

Qumulo QC-Series Hybrid Storage Appliances

The Leader in Modern Scale-Out Storage

Built for the highest levels of performance, capacity and efficiency, Qumulo Core on QC-Series appliances is a future-proof solution for storing and managing hundreds of petabytes and tens of billions of files and objects, providing complete data-awareness of data footprint at extreme scale.

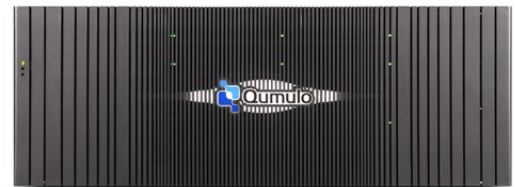
The QC-Series appliances are file and object-based storage solutions that contain a mix of solid state drives (SSDs) and hard disk drives (HDDs) to provide the performance benefits of flash combined with the cost effectiveness of spinning drives. The QC-Series appliances are based on industry-standard commodity hardware and linearly scales to support tens of billions of files and objects and petabyte scale workloads. It provides a starting capacity range of 96TB to over 2PB raw storage. Qumulo was the first storage system manufacturer to ship the new Ultrastar He10 – 10TB – highest density HDDs from HGST. The new HGST Ultrastar He10 drives provide a very efficient storage solution that maximizes data center rack density, floor space, and power consumption.

The QC-Series scales from four nodes to over a thousand nodes in a single cluster, creating a single file system and single global namespace. Each node is a dense self-contained modular building block comprising processing power, memory, networking, SSDs, and HDDs. Each node runs Qumulo Core and participates in the cluster as a fully symmetric peer, managing write and read requests, and coordinating transactions with other nodes within the cluster. Additional nodes can be added to cluster easily and non-disruptively, linearly scaling both storage capacity and performance.



QC-Series **1U**

QC24 | QC40



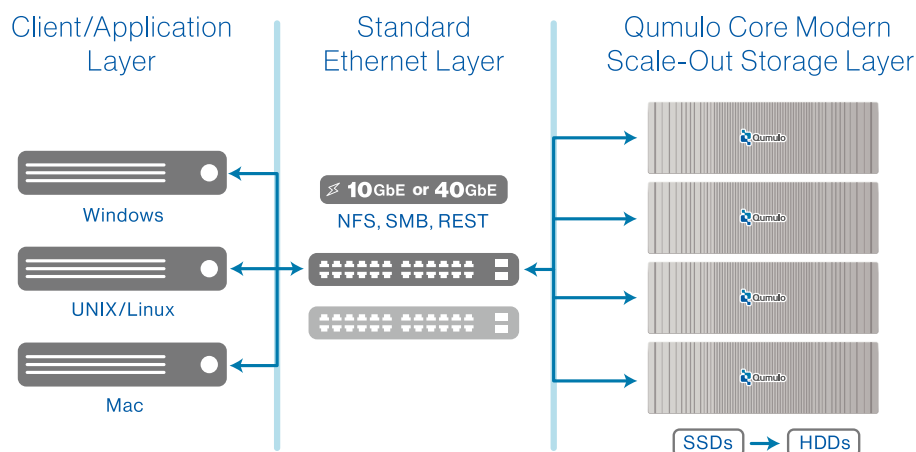
QC-Series **4U**

QC104 | QC208 | QC260 | QC360

Key Features & Benefits

- **Innovation** – Qumulo Core is hardware independent and enables the adoption of cutting-edge technology from Qumulo or from other hardware vendors
- **Greater Efficiency** – Riding the commodity hardware curve addresses the need for higher capacity, higher density, higher reliability and lower power consuming storage solutions
- **Industry Best Price/Performance** – State of the art commodity hardware gives Qumulo users the best price/performance for commercial high performance computing workloads
- **Flash-First Hybrid Design** – Maximizes both price/performance and price/capacity by leveraging the value of commodity hardware

Qumulo Architecture



Riding the Commodity Hardware Curve

As a software-defined solution, Qumulo Core was designed to follow the commodity hardware curve by easily adding support for the latest cutting-edge storage technologies. This enables Qumulo to focus more resources on software innovation, in order to bring products to market faster by reducing implementation time from months to days.

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The Qumulo QC-Series hybrid storage appliance family features six SKUs from Qumulo. The QC-Series 1U appliances (QC24 and QC40 models) give users a choice between lower-cost entry requirements and higher performance/higher capacity needs. The Qumulo QC-Series 4U appliances (QC104, QC208, QC260 and QC360 models) give users a choice between cost-optimized requirements and the highest density, lowest cost per GB data-aware scale-out NAS solution.

Technical Specifications

1U

4U

Per Node	QC24	QC40	QC104	QC208	QC260	QC360
Connectivity ports	2 x 10GbE SFP+		4 x 40GbE QSFP+			
Management ports	1 x IPMI 1GbE Base-T (RJ45)		1 x IPMI 1GbE Base-T (RJ45)			
Storage media (all hot-swappable)	4 x 6TB HGST HDD	4 x 10TB HGST He10 HDD	26 x 4TB HGST HDD	26 x 8TB HGST He8 HDD	26 x 10TB HGST He10 HDD	36 x 10TB HGST He10 HDD
	2 x 800GB eMLC SSD		13 x 480GB eMLC SSD			4 x 1.6TB eMLC SSD
CPU	1 x Intel Xeon E3-1270V5 3.60GHz 4-cores		2 x Intel Xeon E5 2620v3 2.40GHz 6-cores			
Memory	64GB		128GB			256GB
Raw storage capacity	24TB	40TB	104TB	208TB	260TB	360TB
Power supply	2 x 650W (fully redundant, hot-swappable)		2 x 750W (fully redundant, hot-swappable)			
Dimensions (H x W x D)	1.75" (4.5cm) x 17.2" (43.7cm) x 27.9" (70.8cm)		7" (17.8cm) x 17.2" (43.7cm) x 29" (73.7cm)			
Weight	55lbs (24.9kg)		155lbs (70.3kg)			166lbs (75.3kg)
Power requirements	100 – 240V, 50/60hz		100 – 240V, 50/60hz			
Typical power consumption	0.65A @ 240V, 1.41A @ 110V		2.71A @ 240V, 5.91A @ 110V			
Typical thermal rating	155W (VA), 529 BTU/hr		650W (VA), 2,218 BTU/hr			
Maximum power consumption	1.04A @ 240V, 2.28A @ 110V		3.55A @ 240V, 7.73A @ 110V			
Maximum thermal rating	250W (VA), 855 BTU/hr		850W (VA), 2,900 BTU/hr			
Operating temperature	50° F - 95° F (10° C – 35° C)		50° F - 95° F (10° C – 35° C)			
Non-operating temperature	-40° F - 158° F (-40° C – 70° C)		-40° F - 158° F (-40° C – 70° C)			
Operating relative humidity	8% to 90% (non-condensing)		8% to 90% (non-condensing)			
Non-operating relative humidity	5% to 95% (non-condensing)		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, headquartered in Seattle, the leader in modern scale-out storage, enables enterprises to manage and store enormous numbers of digital assets through real-time analytics built directly into the file system. 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 was founded in 2012 by the inventors of scale-out NAS, and has attracted a team of storage innovators from Isilon, Amazon Web Services, Google and Microsoft. Qumulo has raised \$130 million in four rounds of funding from leading investors. For more information, visit www.qumulo.com.

