

Overview

HPE Apollo 4000 Systems with Scality RING Scalable Storage

HPE Apollo 4000 Systems with Scality RING Scalable Storage is a scale-out software-defined storage platform that runs on HPE Apollo 4000 Servers and is designed for multi-application environments needing to store unstructured data, at petabyte scale. With HPE and Scality RING, Enterprises and Service Providers building cloud storage solutions can create cost-effective data lakes hosting a nearly unlimited number of items in a single name-space, instead of the data silos created by legacy storage appliances.

Scality RING Scalable Storage employs both replication and erasure coding, across single or multiple sites, allowing customers to achieve up to 14 nines (9s) of data durability with higher storage efficiency, requiring less raw storage and therefore less cost than comparable solutions. Scality RING supports object (S3/REST) and file (NFS/SMB) protocols, easily integrating into many standard and custom applications. The software enables continuous availability through hardware failures, capacity expansions, software upgrades, and hardware upgrades, enabling customers to take advantage of future innovations in the HPE Apollo 4000 server families including performance, capacity, components, and architecture.

HPE offers this solution on the HPE Apollo 4000 storage systems which are specifically optimized for storage-centric workloads. Customers may purchase the software separately from the hardware or may select a bundled product combining both hardware and software entitlements in one easy-to-order product.

What's New

Enhanced S3 support

- AWS S3 object locking for WORM, now supported with RING8.2
- Mirroring for Cross Region Replication (CRR) accounts

Support for RING8 XDM and Scality Zenko, for hybrid cloud data management:

- A single unified console to manage data across multiple clouds offering
 - Searchable metadata across multiple clouds
 - Policy-driven data lifecycle management for 1-to-many copies, data transition (movement), and space-freeing data deletion
 - Enabled with RING systems with RING8 XDM (requires RING 7.4.4 or greater)
 - Enabled stand-alone with Zenko (RING not required)
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Standard Features

Key Features of Scality RING

Optimal performance on HPE Apollo 4000 storage servers

Scality RING software is designed to be used with industry standard x86 servers with support for SSD & HDDs. To optimize your business performance with object storage, Hewlett Packard Enterprise and Scality have certified RING on the 24LFF HPE Apollo 4200 Gen10 and the 60LFF Apollo 4510 Gen10 servers. Apollo 4000 systems are purpose built for big data analytics, software-defined storage, backup and archive, and other data storage-intensive workloads. to help customers meet their data center operation challenges

By deploying your Scality RING solution on HPE qualified platforms, customers can rapidly adopt new hardware and media innovations with no need for data migration on hardware refresh. Support is simpler and deployments are highly adaptable. Overall, this significantly reduces acquisition and operating costs and increases project flexibility.

Supports mixed applications & workloads

Scality has the performance and latency characteristics to manage mixed storage workloads in a single pool that encompasses file and S3-compatible object applications. This enables data consolidation to increase utilization and economies of scale and eliminate storage silos.

Customers can reduce time to market by integrating existing applications using standard protocols and rich API's. Applications can simply leverage other interfaces (such as object) in the future.

Continuous uptime through hardware failures and maintenance

Customers can maintain availability through hardware failures, capacity expansions, software upgrades, and hardware generations, with minimal intervention. This enables carrier-grade service levels and improved end user satisfaction.

Scales to petabytes and beyond

A RING storage infrastructure scales out linearly as a single system across multiple active sites, thousands of servers, hundreds of petabytes, and unlimited objects without adding administrators or additional disparate components. This enables massive consolidation and significantly reduces operating costs.

One Storage Pool

No storage silos: object storage technology abstracts underlying storage servers to create a uniformly scalable storage pool, and data is concurrently accessible by file and object interfaces.

Peer-to-peer Shared Nothing Design

Unique RING topology with peer-to-peer architecture & scalable routing mechanism.

Carrier-grade Uptime

Designed to keep running through hardware failures, hardware refreshes, capacity upgrades, and software upgrades.

End-to-End Parallelism

Both the access layer and the storage layer are independently scalable to thousands of nodes, all of which can be accessed directly and concurrently.

Flexible Deployment

The RING environment may be deployed to a single site, stretched over multiple sites, or replicated locally and/or across sites.

