

S260-NF1

2U NVMe Over Fabric Storage



Features

- Western Digital Onyx NVMe Over Fabric storage controller
- Fully supported iWARP, RoCE v1 and v2
- Dual controllers architecture
- 1 x 100Gb or 2 x 50Gb Ethernet port(s) via QSFP28 interface
- 1 x AST2520 management port per node
- 24 x 2.5" NVMe hot-swap SSD bays
- 3 x PCIe Gen3 expansion slots per node
- Dual 800W 80 PLUS Platinum redundant PSUs

NVMe Over Fabrics (NVMeOF)

Direct Attached NVMe Storage is Fast & Efficient, but Still Has Limitations...

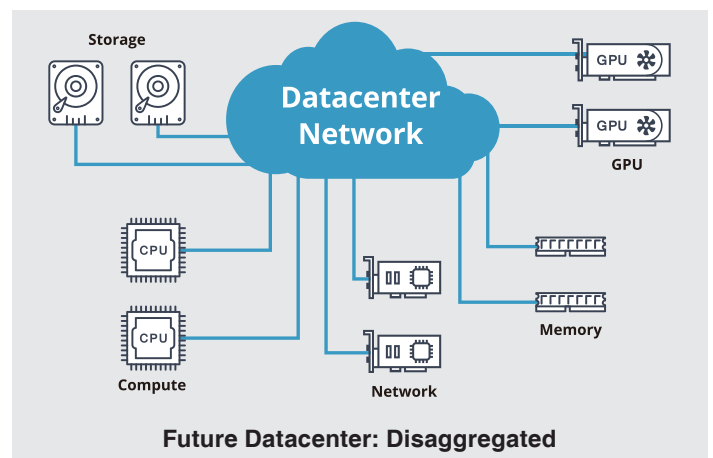
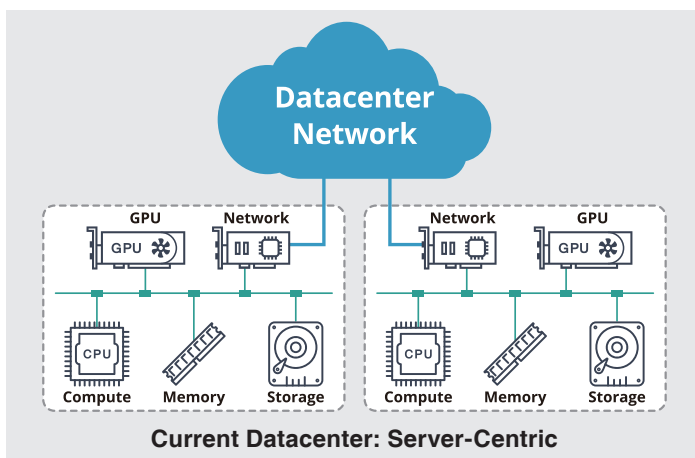
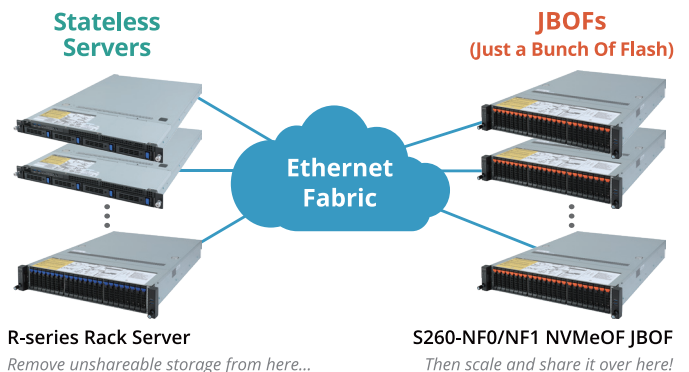
- Direct attached NVMe storage has limited scalability, as PCIe is inherently not designed for expansion far outside the box.
- Direct attached storage offers little or no support for sharing of flash resources amongst multiple servers. Servers can only access flash in their own chassis.
- No sharing leads to storage utilization inefficiency and resource waste. Underutilized “stranded” or “dark” flash can be an issue

Bringing Scale-Out NVMe Storage Capabilities Independent of Compute

NVMe-OF enables NVMe-based communication over interconnects (“fabrics”) other than PCIe. This interface makes it possible to connect “external” storage enclosures to a server, either directly or through a switch, while still using NVMe as the fundamental communication mechanism. Flash storage can then be scaled out independent of compute.

Enabling Resource Disaggregation + Pooling to Maximize Efficiency & Minimize Under-utilization

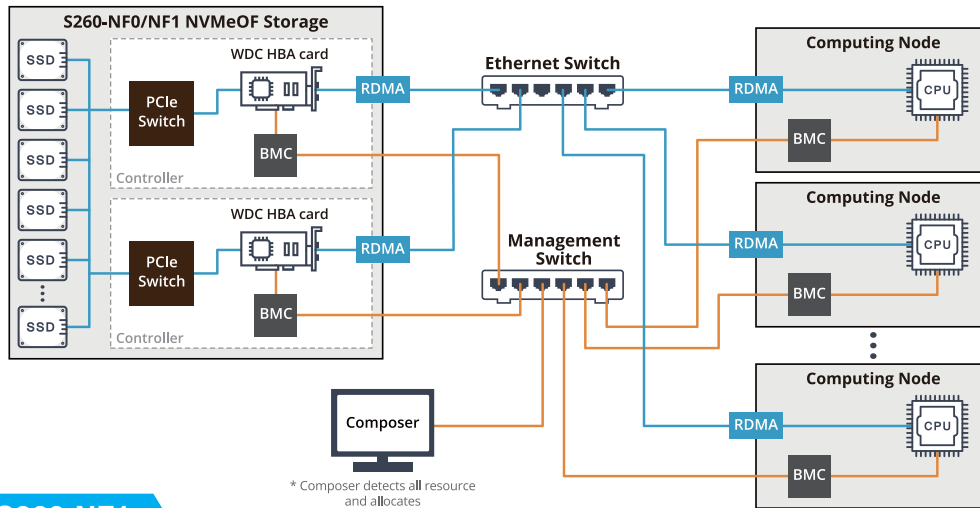
Combined with virtualization, the amount and type of each resource (CPU, GPU, storage, networking) can be selected for each workload independent of where that resource is physically located in the data center.



