



HPE File Storage



The challenge of unstructured data

Organizations of all sizes are faced with changing tides in the data landscape, and have found themselves increasingly inundated by the escalating volume of unstructured data—from documents to images, audio, and video. A pivotal point was reached in 2015 when the volume and spend on storage for unstructured data surpassed that for structured data.¹ By 2017, unstructured data storage demands will be growing at nearly double the rate of that for structured data.² The veritable explosion in unstructured data volume, variety, and velocity is fueled by the digitization of industries, as well as new types of content creation and consumption devices. It is made even more challenging for organizations to address with the need to provide easy, efficient data access to enable workplace productivity through collaboration, coupled with significantly more strict data security, governance, and regulatory requirements than ever before. To keep pace with this shifting, demanding data landscape, you need modern file storage solutions that can support your organization now and into the future.

^{1, 2} IDC, "Structured Versus Unstructured Data: The Balance of Power Continues to Shift", 2014

Respond to rapidly growing and changing data demands

Hewlett Packard Enterprise File Storage solutions enable you to efficiently and cost-effectively store, protect, and manage your rapidly expanding volume of unstructured data. HPE's solutions evolve with your organization's dynamic and challenging needs. They bring together advanced software capabilities and hardware built from industry-leading technologies. These solutions enable you to respond to growth more efficiently and implement change faster—regardless of the size of your organization—without compromises.

HPE File Storage solutions cover a wide range of needs and IT environments. The portfolio includes two complementary product families.

HPE StoreEasy Storage

HPE StoreEasy Storage is a powerful breed of optimized, efficient, secure, and highly available storage to simply address the file serving and application storage challenges of small to midsize organizations, and the branch offices and workgroups of large organizations. Whether your business is starting out, building momentum, or expanding, HPE StoreEasy Storage integrates seamlessly into new and existing environments with a straightforward, intuitive management experience. StoreEasy's installation wizard and network configuration tool simplify deployment. The StoreEasy Dashboard, designed for IT generalists, consolidates all key status information, so you can focus on your business and not your file storage.

Save time and money by effectively supporting a broad range of connected users, devices, and multiple diverse workloads. Achieve an average of 50-60 percent³ space savings with granular data deduplication. Protect your file data while at rest and in-flight by using built-in encryption, sophisticated access controls, online snapshots, and the ability to run endpoint protection and backup software onboard. Prevent business and user disruption with continuous health monitoring, file system online self-healing, and support services from storage specialists.

With the 5th generation of StoreEasy Storage, you get up to 211 percent more capacity, 21 percent lower \$/GB, 2X faster HDD/SSD transfer speed,⁴ and 25X faster RAID rebuilds.⁵ HDD bundles make it easier for you to buy, deploy and provision additional storage capacity over the life of the product via integration with the best-practices driven storage provisioning tool.

HPE StoreEasy Storage, in combination with optional HPE Data Protector software for on-premise backup and LiveVault by j2 Global with 7-year legal retention and cloud backup, makes it easy to protect your data. Visit hp.com/go/dataprotector and go.j2.com/LiveVault/ for more information. Compliant Archive Software (iCAS) from iTernity, validated in conjunction with StoreEasy to meet SEC 17a-4(f) requirements, simplifies compliant archiving. Visit iternity.com/hp-icas_en.html. Opt to further, protect your critical data with Double-Take Availability, real-time byte-level scalable replication from Vision Solutions. Visit world.visionsolutions.com/Products/DT-Avail.aspx for more information.

Visit hp.com/go/StoreEasy to learn more.