Advanced & Flexible Data Protection

Automatically utilizes both Erasure Coding, to reduce overhead for large objects, and policy-based replication, for efficient storage of small objects. Both erasure coding and replications (up to 6 copies) may be used simultaneously in the same RING cluster.



Standard Features

Geo-distribution

Active/Active storage pools across physical data centres, Active/Active selective replication at the S3 bucket-level, and asynchronous mirrored clusters for higher-latency DR configurations.

Customizable Availability and Failure Domains

User-defined policies to achieve 14 nines (9's) of data durability, tolerance for whole-site (in multi-site configurations) and multiple rack/server/disk failures.

Self-healing

Self-healing after component failures.

Rich Management Portal and CLI

Full management and control with Supervisor and CLI

- Full Topology View: RING status with Zone, Server & Node details
 - SNMP MiB support and graphical usage monitoring
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Simple Operations & Management

- System capacity and performance expansion
 - Automated disk failure detection and handling framework
 - Automatically rebuild failed drive data on remaining drives
 - Automated storage rebalancing
 - Automated failed disk replacement to bring new hardware on-line quickly, supported with HPE Apollo servers and Scality RING versions 7.4 and greater
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Distributed Object Storage

- Scality HTTP/REST (sproxyd)
 - Scality S3 Connector, compatible with AWS S3 and IAM security services. May be integrated with Microsoft Active Directory or other enterprise directory software that supports the SAML protocol. Sproxyd native REST API
 - Virtually unlimited object capacity
 - No theoretical size limit on objects, however AWS S3 API dictates Multipart upload objects are limited to 10000 parts of maximum 5GB each, for a total of 50TB per object
 - S3 bucket encryption with external key management systems (KMS)
 - S3 object locking for WORM
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Distributed File System

- Fully parallel and POSIX compliant file system
 - FUSE (sfused) connector, local Linux host file system access to RING storage services
 - NFSv3 connector
 - NFS Ganesha connector (RING8) supporting NFSv3 and NFSv4, IPv6, Kerberos Authentication, and POSIX ACL
 - SMB 2.0/3.0 connector
 - CDMI REST connector, SNIA CDMI 1.0.1 compliant
 - IPv6 support for NFS and SMB
 - Persistent shared cache across physical connectors
 - Software load-balancing supporting continuous ingest during connector failure
 - Unique internal distributed database (MESA) – for full scale-out support of object key values, file system metadata and POSIX methods, and block volumes
 - Kerberos KDC/Microsoft Active Directory server-based authentication support for NFSv3 and SMB 2.0/3.0
 - Space quotas for NFS & SOFS
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Standard Features

Agile deployment

RING file and object connectors provide the interface to business applications. Connectors and RING storage are independently scalable. Connectors may be run on the RING storage systems, on VMs, or on separate servers such as ProLiant DL360

RING8

- Distributed Lock Manager (DLM) for multiple SOFS connectors over the same SOFS volume
 - New NFS Ganesha connector supporting NFSv4 and IPV6, Kerberos authentication
 - Non-root execution for all RING components
 - S3 connector with KMIP for KMS and S3 Quotas
 - AWS S3 object locking for WORM
 - eXtended Data Management as a modular feature, to be deployed outside of RING
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RING8 Extended Data Management (XDM) and Scality Zenko

- Data orchestration and mobility across RINGs with no additional licensing required
 - May be extended to other clouds with purchase of additional data licenses
 - Lifecycle policies, 1-to-many replication, transition, and expiration
 - Searchable global namespace
 - RING8 XDM sold with data licenses (one-time purchase), Scality Zenko sold with data subscriptions (renewable annually)
 - Supported on SE Linux
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Performance on Apollo 4000

- Object performance:
 - Writes: up to 850 MB/sec on very large files (50 MB and greater)
 - Reads: up to 1.3 GB/sec on very large files
 - Additional performance characterization available upon request
 - File performance:
 - With NFS connector, up to 900 MB/sec reads and writes on very large files
 - With SMB, up to 400MB/sec reads and writes on very large files
 - Other performance
 - Near-linear scalability across multiple connector types
 - Connector access points can scale independently of storage by using external connector servers
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Scality Software Support

Scality provides worldwide, 24-hour, support for the Scality RING software solution. Customers are provided with complete installation services and given access to advanced services such as proactive health checks and migration assistance. With purchase of HPE Scality RING software, HPE Apollo 4000 systems, and HPE Pointnext operational support such as Foundation Care Service or Datacenter Care Service, customers get first-call response support handling when contacting HPE for product support, with HPE support tracking through to problem resolution.



