



# Inspur Server NF5466M6 White Paper

Version V0.95  
Date 2021/06/21

Copyright ©2021 Inspur Electronic Information Industry Co., Ltd. All rights reserved.  
No part of this document may be reproduced, modified or transmitted in any form or by any means without prior written consent of Inspur.

## Trademark Notice

Inspur and Inspur Logo are registered trademarks of Inspur Group.  
Windows is a registered trademark of Microsoft Corporation.  
Intel and Xeon are registered trademarks of Intel Corporation.  
All other trademarks mentioned in this document are the property of their respective holders.

## Disclaimer

The purchased products, services and features shall be bound by the contract made between Inspur and the customer. All or part of the products, services and features described herein may not be within your purchase or usage scope. Unless otherwise agreed in the contract, Inspur Group makes no representations or warranties, express or implied, regarding the contents of this document. The content of this document may be updated from time to time due to product version upgrades or other reasons. Unless otherwise agreed, this document is intended as a guide for use only, and all statements, information and recommendations in this document do not constitute any express or implied warranties.

Some products, services, and features can be implemented only when specific conditions (such as configuration, limitation, and temperature) are satisfied, as described in Section 6 of this document. Inspur has no liability for any is-sues arising therefrom.

## Technical Support

Technical Service Hotline: 1-844-860-0011/1-760-769-1847

Address: No. 1036, Langchao Road, Jinan, Shandong Province, China




Inspur Electronic Information Industry Co., Ltd.



Email: serversupport@inspur.com

Postal Code: 250101

## Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 DANGER	A potential for serious injury, or even death if not properly handled
 WARNING	A potential for minor or moderate injury if not properly handled
 CAUTION	A potential loss of data or damage to equipment if not properly handled

Symbol	Description
 IMPORTANT	Operations or information that requires special attention to ensure successful installation or configuration
 NOTE	Supplementary description of important information

## Revision History

Version	Date	Description of Changes
V0.95	2021/06/21	Initial release

## Contents

1	Product Overview .....	1
2	Features .....	2
3	New Technical Highlights.....	6
3.1	Intel® Scalable Architecture.....	6
3.2	Intel® VROC .....	6
3.3	OCP 3.0 Module .....	6
3.4	Intel® Optane™ Persistent Memory 200 Series.....	7
3.5	BFloat16 Better Empowering AI.....	7
4	Logical Architecture .....	8
5	Product Overview .....	9
5.1	Front Panel.....	9
5.1.1	24 × 3.5" Front Panel .....	9
5.1.2	2.5/3.5-inch Drive Tray LEDs.....	11
5.2	Rear Panel .....	12
5.2.1	6PCIe+25×2.5" Rear Panel.....	12
5.2.2	46 HDD Rear Panel .....	13
5.2.3	11PCIe Rear Panel.....	14
5.3	Internal Top View.....	14
5.4	OCP 3.0 Module .....	15
5.5	M.2/E1.S SSD Module .....	16
5.6	Mainboard Layout.....	16
6	System Specifications.....	19
7	Compatibility List.....	25
7.1	Processor .....	25
7.2	Memory .....	26
7.3	Storage.....	29
7.3.1	SATA/SAS Drive Models .....	29
7.3.2	SSD Models.....	29
7.3.3	U.2 NVMe SSDs .....	30
7.4	Drive Backplane .....	31
7.5	Drive Installation Position .....	32
7.5.1	Common Drive Installation Sequence .....	32
7.5.2	NVMe Drive Installation Position .....	33
7.6	RAID/SAS Card.....	34



---

7.7	NIC.....	35
7.8	FC HBA Card .....	36
7.9	HCA Card.....	36
7.10	GPU.....	37
7.11	Power Supply.....	37
7.12	Operating System.....	39
8	Configuration Notes.....	40
9	System Management.....	41
9.1	Intelligent Management System BMC .....	41
9.2	Inspur Physical Infrastructure Manager (ISPIM).....	44
9.3	Inspur Server Intelligent Boot (ISIB).....	46
10	Certification.....	49
11	Support and Services.....	50
12	Relevant Documents.....	51
13	Trademark.....	52

# 1 Product Overview

---

The Inspur NF5466M6 server is a 4U dual-socket rack server with the Xeon® Scalable processor design from the Intel® Whitley platform. It supports a wider range of storage expansion solutions with optimized deployment and maintenance experience, and is designed specifically for customers in communication and Internet areas for high cost performance. Featuring a large storage capacity, strong computing power, and flexible expansion, it is perfect for warm/cold storage solutions.



# 2 Features

---

Inspur NF5466M6 delivers high quality and reliability for all kinds of applications, as Inspur servers always do. It features highly flexible configurations to cater to mainstream market demands for storage, providing extreme performance, scalability, availability, and manageability at the same time. It not only delivers a large storage capacity, but also provides strong computing power and expansion capabilities, making it an ideal choice for warm/cold storage.

## Performance:

- NF5466M6 is built on the 3<sup>rd</sup> generation Intel® Xeon® Scalable processors. Each CPU supports up to 40 cores and 80 threads running at the maximum processor frequency of 3.6 GHz, and up to 270 W thermal design power (TDP) with 1.5 M L3 cache per core and three Ultra Path Interconnect (UPI) links at 11.2 GT/s, providing powerful processing capabilities.
- 32 DDR4 ECC memory modules (3200 MT/s, RDIMMs), offering a maximum capacity of 4 T (under dual-CPU configuration) to deliver high speeds and superior availability.
- 3200 MHz Intel® Optane™ Persistent Memory (PMEM) with a maximum capacity of 256 GB, ensuring memory data integrity in case of powering off without reducing memory capacity and bandwidth.
- An all-flash configuration of up to 16 hot-swap NVMe SSDs, providing a high IOPS ten times better than that of high-end enterprise-level SATA SSDs, bringing a great increase in storage performance.

## Scalability:

- Up to 36 front 3.5" SAS/SATA drives and 4 rear 2.5" SAS/SATA drives.
- Up to 46 front 3.5" SAS/SATA drives and 2 rear 2.5" SAS/SATA drives.

- Optional OCP NIC 3.0 module with multiple network port options (1/10/25/40/100/200 Gb), offering a more flexible network architecture for different applications.
- Up to 13 PCIe expansion cards (4 × PCIe x16 + 9 × PCIe x8) to further enhance I/O performance.
- Optional rear M.2 or E1.S modules for diverse storage demands.
- Up to 2 double-width GPUs or 8 single-width GPUs.

## Availability:

- With a user-friendly design, the entire system supports tool-free maintenance. With enhanced structural parts, NF5466M6 allows easy assembly/disassembly, greatly reducing the O&M time.
- Inspur's unique intelligent control technology together with cutting-edge air cooling system enables optimum working environment to ensure stable running of the server.
- Hot-swap drives can be configured to RAID level 0/1/1E/10/5/50/6/60, with RAID cache and power failure protection enabled by super capacitor module.
- With the latest BMC technology, technicians can quickly locate the component that has failed (or is failing) via the UID LED on the front panel, through the Web GUI, or fault diagnosis LEDs, simplifying maintenance, speeding up troubleshooting and enhancing system availability.
- With BMC, technicians can monitor system parameters, get alarms in a timely manner and take proper actions accordingly to ensure stable running of the system and minimize system downtime.

## Manageability

- ISBMC4, a remote server management system developed in house, is equipped on the server.
- ISBMC4 supports such mainstream management specifications in the industry as IPMI 2.0 and Redfish 1.8.
- ISBMC4 features high operational reliability.
- ISBMC4 features excellent serviceability for different customer scenarios.

- ISBMC4 provides comprehensive and accurate fault diagnosis capabilities.
- ISBMC4 offers enhanced security above industry average.
- The ISPIM intelligent management software enables centralized management of servers, as well as full lifecycle management of servers covering unified part-level asset management, intelligent monitoring and alarming, automatic inspection, fault diagnosis and warranty, energy consumption management, and firmware upgrade/configuration.
- The Inspur Server Intelligent Boot (ISIB) system enables rapid server initialization, batch RAID configuration and OS deployment.

## Energy Efficiency

- 80 PLUS Platinum power supply unit (PSU) (800W - 2000 W), with the efficiency reaching up to 94% at a load of 50%.
- 1+1 redundancy, and integrated AC/DC power supply for optimized power conversion efficiency.
- Efficient voltage regulator-down (VRD) PSU on the mainboard to reduce the loss of DC-DC conversion.
- Intelligent speed control of fans and intelligent frequency modulation of CPUs for energy conservation.
- Optimized cooling design in an all-round way along with the energy-efficient cooling fans to reduce energy consumption.

## Security

- In terms of hardware design, the mainboard and backplane are equipped with the overcurrent and overvoltage protection function, and the onboard connectors and cables are designed to be fool-proof, thus preventing potential circuit hazards.
- For structural security, a panel latch and top cover latch are added to the chassis to prevent unauthorized operations.
- All physical I/O interfaces are clearly defined without any unclear interface reserved. An access control mechanism is built for the interfaces used for maintenance to prevent malicious operations by unauthorized personnel.

- Regarding firmware security, image files are signed using secure encryption algorithms before release, and the signature must be validated before firmware update, thus ensuring the integrity and legitimacy of the firmware.
- The ISBMC4 intelligent management system provides various security features such as identification and authentication, authorization and access control, Web security configuration, and log audit, and its security reinforcement capability is leading the industry.
- Optional Trusted Platform Module (TPM/TCM) is provided for data encryption and security to support secure boot of servers.

---

# 3 New Technical Highlights

---

## 3.1 Intel® Scalable Architecture

NF5466M6 features the 3<sup>rd</sup> generation Intel® Xeon® Scalable processors, where the chipset uses the Mesh interconnection design instead of the traditional Ring design to reduce CPU access latency and provide higher memory bandwidth. Besides, with low power consumption, the processors automatically reduce operating frequency in case of low system load and can work at a relatively low voltage, so as to improve performance and energy efficiency.

## 3.2 Intel® VROC

Intel® Virtual RAID on CPU (VROC) is specially designed for enterprise-level RAID solutions based on NVMe SSDs. Its biggest advantage lies in direct management of NVMe SSDs connected to PCIe channels of Intel® Xeon® Scalable processors, without the need for a dedicated RAID controller.

## 3.3 OCP 3.0 Module

The optional OCP 3.0 NIC (up to 200 G) provides larger scalability.

## 3.4 Intel® Optane™ Persistent Memory 200 Series

The Intel® Optane™ Persistent Memory 200 series (Barlow Pass), a new type of non-volatile memory module, enables persistent memory data storage even in case of power outage. In comparison with traditional NVDIMMs, super-capacitor modules are not needed, making it easy to integrate the memory module into the system. The latest generation of Optane™ DC Persistent Memory offers a speed of up to 3200 MT/s and a total memory of up to 4 T. It delivers an increase of up to 25% higher memory bandwidth than the previous generation (AEP). The power consumption is reduced to 15 W from the 18 W in the previous generation. Hence, more power can be saved when a large number of Optane™ DC Persistent Memory modules are used.

