

Introduction

- Aim
 - Introduction for presale and sales:
 - Product introduction of 1U 2-way servers
 - Features
 - Introduction of competitive products
- Application
 - Training for new product and product selling
 - Product information material for clients
 - Training material for presale and sales
- Use Scope
 - Yes : Company use only or for introducing product to clients
 - No : None

Training of 1U New Products

NF5180M4 & NF5170M4

Optimizing the product design to better achieve high-density deployment



Server Product Department



Product Manager: Luo Yun Yun

Catalogue

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Competitive Products

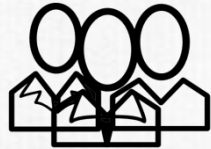
X3650M5+DL360/160+R630

Introduction

NF5180M4



Highlights



**Target
Clients**



**Sample
Application**

Really reach **Enterprise level**

The most competitive 1U product in Inspur history

High-performance and high-density

within the compact space of 1U

Applicable to medium and large-size and industries enterprises such as finance, telecommunication, high-end government, HPC etc., which satisfy clients with needs of high-performance and compact space deployment

Virtualization, high-performance, data base etc.

Introduction

NF5170M4



Upgrades



**Target
Clients**



**Sample
Application**

Compact and Concise

Highly integrated and high-density 1U product

Cover both **the Internet** and the general market

Applicable to industries with special application and high-density computer environment, as well as clients with strict requirements for space and cost efficiency from government, health, education, enterprises and Internet clients

