Overview

HPE Storage File Controllers

HPE Storage File Controllers add optimized, secure, and highly available file services to array/SAN environments. They're built on HPE ProLiant DNA and Microsoft Windows Storage Server 2016, and deliver a straightforward, consistent management experience for IT generalists or storage administrators. HPE Storage File Controllers can leverage unused HPE MSA, Nimble Storage, or 3PAR StoreServ capacity for file services, creating a unified solution that maximizes total storage investment.

What's New

- Introducing new HPE Storage File Controllers for HPE arrays
- **Q9D43A** – HPE Storage File Controller
  Features an Intel Xeon-Bronze processor with 16GB of memory, redundant power, TPM 2.0, HPE iLO with a 1-year Advanced Premium Security Edition license, and a 3-year parts/labor/onsite with next business day response warranty. Designed to connect to HPE MSA arrays and other small SAN environments.
- **Q9D44A** – HPE Storage Performance File Controller
  Features an Intel Xeon-Silver processor with 32GB of memory, redundant power, TPM 2.0, HPE iLO with a 1-year Advanced Premium Security Edition license, and a 3-year parts/labor/onsite with 24x7 remote response and next business day on-site response warranty. Designed to connect to HPE 3PAR StoreServ and HPE Nimble Storage arrays and other larger SAN environments.

HPE Storage File Controllers

HPE Storage File Controllers are the fast and easy way to add high-performance file services to your HPE array or SAN. Both models are built on a 1U server and feature the best of HPE ProLiant, Intel Xeon, and Microsoft Windows Storage Server 2016 technologies to serve thousands of concurrent users and multiple diverse workloads. A range of encryption options, sophisticated data access controls for Microsoft Active Directory-based IT environments, the ability to run endpoint protection and backup software onboard, and clustering of up to eight HPE Storage File Controllers protects your data and your peace of mind.

Models

HPE Storage File Controller	Q9D43A
HPE Storage Perf File Controller	Q9D44A

HPE Storage File Controllers

Overview

Efficient: Saves you money and time
HPE Storage File Controllers come with pre-configured hardware and the Microsoft Windows Storage Server 2016 operating system pre-installed. Go from out of the box to online fast with tools that simplify installation and avoid common configuration errors.
The HPE Storage Controller Dashboard consolidates all key status information, including capacity utilization, performance, and health in a single interface, reducing the need to navigate multiple tools and interfaces for day-to-day management and monitoring.

Optimized: Tailored for File Services
HPE Storage File Controllers support a large numbers of users and connected devices and utilize a broad range of file access protocols, including Microsoft Hyper-V and SQL Server application storage over SMB.
Achieve storage space savings with granular data deduplication that supports large files (up to 1 TB) and volumes up to 64 TB.
Built-in file sync and share enables employees, mobile workers and distributed teams to access their work files from any Internet-connected desktop, smartphone, or tablet.   Advanced data management automatically improves use of resources, compliance with data retention policies, and protection of sensitive files, and Hosted BranchCache reduces branch office WAN usage by caching frequently-accessed files locally.

Secure: Protect your data always
HPE Storage File Controllers can protect data at rest with file system encryption and data in motion with SMB encryption and signing. Reduce cost and complexity by installing antivirus scanning software and data protection agents on-board instead of an external endpoint protect server. And protect against disasters and catastrophic failures with Native Microsoft Azure support for cloud backup. Optionally enable simplified and cost-efficient compliance archiving with iTernity Compliant Archive Solution (iCAS), validated to meet the United States Securities and Exchange Commission (SEC) 17a-4(f) requirements.

Highly Available: Prevent business and user disruption
HPE Storage File Controllers increase uptime with standard features such as near continuous health monitoring with HPE Active Health System, mirrored operating system solid-state drives (SSDs), and advanced memory protection.

Cluster up to eight file controllers for high availability and with transparent failover, enabling continuity of data access in the event of a failure or for online rolling maintenance updates.