## 3.5 BFloat16 Better Empowering AI

The 3<sup>rd</sup> generation Intel® Xeon® Scalable processors support 16-bit Brain Floating Point (BFloat16) format, which enhances the efficiency of developing and executing AI and analytics workloads in various environments such as data centers, network, and intelligent edge computing. As the industry's first mainstream processor with BFloat16 built-in, the 3<sup>rd</sup> generation Intel® Xeon® Scalable family make AI training and heterogeneous acceleration more widely deployable on general-purpose servers for applications in image classification, recommendation engine, automatic speech recognition (ASR), and natural language processing (NLP) modeling.

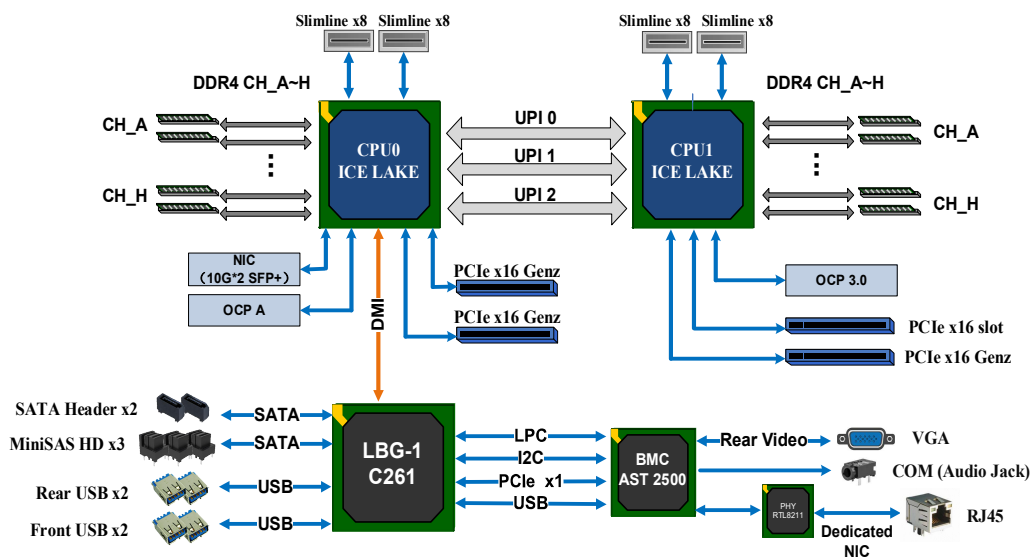
In most neural network computing, BFloat16 offers the same accuracy as FP32, but uses only half of the bits FP32 uses, reducing the memory usage by half and doubling the data throughput. In addition, BFloat16 is integrated in the Intel DL Boost feature by Intel. With support for deep learning architectures such as TensorFlow and PyTorch as well as optimization for OpenVINO toolkit and ONNX execution environment, BFloat16 can achieve the same model accuracy via only slight software adjustment. What's more, it can improve AI training and inference efficiency of the processors.



# 4 Logical Architecture

NF5466M6 features two Intel® Xeon® Scalable processors built on the Ice Lake architecture and supports up to 32 DDR4 DIMMs. Data can be transferred between the two processors through 3 UPI buses at a maximum speed of 11.2 GT/s. The processors are connected to the mainboard through the PCIe bus, and 13 PCIe slots are provided. The onboard RAID card is connected to CPU0 via the PCIe bus and to the drive backplanes via SAS signal cables. The different drive backplanes enable various local storage configurations. Figure 4-1 shows the logic block diagram of NF5466M6.

Figure 4-1 Logic Block Diagram of NF5466M6

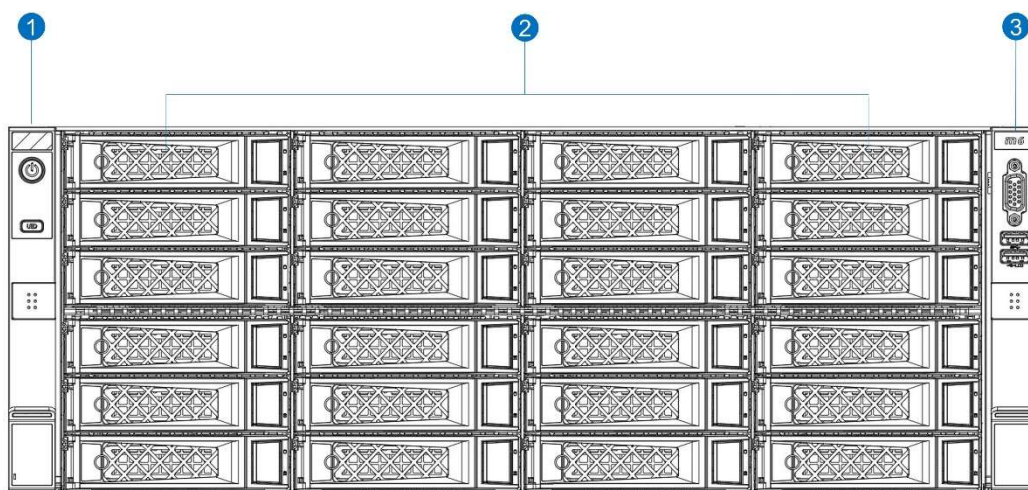


# 5 Product Overview

## 5.1 Front Panel

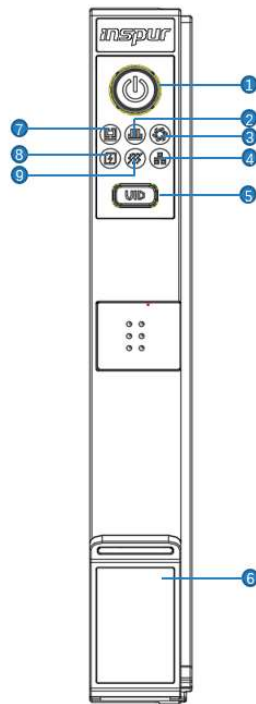
### 5.1.1 24 × 3.5" Front Panel

Figure 5-1 Front View



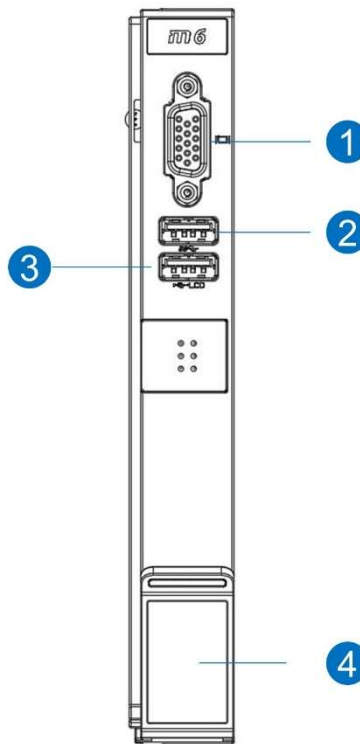
#	Item
1	Left Mounting Ear
2	Front 3.5" Drive Bay (× 24)
3	Right Mounting Ear

**Figure 5-2 LEDs and Buttons on the Left Mounting Ear**



#	Item
1	Power Button
2	Memory Status LED
3	Fan Status LED
4	Network Status LED
5	UID Button with LED
6	Quick Release Lever
7	System Status LED
8	Power Status LED
9	System Overheat LED

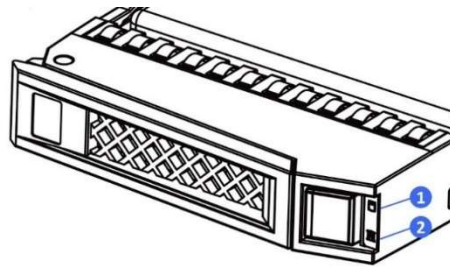
**Figure 5-3 Ports on the Right Mounting Ear**



#	Item
1	VGA Connector
2	USB 3.0 Port
3	USB 2.0/LCD Port
4	Quick Release Lever

### 5.1.2 2.5/3.5-inch Drive Tray LEDs

**Figure 5-4 Drive Tray LEDs**

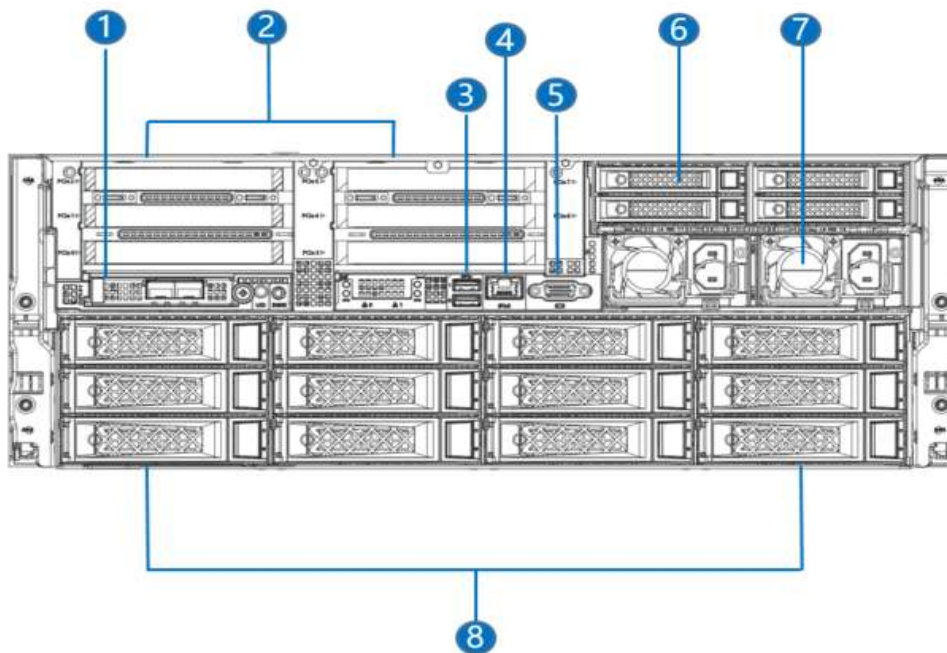


#	Item	Description
1	Drive Fault LED	Solid red = Drive error or failed Solid blue = Drive is being located Solid pink = RAID rebuilding
2	Activity Status LED	Solid green = Normal Flashing green = Read/write activities

