

Driving High Performance with Shared NVMe Storage

E8 Storage with Mellanox Technologies Ethernet Solutions

Key Solution Benefits

- Ultra-low latency and high throughput for all application use cases
- Increases total SSD utilization to over 90%
- High availability and high reliability for compute, storage, and network
- Optimized server utilization with high speed networking and CPU offload
- Supports standard hardware for the best TCO

NVMe SSDs have been revolutionizing the data center, bringing 10x the performance and density compared to SATA and SAS devices. This performance and density explosion has pushed data centers and enterprises to deploy NVMe only as local drives within the server to realize the full benefits of the high-performance drives. To be used as shared storage, NVMe drives need a solution that can extract the full bandwidth and throughput of many remote NVMe SSDs, yet also provide high availability for data and very efficient networking.

E8 Storage integrates its rack scale E8-D24 flash architecture with the Mellanox ConnectX-4 network interface cards (NICs), thus enabling converged networking with very low latency and very high throughput and bandwidth. Combined with Mellanox SN2000 series switches, E8 and Mellanox deliver a high performance NVMe over Ethernet storage solution with unparalleled performance.

E8 Storage Delivers 10X Performance

E8 Storage is the world's first HA centralized NVMe storage solution, which unlocks the economics and architectural advantages of centralized storage with the high I/O and low latency advantages of PCIe NVMe SSDs. E8 Storage's unique and patented distributed software architecture is able to extract the full performance of remote NVMe drives.

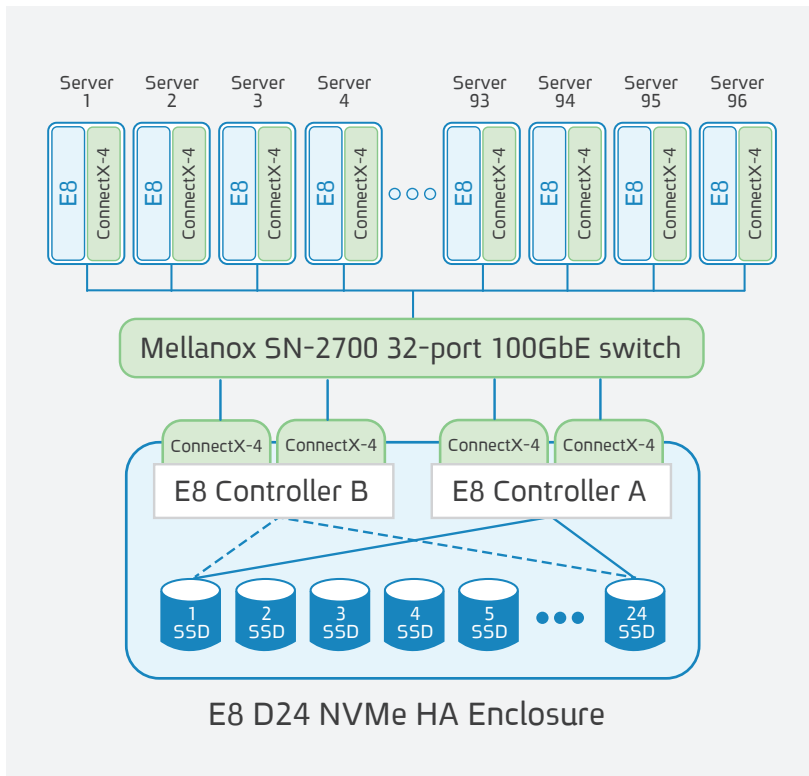
E8 Storage allows a customer to combine the benefits of local flash - including bandwidth, throughput and latency - with the benefits of centralized storage with shared volumes, centralized provisioning, highly available storage and fault tolerance. E8 Storage's patented architecture has been designed to maximize the performance of NVMe for high-performance enterprise applications, including real-time market data analytics and high-performance computing.

Mellanox End-to-End Ethernet Solution

The Mellanox end-to-end Ethernet solution greatly simplifies the deployment and management of high-speed networking in the data center. Optimized for ultra-low latency lossless fabrics, the Mellanox Ethernet switches support the requirements of today's performance-demanding data centers and work as the ideal top-of-rack switches for various hyper-converged infrastructure deployments.

Equipped with intelligent ASICs, Mellanox Ethernet adapter cards provide offloading mechanisms such as Erasure Coding, T10/DIF, TCP and UDP offloads, and overlay offloads. By bypassing the CPU with RDMA over Converged Ethernet (RoCE), the CPU's resources are freed up, especially in a CPU-bound environment, for the necessary storage and compute tasks, allowing for higher scalability and efficiency with the data center.





Hardware Specifications

Up to 96 host servers providing compute services

- Any supported Linux distribution
- Mellanox ConnectX-4 100GbE adapter
- E8 client software

Mellanox SN2700 32-port 100GbE switch

- 100GbE ports connect to 4 servers @ 25GbE
- Use 2 switches for HA path redundancy

E8-D24, high availability NVMe enclosure

- Up to 4 Mellanox ConnectX-4 100GbE adapters
- 24 dual port NVMe SSDs from leading vendors
- Dual, redundant controllers, with RAID 6 protection
- Redundant power and cooling

Better Together

"Mellanox ConnectX-4 RDMA NICs combined with E8 Storage's enclosure enables a whole new breed of NVMe HA storage. Leveraging the benefits of local flash and NVMe with those of centralized storage and high availability is especially suitable for hyperscale data centers and large data centers that are deploying NVMe today." **Zivan Ori, CEO & Co-Founder @ E8 Storage**

"Mellanox agrees that high-availability and enhanced performance are vital ingredients to support deployments of NVMe. E8 Storage provides a complete NVMe solution with innovative software which leverages our RoCE RDMA solutions over 25, 50, and 100GbE networks to deliver a highly-available, high performance, shared flash storage solution." **Rob Davis, vice president of storage technology @ Mellanox Technologies**

See the Benefits of NVMe over High Speed Ethernet

E8 Storage's NVMe HA enclosure with its distributed software stack, combined with the Mellanox ConnectX-4 NICs, allows for a whole new breed of storage, since it combines the benefits of local flash and NVMe with the benefits of centralized storage and high availability. This is especially suitable for hyperscale data centers and large data centers that are deploying NVMe devices today, as well as enterprise and private cloud efforts seeking next-generation all-flash arrays.

Want To Learn More?

E8 Storage no compromise, rack-scale flash platforms: <https://e8storage.com/>

Mellanox end-to-end Ethernet connectivity: <http://www.mellanox.com/>

E8 Storage provides the industry's first-ever centralized NVMe storage solution, delivering simple, centralized storage management at the speed of local SSD. E8 Storage's rack-scale all-flash arrays are ideally suited for the most demanding mission critical workloads needing performance without compromise, including real-time analytics, financial / trading applications, and transactional processing. E8 Storage's next generation high performance flash storage delivers 10 times the performance at half the cost of existing storage products, and enables consolidation to increase SSD utilization to over 90%. With E8 Storage, data centers can enjoy unprecedented storage performance density and scale, delivering NVMe performance without compromising on reliability and availability.