM) and specifications (such as the capacity, bit width, rank, and height) cannot be installed on one server. That is, one server must use DIMMs of the same BOM number.
- The G2500 supports DIMMs of 16 GB, 32 GB, and 64 GB.
- Each memory channel supports a maximum of eight ranks.
- The maximum number of DIMMs that can be installed in the server depends on the CPU type, DIMM type, number of ranks, operating voltage, and number of DIMM slots.

#### NOTE

Restriction of the number of ranks supported by each channel on the maximum number of DIMMs supported by each channel:

$$\text{Number of DIMMs supported by each channel} \leq \frac{\text{Number of ranks supported by each memory channel}}{\text{Number of ranks supported by each DIMM}}$$

- Each channel supports only one 4-rank 64 GB LRDIMM and a server supports a maximum of eight such DIMMs.
- All DIMMs on the server operate at the same speed, which is determined as the smaller value of the following:
  - Memory speed supported by a specified CPU
  - Actual working speed of the DIMMs, which varies with the memory speed supported by the DIMMs, working voltage, and number of DIMMs in memory channels.

**Table 4-8** Memory configuration parameters

Item	RDIMM	LRDIMM
Rank	Dual-rank	Octal-rank
Rated speed (MT/s)	2400	2400
Rated voltage (V)	1.2	1.2
Operating voltage (V)	1.2	1.2
Maximum number of DIMMs	12	12
Maximum capacity per RDIMM (GB)	32	64
Maximum memory capacity (GB)	384	512

Item		RDIMM	LRDIMM
Maximum memory capacity at the maximum operating speed (GB)		256	512
Maximum operating speed (MT/s)	One RDIMM per channel	2400	2400
	Two RDIMMs per channel	2133	-

## DIMM Configuration Rules

- Configure at least one DIMM for each CPU and the same number of DIMMs for CPU 1 and CPU 2.
- Install DIMMs from slots A to F.

**Table 4-9** DIMM installation sequence

CPU	DIMM Installation Sequence
CPU 1 and CPU 2	000(A), 100(A), 010(B), 110(B), 020(C), 120(C), 030(D), 130(D), 021(E), 121(E), 031(F), 131(F)

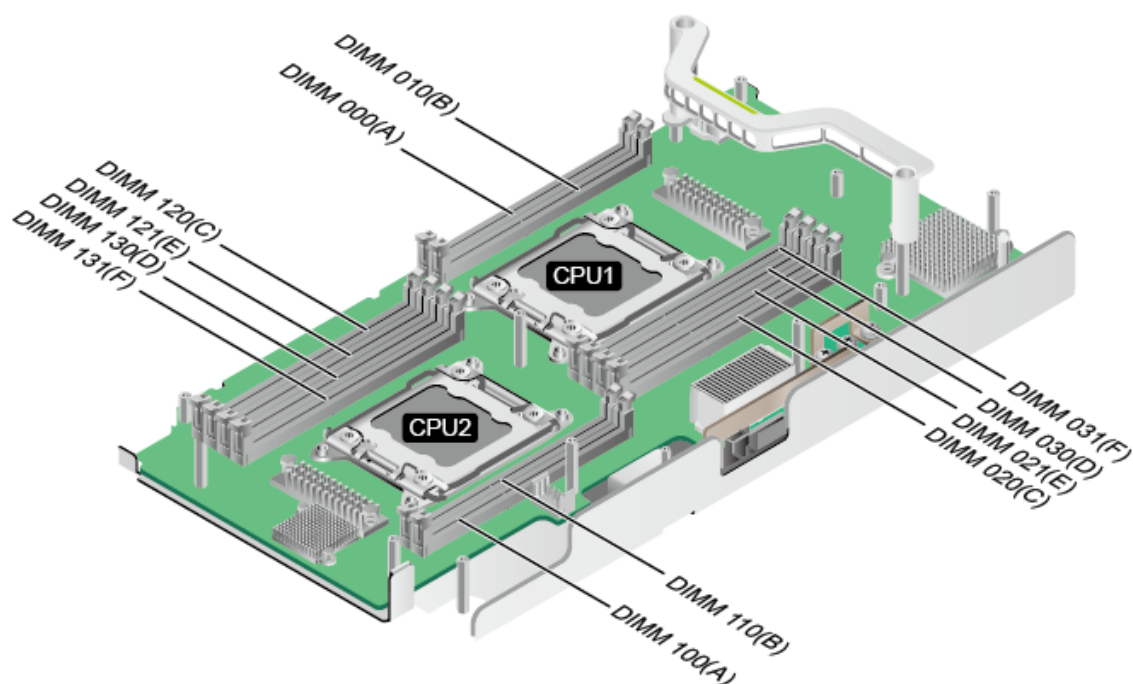
Each CPU integrates four memory channels. [Table 4-10](#) lists the mapping between memory slots, channels, and CPUs. [Figure 4-10](#) shows the DIMM installation positions.