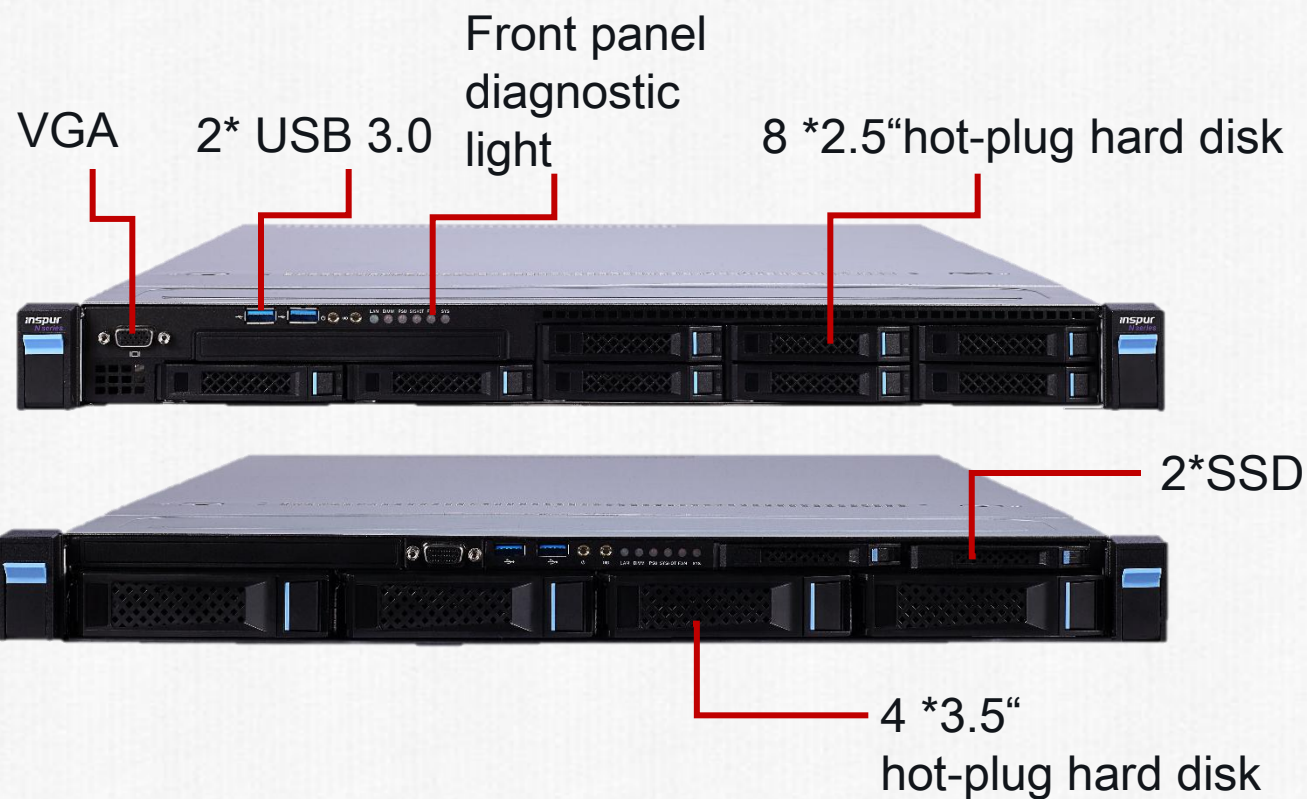
Game, Web access, Cache

High-performance computation solution with low cost

Product Image

Front View

- The same front-window design
Support **panels with lock**
- Up to **10** *2.5" hard disk
- **Unique** parameters among domestic manufactures



