High-Performance File Data Management and Distributed Storage

Qumulo for Government Organizations

Qumulo delivers a high performance, distributed file system to meet the performance and capacity demands that government organizations need to store, manage and access sensitive file data on prem and in the cloud.

Qumulo's file data platform provides many built-in efficiencies to help organizations ease scaling complexities across data center and cloud environments, enable migration to the cloud, reduce capital and operational costs, and proactively monitor and plan for future capacity and performance requirements. Qumulo supports government organizations across multiple use cases including, but not limited to:

- Video surveillance and security
- High-performance computing (HPC)
- Research computing
- Video editing and production
- Life sciences

Qumulo easily integrates into existing environments supporting multiple protocols including SMB, NFS, FTP and REST. The file data software is designed for maximum flexibility to enable organizations to run one file system that can scale across on-prem, hybrid, and multi-cloud environments at petabyte scale.

Qumulo File Data Platform

Qumulo's file data platform is designed with flexibility in mind, allowing organizations to drive down costs without vendor lock-in.

Data Access & Authentication	SMB	NFS	FTP	AD	LDAP
Management & Programability	REST API		CLI		Web-based GUI
Data Services	Continuous replication, snapshots, quotas, audit, SHIFT to Amazon S3				
Qumulo File System	Real-time queries and aggregation of metadata (no tree walks) Multi-protocol permissions / identity				
	Massively scalable file counts and high-performance file operations				
Qumulo Scalable Block Store (SBS)	Protected Virtual Blocks	Global Transactions	Erasure Coding	Predictive Caching & Intel. Pre-Fetching	SW Encryption at Rest
Operating System	Standard Ubuntu Linux				
Data Storage Layer	Bare Metal Appliances	OEM HCL	AWS	AWS Outposts	GCP	VMware ESX	Hyper-V

Key Benefits

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

Efficiency
- 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.

Extreme Application Response with all-NVMe
- Tuned to optimize performance and capacity on a choice of all-NVMe or hybrid SSD (flash-first) platforms.

Improve Business Efficiencies with Real-Time Analytics
- Administrators can monitor performance, capacity, and usage of the entire file system with a real-time view at the directory/file level to simplify resource management and reduce costs.

Qumulo on AWS GovCloud (US)
- Organizations can run sensitive workloads on AWS GovCloud and address data compliance related to FedRAMP, ITAR, or CJIS regulations with Qumulo on AWS GovCloud (US).

All Inclusive and Transferable License
- Qumulo's file software is a single subscription license with all functionality, future updates, and enhancements included. It is completely transferable to the cloud or to new hardware.

Automate Workflows
- With Qumulo's REST API, users can build and manage a modern application stack, and easily integrate existing applications to run in the cloud.

Customer Success
- Qumulo's customers are in direct contact with Qumulo Customer Success Managers who are experienced enterprise storage professionals or Qumulo file system engineers.

Massive Scalability

Qumulo's distributed file system is designed to scale to billions of files and store all file sizes efficiently. The scalable block store offers unprecedented scalability, optimized performance, and data protection. Qumulo's file data platform serves petabytes of data, millions of operations, and thousands of users.

Qumulo's file data system scales in performance to meet the demands of the most challenging workloads. One file data lake in the cloud supports different workflows and applications without compromising manageability, flexibility, or performance. Users can scale capacity and performance up and down on the cloud to match workflows.

Organizations can scale across their data center and the cloud without impacting performance. Qumulo linearly scales and automatically rebalances when additional nodes are added. The rebuild times get faster the larger the cluster. A single 100 node cluster provides 36+PB of All-NVMe storage.

Scales Across On-Prem, Hybrid, and Multi-Cloud Environments

Qumulo's file data platform delivers a single file solution using the same software, whether your data is in the cloud, on prem, or scaling across both. Users can burst compute in AWS or Google Cloud and shift primary workloads to the cloud without needing to rewrite the application.

With continuous replication organizations can easily transfer data from an on-prem cluster to a cloud cluster to perform computations, and then transfer the results back to the on-prem storage. Qumulo Shift for Amazon S3 is a feature that enables users to copy data to the Amazon S3 native format for easy access to AWS services.

For distributed worldwide organizations, MNOs, and government agencies with complex data sovereignty requirements, Qumulo in the cloud is available in any region in the world including on-prem cloud extensions such as AWS Outposts, a fully managed, private cloud infrastructure-as-a-service. With Qumulo's file data platform running seamlessly on AWS Outposts, organizations can use their existing applications and attach cloud services from AWS to unstructured data on prem, store file data securely, and manage petabyte-scale workloads.

Real-Time Analytics for Visibility and Control

Qumulo's file data platform is designed for data intelligence, allowing users to predict usage trends and better manage capacity. With Qumulo's integrated, real-time analytics, storage administrators can easily monitor performance including throughput, IOPS, and latency. Real-time analytics provide administrators with the insights they need to manage issues proactively, optimize workflows, and to make well-informed planning decisions for the future.

Data Security and Protection

Qumulo's file data platform provides encryption for data in flight with SMBv3 and TCP secured by TLS and provides software-based encryption at-rest via an AES-256 bit implementation. Qumulo provides FIPS 140-2 Level 1 encryption for data at-rest. Integrated data protection is included via snapshot replication for simple, cost-effective backups. Qumulo provides the same file system and individual namespaces for both active and backed-up data, no additional applications are required.

Qumulo on AWS GovCloud (US)

Organizations that run sensitive workloads in the cloud, can use Qumulo's file data platform in AWS GovCloud (US) to comply with FedRAMP, ITAR, or CJIS requirements. With Qumulo's single file data platform organizations can not only address compliance mandates, they can accelerate digital transformation for many types of data-driven workloads by enabling the integration of file data with both legacy applications in private cloud, and cloud-native applications in AWS GovCloud (US).

About Qumulo

Qumulo is the leading provider of cloud file data services, providing real-time visibility, massive scale and API control of your data across the data center, private, and public clouds. Qumulo's file data platform delivers an identical experience and capabilities across on prem, hybrid, cloud, and multicloud environments. www.qumulo.com.