

Qumulo – Facts & Figures



Manage petabytes. Radically simple.

The petabyte era is increasingly presenting storage challenges to enterprises and other organizations: unstructured data is growing exponentially, and demands for availability, performance, and agility are rising. In addition, increasingly complex tasks are expected to be performed more and more efficient and with low maintenance.

MSP is using technology that is radically easy to manage and scale: The Qumulo File Fabric (QF2) manages trillions of files and thousands of petabytes with minimal overhead.

Virtually unlimited scaling

Start with a cluster of four nodes and about 100 terabytes and scale up to nine exabytes. Qumulo supports trillions of files per cluster. This gives you instant access to all your data and metadata, making it fast and immediately usable. Storage size and performance scale linearly, as each storage node brings storage, compute and network capacity to the table.

With conventional storage systems, a high number of files typically causes that recurring processes such as tree walks* can no longer be performed in an acceptable period of time. Directory structure and metadata become Big Data.

Qumulo makes tree walks obsolete. The file system is based on a new approach that uses parallel, distributed algorithms. These principles of modern databases enable unprecedented scaling.

Qumulo is cost-effective starting at 100 terabytes.



Do you have any questions?

Then please contact our

Qumulo specialist

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or send an email to

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Highest performance

Intelligent caching makes hybrid systems consisting of SSD (Solid State Drive) and HDD (Hard Disk Drive) highly performant. All random write operations of the hybrid systems take place on SSD.

A single cluster achieves more than one million IOPS (Input/Output Operations per Second), 333GB/s read and 200GB/s write.

Simple and efficient

Another advantage of Qumulo is its minimal management overhead: All data in a cluster are located in one namespace. Managing media types, disk groups, RAID and LUNs is a thing of the past.

You therefore avoid data silos and use 100 percent of the available capacity. Even a fully utilized cluster is still capable of deleting data, enforcing quotas, and performing upgrades. This 100 percent usability and the small block size of 4K make Qumulo unbeatably efficient. Especially in environments with a high number of small files, Qumulo saves a lot of capacity.

***Tree walks** represent operations in a file system that is structured like an inverted tree structure. The folders form a descending directory tree. Each node in this structure lists the files it contains, as well as data about the files and the subfolders they contain.

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„Immediacy“

Why wait? Use metadata, set quotas, add nodes, create and use snapshots – instantly. Qumulo manages metadata in a database format on SSD and does all operations without tree walks that would take hours or even days in large environments.

Convergence is everything – Silos are the past

Agile product development and rapid change demand integrated solutions that adapt to the dynamics of your business.

Qumulo takes an API-first approach, allowing you to address all storage operations via REST API from your software and integrate them directly into your workflows.

This creates a high level of automation and eliminates time-consuming tasks for storage admins.

Add value

Use files like a database and make data work for your business. The Qumulo File Fabric allows you to leverage an extreme number of files and their metadata instantly.

For analysis and metadata queries, there are no tree walks. So the system doesn't have to go through directory after directory and analyze their contents. All metadata is immediately available for use on Flash.

Product lifecycle

Licenses can be easily transferred to new hardware or clouds. Clusters can be expanded with different node types and node generations.

And if you ever want to change hardware generations, you can replicate all content to the new hardware without detours.



Real-time monitoring and analysis

Get an always up-to-date insight into your data structure and all movements and performance data in real time. A clear Graphical User Interface (GUI) always shows you up-to-date data on IOPS, latency, bandwidths and sizes based on clusters, nodes, shares or users.

Easy planning and perfect partnership support

Your license includes all current and upcoming features as well as support. Qumulo Customer Success is available to you by phone, email and Slack, and also provides partnership support for planning your operations.



Qumulo is a Software Defined Storage vendor founded in Seattle in 2012.

Qumulo File Fabric (QF2) has been a Leader in the Gartner Magic Quadrant for Distributed File Systems & Object Storage since 2018.

In the DACH region and Europe, Qumulo is represented by Customer Success and Professional Services staff.

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Data security

Replication on-premise or to the cloud is straightforward. You decide on the desired level of protection within a cluster – without having to worry about disks or RAID.

All data on Qumulo systems are encrypted with AES 256 without you having to do anything. Plus, SMB v3 and TLS encryption for FTP connections give you the ability to encode data transport.