Product Image

Rear View

NF5180M4

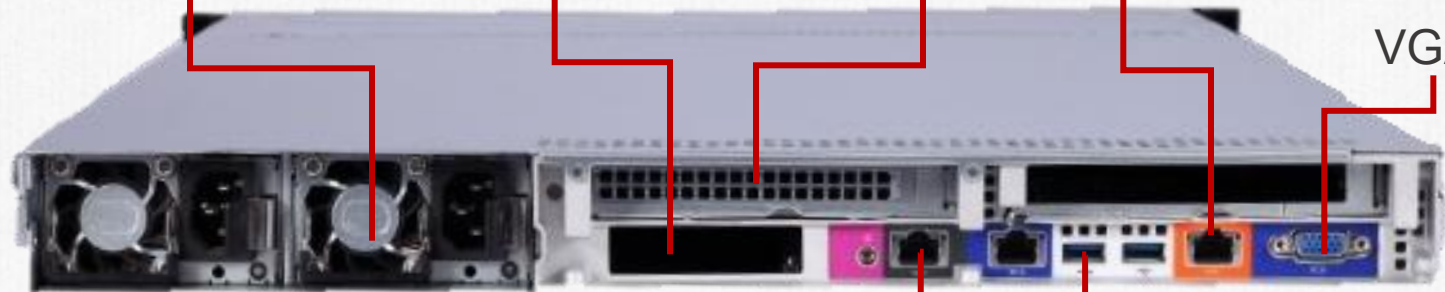
Modularized dual power supply

FLOM network daughter card

2*PCI-E 3.0

IPMI management port

VGA



Integrated 2* 1GbE port

2*USB 3.0

Modularized dual power supply

2*PCI-E 3.0

VGA

NF5170M4



The integrated 2* 10GbE port

The integrated 4* 1GbE port

2*USB 3.0

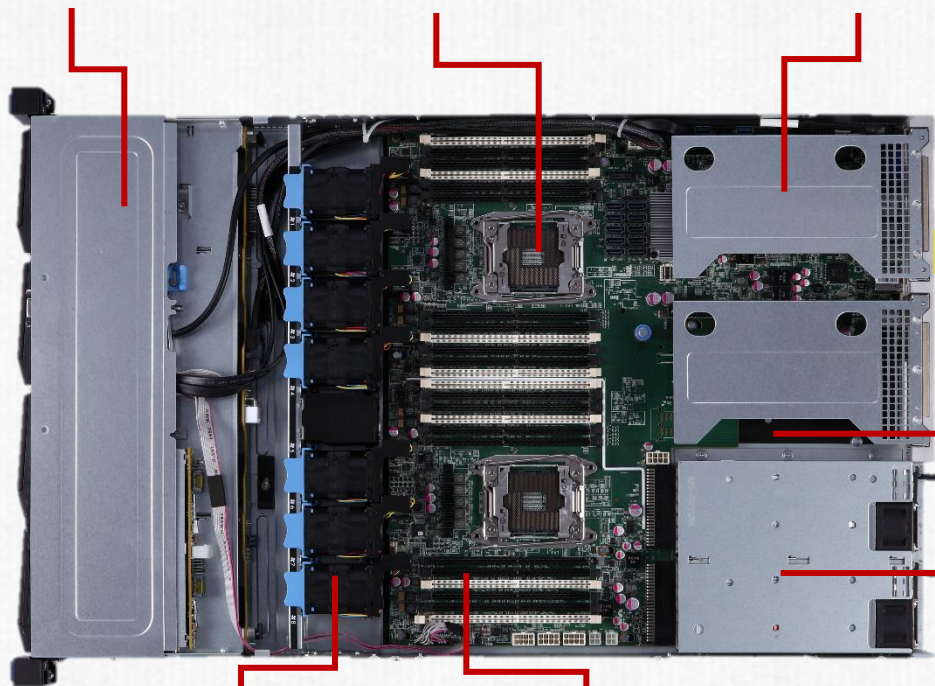
Product Image

Inside View

Hard drive module

2*E5-2600V3 CPU

2*PCI-E expansion slot



7*hot-swap fans

24 *DIMMs

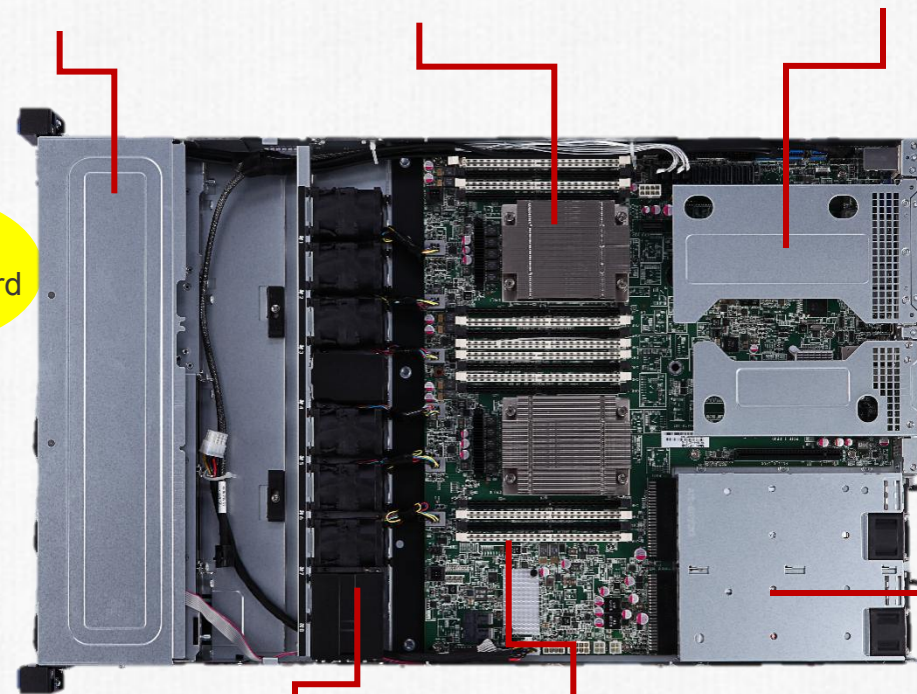
2*power supply

NF5180M4

Hard drive module

2*E5-2600V3 CPU

2*PCI-E expansion slot



FLOM
network card

6* fans

16*DIMMs

2*power supply

NF5170M4

Competitive Product Features

NF5180M4 / NF5170M4

NF5170M3

2*E5-2600V3

2*E5-2600V2

24*DDR4 / 16*DDR4

20*DDR3

10*2.5" or 4*3.5"+2*2.5

8*2.5 or 4*3.5+2*2.5 (build-in)

