

Overview

HPE Solutions for Qumulo

Together, HPE and Qumulo simplify your 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 with instant control at lower cost, higher performance, at the edge, in the datacenter, and in the cloud. With purpose-built all-NVMe flash and NVMe-accelerated hybrid flash systems forged from industry leading HPE Apollo 4000 and ProLiant DL servers, you can achieve the ideal mix of price, performance, and capacity to address your specific unstructured data needs now and into the future. HPE Solutions for Qumulo empower you to store, transform, protect, and deliver file data at petascale.

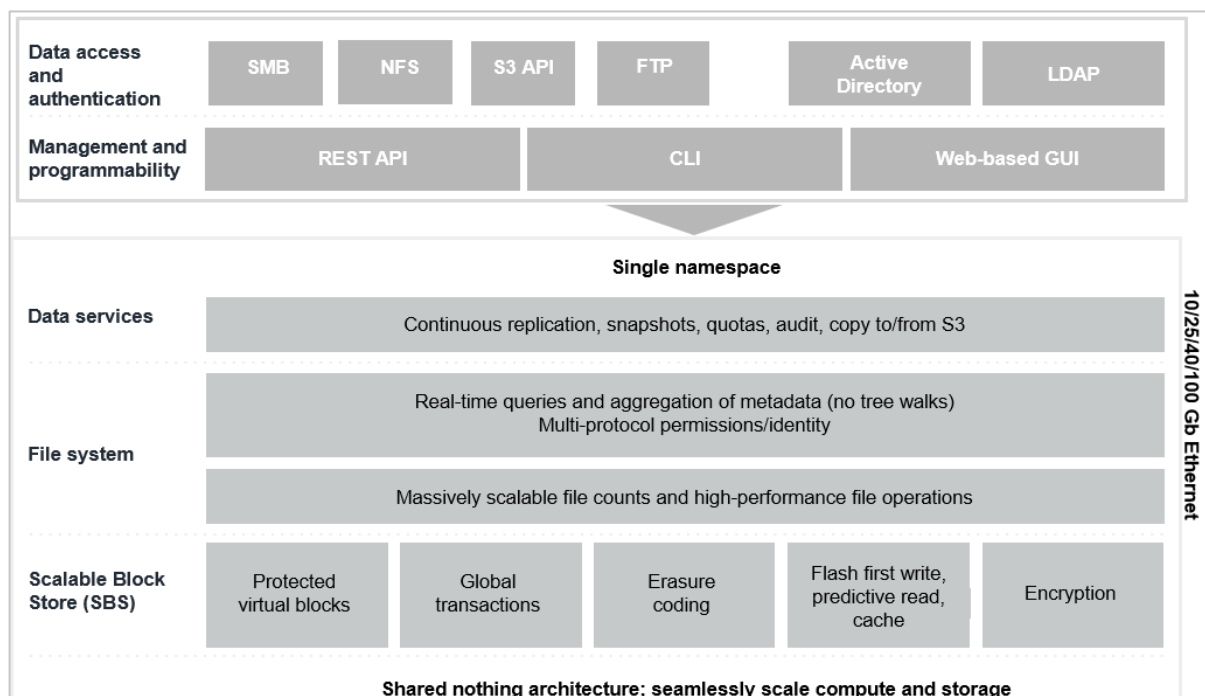
What's new

- NVMe-accelerated 36TB, 90TB, 240TB, 480TB hybrid flash and archive nodes economically provide higher performance and higher capacity.
- Security is enhanced with single software sign-on, multi-factor authentication, additional protocol security features, and FIPS 140-2 certified software encryption.
- Workload and multi-use case capabilities are expanded with the addition of the NFSv4.1 protocol, an S3 API, and a CSI driver for container persistent storage.
- All-inclusive Qumulo software subscriptions are further simplified with the consolidation of the previous Flash (F1) and Hybrid (H1) tiers into a new, attractively priced "Active" tier.

For further information, please consult with your HPE representative

What's Included in the Qumulo Software Subscription

With HPE Apollo 4200 Gen10 Plus and HPE ProLiant DL325 Gen10 Plus servers running Qumulo software, customers get a density-optimized 1U or 2U rack mount file storage solution offering either All-NVMe Flash in 34TB, 145TB, or 291TB capacity nodes, Hybrid solution in 36TB, 90TB, 192TB, 240TB or 480TB capacity nodes or a dense Archive at 240TB, 336TB or 480TB raw capacity per node. The Qumulo software license is a capacity based subscription and includes all features and capabilities of the Qumulo Core software simplifying procurement, ownership, and administration.



Overview

Models

HPE Apollo and ProLiant Nodes for Qumulo

| Description | SKU |
|--|--------|
| HPE ProLiant DL325 Gen10 Plus 34TB 100Gb All-NVMe Flash TAA-compliant Node for Qumulo | R3B88A |
| HPE ProLiant DL325 Gen10 Plus 145TB 100Gb All-NVMe Flash TAA-compliant Node for Qumulo | R3B89A |
| HPE ProLiant DL325 Gen10 Plus 291TB All-NVMe Flash Node for Qumulo | |
| Notes: This 291TB solution use 1x R8F01A and 2x R8F02A. See Step1 in configuration Information Section (Page 6) | |
| HPE Apollo 4200 Gen10 Plus 36TB 25Gb Hybrid TAA-compliant Node for Qumulo | S0D89A |
| HPE Apollo 4200 Gen10 Plus 36TB Configure-to-order Node for Qumulo | S0D90A |
| HPE Apollo 4200 Gen10 Plus 90TB 25Gb Hybrid TAA-compliant Node for Qumulo | S0D91A |
| HPE Apollo 4200 Gen10 Plus 90TB Configure-to-order Node for Qumulo | S0D92A |
| HPE Apollo 4200 Gen10 Plus 240TB 100Gb Hybrid TAA-compliant Node for Qumulo | S0D93A |
| HPE Apollo 4200 Gen10 Plus 480TB 100Gb Hybrid TAA-compliant Node for Qumulo | S0D94A |
| HPE Apollo 4200 Gen10 Plus 240TB Configure-to-order Node for Qumulo | S0D95A |
| HPE Apollo 4200 Gen10 Plus 240TB 25Gb Archive TAA-compliant Node for Qumulo | S0D96A |
| HPE Apollo 4200 Gen10 Plus 480TB 25Gb Archive TAA-compliant Node for Qumulo | S0D97A |
| HPE Apollo 4200 Gen10 Plus 480TB Configure-to-order Node for Qumulo | S0D98A |
| HPE Apollo 4200 Gen10 36TB Hybrid Node for Qumulo | R6A40A |
| HPE Apollo 4200 Gen10 36TB 25Gb Hybrid TAA-compliant Node for Qumulo | R6F64A |
| HPE Apollo 4200 Gen10 90TB Hybrid Node for Qumulo | R3W48A |
| HPE Apollo 4200 Gen10 90TB 25Gb Hybrid TAA-compliant Node for Qumulo | R6F65A |
| HPE Apollo 4200 Gen10 192TB Hybrid Node for Qumulo | R3W49A |
| HPE Apollo 4200 Gen10 192TB 100Gb Hybrid TAA-compliant Node for Qumulo | R6F66A |
| HPE Apollo 4200 Gen10 336TB Archive Node for Qumulo | R3W51A |
| HPE Apollo 4200 Gen10 336TB 25Gb Archive TAA-compliant Node for Qumulo | R6F67A |