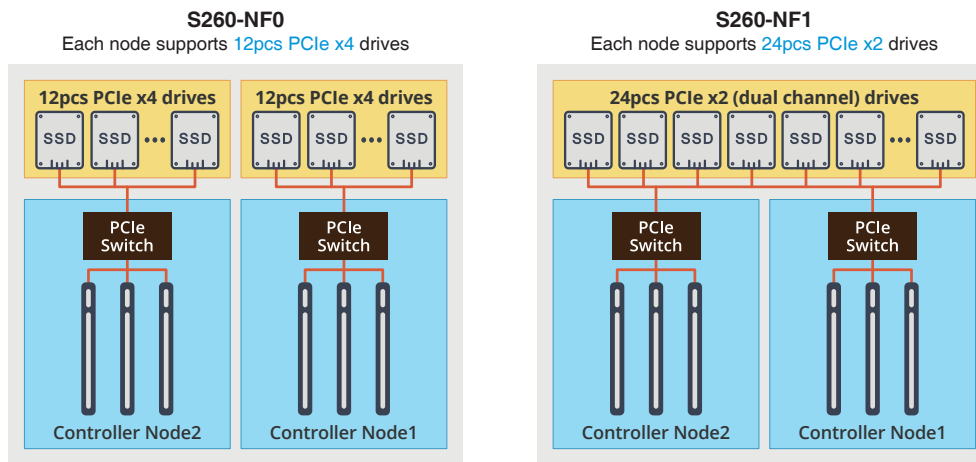
Western Digital Onyx NVMeOF Adapter Card

- S260-NFx supports up to 6 x Western Digital Onyx NVMeOF adapter cards (3 per each controller node)
- Up to 2.5M random read and 2M random write IOPS per NVMeOF adapter card
- System can achieve up to 16M IOPS with 6 adapter cards
- Ideal solution for composable resource infrastructure

S260-NF0 / NF1 Network Topology



S260-NF0 vs. S260-NF1



S260-NF1 Specification

Dimensions (WxHxD) 2U
440 x 87 x 695 mm

Motherboard CPBD530
Embedded Microsemi PM8536 PCIe switch 96 Lanes
Pre-installed 1 x Western Digital Onyx NVMe Host Bus Adapter*
Each CPBD530 board controls 12 x NVMe SSD devices
* NOTE: Up to 3 x Western Digital Onyx NVMe Host Bus Adapters in each CPBD530 board

CPU Western Digital Onyx NVMeOF Bridge ASIC

Chipset Embedded

LAN 1 x 100Gb or 2 x 50Gb Ethernet port(s) via QSFP28 interface

Video Integrated in Aspeed® AST2520

Storage 24 x 2.5" NVMe hot-swappable SSD bays

Expansion Slots Per node:
Total 3 x PCIe x16 slots (Gen3 x16) for Kazan NVMeOF HBAs
- 2 x PCIe x16 (Gen3 x16 bus) Full height slots
- 1 x PCIe x16 (Gen3 x16 bus) Low profile slot

Front I/O 1 x Power button with LED, 1 x ID button with LED,
1 x Reset button, 1 x System status LED

Rear I/O 1 x QSFP28, 1 x MLAN, 1 x Serial port, 1 x Power button with LED,
1 x ID button with LED, 1 x BMC Reset button, 1 x System Reset button, 1 x System status LED

Backplane I/O Bandwidth: PCIe Gen3 x2 per port

System Fans 4 x 80x80x38mm (16,300rpm)

Power Supply 2 x 80 PLUS Platinum 800W redundant PSUs

AC Input:
- 100-240V~/ 10-4A, 50-60Hz
DC Input:
- 240Vdc/ 4.5A
DC Output:
- 800W
+12V/ 66A
+12Vsb/ 2.5A

System Management Aspeed® AST2520 management controller

Weight Net Weight: 17 kg / Gross Weight: 28.8 kg

Operating Properties Operating temperature: 10°C to 35°C
Operating humidity: 8-80% (non-condensing)
Non-operating temperature: -40°C to 60°C
Non-operating humidity: 20%-95% (non-condensing)

Packaging Dimensions 1038 x 697 x 311 mm

Packaging Content 1 x S260-NF1
1 x Rail kit

Part Numbers Barebone package: 6NS260NF1MR-00
- Controller board: 9CPBD530NR-00
- Rail kit: 25HB2-AN6103-K0R
- Back plane board: 9CBPD001NR-00
- Front panel board: 9CFPH004NR-00
- Power supply: 25EP0-208004-L0S
- Riser card - CRSD020: 9CRSD020NR-00

* All specifications are subject to change without notice. Please visit our website for the latest information.

