Supermicro® NVMesh® Solution

80 GB/s 2U Appliance Feeds 64 Storage-hungry A100 GPUs with Zero Bottlenecks!

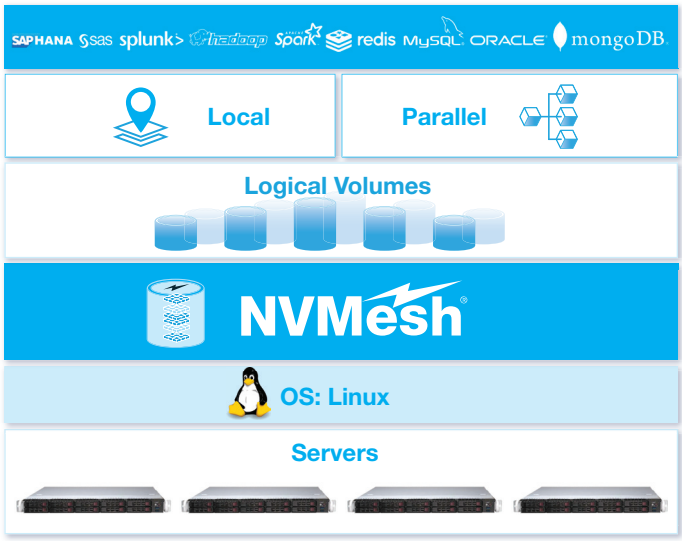


Figure 1: NVMesh Architecture

Solution Benefits:

- Maximize the utilization of your NVMe SSDs
- Predictable application performance
- Supports standard hardware & protocols
- Use as block storage or with any file system
- Easy to manage & monitor

SUPERMICRO

Supermicro is a global leader in high performance, green computing server technology and innovation. We provide our global customers with application-optimized servers and workstations customized with blade, storage, and GPU solutions. Our products offer proven reliability, superior design, and one of the industry's broadest array of product configurations, to fit all computational needs.

Accelerate High-Performance Workloads

New application workloads are driving the need for new storage architectures: Cloud, Edge, AI, and IoT, bring new latency requirements – therefore, innovative companies need to rethink their storage strategies.

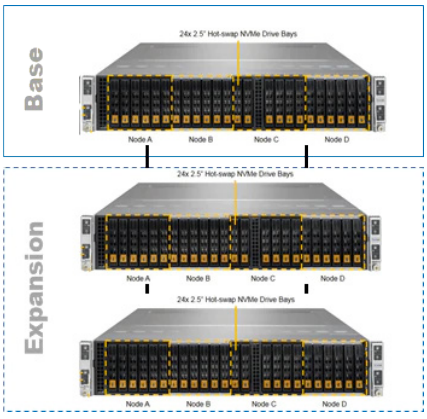
Supermicro and Excelero have joined forces to deliver a high-performance, low-latency distributed block storage solution leveraging NVMe flash. The Supermicro solution with Excelero NVMesh enables unmodified applications to utilize pooled NVMe storage devices across a network at local speeds and latencies. This solution is designed to combine virtually unlimited Supermicro servers with NVMe to scale capacity and performance.

Solution Overview

The Supermicro NVMesh Reference Architecture implements the next-generation of intelligent infrastructure platforms designed to provide applications with all of the raw performance you can expect from local storage — and all of the flexibility, manageability and scalability typically experienced with traditional storage area network-based solutions. Leveraging the latest NVMe and PCI-E standards, this reference architecture uses a low-latency, high-bandwidth networking to connect compute and storage together in a flexible way that will fit almost any application's architecture requirements. Deploy this reference architecture in storage-centric, compute-centric or mixed storage and compute configurations, and integrate it with existing data center application servers as desired.