**Table 4-10** DIMM positions

CPU	Memory Channel	DIMM ID	Primary DIMM
CPU 1	Channel 0	DIMM000(A)	DIMM000(A)
	Channel 1	DIMM010(B)	DIMM010(B)
		DIMM020(C)	
	Channel 2	DIMM021(E)	DIMM020(C)
		DIMM030(D)	
	Channel 3	DIMM031(F)	DIMM030(D)
CPU 2	Channel 0	DIMM100(A)	DIMM100(A)
	Channel 1	DIMM110(B)	DIMM110(B)
	Channel 2	DIMM120(C)	DIMM120(C)
		DIMM121(E)	

CPU	Memory Channel	DIMM ID	Primary DIMM
	Channel 3	DIMM130(D)	DIMM130(D)
		DIMM131(F)	
<b>NOTE</b> The format of a DIMM ID is <i>CPU number+Memory channel number+DIMM slot number</i> .			

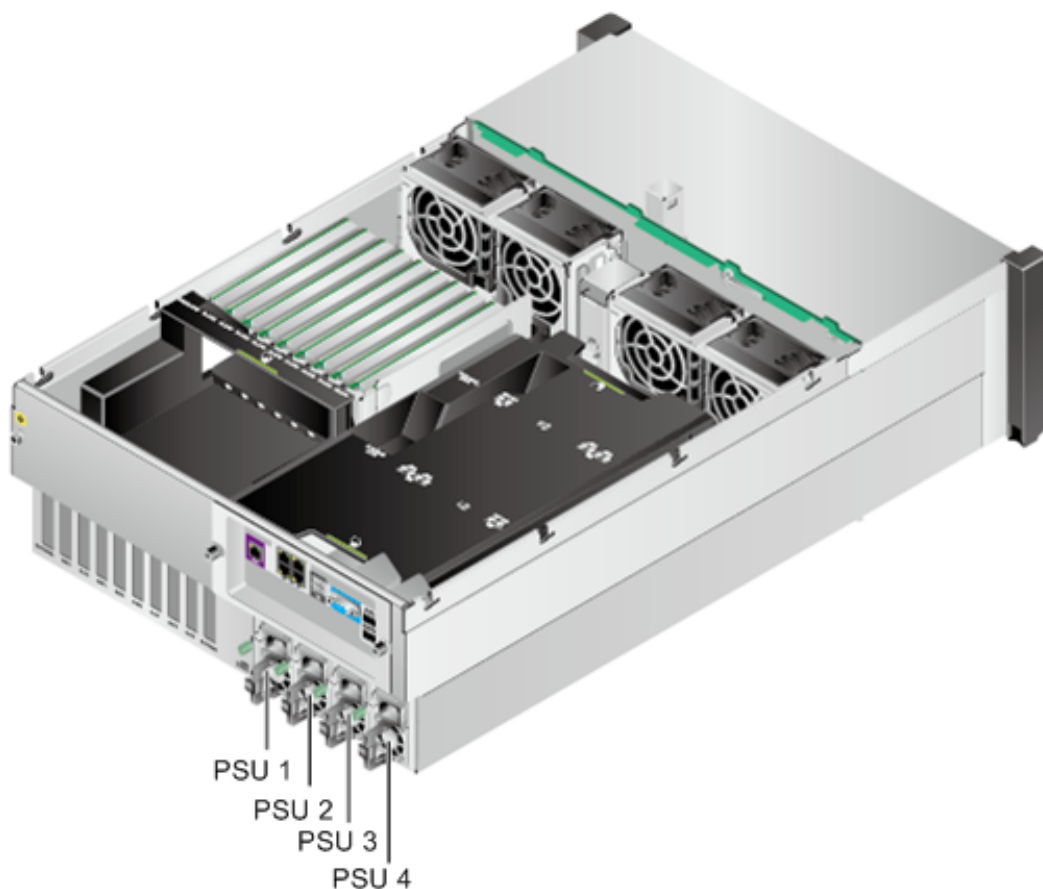
Figure 4-10 DIMM installation positions



## 4.9 PSUs

The G2500 uses four hot-swappable 1500 W PSUs, which support internal fault monitoring, power consumption monitoring, and fan speed adjustment. The PSUs also support AC input and high-voltage DC input.

**Figure 4-11** PSUs



You can choose a PSU redundancy mode based on PSU reliability requirements. [Table 4-11](#) describes supported PSU redundancy modes.

**Table 4-11** PSU redundancy modes

Redundancy Mode	Description
No redundancy (N+0)	The available system power is the sum of the output power of all PSUs. (This mode delivers low reliability and is not recommended.)
PSU redundancy (N+1)	This mode ensures proper system operating when one PSU fails. The available system power is the sum of the output power of N PSUs.
PSU and input redundancy (N+N)	This mode is the default redundancy mode and ensures proper system operating when one PSU or the power supply fails. The available system power is the sum of the output power of N PSUs.

 **NOTE**

- Install dedicated PSU filler modules in vacant PSU slots.
- In enhanced configuration, the PSUs must work in N+1 or N+N redundancy mode.

The maximum output power of the PSUs varies according to the input voltage and ambient temperature, as shown in [Table 4-12](#). Configure PSUs according to the maximum power consumption of the server.

 **NOTE**

- The power consumption varies with the server configuration. Use the [Huawei Server Power Calculator](#) to calculate the power consumption.
- If the server is used between 1800 m (5905.44 ft) and 5000 m (16404 ft), the maximum temperature decreases by 1°C (1.8°F) for every increase of 220 m (721.78 ft).

