

HPE Solutions with Qumulo

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Q. What is our elevator pitch with Qumulo?

A. Together, HPE and Qumulo simplify your file data anywhere and with the choice to consume as-a-service via HPE GreenLake. Reliably store and manage billions of files that can be securely accessed via rich file protocols and an S3 API. Gain instant control of your data at lower cost and higher performance, at the edge, in the datacenter, and in the cloud. With purpose-built all-NVMe flash and hybrid-NVMe flash systems forged from industry leading HPE Alletra 4000 and HPE Apollo 4000 data storage servers, you can achieve the ideal mix of price, performance, and capacity to address your unstructured data needs now and in the future. HPE Solutions with Qumulo empower you to store, manage, and curate file data, at scale, to match the needs of your business.

Q. What are the key benefits of the HPE-Qumulo solutions?

A. Key high-level benefits include:

High performance: Designed with hundreds of GB/s multi-stream reads performance and with machine learning-based predictive caching, users can analyze more than 1 PB of data per day and extract actionable insights in real time and at scale.

Security: Enhanced security with single software sign-on, multi-factor authentication, additional protocol security features, and FIPS 140-2 certified software encryption.

Intelligence: The solution integrates the industry's most advanced artificial intelligence for infrastructure, powered by HPE InfoSight. InfoSight learns from millions of sensors from over 100,000 systems across the globe to drive global intelligence and insights for your infrastructure. Qumulo's file data platform includes real-time analytics to provide valuable insights into the data usage and the performance of the system.

Additional benefits:

- Workload and multi-use case capabilities expanded with the addition of the NFSv4.1 protocol, an S3 API, and a CSI driver for container persistent storage.
- Enable sales to compete in the file data/NAS market in the unstructured data environment, mostly and not limited to Dell EMC PowerScale, Pure and Network Appliance.
- Ability to sell Qumulo software with HPE validated server offerings.
- Ease of ordering and interoperability assurance of joint HPE and Qumulo solutions for HPE customers.
- Qumulo-led, zero-latency customer success experience with NPS of 70 versus 35 of Dell.
- Hybrid-NVMe and all-NVMe software-on-servers approach.
- Hybrid-NVMe nodes scale-out from 80 TB usable capacity (4.3 GB/s reads, 2.5 GB/s writes) to 100 PB usable capacity (688 GB/s reads, 435 GB/s writes).
- All-NVMe nodes scale-out from 77 TB usable capacity (19 GB/s reads, 15 GB/s writes) to 623 TB usable capacity (1200 GB/s reads, 1020 GB/s writes).
- NFS, SMB, S3 API with cross-protocol access to data in a FIPS 140-2 encrypted namespace.
- Cloud ready with native hybrid cloud features including copy, move, and natively run in AWS, Google Cloud, and Microsoft Azure.
- Real-time quotas, snapshots, and async replication.
- File system analytics enabling deep file and folder level insights empowering IT Ops for client, performance, and capacity management.
- Available to purchase or consume as a metered service via HPE GreenLake.

Q. What is the advantage to the customer in purchasing Qumulo software from HPE?

A. Customers have the advantage of buying the complete solution from HPE, including the validated HPE Alletra and Apollo servers that can run Qumulo software, at a competitive price, and they receive the added confidence of HPE's Inter-Op assurance validation and support.

Q. What are key use cases and workloads?

A. Qumulo solutions with HPE are ideally suited for the following use cases:

- Unstructured data consolidation for active and interactive application workloads
- Video surveillance using Genetec and Milestone including with video analytics and in conjunction with HPE Alletra dHCI
- Medical imaging including Picture Archiving and Communications Systems (PACS) and Vendor Neutral Archive (VNA)
- Manufacturing research, higher education, and life sciences including imaging, analytics, and HPC when multi-purpose file is desired
- Media and Entertainment editing, rendering, and post-production workflows by studios and in-house corporate production teams, especially where burst to public cloud for compute rendering resources are desired
- As an adjunct to other use cases, user home directory, departmental and team shares with NFS and SMB cross-protocol access



Q. Which competitors is Qumulo best positioned to win against?

A. HPE Solutions with Qumulo are positioned to win against:

1. Dell PowerScale (Isilon F/H/A-Series)
2. Pure Storage FlashBlade
3. NetApp AFF and FAS
4. Quantum StorNext

Q. Are SKUs available worldwide?

A. The solution is available in 62 countries WW. Please refer to the Drawer Statement for details. HPE and its Partners can quote Qumulo software SKUs directly from OCA.