3/2*PCI-E

1*PCI-E

Titanium power source

Platinum power source

Commonalities

E5-2600 V3 Processor



Intel® AVX 2 promotes the application performance by 70% at the maximum

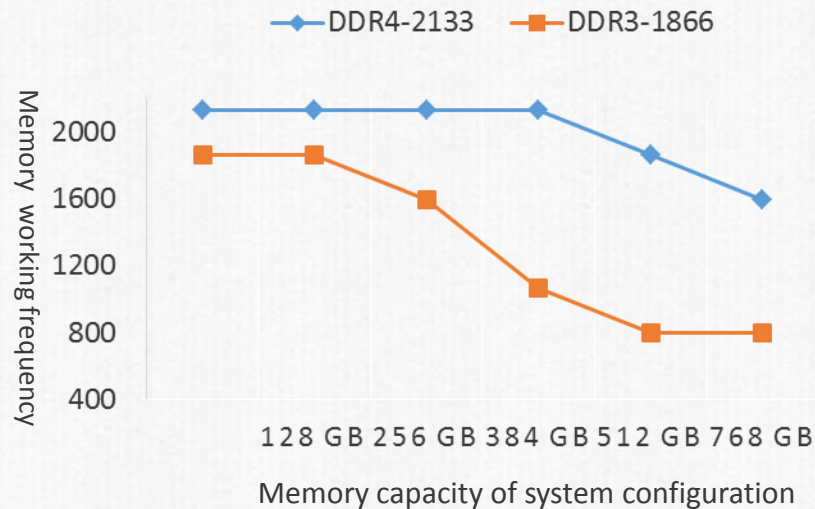
Each core has its own P-States (PCPS) which can promote the performance by 36%

Cache QoS monitoring promotes virtualization manageability

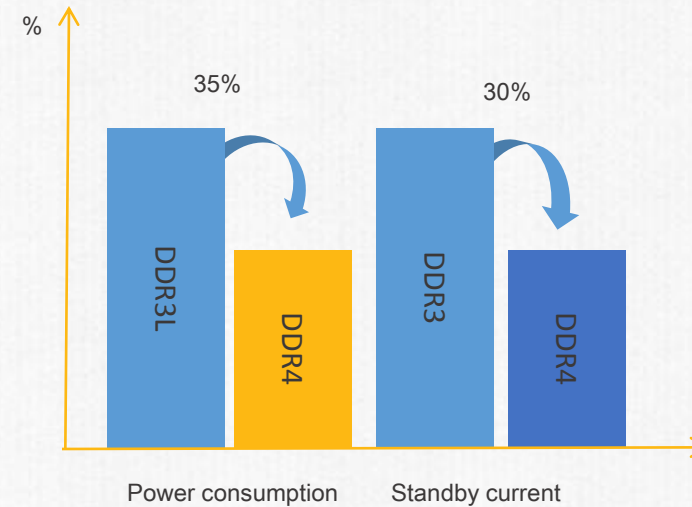
- Equipped with the latest E5-2600v3 series processor, promoting the performance by **70%**
- Each core of processor reduces the dominant frequency or turn off the core based on the business load, promoting the performance by **36%**
- In a virtualized environment, it can balance the cache resource of each virtual machine, preventing excess of resource occupation of some virtual machines and providing better service for **virtualization**

Commonalities

DDR4 Memory



▲ Bandwidth promoted by **50%**



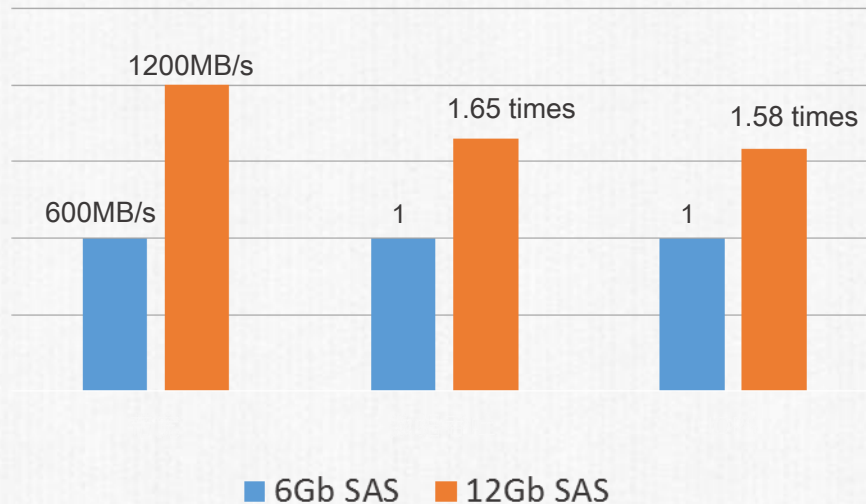
▲ Performance promoted by **50%**

- The new-generation 1U product is equipped with the latest DDR4 memory. Compared with DDR3 , when configured with the same number of DIMMs, the bandwidth is promoted by 50%, power consumption reduced by 50%, ensuring high-performance while saving energy.

