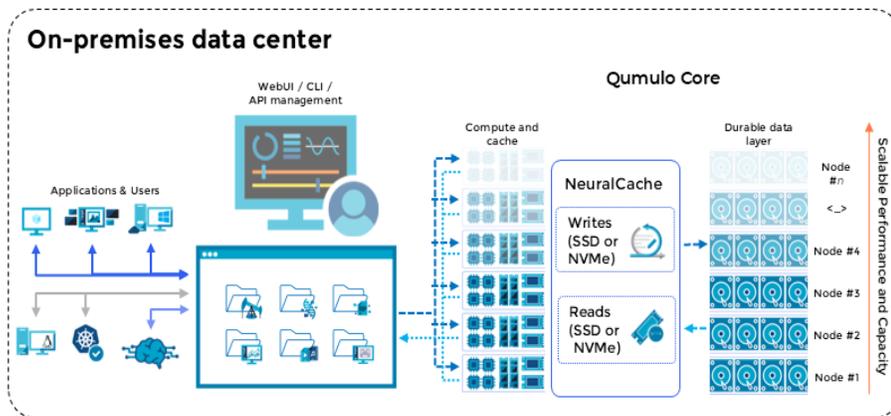# Qumulo

Qumulo Core: A Unified On-Premises Platform for Managing Unstructured Data at Exabyte Scale

ANY DATA
ANY LOCATION
TOTAL CONTROL

EXECUTIVE SUMMARY

Qumulo Core is the distributed data operating system that powers the Qumulo Data Platform. It provides a unified, strongly consistent data layer for file and object workloads, scaling to hundreds of nodes and exabytes within a single global namespace. With real-time analytics, multi-protocol access, and hardware-agnostic deployment, Qumulo Core simplifies the management of massive unstructured data environments across data centers, cloud, and edge. It runs on industry-standard hardware from Cisco, HPE, Arrow, Fujitsu, Supermicro, or the customer's preferred vendor.

KEY BENEFITS

With Qumulo Core, organizations benefit from:

- Unified Data Platform of file and object storage where workloads run on a single dataset

- Massive Scale to hundreds of nodes and exabytes within a single namespace

- Built-in real-time analytics providing instant insight

- Run Anywhere flexibility on standard servers from any vendor

- Flash, hybrid, and HDD tiers optimize performance and cost

- Self-healing, snapshots, encryption, and quotas protect data

THE CHALLENGES

Limited Visibility	Low Performance
Operational Complexity	Scale Limitations
Rising Cost	Rapid Growth
Data Silos	

Modern enterprises are experiencing rapid growth in unstructured data from AI pipelines, media production, genomics, engineering simulations, and collaboration tools. These workloads generate billions of files that must be stored, accessed, and analyzed in real time.

Traditional storage architectures struggle to keep pace. Legacy NAS systems create fragmented silos, limit visibility into data usage, and require constant tuning to maintain performance. As datasets scale to petabytes and beyond, organizations face increasing operational complexity and rising costs.

Enterprises need a platform that unifies data services, scales predictably, and delivers consistent performance across evolving infrastructure strategies.

THE SOLUTION: QUMULO CORE

Qumulo Core is the distributed data operating system powering Qumulo's data center storage platform. It delivers a unified, strongly consistent data layer for managing unstructured data at massive scale with real-time insights, predictable performance, and simplified operations.

Built on a distributed, log-structured architecture, Qumulo Core scales to hundreds of nodes and exabytes within a single namespace. It supports NFS, SMB, S3, and REST access on the same dataset while maintaining POSIX compliance and strong consistency.

Software-defined and hardware-agnostic, Qumulo Core runs on industry-standard x86 infrastructure and supports flash, hybrid, and HDD tiers. Built-in analytics, automated self-healing, and a unified control plane simplify operations as data and workloads grow.

ARCHITECTURE OVERVIEW

Qumulo Core uses a distributed, log-structured architecture designed for horizontal scalability and operational intelligence.

Key architectural components include:

Distributed Data Layer - The platform distributes data and metadata across all nodes, enabling parallel operations and eliminating centralized controllers.

Unified Multi-Protocol Access - Simultaneous support for NFSv3/v4.1, SMB 3.x, S3, and REST allows multiple applications and workflows to access the same data.

Real-Time Metadata Engine - Continuous tracking of file activity, capacity, and performance provides instant analytics across billions of files.

Self-Healing Storage Fabric - Automated recovery mechanisms detect and repair failures without disrupting workloads.

Single Control Plane - Administrators manage performance, capacity, and security policies across the entire environment through a unified management interface, Qumulo Nexus.

COMMON WORKLOADS

Qumulo Core supports a wide range of enterprise and data-intensive workloads, including:

- Artificial intelligence and machine learning pipelines
- Media production, rendering, and editing
- Life sciences and genomics research
- Scientific computing and engineering simulation
- Enterprise file services and collaboration
- Backup, archive, and long-term data retention

DEPLOYMENT AND ECONOMICS

Qumulo Core is a software subscription licensed per TB per year.

Product/Service	Pricing
Qumulo Core	$ per TB per year

Qumulo Core can be downloaded and installed via USB drive, as an Open Virtual Appliance (OVA) file for virtual deployments, or pre-installed on hardware from one of our vendor partners.

THE FOUNDATION OF THE QUMULO DATA PLATFORM

Qumulo Core is the foundational software layer powering the broader Qumulo Data Platform. It enables consistent data services across data centers, edge environments, and public clouds, supporting hybrid architectures and future cloud adoption without requiring application changes.

For organizations managing rapidly growing datasets, Qumulo Core delivers a scalable, intelligent, and future-ready platform for unstructured data.

ABOUT QUMULO

Qumulo is the leading provider of cloud file data platforms, offering unrivaled performance, scale, and data management solutions. Qumulo's platform is trusted by Fortune 500 companies and global enterprises to manage petabytes of data, enabling them to unlock the value of their data and drive innovation. For more information, visit www.qumulo.com