## 5.2 Rear Panel

### 5.2.1 6PCIe+25×2.5" Rear Panel

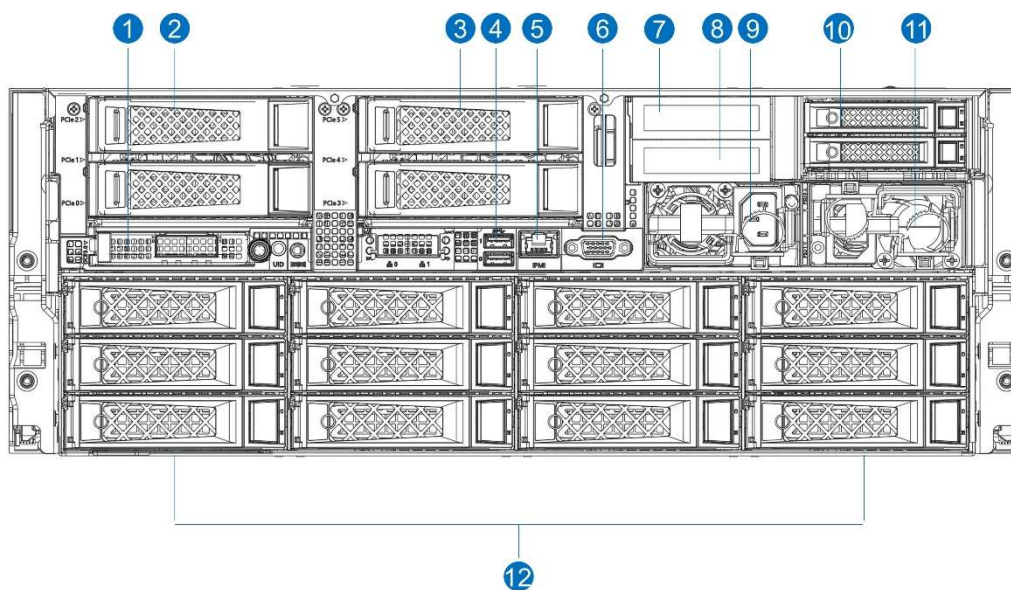
Figure 5-5 Front View



#	Item	#	Item
1	OCP 3.0 Module	5	VGA Connector
2	PCIe HHHL Slot(× 6)	6	Rear 2.5" Drive Bays (× 4)
3	USB 3.0 Port (× 2)	7	System Power Supply
4	BMC Management Connector	8	Rear 3.5" Drive Bay (× 12)

## 5.2.2 46 HDD Rear Panel

Figure 5-6 Front View

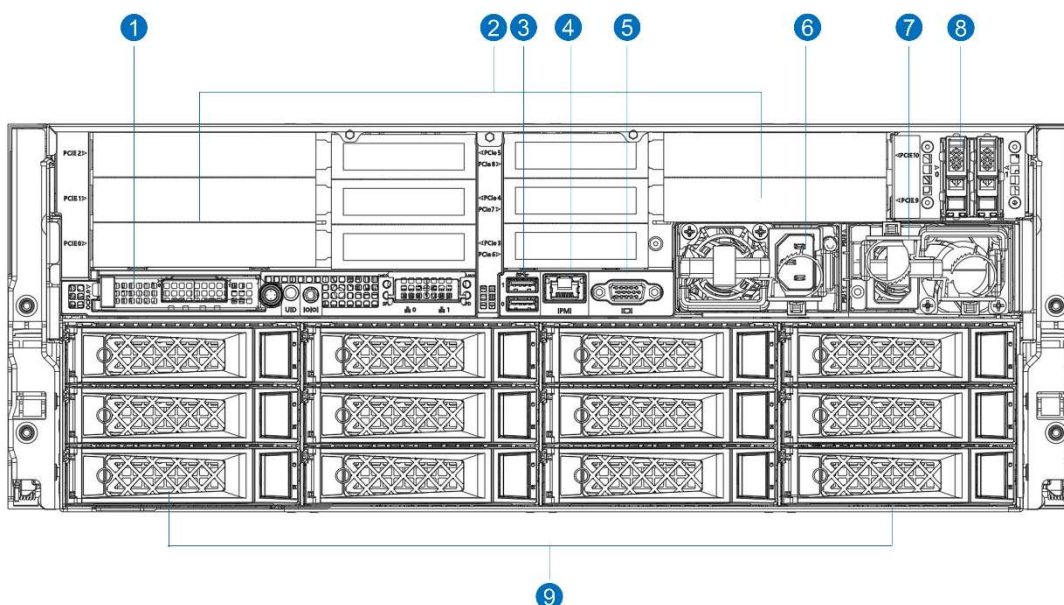


#	Item	#	Item
1	OCP 3.0 Module	7	PCIe HHHL Slot
2	Rear 3.5" Drive Bays	8	PCIe HHHL Slot
3	Rear 3.5" Drive Bays	9	System Power Supply 0
4	USB 3.0 Port (× 2)	10	Rear 2.5" Drive Bays

5	BMC Management Connector	11	System Power Supply 1
6	VGA Connector	12	Rear 3.5" Drive Bay (× 12)

### 5.2.3 11PCIe Rear Panel

Figure 5-7 Front View

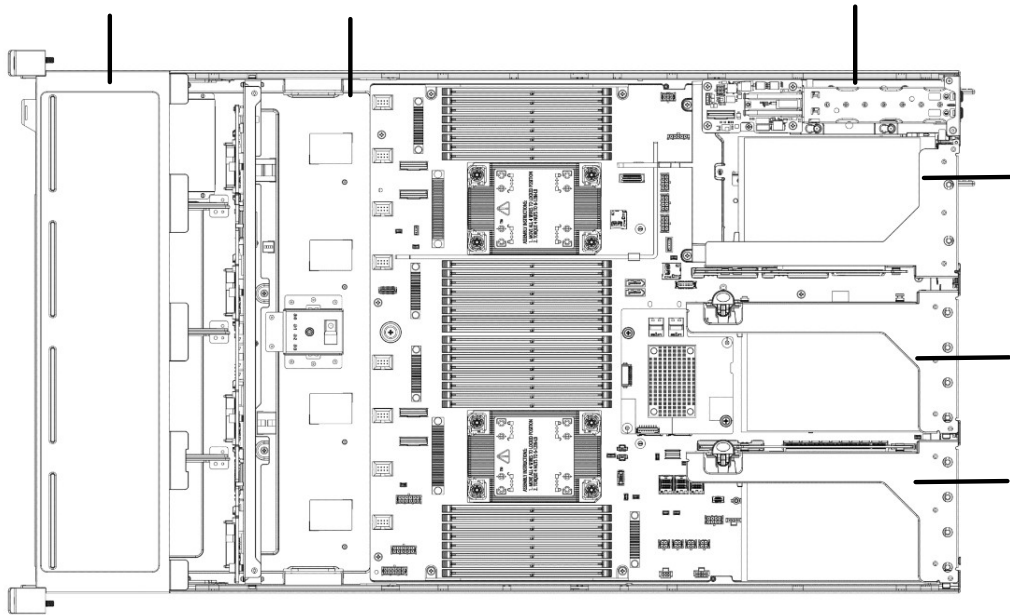


#	Item	#	Item
1	OCP 3.0 Module	6	System Power Supply 0
2	PCIe × 13	7	System Power Supply 1
3	USB 3.0 Port (× 2)	8	Rear M.2 Module (× 2)
4	BMC Management Connector	9	Rear 3.5" Drive Bay (× 12)
5	VGA Connector		

## 5.3 Internal Top View

Figure 5-8 Internal Top View

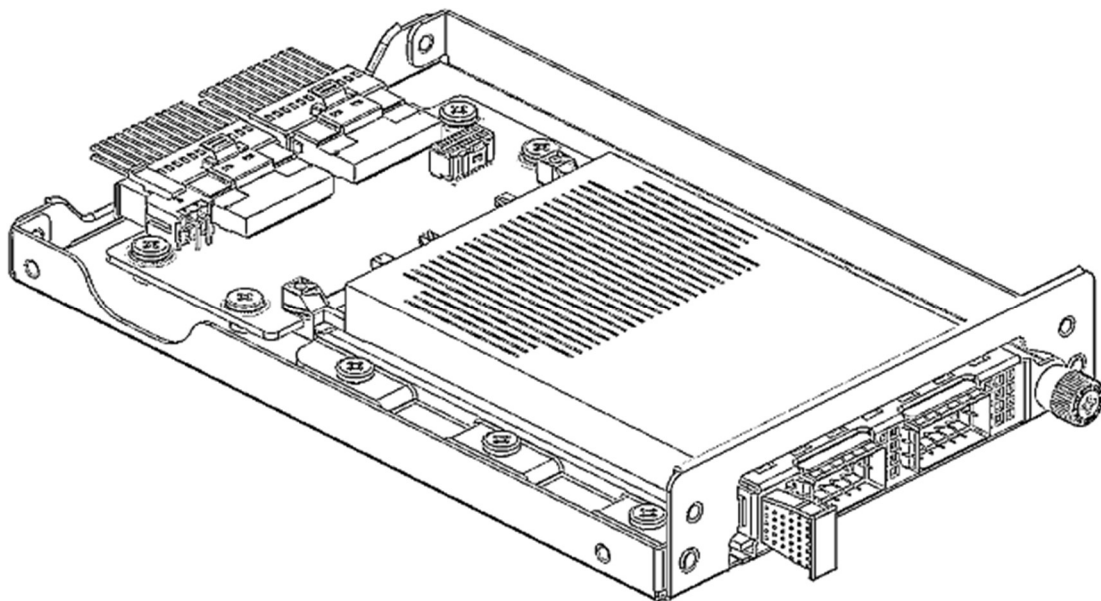




#	Item	#	Module
1	Drive Bays	4	PCIe Riser 0 Module
2	System Fans	5	PCIe Riser 1 Module
3	M.2/E1.S Bracket	6	PCIe Riser 2 Module