Qumulo 1TB Active Tier (replaces former F1 & H1 tiers) Subscription and Support Electronic License to Use (E-LTU)

| | |
|---|----------|
| Qumulo Active Tier 1TB 1-year Subscription Mission Q Services and Support E-LTU | ROG81AAE |
| Qumulo Active Tier 1TB 3-year Subscription Mission Q Services and Support E-LTU | ROG83AAE |
| Qumulo Active Tier 1TB 5-year Subscription Mission Q Services and Support E-LTU | ROG85AAE |

Qumulo 1TB General Purpose Tier (new name for former H3 tier) Subscription and Support Electronic License to Use (E-LTU)

| | |
|--|----------|
| Qumulo General Purpose Tier 1TB 1-year Subscription Mission Q Services and Support E-LTU | ROW31AAE |
| Qumulo General Purpose Tier 1TB 3-year Subscription Mission Q Services and Support E-LTU | ROW33AAE |
| Qumulo General Purpose Tier 1TB 5-year Subscription Mission Q Services and Support E-LTU | ROW35AAE |

Qumulo Professional Services

| | |
|---|----------|
| Qumulo Installation and Advanced Training Service per Day | ROG89AAE |
| Qumulo Systems Health Check Service | ROG90AAE |

Overview

Qumulo for Amazon Web Services

Description

Qumulo Software for Amazon Web Services 1TB 1yr Subscription and Support E-LTU

SKU
R3K09AAE

Qumulo Software for Amazon Web Services 1TB 2yr Subscription and Support E-LTU

R3K10AAE

Qumulo Software for Amazon Web Services 1TB 3yr Subscription and Support E-LTU

R3K11AAE

Qumulo for Google Cloud Platform

Qumulo Software for Google Cloud Platform 1TB 1yr Subscription and Support E-LTU

R4D69AAE

Qumulo Software for Google Cloud Platform 1TB 2yr Subscription and Support E-LTU

R4D70AAE

Qumulo Software for Google Cloud Platform 1TB 3yr Subscription and Support E-LTU

R4D71AAE



Standard Features

Key benefits of HPE Solutions for Qumulo

- **High-performance, Enterprise-proven Scale-out File Data Platform**
 - Scale performance and capacity to billions of files with a file data platform that handles small files as efficiently as large ones. User files can occupy 100% of provisioned capacity without performance or management issues.
 - Sophisticated data protection techniques including efficient erasure coding that enables fast re-protect, replication, snapshots, and FIPS140-2 certified software encryption.
 - NTFS and POSIX permissions are automatically managed, effectively preserving ACL inheritance. Native SMB, NFS, S3 API, and FTP are optimized for enterprise-grade needs. Users can access the same data from any protocol.
 - An integrated CSI driver allow administrators to programmatically control and manage storage and data for their containerized workloads providing persistent file storage for Kubernetes environments.
 - **Your Data Where You Want it, Scaling On-premises and in Hybrid Cloud Environments**
 - Store your data anywhere and get multiple GB/s of performance for your workloads at the edge, in the data center, and in the cloud. You get scalable performance regardless of file sizes, number of files, buckets, objects, or total capacity.
 - Use the cloud when you need it. Access compute capability not available in your data center. With Qumulo SHIFT you can copy your data to native Amazon S3 to leverage applications, as well as AI and ML capabilities, hosted in the cloud.
 - Use the same file platform at the edge, in the data center, and in the cloud. Qumulo runs directly on AWS, Google Cloud, and Microsoft Azure. Simple transferable subscriptions cover all features, updates, and performance enhancements.
 - Leverage continuous replication to make cloud a part of your business continuity strategy. Replication policies ensure data is where it's needed whether on-premises or in the cloud.
 - **Eliminate Data Blindness with Real-time Visibility and Control of Your Storage Infrastructure**
 - Instantly see usage, activity, and throughput at any level of the unified directory structure no matter how many files are in the file system – all via a cloud-based web GUI. Identify problem areas and hot spots to optimize resource utilization.
 - Leverage real-time visibility to set quotas in real-time. Directory-based capacity quotas give administrators instant control over storage allocation. They can be applied to any directory, even nested ones. Moving a directory with a quota is easy.
 - Automate everything if you choose. The REST API enables you to programmatically configure infrastructure, eliminate administrative tasks, and automate operations. Easily import the analytics data into monitoring applications.
 - **Ultra-dense and Secure Storage Server**
 - HPE nodes for Qumulo are purpose-built using industry leading HPE Apollo 4200 and ProLiant DL325 servers with architectures keenly optimized for Software-Defined Storage. Their unique design saves valuable data center resources.
 - All-NVMe nodes, built using 1U ultra-dense HPE ProLiant DL325 Gen10 Plus servers, are ideal for the most performance demanding workloads.
 - Hybrid-NVMe nodes, built using 2U ultra-dense HPE Apollo 4200 servers, optimize performance and cost for general purpose and archive workloads.
 - Built-in security extends from silicon to software, factory to customer, with HPE Insight Lights Out 5.
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Standard Features

| HPE ProLiant DL325 Gen10 Plus nodes: All-NVMe Flash | | | |
|--|--|---|---|
| Specifications (per node) | 34TB All-NVMe Flash Node (R3B88A) | 145TB All-NVMe Flash Node (R3B89A) | 291TB All-NVMe Flash Node (R8F01A+2x R8F02A) |
| All-NVMe Disk Drive Capacity (raw) | 34TB | 145TB | 291TB |
| NVMe drives | 9 x 3.84TB NVMe RI SC U.3 PM1733 SSD | 19 x 7.68TB NVMe RI SC U.3 PM1733 SSD | 19 x 15.36TB NVMe RI SC U.3 PM1733 SSD |
| CPU | 1 x AMD EPYC 7402P (2.8GHz/24-core) | | |
| Memory | 128GB (PC4-3200AA-R) | | |
| Networking Ports | 2x HPE Ethernet 100Gb 2-port QSFP56 Adapters (Included – dedicate frontend and backend traffics) | | |
| Management Ports | Dedicated iLO5 1Gb base T(RJ-45) Management Port (Includes iLO Advanced Electronic License with 3yr Support on iLO Licensed Features) | | |
| Power and Cooling | 2 x 1600W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 8 N+1 system fans shipped as standard | | |
| Form Factor | 1U rack mount | | |