**Table 4-12** PSU parameters

Input Parameters	Power Parameters	Energy Efficiency Grade
200 V AC to 240 V AC/10 A	12 V/1500 W @50°C	80 PLUS Platinum
240 V DC/8 A	12 V/1500 W @50°C	
200 V AC to 240 V AC/6.5 A	12 V/1000 W @55°C	
240 V DC/5.5 A	12 V/1000 W @55°C	
100 V AC to 127 V AC/12.5 A	12 V/1000 W	
<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>● The output power of the PSUs varies according to the input voltage and the highest ambient temperature.</li> <li>● Standard configuration supports the highest ambient temperature of 40°C (104°F). Its PSU output parameters are the same as those at 50°C (122°F) listed in the table.</li> <li>● Enhanced configuration supports the highest ambient temperature of 55°C (131°F). Its PSU output parameters are the same as those at 55°C (131°F) listed in the table.</li> <li>● If the input power cable specification is 100 V AC to 127 V AC 10 A, the maximum output power is 850 W.</li> </ul>		

# 5 System Management

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The G2500 uses Huawei's proprietary intelligent baseboard management controller (iBMC) for remote server management. The iBMC complies with Intelligent Platform Management Interface (IPMI) 2.0 and Redfish specifications to provide highly reliable hardware monitoring and management. The iBMC:

- Uses an independent port.
- Supports Simple Network Management Protocol (SNMP) and Intelligent Platform Management Interface (IPMI).
- Provides the GUI, virtual KVM, virtual media, Serial Over LAN (SOL), intelligent power supply, remote control, and hardware monitoring features.
- Supports Huawei eSight management software and integration with third-party management systems, such as Microsoft SystemCenter and Nagios.

The iBMC supports the following features and protocols:

- KVM and text console redirection
- Remote virtual media
- IPMI
- Simple Network Management Protocol (SNMP)
- Redfish 1.0
- Login using a web browser

**Table 5-1** describes the features of the iBMC.

**Table 5-1** iBMC features

Feature	Description
Management interface	Integrates with any standard management system through the following interfaces: <ul style="list-style-type: none"> <li>● IPMI</li> <li>● CLI</li> <li>● HTTPS</li> <li>● SNMP</li> <li>● Redfish 1.0</li> </ul>
Fault detection	Detects faults and accurately locates faults in hardware, for example, an FRU.
Alarm management	Supports alarm management and reports alarms using the SNMP trap, Simple Mail Transfer Protocol (SMTP), and syslog service to ensure 24/7 continuous operation.
Integrated virtual KVM	Provides remote maintenance measures for troubleshooting the system, and supports a maximum resolution of 1920 x 1200.
Integrated virtual media	Virtualizes local media devices, images, USB keys, and folders into media devices on a remote server, simplifying OS installation. The virtual DVD-ROM drive supports a maximum transmission rate of 8 MB/s.
WebUI	Provides a user-friendly graphical user interface (GUI), which simplifies users' configuration and query operations. List of compatible OSs: <ul style="list-style-type: none"> <li>● Windows 7 32-bit or 64-bit</li> <li>● Windows 8 32-bit or 64-bit</li> <li>● Windows Server 2008 R2 64-bit</li> <li>● Windows Server 2012 64-bit</li> <li>● Red Hat Enterprise Linux 6.0 64-bit</li> <li>● Mac OS X v10.7</li> </ul> List of compatible browsers: <ul style="list-style-type: none"> <li>● Internet Explorer 8.0 and 10.0 (applicable only to Windows)</li> <li>● Mozilla Firefox 9.0/23.0</li> <li>● Chrome 13.0 and 31.0 (applicable only to Windows)</li> <li>● Safari 5.1 (applicable only to Mac)</li> </ul> Compatible JRE running environment: <ul style="list-style-type: none"> <li>● JRE 1.6.0 U25/1.7.0 U40</li> </ul>
Fault reproduction	Reproduces faults to facilitate fault diagnosis.

Feature	Description
Screen snapshots and screen videos	Allows you to view screenshots and videos without login, which facilitates routine preventive maintenance inspection (PMI)
Domain Name Service (DNS)/ Active Directory (AD)	Supports the DNS and AD, significantly simplifying network and configuration management.
Dual-image backup	Starts software from a backup image if the software fails.
Asset management	Supports intelligent asset management.
IPv6	Supports IPv6 to ensure sufficient IP addresses.
Network Controller Sideband Interface (NC-SI)	Supports NC-SI, which allows you to access the iBMC through the service network port.



# 6 Product Specifications

The G2500 supports two types of product configurations. The operating temperature supported by the G2500 varies according to the actual configuration. For details, see [Table 6-1](#).

**Table 6-1** Product specifications of the G2500

Configuration Type	Configuration of Key Components	Maximum Number of PCIe Cards	Operating Temperature
Standard configuration	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>● 19 x PCIe cards (16 GPUs supported)</li> </ul>	Long term: 5°C to 40°C (41°F to 104°F)
	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>● 10 x PCIe cards (8 GPUs supported)</li> </ul>	Long term: 5°C to 40°C (41°F to 104°F)
Enhanced configuration	<ul style="list-style-type: none"> <li>● 24 x SAS/SATA hard disks and SSDs</li> <li>● 2 x E5-2600 v4 CPUs + 12 x DDR4 DIMMs</li> </ul>	<ul style="list-style-type: none"> <li>● 10 x PCIe cards (8 GPUs supported)</li> </ul>	Long term: 5°C to 50°C (41°F to 122°F)  Short term: 5°C to 55°C (41°F to 131°F)
<p><b>NOTE</b></p> <p>"10 x PCIe cards" in configuration 1 and configuration 2 are similar in appearance and hardware. However, the fan speed adjustment policy, temperature alarm threshold, and CPU heat sink are different. Configuration 1 supports only the highest operating temperature of 40°C.</p> <p>For the definition of short term, see <a href="#">7 Environmental Specifications</a>.</p>			

[Table 6-2](#) lists the component specifications of the G2500.