Confidently deploy large file systems with file system online self-healing that reduces the need to take systems offline, online verification, and precise and rapid repair that reduces downtime from file corruption from days or hours to minutes.

Protect data from simple user errors to catastrophic failure using native replication for data sets up to 100 TB or add Double-Take Availability software by Carbonite for critical data protection with real-time byte-level replication.

Rest easy knowing if you need it, you can get help from HPE PointNext file storage experts with the included 3-Year hardware warranty and one year of 9x5 software telephone support for the Windows Storage Server 2016 operating system.

Standard Features

Operating System

Microsoft Windows Storage Server 2016, Standard Edition with HPE-unique features:

- HPE-enhanced Initial Configuration Tasks Wizard: Installation and network configuration wizards simplify installation and prevent network configuration errors for faster deployment.
- The HPE File Controller Dashboard consolidates all key status information such as capacity utilization, performance, and health in a single interface, reducing the need to navigate multiple tools and interfaces for system monitoring. Low capacity warning email alerts now available to minimize disruption.
- HPE File Controller Tools menu within Windows Server manager consolidates the most commonly accessed tools and tasks that an administrator uses for day-to-day management of file services. The Tools menu provides management of storage pools, snapshots, emails and alerts, enclosure settings, and firmware updates. It also includes access to the Deduplication Evaluation tool, storage viewer and the initial configuration task wizard.
- Windows Storage Server 2016 includes an improved deduplication engine (vs. Windows Storage Server 2012 R2) that supports files up to 1TB and file systems up to 64TB. Additionally, new security and encryption technologies provide stronger protection against man-in-the-middle attacks.
- Leverages your Windows Server management knowledge, skill sets, and tools including Active Directory, PowerShell and System Center.
- Extensive file access protocols support: SMB (2.0, 2.1, 3.0, 3.02 and 3.1.1), NFS (v2, v3, v4.1), WebDAV, HTTP/HTTPS, FTP/FTPS, and iSCSI.
    - SMB 3.1.1 protocol: Enhances security between Windows / SMB clients and your file shares. When both a client and an HPE Storage File Controller connect over SMB 3.1.1, SMB signing and encryption protects against an attacker tampering with or eavesdropping on any network packets. SMB 3.1.1 with AES-128-GCM, the latest fixed cryptographic algorithm, shows a 2x performance improvement compared with SMB 3.0 using AES-128-CCM in certain scenarios such as copying large files over an encrypted SMB connection.
    - SMB 3.1.1 Multichannel and Multi-NIC Cluster Networks: Allows the use of multiple NICs on the same cluster network subnet and automatically enables SMB Multichannel. This allows you to maximize throughput of SMB 3.1.1 network traffic.
    - NFS v4.1: Server for NFS has been updated to improve reliability and resilience in failover clustering.
- File Server Resource Manager (FSRM): File Server Resource Manager is a set of features within the Windows Storage Server 2016 OS that allows you to manage and classify data that is stored on file servers. File Server Resource Manager includes the following features:
    - Storage Quotas: Quotas allow you to limit the space that is allowed for a volume or folder, and they can be automatically applied to new folders that are created on a volume. You can also define quota templates that can be applied to new volumes or folders.
    - File screening: File screens help you control the types of files that user can store on a file server. You can limit the extension that can be stored on your shared files. For example, you can create a file screen that does not allow files with an MP3 extension to be stored in personal shared folders on a file server.
    - File Classification Infrastructure: File Classification Infrastructure provides insight into your data by automating classification processes so that you can manage your data more effectively. You can classify files and apply policies based on this classification. Example policies include dynamic access control for restricting access to files, file encryption, and file expiration. Files can be classified automatically by using file classification rules or manually by modifying the properties of a selected file or folder.
    - File Management Tasks: File Management Tasks enables you to apply a conditional policy or action to files based on their classification. The conditions of a file management task include the file location, the classification properties, the date the file was created, the last modified date of the file, or the last time the file was accessed. The actions that a file management task can take include the ability to expire files, encrypt files, or run a custom command.
    - Storage reports: Storage reports are used to help you identify trends in disk usage and how your data is classified. You can also monitor a selected group of users for attempts to save unauthorized files.
- Storage Quality of Service (QOS): Windows Storage Server 2016 provides a way to centrally monitor and manage storage performance for virtual machines using Hyper-V and the Scale-Out File Server roles.
- Data Deduplication:
    - Data deduplication enables Windows Storage Server 2016 to store more data in less physical space for greater storage efficiency. Data deduplication uses variable size chunking and compression, which deliver optimization ratios of 2:1 for general file servers and up to 20:1 for virtualization data. Evaluate your deduplication savings with the included