| HPE Apollo 4200 Gen10 Plus nodes: Hybrid | | | | |
|---|--|--|---|---|
| Specifications (per node) | 36TB Node (S0D89A& S0D90A) | 90TB Node (S0D91A& S0D92A) | 240TB Node (S0D93A& S0D95A) | 480TB Node (S0D94A & S0D98A) |
| Hard Disk Drive Storage Capacity (raw) | 36TB | 90TB | 240TB | 480TB |
| All-NVMe Cache Capacity (raw) | 2.4TB | 2.4TB | 6.4TB | 12.8TB |
| HDDs | 9 x HPE 4TB SATA 7.2K LFF LP MV HDD | 9 x HPE 10TB SATA 7.2K LFF LP ISE MV HDD | 24 x HPE 10TB SATA 7.2K LFF LP ISE MV HDD | 24 x HPE 20TB SATA 7.2K LFF LP ISE MV HDD |
| CPU | 1 x Intel Xeon 4310 (2.1GHz/12-cores/120W) | 1 x Intel Xeon 4310 (2.1GHz/12-cores/120W) | 2 x Intel Xeon 4310(2.1GHz/12-cores/120W) | 2 x Intel Xeon 4310(2.1GHz/12-cores/120W) |
| Memory | 64GB (HPE DDR4SmartMemory) | 64GB (HPE DDR4SmartMemory) | 128GB (HPE DDR4SmartMemory) | 128GB (HPE DDR4SmartMemory) |
| Networking Ports | HPE Ethernet 10/25Gb or 100Gb 2-ports | HPE Ethernet 10/25Gb or 100Gb 2-ports | HPE Ethernet 100Gb 2-ports | HPE Ethernet 100Gb 2-ports |
| Management Ports | Dedicated iLO5 1Gb base T(RJ-45) Management Port (Includes iLO Advanced Electronic License with 3yr Support on iLO Licensed Features) | | | |
| Power and Cooling | 2 x 800W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 5 N+1 dual-fans modules shipped as standard | | 2 x 1600W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 5 N+1 dual-fans modules shipped as standard | |
| Form Factor | 2U rack mount | | | |



Standard Features

| HPE Apollo 4200 Gen10 nodes: Hybrid | | | |
|---|---|---|--|
| Specifications (per node) | 36TB Hybrid Node (R6F64A & R6A40A) | 90TB Hybrid Node (R6F65A & R3W48A) | 192TB Hybrid Node (R6F66A & R3W49A) |
| Hard Disk Drive Storage Capacity (raw) | 36TB | 90TB | 192TB |
| Flash Cache Capacity (raw) | 2.88TB | 2.88TB | 5.76TB |
| HDDs | 9 x 4TB 6G SATA 7.2K LFF 512e HDD | 9 x 10TB 6G SATA 7.2K LFF 512e HDD | 24 x 8TB 6G SATA 7.2K LFF 512e HDD |
| CPU | 1 x Intel Xeon Xeon-Silver 4210R (2.4GHz/10-core/100W) | 1 x Intel Xeon Xeon-Silver 4210 (2.2GHz/10-core/85W) | 2 x Intel Xeon Xeon-Silver 4210R (2.4GHz/10-core/100W) |
| Memory | 64GB (DDR4-2933 CAS-21-21-21 Registered Memory) | 64GB (DDR4-2933 CAS-21-21-21 Registered Memory) | 128GB (DDR4-2933 CAS-21-21-21 Registered Memory) |
| Networking Ports | HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter (optional on R6A40A; included on R6F64A) | HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter (optional on R6A48A; included on R6F65A) | HPE Ethernet 100Gb 2-port 841QSFP28 Adapter (optional on R6A49A; included on R6F66A) |
| Management Ports | Dedicated iLO5 1Gb base T (RJ-45) Management Port (Includes iLO Advanced Electronic License with 3yr Support on iLO Licensed Features) | | |
| Power and Cooling | 2 x 800W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 10 N+1 fans shipped as standard | | |
| Form Factor | 2U rack mount | | |

| HPE Apollo 4200 Gen10 Plus nodes: Archive | | |
|--|---|---|
| Specifications (per node) | 240TB Archive Node (S0D96A & S0D95A) | 480TB Node (S0D97A & S0D98A) |
| Hard Disk Drive Storage Capacity (raw) | 240TB | 480TB |
| All-NVMe Cache Capacity (raw) | 6.4TB | 12.8TB |
| HDDs | 24 x HPE 10TB SATA 7.2K LFF LP ISE MV HDD | 24 x HPE 20TB SATA 7.2K LFF LP ISE MV HDD |
| CPU | 2 x Intel Xeon 4310 (2.1GHz/12-cores/120W) | 2 x Intel Xeon 4310 (2.1GHz/12-core/120W) |
| Memory | 128GB (HPE DDR4SmartMemory) | 128GB (HPE DDR4SmartMemory) |
| Networking Ports | HPE Ethernet 10/25Gb 2-ports | HPE Ethernet 10/25Gb Gb 2-ports |
| Management Ports | Dedicated iLO5 1Gb base T (RJ-45) Management Port (Includes iLO Advanced Electronic License with 3yr Support on iLO Licensed Features) | |
| Power and Cooling | 2 x 1600W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 5 N+1 dual-fans modules shipped as standard | |
| Form Factor | 2U rack mount | |



Standard Features

| HPE Apollo 4200 Gen10 node: Archive | |
|---|--|
| Specifications (per node) | 336TB Archive Node (R6F67A & R3W51A) |
| Hard Disk Drive Storage Capacity (raw) | 336TB |
| Flash Cache Capacity (raw) | 7.68TB |
| HDDs | 24 x 14TB 6G SATA 7.2K LFF 512e HDD |
| CPU | 1 x Intel Xeon Xeon-Silver 4210 (2.2GHz/10-core/85W) |
| Memory | 128GB (DDR4-2933 CAS-21-21-21 Registered Memory) |
| Networking Ports | HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter (Optional on R6A51A; included on R6F67A) |
| Management Ports | Dedicated iLO5 1Gb base T(RJ-45) Management Port |
| Power and Cooling | 2 x 800W N+1 Flex Slot Platinum Hot Plug Low Halogen Power Supply, 10 N+1 fans shipped as standard |
| Form Factor | 2U rack mount |



Service and Support

Servers Hardware Warranty

HPE nodes for Qumulo is covered by a global limited warranty and supported by HPE Services and a worldwide network of HPE Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for HPE software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives which are part of the solution, have three year warranty, unless specifically called out as 1yr warranty or for SSDs have hit write limits. Please refer to the specific drive quickspecs for further details.

Notes: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

<https://www.hpe.com/us/en/search-results.html?page=1&q=servers%20warranty&autocomplete=0>.

Qumulo Customer Success Program

Service and Support for the Qumulo File Data Platform products are provided directly by Qumulo. Details on Qumulo's Customer Success Program can be found here: <https://qumulo.com/resources/terms-hub/support-offerings/>

All support cases are assigned a severity by the Qumulo Customer Success team based upon the impact reported by the customer. The initial response time is based on the severity level and is calculated from when the Qumulo Customers Success team first learns about the issue.

For any Qumulo warranty support and generic queries please email: support@qumulo.com

HPE Pointnext - Service and Support

No matter where you are in your digital transformation journey, you can count on HPE Pointnext Services to provide the expertise you need, when and where you need it.

Advisory and Professional Services

Our Digital Next Advisory approach can help you identify, prioritize, and implement the right transformation initiatives to create new edge experiences, get real-time insights from all your data, and modernize your IT to enable new opportunities.

Operational Services

Take your IT operations to the next level with expertise and tools that can help save your staff time, manage complexity, and identify new ways to drive efficiency and effectiveness in your IT.