## 5.4 OCP 3.0 Module

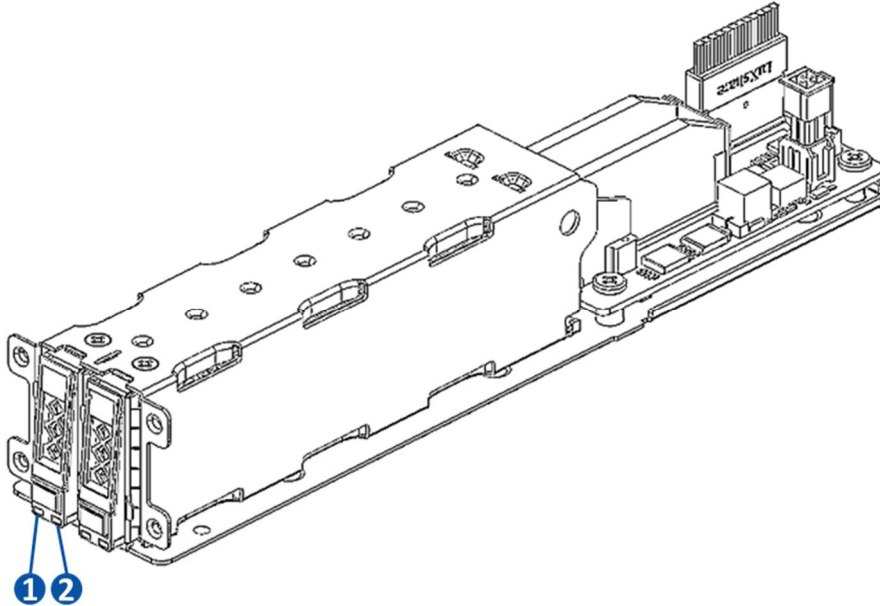
Figure 5-9 OCP 3.0 Module





## 5.5 M.2/E1.S SSD Module

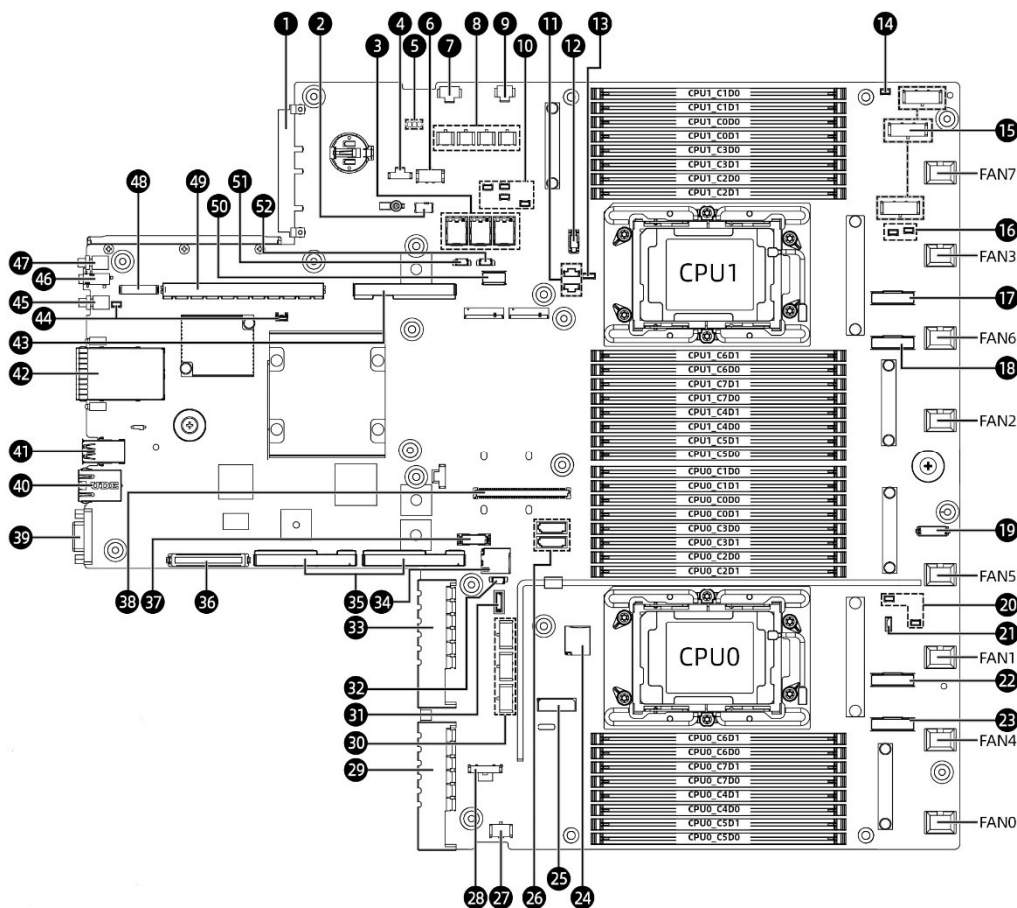
Figure 5-10 M.2/E1.S SSD Module



#	Item	Description
1	Drive Fault LED	Solid red = Drive error or failed Solid blue = Drive is being located Solid pink = RAID rebuilding
2	Activity Status LED	Solid green = Normal Flashing green = Read/write activities

## 5.6 Mainboard Layout

Figure 5-3 Mainboard Layout



#	Item	#	Item
1	OCP NIC 3.0 Slot	27	B_M.2&3BP&GPU_RISER3 Power Connector
2	TPM Slot	28	Plate Capacitor Connector
3	Mini_SAS Connector × 3	29	PSU1 Connector
4	GPU_RISER0 Power Connector	30	GPU Power Connector
5	CLR_CMOS Jumper Cap	31	VROC Key Connector
6	GPU0&MID_PCIE Connector	32	I2C4_GPU2 Connector
7	Mid-Backplane Power Connector	33	PSU0 Connector

#	Item	#	Item
8	Rear Backplane Power Connector × 4	34	BMC TF Card Slot
9	GPU0_RISER1&MID_PCIE Power Connector	35	PCIE0_CPU0 Slot
10	I2C Connector × 4	36	PCIE0_CPU0 Power Connector
11	CLK Connector × 2	37	NCSI Connector
12	VPP Connector	38	OCPA_CPU0 Slot
13	SGPIO Connector	39	VGA Connector
14	Sensor Connector	40	BMC Network Management Connector
15	Front Backplane Power Connector × 3	41	USB 3.0 Connector
16	I2C Connector × 2	42	SFP+ Connector
17	SLIM0_CPU1 Connector	43	PCIE1_CPU1 Slot
18	SLIM1_CPU1 Connector	44	Leakage Detection Connector × 2
19	Left Mounting Ear Signal Line Connector	45	Power Button with LED
20	I2C Connector × 2	46	System & BMC Serial Port
21	Intrusion Switch Connector	47	UID Button with LED
22	SLIM0_CPU0 Connector	48	PCIE1_CPU1 Power Connector
23	SLIM1_CPU0 Connector	49	PCIE0_CPU1 Slot
24	SYS_TF Card Button	50	Right Mounting Ear Signal Line Connector
25	Debug Connector	51	I2C4_GPU4 Connector
26	SATA Connector × 2	52	I2C Connector

# 6 System Specifications

**Table 6-1 System Specifications**

Component	Description
<b>Time to Market</b>	2021/06
<b>Specification</b>	4U rack server
<b>Processor</b>	1 to 2 Intel® Xeon® Scalable processors: <ul style="list-style-type: none"> <li>• Up to 40 cores</li> <li>• Max. speed of 3.6GHz</li> <li>• 3 UPI links and up to 11.2GT/s per link</li> <li>• TDP up to 270W</li> </ul>
<b>Chipset</b>	Intel C621A
<b>Integrated Display Controller</b>	Integrated in the BMC (Aspeed2600), with a maximum resolution ratio of 1280 × 1024
<b>Memory</b>	<ul style="list-style-type: none"> <li>• Up to 32 DIMMs</li> <li>• 8 memory channels per processor, and up to 2 memory slots per channel</li> <li>• Up to 3200MT/s</li> <li>• RDIMMs, LRDIMMs and BPS supported</li> <li>• ECC, memory mirroring and memory rank sparing</li> </ul>
<b>Storage</b>	Front Panel 24 × 3.5" hot-swap SATA/SAS drives; Rear Panel 16 × 3.5" hot-swap SATA/SAS drives; 4 × 2.5" hot-swap SATA/SAS/NVMe SSDs; Middle Storage 6 × 3.5" SAS/SATA drives in the middle;

	<p>Rear Storage</p> <p>2 optional SATA M.2 SSDs or 2 optional E1.S modules</p> <p>Built-in Storage</p> <p>Up to 2 TF cards respectively for BIOS and BMC</p> <p>Up to 16 U.2 NVME SSDs</p>
<b>Network</b>	<p>1 optional OCP 3.0 module (1 Gb/s, 10 Gb/s, 25 Gb/s, 40 Gb/s, 100 Gb/s, and 200 Gb/s);</p> <p>Supports PCIe form factor: 1 Gb/10 Gb/25 Gb/40 Gb/100 Gb/200 Gb NIC</p>
<b>I/O Expansion Slot</b>	<p>Up to 13 standard PCIe slots</p> <p>4 PCIe x16 cards</p> <p>9 PCIe x8 cards</p>
<b>Port</b>	<p>2 rear USB 3.0 ports + 1 front USB 3.0 port + 1 front USB 2.0 port;</p> <p>1 front VGA port;</p> <p>1 rear VGA port.</p> <p>1 COM port</p>
<b>Fan</b>	<p>Standard configuration: 4 hot-swap 8056 fans with N+1 redundancy;</p> <p>High-level configuration: 8 hot-swap 8056 fans with N+1 redundancy;</p>
<b>Power Supply</b>	<p>An 800/1300/1600W/2000W or above power supply that supports 1+1 redundancy</p> <p>110 VAC - 230 VAC: 90 V - 264 V 240 VDC: 180 V - 320 V</p> <p>336 VDC: 190 V - 400 V</p> <p>-48 VDC: -40 V to -72 V</p>
<b>System Management</b>	<p>Integrates an independent 1000 Mbps network interface specifically for remote IPMI management.</p>
<b>Operating System</b>	<p>Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS Enterprise Linux</p> <p>For details, see section 7.12.</p>

**Table 6-2 Physical Specifications**

Component	Description
<b>Size</b>	With mounting ears: 482 mm (w) × 174.5 mm (h) × 842.5 mm (d) Without mounting ears: 447 mm (w) × 174.5 mm (h) × 837.3 mm (d) Package included: 12,000 mm (l) × 800 mm (w) × 473 mm (h)
<b>Weight</b>	36 × 3.5" Net weight: 62 kg Gross weight: 87 kg (Chassis + Packaging Box + Rails + Accessory Box) 46 × 3.5" Net weight: 69.5 kg Gross weight: 94.5 kg (Chassis + Packaging Box + Rails + Accessory Box)
<b>Temperature</b>	Operating: 5°C - 40°C <sup>1,2,3</sup> ; Storage (packed): -40°C to +70°C Storage (unpacked): -40°C to 70°C
<b>Humidity</b>	Operating: 5% - 90% R.H. Storage (packed): 5% - 95% R.H. Storage (unpacked): 5% - 95% R.H.
<b>Noise (Bels) (Sound power level)<sup>4,5,6,7</sup></b>	Idle LWAd: 6.5 Bel for normal configuration, 6.95 Bel for high-level configuration Operating LWAd: 7.5 Bel for normal configuration, 7.95 Bel for high-level configuration
<b>Altitude</b>	Operating temperature: 5°C - 45°C at 0 - 914 m (0 - 3000 ft) Operating temperature: 10°C - 32°C at 914 - 2133 m (3000 - 7000 ft)

**Table 6-3 Operating Temperature Specifications**

	Temperature at 30°C	Temperature at 35°C	Temperature at 40°C
Front 24HDD( without middle storage)	All configurations (When GPUs are equipped, CPUs with TDP higher than 165 W not supported)	V100S GPU not supported	<ul style="list-style-type: none"> <li>• Passive-cooling GPUs not supported</li> <li>• DIMMS 128G and above not supported</li> <li>• BPS not supported</li> </ul>
Front 24HDD+Rear 4NVME (without middle storage)	CPUs with TDP higher than 205 W not supported	CPUs with TDP higher than 165 W not supported	<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 165 W not supported</li> <li>• DIMMS 128G and above not supported</li> <li>• BPS not supported</li> </ul>
Front 12HDD+Front 12NVME+Rear 4NVME(without middle storage)	<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 205 W not supported</li> <li>• BPS not supported</li> </ul>	<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 165 W not supported</li> <li>• BPS not supported</li> </ul>	<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 150 W not supported</li> <li>• DIMMS 128G and above not supported</li> <li>• BPS not supported</li> </ul>
Front 24HDD(with middle storage)	<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 165 W not supported</li> <li>• DIMMs more than 24 not supported</li> <li>• BPS not supported</li> </ul>		<ul style="list-style-type: none"> <li>• CPUs with TDP higher than 150 W not supported</li> <li>• DIMMs more than 24 not supported</li> <li>• DIMMS 128G and above not supported</li> <li>• BPS not supported</li> </ul>

**Note:**

1. Not all configurations support an operating temperature range of 5°C - 40°C (41°F - 95°F).  
The GPU configuration supports an operating temperature range of 10°C - 30°C (50°F - 86°F).