**Table 6-2** Component specifications of the G2500

Component	Specifications
CPU	<ul style="list-style-type: none"> <li>● Two Intel® Xeon® E5-2600 v4 (Broadwell-EP) CPUs with a maximum of 135 W TDP power consumption.</li> <li>● Memory controllers integrated to support four DDR4 memory channels, each supporting a memory bus frequency of 1600, 1866, 2133, or 2400 MHz.</li> <li>● Two Quick Path Interconnect (QPI) links for interconnection between two servers. The transmission speed can reach 9.6 GT/s on each link.</li> <li>● Dual-CPU configuration recommended. Configuring only one CPU may downgrade the configuration specifications of other components.</li> </ul>
DIMM	<ul style="list-style-type: none"> <li>● A maximum of 12 DDR4 DIMM slots (six per CPU).</li> <li>● A maximum memory speed of 2400 MT/s, and a theoretical maximum memory bandwidth of 153.6 GB/s.</li> <li>● Memory protection technologies including error-correcting code (ECC), memory mirroring, and memory sparing.</li> <li>● Two types of DIMMs, Registered Dual In-line Memory Module (RDIMM) and Load-Reduced DIMM (LRDIMM).</li> <li>● The G2500 supports 16 GB, 32 GB, and 64 GB DIMMs, and provides a maximum of 512 GB memory when DIMMs are fully configured.</li> </ul> <p><b>NOTE</b> DIMMs of different types (RDIMM and LRDIMM) and specifications (such as the capacity, bit width, rank, and height) cannot be installed on one server. That is, all DIMMs on one server must have the same BOM number.</p>
RAID	<ul style="list-style-type: none"> <li>● Two RAID controller cards (LOM and standard card).</li> <li>● Independent and replaceable RAID controller cards, namely, LSI SAS3108 RAID controller cards.</li> <li>● RAID 0, 1, 10, 5, 50, 6, and 60.</li> <li>● A supercapacitor for protecting cache data from power failures.</li> <li>● Support for LOM LSI SAS2308 hard disk controller.</li> </ul>
Storage	<ul style="list-style-type: none"> <li>● A maximum of 24 front 2.5- or 3.5-inch SAS/SATA hard disks and SSDs.</li> <li>● Support for hot swap.</li> </ul> <p><b>NOTE</b> The maximum storage capacity of the server varies depending on the maximum capacity of a single hard disk. For details about the maximum storage capacity of your server, contact your local Huawei sales representatives.</p>

Component	Specifications
M.2 SSD card	<p>Two M.2 (2280) SATA SSD cards The M.2 SSD cards can be configured in RAID 0 or 1.</p> <p><b>NOTE</b> M.2 SSD cards are flash memory that uses SATA ports. NAND flash memory is now commonly used in the industry. It uses electrons on the floating gate to store data. However, electrons frequently passing through the floating gate can weaken the gate's ability to store electrons and eventually make the gate unable to store electrons. This problem is common to NAND flash memory. To prevent failures of NAND flash memory, accurately assess the amount of service data to be written.</p> <p>For details about the application scenarios of M.2 SSDs, see the <i>M.2 SSD Technical White Paper</i>.</p>
PCIe slot	<ul style="list-style-type: none"> <li>● A maximum of 19 PCIe 3.0 x8 PCIe slots. The slots are numbered from 1 to 20, among which slot 11 is reserved.</li> <li>● Outbound ports for slots 1 to 10 on the panel. Remaining slots are inside the chassis.</li> <li>● Use of x16 connectors for all PCIe slots. The bus bandwidth is x8. The slots are compatible with half-height half-length standard PCIe x16, x8, x4, and x1 cards.</li> <li>● Direct connection of the slot dedicated for the RAID controller card to the CPU. Other slots are dedicated for PCIe switches.</li> <li>● Use of the 10 PCIe slots on the rear panel for the chassis that implements the temperature enhancement function.</li> </ul>
Service port	<p>Support for LOM NIC controller cards, which provide the following the network ports:</p> <ul style="list-style-type: none"> <li>● Four GE electrical ports, supporting NC-SI, WOL, and PXE</li> <li>● Two 10GE optical ports, supporting PXE</li> </ul> <p><b>NOTE</b> By default, GE port 1 supports PXE, and NCSI is disabled by default. The setting can be changed as needed.</p>
Maintenance port	<p>Two USB 2.0, one DB-15 VGA, and one RJ-45 system management network ports.</p>
Video card	<p>SM750 graphics card chip integrated in the mainboard, providing a memory capacity of 32 MB and supporting a maximum resolution of 1920 x 1200 at 60 Hz with 16 M colors.</p> <p><b>NOTE</b> Windows Server 2012, Windows Server 2012 R2, and Windows Server 2016 support the 1920 x 1200 resolution only after a dedicated video card driver is installed. Other OSs support only the maximum resolution supported by their drivers.</p>
Fan module	<ul style="list-style-type: none"> <li>● Four groups of fan modules. Each group consists of two fan modules, which are hot swappable.</li> <li>● Support for failures of single fans.</li> </ul>
PSU	<ul style="list-style-type: none"> <li>● Four platinum AC power modules, which are hot swappable.</li> <li>● N+N redundancy. When PSUs are fully configured, the server can continue to function properly if two PSUs fail.</li> </ul>

<b>Component</b>	<b>Specifications</b>
Power consumption	A maximum of 2450 W in full configuration of the server. The actual power consumption varies according to the configuration and running services.