Commonalities

Hard Disk Configuration

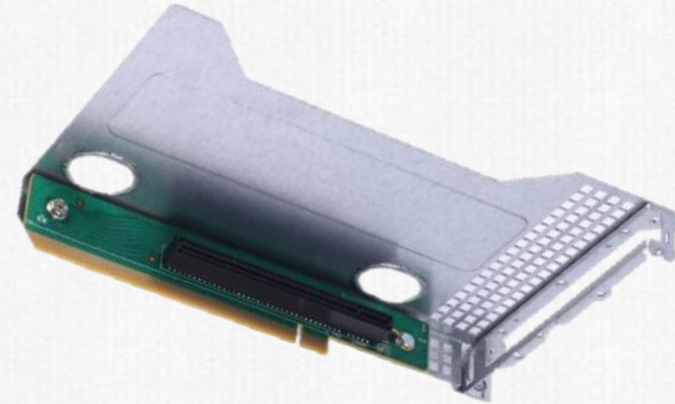
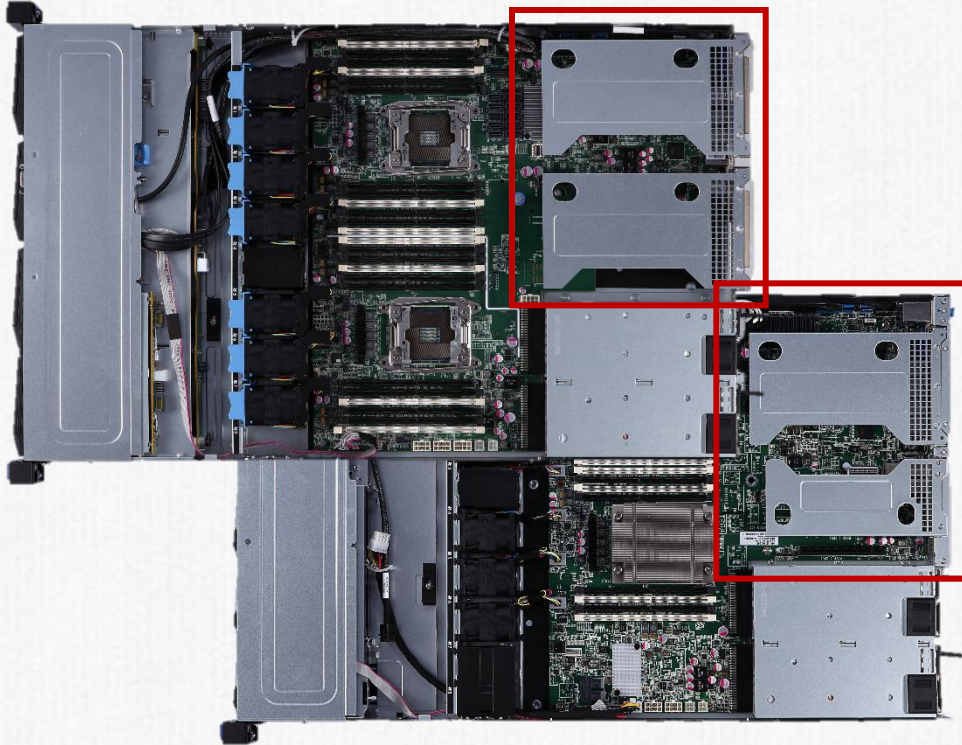
- Support up to **10** 2.5" hard disks , which is **UNIQUE** in China
- 4 *3.5"hard disks +**2 SSD**, achieving high-density deployment



Support **12Gb/s** SAS hard disk , the single port provides 1200MB/s theoretical bandwidth. When equipped with SSD hard disk, it fully releases the potentiality of SSD, transmitting faster.