Standard Features

        deduplication evaluation tool which allows you to determine the expected savings that you would get if deduplication is enabled on a particular volume. The Deduplication evaluation tool supports local drives and mapped or unmapped remote shares.

- Data deduplication within Windows Storage Server 2016 has specific improvements for deduping large volumes and large files - up to 64 TB and 1TB respectively. In Windows Storage Server 2012 R2, it was recommended to run deduplication on volumes under 10TB in size. The deduplication engine in Windows Storage Server 2016 will run multiple threads in parallel using multiple I/O queues on a single volume, thereby improving the performance for deduping large volumes.

- Work Folders: With Work Folders users can store and access work files on personal computers and devices, often referred to as bring-your-own device (BYOD), in addition to corporate PCs. Users gain a convenient location to store work files, and they can access them from anywhere. Organizations maintain control over corporate data by storing the files on centrally managed file servers, and optionally specifying user device policies such as encryption and lock-screen passwords. Work Folders can be deployed with existing deployments of Folder Redirection, Offline Files, and home folders. Work Folders stores user files in a folder on the server called a sync share. You can specify a folder that already contains user data, which enables you to adopt Work Folders without migrating servers and data or immediately phasing out your existing solution. Work Folders is supported on Windows 10, Windows 8.1, Windows 8, Windows 7, Apple iOS and Android devices. New for Windows Storage Server 2016 version of Work Folders: when a Windows 10 client makes any changes to a file those changes are immediately synched to Work Folders and the client notified.

- Hosted BranchCache: Using client/server architecture, Windows client computers can cache content on the local network via the Hosted Cache running on the HPE Storage File Controller. Other clients who need the same content then retrieve it directly from the Hosted Cache.

- Volume Shadow Copy Service: Creates point-in-time copies (snapshots) of files and folders at predetermined time intervals that can then be accessed from client computers.

- VSS for Remote SMB File Shares: Leverage proven Volume Shadow Copy Service (VSS) to offload snapshot and backup operations to remote storage from VSS hardware providers within Hyper-V virtual machines.

- DFS Namespace: Enables you to group shared folders that are located on different servers into one or more logically structured namespaces. Each namespace appears to users as a single shared folder with a series of subfolders. However, the underlying structure of the namespace can consist of numerous file shares that are located on different servers and in multiple sites.

- Distributed File System Replication (DFS-R): Enables you to efficiently replicate folders (including those referred to by a DFS namespace path) across multiple servers and sites. DFS Replication uses a compression algorithm known as remote differential compression (RDC). RDC detects changes to the data in a file, and it enables DFS Replication to replicate only the changed file blocks instead of the entire file.

- New VHDX Standard: Supports larger-capacity virtual storage that can grow to 64 terabytes, is more resilient against corruption, and provides more efficient usage of new 4 KB sector hard disks with the new VHDX virtual storage standard.

- Live Storage Migration: Maintain maximized service-level availability even while moving virtual machine storage between host servers independent of the actual virtual machine.

- Unlimited Client Access Licenses (CALs) included.

