

meta brain[®] server

NF8480G7



Product Overview

The NF8480G7 is a high-end 4-socket rack server powered by the 4th Gen Intel® Xeon® Scalable processors. Optimized for customers' data-intensive critical services, the server features powerful computing performance, flexible modular design, excellent scalability, and enhanced reliability and security, making it suitable for application scenarios such as large transaction databases, in-memory databases, virtualization integration, HPC, deep learning, and ERP

Applicable Model

Model	Maintenance	Cooling
NF8480-M7-A0-R0-00	Rear I/O	Air cooling

Product Features

Powerful Computing Performance

- Supports 4 new-gen Intel® Xeon® Scalable processors, with up to 60 cores and 120 threads per CPU, up to 350W TDP, and 3 Ultra Path Interconnect (UPI) links per CPU at up to 16GT/s per link, significantly improving its cost performance in virtualization scenarios.
- It supports 64 DDR5 ECC DIMMs (4,800MT/s, RDIMMs), delivering superior speed, high availability, and a memory capacity of up to 16TB.
- The all-flash configuration of 24 NVMe SSDs provides a high IOPS ten times higher than that of high-end enterprise-level SATA SSDs, boosting the storage performance.
- With 4 dual-width GPUs or 8 single-width GPUs, it provides ultra-high AI training performance to meet customers' computing needs in deep learning, inference, training, etc.

Multi-Dimensional and High-Reliability Design

- Supports hot-swap SAS/SATA/NVMe drives. With RAID cache and data protection enabled by the super-capacitor in case of power failures, SAS/SATA drives can be configured to RAID 0/1/1E/10/5/50/6/60 depending on the RAID card in use.
- The LEDs for fault diagnosis on the front and rear panels, the plug-in LCD module, and the ISBMC Web GUI indicate the statuses of key components and quickly lead engineers to failed (or failing) components, simplifying maintenance, speeding up troubleshooting, and enhancing system availability.
- The BMC management network port on the rear panel enables local O&M through ISBMC, improving O&M efficiency.
- Provides 4 hot-swap PSUs with N+M (M≤N) redundancy; provides 12 hot-swap fan modules with N+1 redundancy, improving overall system availability.
- The ISBMC monitors system parameters in real time and sends alerts in advance, enabling engineers to take corresponding measures in time to minimize system downtime.

Flexible Modular Expansion

- The I/O modular design supports 2 full-height modules that can be flexibly deployed to fit customer requirements on scalability and balance.
- The modular design of drive modules enables the server to support multiple flexible drive configurations, providing elastic, scalable storage capacity to meet different storage capacity and upgrade requirements. It supports up to 24 front 2.5-inch SAS/SATA/NVMe drives or 21 front 2.5-inch SAS/SATA drives and 4 NVMe drives, and supports 8 directly-connected SATA drives onboard. It supports 2 internal M.2 SSDs and 12 3.5-inch drives to store the data in layers.
- Supports 4 PCIe expansion slots onboard and 12 PCIe expansion slots through riser cards, as well as 4 dual-width GPUs or 8 single-width GPUs.
- Supports 2 hot-swap OCP 3.0 slots that can flexibly support 1/10/25/100/200Gb OCP 3.0 cards (multi-host); the OCP 3.0 cards can connect to 4 CPUs at the same time, improving the performance by 20%.

Security, Trustworthiness and Easy Management

- Provides security-enhanced TPM 2.0 and TCM modules and secure measurement for trust, establishes a complete hardware and software trust chain, and discovers malicious intrusion and device replacement in time, so that worldwide customers can ensure the security and controllability of their information systems.
- Supports the trusted Intel PFR boot to effectively prevent network attacks against firmware and safeguard customer's data and assets.
- The security panel design supports the intrusion alert function.
- Online memory diagnosis helps service engineers quickly locate the failed DIMMs, improving maintenance efficiency.
- ISBMC4, an intelligent remote server management system developed independently by us, supports mainstream management specifications in the industry such as IPMI 2.0 and Redfish 1.8, greatly simplifying device deployment, management and maintenance of users, and providing higher operational reliability, easier maintenance and more accurate and comprehensive fault diagnosis capabilities.

Product Specifications

Item	Description
Form Factor	4U rack server
Processor	Supports four 4th Intel® Xeon® Scalable processors, with up to 60 cores and 120 threads per CPU, up to 350W TDP, and 3 UPI links per CPU at up to 16GT/s per link
Memory	64 DDR5 DIMMs (4,800MT/s at 1 DPC, 4,400MT/s at 2 DPC, RDIMMs/3DS-RDIMMs)
Storage	Front: 24 × 2.5-inch SAS/SATA/NVMe drives; or 25 × 2.5-inch SAS/SATA drives or 21 × 2.5-inch SAS/SATA drives + 4 × 2.5-inch SAS/SATA/NVMe drives, with 8 directly-connected SATA drives onboard; or 12 × 3.5-inch SAS/SATA drives + 8 × 2.5-inch SAS/SATA/NVMe drives, with NVMe RAID key supported
	Internal: 2 × M.2 SSD (2280/22110), with software and hardware RAID supported 3 × TF card
I/O Expansion Slot	Supports 4 full-height PCIe x16 expansion slots onboard, and 12 PCIe x8 expansion slots or 4 PCIe x16 and 4 PCIe x8 expansion slots through riser cards; supports up to 4 dual-slot GPUs or 8 single-slot GPUs
Network Port	Supports 2 hot-swap OCP 3.0 slots with NC-SI function; supports 1 multi-host OCP 3.0 card; the OCP 3.0 cards can connect to 4 CPUs at the same time, improving the performance by 20%
Other Ports	Front: 1 × USB 3.0 port, 1 × USB 2.0 port, 1 × VGA port
	Internal: 1 × USB 2.0 port
	Rear: 2 × USB 3.0 port, 1 × VGA port, 1 × management network port, 1 × BMC diagnosis serial port, 1 × system serial port
Fan	6 hot-swap fan modules with N+1 redundancy
Power supply	Supports N+M (M≤N) redundant 80 Plus Platinum/Titanium CRPS PSUs with the output power of 800w/1,300W/1,600W/2,000W/2,700W (options: -48 Vdc, 220 Vac /240 Vdc, and 220 Vac/240 Vdc/336 Vdc)
Management and Security	Supports AST 2600 BMC chip; IPMI; Redfish; TPM 2.0/TCM; intel platform firmware recovery function (PFR); intel SGX; smat PPR and Intel MFP for memory failure alarm and recovery; BMC/BIOS dual-chip redundancy;
Operating System	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, VMware ESxi, etc.
Dimensions (W × H × D)	435mm × 174.5mm × 841mm (without mounting ears)
Operating Temperature	5°C to 45°C (For details, refer to the White Paper)