Qumulo and Mellanox Deliver High-Performance, Hybrid Cloud File Storage

Mellanox TECHNOLOGIES

The amount of file-based data is growing steadily, to the point where companies can no longer manage their millions or billions of digital assets. At the same time, the elastic resources and global reach of the public cloud have placed companies under pressure to make their file-based data always available, regardless of whether it's on-prem or in the cloud.

These conditions demand a new type of file storage solution, one that is designed for a world of massive data footprints and instant data mobility. In turn, this modern file storage requires an Ethernet Storage Fabric (ESF) with the highest performance and port density possible, as well as a complete chassis and fabric management solution.

Qumulo File Storage and Mellanox ESF

Qumulo is an enterprise-proven, highly scalable hybrid cloud file storage system that can span the data center, hybrid and the public cloud. Qumulo allows modern enterprises to easily store and manage data sets numbering in the billions of files, in any operating environment, anywhere in the world. Real-time visibility integrated within Qumulo's software means administrators can get answers about the storage utilization and performance to solve problems immediately. For example, an administrator can quickly identify an IO hot spot and apply a quota in real-time to limit access to the system's resources. In addition, the Qumulo distributed file system continuously replicates and moves data where and when it's needed; for example, between Qumulo clusters on-prem and Qumulo instances running in the cloud.

The Qumulo distributed file system is built on industry-standard servers for on-prem clusters and on EC2 instances in AWS and GCP. On-prem nodes can either be hybrids, with a mix of SSDs and HHDs, or all NVMe. The use of SSDs means the solution must have a scalable, high-bandwidth end-to-end Ethernet Storage Fabric. It gets that network with the linearly scalable, high-performance Ethernet Storage Fabric (ESF) from Mellanox.

The end-to-end Mellanox ESF solution consists of Spectrum switches, ConnectX network adapter cards and LinkX cables and transceiver modules. The Spectrum switches forward data packets at full line rate from 10G to 100G, with ultra-low latency that has little variation and zero packet loss. Mellanox switches enable a true non-blocking, lossless switching fabric for real-time file I/O primitives and analytics. The Mellanox ConnectX NICs deliver the highest performance and ultra-low latency. They use an offload architecture that frees up CPU cycles for computation tasks performed by upper-layer applications. The Mellanox Ethernet Storage Fabric includes end-to-end network management software to simplify deployment and automate operations, with real-time network telemetry for smart resources management and quick trouble-shooting.

With Qumulo and Mellanox, you will be able to meet your most demanding file management challenges, in your data center and in the cloud.

KEY BENEFITS

- Qumulo software seamlessly scales to billions of files and petabytes of data

- Running on-prem and in the cloud. Qumulo provides continuously available data wherever it's needed and when it's needed

- Real-time visibility, an integral part of Qumulo software, gives instant insight and control of your data

- Cost-effective, high-performance Mellanox Ethernet Storage Fabric removes network bottleneck

- Easy to deploy, pre-tested Mellanox Ethernet Storage Fabric works out of the box

QUMULO NAMED A LEADER ... AGAIN!

SEPTEMBER 2019

GARTNER MAGIC QUADRANT for Distributed File Systems and Object Storage

How Qumulo and Mellanox Work Together

Half-width ToR Mellanox switches, located side-by-side in a 1RU rack space, can easily interconnect the racked Qumulo file storage nodes. Supporting 10/25/40/50/100G, Mellanox switches eliminate network constraints and deliver the bandwidth and low latency that enable the Qumulo distributed file system to operate at peak performance for any workloads.

Highest performance

Qumulo's distributed file system is the highest performance file storage system on-prem and in the cloud. You'll get multi-GB/s throughput for your toughest workloads, especially when you use it with the Mellanox Ethernet Storage Fabric. The fabric is non-blocking and ensures effective use of all available bandwidth with zero packet drop, unlocking the maximum performance of SSDs.

Real-time control of your storage system and your network

With real-time analytics from Qumulo's distributed file system, you'll get answers and solve administration problems in real time, no matter how many files and directories there are, or where they are located. The fine-grained network telemetry (WJH) from Mellanox switches provides better visibility into your network. Together, the Qumulo REST API and Mellanox network management software (NEO) can simplify and automate the administration of your storage system and the underlying network.

Elastic consumption of file storage

In the data center, you can easily scale Qumulo's distributed file system by simply adding another node, which increases both capacity and performance. For hybrid environments, Qumulo for AWS and GCP gives you the same enterprise-grade file storage system in the cloud. Mellanox switches deliver the highest port density and performance and ensure that your network is always ready for your most demanding file workloads, now and in the future.

ABOUT QUMULO

Qumulo is the leader in hybrid cloud file storage, providing real-time visibility, scale and control of your data across on-prem and cloud. Qumulo's real-time analytics enable customers to understand their storage at a granular level, detect bottlenecks and accelerate performance. Built to scale across data center and cloud, Qumulo enables programmatic configuration and management of usage, capacity and performance. Qumulo's innovative approach continuously delights customers with new capabilities, 100 percent usable capacity and direct access to experts. **For more information, visit www.qumulo.com.**

ABOUT MELLANOX

Mellanox Technologies is a leading supplier of end-to-end Ethernet and InfiniBand intelligent interconnect solutions and services for servers, storage, and hyper-converged infrastructure. Mellanox offers a choice of high performance solutions: network and multi-core processors, network adapters, switches, cables, software and silicon, that accelerate application runtime and maximize business results for a wide range of markets including high performance computing, enterprise data centers, Web 2.0, cloud, storage, network security, telecom and financial services. **More information is available at www.mellanox.com.**