

# Qumulo QC208 Hybrid Storage Appliance

## World's First Data-Aware Scale-Out NAS

Qumulo Core, the world's first data-aware scale-out NAS software, helps CIOs and storage administrators store, manage and curate enormous numbers of digital assets. Qumulo Core is a software-only, flash-first hybrid design optimized for the widest range of workloads and file sizes and is 100% programmable through a REST API with built-in explorer. Qumulo Core's real-time analytics help businesses obtain instant answers about their data footprint by explaining usage patterns and which users or workloads are impacting their performance and capacity.

Qumulo Core is powered by QSFS, the Qumulo Scalable File System. QSFS provides real-time visibility into data and storage to solve the data management problems created by first generation scale-out NAS products. QSFS was designed to leverage the price/performance of commodity server hardware coupled with the modern technologies of flash, virtualization and the cloud.

The Qumulo QC208 hybrid storage appliance is the second product in Qumulo's Q-Series data-aware scale-out NAS portfolio. The Qumulo QC208 is a 4U commodity hardware appliance that provides 208TB of raw HDD capacity and 6.2TB of raw SSD capacity per node to give users a higher density, capacity-optimized, lowest cost per GB data-aware, scale-out NAS solution.

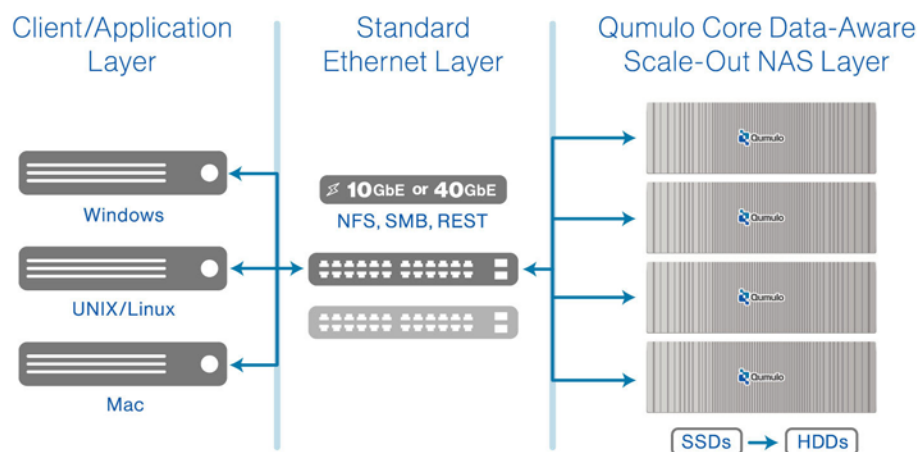


Capacity-Optimized 4U Node

### Key Features & Benefits

- **Real-Time Analytics** – QSFS Doesn't Just Store Data, but also Curates and Manages It
- **Software-Only Solution** – Qumulo Core Runs on Commodity Hardware, on Dedicated Appliances, or in Virtual Machines
- **Flash-First Hybrid Design** – Maximizes both Price/Performance and Price/Capacity
- **SaaS Software Delivery Model** – Pay-as-You-Go for Continual Infrastructure Software Innovation
- **No Compromise Storage** – Optimized for the Widest Range of Workloads and Files Sizes
- **100% Programmable** – Public and Self-Documenting REST API with Interactive API Explorer Built into Web UI