³ Microsoft®, "Plan to deploy data deduplication," October 2013. technet.microsoft.com/en-us/library/hh831700.aspx

⁴ Hewlett Packard Enterprise internal analysis of the previous generation 1640 the 1650 Expanded

⁵ Based on HPE internal testing

HPE StoreEasy 1000 Storage series



HPE StoreEasy 1450 Storage

HPE StoreEasy 1550 Storage

HPE StoreEasy 1650 Storage

HPE StoreEasy 1650 Expanded Storage

HPE StoreEasy 1850 Storage

	HPE StoreEasy 1450 Storage	HPE StoreEasy 1550 Storage	HPE StoreEasy 1650 Storage	HPE StoreEasy 1650 Expanded Storage	HPE StoreEasy 1850 Storage
Differentiator	Affordable getting started rack mount file storage to consolidate users' documents, images, audio, and videos.	Affordable getting started tower file storage to consolidate your users' documents, images, audio, and videos.	Affordable capacity optimized file storage for growing number of users, all their files, and application workloads too.	Affordable capacity optimized bulk storage for users' files and secondary data	Affordable performance optimized file storage for growing number of users, all their files, and application workloads too.
Form factor	1U rack mount	4.5U tower	2U rack mount	2U rack mount	2U rack mount
Number of users	Up to 2000	Up to 1850	Up to 5500	Up to 7000	Up to 7900
Network controller	(1) HPE 1GbE 2-port 361i standard; options for 10GbE	(1) Broadcom 5717 1GbE 2-port standard; options for 10GbE	(1) HPE 1GbE 4-port 331i standard; options for 10GbE	(1) HPE 1GbE 2-port 361i standard; options for 10GbE	(1) HPE 1GbE 4-port 331i standard; options for 10GbE
Storage controller	(1) HPE Smart Array P440/4 GB FBWC	(1) HPE Smart Array P440/4 GB FBWC	(1) HPE Smart Array P440ar/2 GB FBWC	(1) HPE Smart Array P840ar/2GB FBWC	(1) HPE Smart Array P440ar/2 GB FBWC
Drive type	LFF Enterprise SAS, Mid-line SAS and SATA HDDs; LFF Enterprise Value, Mainstream, Light and Boot SSDs	LFF Enterprise SAS, Mid-line SAS and SATA HDDs; LFF Enterprise Value, Mainstream, Light and Boot SSDs	LFF Enterprise SAS, Mid-line SAS and SATA HDDs; LFF Enterprise Value, Mainstream, Light and Boot SSDs	LFF Mid-line SAS and SATA HDDs	SFF Enterprise SAS, Mid-line SAS and SATA HDDs SFF; Enterprise Performance Value, Mainstream, Light and Boot SSDs
Storage capacity	32 TB maximum internal; additional external capacity supported with D3000 and D6000 Disk Enclosures	48 TB maximum internal	96 TB maximum internal; additional external capacity supported with D3000 and D6000 Disk Enclosures	224TB maximum internal; additional external capacity supported with D3000 and D6000 Disk Enclosures	43.2 TB maximum internal; additional external capacity supported with D3000 and D6000 Disk Enclosures
Protocols	SMB (CIFS), NFS, FTP and FTPS, HTTP and HTTPS, WebDAV, iSCSI				
Data services	File Sync and Share, Sub File Deduplication, Snapshots, Replication, File Classification, File Screening, Quotas, Reporting				
Management	StoreEasy Dashboard and Server Manager, Integrated Lights-Out 4 (iLO 4) with Advanced License				
Warranty	3-year parts exchange, 1-year labor, 1-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software	3-year parts exchange, 1-year labor, 1-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software	3-year parts exchange, 3-year labor, 3-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software	3-year parts exchange, 3-year labor, 3-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software	3-year parts exchange, 3-year labor, 3-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software