2. Standard operating temperature:

10°C - 35°C at sea level (50°F - 95°F). Every 305 m increase in the altitude above sea level reduces the operating temperature range by 1.0°C (a 1.8°F drop per 1000 ft). The maximum operating altitude is 3050 m (10,000 ft). Please keep the product away from direct sunlight. The maximum rate of change is 20°C/hr (36°F/hr). The operating altitude and maximum rate of change vary with different system configurations.

Any fan failure or operations above 30°C (86°F) may lead to system performance degradation.

3. •Extended operating temperature

As for certain approved configurations, the supported entry range of the system can be extended to 5°C - 10°C (41°F - 50°F) and 35°C - 45°C (95°F - 104°F) at sea level. At an altitude of 900 - 3050 m (2953 - 10,000 ft) above sea level, every 175 m increase in the altitude reduces the operating temperature range by 1.0°C (a 1.8°F drop per 574 ft).

As for certain approved configurations, the supported entry range of the system at sea level can be extended to 35°C - 45°C (104°F - 113°F). At an altitude of 900 - 3050 m (2953 - 10,000 ft) above sea level, every 125 m increase in the altitude reduces the operating temperature range by 1.0°C (a 1.8°F drop per 410 ft).

Any fan failure or operations under extended environments may lead to system performance degradation.

4. This document lists the weighted sound power level (LWAd) and the weighted sound pressure level (LpAm) of the product at an operating temperature of 23°C (73.4°F). The values were reported according to the ISO 7779 (ECMA 74) noise measurement standards and ISO 9296 (ECMA 109). The listed sound levels are applicable to general shipping configurations and other options may increase the volume. Please contact your sales representative for more information.

5. The sound levels shown here were measured based on specific test configurations. The sound level will vary with different system configurations. Values are subjected to change without notice and are for reference only.

6. The sample (model) test assessments meet the referenced product specifications. This product or product series are eligible to have appropriate compliance labels and declarations.

7. All sound levels listed are for standard shipping configurations and other system configurations may increase the volume.

**Table 6-4 Safety & EMC**

Safety	GB4943.1-2011 IEC 60950-1:2005, IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013 IEC 62368-1:2014 (Second Edition) EN 62368-1:2014+A11:2017 UL 62368-1, 2nd Ed., Issue Date: 2014-12-01
--------	---



	TP TC 004/2011 IEC 62368-1:2014 including AU/NZ deviations IS 13252(Part 1):2010/ IEC 60950-1 : 2005
EMC	GB/T 9254-2008 GB17625.1-2012 CFR 47 FCC Part 15 subpart B, 2020 AND ANSI C63.4-2014 CISPR 32:2015+A1:2019; CISPR 24:2010+A1:2015 EN 55032:2015+A11:2020; EN 61000-3-2:2019 EN 610 EN 55024:2010+A1:201500-3-3:2013+A1:2019 EN 55035:2017+A11:2020 KN32 KN35 CISPR 32:2015+A1:2019,CISPR 24:2013,EN 55032:2015+A1:2019,EN IEC 61000-3-2:2019.EN 61000-3- 3:2013+A1:2019,EN 55035:2017 TP TC 020/2011

**Table 6-5 Industry Standard Compliance**

ACPI 6.1 Compliant
PCI-E 4.0 Compliant
WOL Support
SMBIOS 3.1
UEFI 2.6
Redfish API
IPMI 2.0
Microsoft® Logo Certifications
PXE Support
Advanced Encryption Standard (AES)
SNMP v3
TLS 1.2
Active Directory v1.0
TPM 1.2/2.0
USB 2.0/3.0 Compliant

# 7 Compatibility List

※ The compatibility list was updated on 2021/06. For the latest compatibility configuration and the parts and models not listed in this manual, please contact Inspur Customer Service.

## 7.1 Processor

NF5466M6 supports two Intel® Xeon® Scalable processors.

**Table 7-1 CPU**

Model	Cores	Threads	Base Frequency	Max. Turbo Frequency	Cache	TDP
8380	40	80	2.30GHz	3.40GHz	60MB	270W
8352Y	32	64	2.20GHz	3.40GHz	48MB	205W
8360Y	36	72	2.40GHz	3.50GHz	54MB	250W
8352V	36	72	2.10GHz	3.50GHz	54MB	195W
8368	38	76	2.40GHz	3.40GHz	57MB	270W
8351N	36	72	2.40GHz	3.50GHz	54MB	225W
8358P	32	64	2.60GHz	3.40GHz	48MB	240W
8358	32	64	2.60GHz	3.40GHz	48MB	250W
8352S	32	64	2.20GHz	3.40GHz	48MB	205W
6342	24	48	2.80GHz	3.50GHz	36MB	230W
6336Y	24	48	2.40GHz	3.60GHz	36MB	185W
6314U	32	64	2.30GHz	3.40GHz	48MB	205W
6354	18	36	3.00GHz	3.60GHz	39MB	205W
6348	28	56	2.60GHz	3.50GHz	42MB	235W
6338	32	64	2.00GHz	3.20GHz	48MB	205W
6330N	28	56	2.20GHz	3.40GHz	42MB	165W
6338N	32	64	2.20GHz	3.50GHz	48MB	185W
6330	28	56	2.00GHz	3.10GHz	42MB	205W
6346	16	32	3.10GHz	3.60GHz	24MB	205W
5317	12	24	3.00GHz	3.60GHz	18MB	150W
5318N	24	48	2.10GHz	3.40GHz	36MB	150W
5315Y	8	16	3.20GHz	3.60GHz	12MB	140W
5320	26	52	2.20GHz	3.40GHz	39MB	185W

5318Y	24	48	2.10GHz	3.40GHz	36MB	165W
4316	20	40	2.30GHz	3.40GHz	30MB	150W
4309Y	8	16	2.80GHz	3.60GHz	12MB	105W
4310	12	24	2.10GHz	3.30GHz	18MB	120W
4310T	10	20	2.30GHz	3.40GHz	15MB	105W
4314	16	32	2.40GHz	3.40GHz	24MB	135W

## 7.2 Memory

NF5466M6 supports up to 32 DDR4 DIMMs. Each processor supports 16 memory channels, and each channel supports 1 memory slot. NF5466M6 supports RDIMM/BPS, and the following memory protection technologies:

- Partial Cache Line Sparing (PCLS)
- DDR4 Command/Address Parity Check and Retry
- Memory Demand and Patrol Scrubbing
- Memory Data Scrambling with Command and Address
- Memory Mirroring-Intra iMC
- PMem Single Device Data Correction (SDDC)
- PMem Double Device Data Correction (DDDC)
- DDRT Data ECC (Read & Write)
- PMem Address Verification and Retry
- PMem Memory Address Range Scrub (ARS)
- DDR4 Write Data CRC Check and Retry
- Memory disable/map-out for FRB
- Power-up DDR4 Post Package Repair (PPR)
- Failed DIMM Isolation
- Address range/partial memory mirroring

**Table 7-2 Memory List**

Model	Max. Capacity	Description
M393A2K40DB3-CWE	32×16GB	RDIMM@3200
M393A2K43DB3-CWE	32×16GB	RDIMM@3200
MTA18ASF2G72PDZ-3G2E1	32×16GB	RDIMM@3200
M393A4K40DB3-CWE	32×32GB	RDIMM@3200

MTA18ASF4G72PDZ-3G2E1	32×32GB	RDIMM@3200
MTA36ASF4G72PZ-3G2E7	32×32GB	RDIMM@3200
HMA84GR7DJR4N-XN	32×32GB	RDIMM@3200
HMAA4GR7AJR8N-XN	32×32GB	RDIMM@3200
HMA84GR7CJR4N-XN	32×32GB	RDIMM@3200
M393A4G43AB3-CWE	32×32GB	RDIMM@3200
M393A8G40AB2-CWE	32×64GB	RDIMM@3200
NMB1XXD128GPS	16×128GB	BPS@3200



NOTE

- The server does not support mixed use of DIMMs of different types and specifications.
- Two processors can maximize the memory capacity. When only one processor is installed, the maximum memory capacity is half of the displayed capacity.

1.

**Table 7-3 Common DIMM Insertion Methods**

(1) When only one CPU is installed without any middle drives:

DDR4 Qty	CPU0															
	iMC0				iMC1				iMC2				iMC3			
	C0		C1		C2		C3		C4		C5		C6		C7	
	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1
1	v															
2	v								v							
4	v				v				v				v			
6	v		v		v				v		v		v			
8	v		v		v		v		v		v		v		v	
12	v	v	v	v	v	v			v	v	v	v	v	v		
16	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v

(2). When two CPUs are installed without any middle drives:

DDR4 Qty	CPU0														CPU1																		
	iMC0				iMC1				iMC2				iMC3				iMC0				iMC1				iMC2				iMC3				
	C0		C1		C2		C3		C4		C5		C6		C7		C0		C1		C2		C3		C4		C5		C6		C7		
	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1			
1	v																																
2	v																																
3	v																																
4	v																																
8	v				v																												
12	v		v		v				v																								
16	v		v		v		v		v		v																						
24	v	v	v	v	v	v			v	v	v	v																					
32	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	

(3). When only one CPU is installed with 6 middle drives:

DDR4 Qty	CPU0															
	iMC0				iMC1				iMC2				iMC3			
	C0		C1		C2		C3		C4		C5		C6		C7	
	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1
1	v															
2	v								v							
4	v				v				v				v			
6	v				v		v		v				v		v	
12	v	v			v	v	v	v	v	v			v	v	v	v

(4). When two CPUs are installed with 6 middle drives:

DDR4 Qty	CPU0												CPU1																				
	iMC0			iMC1			iMC2			iMC3			iMC0			iMC1			iMC2			iMC3											
	C0		C1	C2		C3	C4		C5	C6	C7	C0		C1	C2		C3	C4		C5	C6	C7	C0		C1	C2		C3	C4		C5	C6	C7
	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	
1	v																																
2	v											v																					
3	v																					v											
4	v							v														v											
8	v				v			v														v					v						
12	v				v		v		v													v				v		v		v			
24	v	v			v	v	v	v	v	v		v	v									v	v	v	v	v	v	v	v	v	v		

**Table 7-4 BPS DIMM Insertion Methods; BPS DIMMs are not supported when 6 middle drives are configured. BPS DIMM population rules are as follows:**

(1) When only one CPU is installed:

DDR4 Qty	BPS Qty	CPU0															
		iMC0				iMC1				iMC2				iMC3			
		C0		C1		C2		C3		C4		C5		C6		C7	
		D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1
4	4	D		B		D		B		D		B		D		B	
6	1	D		D		D		B		D		D		D			
8	1	D	B	D		D		D		D		D		D		D	
8	4	D	B	D		D	B	D		D	B	D		D	B	D	
8	8	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	
12	2	D	D	B		D	D	D	D	D	D	B		D	D	D	

(2) When two CPUs are installed:

DDR4 Qty	BPS Qty	CPU0												CPU1																				
		iMC0			iMC1			iMC2			iMC3			iMC0			iMC1			iMC2			iMC3											
		C0		C1	C2		C3	C4		C5	C6	C7	C0		C1	C2		C3	C4		C5	C6	C7	C0		C1	C2		C3	C4		C5	C6	C7
		D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	D0	D1	
8	8	D		B		D		B		D		B		D		B		D		B		D		B		D		B		D		B		
12	2	D		D		D		B		D		D		D		D		D		D		D		D		D		D		D		D		
16	2	D	B	D		D		D		D		D		D	B	D		D		D		D		D		D		D		D		D		
16	8	D	B	D		D	B	D		D	B	D		D	B	D		D	B	D		D	B	D		D	B	D		D	B	D		
16	16	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	D	B	
24	4	D	D	B		D	D	D	D	D	B		D	D	D	D	D	D	D	D	B		D	D	D	D	D	D	D	D	D	D		

## 7.3 Storage

### 7.3.1 SATA/SAS Drive Models

**Table 7-5 Drive Options**

Type	Model	Rpm	Capacity
2.5" SAS	ST600MM0009	10K	600G
	ST1200MM0009	10K	1.2T
	AL15SEB060N	10k	600G
	AL15SEB120N	10K	1.2T
	AL15SEB18EQ	10K	1.8T
	AL15SEB24EQ	10K	2.4T
	ST1800MM0129	10K	1.8T
	ST2400MM0129	10K	2.4T
3.5" SATA	ST2000NM000A	7.2K	2T
	ST4000NM000A	7.2K	4T
	ST8000NM000A	7.2K	8T
	ST6000NM021A	7.2K	6T
	ST16000NM001G	7.2K	16T
	ST14000NM001G	7.2K	14T
	ST12000NM001G	7.2K	12T
	ST4000NM002A	7.2K	4T
	WUH721818ALE6L4	7.2K	16T
	WUH721414ALE6L4	7.2K	14T
	HUS728T8TALE6L4	7.2K	8T
	HUS726T4TALA6L4	7.2K	4T
	WUH721818ALE6L4	7.2K	18T
	HUH721212ALE600	7.2K	12T
	HUS722T2TALA604	7.2K	2T
	MG06ACA10TE	7.2K	10T
	MG06ACA800E	7.2K	8T



NOTE

Mixed use of 2.5" and 3.5" drives of not more than three types is allowed.

### 7.3.2 SSD Models

**Table 7-6 SSD Options**

Type	Model	Capacity
SATA SSD	SSDSC2KB240G8	240G
	SSDSC2KB480G8	480G
	SSDSC2KB960G8	960G
	SSDSC2KB019T8	1.92T
	SSDSC2KB038T8	3.84T
	SSDSC2KB076T8	7.68T
	MZ7LH240HAHQ	240G
	MZ7LH480HAHQ	480G
	MZ7LH960HAJR	960G
	MZ7LH1T9HMLT	1.92T
	MZ7LH3T8HMLT	3.84T
	MTFDDAK240TDS	240G
	MTFDDAK480TDS	480G
	MTFDDAK960TDS	960G
	MTFDDAK1T9TDS	1.92T
	MTFDDAK3T8TDS	3.84T
	MTFDDAK7T6TDS	7.68T
	MTFDDAK240TDT	240G
	MTFDDAK480TDT	480G
	MTFDDAK960TDT	960G
	MTFDDAK1T9TDT	1.92T
	MTFDDAK3T8TDT	3.84T
	SSDSC2KG240G8	240G
	SSDSC2KG480G8	480G
	SSDSC2KG960G8	960G
	SSDSC2KG019T8	1.92T
	SSDSC2KG038T8	3.84T
	SSDSC2KG076T8	7.68T

### 7.3.3 U.2 NVMe SSDs

**Table 7-7 U.2 NVMe SSDs**

Model	Capacity
SSDPE2KX010T8	1T
SSDPE2KX020T8	2T
SSDPE2KX040T8	4T
SSDPE2KX080T8	8T
SSDPE2KE016T8	1.6T
SSDPE2KE032T8	3.2T
SSDPE2KE064T8	6.4T
SSDPE2KE076T8	7.68T

MZQL2960HCJR	960G
MZQL21T9HCJR	1.92T
MZQL23T8HCLS	3.84T
SDDPF2KX076TZ	7.68T
SDDPF2KX038TZ	3.84T

Note: For those models unlisted in the above table, please contact Inspur Customer Service.

## 7.4 Drive Backplane

Table 7-8 Drive Backplanes

Type	Description	Support
Front 4 × 3.5" SAS_SATA_NVMe Backplane	Backplane_Inspur_Backplane_3.5 × 4_SAS_SATA_NVMe_GN4	<ul style="list-style-type: none"> <li>SAS/SATA drives via RAID and SAS cards</li> <li>Four NVMe drives</li> </ul>
Front 12 × 3.5" Pass-through Backplane	Backplane_Inspur_ZT_SAS_SATA_3.5 × 12	<ul style="list-style-type: none"> <li>SAS/SATA drives via RAID and SAS cards</li> <li>PCH onboard SATA</li> </ul>
Front 12 × 3.5" Expander Backplane	Backplane_Inspur_SAS_SATA_3.5 × 12	<ul style="list-style-type: none"> <li>SAS/SATA drives via RAID and SAS cards</li> <li>Optional cascading support</li> <li>A cascaded rear backplane supports up to 4 drives</li> <li>Alternative expander chip vendors from Broadcom and from Microchip</li> </ul>
Rear M.2 Backplane	Backplane_Inspur_Backplane_M.2 × 2_NVME_SATA	<ul style="list-style-type: none"> <li>SATA M.2 drives via RAID and SAS cards</li> <li>PCH onboard SATA</li> <li>Cascade to front Expander backplanes</li> </ul>
Rear 2 × 2.5" SAS/SATA Backplane	Backplane_Inspur_Backplane_2.5 × 2_SAS_SATA	<ul style="list-style-type: none"> <li>SAS/SATA drives via RAID and SAS cards</li> <li>PCH onboard SATA</li> <li>Cascade to front</li> </ul>



		Expander backplanes
Rear 2 × 2.5" NVMe Backplane	Backplane_Inspur_NVME_2 × 2.5_Slim x8	Only NVMe drives
Rear 2 × 3.5" SATA/SAS Backplane	Backplane_Inspur_Backplane_3.5 × 2_SAS_SATA	SAS/SATA drives via RAID and SAS cards
Rear 2 × E1.S Backplane	Backplane_Inspur_PCIE x8_2 × Ruler	Two E1.S

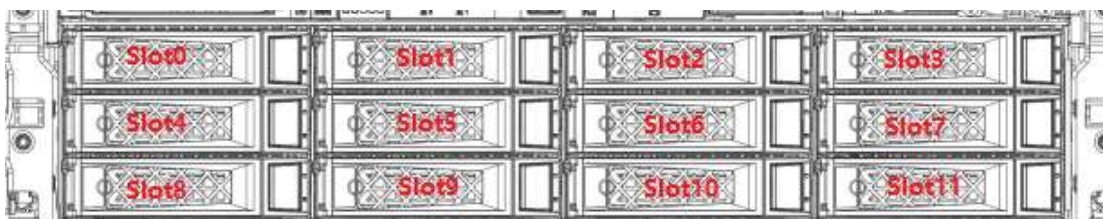
## 7.5 Drive Installation Position

### 7.5.1 Common Drive Installation Sequence

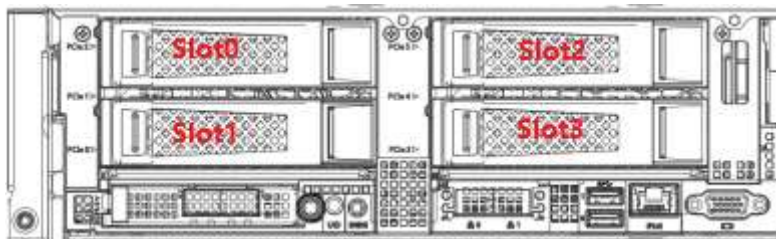
Front 2 × 12 × 3.5": from left to right and top to bottom



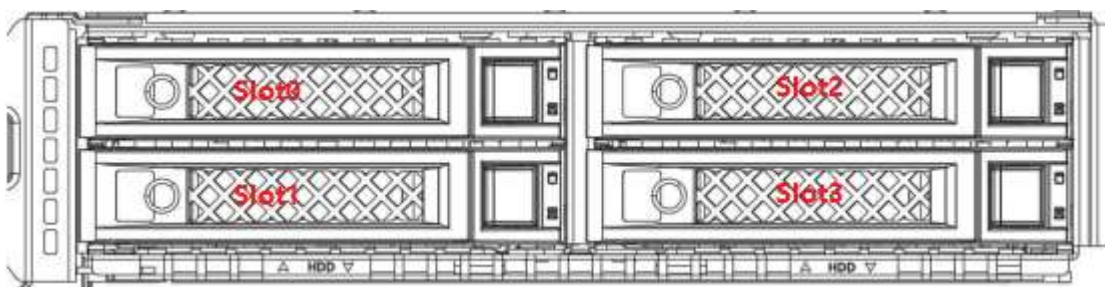
Rear lower 12 × 3.5": from left to right and top to bottom



Rear panel (2 × 3.5") × 2: from top to bottom and left to right



Rear panel (2 × 2.5") × 2: from top to bottom and left to right



## 7.5.2 NVMe Drive Installation Position

**Backplane: 4 × 3.5" NVMe Tri-mode** (The connectors for NVMe drives on the backplane are compatible with SAS/SATA drives)

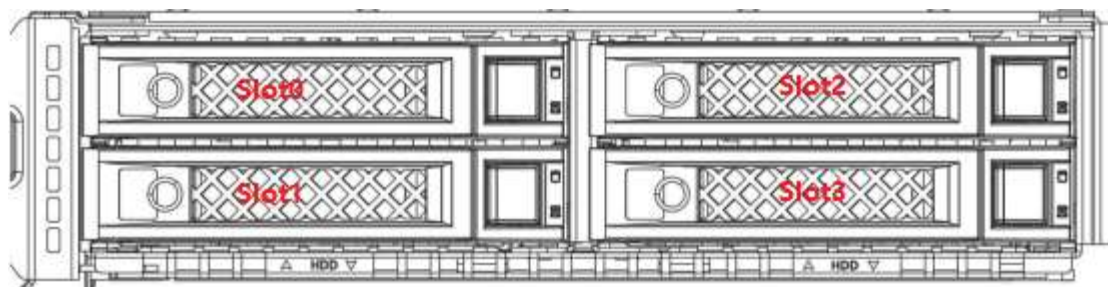
NF5466M6 supports a maximum of three such backplanes, which are installed in the lower part in the front view. The 12 NVMe drives are installed from left to right, and top to down.



