Enabling The Next Frontier of Life Sciences Breakthroughs

Life Science and bioinformatics organizations pursue their research objectives in a myriad of ways, however they are all characterized by massive volumes of machine-generated file data that is pipelined into downstream processes for analysis. The need for efficient, high-performance processing of file-based data is at the heart of innovation and discovery in life sciences.

Whether they are running specialized life science workflows like, genomic sequencing and analyzing, drug discovery, microscopy, 3D imaging, blood analysis, proteomic and biomedical research, or forecasting and modeling, they are all experiencing an unyielding explosion in storage needs and faster performance.

Their challenge is simple: The legacy storage systems they have been using for years are just not able to keep up with the workflow demands for petabyte scale and billions of objects.

Introducing Qumulo and Supermicro for the Life Sciences Market

Qumulo is a file data platform designed from the ground up for the new era of multi-petabyte data scale on prem and in the cloud. Qumulo is powered by Supermicro's highly performant and economical all-NVMe and hybrid-NVMe platforms. Customers who need the highest performance and scale in a small footprint can build economical yet powerful clusters on the Supermicro all-NVMe platforms. Customers who need performance and economy can build storage clusters on the all-new hybrid-NVMe platform which provides near NVMe performance at near disk price giving customers the best of both worlds. Simplicity is included with a single software defined file storage platform leveraging a single architecture across all storage clusters enabling data and application portability and eliminating management complexity.

Obtain Real-Time Answers About Data and Storage

Qumulo stores tens of billions of files with scalable throughput and is the only product that provides real-time visibility and control for file systems at petabyte scale. Storage administrators and life sciences researchers can instantly see usage, activity and throughput at any level of the unified directory structure, no matter how many files in the file system.

Capacity When and Where You Need It

Qumulo's modern scale-out storage gives Life Sciences storage administrators the ability to scale storage infrastructure on-demand. Qumulo powered by Supermicro enables massive scaling by simply adding another all-NVMe node; the rebalancing automatically happens. Qumulo also gives you flexibility of deploying Qumulo Core anywhere – whether on- premises, on third-party hardware or in the public cloud.
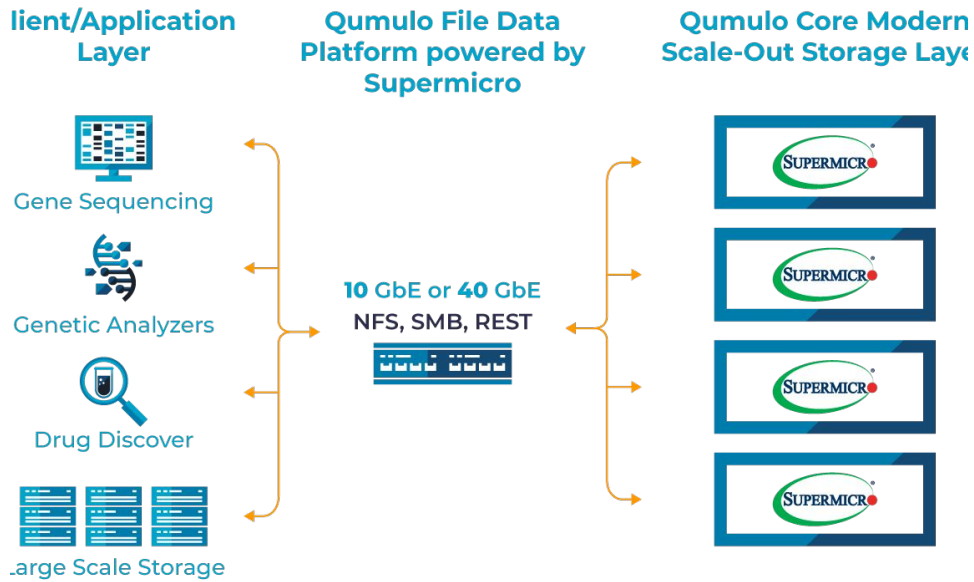
Key Benefits

- One single, easy-to-use file data management and storage system with a modern user interface that provides real visibility with integrated analytics.

- 100% of user-provisioned capacity is available for file storage, in contrast to the 70% to 80% usable capacity of legacy NAS. Qumulo software supports mixed I/O performance.

- Freedom of choice between all-NVMe for highest performance workloads and hybrid-NVMe for performance and cost efficiency.

Supermicro Platform Benefits

- Designed to achieve high performance at an economical price

- Save data center space with a 1U server chassi footprint

- Reduce power and cooling with reduced footprint, power and cooling

- Support green IT initiatives

- Ensure success with world class support provided by Qumulo

Life Sciences Architecture

lient/Application Layer

Qumulo File Data Platform powered by Supermicro

Qumulo Core Modern Scale-Out Storage Laye

Gene Sequencing

Genetic Analyzers

10 GbE or **40** GbE
NFS, SMB, REST

Drug Discover

Large Scale Storage

Fine Tuned for the Widest Range of Workloads and Files Sizes

Qumulo Core provides unmatched support for the widest range of Life Sciences workflows. Whether you are dealing with transactional or sequential access patterns and small or large file sizes, Qumulo Core supports them all within a single file system. Qumulo Core delivers industry-leading scalability— from 4 to over 1,000 nodes in a single cluster and 100 terabytes to over 360 petabytes in a single file system.

Benefit from Our Experience

Our products were designed for commercial HPC workflows in the Life Sciences industry. Contact us to discuss your specific requirements.

About Qumulo

Qumulo is the radically simple way to manage petabyte-scale data anywhere – edge, core or cloud – on the platform of your choice. In a world with trillions of files and objects comprising 100+ Zettabytes worldwide, companies need a solution that combines the ability to run anywhere with simplicity. This is precisely what Qumulo was founded to accomplish. www.qumulo.com

About Supermicro

Supermicro (Nasdaq: SMCI), a leading innovator in high-performance, high-efficiency server and storage technology is a premier provider of advanced server Building Block Solutions for Enterprise Data Center, Cloud Computing, Artificial Intelligence, and Edge Computing Systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green" initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market. www.supermicro.com