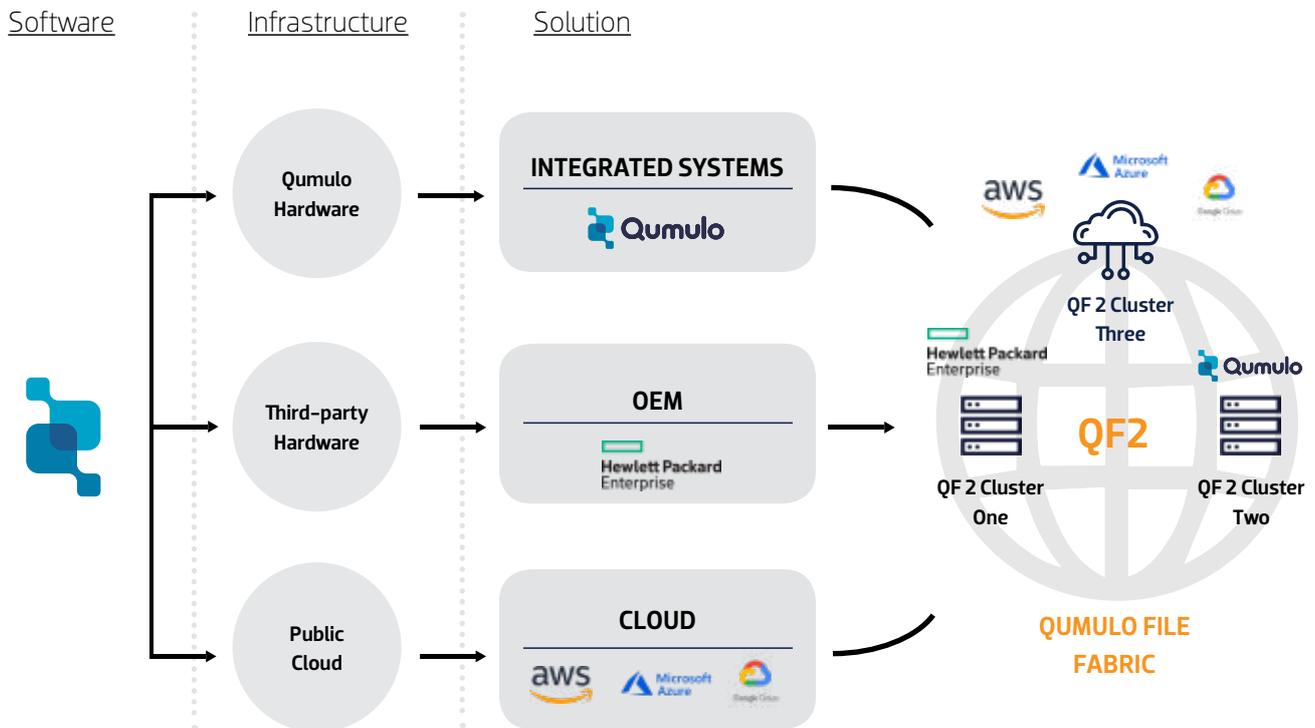
Want to perform a file-based backup?
MSP offers an intelligent integration into the open source backup software Bareos and supports it.

Cloud & Hardware Native

Qumulo is a Software Defined Storage that was designed from the ground up to work in the cloud and on certified hardware. You can choose between the two options at any time without having to change anything within your application. On-premise data can easily be transferred to and used in your cloud environment with Qumulo Shift. When the operations are complete and you want to release the cloud storage again, you „shift“ your data back to your data center.

Cloud: AWS, Azure and Google Cloud Platform are supported.

Hardware: With Qumulo Appliances and HPE Solutions for Qumulo, you have a choice of excellent storage hardware that integrates with your data center via 40 or 100 Gbps Ethernet.



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The most important facts & figures at a glance

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|--------------------------------|--|
| Data Protection | Modern Erasure Coding on Block Basis |
| Encryption | Data at rest via AES 256 Data in transit via SMB v3 |
| | API-Calls per RESTFUL-API over HTTPS |
| Files per Namespace | Up to 18 trillion |
| Files per directory | Up to 4.25 billion |
| Maximum file system size | 9 exabytes |
| Maximum file size | 9 exabytes |
| Blocksize | 4 kilobytes |
| Real Time Analytics | yes |
| Minimum cluster size | 4 Nodes |
| Cloud availability | AWS, Azure, Google Cloud Platform |
| Management via | REST API, CLI, Web-UI |
| Solution for file-based backup | yes |
| Supported protocols | SMB, NFS, FTP, Cross-Protocol-Permissions |
| Directory services | Active Directory, LDAP |

Would you like to see for yourself whether the use of Qumulo is worthwhile for you?
Give us a call and arrange a non-binding trial!

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MSP AG is a solution provider for Content Management Technologies (censhare), Data Centre Solutions (Qumulo) and Managed IT Services. Enterprise customers from the retail, financial and media sectors rely on the services of MSP AG. MSP is the Qumulo focus partner for the retail and trade sector in the DACH region.