**Backplane: (2 × 2.5" NVMe) × 2** (The backplane only supports NVMe drives)

- Only NVMe drives

NVMe drives are installed from top to down and left to right.



## 7.6 RAID/SAS Card

Table 7-9 RAID/SAS Cards

Type	Manufacturer	Description	Support Super-Capacitor
SAS Card	Inspur	SAS Card_INSPUR_SAS3008+IR+PCIE3.0	No
		SAS Card_INSPUR_SAS3008+IT+PCIE3.0	No
	LSI	SAS Card_L_8R0_9400-8i_HDM12G_PCIE3	No
		SAS 卡_BRCM_8R0_9500-8i_SMSAS3_PCIE4	No
	PMC	SAS 卡_Inspur_MT0801M6E_SHBA_8_SAS4_P4E	No
		SAS 卡_Inspur_MT0800M6H_HBA_8_SAS4_P4E	No
		SAS 卡_Inspur_PM8222_SmarHBA_8_SAS3_PCIE3	No
		SAS 卡_Inspur_PM8222_HBA_8_SAS3_PCIE3	No
RAID Card	Inspur	RAID Card_Inspur_SAS_3008_8_128Mb_12G_3	Yes
	LSI	RAID Card_Inspur_SAS_3008_8_128Mb_12G_3	Yes
		RAID Card_L_8R0_3508_4GB_HDM12G_PCIE3_Mezz_S	Yes
		RAID Card_L_8R0_9460-8i_2GB_HDM12G_PCIE3	Yes
		RAID Card_L_8R0_9361-8i_1G_HDM12G_PCIE3	Yes
		RAID Card_Inspur_PM8204_RA_8_2GB_SAS3_PCIE3	Yes
	PMC	RAID 卡_Inspur_PM8254_RA_8_4GB_SAS4_PCIE4	Yes
		RAID 卡_Inspur_PM8254_RA_8_8GB_SAS4_PCIE4	Yes

## 7.7 NIC

Table 7-10 OCP 3.0 NICs

Type	Model & Description	Speed	Interfaces
OCP	NIC_M_200G_MCX623435AN_LC_OCP3x16_XR	200G	2
	NIC_M_100G_MCX566ACDAB_LC_OCP3x16_2_XR	100G	2
	NIC_M_100G_MCX623436AN_LC_OCP3x16_2_XR	100G	2
	NIC_M_25G_MCX562A-ACAB_LC_OCP3x16_2_XR	25G	2
	NIC_BROADCM_25G_57414_LC_OCP3x16_2_XR	25G	2
	NIC_M_25G_MCX4621A-ACAB_LC_OCP3x8_2_XR	25G	2
	NIC_I_25G_E810XXVDA2_LC_OCP3x8_2_XR	25G	2
	NIC_Inspur_Andes-M6_E810_25G_LC_OCP3x8_2	25G	2
	NIC_M_25G_MCX631432AN_LC_OCP3x8_2_XR	25G	2
	NIC_Inspur_Andes-M6_X710_10G_LC_OCP3x8_2	10G	2

Table 7-11 Standard PCI-E NICs

Type	Model & Description	Speed	Interfaces
PCIe	NIC_SND_1G_I350-AM2_RJ_PCIEx4_2_XR	1G	2
	NIC_I_10G_X550T2_RJ_PCIEx4_2_XR	10G	2
	NIC_INSPUR_X710_10G_LC_PCIEX8_双_XR_子卡	10G	2
	NIC_INSPUR_X550_10G_RJ45_PCIEX8_双	10G	2
	NIC_M_25G_MCX4121A-ACAT_LC_PCIEx8_2_XR	25G	2
	NIC_M_25G_MCX512A-ACAT_LC_PCIEx8_2_XR	25G	2
	NIC_BRCM_25G_57414_LC_PCIEx8_2_XR_42C	25G	2
	NIC_M_25G_MCX631102AN_LC_PCIEx8_2_XR	25G	2
	NIC_Inspur_Andes-M6_E810_25G_LC_PCIEx8_2	25G	2
	NIC_M_100G_MCX516A-CDAT_LC_PCIEx16_2P_XR	100G	2
	NIC_M_100G_MCX623106AN_LC_PCIEx16_2_XR	100G	2

 IMPORTANT

A server supports up to six NICs of the same type, six 1G/10G NICs of different types, or four 25G (or above) NICs. It also supports mixed use of NICs of different types.

## 7.8 FC HBA Card

**Table 7-12 FC HBA Cards**

HBA Cards	Qlogic	HBA Card_Q_0R1_QLE2560_LC8G_PCIE
		HBA Card_QL_8R2_QLE2562_LC_PCIE
		HBA Card_QL_4R1_QLE2690-ISR-BK_FC16G_PCIE
		HBA Card_QL_4R2_QLE2692-ISR-BK_FC16G_PCIE
		HBA Card_QL_8R1_QLE2740_FC32G_PCIE
		HBA Card_QL_8R2_QLE2742-ISR-BK_FC32G_PCIE
	Emulex	HBA Card_E_0R1_LPE12000-AP_FC8G_PCIE
		HBA Card_E_0R2_LPE12002_LC8G_PCIE
		HBA Card_E_8R0_LPE31000-M6_FC16G_PCIE
		HBA Card_E_8R2_LPE31002-M6_FC16G_PCIE
		HBA Card_E_8R2_LPE32002-AP_FC32G_PCIE
		HBA Card_E_0R1_LPE32000-AP_FC32G_PCIE

## 7.9 HCA Card

**Table 7-13 HCA Card**

Model & Description	Speed	Interfaces
MCX653105A-ECAT PCIe 3.0/4.0 X16	100 G	1
MCX653106A-ECAT PCIe 3.0/4.0 X16	100 G	2
MCX555A-ECAT PCIe 3.0 X16	100 G	1
MCX556A-ECAT PCIe 3.0 X16	100 G	2
MCX653105A-HDAT PCIe 3.0/4.0 X16	200 G	1
MCX653106A-HDAT PCIe 3.0/4.0 X16	200 G	2
HCA Card_I_1-EDR4X25_100HFA016LS_PCIE	100 G	1



**IMPORTANT**

- To use HCA cards under Windows, install the IB driver downloaded from

---

Mellanox official website first, and then install the Chipset driver

- PCIe x16 is required for a speed of over 100G.
- 

## 7.10 GPU

**Table 7-14 Graphic Card**

Type	Model & Description	Max. No.
GPU	GPU_NV_32G_Tesla-V100S_4096b	2
	GPU_NV_40G_Tesla-A100-PCIe_5120b	2
	GPU_NV_16G_Tesla-T4_256b	8
	GPU_NV_24G_NVIDIA-A10_384b	2

### IMPORTANT

- The GPUs above need to be inserted into the PCIe x16 Riser slot.
  - The V100S GPU is a FHFL double-width GPU, which requires the high-level configuration with 8 fans.
  - Up to 8 T4 GPUs are supported for the high-level configuration with 8 fans, while only 2 T4 GPUs are supported for the standard configuration with 4 fans.
- 

## 7.11 Power Supply

The hot-swap PSUs, up to 2, meet Intel's CRPS standard, adopt general electrical and structural design, and support 1+1 redundancy. The PSUs support tool-less installation and removal. Once inserted into the power bay, they will be locked in place automatically. A CRPS PSU is 80 PLUS Platinum rated, and offers various output powers, allowing customers to choose based on the actual configuration.

- The following rated 110 V - 230 VAC and 240 VDC power supplies of 1+1 redundancy are supported:  
800 W Platinum power supply: 800 W (110 VAC), 800 W (230 VAC), 800 W (240 VDC for China)



1300 W Platinum power supply: 1000 W (110 VAC), 1300 W (230 VAC), 1300 W (240 VDC for China)

1600 W Platinum power supply: 1000 W (110 VAC), 1600 W (230 VAC), 1600 W (240 VDC for China)

2000 W Platinum power supply: 1000 W (110 VAC), 1600 W (230 VAC), 1600 W (240 VDC for China)

800 W Titanium power supply: 800 W (110 VAC), 800 W (230 VAC), 800 W (240 VDC for China)

1300 W Titanium power supply: 1000 W (110 VAC), 1300 W (230 VAC), 1300 W (240 VDC for China)

**NOTE**

At a rated voltage of 110VAC, a 1300W or higher PSU will be derated to 1000W.

Input voltage range:

110 VAC - 230 VAC: 90 V - 264 V

240 VDC: 180 V - 320 V

- The following PSUs (rated 240 - 336 VDC) of 1+1 redundancy are supported:

800 W 336 VDC PSU: 800 W (240 VDC), 800 W (336 VDC)

1300 W 336 VDC PSU: 1300 W (240 VDC), 1300 W (336 VDC)

Input voltage range:

240 VDC - 336 VDC: 190 V - 400 V

- The following rated -48 VDC PSU of 1+1 redundancy are supported:

800 W -48 VDC PSU: 800 W (-48 VDC)

1300 W -48 VDC PSU: 1300 W (-48 VDC)

Input voltage range:

-48 VDC: -40 V to -72 V

## 7.12 Operating System

**Table 7-15 Operating Systems**

OS	OS Version
Windows	Windows Server 2019 64bit
	Windows Server 2016 64bit
Red Hat	Red Hat Enterprise 7.9 64bit
	Red Hat Enterprise 7.8 64bit
	Red Hat Enterprise 8.2 64bit
	Red Hat Enterprise 8.1 64bit
SUSE	SUSE12.5 64bit
	SUSE15.2 64bit
Centos	Centos_7.8 64bit
	Centos_7.9 64bit
	Centos_8.1 64bit
	Centos_8.2
ESXi 6.X	Vmware Esxi_6.7U3
	Vmware Esxi_7.0
Ubuntu	Ubuntu 20



# 8 Configuration Notes

---

- Onboard SATA and RAID/SAS cards cannot be selected at the same time.
- RAID/SAS cards with different chip models cannot be selected at the same time.