Standard Features

HPE Apollo 4000

Storage servers are validated designs supported by the **Scality Fast Track program** to speed design processes through standardized configurations. A Scality RING may be deployed with as few as three storage servers. For customers who have standardized on other HPE platforms, Scality RING software from HPE may be deployed on ProLiant DL360 with D8000 disk enclosures, or on the open design-based Cloudline CL5800. For more information configuring Scality RING software with HPE ProLiant or HPE Cloudline, contact your HPE sales representative.

Notes: Sizing for storage servers should be tailored to the specific workload requirement. Data protection strategy and average file size should be taken into account for optimal configuration. As such it is recommended that you engage with your Hewlett Packard Enterprise representative to document your individual solution needs and design an environment with required services to deploy.

HPE Apollo 4510 Gen10 Systems

The HPE Apollo 4500 systems are purpose-built for maximizing bulk storage in 4U of rack space. The HPE Apollo 4510 systems supports up to 60 LFF drives for bulk storage, with solid state options in both LFF carriers and as NVMe cards in PCIe slots.

HPE Apollo 4200 Gen10 Server

The HPE Apollo 4200 Server is a 2S/2U storage server optimized for storage density, performance, configuration flexibility and affordability. Solid state options are available in both LFF carriers and as NVMe cards in PCIe slots.

HPE Smart Array SR Secure Encryption

A Secure Encryption module may be added to the HPE Smart Array controller cards in any Apollo 4200 or Apollo 4510 server. This module provides controller-based data-at-rest encryption for any SAS/SATA drives.

- FIPS 140-2 Level 1 validation
- Compliance with regulations such as HIPAA and Sarbanes-Oxley

For more information refer to the [HPE Smart Array SR Secure Encryption QuickSpecs](#)



Service and Support

HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability powered by a rich portfolio of consulting and support services designed to add value to our core products and solutions. Connect to HPE to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

Recommended HPE Support Services for optimal satisfaction with your HPE product

Optimized Care

HPE Proactive Care with 6-hour call-to-repair commitment, three year Support Service

HPE Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to HPE. This Service combines three years' proactive reporting and advice with our highest level reactive coverage the Hewlett Packard Enterprise 24x7, six hour hardware call-to-repair. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. In addition, this service includes collaborative software support for Independent Software Vendors software (Scalality, Red Hat, VMware, Microsoft, etc) running on your HPE ProLiant/Apollo server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855enw.pdf>

Standard Care

Solution software. First-call response from Hewlett Packard Enterprise

The standard service delivered by HPE Pointnext assists customers with issues related to Scalality RING software and operation, saving customer time with faster issue resolution from a single-vendor support experience. Hewlett Packard Enterprise can streamline the customer care experience by initiating support with software partners and tracking problems through to resolution.

Solution platform

HPE Proactive Care with 24x7 coverage, 3-year Support Service

HPE Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to Hewlett Packard Enterprise. This Service combines three years' proactive reporting and advice with our 24x7 coverage, four hour hardware response time. In addition, this service includes collaborative software support for Independent Software Vendors software (Red Hat, VMWare, Microsoft, etc) running on your HPE ProLiant/Apollo server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855enw.pdf>



Service and Support

Related Services

HPE Installation of ProLiant Add-On Options Service

This easy-to-buy, easy-to-use HPE Pointnext operational service helps ensure that your new HPE hardware or software is installed smoothly, efficiently, and with minimal disruption of your IT and business operations.

HPE leasing programs from HPE Financial Services

Purchases can be made easier through flexible financing. Hewlett Packard Enterprise offers a step-lease program to minimize up-front costs and distributing payments over a flexible time period, delivering storage capacity ahead of IT demand. See your Hewlett Packard Enterprise representative for more information. Learn more at <https://www.hpe.com/hpefinancialservices>

HPE Proactive Select Service

Provides a flexible way to purchase HPE best-in-class consulting and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

Notes: Additional Support Services can be found at HPE Support Services Central <https://www.hpe.com/us/en/services.html>

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to HPE. Achieve up to 77%¹ reduction in down time, near 100%² diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

Notes:

- ¹ IDC Whitepaper
 - ² HPE CSC Reports 2014-2015
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HPE Support Center

Personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with the Hewlett Packard Enterprise Authorized Channel experts, access support resources or collaborate with peers. Learn more at the [HPE Support Center](#). The Hewlett Packard Enterprise Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalize IT support anywhere, anytime. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Service or HPE contractual support agreement.