### Architecture



## Real-Time Analytics – Makes Your Data Visible at Scale

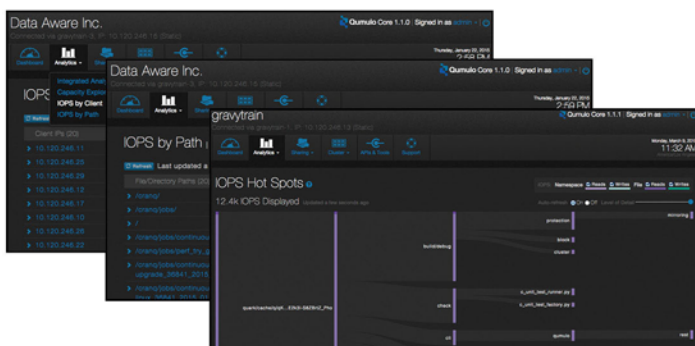
Gain immediate and actionable insights into your data with Qumulo Core data-aware scale-out NAS software. Qumulo Core provides an unparalleled real-time view of your data and your workload enabling you to navigate through your entire directory structure in a single view.



Qumulo Core Diagnostics Dashboard

### On any file, folder or directory, you can see:

- Real-time display of capacity usage
  - Meta-data aggregation intelligence built directly into the file system
  - Capacity information is updated in seconds
- Real-time view of your storage workload
  - IOPS broken down and filterable by Read, Write, Namespace Read, Namespace Write
  - List of the top client IPs reading or writing to your file system
  - Filterable views that allow you to see what's pertinent to you



Qumulo Core IOPS by Client, by Path & by Hot Spots

### See who or what is utilizing your cluster's performance capabilities

- IOPS by Client
  - Real-time view of the hottest 20 client IPs on the cluster
  - Drill down to see the paths on that client IP
- IOPS by Path
  - Real-time view of the hottest 20 paths on the cluster
  - Drill down to see the client IPs on that path
- IOPS Hot Spots
  - Real-time view of how the IOPS load is distributed across the file system
  - Drill down to see how IOPS activity is intelligently aggregated to show the paths that represent the most activity

## Technical Specifications

Qumulo Core Software	
Supported protocols	NFS (v3), SMB (v2.1), REST
Management API	REST
Total cluster size	4 – 1,000 nodes

Qumulo QC208	Per Node
Connectivity ports	4 x 40GbE QSFP+
Management ports	1 x IPMI 1GbE Base-T (RJ45)
Storage media	13 x 480GB eMLC SSD, 26 x 8TB HDD (all hot-swappable)
CPU	2 x Intel Xeon E5 2620v3 2.40GHz 6-cores
Memory	128GB
Raw storage capacity	208TB
Power supply	2 x 750W (fully redundant, hot-swappable)
Dimensions (H x W x D) / Weight	7" (17.8cm) x 19" (48.3cm) x 29" (73.7cm) / Weight: 150lbs (68kg)
Power requirements	100 – 240V, 50/60hz
Typical power consumption	4A @ 115v, 1.25A @ 240v
Typical thermal rating	480W (VA), 1,638 BTU/hr
Operating temperature	50° F - 95° F (10° C – 35° C)
Non-operating temperature	-40° F - 158° F (-40° C – 70° C)
Operating relative humidity	8% to 90% (non-condensing)
Non-operating relative humidity	5% to 95% (non-condensing)

Certifications	
Safety	UL, cUL
Country	FCC (USA), NRTL (USA and Canada)
Emissions	FCC Part 15 Class A, ICES-003 Class A
Immunity	North America

## About Qumulo

Qumulo is the leader in data-aware scale-out NAS. Qumulo enables enterprises to manage and store enormous numbers of digital assets by building real-time analytics directly into the file system itself. Qumulo Core is a software-only solution designed to leverage the price/performance of commodity hardware coupled with the modern technologies of flash, virtualization, and cloud. Qumulo Core is ideal for high performance unstructured data workloads in Media & Entertainment including video and animation rendering, transcoding, and streaming media. Qumulo provides customers with next generation scale-out NAS that is both read and write optimized, has high sequential and transactional performance, and is ideal for large and small file sizes. Qumulo was founded in 2012 by the inventors of scale-out NAS, and has attracted a team of storage pioneers from Isilon, Amazon Web Services, Google, and Microsoft. Qumulo has raised \$67 million in two rounds of funding from leading investors.