Recommended Services

HPE Pointnext Tech Care

Notes: *Minimum required level of support is 3yr Tech Care Basic

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00108652enw>



Service and Support

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI Driven customer experience

For more information: <https://www.hpe.com/services/complecare>

HPE Lifecycle Services

Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Installation and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

For a list of the most frequently purchased services using service credits, see the [Universal Service Credits Menu](#)

Other related services from HPE Pointnext Services

HPE Education Services

Provides comprehensive training designed to expand the skills of your IT staff and keep them up to speed with the latest technologies.

Defective Media Retention

An option available with HPE Pointnext Complete Care and HPE Pointnext Tech Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and support options

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.



Configuration Information

The ProLiant DL325 Gen10 Plus and Apollo 4200 for Qumulo solution is configured as follows:

Step 1 (please use the HPE Qumulo OCA Wizard for configuring HPE Solutions for Qumulo if available)

Select nodes (required)

Notes: A minimum of four nodes are required to operate a HPE Qumulo cluster.

| Description | SKU |
|---|--------|
| HPE ProLiant DL325 Gen10 Plus 34TB 100Gb All-NVMe Flash TAA-compliant Node for Qumulo Notes: SKU R3B88A includes 2 x HPE Ethernet HDR100/EN 100Gb 2-port QSFP56 Adapter(P23666-B21). These network cards cannot be removed and no additional network cards added. | R3B88A |
| HPE ProLiant DL325 Gen10 Plus 145TB 100Gb All-NVMe Flash TAA-compliant Node for Qumulo Notes: SKU R3B89A includes 2 x HPE Ethernet HDR100/EN 100Gb 2-port QSFP56 Adapter(P23666-B21). These network cards cannot be removed and no additional network cards added. | R3B89A |
| HPE ProLiant DL325 Gen10 Plus 291TB All-NVMe Flash Node for Qumulo Notes: The 291TB solution include 1x R8F01A with 2x R8F02A (All-NVMe Drive Bundle) and 2 x HPE Ethernet HDR100/EN 100Gb 2-port QSFP56 Adapter(P23666-B21). These network cards cannot be removed and no additional network cards added | |
| HPE Apollo 4200 Gen10 Plus 36TB 25Gb Hybrid TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 10/25Gb 2-ports. This network card cannot be removed and no additional network cards added. | S0D89A |
| HPE Apollo 4200 Gen10 Plus 36TB Configure-to-order Node for Qumulo Notes: Select network card in Step 1a and Smart Array Controller in Step 1c below | S0D90A |
| HPE Apollo 4200 Gen10 Plus 90TB 25Gb Hybrid TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 10/25Gb 2-ports. This network card cannot be removed and no additional network cards added. | S0D91A |
| HPE Apollo 4200 Gen10 Plus 90TB Configure-to-order Node for Qumulo Notes: Select network card in Step 1a and Smart Array Controller in Step 1c below | S0D92A |
| HPE Apollo 4200 Gen10 Plus 240TB 100Gb Hybrid TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 100Gb 2-ports. This network card cannot be removed and no additional network cards added | S0D93A |
| HPE Apollo 4200 Gen10 Plus 480TB 100Gb Hybrid TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 100Gb 2-ports. This network card cannot be removed and no additional network cards added | S0D94A |
| HPE Apollo 4200 Gen10 Plus 240TB Configure-to-order Node for Qumulo Notes: Select network card in Step 1a (only 10/25Gb 2-ports options with Archive) and Smart Array Controller in Step 1c below | S0D95A |
| HPE Apollo 4200 Gen10 Plus 240TB 25Gb Archive TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 10/25Gb 2-ports. This network card cannot be removed and no additional network cards added. | S0D96A |
| HPE Apollo 4200 Gen10 Plus 480TB 25Gb Archive TAA-compliant Node for Qumulo Notes: Includes 1 x HPE Ethernet 10/25Gb 2-ports. This network card cannot be removed and no additional network cards added. | S0D97A |



Configuration information

| Description | SKU |
|--|------------|
| HPE Apollo 4200 Gen10 Plus 480TB Configure-to-order Node for Qumulo Notes: Select network card in Step 1a (only 10/25Gb 2-ports options with Archive) and Smart Array Controller in Step 1c below | S0D98A |
| HPE Apollo 4200 Gen10 36TB Hybrid Node for Qumulo Notes: Select network card in Step 1b below. | R6A40A |
| HPE Apollo 4200 Gen10 36TB 25Gb Hybrid TAA-compliant Node for Qumulo Notes: SKU R6F64A includes 1 x HPE Ethernet 10/25Gb 2-port SFP28 Adapter (817718-B21). This network card cannot be removed and no additional network cards added. | R6F64A |
| HPE Apollo 4200 Gen10 90TB Hybrid Node for Qumulo Notes: Select network card in Step 1b below. | R3W48A |
| HPE Apollo 4200 Gen10 90TB 25Gb Hybrid TAA-compliant Node for Qumulo Notes: SKU R6F65A includes 1 x HPE Ethernet 10/25Gb 2-port SFP28 Adapter (817718-B21). This network card cannot be removed and no additional network cards added. | R6F65A |
| HPE Apollo 4200 Gen10 192TB Hybrid Node for Qumulo Notes: Select network card in Step 1b below (only 100Gb 2-ports options). | R3W49A |
| HPE Apollo 4200 Gen10 192TB 100Gb Hybrid TAA-compliant Node for Qumulo Notes: SKU R6F66A includes 1 x HPE Infiniband EDR/Ethernet 100Gb 2-port QSFP28 Adapter (872726-B21). This network card cannot be removed and no additional network cards added. | R6F66A |
| HPE Apollo 4200 Gen10 336TB Archive Node for Qumulo Notes: Select network card in Step 1b below (only 10/25Gb 2-ports options). | R3W51A |
| HPE Apollo 4200 Gen10 336TB 25Gb Archive TAA-compliant Node for Qumulo Notes: SKU R6F65A includes 1 x HPE Ethernet 10/25Gb 2-port SFP28 Adapter (817718-B21). This network card cannot be removed and no additional network cards added. | R6F67A |
| Step 1a | |
| Select Network Adapter (only for A4200G10 Plus Configure-to-order node) | |
| Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | P26262-B21 |
| Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE | P08443-B21 |
| Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE | P21112-B21 |
| Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE | P25960-B21 |
| Step 1b | |
| Select Network Adapter (only for A4200G10 Configure-to-order node) | |
| HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter | 817718-B21 |
| HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter | 872726-B21 |
| Step 1c | |
| Select HPE Smart Array Controller (only for A4-200G10 Plus Configure-to-order node) | |
| HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller | 804326-B21 |
| HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller | 804338-B21 |
| HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller | 804331-B21 |

Configuration information

Step 2

Select Qumulo Software Subscription and Support E-LTU (required)

| Description | SKU |
|---|----------|
| Qumulo Active Tier 1TB 1-year Subscription Mission Q Services and Support E-LTU | ROG81AAE |
| Qumulo Active Tier 1TB 3-year Subscription Mission Q Services and Support E-LTU | ROG83AAE |
| Qumulo Active Tier 1TB 5-year Subscription Mission Q Services and Support E-LTU | ROG85AAE |

Notes:

- Number of 1TB E-LTUs ordered must match raw capacity of each HPE Node for Qumulo that the E-LTU is installed on. For example, one Apollo 4200 240TB Hybrid Node for Qumulo (SOD93A) requires quantity 240 of ROG81AAE or ROG83AAE or ROG85AAE.
- E-LTUs ROG81AAE or ROG83AAE or ROG85AAE can only be installed on the All-NVMe and Hybrid Flash models (see tables on p.12)

| | |
|--|----------|
| Qumulo General Purpose Tier 1TB 1-year Subscription Mission Q Services and Support E-LTU | ROW31AAE |
| Qumulo General Purpose Tier 1TB 3-year Subscription Mission Q Services and Support E-LTU | ROW33AAE |
| Qumulo General Purpose Tier 1TB 5-year Subscription Mission Q Services and Support E-LTU | ROW35AAE |

Notes:

- Number of 1TB E-LTUs ordered must match raw capacity of each HPE Node for Qumulo that the E-LTU is installed on. For example, one Apollo 4200 480TB Qumulo Archive node (SOD97A) requires quantity 480 of ROW31AAE or ROW33AAE or ROW35AAE.
- E-LTUs ROW31AAE or ROW33AAE or ROW35AAE can only be installed on certified and approved HPE Apollo 4200 Gen10 and Gen10 Plus nodes for Qumulo.

The Qumulo Customer Success Program is available as part of the Qumulo Subscription. You can contact Qumulo by telephone, Slack, email, or the web site 24x7 to report software or hardware issues. The Qumulo Customer Success team will help you to diagnose and resolve technical problems with your Qumulo cluster.

For more information: <https://qumulo.com/terms-hub/support-offerings/#>

Step 3

Select On-Site SSD and HDD Spares (recommended)

Notes: To minimize time to repair for defective SSDs or HDDs it is highly recommended to keep spares of these parts on site. The following formula should be used to determine the number of spares to have on site dependent on the number of nodes installed.

- For HPE SKU nodes for Qumulo : S0D89A,S0D91A,S0D93A,S0D94A,S0D96A,S0D97A,S0D90A,S0D92A,S0D95A, S0D98A, R6A40A, R3W48A, R3W49A, R3W51A, R6F64A, R6F65A, R6F66A and R6F67A
 - o 4 to 10 nodes of installed – 1 SSD of each type in node and 2 HDDs for the entire cluster
 - o 11 to 20 nodes installed– 1 SSDs of each type in node and 3 HDDs for the entire cluster
 - o 21 to 50 nodes installed – 1 SSDs of each type in node and 4 HDDs for the entire cluster
- For HPE SKU nodes for Qumulo : R3B88A, R3B89A and R8F01A/ R8F02A
 - o 4 to 10 nodes of installed – 1x Boot drive and 1x Data drive for the entire cluster
 - o 11 to 20 nodes installed– 1x Boot drive and 2x Data drive for the entire cluster
 - o > 20 nodes installed – 1x Boot drive and 3x Data drive for the entire cluster

R3B88A – ProLiant DL325 Gen10 Plus 34TB All-NVMe Flash Node for Qumulo NVMe spares

| Description | SKU |
|---|------------|
| HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50215-B21 |
| HPE 3.84TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50218-B21 |



Configuration information

R3B89A – ProLiant DL325 Gen10 Plus 145TB All-NVMe Flash Node for Qumulo NVMe spares

| Description | SKU |
|---|------------|
| HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50215-B21 |
| HPE 7.68TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50221-B21 |

R8F01A/ R8F02A – ProLiant DL325 Gen10 Plus 291TB All-NVMe Flash Node for Qumulo NVMe spares

| | |
|--|------------|
| HPE 1.92TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50215-B21 |
| HPE 15.36TB NVMe Gen4 High Performance Read Intensive SFF SC U.3 PM1733a SSD | P50223-B21 |

S0D89A and S0D90A – Apollo 4200 Gen10 Plus 36TB Node for Qumulo SSD/HDD spares

| | |
|---|------------|
| HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD | P47817-K21 |
| HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD | P47837-K21 |
| HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD | 861683-K21 |

S0D91A, S0D93A, S0D96A and S0D92A – Apollo 4200 Gen10 Plus 90TB and 240TB Node for Qumulo SSD/HDD spares

| | |
|--|------------|
| HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD | P47817-K21 |
| HPE 800GB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD | P47837-K21 |
| HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD | P53557-B21 |

S0D94A, S0D97A and S0D98A – Apollo 4200 Gen10 Plus 480TB Node for Qumulo SSD/HDD spares

| | |
|---|------------|
| HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD | P47817-K21 |
| HPE 1.6TB NVMe Gen4 Mainstream Performance Mixed Use SFF BC U.3 Static Multi Vendor SSD | P47838-K21 |
| HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD | P53554-B21 |

R6F64A or R6A40A– Apollo 4200 G10 36TB Hybrid Node for Qumulo SSD/HDD spares

| | |
|--|------------|
| HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD | P47808-K21 |
| HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD | 861683-K21 |

F6F65A or R3W48A – Apollo 4200 G10 90TB Hybrid Node for Qumulo SSD/HDD spares

| | |
|--|------------|
| HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD | P47808-K21 |
| HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD | P53557-B21 |

R6F66A or R3W49A – Apollo 4200 G10 192TB Hybrid Node for Qumulo SSD/HDD spares

| | |
|---|------------|
| HPE 240GB SATA 6G Read Intensive M.2 Multi Vendor SSD | P47817-K21 |
| HPE 960GB SATA 6G Mixed Use SFF SC PM897 SSD | P47815-K21 |
| HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD | 834028-K21 |

R6F67A or R3W51A – Apollo 4200 G10 336TB Archive Node for Qumulo SSD/HDD spares

| | |
|---|------------|
| HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD | P18420-K21 |
| HPE 1.92TB SATA 6G Mixed Use SFF SC PM897 SSD | P47816-K21 |
| HPE 14TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD | P09165-K21 |



Configuration information

Step 4

Select Network Cables and Transceivers

| Description | SKU |
|--|------------|
| HPE 100Gb QSFP28 to QSFP28 3m Direct Attach Copper Cable | 845406-B21 |
| HPE 100Gb QSFP28 to QSFP28 5m Direct Attach Copper Cable | 845408-B21 |
| HPE 100GbE QSFP28 SR4 100m Transceiver | Q2F19A |
| HPE 100GbE QSFP28 LC DR1 500m 1-pack Transceiver | R8M61A |
| HPE 100Gb QSFP28 Bidirectional Transceiver | 845972-B21 |
| HPE 100Gb QSFP28 to QSFP28 7m Active Optical Cable | 845410-B21 |
| HPE 100Gb QSFP28 to QSFP28 15m Active Optical Cable | 845414-B21 |
| HPE 100Gb QSFP28 to QSFP28 0.5m Direct Attach Copper Cable | R8M59A |
| HPE X240 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable | JL272A |
| HPE X240 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable | JL271A |
| HPE 25Gb SFP28 to SFP28 0.5m Direct Attach Copper Cable | R4G18A |
| HPE 25Gb SFP28 to SFP28 1m Direct Attach Copper Cable | R4G19A |
| HPE 25Gb SFP28 to SFP28 3m Direct Attach Copper Cable | 844477-B21 |

Step 5

Select Top-of-Rack HPE M-series Ethernet Switches (recommended: qty=2 for enterprise HA environment)

HPE M-series Ethernet switch family offers industry-leading, high-bandwidth and the lowest-latency for a cost effective solution for Server and Storage connectivity. With cost-effective deployment options, 100GbE and beyond connectivity, M-series fabrics allows for implementing significant speed and architecture upgrades over time.