Notes: The Hewlett Packard Enterprise Support Center Mobile App is subject to local availability.

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 quick-specs, 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.

For more information

To learn more on services for HPE ProLiant Servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit: <https://www.hpe.com/us/en/servers.html>



Service and Support

Warranty of DL360

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for 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 have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for 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://support.hpe.com/hpsc/wc/public/home>

Warranty of Apollo 4500

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for 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 have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Notes: Apollo 4510 Gen10 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://support.hpe.com/hpsc/wc/public/home>

Warranty of Apollo 4200

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for 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 have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Notes: Server Warranty includes 3-Year Parts, 1-Year Labor, 1-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://support.hpe.com/hpsc/wc/public/home>



Configuration Information

Models

Scalality RING Scalable Storage SKUS

Description	SKU
Scalality RING Single Site Perpetual License per TB (Min 200TB) E-LTU for HPE Servers	P8Y89AAE
Notes: Sold by usable terabyte of capacity. Required Licensing SKU for Perpetual Single Site License – a minimum of 200TB and three server nodes is required on initial deployments. Single site installation only. If multiple site, P8Y91AAE is required.	
Scalality RING Single Site Hardware Lifetime License per TB (Min 200TB) E-LTU for HPE Servers	P8Y90AAE
Notes: Sold by usable terabyte of capacity. Required Licensing SKU for HW Lifetime Single Site License – a minimum of 200TB and three server nodes is required on initial deployments. Single site installation only. If multiple site, P8Y92AAE is required.	
Scalality RING Geo Perpetual License per TB (Min 200TB) E-LTU for HPE Servers	P8Y91AAE
Notes: Sold by usable terabyte of capacity. Required Licensing SKU for Perpetual Multi site License – a minimum of 200TB and six server nodes is required on initial deployments. Multi-site installation only. If single site, P8Y89AAE is required.	
Scalality RING Geo Hardware Lifetime License per TB (Min 200TB) E-LTU for HPE Servers	P8Y92AAE
Notes: Sold by usable terabyte of capacity. Required Licensing SKU for HW Lifetime Multi site License – a minimum of 200TB and six server nodes is required on initial deployments. Multi-site installation only. If single site, P8Y90AAE is required.	
Scalality RING Connector for Email App per TB (min 200TB) E-LTU	P8Y93AAE
Notes: Sold by usable terabyte of capacity	
Scalality RING Engineer Professional Services (per Day) E-LTU	P8Y94AAE
Notes: A customized services product for needs such as application-specific integration	
Scalality RING Installation Package (up to 3 Geographical Sites) E-LTU	P8Y95AAE
Notes: Includes installation, configuration, and standard operational training. Required with every new RING purchase.	
Scalality RING Capacity Expansion Professional Services per TB of Usable Capacity Expansion E-LTU	P8Y96AAE
Notes: For upgrades of capacity on RINGs licensed with P8&98AAE, P8Y90AAE, P8Y91AAE, or P8Y92AAE.	
Scalality RING Advanced 3-day Operation Training with Scalality Engineer E-LTU	P8Y98AAE
Notes: A training customized for the customer environment	
Scalality RING Certification Course (base) per Person E-LTU	P8Y99AAE
Notes: A 3-day hands-on RING certification training for partners, on technical skills for field engineers. This training is not intended for end users.	
Scalality RING Dedicated Care Service Extended Yearly Fee E-LTU	P8Z00AAE
Notes: Includes 20 Professional Services days per year and on-site 1-day workshop	
Scalality RING 24/7 Maintenance and Support Single Site per TB (Min 200TB) per year E-LTU	P8Z01AAE
Notes: Sold by usable terabyte of capacity per desired year(s) of support, minimum of one year.	
Scalality RING Dedicated Care Service Fundamentals Yearly Fee E-LTU	P8Z02AAE
Notes: Includes 5 Professional Services days per year	
Scalality RING 24/7 Maintenance and Support Geo Site per TB (Min 200TB) per Year E-LTU	P8Z03AAE
Notes:	
– Sold by usable terabyte of capacity per desired year(s) of support, minimum of one year.	
– Purchase of software maintenance and support, either P8Z01AAE or P8Z03AAE, is required for every Scalality RING installation.	
Scalality Hybrid Extension to RING 1TB Perpetual E-LTU	R4A82AAE
Notes: For RING XDM only, when XDM is deployed on hardware or a VM. For managing data in a non-RING location, sold by usable terabyte of capacity. Does not include maintenance.	