Commonalities

PCI-E Expansion

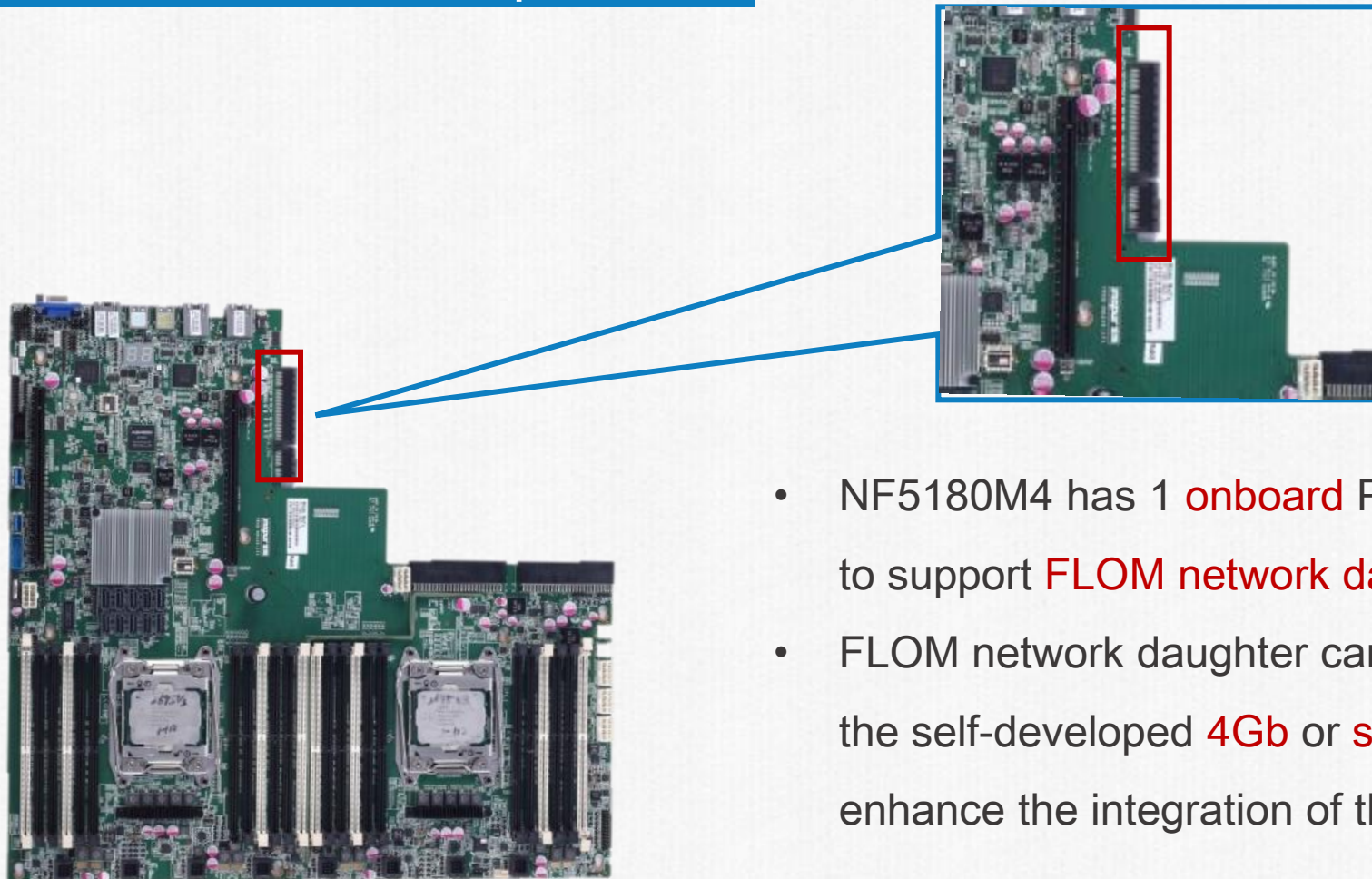


PCI-E riser card

- Within the compact 1U space, it provides **2 PCI-E** slots via 2 riser cards and supports **full-height** graphics card.
- NF5180M4 : 2*PCI-E X16
- NF5170M4 : 1*PCI-E X16 +1* PCI-E X8

Commonalities

PCI-E Expansion



- NF5180M4 has 1 **onboard** PCI-E 3.0 X8 slot used to support **FLOM network daughter card**.
- FLOM network daughter card can be chosen from the self-developed **4Gb** or **single/dual 10Gb** to enhance the integration of the mainboard

Commonalities

Power Supply



85%



89%



92%



94%



96%

- The new 1U 2-way product all support single/dual power supply, 550W/800W + output power.
- **-48V low voltage DC**, optional **Titanium** power supply
- PMBus power supply, achieving Node Manager 3.0 function

Highlights

NF5180M4

Management

Embedded with smart management chip of server, support IPMI 2.0 and provide different management functions such as remote system monitoring, remote KVM and virtual media.