HPE StoreEasy 3000 Gateways



HPE StoreEasy 3850 Gateway



HPE StoreEasy 3850 Gateway Blade

	HPE StoreEasy 3850 Gateway	HPE StoreEasy 3850 Gateway Blade
Differentiator	Efficient, secure, and highly available rack mount file services for HPE Disk Storage arrays	Efficient, secure, and highly available blade file services for HPE Disk Storage arrays
Form factor	2U rack mount with 1 to 2 nodes	Half-height blade
Number of users	Up to 30000 per node	Up to 30000
Network controller	(1) HPE 1GbE 2-port per node (optional FlexLOM adapters that support 1GbE, 10GbE, 10 Gb or 40 Gb InfiniBand)	(1) HPE 10GbE or 20GbE 2-port FlexLOM
Storage controller	(1) HPE Dynamic Smart Array B140i per node (used for internal OS drives only)	
Supported disk arrays	HPE StoreVirtual, MSA, and XP Storage	
Storage capacity	Depends on attached disk array	
File protocols	SMB (CIFS), NFS, FTP and FTPS, HTTP and HTTPS, WebDAV, iSCSI	
File data services	File Sync and Share, Sub File Deduplication, Snapshots, Replication, File Classification, File Screening, Quotas, and Reporting included. Other features dependent on attached disk storage arrays.	
Management	StoreEasy Dashboard Server Manager, iLO 4 with Advanced License	
Warranty	3-year parts exchange, 3-year labor, 3-year onsite, and next business day response for hardware; 1-year 24x7 telephone support for software	

2X

Easier to provision

2X

Easier to monitor

1/3

The data center space

File services for HPE 3PAR StoreServ Storage

HPE 3PAR File Persona Software Suite: Truly converged for maximum efficiency

With the HPE 3PAR File Persona Software Suite licensed and enabled you unlock the native file and object access capabilities within your HPE 3PAR StoreServ Storage array. This approach offers a unique solution that incorporates multi-protocol support into the system architecture to deliver a tightly integrated, truly converged solution for provisioning both block volumes and file shares from a single storage system through a single user interface. Unlike traditional unified solutions, this truly converged solution extends the architectural benefits that the HPE 3PAR StoreServ Storage system already delivers for block workloads to file shares and object access in a way that is simple to deploy and administer.

The File Persona enabling home directories and user shares, enhanced content management and collaboration, and data preservation and governance, while the Block Persona is ideal for your virtualization, database, and application workloads with the. By expanding the use of 3PAR StoreServ systems, you can realize up to 71 percent data center space savings and significant power savings with a single converged solution that gives you agile provisioning of block, file, and object access.

Visit hp.com/go/3PAR/FilePersona for more information.

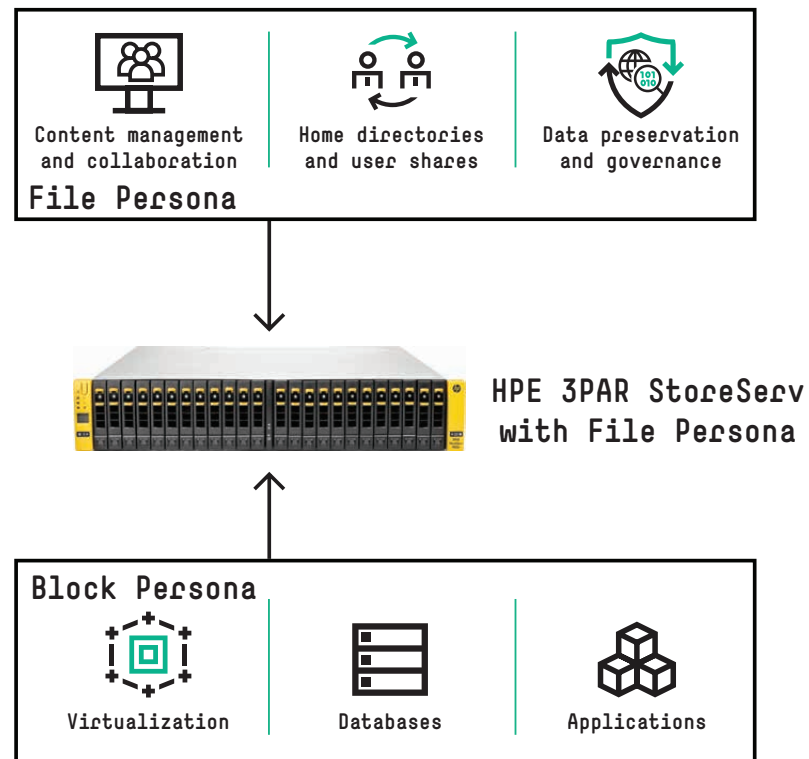


Figure 1. Serve the spectrum of storage workloads with HPE 3PAR File Persona enabled on 3PAR StoreServ Storage arrays

