HPE GreenLake with Qumulo

Service overview

Hewlett Packard Enterprise, together with Qumulo, effectively addresses Customer's growing unstructured data needs—scale and manage billions of files with instant control at lower cost and high-performance, on-prem, off-prem, or spanning both—now and into the future for best. The HPE Solutions for Qumulo file data platform technology allows to symmetrically grow capacity and performance, reaching petabyte scale, on purpose-built HPE Apollo Gen10 and HPE ProLiant Gen10 Plus platforms. With HPE and Qumulo's carefully selected configurations optimized for price, performance, and capacity requirements, Customers can create, transform, and deliver unstructured file data at a massive scale and with unmatched operational infrastructure **performance** and ease.

Service benefits

- Scale without limits
- Get real-time insight into billions of files
- Automate workflow

Service feature highlights

- **High-performance, enterprise-proven scale-out file data platform**
  Scale to billions of files with Qumulo's file data platform that handles small files as efficiently as large ones. There is no practical limit to scale, whether capacity, performance, file, or node count. User files can occupy 100% of provisioned capacity without performance or management issues. Sophisticated data protection including highly efficient erasure coding, replication, snapshots, and software encryption, enable a fast reprotect time in the industry. The auditing capability is simple to configure. Cross-Protocol Permissions (XPP) seamlessly manages SMB and POSIX permissions, preserving access control list (ACL) inheritance for worry-free collaboration across protocols and client OSs. XPP is fully automatic and requires no configuration.

- **Customers' data where they want it, scaling on-premises and in hybrid cloud environments**
  Store data anywhere and get multiple GB/s of performance for workloads both on- and off-premises. Customers get scalable performance regardless of the number of files or file sizes. They can leverage continuous replication to make cloud a part of their business continuity strategy. Cloud continuity replication policies move the data where it is needed providing operating across storage clusters, whether on-premises or in the cloud. Qumulo automatically keeps data consistent. Customers can use the cloud when they need it. With Qumulo Shift for Amazon S3, Customers can copy their data to native S3 to leverage applications, as well as artificial intelligence (AI) and machine learning (ML) capabilities, hosted in the cloud. Amazon S3 enables easy collaboration around the world. Freely move data between on-premises and native cloud in AWS and Google Cloud™ without file conversion or rewriting apps because the same Qumulo platform runs natively in both. Simple subscription pricing covers all features, updates, and performance enhancements, and the licenses are transferable.

- **Eliminate data blindness with real-time visibility and control of Customers' storage infrastructure**
  Real-time analytics help save time and money while increasing performance, allowing admins to pinpoint problems and effectively control how storage is used while providing visibility into storage capacity usage patterns by IP address or directory path. Instantly see usage, activity, and throughput at any level of the unified directory structure, no matter how large or how active the system is, whether Qumulo is running on-premises or in the cloud. Easily identify problem areas and hot spots and optimize workload distribution across the file system. Leverage real-time information via analytics to set quotas in real time. Directory-based capacity quotas give administrators instant control over storage allocation. Capacity quotas can be applied to any directory, even nested ones. Moving a directory with a quota is easy. Automate everything, eliminating redundant tasks. The RESTful API enables Customers to programmatically configure infrastructure, eliminate administrative tasks, and automate IT management.

- **Ultra-dense and secure storage server**

HPE Solutions for Qumulo are built using HPE Apollo and HPE ProLiant servers. These are built on years of proven leadership with an architecture optimized for software-defined storage. Its unique design allows Customers to save valuable data center space through a standard rack depth chassis. HPE ProLiant DL325 Gen10 Plus servers are all-NVMe nodes, built on the 2nd Generation AMD EPYC 7402 series processor family with 24 cores and HPE SmartMemory up to 3200 MT/s DDR4 memory. HPE Apollo 4200 servers are an SSD-first hybrid architecture that optimizes cost and performance. Customers can simultaneously get the speed benefits of SSD and the economic advantages of HDD. HPE Active Health System is an industry-first technology providing continuous, proactive health monitoring of over 1,600 system parameters with 100% of configuration changes. Cloud-based monitoring proactively detects potential problems including historical trend data about system usage. Silicon root of trust from HPE iLO 5 and the built-in 256-bit AES encryption protects Customers' systems and data from threats and malicious activities. There is no separate license or anything to manage, and it is switched on by default.

Technical specifications

Table 1. Qumulo technical specifications

Technical specifications	HPE Solutions for Qumulo
Portfolio supported	NFS, SMB, FTP, and REST
Replication support	Continuous asynchronous replication across Qumulo storage clusters
Storage expansion options	Storage is expanded by adding Qumulo nodes to the cluster
Compatible operating systems	Windows, UNIX®, Linux®
Management features	At-a-glance visibility to storage capacity usage patterns by IP address or by directory path. Up-to-the-minute analytics pinpoint problems and effectively control how storage is used. Directory-based capacity quotas. HPE integrated Lights Out and Active Health System.
Clustering support	Minimum of four nodes required for a Qumulo cluster
Snapshot support	Yes
Form factor (fully configured)	1U and 2U rack mount

Prerequisites

Qumulo system requirements

The HPE GreenLake with Qumulo systems must adhere to the following requirements throughout the System Term:

The HPE GreenLake with Qumulo systems must always remain fully licensed.

All system clusters under this data sheet must be configured according to the protection level defined in the sizing spreadsheet in the following, which is determined in collaboration with the Customer based on the selections made in the Qumulo calculator sizing spreadsheet. The protection level and associated encoding level in the cluster will remain fixed for the System Term.

The Customer also understands capacity may only be increased by adding scale-out capacity as set forth through the contract change management process.