# 9 System Management

## 9.1 Intelligent Management System BMC

ISBMC, a remote server management system developed in house by Inspur, supports such mainstream management specifications in the industry as IPMI 2.0 and Redfish 1.8. ISBMC4 features higher operational reliability and excellent serviceability for different customer scenarios. It provides comprehensive and accurate fault diagnosis capabilities and enhanced security above industry average.

ISBMC supports the following key features:

- IPMI 2.0
- Redfish 1.8 protocol
- Simple network management protocols (SNMP v1/v2c/v3)
- HTML5/Java remote consoles (keyboards, mouses, and videos)
- Remote virtual media
- BMC login on web browsers
- Intelligent fault diagnosis system

**Table 9- ISBMC4 Specifications**

Specification	Description
Management Interface	<p>Supports extensive remote management interfaces and is applicable to various server O&amp;M scenarios. The supported interfaces include:</p> <ul style="list-style-type: none"> <li>IPMI</li> <li>SSH CLI</li> <li>SNMP</li> <li>HTTPS</li> <li>Web GUI</li> <li>Redfish</li> </ul>

	<p>RESTful</p> <p>DCMI</p> <p>Syslog</p>
Intelligent Fault Location	<p>With IDL, a fault diagnosis system developed in-house at Inspur, it provides comprehensive and accurate hardware fault location capabilities, and outputs detailed fault causes and handling suggestions.</p>
Alarm Management	<p>Supports rich automatic remote alarm capabilities, including SNMP Trap (v1/v2c/v3), email alarms, syslog remote alarms, and other proactive alarming mechanisms to ensure 24 × 7 reliability.</p>
Remote Console KVM	<p>Supports HTML5- and Java-based remote consoles, supports remotely taking over the display/mouse/keyboard of the server, and provides highly available remote management capabilities without on-site operations.</p>
Virtual Network Console (VNC)	<p>Supports mainstream third-party VNC clients without relying on Java to improve management flexibility.</p>
Remote Virtual Media	<p>Links local devices, images, USB devices, and folders to BMC through the network so that BMC can intelligently mount the devices to the server, achieving remote media virtualization and simplifying system installation, file sharing, and other O&amp;M tasks.</p>
Web GUI	<p>Features visual management interface developed by Inspur, provides comprehensive display of server information and status, and offers an easy-to-use O&amp;M buttons.</p>
Downtime Screenshotting and Common Screenshotting	<p>Supports automatic screenshotting during downtime to capture the last screen before the downtime, and provides the screenshotting function, which can quickly capture the Display to facilitate regular inspections.</p>
Dual Flash and Dual Image	<p>Supports dual flash and dual image with automatic flash failover upon software faults or flash damage, improving</p>

	operational reliability.
Power Capping	Supports power capping, increasing deployment density and reducing energy consumption.
IPv4/IPv6	Supports both IPv4 and IPv6, enhancing network deployment flexibility.
Adaptation of Management Network Interfaces	Supports adaptation of dedicated management network interfaces and network controller sideband interfaces (NC-SI), and provides customers with flexible network deployment solutions for different management network deployment scenarios.
ISBMC Self-diagnosis and Self-recovery System	<p>Supports the reliable dual watchdog mechanism for hardware and software, enabling automatic restoration of abnormal programs to normal under extreme BMC situations.</p> <p>Provides a heat dissipation protection mechanism, which is automatically triggered when a BMC program is abnormal to ensure that the fan operates at a safe speed to avoid overheating of the entire system.</p> <p>Supports self-diagnosis of processors, memory modules, and storage devices of ISBMC, and automatically cleans up the workload and restores to normal when the device consumption rate is too high.</p>
Power Supply Control	Supports virtual power buttons for startup, shutdown, restart, and shutdown and then restart.
UID LED and Remote Control LED	Supports remote lighting of the unit identification (UID) LED for locating the server in the computer room, and supports remote control LED. The UID LED flashes when a user remotely logs in through the web, KVM, or SSH to inform the on-site personnel that an administrator is accessing the server.
Secure Firmware Upgrade	Supports firmware upgrades based on secure digital signatures, unexpected upgrade prevention mechanism

	for different manufacturers and models, and firmware upgrades of BMC/BIOS/CPLD/PSU and other devices.
Serial Port Redirection	Supports remote redirection of system serial ports, BMC serial ports, and other serial ports, and directs the server-side serial port output to the local administrator through the network for server debugging.
Storage Information Viewing	Supports display of RAID logical array information and drive information, and remote RAID formation for improved deployment efficiency.
User Role Management	Allows granular user management based on user roles and flexible creation of user roles with different permissions, and provides detailed user roles to allow administrators to grant different permissions to O&M personnel.
Security Features	Adopts the industry-leading Inspur server security baseline standard V2.0, and provides secure and reliable algorithms for SSH, HTTPS, SNMP, and IPMI, and has the capabilities including secure upgrade and boot as well as security reinforcement mechanisms such as anti-replay, anti-injection, and anti-brute force.

## 9.2 Inspur Physical Infrastructure Manager (ISPIM)

The NF5466M6 server is compatible with the latest version of Inspur Physical Infrastructure Manager (ISPIM).

The independently developed ISPIM features asset management, monitoring management, inspection management, energy consumption management, and stateless management. It also provides RESTful and SNMP interfaces to facilitate user integration and interfacing. ISPIM has the following key features:

- Lightweight deployment for multiple scenarios and full lifecycle management

of devices

- High reliability and on-demand node expansion for 1-N data collection
- Intelligent asset management and real-time tracking of asset changes
- Comprehensive monitoring and automatic fault diagnosis
- Batch configuration, deployment, and upgrade for reduced launch time
- Intelligent analysis and control of power consumption to improve energy efficiency and operational stability of data centers
- Version management for improved version management efficiency
- Standardized northbound interfaces for easy integration and interfacing
- Centralized management of edge devices

**Table 9-1 ISPIM Specifications**

Specification	Description
Centralized Device Management	Supports centralized management of network-wide devices, including servers (covering the complete Inspur server family, including general rack-mounted servers, AI servers, blade servers, all-in-one servers, and other high-end server products, and third-party servers), storage devices (Inspur general disk arrays, distributed storage devices, and storage devices of other manufacturers), and network devices (Inspur switches, third-party switches, and third-party firewall devices).
Monitoring Management	Supports centralized display, search, and blocking of device alarms, and email notifications, and supports the creation of alarm rules, notification rules, and blocking rules, alarm redefinition, alarm forwarding and southbound settings, device performance monitoring, and distributed monitoring.
Stateless Computing	Supports BMC/BIOS upgrade and configuration of Inspur servers, RAID configuration of Inspur servers, hardware configuration templates, automatic hardware baseline management, and file repository upgrade.
Operating System	Supports batch deployment of operating systems through the BMC interface, one-click deployment with automatic status

Deployment	writeback without manual intervention, and concurrent deployment of up to 40 devices.
Asset Management	Supports part-level asset management, multi-dimensional asset statistics, 3D data centers, and asset maintenance management.
Inspection Management	Supports active inspection tasks, alarm-triggered passive inspection, intelligent fault diagnosis and analysis, and automatic fault reporting and correction.
Power Consumption Management	Supports multi-dimensional statistics of power consumption, intelligent power consumption capping strategy, and intelligent power consumption prediction; provides a variety of power consumption optimization analysis, including cooling analysis, server utilization analysis, server power consumption analysis, and load distribution analysis.
Security Management	Implements security control of ISPIIM by using a set of security policies such as user management, role management, authentication management (local authentication and LDAP authentication), and certificate management policies.

### 9.3 Inspur Server Intelligent Boot (ISIB)

NF5466M6 is compatible with the latest Inspur Server Intelligent Boot (ISIB) system, an automatic O&M management system throughout the server lifecycle developed in-house at Inspur. Based on SSH and PXE technologies, it is compatible with the entire family of Inspur servers, and has more efficient and reliable automatic deployment and software and hardware configuration management functions. Its key features include:

- Full lifecycle device management from rack mounting to automatic O&M
- Barebone one-stop deployment with one-click racking
- Flexible task scheduling with O&M capabilities for different scenarios
- Large-scale deployment of technical architecture for reduced launch time
- Zero network deployment with plug-and-play support
- Accurate logging and instruction-level tracing of execution results

- Rich built-in O&M scripts and management schemes

**Table 9-2 ISIB Specifications**

Specification	Description
Home	Provides multi-dimensional statistical results of assets, repositories, operations, and jobs, dynamic display of jobs in the last 24 hours, and histogram display of jobs in the last 30 days.
Asset	Supports automatic device discovery, operating system information collection, and out-of-band/in-band power supply management.
Repository	Provides the management of images, software, firmware, configuration files, scripts, and sources to facilitate operations such as operating system deployment and firmware upgrades.
Operation	Supports firmware upgrades; Supports hardware configuration; Supports PXE automatic installation; Supports installation template management; Supports image cloning and restoration; Supports software distribution; Supports configuration changes; Supports system inspection.
Task	Supports job scheduling, and scheduled and periodic task execution. Provides visual multi-dimensional task display and refined log viewing.
GShell	Remote management of a single SSH terminal or multiple SSH terminals.
DFX	Supports high availability (HA) and secure access to HTTPS; Supports system snapshots and self-service management; Supports batch operations & maintenance at a scale of 10,000 devices; Provides RESTful northbound interfaces.





# 10 Certification

Parts of the task book to be certified:

Region	Certification Program	Certification Logo	Compulsory/Voluntary	Description
China	3C		Compulsory	
	SEPA		Voluntary	
	CECP		Voluntary	
International Mutual Recognition	CB	CB	Voluntary	
EU	CE	CE	Compulsory	
U.S.	FCC	FCC	Compulsory	
	UL		Voluntary	
	Energy Star		Voluntary	
Russia	CU Certification	EAC	Compulsory	
	FSS	N/A	Compulsory	
South Korea	E-Standby		Compulsory	
	KC		Compulsory	

# 11 Support and Services

---

Please visit the official website of Inspur at <https://en.inspur.com/>, click **Support > Support Center > Warranty & Configuration**, and enter the product model, part model, serial number or keywords to learn relevant information and check the warranty status and configuration of related product.

Global service hotline:

- 1-844-860-0011 (toll free)
- 1-760-769-1847 (direct line)
- Service email: [serversupport@inspur.com](mailto:serversupport@inspur.com)

Information required from customers:

- Name
- Company information
- Contact number
- Email address
- Product model
- Product serial number
- Problem description

# 12 Relevant Documents

---

For more information, go and visit

<http://en.inspur.com>

where you can find resources to help customers solve problems and learn about our products, such as product manuals, drivers, and firmware.

# 13 Trademark

---

Inspur and Inspur logos are owned by Inspur Group Co., Ltd. All other trademarks and trade names mentioned in this document are the properties of their respective owners.