HPE 3PAR StoreServ with File Persona



HPE 3PAR StoreServ 7000 Storage



HPE 3PAR StoreServ 8000 Storage



HPE 3PAR StoreServ 20000 Storage

	7200c	7400c	7440c	7450c	8200	8400	8440	8450	20450	20800	20850
Differentiator	The industry's most efficient storage engineered for the true convergence of block, file, and object access										
Storage controllers	2	2-4	2-4	2-4	2	2-4	2-4	2-4	2-4	2-8	2-8
Maximum ports	12	24	24	24	12	24	24	24	80	160	160
8 Gb/s Fibre Channel ports	4-12	4-24	4-24	4-24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16 Gb/s Fibre Channel ports	0-4	0-8	0-8	0-8	4-12	4-24	4-24	4-24	0-80	0-160	0-160
10 Gb/s iSCSI and FCoE ports	0-4	0-8	0-8	0-8	0-4	0-8	0-8	0-8	0-40	0-80	0-80
10 Gb/s File Ethernet ports	0-4	0-8	0-8	0-8	0-4	0-8	0-8	0-8	0-24	0-48	0-48
1 Gb/s File Ethernet ports	0-8	0-16	0-16	0-16	0-8	0-16	0-16	0-16	N/A	N/A	N/A
Built-in Remote Copy/ Ethernet ports	2 1 Gbps	2-4 1 Gbps	2-4 1 Gbps	2-4 1 Gbps	2-4 1 Gbps	2-4 1 Gbps	2-4 1 Gbps	2-4 10 Gbps	2-4 1 Gbps	2-8 10 Gbps	2-8 10 Gbps
Maximum HDDs	240	576	960	N/A	240	576	960	N/A	N/A	1920	N/A
Maximum SSDs	120	240	240	240	120	240	480	480	512	1024	1024
Maximum raw capacity	500 TiB	1600 TiB	2000 TiB	460.8 TiB	750 TiB	2400 TiB	3000 TiB	1843 TiB	1966 TiB	6000 TiB (flash+HDDs)	3932 TiB (all flash)
Maximum usable File Persona capacity	128 TiB	256 TiB	256 TiB	256 TiB	128 TiB	256 TiB	256 TiB	256 TiB	256 TiB	512 TiB	512 TiB
HPE 3PAR File Persona Software Suite	A feature of the HPE 3PAR Operating System, this license enables file protocols, file data services, and Object Access (REST) API, to extend the spectrum of primary storage workloads natively addressed by HPE 3PAR StoreServ Storage systems. With this solution, you can extend the architectural benefits of HPE 3PAR StoreServ Storage to use cases such as: home directories and group shares, content management and collaboration, and data governance and preservation.										
File protocols	SMB (CIFS), NFS, Object Access (REST) API, ICAP, NDMP included										
File data services	User Authentication Services, Quota Management Services, Antivirus Scan Services, File Store Snapshots, Backup/Restore Services included										
Management	HPE 3PAR StoreServ Management Console (SSMC), HPE 3PAR CLI										
Warranty	Software —HPE warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery. For more information about HPE's Global Limited Warranty and Technical Support, visit: HPE Storage Warranty page Hardware —3-year, On-site Warranty Service for hardware components. 24x7 4-hour remote response with next business day on-site response										

HPE 3PAR StoreServ File Controller: Gateway for large scale file serving

The HPE 3PAR StoreServ File Controller provides an efficient, bulletproof, and effortless way to provide file services from any model of HPE 3PAR StoreServ Storage.

HPE 3PAR StoreServ File Controllers effectively serve thousands of concurrent users and multiple diverse workloads with autonomic space reclamation when files are deleted, non-intrusive sub file deduplication, and support for storage federation services. A range of encryption options, sophisticated data access controls for Microsoft Active Directory-based IT environments, and the ability to run endpoint protection and backup software onboard protects your data and your organization. This bulletproof protection is further enhanced by clustering HPE 3PAR StoreServ File Controllers for transparent failover and online rolling maintenance updates so that users can always access their data. Visit hp.com/go/3PAR/FileController.