Table 2. Protection level and encoding scheme

Number of nodes in new cluster	6
Protection level	3 drive
Encoding used	(10.7) encoding
Total capacity (raw, TB)	540
Total capacity (usable, TB)	315
Usable capacity (%)	58
Expansion limit (number of nodes that can be added)	94

If a different protection level and associated encoding scheme are required, such requests are subject to the contract change management process and are contingent upon the capability to make such changes after installation.

Customer responsibilities

- After installation of the HPE GreenLake with Qumulo systems, the Customer is fully responsible for using and administering the Qumulo software. For example, but not limited to, the Customer is responsible for running purges to recover space occupied by deleted files.

- Customer is responsible for implementing the necessary licensing, installation, and support agreements for the Qumulo software directly with Qumulo for each HPE GreenLake with Qumulo system and maintaining them throughout the System Term.

Service limitations

- Customer acknowledges and agrees that HPE may use resources outside the country of purchase for delivery of these services unless otherwise specified as part of a service feature description.

Service eligibility

Customers are eligible for the delivery of this service if they meet the following prerequisites:

Eligibility
- Customer agrees not to oblige HPE to provide any services that do not meet the eligibility requirements set forth in this data sheet.

- Provided the HPE GreenLake services described in the SO are available in such countries, the provision of any HPE GreenLake with Qumulo hereunder is only available in the following eligible countries:

	Austria	Norway	Australia
	Belgium	Poland	Hong Kong
	Czech Republic	Portugal	India
	Denmark	Qatar	Indonesia
	Egypt	Romania	Japan
	Finland	Saudi Arabia	Malaysia
	France	Slovakia	New Zealand
	Germany	South Africa	Philippines
	Greece	Spain	Singapore
Argentina	Hungary	Sweden	South Korea
Brazil	Ireland	Switzerland	Taiwan
Canada	Israel	Turkey	Thailand
Colombia	Italy	United Arab Emirates	
United States	Luxembourg	United Kingdom	
	Netherlands		

Figure 1. Eligible countries for HPE GreenLake with Qumulo

Capacity management
Capacity can only be increased using scale-out capacity, which requires Customer to add HPE GreenLake with Qumulo systems of the same class to a cluster through the change order process. Capacity cannot be increased by installing additional disk drives in an individual HPE GreenLake with Qumulo system (node).

Definitions

Term	Definition
Class	The system configuration options available specifically in 90 TB, 192 TB, or 336 TB raw capacity nodes.
Cluster	The combining of HPE GreenLake with Qumulo systems into a single storage environment. A cluster requires a minimum of four or more systems and may also include any additional systems added to the initial cluster.
Host data	The data files a Customer stores in the HPE GreenLake with Qumulo systems (cluster) to be stored.
HPE GreenLake with Qumulo systems	The systems consist of HPE Apollo hardware and Qumulo software. A minimum configuration of four HPE and Qumulo systems of the same class is required. HPE GreenLake with Qumulo systems are considered **systems** as set forth in the SOW. The System Term for each HPE GreenLake with Qumulo system shall be the term set forth in **the SOW—Systems Details**.
Installed capacity or usable capacity	The number of units deployed on the Customer site during any given month. This will include capacity both used and unused. HPE reports this capacity as usable capacity in terabytes (TB) in the metering tools, which is the capacity that is available for storing host data for the HPE GreenLake with Qumulo systems.
Scale-out capacity	The act of increasing capacity, through the addition of one or more systems of the same class through the contract change management process.
Units	The unit for HPE GreenLake with Qumulo systems is **Qumulo Data TB**.

Qumulo license and service agreement

The provision of Qumulo software, installation, and software support services are governed by Qumulo end user agreement, professional services agreement, and support services agreement.

Customer is responsible for accepting such agreements directly with Qumulo. These agreements are located at the following site: qumulo.com/terms-hub/agreements/.

For software delivery, the Customer will receive an email with access instructions and a link to the software download. The EULA is to be accepted at the time of software installation. Customer will then work with HPE upon receipt of the email.

All systems are licensed with Qumulo software that is commensurate with the hardware specified in the account support plan (**ASP**) and the requested capacity as agreed with the reseller. The following Qumulo software is provided with the HPE GreenLake with Qumulo systems: Qumulo hybrid file system software

Installation services

Note that Qumulo installation services will be provided pursuant to the Qumulo installation data sheet.

Installation planning meetings will be scheduled with the Customer and will be coordinated through the HPE account support manager (**ASM**) and utility delivery manager (**UDM**). During the planning meetings, Customer responsibilities required for installation, will be reviewed, including but not limited to:

Customer's provision and installation of HPE GreenLake with Qumulo systems at the required version and patch levels communicated during this planning meeting and provision of certain information required for the installation, such as configuring of the cluster, Qumulo licensing, and IP addresses.

Hardware and software installation are typically scheduled on different days, allowing sufficient time for **rack-and-stack** installation of the hardware to be completed. Any installation of Qumulo software will be performed by Qumulo.
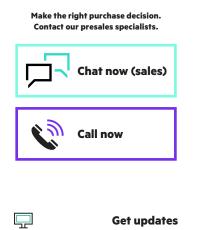
Qumulo software support

See Qumulo support agreement and website mentioned previously for more details regarding Qumulo software support.

For informational purposes only—Qumulo Customer success team currently offers English-only 24x7 product support via phone and Qumulo utilizes a remote 24x7 monitoring service, named MissionQ, so that proactive notifications to Qumulo will occur and support from Qumulo can be initiated as quickly as possible.

Learn more at
HPE GreenLake with Qumulo

hpe.com/greenlake

Make the right purchase decision.
Contact our presales specialists.

Chat now (sales)

Call now

Visit **HPE GreenLake**

Get updates

Hewlett Packard
Enterprise