Q. Is there a plan to make the solution available in other countries? If so, when?

A. Yes, the intent is to continue to expand offerings to other countries.

Q. What happens if there's an opportunity in countries where Qumulo is not currently available?

A. It is subject to HPE Storage and Big Data GBU and Qumulo mutually agreeing that the opportunity is viable and valuable to both companies. HPE Geo management, the account team, and the customer will also need to agree to sales/ presales support and customer support limitations outlined in the [Drawer Statement](#).

A Deal exception request can be requested with the right business justification, please contact your local HPE Qumulo Solutions Business Manager [Deal Exception Form](#) link (for non-supported countries).

PRODUCT AND FEATURES**Q. What are the Qumulo products HPE can sell?**

A. Always refer to the [QuickSpec](#) for the latest update on available products for HPE Solutions with Qumulo.

With every BTO or CTO offering, you will have the choice of Qumulo 1-year, 3-year, and 5-year term. For deployment of Qumulo Node clusters in the AWS cloud:

Qumulo Software for AWS 1 TB 1-year, 2-year, 3-year Subscription and Support SKUs

- Qumulo Software for GCP 1 TB 1-year, 2-year, 3-year Subscription and Support SKUs

For professional services delivered directly by Qumulo:

- Qumulo Installation and Advanced Training Service (per day) SKU
- Qumulo System Health Check Service SKU

For more details, reference the QuickSpecs on the [HPE Solutions for Qumulo product page](#).

Q. Does Qumulo come preinstalled on HPE hardware?

A. No. The Qumulo software and HPE server hardware ship separately to the customer. The Qumulo software is downloaded directly from Qumulo who then works with the customer to schedule the software installation.

Q. What is the base OS Qumulo runs on?

A. Qumulo software runs on top of Ubuntu.

Q. Does Qumulo support replication?

A. Yes, today Qumulo supports asynchronous two-way replication including between an on-premises HPE Apollo 4200 cluster, HPE Alletra Storage cluster, and AWS and Google™ Cloud.

Q. Does Qumulo only support 40GbE networking?

A. The new HPE Apollo and ProLiant servers for Qumulo offer 25Gb and 100Gb networking depending on model. The 100Gb can auto negotiate to a lower speed if needed.

Q. Can the 4-node configuration survive a node failure?

A. Yes. A 4-node configuration is the minimum configuration to ensure that even if one node is lost, the cluster can continue to run and support workloads while the node is offline.

Q. When a node fails, how is it isolated?

A. Qumulo software can reform a cluster without the primary or mission node. Reads and writes will continue in a configuration with one down node.



Q. Qumulo cluster size limit?

A. The cluster limit is 265 nodes as of today, please consult with the HPE Qumulo category manager as this will evolve through the year.

Q. What is the size of the SSD cache in a Qumulo node?

A. Please refer to the [HPE Qumulo QuickSpecs](#), under the spare section.

Q. Who are Qumulo's competitors and how does Qumulo differentiate?

A. Qumulo's key competitors: Dell EMC Isilon/PowerScale, NetApp. The following are key differentiating features in the Qumulo file data platform. Please refer to the [HPE Solutions with Qumulo and positioning](#) on Seismic for additional details on each of the above.