NOTE on Windows Storage Server 2016 Compatibility: Windows Server 2016 and Windows Storage Server 2016 are built on the same code base, but have some differences. Most notably, Windows Storage Server can join Active Directory domains, but cannot be a domain controller. Applications certified for Windows Server are expected to have the same application compatibility profile on Windows Storage Server. Windows Server and Windows Storage Server have the same application frameworks, services and plumbing to support running the full breadth of Window-compatible applications. Applications that rely upon certain roles that are removed from Windows Storage Server 2016 (such as fax server, active directory domain controller or terminal services) will not be able to leverage those roles. Independent Software Vendors (ISVs) ultimately decide what versions and editions of Windows Server or Windows Storage Server are supported by their products and users should review ISV compatibility and support information before purchasing. HPE Storage File Controller customers should review the End User License Agreement (EULA) to see the types of applications that are permitted for installation.

More Information on Windows Storage Server 2016 can be found here:

https://blogs.technet.microsoft.com/storageserver/2016/10/14/announcing-windows-storage-server-2016/

Standard Features

Processor / Cache Memory
HPE Storage File Controller: Intel Xeon-Bronze 3104 (1.7GHz/6-core/8.25MB/85W)
HPE Storage Performance File Controller: Intel Xeon-Silver 4110 (2.1GHz/8-core/11MB/85W)

Up to 2 processors supported (one standard)
NOTE: For more information regarding Intel Xeon processors, please see the following **http://www.intel.com/xeon**

Memory

Type	HPE DDR4 SmartMemory Registered (RDIMM)
DIMM Slots	12 DIMM slots per processor, 6 channels per processor, 2 DIMMs per channel
Standard	HPE Storage File Controller: 16GB (1 x 16GB) HPE Storage Performance File Controller: 32GB (1 x 32GB)
Maximum Capacity	768 GB (24 x 32 GB RDIMM @ 2666 MT/s)—requires 2nd processor

NOTE: For General Server Memory Population Rules and Guidelines for ProLiant Gen10 see details here: **http://www.hpe.com/docs/memory-population-rules**

Expansion Slots

Expansion Slot #	Technology	Bus Width*	Source	Connector Width	Form Factor
1	PCIe 3.0	x16	CPU1	x16	Full-height, ¾ length
2	PCIe 3.0	x8	CPU1	x8	Low profile

NOTE: Addition of the 3rd PCIe slot requires a second processor and low profile riser kit.

FlexibleLOM	PCIe 3.0	x8	CPU1	x16	FlexibleLOM

Interfaces

Network Ports	4x 1GbE 331i Adapter embedded NIC
	1 FlexibleLOM slot available (supporting various NICs adapters)
iLO Remote Mgmt Port	1 Gb Dedicated
HPE iLO 5 ASIC	

NOTE: One-year iLO Advanced Premium Security Edition License is included. Read and learn more in the **iLO QuickSpecs**

Serial, Video, USB 3.0, and MicroSD ports

Storage

Controller	HPE Smart Array S100i SR Gen10 SW RAID

NOTE: HPE Storage File Controllers use the internal storage controller for internal SATA SSDs only (most notably for the OS mirror). An HBA is typically used to address external SAN or array storage for user data.

Internal	2 x 240GB 6G SATA SFF SSDs for Operating System mirrored pair
	Total 8 SFF drive slots
External	Designed for attach to Fibre Channel (HBA required) or iSCSI (Microsoft iSCSI initiator included) arrays and SANs

Standard Features

Power Supply
2 x 500W Flex Slot Platinum Hot Plug Low Halogen Power Supplies

NOTE: HPE Storage File Controllers are primarily connected to PDU's in data center racks and ship standard with a PDU 6-foot C-14 to C13 power cord (142258-001)

System Fans
5 standard; 2 additional included with 2nd processor upgrade

Form Factor
1U rack mount chassis

Optional Software

Double-Take Availability
Protect your critical file data with Carbonite Double-Take Availability's real-time byte-level replication. In the event of a failure, recover the data—with a minimum of loss—from the replicated data repository.

