



# RozoFS and Mellanox Ethernet Switches Provide a High Performance Scale-out NAS Solution

Mellanox Ethernet products deliver high performance and low cost for the RozoFS cluster file system, linearly scalable up to hundreds of petabytes of storage.

The concept of Scale-out NAS has emerged as today's NAS (Network-Attached Storage) systems try to keep in pace with the exponential explosion of data (both the size and the number of files), as well as with the increased parallelism of the workloads accessing the NAS system. While the large volume of data and intensive parallel workloads demand scalability, most applications still require the exact same capabilities of traditional NAS systems – a standard file system interface, the same file-access performance, data integrity, and high availability. All of this must come at the same or even lower cost.

Rozo Systems takes an innovative approach to meet these requirements with their RozoFS file system. RozoFS delivers real-time performance along with a high level of data protection. It removes the slowness, poor resiliency, and extra costs that are typically attached to the high volumes of distributed storage systems.

## Rozo Scale-out NAS Solution

Rozo Systems' Scale-out NAS solution is built from the ground up, in order to deliver the required performance, data protection, and scalability. For example, Rozo Systems developed its original erasure coding mechanism, instead of using the standard replication mechanism, to provide data protection to large-scale distributed

storage. As a result, the Rozo solution accelerates performance, avoiding the typical performance degradation of standard erasure coding mechanisms.

Rozo's Scale-out NAS solution provides the following capabilities:

- Scalable to tens or hundreds of petabytes: storage capacity is expandable by the simple addition of servers, with an associated linear increase of performance and with neither service nor QoS disruption.
- Real-time performance: high IO throughput and low latency on any workload
- Strong data protection: erasure coding applied to all files. Transparent data integrity checking and self-healing
- Cost saving: no data replication and no trade-off between performance and data protection. Pay-as-you-grow

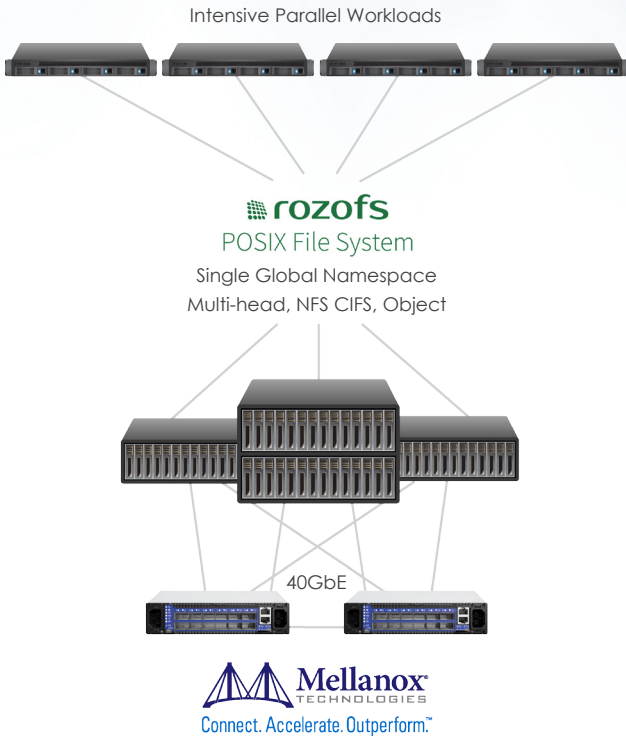
## Mellanox Ethernet Switches

Linearly scaling performance over petabytes of storage in a file system cluster and supporting multi-user real-time applications requires scalable, fast network interconnects for the cluster. The cluster typically consists of server nodes with 8x CPU cores, 32GB+ memory, and up to 80TB of local data

"Rozo Systems found a great partner in Mellanox. The combination of Mellanox's high performance network devices with Rozo's high performance petascale file systems delivers the only solution that addresses the challenges of real-time storage."

Pierre Evenou, CEO

storage. To fully utilize the power of the CPU, memory, and primary storage, high performance networking is crucial.



To select the right networking devices, Rozo Systems completed a successful trial with Mellanox’s 40GbE end-to-end solution (SX1012 Ethernet switch and ConnectX®-3 Pro network adapter cards). The results demonstrate that Mellanox Ethernet products are able to deliver the performance required by Rozo’s high performance cluster file system.

In addition to the strong test results, the capabilities of Mellanox’s SX1012 switch are well-suited for Rozo’s scale-out NAS solution:

- *Easy to use:* Mellanox switches are simple to configure, reducing the complexity of installing and managing high-speed networks.
- *Flexible:* Mellanox’s SX1012 switch can be configured into 12 x 40/56GbE ports or up to 48

x 10GbE ports, or any combination thereof. This simplifies the network topology by providing 40/56GbE links to storage nodes and 10GbE links to other nodes.

- *Best performance:* Best-of-class and consistent performance enables support for any workload and for linear scale of the cluster.

- *Cost effective:* The competitive price of Mellanox Ethernet products allows Rozo Systems to deliver their NAS solution at a controlled cost.

### Conclusion

Rozo Systems provides scalability, performance and data integration together in a pay-as-you-grow model. Rozo’s scale-out NAS solution can scale to hundreds of petabytes while maintaining the essential capabilities of NAS systems. It achieves high performance with Mellanox 40GbE Ethernet products while not compromising on data protection and high availability. This innovative approach makes RozoFS one of leading scale-out NAS solutions for use cases ranging from scientific study to multimedia production/streaming to enterprise IT.

Rozo has already started introducing its solution using Mellanox Ethernet products to partners in the CloudDVR area.

For more information about the RozoFS Scale-out NAS solution, see <http://rozosystems.com>.

The complete portfolio of Mellanox Ethernet products is available at [http://www.mellanox.com/page/products\\_overview](http://www.mellanox.com/page/products_overview).



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