HPE M-series available with following models:

- **200/100GbE Ethernet Switches**
 - **SN2100M** (16 x 100GbE)
 - **SN2700M** (32 x 100GbE)
 - **SN3700M** (32 x 200/100GbE)
 - **SN4600M** (64 x 100GbE)
- **1/10/25GbE Ethernet Switches:**
 - **SN2010M** (18 x 25GbE + 4 x 100GbE)
 - **SN2410M** (48 x 25GbE + 8 x 100GbE)

| Description | SKU |
|--|--------|
| HPE SN2010M 25GbE 18SFP28 4QSFP28 Power to Connector Airflow Half Width Switch | Q9E63A |
| HPE SN2100M 100GbE 8QSFP28 Power to Connector Airflow Half Width Switch | Q2F24A |
| HPE SN2100M 100GbE 16QSFP28 Power to Connector Airflow Half Width Switch | Q2F23A |
| HPE SN2410M 25GbE 24SFP28 4QSFP28 Power to Connector Airflow Switch | Q6M27A |
| HPE SN2410M 25GbE 48SFP28 8QSFP28 Power to Connector Airflow Switch | Q2F22A |
| HPE SN2700M 100GbE 32QSFP28 Power to Connector Airflow Switch | Q2F21A |
| HPE SN3700cM 100GbE 32QSFP28 Power to Connector Airflow Switch | R3B14A |
| HPE SN3700M 200GbE 32QSFP56 Power to Connector Airflow Switch | R5Z74A |
| HPE SN4600cM 100GbE 64QSFP28 Power to Connector Airflow Switch | R6R24A |



Configuration information

Description

TAA Compliant Switches

| | SKU |
|--|--------|
| HPE SN2700M 100GbE 32QSFP28 Power to Connector Airflow TAA-compliant Switch | ROP71A |
| HPE SN2700M 100GbE 32QSFP28 Connector to Power Airflow TAA-compliant Switch | ROP72A |
| HPE SN2410M 25GbE 48SFP28 8QSFP28 Power to Connector Airflow TAA-compliant Switch | ROP73A |
| HPE SN2410M 25GbE 48SFP28 8QSFP28 Connector to Power Airflow TAA-compliant Switch | ROP74A |
| HPE SN2100M 100GbE 16QSFP28 Power to Connector Airflow Half Width TAA-compliant Switch | ROP75A |
| HPE SN2100M 100GbE 16QSFP28 Connector to Power Airflow Half Width TAA-compliant Switch | ROP76A |
| HPE SN2100M Rack Installation Kit | Q2F25A |

Notes: When ordering StoreFabric M-series SN2100M and SN2010M switches, Q2F25A rackmount kit is an optional item. Recommended ordering is one rackmount kit per two switches.

Notes:

- If a StoreFabric M-series switch is ordered information on cables and optics needed can be found in the StoreFabric M-series QuickSpecs:
 - [StoreFabric SN2100M QuickSpecs](#)
 - [StoreFabric SN2410M QuickSpecs](#)
 - [StoreFabric SN2700M QuickSpecs](#)

Step 6

Select Qumulo Installation and Advanced Training Service (required)

Description

| | SKU |
|--|----------|
| Qumulo Installation and Advanced Training Service per Day | ROG89AAE |
| Qumulo will evaluate your site to make sure that it's ready, install the Qumulo software on the HPE Apollo 4200 Gen 10 and Gen10 Plus or HPE ProLiant DL325 Gen10 Plus servers, and hold an onboarding orientation session. Also, trainers will teach the team all about administering an HPE Qumulo cluster. The teachers are experienced storage professionals with a practical, real-world approach. They'll make sure that everyone leaves the class with the skills they need for long-term success with your HPE Qumulo cluster. | |

Notes: ROG89AAE is required for each separate HPE Qumulo cluster to be installed. Up to 10 nodes per cluster can be installed for each ROG89AAE sku purchased. For every additional 10 nodes installed in a single cluster an additional ROG89AAE is required. Each ROG89AAE SKU purchased comes with one single day of advanced training service.

Step 7

Select Installation Service for HPE Apollo 4200 Gen10 and Gen10 Plus nodes **for** Qumulo (recommended)

Description

| | SKU |
|---|--------------------------|
| HPE Apollo 2000/4200 Installation Service | HA113A1#5BY or UM857E |

Notes: Qty of 1 x HA113A1#5BY or UM857E per each HPE Apollo 4200 node for Qumulo installed

Select Installation Service for HPE ProLiant DL325 Gen10 Plus nodes **for** Qumulo (required)

| | |
|------------------------------------|--------------------------|
| HPE Install ProLiant DL3xx Service | HA113A1#5A0 or U4506E |
|------------------------------------|--------------------------|

Notes: Qty of 1 x HA113A1#5A0 or U4506E per each HPE ProLiant DL325 Gen10 Plus node for Qumulo installed



Configuration information

Step 8

Select HPE M-series installation service (recommended option if M-series switch is ordered)

Description

HPE StoreFabric M-series Eth Startup SVC

HPE M-series Ethernet Switch Installation and Startup Service

SKU

HA114A1#5SE

H6SV4E

Step 9

Select HPE Support for the HPE nodes for Qumulo (required with DMR: Defective Media Retention)

HPE Pointnext provides a comprehensive portfolio of support services including Tech Care, Tech Care and Complete Care including options for Next Business Day, 24x7 and 6 hour call-to-repair.

For additional information, see the links below.

- [Tech Care datasheet](#)
- [Tech Care datasheet](#)
- [Complete Care](#)

Notes: HPE requires aligning the term of the hardware support with the term of the software support. Tech Care Call to Repair with DMR is the recommended service to purchase for HPE Nodes for Qumulo.

Qumulo software renewal and co-term options for installed clusters

Description

Qumulo Active Tier 1TB 1-year Subscription Mission Q Services and Support Renewal E-LTU

Qumulo Active Tier 1TB 3-year Subscription Mission Q Services and Support Renewal E-LTU

Qumulo Active Tier 1TB 5-year Subscription Mission Q Services and Support Renewal E-LTU

SKU

ROG82AAE

ROG84AAE

ROG86AAE

Notes:

- The SKUs above are to renew the Qumulo software subscription and support for the following models;
 - HPE DL325 Gen10 Plus All-NVMe Flash: 34TB, 145TB and 291TB
 - HPE Apollo Gen10 Plus Hybrid: 34TB, 90TB, 240TB and 480TB
 - HPE Apollo Gen10 Hybrid: 34TB, 90TB and 192TB
 - HPE Apollo Gen9 Hybrid: 90TB and 180TB
- The number of 1TB E-LTUs ordered must match the raw capacity of each node that the E-LTU is installed on. As an example one Apollo 4200 Gen10 192TB Node requires 192 x ROG82AAE or ROG84AAE or ROG86AAE depending on renewal term desired.