iCAS software by iTernity
Get open, flexible, and expandable long-term archiving with iTernity Compliant Archive Solution (iCAS). Together, HPE Storage File Controllers and iCAS are your key to legally compliant data archiving.
For more information on iTernity iCAS go to: **http://www.iternity.com/HPE-icas_en.html**

SAN / Array Compatibility

Host Bus Adapter (HBA) Support
HPE Storage File Controllers are designed to be connected to a SAN or storage array by adding a recommended Fibre Channel HBA or by using an iSCSI initiator with an Ethernet adapter/port.
HBA selection is left as your choice based on existing infrastructure and/or desired array support.
Please see recommended HBAs and adapters listed in the 'Options' section below.
NOTE: For a complete list of supported HBAs, consult the ProLiant DL360 Gen10 QuickSpecs at
https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw

HPE SAN / Array Support

HPE 3PAR StoreServ	**https://www.hpe.com/us/en/storage/3par.html**
Nimble Storage	**https://www.hpe.com/us/en/storage/nimble.html**
HPE MSA	**https://www.hpe.com/us/en/storage/msa-shared-storage.html**

HPE Storage File Controllers and third-party storage arrays/SAN interoperability statement
Hewlett Packard Enterprise will provide support for the HPE Storage File Controllers when connected to third-party storage arrays, but Hewlett Packard Enterprise will not provide support on third-party storage arrays/SAN unless specifically cited in a Hewlett Packard Enterprise Support contract. Hewlett Packard Enterprise may support the third-party SAN environment attached to HPE Storage File Controllers when specifically under contract with Hewlett Packard Enterprise, but that SAN coverage does not extend to supporting the SAN connectivity of the third-party array.

If you call HPE PointNext Services and the problem is determined to be caused by a third-party storage array or the storage arrays' connectivity into a non-Hewlett Packard Enterprise supported SAN, you will be directed to contact the third-party storage array supplier for support. Please refer to the third-party supplier for information relating to specific support of their storage arrays with Windows Storage Server 2016 Standard Edition.

Pre-configured Models

HPE Storage File Controller are pre-configured with the Microsoft Windows Storage Server 2016 Standard Edition operating system pre-installed

Step 1 – Select your HPE Storage File Controller

	Part Number
HPE Storage File Controller	Q9D43A

NOTE: The HPE Storage File Controller (Q9D43A) is designed to connect to HPE MSA arrays and other small SAN environments. It is not supported on HPE 3PAR StoreServ arrays.

HPE Storage Performance File Controller	Q9D44A

NOTE: The HPE Storage Performance File Controller (Q9D44A) is designed to connect to HPE 3PAR StoreServ and Nimble Storage arrays and other larger SAN environments.

Specifications (common to both models)	Operating System	Microsoft Windows Storage Server 2016 Standard
	Network Ports	4 x 1GbE ports plus FlexibleLOM expansion
	Expansion Slots	2 x PCIe
	Internal Storage	2 x 240GB SATA SFF SSDs for Operating System (configured as RAID 1 mirrored pair)
	Power Supply	2 x 500W
	Security	HPE Trusted Platform Module 2.0 included
	Management Port	1 Gb Dedicated HPE iLO 5 (One-year iLO Advanced Premium Security Edition License is included)
	SAN / array Connectivity	Via Fibre Channel HBA or iSCSI initiator
	OS / Software Support	1-year 9x5 telephone support
Specifications HPE Storage File Controller (Q9D43A)	Processor	Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W)
	Memory	16GB (1x16GB) Dual Rank x8 DDR4-2666
	Warranty	3-year parts/labor/onsite with next business day response
Specifications HPE Storage Performance File Controller (Q9D44A)	Processor	Intel Xeon-Silver 4110 (2.1GHz/8-core/85W)
	Memory	32GB (1x32GB) Dual Rank x4 DDR4-2666
	Warranty	3-year parts/labor/onsite with 24x7 remote response and next business day on-site response

NOTE: Options listed in the steps below are limited to those recommended for use with HPE Storage File Controllers.
For a complete set of options and information, please reference the ProLiant DL360 Gen10 QuickSpecs
at: **https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw**

Step 2 – Add a second processor (optional)
NOTE: The standard configuration for both HPE Storage File Controllers is a single processor and 5 chassis fans. Adding a second processor also includes two additional fans.