Temperature Management

Control the air volume accurately and adjust the rotate speed automatically based on the temperatures of environment and modules, air pressure



Power Supply Management

Adopt digital power supply and flexibly choose configuration solutions to provide the highest transfer efficiency








Power Management

Complete power management which initiates the restriction mechanism predictively and limits the system power consumption in the initialization phase

Highlights

NF5180M4

		Modular Parts	Full modularized design, tool-free maintenance, support hot-plug of key parts that are vulnerable
Maintenance		Indicator Light of Front Panel	Indicate information such as system, fan, overheat, power supply, memory and network etc.
		Fault Indicator Light	When outage occurs, it can still navigate the fault points via the mainboard
Security		Firmware Encryption/ Digital Signature	Prevent unknown illegal write of firmware
		Trusted Computer System :	Enhance system security

Highlights

NF5170M4



I/O Performance

Onboard 4*1Gb or 2*10Gb, providing more network ports to satisfy multiple network requirements.



Storage Performance

Integrate LSI 3008 hard disk controller, different Raid Key are available

Support Raid 0,1
or Raid 0, 1, 5, 50

Specifications

NF5180M4

Model	NF5180M4
Processor	2 Intel® Xeon® E5-2600V3 series
Memory	24 memory slots , up to DDR4-2133, which can be expanded to 1536GB (64GB/DIMM)
Hard disk controller	Onboard SATA 6Gb interface
RAID	RAID 0/1/5/6/10/50/60, SAS RAID controller with cache and can expand cache to protect the battery
I/O expansion slot	Up to 3 PCI-E3.0 slot

Storage	Up to 10 *2.5"hot-plug SATA/SAS or SSD; Up to 4 front 3.5"hot-plug SATA/SAS or SSD, and 2*2.5" hot-plug SATA/SAS or SSD
Integrated I/O ports	Rear: 2 x USB 3.0 ports, 1 VGA connector Front: 2 x USB 3.0 ports, 1 VGA connector Internal: 2 USB 3.0 interfaces, a build-in serial port
Network controller	Integrated 2*1Gb NIC, support advanced features such as virtualization acceleration, web acceleration, load balancing, redundancy; Integrated 1Gb independent network interface dedicated to IPMI remote management
Power supply	Platinum/titanium power supplies, 1+1 redundancy optional, PMBus
Management function	Integrated system management chip supports IPMI2.0, KVM over IP, virtual media. Inspur's latest Ruijie Server Management Suite supports external visual management module and provide local visualization system monitoring and troubleshooting functions
Working environment temperature	10°C ~ 35°C High temperature configuration is 5°C~45°C . Please contact Inspur for more detailed information

Specifications

NF5170M4

Model	NF5170M4
Processor	2 Intel® Xeon® E5-2600V3 series
Memory	16 memory slots, up to DDR4-2133, which can be expanded to 1024GB (64GB/DIMM) Support advanced features such as 4-channel Interleave access, memory error correction, memory mirroring and memory sparing.
Hard disk controller	Onboard SAS 12Gb
RAID	RAID0/1/5/6/10/50/60, having high-performance SAS RAID controller of cache and can expand cache to protect the battery

Storage	Up to 8 front 2.5" hot-plug SATA/SAS or SSD; Up to 4 front 3.5" hot-plug SATA/SAS or SSD, and 2 *2.5"hot-plug SSD
I/O expansion slot	2 PCI-E3.0 slots
Integrated I/O ports	Rear: 2 x USB 3.0 ports, 1 VGA connector Front: 2 x USB 3.0 ports, 1 VGA connector
Network controller	Integrated 4*1Gb NIC or 2*10Gb NIC, supporting advanced features such as virtualization acceleration, web acceleration, load balancing, redundancy; Integrated independent 1Gb network interface dedicated to IPMI remote management
Power supply	Platinum/titanium power supplies, 1+1 redundancy optional, PMBus
Power voltage	220/240/-48V

Combination of Advantageous Parts

Combining different functional modules provides various kinds of products which can satisfy the functional needs of different clients while promoting the competitiveness of the product, forming differentiated product solutions