Configuration Information

Description

SKU

Scality Hybrid Extension to RING 1TB Hardware Lifetime E-LTU

R4A83AAE

Notes: For RING XDM only, when XDM is deployed on hardware or a VM. For managing data in a non-RING location, sold by usable terabyte of capacity. Does not include maintenance.

Scality Hybrid Extension to RING 1TB 1yr Support E-LTU

R4A84AAE

Notes: For RING XDM only, sold by usable terabyte of capacity per desired year(s) of support, for managing data in a non-RING location. XDM SW maintenance for data managed in RING is included with standard RING SW maintenance.

Scality Hybrid RING or Zenko Installation Service

R4A85AAE

Notes: This SKU is required to install either RING8 XDM or Zenko management systems, in either hardware or a VM. Includes installation, configuration, and standard operational training. This service must be purchased separately – it is not included in standard RING software installation.

Scality Zenko Enterprise for Active Data 1TB 1yr Subscription E-LTU

R4A86AAE

Notes: For warm data repositories. SW license plus maintenance in one SKU. Sold by usable terabyte of capacity, for data to be managed in a non-RING location.

Scality Zenko Enterprise for Passive Data 1TB 1yr Subscription E-LTU

R4A87AAE

Notes: For cold data repositories. SW license plus maintenance in one SKU. Sold by usable terabyte of capacity, for data to be managed in a non-RING location.



Technical Specifications

Scality RING Scalable Storage Specifications

Interfaces

Object Storage:

- Amazon AWS S3-compatible API
- HTTP / REST (Scality sproxyd)
- CDMI (SNIA Cloud Data Management Interface)

File Storage / NAS:

- FUSE: POSIX-compliant Linux filesystem (Scality sfused)
 - NFS v3 and v4 (with RING8)
 - IPV6
 - SMB 7.4.3 (based on Samba 4.6 and later)
 - SWIFT API (with RING8)
 - A connector for Email applications is available separately
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Licensing Requirements

Scality RING licensing is based on usable capacity. Only the original data counts against this capacity. For example, a 10 MB file replicated 5 times counts only as 10 MB of used capacity. Software licensing can be selected for either a single-site or geo-site configuration. There is a choice of hardware lifetime (non-transferable) and perpetual licensing.

- The core software product includes:
 - HTTP/REST
 - S3-compatible PAI
 - FUSE (Filesystem)
 - SMB/CIFS/NFS
 - CDMI
-

Operating System Support

- CentOS 7 and up on x86_64
 - Red Hat RHEL 7 and up, or SE Linux, on x86_64
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Hardware Requirements

Scality RING has been tested and validated on select HPE servers listed in the configuration section.

- A single site configuration requires a minimum of three physical servers and may be replicated to a second site
- A 2-site stretched configuration requires a minimum of 6 servers (3 per site)
- A 3-site stretched configuration requires a minimum of 6 servers (2 per site)

Scality RINGs are expanded by adding capacity to each server in the cluster, or by adding whole servers to the cluster. See your HPE sales representative for flexible expansion guidelines for single and geo-site clusters.



Technical Specifications

HPE StoreFabric M-Series Ethernet Switches

Networking optimized for Storage

HPE StoreFabric M-series Ethernet switch family is designed and optimized for high performance, flexibility and value for all storage environments. StoreFabric M-series switches are ideal for the cluster network at the heart of HPE Apollo 4000 Systems with Scalify RING Scalable Storage, providing high-bandwidth networks from 1 to 100Gb/S of Ethernet speeds. StoreFabric M-series provides high performance Ethernet for converged storage solutions, supporting block, file, and object storage. HPE recommends 40GbE or faster for Scalify RING Scalable Storage. To help choose the right StoreFabric switch for you, please go to:

- [**HPE StoreFabric SN2100M**](#)
- [**HPE StoreFabric SN2410M**](#)
- [**HPE StoreFabric SN2700M**](#)

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

Hewlett Packard Enterprise offers end-of-life HPE product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: [**http://www.hpe.com/recycle**](http://www.hpe.com/recycle).