HPE Storage File Controller (Q9D43A)	HPE DL360 Gen10 Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit	860649-B21
HPE Storage Performance File Controller (Q9D44A)	HPE DL360 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit	860653-B21

Pre-configured Models

Step 3 – Add more memory (optional)
NOTE: The standard configuration for both HPE Storage File Controllers is a single DIMM, which leaves 11 open DIMM slots available for expansion. 12 more DIMM slots become available with addition of a second processor. Recommended DIMM options are shown below.

NOTE: For HPE Storage File Controllers used in a clustered configuration (maximum 8 nodes), the memory should be the same for each node.

For more memory options and information, please go to the ProLiant DL360 Gen10 QuickSpecs
at: **https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw**
For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go
to: **https://www.hpe.com/docs/memory-population-rules**

	Registered DIMMs (RDIMMs)	
HPE Storage File Controller (Q9D43A)	HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21
HPE Storage Performance File Controller (Q9D44A)	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21

Step 4 – Add a third PCIe slot (optional, requires a second processor)
NOTE: Both HPE Storage File Controllers come standard with two PCIe expansion slots (one x16 and one x8). Addition of the 3rd PCIe slot requires a second processor and low profile riser kit.

PCIe Slots

HPE DL360 Gen10 Low Profile Riser Kit	867982-B21

Step 5 – Add connectivity adapters (optional)
NOTE: Both HPE Storage File Controllers come standard with a 4-Port 1Gb Ethernet Adapter embedded and can be expanded via the FlexibleLOM or PCIe slots. Recommended options are shown below.

Network Adapters

NOTE: SFP and SFP+ Adapters do not include a transceiver by default.

SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

PCIe Adapters

HPE StoreEasy 10GbE 2-port 530T Adapter	Q2P91A
HPE StoreEasy 10GbE 2-port 530SFP+ Adapter	Q2P92A
HPE Ethernet 1Gb 4-port 331T Adapter	647594-B21

FlexibleLOM Adapters

HPE Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
HPE Ethernet 10Gb 2-port 535FLR-T Adapter	817721-B21
HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21

Pre-configured Models

Fibre Channel HBAs

HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A
HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A

Step 6 – Add a system recovery DVD (optional)

HPE Storage File Cntl Recov SW Media Kit	Q9D45A

The HPE Storage File Controller Recovery Software Media Kit contains a System Recovery DVD that is used to re-install the factory operating system image. Booting the system from the System Recovery DVD will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the product Administrator Guide for more information on performing a System Recovery.

NOTE: Alternatively, the HPE Storage File Controller Recovery Software can be downloaded from Hewlett Packard Enterprise Software Depot at no charge, enabling creation of a System Recovery DVD or System Recovery USB flash drive.

NOTE: All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Step 7 – Add cables (optional)

NOTE: For two-node clusters, an Ethernet interconnect cable is required (C7533A is recommended). For three- or more node clusters, a network switch (sold separately) plus one Ethernet cable per node is required.
NOTE: Optical or SFP+ cable(s) should also be included for each new Fibre Channel HBA(s) and/or 10GbE Network Adapter(s) port added.
For more information about CAT 5e cables, please go to:
 http://h20195.www2.hpe.com/v2/redirect.aspx?/products/quickspecs/14005_div/14005_div.HTML

CAT 5e cables

HPE 1.2m/4ft CAT5 RJ45 M/M Ethernet Cable	C7533A
HPE RJ45 to RJ45 Cat5e Black M/M 7.6ft 1-pack Data Cable	C7535A
HPE 4.3m/14ft CAT5 RJ45 M/M Ethernet Cable	C7536A
HPE 7.6m/25ft CAT5 RJ45 M/M Ethernet Cable	C7537A
HPE 15.2m/50ft CAT5 RJ45 M/M Ethernet Cable	C7542A