# 7 Environmental Specifications

This chapter describes the technical specifications for the G2500.

**Table 7-1** lists the environmental specifications of the G2500.

**Table 7-1** Environmental specifications

Item	Description
Dimensions (H x W x D)	175 mm (4U) x 447 mm x 675 mm (6.89 in. x 17.60 in. x 26.57 in.) <b>NOTE</b> The depth indicates the distance from the front panel of the chassis to the ports on the rear panel, excluding protruding components such as mounting ears, PSU handles, and PCIe cards.
Installation space	The server fits into a common cabinet that complies with the IEC 297 standard. <ul style="list-style-type: none"> <li>● Cabinet width: 19 in.</li> <li>● Cabinet depth: &gt; 1000 mm (39.37 in.)</li> </ul> <b>NOTE</b> To install the server in a cabinet with a depth of 800 mm (31.50 in.), ensure that the distance between the inner side of the front door and the mounting bar is within 20 mm (0.79 in.) to 25 mm (0.98 in.).
Weight	<ul style="list-style-type: none"> <li>● Maximum weight of the server in full configuration: 54.5 kg (120.15 lb)</li> <li>● Weight of packing materials: 17.5 kg (38.58 lb)</li> </ul>
Power consumption	Maximum input power consumption: 2450 W <b>NOTE</b> The power consumption varies depending on the server configuration. Use the <a href="#">Huawei Server Power Calculator</a> to calculate the actual power consumption.
Input voltage	<ul style="list-style-type: none"> <li>● 200 V AC to 240 V AC</li> <li>● 100 V AC to 127 V AC</li> <li>● 240 V HV DC compatible</li> </ul> <b>NOTE</b> The recommended current for the external power circuit breaker connected to a PSU is 16 A.

Item	Description	
Temperature	Standard configuration	Operating temperature: 5°C to 40°C (41°F to 104°F)
	Enhanced configuration	Long-term operating temperature: 5°C to 50°C (41°F to 122°F) Short-term operating temperature: 5°C to 55°C (41°F to 131°F)
	Storage temperature: -40°C to +65°C (-40°F to +149°F)	
	Temperature change rate: < 20°C/h (36°F/h)	
	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>● When a single fan module fails, the highest operating temperature of the server is 5°C (41°F) lower than that in normal cases. When the temperature exceeds the limit, the P4 cards may be underclocked and the performance deteriorates.</li> <li>● Enhanced configuration: To ensure sufficient air intake, ensure that no component or filler panel is installed within 1U above the server.</li> <li>● Enhanced configuration: If the operating temperature exceeds 50°C, the P4 cards may be underclocked and the performance deteriorates.</li> <li>● If the server works at an environment where the temperature is 45°C or higher for a long time, the service life and performance of the hard disks may decrease, resulting in an increased hard disk failure rate.</li> <li>● Short-term operation indicates that the continuous operation duration is not more than 96 hours and the total operation duration per year is not more than 15 days.</li> <li>● For details about standard configuration and enhanced configuration, see <a href="#">Table 6-1</a>.</li> </ul>	
Humidity	Operating humidity: 8% to 90% RH (non-condensing) Storage humidity: 5% to 95% RH (non-condensing) Humidity change rate: < 20% RH/h	
Altitude	≤ 3050 m (10006.44 ft). For altitudes above 950 m (3116.76 ft), the operating temperature: <ul style="list-style-type: none"> <li>● Decreases by 1°C (1.8°F) every 175 m (574.14 ft) in configuration 1.</li> <li>● Decreases by 1°C (1.8°F) every 100 m (328.08 ft) in configuration 2.</li> </ul>	

Item	Description
Acoustic noise	<p>The following values are the declared A-weighted sound power levels (LWAd) and declared average bystander position A-weighted sound pressure levels (LpAm) when the server is operating in a 23°C (73.4°F) ambient environment. Noise emissions are measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).</p> <ul style="list-style-type: none"> <li>● Idle: <ul style="list-style-type: none"> <li>- LWAd: 7.37 Bels</li> <li>- LpAm: 56.7 dBA</li> </ul> </li> <li>● Operating: <ul style="list-style-type: none"> <li>- LWAd: 7.71 Bels</li> <li>- LpAm: 60.1 dBA</li> </ul> </li> </ul> <p><b>NOTE</b> The actual sound levels generated when the server is operating vary depending on the server configuration, workload, and ambient temperature.</p>

# 8 Component Compatibility

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## About This Chapter

### NOTE

The compatibility lists in this section include only the components that are supported at present. More software versions and hardware models will be supported to meet market requirements. For components that are not listed in the tables, use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

### [8.1 CPU](#)

### [8.2 Memory](#)

### [8.3 Storage](#)

### [8.4 RAID Controller Card](#)

### [8.5 PCIe Card](#)

### [8.6 OS and Software](#)

## 8.1 CPU

The G2500 supports two Intel® Xeon® E5-2600 v4 CPUs. Dual-CPU configuration is recommended. [Table 8-1](#) lists the CPUs supported by the G2500.