To recycle your product, please go to: [**http://www.hpe.com/recycle**](http://www.hpe.com/recycle). Or contact your nearest HPE sales office. Products returned to HPE 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 HPE web site at:

[**http://www.hpe.com/recycle**](http://www.hpe.com/recycle)

These instructions may be used by recyclers and other WEEE treatment facilities as well as HPE OEM customers who integrate and re-sell HPE equipment.



Summary of Changes

Date	Version History	Action	Description of Change
03-Aug-2020	Version 21	Changed	Deprecation of Fast start bundles S3 enhancements for WORM, more complete description of encryption capabilities
06-Jan-2020	Version 20	Added	SKUs added in Overview section for RING8 XMD and Zenko
05-Aug-2019	Version 19	Changed	Standard Features, Configuration Information and Technical Specifications sections were updated.
01-Jul-2019	Version 18	Changed	R3K30AAE Scality RING Bundle per Node Expansion E-LTU
03-Jun-2019	Version 17	Changed	Overview and Standard Features sections were updated.
06-May-2019	Version 16	Changed	Fast start bundle section with: R0Q28A, R0Q29A, R1Z66AAE, R1Z67AAE and R1Z68AAE Overview, Platform Information, Standard Features, Configuration Information, Service and Support sections were updated. SKU removed R1Z69AAE
04-Jun-2018	Version 15	Changed	SKUs added in Overview section: P8Z02AAE P8Z03AAE
12-Feb-2018	Version 14	Changed	Added HPE StoreFabric M-Series Ethernet Switches to the Technical Specifications section.
08-Jan-2018	Version 13	Changed	Updated Standard Care and Related Services.
23-Oct-2017	Version 12	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
25-Sep-2017	Version 11	Changed	Changes made to the Standard Features
04-Sep-2017	Version 10	Changed	Changes made to the Overview and service and support sections
08-May-2017	Version 9	Changed	Technical Specifications section was updated.
28-Nov-2016	Version 8	Changed	Overview and Service and Support sections were updated SKUs added in Overview section: Q1C84AAE, Q1C85AAE, Q1C86AAE, Q1C87AAE, Q1C88AAE, Q1C89AAE.
15-Jul-2016	Version 7	Changed	Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated. URLs were changed to hpe.com.
29-Apr-2016	Version 6	Changed	Overview, Standard Features, Configuration Information - Factory Integrated Models, Service and Support, and Technical Specifications sections were updated.
22-Jan-2016	Version 5	Changed	Overview section was updated.
01-Dec-2015	Version 4	Changed	Overview, Standard Features, Configuration Information - Factory Integrated Models, and Service and Support sections were updated. SKUs added in Overview section: P8Y89AAE, P8Y90AAE, P8Y91AAE, P8Y92AAE, P8Y93AAE, P8Y94AAE, P8Y95AAE, P8Y96AAE, P8Y97AAE, P8Y98AAE, P8Y99AAE, P8Z00AAE, P8Z01AAE. Discontinued SKUs deleted: K5C92AAE, K5C93AAE, K5C94AAE, K5C95AAE, K5C96AAE, K5C97AAE, K5C98AAE, K5C99AAE, K5D08AAE, K5D09AAE, K5D10AAE, K5D11AAE, K5D12AAE, K5D13AAE, K5D14AAE, K5D15AAE, K5D16AAE, K5D17AAE, L4Y35AAE, L4Y36AAE, L4Y39AAE.
27-Mar-2015	Version 3	Removed	Discontinued SKUs deleted: L4Y37AAE, L4Y38AAE
09-Feb-2015	Version 2	Changed	Overview section was updated SKUs added on models section: L4Y35AAE, L4Y36AAE, L4Y37AAE, L4Y38AAE, L4Y39AAE.
29-Sep-2014	Version 1	New	New QuickSpecs

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