Optical Cables

HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A

10G SFP+ Cables

HPE FlexNetwork X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
HPE FlexNetwork X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE FlexNetwork X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C

Pre-configured Models

Step 8 – Add rack and power options (optional)
For more HPE Storage File Controller options and information, including rack and power options, please reference the ProLiant DL360 Gen10 QuickSpecs at: **https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw**

Service and Support

Warranty
Both HPE Storage File Controller models come with a standard 3-3-3 (3 years parts exchange, 3 years labor and 3 years on-site) warranty service for hardware components. However, each model offers slightly different additional terms on response:

HPE Storage File Controller (Q9D43A): Next business day on-site response.

**HPE Storage Perf File Controller (Q9D44A): 24x7 remote response with next business day on-site response.
Software media is warranted to be free of physical defect for a period of 90 days from delivery.**

Services Included with the Product
One year of HPE Software Support, standard 9x5 business hours (software advisory and remedial software telephone support, and media and documentation distribution service) is standard on both HPE Storage File Controller models.

Windows Storage Server 2016 Support Statement
Standard support for the Microsoft Windows Storage Server 2016 operating system includes (but is not limited to) initial configuration, troubleshooting of operating system installation and/or recovery issues, hardware and driver problems, and system-specific / storage-centric features (Volume / File system creation; File/Folder/Share Permissions; Active Directory integration.; DFS-R; DFS-N; failover clustering; quotas; deduplication; NFS, SMB, iSCSI protocols; performance tuning; etc.). HPE Support Services will not troubleshoot a Microsoft Operating System feature that has been deprecated or has limited functionality as per design by Microsoft. HPE Support Services will not troubleshoot third-party software or issues related to Microsoft Active Directory Services that are external to the HPE StoreEasy system that may be hindering implementation of Active Directory integration and/or clustering services. In those cases, customers should resolve issues with their third-party software vendor and/or by opening a support case with Microsoft directly.

Service and Support

Protect your business beyond warranty with HPE Support Services
HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution.   Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

Connect your devices
Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time, increase diagnostic accuracy and have 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.
Learn more about getting connected at **http://www.hpe.com/services/getconnected**

Service and Support

Discover, plan, and design
Choose from a rich portfolio of services to make the most of HPE StoreEasy Storage, so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.

HPE Services can help you discover needs and create a plan for simplifying the environment, reducing risk, and maximizing your storage investments

HPE Backup Recovery Impact Analysis - Focus placed on service requirements and design as the key to success for gaining a clear understanding of the role of increasingly diverse data protection strategies.

HPE Storage Cloud Design Service - Build a scalable, low-cost enterprise storage environment with inherent cloud benefits to meet big data needs.

Deploy and integrate
We can help you configure, set up, and efficiently use your HPE Storage File Controllers, as well as help migrate data, improve capacity utilization, and establish information management standards used across backup, replication, and archiving needs.

HPE Storage File Controllers Installation and Startup Service -Expert system installation and setup by a Hewlett Packard Enterprise technical specialist designed to reduce installation time and cost, with your basic questions about the service answered during the included orientation session. **https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00048427enw**
HPE Technical Services Support Credits offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

Operate and support

Choose the right support to maximize uptime, free up your resources, and achieve improved value-as you get the most out of the existing IT assets while accelerating time-to-revenue.