HPE 3PAR StoreServ File Controller v3

Differentiator	Efficient, bulletproof, and effortless file services from HPE 3PAR StoreServ Storage
Form factor	2U rack mount with 1 to 2 nodes
Number of users	Up to 30000 per node
Network controller	(1) HPE 1GbE 2-port per node (optional FlexLOM adapters that support 1GbE, 10GbE, 10 Gb or 40 Gb InfiniBand)
Protocols	SMB (CIFS), NFS, FTP and FTPS, HTTP and HTTPS, WebDAV, iSCSI
Storage controller	(1) HPE Dynamic Smart Array B140i per node (used for internal OS drives only)
Supported disk arrays	HPE 3PAR StoreServ 7000, 8000 10000,, 20000 Storage
Storage capacity	Depends on attached disk array
Data services	File Sync and share, Sub File Deduplication, Snapshots, Replication, File Classification, File Screening, Quotas, and Reporting included
Management	File Controller Dashboard and Server Manager, iLO 4 with Advanced License
Warranty	3-year parts exchange, 3-year labor, 3-year onsite, and 4-hour response for hardware; 1-year 24x7 telephone support for software

HPE Factory Express

HPE Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed up the deployment. hp.com/go/factoryexpress

Customer Technical Training

Gain the skills you need with ExpertOne training and certification from Hewlett Packard Enterprise. With HPE Converged Storage training, you will accelerate your technology transition, improve operational performance, and get the best return on your Hewlett Packard Enterprise investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. hp.com/learn/storage

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment. hp.com/go/hpfinancialservices



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HPE Services

Scalable, flexible, and reliable—like your storage

Your technology infrastructure has become your business infrastructure—where delivering successful business outcomes is the key goal. The Hewlett Packard Enterprise integrated end-to-end storage solutions are specifically designed to help businesses address today's tough technology challenges associated with the explosion of rich digital content, mobility, security, and the need for efficient storage of data and access to real-time information when and where they need it. No other company in the industry matches the breadth and depth of the Hewlett Packard Enterprise portfolio in service, its resources, and commitment to improve storage support in a heterogeneous infrastructure.

HPE Services can help you manage and evolve your storage environment so that you can facilitate future growth, decrease operational costs, and protect data while reducing risk.

To capitalize fully on your HPE storage solution, you require a service partner who thoroughly understands your storage technology and system environment. With HPE Services, you gain the advantage of established methodologies and the industry's broadest portfolio of integrated storage solutions for enhanced information management and optimization. For more information about HPE services and support, visit hp.com/services/storage.

Tap into the HPE support services advantage, backed by the strategic and technical know-how of our consulting experts—for a single source solution that makes the most of your investments. Depending on your individual support requirements, choose from three levels of care that cover the entire lifecycle to better address your needs:

	HPE StoreEasy and HPE 3PAR StoreServ File Controller	HPE 3PAR File Persona with HPE 3PAR StoreServ Storage
Design, integrate, migrate, and transform	HPE Storage Efficiency Analysis HPE Storage Impact Analysis HPE Storage Modernization HPE Storage Data Migration Service	HPE Storage Efficiency Analysis HPE Storage Impact Analysis HPE Storage Modernization HPE Storage Data Migration
Deploy and implement	HPE StoreEasy Network Storage Installation and Startup Service HPE Proactive Select	HPE 3PAR StoreServ Storage and HPE 3PAR Software Installation and Startup Services
Operate and support	HPE Proactive Care 24x7 Support HPE Education Services	HPE Proactive Care 24x7 Support HPE Education Services

If you are interested in additional support recommendations to meet your needs, we can tailor a service solution for your unique support requirements. Only Hewlett Packard Enterprise brings together deep expertise, proactive and business critical support, and a strong partner network—plus, a full set of infrastructure services designed to power a Converged Infrastructure. For more information, hp.com/services/storage.

Learn more at hp.com/go/StoreEasy
hp.com/go/3PARFileServices

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