Key Qumulo technology differentiators:

- Erasure coding
- Data prefetch caching algorithm, one of the best in the market to dynamically adjust its logics base on workloads being served.
- Real-time analytics, no tree-walks required.
- Software-based encryption included in subscription.
- Storage efficiency, you can use 100% of available storage.
- Small file management

QUMULO SOFTWARE ENCRPTION AT REST**Q. What is Qumulo Software Data at Rest Encryption?**

A. Data at rest refers to inactive data that has been physically stored on persistent storage of some type. The security concerns of data at rest differ from that of data in transit across a network, data sitting in RAM, or even data being actively processed by applications as in those cases the data must be reassembled and is not guaranteed to be in its complete state. Data at rest, however, can be vulnerable in the event an entire disk(s) is physically stolen by an attacker or when encountering a malicious actor in the supply chain after a disk has been decommissioned. While reassembly of unencrypted data is not a straightforward process with Qumulo as the filesystem still stripes data across nodes and drives, we believe that the era of unencrypted data has come to an end and all customers will expect their data to be cryptographically protected in the coming years.

Qumulo Software Data Encryption at Rest is enabled by default on all NEW, on-prem clusters with Qumulo Core version 3.1.5. With Qumulo, data in transit is already encrypted with our file access protocol support (SMB V3 & NFSv4.1) and replication features, and with the addition of Qumulo Software Data Encryption at Rest, customers further strengthen their security profile by getting complete encryption of their data - both in transit and now at rest. Customers no longer need to worry about bad actors reading data from stolen disks, or even decommissioned disks in the supply chain. In addition, to meet compliance standards, it's now supporting FIPS 140-2 on all its HPE platforms. This feature is now available in Qumulo software by default on all on-prem platforms including All Flash NVMe.

Q. What business concerns is Qumulo Software Data at Rest Encryption designed to address?

A. Security and Compliance are of utmost importance for any enterprise infrastructure. With unstructured data at the enterprises growing to multi-petabyte and exabyte scale, customers struggle to protect their data at rest from threats like an attacker stealing drives from a node or getting hold of decommissioned disks in the supply chain. In the absence of a good encryption solution, enterprises resort to methods like physically destroying the disks but even those solutions are not fully secure and don't always meet necessary requirements of their security and compliance team. Hardware based encryption limits customers' platform choices and limits their ability to adopt other innovative choices. Leveraging Qumulo Software Data Encryption at Rest circumvents these challenges and gives customers confidence in security, flexibility in hardware choice, and preparation for business compliance mandating FIPS 140-2.

Q. Which business segments are most in need of software encryption?

A. Financials, Federal, Healthcare, Universities, and Aerospace. However, we also see customers asking for this feature across all sorts of segments including e-commerce or even video games. In short, encryption is desired industry-wide and are excited to offer it in such a flexible storage solution.

Q. Which version of Qumulo Core is software encryption available?

A. All NEW, on-prem clusters will be encrypted by default beginning with version 3.1.5.

Q. Why is encryption turned on by default on all on-prem clusters?

A. HPE and Qumulo are taking a "Security First" stance on encryption at rest and views encryption as a standard enterprise storage feature, being just as essential to customers as Data Protection or Snapshots. This is the new normal for business as we want customers to understand that we take their data security seriously, further supporting a truly software defined storage solution.



Q. What will customers have to do to enable software encryption?

A. Customers will have to build a **new cluster** to get this feature as encryption is only enabled at **cluster create**. This feature will be available by default from Qumulo Core version 3.1.5 onwards on all on-prem platforms. Upgrading existing clusters will not get this feature. A new cluster must be built.

Q. Is it possible to turn off software encryption?

A. No. This is the new normal for on-prem clusters going forward.

Q. Can clusters built before version 3.1.5 upgrade to use encryption?

A. No. There is currently no upgrade path for existing clusters to enable encryption. Customers will have to build a new cluster to get this feature.