Qumulo General Purpose Tier 1TB 1-year Subscription Mission Q Services and Support Renewal E-LTU

Qumulo General Purpose Tier 1TB 3-year Subscription Mission Q Services and Support Renewal E-LTU

Qumulo General Purpose Tier 1TB 5-year Subscription Mission Q Services and Support Renewal E-LTU

ROW32AAE

ROW34AAE

ROW36AAE

Notes:

- The SKUs above are to renew the Qumulo software subscription and support for the following models;
 - HPE Apollo Gen10 Plus Archive: 240TB and 480TB
 - HPE Apollo Gen10 Archive: 336TB
 - HPE Apollo Gen9 Archive: 288TB
- The number of 1TB E-LTUs ordered must match raw capacity of each Archive node that the E-LTU is installed on. As an example one Apollo 4200 336TB Archive Node requires 336 x ROW32AAE or ROW34AAE or ROW36AAE depending on renewal term desired.

Qumulo Software Hardware Assurance Subscription and Support 1-month Co-term E-LTU

Qumulo Active Tier 1TB 1-month Subscription Mission Q Services and Support E-LTU

Qumulo Active Tier 1TB 1-month Subscription Mission Q Services and Support Renewal E-LTU

ROG87AAE

ROG88AAE

Configuration information

Notes: This 1-month SKUs is used to co-terminate Qumulo Active Tier (Hybrid & All-NVMe Flash) software subscription license terms on existing models (see list from 1-4 above) when a new node is added to the cluster. As an example, you purchased 4 x HPE Apollo 4200 Gen10 Plus 240TB Hybrid nodes for Qumulo with a 36 month Qumulo Active Tier (Hybrid) software subscription. Six months later you purchase another HPE Apollo 4200 Gen10 Plus 240TB Hybrid node with 36 month Qumulo Active Tier (Hybrid) subscriptions to add to original 4 node cluster. The cluster now has the 4 original nodes with 30 months of Qumulo subscriptions left and 1 node with 36 months of Qumulo subscriptions. You would therefore need to bring all Qumulo subscriptions on the 4 original 240TB nodes back up 36 months, by purchasing 6 x 1TB Active Tier 1-month subscription (R0G88AAE) for each of the original four Apollo 4200 Gen10 Plus 4 x 240TB Qumulo Hybrid nodes. Please refer to the new OCA Node Expansion Wizard for further configurations.

Description

Qumulo General Purpose Tier 1TB 1-month Subscription Mission Q Services and Support E-LTU

SKU

R0W37AAE

Qumulo General Purpose Tier 1TB 1-month Subscription Mission Q Services and Support Renewal E-LTU

R6V53AAE

Notes: This 1-month SKU is used to co-terminate Qumulo General Purpose Tier (Archive) software subscription license terms on existing models (see list from A-C above) when a new node is added to the cluster. As an example, you purchased 4 x HPE Apollo 4200 Gen10 Plus 480TB Qumulo Archive nodes with a 36 month Qumulo General Purpose Tier (Archive) software subscription. Six months later you purchase another HPE Apollo 4200 Plus 480TB Hybrid node with 36 month Qumulo General Purpose Tier (Archive) subscriptions to add to original 4 node cluster. The cluster now has the 4 original nodes with 30 months of Qumulo subscriptions and 1 node with 36 months of Qumulo subscriptions. You would therefore need to bring all Qumulo subscriptions on the 4 original 480TB nodes back up to 36 months, by purchasing 6 x 1TB General Purpose Tier (Archive) 1-month subscription (R6V53AAE) for each of the original 4 x 480TB Qumulo Archive nodes. Please refer to the new OCA Node Expansion Wizard for further configurations.

Qumulo Health Check Service

Qumulo Systems Health Check Service

R0G90AAE

Notes: A periodic evaluation of your HPE Solutions for Qumulo deployment ensures that you're getting the most out of your investment. Qumulo can perform a thorough systems health check that will let you know how well your cluster is performing now and the steps you can take to make that performance even better. Qumulo consultants will implement those improvements, and demonstrate the results.

Qumulo for cloud deployments

Moving from on-prem to a hybrid-cloud architecture allows organizations to focus on their core competencies, accelerate innovation, increase data security, build solutions, and reduce costs. Yet, most of the time it's the file storage which remains the last piece of infrastructure on-prem, forcing users to choose between rewriting applications and workflows, and continuing to manage the on-prem infrastructure.

Qumulo is different. How? The enterprise-ready file system runs the same architecture both on-prem and in the cloud, empowering users to run workloads where it makes the most sense whether that's on-prem, in the cloud or as a hybrid-cloud architecture. Qumulo eliminates the need to re-engineer business-critical workflows and applications while simultaneously reducing TCO, enabling users to take advantage of the hundreds of innovative services wherever workloads run.

Description

SKU

Qumulo for Amazon Web Services

Qumulo Software for Amazon Web Services 1TB 1yr Subscription and Support E-LTU

R3K09AAE

Qumulo Software for Amazon Web Services 1TB 2yr Subscription and Support E-LTU

R3K10AAE

Qumulo Software for Amazon Web Services 1TB 3yr Subscription and Support E-LTU

R3K11AAE

Qumulo for Google Cloud Platform

Qumulo Software for Google Cloud Platform 1TB 1yr Subscription and Support E-LTU

R4D69AAE

Qumulo Software for Google Cloud Platform 1TB 2yr Subscription and Support E-LTU

R4D70AAE

Qumulo Software for Google Cloud Platform 1TB 3yr Subscription and Support E-LTU

R4D71AAE



Technical Specifications

HPE Apollo 4200 Gen10 Plus Nodes for Qumulo

For more information on Apollo 4200 Gen10 Plus, see the [QuickSpec](#)

- **Dimensions** (L x W x D)
3.44 x 17.63 x 33.00 in (87.5 x 448.0 x 837.90 mm) Apollo 4200 Gen10 Plus based nodes

Notes: Dimensions without Bezel.