3 models

The advantages of differentiation



NIC



RAID card

Various self-developed plug-in card

Price advantage

1G 4*RJ45
10G 1/2 SFP
10G 2*RJ45
40G 2 SFP
No cache 6Gb
1G cache6Gb
1G cache 12Gb
2G cacache12Gb









Abundant choices



Product competitiveness

Competitive Products

NF5180M4	X3550M5	DL 360 GEN9	R630
			
24DIMM 3PCI-E 10*2.5 or 4*3.5+2*SSD	24DIMM 3PCI-E+ Raid slot 12*2.5 or 4*3.5	24DIMM 3PCI-E 10*2.5or 4*3.5	24DIMM 3PCI-E+ Raid slot 24*1.8 or10*2.5
NF5170M4		DL 160 GEN9	
			
16DIMM 2PCI-E 10*2.5or 4*3.5+2*SSD		16DIMM 3PCI-E 8*2.5 or 4*3.5	
Inspur	IBM	HP	DELL

Introduction of Competitive Products

IBM X3550M5

Major Specifications

- CPU: E5-2600V3 (2)
- Memory: 24DIMM
- Hard disk: 10 front+2 hot-plugs 2.5" SAS/SATA or SSD, or 4 *3.5"hard disk
- PCI-E : 3 PCI-E3.0 slots and 1 exclusive RAID slot
- Network : 4×1 Gb



Advantages

- ✓24 DIMM ;
- ✓Up to 12 *2.5" hot-plug hard disk/SSD
- ✓Exclusive RAID card slot (PCI-E is not occupied)
- ✓3 PCI-E expansion slot

Disadvantages

- 3.5"hard disk model, no SSD
- 2*2.5 rear hard disks, only 1 PCI-E available
- Onboard network interface is only 1Gb

Introduction of Competitive Products

HP DL360 GEN9

Major Specifications

- CPU:E5-2600V3 (2)
- RAM: 24DIMM
- Hard disk: 10 hot-plug 2.5" SAS/SATA or SSD or 4 *3.5"hard disks
- PCI-E: 3 PCI-E3.0 slots
- Network: 4×1 Gb

Advantages

- ✓24 DIMM ;
- ✓Up to 10*2.5" hot-plug hard disk/SSD
- ✓3 PCI-E slots, among which one onboard port can choose multiple models of network card



Disadvantages

- ✗3.5" hard disk model, no SSD
- ✗Onboard network interface is only 1Gb

Introduction of Competitive Products

HP DL160 GEN9

Major Specifications

- CPU: E5-2600V3 (2)
- Memory: 16DIMM
- Hard disk: 8 hot-plug 2.5" SAS/SATA or SSD or 4* 3.5" hard disk
- PCI-E: PCI-E3.0 slots
- Network: 2×1 Gb

Advantages

✓3 PCI-E slots, among which one port can choose multiple models of **network card**



Disadvantages

- ✗Up to 8*2.5 hard disk/SSD
- ✗3.5" hard disk model, no SSD
- ✗Onboard 2*1Gb

Introduction of Competitive Products

DELL R630

Major Specification

- CPU: E5-2600V3 (2)
- Memory: 24DIMM
- Hard disk: up to 24*1.8" hot-plug SSD or 10 hot-plug 2.5-inch SAS/SATA hard disks or SSD
- PCI-E: 3 PCI-E3.0 slots and 1 exclusive RAID slot
- Network: 4×1 Gb , 2×1 Gb+2×10 Gb , 4×10 Gb



Advantage

- ✓24 DIMM ;
- ✓Up to **24* 1.8-inch SSD** or 10* 2.5"hot-plug hard drive/SSD
- ✓Flexible integrated network
- ✓**Exclusive RAID card slots (PCI-E is not occupied)**
- ✓3 PCI-E slots

Disadvantage

- High-end product, high cost, not applicable to the majority of clients
- Do not support 3.5" hard disk**

Thank You!

Inspur Yingxin NF5180M4 & NF5170M4 are two competitive 1U 2-way rack products of Inspur. After optimizing the design, the compact space of 1U can better satisfy the high-density deployment.

The new-generation Inspur 1U 2-way server products have been greatly updated on performance and specifications. The two models each has its own features, satisfying various needs of the market and application.