Q. Is there an additional charge for encryption?

A. No. Like all Qumulo filesystem features, it is included at no additional charge to the customer.

Q. Is Qumulo Software Data Encryption at Rest available in the cloud?

A. No. There are cloud-native data at rest solutions offered by all the major cloud providers that customers can leverage. Cloud providers have good data at rest solutions on their platforms which can be utilized. For instance, GCP has encryption at rest enabled by default, and AWS encryption at rest options can be enabled if desired.

Q. How do customers manage their encryption keys?

A. Key management with Qumulo's software encryption is completely transparent to the customer. There is nothing you need to "do" to enable it or manage it, keeping administrative overhead to an absolute minimum. Qumulo offers simple and easy key management for customers so they can rotate keys (for example when a failed disk is returned to Qumulo or an OEM partner, or on a set schedule). Customers can also get the status of their keys, and their creation date, using a simple QQ command.

Q. Will Qumulo Software Data Encryption at Rest work with external Key Managers?

A. At this time we will not be supporting external key managers. However, Qumulo will reevaluate Key Management Service (KMS) support.

Q. Will there be a performance impact with encryption enabled?

A. Like with the introduction of any new fundamental filesystem feature, there will be a cost. There will be some performance overhead with software encryption enabled. At the very worst customers may see up to a 10-15% degradation primarily with single-stream write throughput and latency. Reads will experience up to 5% degradation. All sizing tools have been updated to account for encryption overhead.

Qumulo believes that security-first prioritization with customer's data is worth the performance trade-off. This is the new normal for Qumulo going forward. We continue to develop general performance improvements, especially in regard to single-stream writes, to ultimately offset this encryption overhead. In addition, with future newer and better hardware offerings this impact is further reduced. It is unlikely existing customers will experience any degradation directly as encryption is only enabled by default at cluster create time. New customers should be sized accordingly based on new sizing tool guidelines.

Q. Do source and target clusters both need to be software encrypted for replication?

A. No. Encryption of data over the wire is separate from the encryption of data at rest on either end of a replication relationship. Any cluster with version 3.1.5 or later will work the same way when replicating between clusters regardless of whether or not it's software encrypted. For example, if a cluster is software encrypted, it will be written as 'encrypted' during a transfer. If a cluster is not software encrypted enabled, it will be written as 'unencrypted' during a transfer. For meeting security requirements of keeping all the clusters encrypted, it is recommended customers keep both the clusters encrypted and set up replication across them.

All the below encrypted scenarios are supported:

A(encrypted) → B(encrypted)

A(encrypted) → B(unencrypted)

A(unencrypted) → B(encrypted)

A(encrypted) → B(unencrypted-cloud)

A(unencrypted-cloud) → B(encrypted)

Q. Will data in transit be encrypted as well?

A. We already have encryption in transit available via SMB V3 & NFSv4.1 protocols and in replication across clusters.

Q. What if I have an existing customer who wants their existing cluster encrypted?

A. As mentioned earlier, you must create a new cluster on v3.1.5 or later. There is no in-place encryption upgrade.



Q. At what level in the filesystem is data encrypted?

A. Encryption is done at the whole cluster level. Currently we will not be offering encryption with file or directory level granularity.

Q. What threat vectors will this feature protect the customers from?

A. This feature protects customers from the threat of an attacker stealing disks off the cluster or decommissioned disks getting in the hands of malicious actors in the supply chain. Data on the disks are encrypted using a data key stored on the disk and that data key is encrypted by the master key of the cluster. This master key is stored in the boot drive of the nodes of the cluster. So, attackers will have to get control of the boot drive of the node to decrypt the data. Getting access to individual drives without the boot drive of a node will not pose any threat.

Q. What encryption algorithm is used?

A. On all HPE Qumulo clusters, to ensure security and compliance, FIPS 140-2 is the default mode allowing full encryption of all data managed by HPE Solutions with Qumulo.