Scalable

Each appliance scales out



For more information, contact us at excelero-pm@supermicro.com

GPU Servers

H12: 4U-8GPU

Integrated Performace, NVIDIA HGX™
A100 8-GPU

H12: 2U-4GPU

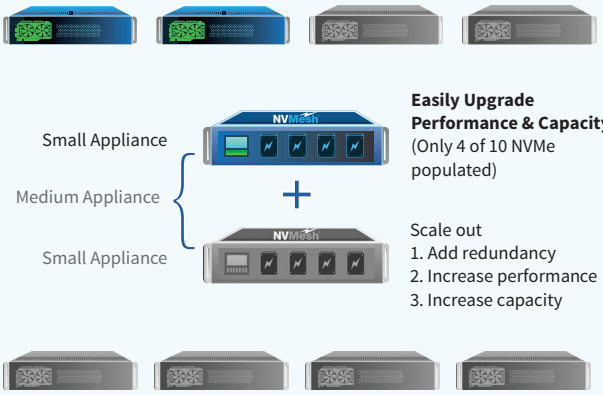
Scalable Performance, NVIDIA HGX™
A100 4-GPU

H12: 4U-8GPU

Direct Attach & Low latency, PCI-E GPU

Supermicro AI/HPC Optimized Storage Appliances

Up to 2x 8-GPU Servers per Small Appliance
Up to 4x 8-GPU Servers per Medium Appliance



Up to 8x 8-GPU Servers per Large Appliance

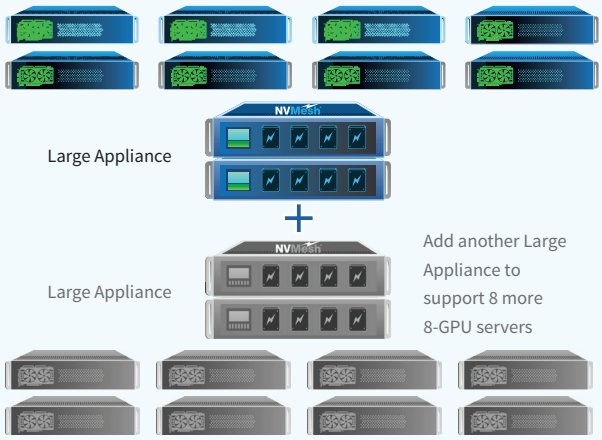


Figure 2: Supermicro AI/HPC Storage Appliances

Small:

1U Server w/ 4x 15.36TB NVMe – Expand to 10 NVMe

Supermicro A+ Server 1114S-WN10RT

20 MeshProtect Max Performance	Reads	Writes
Bandwidth	20 GB/s	7.5 GB/s
IOPs	5M	340K
Latency	95µs	21µs

Node Specs
1x AMD EPYC 7542 32-core CPUs
128GB RAM (8x 16GB DDR4-3200 DIMMs)
2x Mellanox ConnectX-6 VPI HDR/200GbE dual-port adapters
4x Kioxia CM6-R 15.36TB NVMe

Upgrade Options
Up to 6x Additional NVMe

Medium:

2x 1U Servers w/ 4x 15.36TB NVMe Each

2x Supermicro A+ Server 1114S-WN10RT

20 MeshProtect Max Performance	Reads	Writes
Bandwidth	40 GB/s	15 GB/s
IOPs	9M	750K
Latency	95µs	21µs

Node Specs
1x AMD EPYC 7542 32-core CPUs
128GB RAM (8x 16GB DDR4-3200 DIMMs)
2x Mellanox ConnectX-6 VPI HDR/200GbE dual-port adapters
4x Kioxia CM6-R 15.36TB NVMe

Upgrade Options
Up to 6x Additional NVMe

Large:

2x 1U Servers w/ 4x 15.36TB NVMe Each

Supermicro A+ Server 1114S-WN10RT

20 MeshProtect Max Performance	Reads	Writes
Bandwidth	80 GB/s	30 GB/s
IOPs	18M	1.5M
Latency	95µs	21µs

Node Specs
1x AMD EPYC 7542 32-core CPUs
128GB RAM (8x 16GB DDR4-3200 DIMMs)
2x Mellanox ConnectX-6 VPI HDR/200GbE dual-port adapters
10x Kioxia CM6-R 15.36TB NVMe

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