HPE Proactive Care Support Service
HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service includes available response times of next business day, 4 hour response or 6 hour to repair with answers to software questions within two hours. HPE is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers.
http://www.hpe.com/services/proactivecare

HPE Foundation Care Support Service
HPE Foundation Care connects you to HPE 24 hours a day, seven days a week for assistance on resolving issues –This service includes available response times of next business day, 4 hour response or 6 hour to repair with answers to software questions within two hours. HPE is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. In addition, Collaborative software support is included and provides troubleshooting assistance on industry leading software running on your server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.
http://www.hpe.com/services/foundationcare

Service and Support

HPE Datacenter Care service
HPE Datacenter Care helps improve IT stability and security, increase the value of IT, and enable agility and innovation. It is a structured framework of repeatable, tested, and globally available services "building blocks." You can deploy, operate, and evolve your datacenter wherever you are on your IT journey. With HPE Datacenter Care, you benefit from a personalized relationship with HPE via a single point of accountability for HPE and others' products.
http://www.hpe.com/services/datacentercare

HPE Education Services
Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment.
http://www.hpe.com/ww/learn

Optimized Care
HPE Proactive Care* with 6 hour call-to-repair commitment, three year Support Service
HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This Service combines three years' proactive reporting and advice with our highest level of hardware support – the HPE 24x7, six hour hardware call-to-repair. HPE is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers.
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf
*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables. HPE Insight Remote Support is available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

Standard Care HPE Proactive Care* with 24x7 coverage, three year Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice This Service combines three years proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem.
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf
*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables. HPE Insight Remote Support is available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

Basic Care
HPE Foundation Care 24x7, three-year Support Service
HPE Foundation Care 24x7 gives you access to HPE 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. In addition, collaborative software support is included in this service that provides troubleshooting assistance on industry leading software running on your HPE server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.
https://www.hpe.com/h20195/v2/getdocument.aspx?docname=4AA4-8876ENW

Service and Support

Parts and Material
HPE 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 HPE due to malfunction.

HPE Support Center
The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.

Learn more **http://www.hpe.com/support/hpesc**

The HPE 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 personalized IT support anywhere, anytime.

HPE Support Center is available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

*HPE Support Center Mobile App is subject to local availability

For more information
http://www.hpe.com/services
https://www.hpe.com/us/en/services/operational.html

To learn more on HPE Storage Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner

HPE Pointnext operational services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

Contact information for a representative in your area can be found at "Contact HPE" https://www.hpe.com/us/en/contact-hpe.html

- Services for customers purchasing from Hewlett Packard Enterprise or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find HPE Pointnext operational services at:
  http://ssc.hpe.com/portal/site/ssc/

Technical Specifications - HPE Storage File Controllers

HPE Storage File Controllers

Dimensions (Height x Width x Depth)		4.29 x 43.46 x 70.7 cm 1.69 x 17.11 x 27.83 in
Weight (approximate)	Standard	31.70 lb / 14.379 kg (SFF 8-bay chassis with two drives, one processor, one heatsink, and five fans)
	Two processors	32.65 lb / 14.808 kg (SFF 8-bay chassis with two drives, two processors, two heatsinks, and seven fans)
Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
BTU Rating	Maximum	For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VDC) for China Only
Power Supply Output (per power supply)	Rated Steady-State Power	For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VDC) input for China only
System Inlet Temperature	Standard Operating Support	50° to 95° F (10° to 35° C) 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).
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).

Technical Specifications - HPE Storage File Controllers

Acoustic Noise (No data so far)

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.

Idle	
LWAd	5.1 Bels
LpAm	35 dBA
Operating	
LWAd	5.2 Bels
LpAm	38 dBA

Emissions Classification

(EMC)

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 Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, or to recycle your product, please go to:

https://www.hpe.com/us/en/about/environment/product-recycling.html or contact your nearest Hewlett Packard Enterprise sales office. 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 at:

https://www.hpe.com/us/en/about/environment/product-recycling.html. 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
04-Mar-2019	Version 5	Changed	Pre-configured Models and Service and Support sections were updated.
04-Feb-2019	Version 4	Changed	Pre-configured Models Section was updated
03-Dec-2018	Version 3	Changed	Overview and Service and Support sections were updated
1-Oct-2018	Version 2	Changed	Fixed Technical Specs heading Added cable options
04-Sep-2018	Version 1	Created	All content created.

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