Q. How does key management work with software encryption? Where are my Master and Data Keys stored?

A. Keys are used to encrypt data, as well as encrypting data keys. A Master Key is used for an extra layer of security in order to encrypt a Data Key which is used to decrypt the data itself. The Master Key is stored on every boot drive in the cluster in a file only root can access. Each time a cluster forms, the key is redistributed to all nodes. If all the nodes are not in quorum, old master keys will be left on the boot drives of the disconnected nodes until they rejoin the cluster. Additionally, if a master key is deleted from a node, it will be recreated during the next quorum event. The Data Key is stored in a distributed key-value store, wrapped with the Master Key using AES 256 key wrapping.

Q. Will Master Key and Data Key be encrypted?

A. The Data Key will be encrypted by the Master Key. In the initial release, that Master Key will not be encrypted and is stored on the boot drive. That's why it's important to keep the boot drive secure and never send decommissioned boot drives back to Qumulo.

Q. What data will be encrypted? File data/metadata/syslog?

A. Everything in the Qumulo FS, data + metadata, is encrypted. Things in the host filesystem on the node are not (Syslogs/Core Files/etc).

Q. What happens if a boot drive fails? Will my data be inaccessible because the Master Key is also stored on the boot drives?

A. The Master Key is stored on every boot drive on the cluster in a file only root can access. Each time a cluster forms, the key is redistributed to all nodes. If all the nodes are not in quorum, old master keys will be left on the boot drives of the disconnected nodes until they rejoin the cluster. Additionally, if a master key is deleted from a node, it will be recreated during the next quorum event. The Data Key is stored in a distributed key-value store, wrapped with the Master Key using AES 256 key wrapping.

In order to have a complete loss of data you would have to lose all of your boot drives at the same time, or programmatically delete all your Master Keys from your boot drives at the same time (requiring root access). It is exceedingly unlikely either of these events would happen, which would be catastrophic with or without encryption.

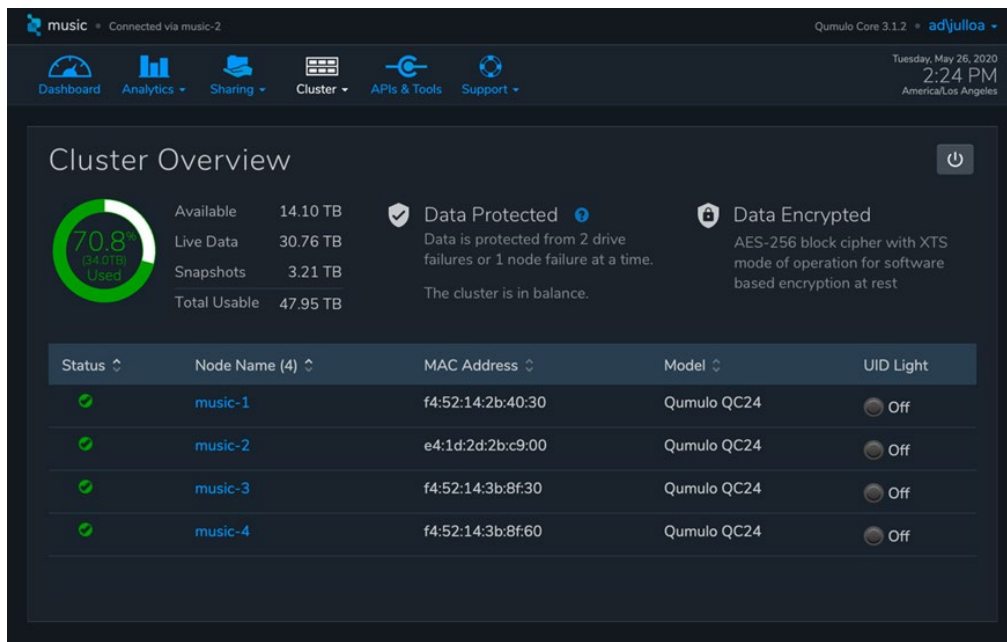
Q. How can customers confirm their cluster is indeed software encrypted?