- **Weight** (approximate)
Maximum:84.88 lb (38.6 kg)
-

Input Requirements(per power supply)

Range Line Voltage

- 100 to 120 VAC
 - 200 to 240 VAC
-

BTU Rating

Maximum

- For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only.
 - For 1600W Power Supply: 1600W (at 200 to 240 1VAC), 1600W (at 240 VDC) input for China only
-

Power Supply Output(per power supply)

- **Rated Steady-State Power**
For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VDC) for China only
For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC).
 - **Maximum Peak Power**
For 1600W Power Supply: 1600W (at 200 to 240 1VAC),
-

System Inlet Temperature

- **Standard Operating Support**
10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
- **Extended Ambient Operating Support**
For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:
<http://www.hpe.com/servers/ashrae>

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

- **Non-operating**
-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
-



Technical Specifications

Relative Humidity

- **Operating**
8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
- **Non-operating**
5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing

Altitude

- **Operating**
3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-operating**
9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

| Acoustic Noise | |
|------------------|----------------|
| Idle | |
| L WAd | 5.9 B Maximum |
| L pAm | 35 dBA Maximum |
| Operating | |
| L WAd | 6.0 B Maximum |
| L pAm | 36 dBA Maximum |

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

HPE Apollo 4200 Gen10 Nodes for Qumulo

For more information on Apollo 4200 Gen10 see the [QuickSpec](#)

- **Dimensions** (L x W x D)
3.44 x 17.63 x 32.50 in (8.75 x 44.80 x 82.55 cm) Apollo 4200 Gen10 based nodes
- **Weight** (approximate)
Maximum:(Maximum - 24LFF chassis)
89.51 lb (40.6 kg) Apollo 4200 Gen10 based nodes

Input Requirements(per power supply)

Range Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC



Technical Specifications

BTU Rating

Maximum

For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only

Power Supply Output(per power supply)

- **Rated Steady-State Power**
For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only
- **Maximum Peak Power**
For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 VAC), 800W (at 240 VAC) input for China only

System Inlet Temperature

- **Standard Operating Support**
10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).
- **Extended Ambient Operating Support**
For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: <http://www.hpe.com/servers/ashrae>
System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
- **Non-operating**
-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Relative Humidity

- **Operating**
Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity. (non-condensing)
- **Non-operating**
5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

- **Operating**
3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-operating**
9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).



Technical Specifications

| Acoustic Noise | |
|------------------|----------------|
| Idle | |
| L WAd | 5.2 B Maximum |
| L pAm | 36 dBA Maximum |
| Operating | |
| L WAd | 5.9 B Maximum |
| L pAm | 45 dBA Maximum |

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

HPE ProLiant DL325 Gen10 Plus Nodes for Qumulo

For more information on ProLiant DL325 Gen10 Plus see the [QuickSpec](#)

- **Dimensions**
 - **Short Chassis (2 cages)**
4.28 X 43.46 X 82.62 cm (1.69 X 17.11 X 32.52 In)
- **Weight** (approximate)
17 kg
37.47 lb

Input Requirements(per power supply)

Rated Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC

BTU Rating

Maximum

For 1600W Power Supply: 1600W (at 200 to 240 1VAC), 1600W (at 240 VAC) input for China only

Power Supply Output(per power supply)

Rated Steady-State Power

- For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VAC)
- For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only

Maximum Peak Power

- For 1600W Power Supply: 1600W (at 200 to 240 1VAC), 1600W (at 240 VAC) input for China only
- For 800W Power Supply: 800W (at 100 to 127 VAC), 800W (at 200 to 240 1VAC), 800W (at 240 VAC) input for China only

System Inlet Temperature

Standard Operating Temperature

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr).

The upper limit and rate of change may be limited by the type and number of options installed.

System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).



Technical Specifications

Extended Ambient Operating Temperature

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: <http://www.hpe.com/servers/ashrae>

For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL:

<http://www.hpe.com/servers/ashrae>

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

Non-operating

-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Relative Humidity(non-condensing)

- **Operating**
8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
- **Non-operating**
5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

- **Operating**
3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-operating**
9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

| Acoustic Noise | | | |
|----------------|--------|------------|--------|
| Idle | Entry | Base | Perf |
| L WAd | 4.8 B | 4.4 B Base | 4.4 B |
| L pAm | 36 dBA | 30 dBA | 30 dBA |
| Operating | Entry | Base | Perf |
| L WAd | 4.8 B | 4.5 B | 4.8 B |
| L pAm | 36 dBA | 30 dBA | 35 dBA |

Notes:

- Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.
- Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
- The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.



Technical Specifications

Emissions Classification (EMC) – Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

<http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Power Supply Output(per power supply)

Rated Steady-State Power

- For 1600W Power Supply: 1600W (at 240 VAC), 1600W (at 240 VAC)
- For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VAC) input for China only

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Technical Specifications

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| L pAm | 36 dBA | 30 dBA | 30 dBA |
| Operating | Entry | Base | Perf |
| L WAd | 4.8 B | 4.5 B | 4.8 B |
| L pAm | 36 dBA | 30 dBA | 35 dBA |

Notes:

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HPE Smart Array

For latest information on HPE Smart Array Gen10 Controllers for HPE ProLiant DL, ML and Apollo Servers please refer to their QuickSpecs. (E208i-a,E208i-p,E208e-p,P408i-a,P408i-p,P408e-p,P816i-a)

Emissions Classification (EMC) – Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

<http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts>

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

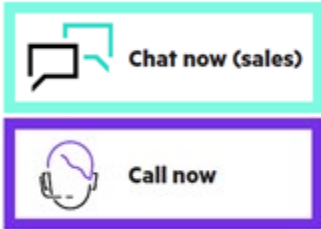


Summary of Changes

| Date | Version History | Action | Description of Change |
|-------------|-----------------|---------|--|
| 06-Mar-2023 | Version 22 | Changed | Standard Features section was updated |
| 05-Dec-2022 | Version 21 | Changed | Overview, Standard Features, Configuration Information, Technical Specifications sections were updated. |
| 02-May-2022 | Version 20 | Changed | Standard Features, Service and Support and Configuration Information sections were updated. |
| 07-Mar-2022 | Version 19 | Changed | SKU Descriptions were updated |
| 17-Jan-2022 | Version 18 | Changed | Configuration Information section was updated. |
| 04-Oct-2021 | Version 17 | Changed | Spare drive update |
| 15-Sep-2021 | Version 16 | Changed | Service and Support and Configuration Information sections were updated. |
| 02-Aug-2021 | Version 15 | Changed | Overview and Configuration Information sections were updated. |
| 06-Jul-2021 | Version 14 | Changed | HPE ProLiant DL325 Gen10 Plus 291TB All-NVMe Flash Qumulo nodes added |
| 06-Apr-2021 | Version 13 | Changed | Update the AMD processor description, added 7402P |
| 07-Dec-2020 | Version 12 | Changed | HPE ProLiant DL325 Gen10 Plus 34TB and 145TB Qumulo nodes added |
| 02-Nov-2020 | Version 11 | Changed | Update spare drives on the 90TB SKU |
| 06-Jul-2020 | Version 10 | Changed | Overview, Standard Features, Configuration Information, Service and Support Technical Specifications sections were updated. |
| 06-Jan-2020 | Version 9 | Changed | Standard Features and Configuration Information sections were updated. |
| 02-Dec-2019 | Version 8 | Changed | Overview, Standard Features, Configuration Information and Service and Support sections were updated. |
| 04-Nov-2019 | Version 7 | Changed | Overview, Standard Features, Configuration Information and Service and Support sections were updated. |
| 05-Aug-2019 | Version 6 | Changed | Overview, Standard Features, Configuration Information and Service and Support sections were updated. |
| 03-Jun-2019 | Version 5 | Changed | Configuration Information section was updated. |
| 04-Mar-2019 | Version 4 | Changed | Service and Support Section was updated. |
| 05-Nov-2018 | Version 3 | Changed | Configuration Information section was updated. |
| 01-Oct-2018 | Version 2 | Changed | Overview, Configuration Information, Service and Support and Technical Specifications sections were updated. SKUs were added. |
| 04-Jun-2018 | Version 1 | New | New QuickSpecs |

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