### NOTE

- A server must use the same model of CPUs.
- The CPU model supported in 40°C is different from that in a temperature higher than 40°C.
- For CPUs that are not listed in [Table 8-1](#), use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.



**Table 8-1** Supported CPUs

BOM Number	Model	Description
41020565	E5-2695 v4	X86 series-FCLGA2011-3-2100MHz-1.8V-64bit-120000mW-Broadwell EP Xeon E5-2695 v4-18Core
41020567	E5-2680 v4	X86 series-FCLGA2011-3-2400MHz-1.8V-64bit-120000mW-Broadwell EP Xeon E5-2680 v4-14Core
41020550	E5-2658 v4	X86 series-FCLGA2011-2300MHz-1.8V-64bit-105000mW-Broadwell EP Xeon E5-2658 v4-14Core
41020570	E5-2640 v4	X86 series-FCLGA2011-3-2400MHz-1.8V-64bit-90000mW-Broadwell EP Xeon E5-2640 v4-10Core
41020549	E5-2618L v4	X86 series-FCLGA2011-3-2200MHz-1.8V-64bit-75000mW-Broadwell EP Xeon E5-2618L v4-10Core
41020572	E5-2620 v4	X86 series-FCLGA2011-3-2100MHz-1.8V-64bit-85000mW-Broadwell EP Xeon E5-2620 v4-8Core

## 8.2 Memory

The G2500 provides up to 12 DDR4 DIMM slots (six slots per CPU) for installing either RDIMMs or LRDIMMs. The maximum memory speed is 2400 MT/s, and the theoretical maximum memory bandwidth is 153.6 GB/s.

The G2500 supports 16 GB, 32 GB, and 64 GB DIMMs, and provides a maximum of 512 GB memory when DIMMs are fully configured.

[Table 8-2](#) lists the hard disks supported by the G2500.

### NOTE

- A server must use the same model of DIMMs.
- For DIMMs that are not listed in [Table 8-2](#), use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

**Table 8-2** Supported DIMMs

BOM Number	Capacity	Description
06200213	16 GB	Memory Module,DDR4 RDIMM,16GB,288pin,0.83ns,2400000KHz,1.2V,ECC,Server Dedicated,2Rank(1G*8bit)

BOM Number	Capacity	Description
06200214	32 GB	Memory Module,DDR4 RDIMM,32GB,288pin,0.83ns,2400000KHz,1.2V,ECC,2Rank(2G*4bit),Server Dedicated
06200219	64 GB	Memory Module,DDR4 LRDIMM,64GB,288pin,0.8ns,2400000KHz,1.2V,ECC,4Rank(2G*4bit)

## 8.3 Storage

The G2500 can be configured with up to twenty-four 3.5-inch SAS/SATA hard disks or SSDs, and is compatible with 2.5-inch hard disks. Each hard disk can be independently installed and removed and is hot-swappable.

**Table 8-3** lists the hard disks supported by the G2500.

### NOTE

For hard disks that are not listed in **Table 8-3**, use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

**Table 8-3** Supported hard disks

BOM Number	Capacity	Description	Remarks
02311AYT	2000 GB	7200 RPM - 3.5' SATA 6Gbps - 2000GB HDD	-
02311JRE	8000 GB	7200 RPM - 3.5' SATA 6Gbps - 8000GB HDD	-
02311PPJ	4000 GB	5400 RPM - 3.5' SATA 6Gbps - 4000GB HDD-Video Surveillance	-
02311VJJ	960 GB	LE 2.5' SATA 6Gbps - 960GB SSD - 3.5inch Handle	Note 1; Note 2
02311VJK	1920 GB	LE 2.5' SATA 6Gbps - 1920GB SSD - 3.5inch Handle	Note 1; Note 2
<b>NOTE</b> 1. Light endurance (LE) SSD: 0.3-3 drive writes per day (DWPD) for 5 years, applicable to read-intensive workloads. 2. 2.5-inch hard disks are installed in 3.5-inch disk bays.			

The G2500 supports two M.2 (2280) SSD cards, which support RAID 0 or 1.

**Table 8-4** lists the M.2 SSD card supported by the G2500.

**Table 8-4** Supported M.2 SSD card

BOM Number	Capacity	Description
06010361	240 GB	Other Storage Medium,M.2 SSD,240GB SATA 6Gb/s,80.0mm * 22.0mm * 3.58 mm,No doc

## 8.4 RAID Controller Card

The G2500 supports one standard RAID controller card to be installed in PCIe slot 1.

**Table 8-5** lists the RAID controller card supported by the G2500.

 **NOTE**

For RAID controller cards that are not listed in **Table 8-5**, use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

**Table 8-5** Supported RAID controller card

BOM Number	Name	Description	Driver Download Link	Vendor	Remarks
02311KAJ	LSI SAS 3108	Function Module,12G SAS RAID Card,BC1M033108,LSI 3108 RAID Card-PCIE 3.0 X8-1GB cache-RAID 1,5,6,10,50,60,customraid	<a href="#">Link</a>	LSI	Note 1
<b>NOTE</b>					
1. To protect RAID cache data from power failures, you need to configure a supercapacitor.					