A. Customers can use the `encryption_get_status` command to confirm the cluster is encryption:

```
qq encryption_get_status
```

Customers can also check the WebUI under Cluster Overview. There will be a badge indicating the cluster is indeed encrypted. See the "Data Encrypted" badge screenshot below:





Q. How does key rotation work with software encryption?

A. Customers can leverage either a CLI command or API endpoint to rotate their keys at their preferred or mandated schedule. Currently, it is a manual process as there is no automated key rotation. The API command is as follows:

```
qq rotate_encryption_keys
```

Q. If the master key is stored on the boot drive, what should customers do with their decommissioned boot drives?

A. Because the boot drives themselves contain the cluster’s Master Key which in turn encrypts the Data Key that allows the actual data to be read, customers should never send boot drives back to Qumulo and should keep them. However, customers can send any decommissioned non-boot drive back to Qumulo without worrying about bad actors in the supply chain as the data is now encrypted.

Q. Since we already have hardware-based encryption why are we investing in software-based encryption?

A. Qumulo being a software company, we want to make sure our features are not hardware dependent. Our customers should have the choice to choose any of our platforms (including All Flash) to get software encryption. This also makes us the only Scale Out All Flash NVMe product with complete encryption capabilities.

Q. Are HPE Hardware encrypted node types still available?

A. Only with the HPE Apollo 4200 Gen10. These node types serve valuable customer needs where FIPS 140-2 compliance was required. Keep in mind any new clusters created on version 3.1.5 or later, even on hardware encrypted HPE nodes, are still software encrypted and will include FIPS 140-2.

Q. If hardware encryption is already enabled is software encryption automatically disabled?

A. No. For fleet and engineering simplicity, all new on-prem clusters, regardless of hardware, will be software encrypted by default. There will not be a way to turn it off. This is the new normal.

QUMULO FILE DATA IN AWS PLATFORM

Q. How do I think about a node in AWS?

A. A node in AWS is referred to as a Qumulo “instance.” Just like we do on-premises we can cluster instances (minimum 4) together to create a cluster in AWS. A Qumulo instance in AWS consists of the same components as an HPE servers with Qumulo physical node. An AWS instance is comprised of compute, memory, networking, and storage. These four components are represented by 2 pieces of AWS infrastructure—EC2 for CPU, memory and networking and EBS for storage. Qumulo pairs a specific version of EC2 and EBS to create a Qumulo node. Qumulo offers a variety of options as well as the ability to customize to get exactly what you need. Qumulo runs in a similar fashion in Google Cloud.



Q. How does Qumulo data protection work in AWS?

A. Qumulo views an EBS volume in the same way it does a disk drive in a Qumulo hardware node. Qumulo uses pstores and bstores and distributes data across the 15 EBS volumes (5 SSDs, 10 HDDs) in the same way it does on hardware. Qumulo use encryption that is provided by AWS.

Q. What is the maximum number of Qumulo nodes we support in an AWS cluster?

A. 100 Qumulo nodes are officially supported in a cluster. Larger clusters have been created but are not yet certified.

Q. What types of use cases do our customers and prospects have that are a good fit for Qumulo in AWS?

A. Qumulo in AWS is focused on helping customers and prospects who need more compute resources than they have available in their on-premises data center. This either means they use AWS compute resources as part of their regular workflow or use AWS resources from time-to-time when they need the flexibility to temporarily add (or burst) more compute resources. They use instances of EC2 for compute, memory and networking just like Qumulo does. However, their EC2 instance is probably configured much differently.

Examples of the types of companies we know are using AWS in this way are:

- Organizations who are doing large amounts of genomics sequencing
- Organizations who are doing microscopy or any other type of image analysis
- Organizations who are analyzing any type of sensor data
- Organizations who are creating content in animation or special effects

Q. How are the use cases different in AWS from what they might run on-premises?

A. It might be very similar if all the tools they use in the data center are compatible with AWS. However, it is likely that the customer or prospect is utilizing AWS specific tools to help them manage the entire pipeline within AWS. The great news is that these tools almost certainly are compatible with Qumulo for storage.

CONFIGURATION GUIDELINES

Q. Where can I find the Qumulo SKUs?

A. Please refer to the [HPE Solutions for Qumulo QuickSpecs](#) for details about the HPE Qumulo SKUs

Q. Where can I find a detailed description of Qumulo SKUs?

A. Please refer to the [HPE Solutions for Qumulo QuickSpecs](#) for details about the HPE Qumulo SKUs.

Q. Is there a minimal Qumulo configuration that new customers need to deploy?

A. Yes, a Qumulo cluster must start with a minimum of 4 nodes.

Q. Is there support for building a customer order?

A. For support with building a customer order, please contact your local Geo Category Managers highlighted in [Appendix](#). If you don't know who your Geo Category Manager is, please send an email to qumulocategorymanagers@hpe.com.

Q. Are there any configuration sizing guidelines?

A. Yes. Please refer to Qumulo [Performance & Sizing tool](#) to determine the number of Qumulo nodes a new or existing customer needs to purchase based on different inputs including usable capacity. Although the minimal requirements for a new customer deployment is 4 x Qumulo nodes, the most cost-efficient deployment comprises of 6+ x Qumulo nodes, hence selling up based on customer's future requirements is recommended vs. adding incremental nodes to existing configurations later.

Q. Are there any performance guidelines?

A. Yes. Please refer to the Qumulo [Performance & Sizing tool](#). Qumulo uses an agile development methodology which enables frequent software updates, so feel free to consult the portal for the latest information. Please contact hpe-sales@qumulo.com for the latest information relative to the solution being proposed.

Q. Can Qumulo be supported on other HPE hardware?

A. Qumulo will only be supported on validated HPE platforms. Currently, it is available on the HPE Apollo 4200 Gen10 Plus and HPE Alletra 4110 data storage servers, as described in the [QuickSpecs](#). Additional node sizes and additional platforms will be added to the certified list based on market demand.



Q. Do we have a monthly subscription SKUs for Qumulo software?

A. Yes. The monthly renewal subscription SKU is available via OCA. It is mainly to be used for co-term subscriptions when a customer is adding additional nodes to existing deployments. Please refer to the [HPE Solutions for Qumulo QuickSpecs](#) for details on the monthly subscription SKUs.

Q. How do the subscription licenses get impacted if the HPE Qumulo Nodes are upgraded or replaced?

A. The subscription licenses are transferable if nodes are upgraded or replaced.

SALES ENGAGEMENT**Q. Is there a deal registration process when an HPE Partner identifies a Qumulo deal opportunity?**

A. Yes, you can access the form [here](#). It's mandatory for HPE and HPE channel partners to register a deal **only** in scenarios where HPE favored pricing needs to be protected. In the case where it is needed, please request the form from local Qumulo account team and send it to this address:

hpe-registration@qumulo.com

Q. Is there an escalated pricing process when incremental cost relief is required to win a deal?

A. Yes. First, the deal must be registered using the [Deal Registration form](#) pointed to in the previous question. Then fill out [Ignite: Special Pricing Request](#) link.

Q. Can Qumulo software be resold alone, or only attached to servers or to storage?

A. For on-premises installation the initial Qumulo clusters are sold as a complete hardware and software solution. Currently, the Qumulo software must be sold with the HPE Servers through BTO and CTO models for the initial Qumulo on-premises cluster installation. Qumulo software purchased from HPE cannot be installed on any other HPE or third-party server platforms. Qumulo renewal subscriptions and Qumulo software for AWS and Google clouds are sold as standalone options but are intended to be installed on existing on-premises HPE hardware nodes or in the public cloud, respectively.

Q. Will HPE Partners get revenue recognition for selling Qumulo as part of an overall HPE Server and Storage hardware deal and the renewal?