**Table 8-6** lists the performance of different RAID groups, the minimum number of disks required, and disk utilization.

**Table 8-6** RAID Level

RAID Level	Reliability	Read Performance	Write Performance	Minimum Number of Hard Disks	Hard Disk Usage
RAID 0	Low	High	High	2	100%
RAID 1	High	Low	Low	2	50%
RAID 5	Better than medium	High	Medium	3	(N - 1)/N

RAID Level	Reliability	Read Performance	Write Performance	Minimum Number of Hard Disks	Hard Disk Usage
RAID 6	Better than medium	High	Medium	4	(N - 2)/N
RAID 10	High	Medium	Medium	4	50%
RAID 50	High	High	Better than medium	6	(N - M)/N
RAID 60	High	High	Better than medium	8	(N - M x 2)/N
<b>NOTE</b> <i>N</i> indicates the number of member disks in a RAID array, and <i>M</i> indicates the number of spans in a RAID array.					

## 8.5 PCIe Card

The G2500 provides 19 PCIe slots for you to install PCIe cards as required.

### NOTE

For PCIe cards that are not listed in [Table 8-7](#), use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

[Table 8-7](#) lists the PCIe cards supported by the G2500.

**Table 8-7** Supported PCIe cards

BO M Number	Card Type	Model	Description	API Type	Vendor	Driver Download Link	Remarks
06320107	GPU	P4	Video Card,GPU-Tesla P4,PN: 900-2G414-0000-000,8GB Memory/ 192GB/s Bandwidth/ PCIE 3.0 X16-10DE-1BB3-1,75W/ Single Slot/ PassiveCooling,NULL	N/A	NVIDIA	<a href="#">Link</a>	See notes 1, 20, 102, 113, and 114.

BO M Nu mbe r	Card Typ e	Model	Description	API Type	Ven dor	Driv er Dow nloa d Link	Re mar ks
<p><b>Notes:</b></p> <p>1. The compatibility information released by third-party vendors prevails. To download drivers, visit third-party websites.</p> <p>20. Select the basic driver video mode when installing RHEL 6.</p> <p>102. KB4038782 needs to be installed on Windows Server 2016 to upgrade the system to 14393.1715.</p> <p>113. If more than 8 GPU cards are used for the Linux, modify system parameters according to the user guide before installing the GPU driver.</p> <p>114. A server supports up to 16 cards.</p>							

## 8.6 OS and Software

**Table 8-8** lists the OSs supported by the G2500.

### NOTE

For OSs that are not listed in **Table 8-8**, use the [Huawei Server Compatibility Checker](#) or consult the local Huawei sales representatives.

**Table 8-8** Supported OSs

OS	Description	Driver Download Link	Remarks
CentOS 7.2	CentOS Linux 7 Update 2 Server for Intel EM64T	<a href="#">Link</a>	Note 5
Windows 2012 R2 Hyper-v	Microsoft Windows Server 2012 R2 hyper-v	<a href="#">Link</a>	Note 5
Windows 2016 Hyper-V	Microsoft Windows Server 2016 Hyper-V	<a href="#">Link</a>	Note 5; Note 52
Ubuntu 14.04 LTS	Ubuntu 14.04 LTS Server Edition for Intel EM64T	<a href="#">Link</a>	Note 5
Ubuntu 16.04.3 LTS	Ubuntu 16.04.3 LTS Server	<a href="#">Link</a>	Note 58; Note 59
Windows Server 2012 R2	Microsoft Windows Server 2012 R2	<a href="#">Link</a>	Note 7; Note 46
Windows Server 2016	Microsoft Windows Server 2016	<a href="#">Link</a>	Note 5; Note 47; Note 52

OS	Description	Driver Download Link	Remarks
<p><b>Notes:</b></p> <p>5. An OS can be installed during the configuration of an LSI SAS3108 RAID controller card.</p> <p>7. The LSI SAS3108 driver must be loaded in the OS installation during the configuration of an LSI SAS3108 RAID controller card.</p> <p>46. A maximum memory of 4 TB is supported.</p> <p>47. A maximum memory of 24 TB is supported.</p> <p>52. After the OS is installed, KB4038782 must be installed first.</p> <p>58. Install the OS directly when configuring the LSI SAS3008 RAID controller card. To determine whether the RAID controller card is compatible with the OS, you need to use the Server Compatibility Checker to check the compatibility.</p> <p>59. Install the OS directly when configuring the LSI SAS3108 RAID controller card. To determine whether the RAID controller card is compatible with the OS, you need to use the Server Compatibility Checker to check the compatibility.</p>			

# 9 Warranty

According to the *Huawei Warranty Policy for Servers & Storage Products (Warranty Policy for short)*, Huawei provides a three-year warranty for the server, a one-year warranty for DVD-ROM drives and iBBUs, and a three-month warranty for software media.

The *Warranty Policy* stipulates warranty terms and conditions, including the available services, response time, terms of service, and disclaimer.

The warranty terms and conditions may vary by country, and some services and/or parts may not be available in all countries. For more information about warranty services in your country, contact Huawei technical support or the local Huawei representative office.