A. Yes.

Q. Will Qumulo get revenue recognition if HPE sells to their customers or in their territory?

A. Yes. Qumulo's field teams are compensated for opportunities sold through HPE.

Q. How can a customer request a Qumulo demo?

A. There are three ways to see what Qumulo can do:

1. Run a demo using a live, six-node Qumulo cluster.
2. Download a VMware® OVA and set up a Qumulo cluster using VMware on your own Windows or Mac machine.
3. Set up either a standalone Qumulo node or a Qumulo cluster on AWS.

Refer to the Qumulo [Try it Now](#) webpage for more information on the three difference demo methods.

PRODUCT SUPPORT**Q. Who will be taking the tech support calls from the customer?**

A. The service and support of all Qumulo software products are directly from Qumulo. Qumulo is the direct contact to handle both level one and level two service calls for Qumulo software. All support calls related to HPE servers are supported by HPE Services.

Qumulo Mission Q support is included with all HPE Qumulo license subscriptions. Mission Q support can take first call on all software and hardware issues. If the case is related to hardware, Qumulo will open a case with HPE on the customers' behalf. HPE additionally offers Complete Care support and Greenlake Flex solutions. Please consult your HPE Services rep for additional information.

Q. Is HPE Services involved in after sales support or maintenance for Qumulo software?

A. No, currently all support for Qumulo software is provided directly by Qumulo.



Q. How are support services ordered?

A. 24x7 Qumulo software support and maintenance (Mission Q) is included with every Qumulo software SKU for the term of the on-premises subscription or cloud deployment. HPE hardware support services should be added as separate line items in the quote (Tech Care or Complete Care) depending on the customer support requirements.

Q. Are Qumulo support services provided in local languages in European countries?

A. Customer success support is provided in English, Spanish, German, Japanese and Korean. Local Sales & Presales Support is in English, Spanish, Italian, Dutch, German, French, Korean, and Chinese

Q. Is there call home support for the Qumulo software products?

A. Yes. The system is monitored by a cloud-based telemetry system that Qumulo's customer success team monitors with Mission Q. Customer support is primarily managed via dedicated slack channels, which is preferred by customers.

Q. Does the customer need to order installation and deployment services?

A. It is [required](#) for net new deployment that the customer selects HPE Qumulo software installation support. HPE Services offers installation and deployment hardware services for the HPE Alletra 4000 and HPE Apollo 4000 Data Storage servers for Qumulo.

Q. Does HPE Services provide any Qumulo software installation and deployment service?

A. No, Qumulo provides support directly to the customer for the software, HPE Services will redirect software calls to Qumulo support. All support calls related to HPE server infrastructure are supported by HPE Services per the support option purchased.

Q. Who delivers the deployment services and is there any required coordination between HPE and Qumulo to deploy a solution?

A. For net new deployment, Qumulo will provide the deployment service, Qumulo will verify that HPE has completed the customer installation of the HPE server nodes. Customer must have purchased the Qumulo install, which is mandatory.

Q. Who holds the maintenance contract and license renewals?

A. Qumulo owns the software maintenance contract and provides the service. All HPE Qumulo software subscription SKUs include the warranty and maintenance contracts for the term of the subscription. HPE and its partners can extend the Qumulo software subscription by selling the Qumulo renewal subscription and support licenses. For HPE hardware support, HPE owns the maintenance contract.

ADDITIONAL INFORMATION**Q. Where can I find additional information on Qumulo products?**

A. Please visit the [Qumulo Sales Briefcase](#).

Q. If I have questions who can I contact?

A. Please reach out to your local Geo Solutions Business Managers listed below in [Appendix](#) or following contacts within HPE and Qumulo.



Frequently asked questions

Confidential | Authorized HPE Partner Use Only

APPENDIX

AMERICAS

Latin America
[Leonardo Soto](#)

APAC

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EMEA

Central Europe
Karandjulov, Nikola

North America
Ryan Brooks

Japan
[Toru Ozaki](#)

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HPE GBU CONTACTS

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QUMULO CONTACTS

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