**Table 9-1** describes the warranty service response time.

**Table 9-1** Response time

Service	Response Time	Description	Remarks
Help desk	24/7	Available 24 hours a day, 7 days a week (00:00 to 24:00, Monday to Sunday)	None
Remote troubleshooting	24/7	Available 24 hours a day, 7 days a week (00:00 to 24:00, Monday to Sunday)	The response time is the period between the end of a customer's service request and beginning of the response by the technical support to offer troubleshooting services.
Online technical support	24/7	Huawei enterprise support website ( <a href="http://e.huawei.com">http://e.huawei.com</a> ): available 24 hours a day, 7 days a week (00:00 to 24:00, Monday to Sunday)	None

Service	Response Time		Description	Remarks
Licensing of software updates	24/7		Available 9 hours a day, 5 days a week (09:00 to 18:00, Monday to Friday), excluding official holidays	The repaired or replacement parts will be shipped within 45 calendar days after Huawei receives the defective parts.
Return for repair	Outside China	9/5 hours, shipment within 45 calendar days	Available 9 hours a day, 5 days a week (09:00 to 18:00, Monday to Friday), excluding official holidays	The repaired or replacement parts will be shipped within 45 calendar days after Huawei receives the defective parts.
	In China	10×5×NBD	Available 10 hours a day, 5 days a week (08:00 to 18:00, Monday to Friday), excluding official holidays. Arrival: NBD	<ol style="list-style-type: none"> <li>Service requests submitted after 15:30 will be handled the next business day.</li> <li>The response time starts when a remote decision is made to appoint an onsite engineer.</li> </ol>

**Table 9-2** describes the warranty services provided by Huawei.

**Table 9-2** Warranty services

Service	Description
Help desk	Huawei provides 24-hour after-sales technical support (such as handling requests for troubleshooting and hardware repair), receives and handles customer inquiries, complaints, and suggestions through a dedicated hotline.
Remote troubleshooting	After receiving a service request for rectifying a network or system fault, Huawei engineers will analyze and handle the fault remotely and proceed to rectify it in the shortest possible time. There are two methods for remote troubleshooting: telephone support and remote access.
Online technical support	Huawei enterprise support website ( <a href="http://e.huawei.com">http://e.huawei.com</a> ) provides product and technical materials, such as product manuals, configuration guides, networking case study, and maintenance experience collections. Registered users can access the website and download required documents.
Licensing of software updates	To ensure that the devices operate stably, Huawei provides software patches whenever necessary



Service	Description
Return for repair	Huawei provides repair or replacement services for customers within the promised time to meet customer needs for spare parts. You can return defective parts to the designated Huawei site after submitting a service request. For servers used in China, Huawei provides a three-year warranty for parts replacement and repair as well as a 10-hour-a-day, 5-day-a-week NBD support program. Huawei provides a three-year warranty for parts replacement and repair for the servers used outside China. Huawei provides a 9-hour-a-day, 5-day-a-week support program. Service requests will be handled the next business day. Huawei delivers the repaired or new parts within 45 calendar days after receiving the defective parts.

# 10 Certifications

**Table 10-1** lists the certifications that the G2500 has passed. For details about the certifications, see the *Huawei Server Certification Map & Certifications*.

**Table 10-1** Certifications

Country/ Region	Authenti cation	Criteria
Europe	WEEE	2002/96/EC and 2012/19/EU
Europe	RoHS	2002/95/EC, 2011/65/EU, and EN 50581: 2012
Europe	REACH	EC NO. 1907/2006
Europe	CE	Safety: EN 60950-1:2006+A11:2009+A1:2010+A12:2011 EMC: <ul style="list-style-type: none"> <li>● EN 55022:2010</li> <li>● CISPR 22:2008</li> <li>● EN 55024:2010</li> <li>● CISPR 24:2010</li> <li>● ETSI EN 300 386 V1.6.1:2012</li> <li>● ETSI ES 201 468 V1.3.1:2005</li> </ul>
China	CCC	GB4943.1-2011 GB9254-2008(Class A) GB17625.1-2012
China	RoHS	SJ/T-11363 - 20006 SJ/T-11364 - 20006 GB/T 26572-2011
Australia	C-tick	AS/NZS CISPR22: 2009
America	FCC	FCC Part 15 (Class A)

Country/ Region	Authenti- cation	Criteria
America	NTRL-UL	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment -Safety -Part 1: General Requirements) CSA C22.2 No.60950-1-07, 2nd Edition, 2011-12 (Information Technology Equipment-Safety-Part 1:General Requirements)
Canada	IC	ICES-003 Class A
Canada	NRTL-UL	UL 60950-1,2 <sup>nd</sup> Edition,2011-12-19 (Information Technology Equipment-Safety-Part 1: General Requirements)
Nigeria	SONCAP	IEC 60950-1: 2005 (2nd Edition) + A1:2009 EN 60950-1:2006+A11:2009+A1:2010 + A12:2011
Kingdom of Saudi Arabia (KSA)	SASO	IEC 60950-1: 2005 (2nd Edition) + A1:2009 EN 60950-1:2006+A11:2009+A1:2010 + A12:2011
Global	CB	IEC 60950-1
Japan	VCCI	VCCI V-4:2012
Saudi, Nigeria, Tanzania, Uganda, Kuwait, Algeria, Botswana, Qatar, Egypt	Multi- country_ c ertificate	IEC 60950-1: 2005 (2nd Edition) + A1:2009 EN 60950-1:2006+A11:2009+A1:2010 + A12:2011