



HPE StoreVirtual 3200 Storage

Low-cost, next-gen storage that scales with you

Affordable shared storage solution for the entry marketplace, designed to meet the storage requirements of small- to mid-sized businesses, departmental needs in larger organizations, and remote/branch office environments.

Product key benefits



HPE StoreVirtual 3200

HPE StoreVirtual 3200 Storage overview

The **HPE StoreVirtual 3200 Storage system** is a new dual-controller active/active architecture designed to provide host connectivity via the industry's latest host interconnects: 8/16Gb Fibre Channel, 10GBase-T, 10GbE iSCSI, and 1GbE iSCSI. Coupled with rich data services and a new web-based management interface, this new array is also focused on driving entry storage to very aggressive entry price points.

Solving key storage challenges

The StoreVirtual 3200 was designed from the ground up to address challenges commonly faced by IT administrators in small- to mid-sized business (SMB) environments:

- Limited budget—need peak performance and feature set within a specified budget target
- Time availability—setup and configuration must be simple and intuitive for rapid deployment
- Investment protection—flexible performance and storage scalability options to grow as your needs change

Modern, next-gen storage architecture made simple

A single-pane-of-glass manageability and intuitive GUI with a look and feel common to other HPE user experiences make the StoreVirtual 3200 ideal for IT generalists—no learning curve or user manual studying required. New cloud-based remote analytics integration makes proactive management possible for one or many arrays.

Affordable scale-up storage option to meet any budget

HPE StoreVirtual 3200 Storage offers a very affordable, granular building block approach to today's challenging entry storage category. With unheard-of dual-controller base configuration price points starting at \$6,000 USD,¹ the StoreVirtual 3200 is delivering new levels of affordability to customers with even the tightest budget constraints. Combined with flexible scale capabilities, this storage array offers investment protection and extends ROI in a world where throwaway mentality is still common.

¹ Estimated entry street price (USD) for 1.2TB configuration with hardware and software

Reduce upfront costs and purchase only what is needed today, then grow your StoreVirtual 3200 array online as your storage requirements evolve. A single virtualized, shared storage pool facilitates simplified management as you deal with changing workloads and capacity challenges. The ability to buy storage capacity only when needed simplifies planning and relieves upfront budget pressures.

The StoreVirtual 3200 can scale up to three additional SFF and/or LFF drive enclosures, adding capacity or performance as needed to meet changing requirements.

Flexibility, resilience, and investment protection built into the StoreVirtual 3200's DNA

With purpose-built hardware and the latest StoreVirtual operating system, HPE StoreVirtual 3200 Storage platform takes advantage of HPE's composable data fabric, which delivers robust data services and provides the field-proven nod of confidence from over 200,000 StoreVirtual users. HPE delivers its composable data fabric across a number of hardware and compute platforms. StoreVirtual VSA deployments bring software-defined composable data fabric services to x86 servers providing enhanced flexibility and agility to meet a wide range of unique workloads and demands. This composable data fabric technology forms the DNA from which the StoreVirtual 3200 was born.

StoreVirtual 3000 File Controller

HPE StoreVirtual 3000 File Controller will provide a low cost, powerful and simple way to provide file storage from HPE StoreVirtual 3200 Storage. It supports hundreds to thousands of concurrent users and diverse file workload. It also has non-intrusive data deduplication that provides an average 50–60% in space savings. It provides security through features such as built-in encryption, sophisticated access controls, online snapshots, and the ability to run endpoint protection and backup software onboard so that data is protected at rest and in flight.

HPE StoreVirtual 3000 File Controllers can be clustered to provide transparent failover and online rolling maintenance updates that deliver continuous availability of data to users, servers, and applications. With a straightforward and consistent management experience, it also provides robust capabilities for demanding 24x7 file storage environments.

StoreVirtual 3200 data services

The StoreVirtual 3200 includes a rich set of data services built on HPE's StoreVirtual Operating System (SVOS). Combined with the new next-generation hardware architecture, the latest SVOS delivers on HPE's composable data fabric strategy leveraging a consistent and rich set of resilient shared storage capabilities across many different platforms.

Robust availability choices

HPE StoreVirtual 3200 Storage allows you to select and enhance availability at a volume level to meet application and business requirements. You have several dimensions of flexibility to enhance a system's configuration to meet each application's availability objectives.

- Storage RAID—you are allowed to group storage media into logical capacity pools and then apply an industry-standard RAID technology to that pool. Each RAID type delivers a specific set of parity protection, availability, and capacity utility characteristics. Supported storage RAID types are RAID-5, RAID-6, and RAID-10.

- Facilitating another availability dimension at a volume level, the StoreVirtual 3200 supports not only Network RAID 0 but also optionally Network RAID 10. Network RAID 0 is enabled by default and maintains data availability to applications in the event of a drive or controller failure.
- Network RAID 10 offers an optional additional layer of data protection by mirroring the data in the storage pool. You can manage redundancy on a per-volume basis to enhance storage utilization and match the availability requirements to the application whose data resides on the volume.
- StoreVirtual Network RAID stripes and protects multiple copies of data across a cluster of storage nodes, eliminating any single point of failure in HPE StoreVirtual array. Applications have continuous data availability in the event of a power, network, disk, controller, entire storage system or site failure.

Efficient Thin Provisioning and space reclamation features

- The HPE StoreVirtual 3200 Storage operating system manages all physical storage allocation underneath a given volume. This layer of abstraction enables Thin Provisioning, a feature which physically allocates space only as data is actually written to that volume. Thin Provisioning allows customers to purchase physical storage (HDDs and SSDs) when they are needed. This technology also makes it easy to add physical storage when needed, raising the overall utilization and efficiency of the array and increasing the ROI associated with storage expenditures.
- Unused virtual disk space can be reclaimed where files have been deleted from virtual disks by host operating systems or hypervisors. Files must be permanently deleted (on the host) to be considered as unused space. The unused space is returned to the storage pool.
- The StoreVirtual 3200 can reclaim space automatically when the T10 UNMAP feature is turned on in VMware vSphere® and Microsoft Windows® environments.

Array management and automation

- The StoreVirtual 3200 utilizes a REST API and provides a rich standardized interface for configuring, managing, and maintaining your array. Using an industry-standard protocol, you can easily develop scripts or programs tasks. For the StoreVirtual 3200, the REST API enables system configuration and health monitoring, management, and maintenance abilities across all storage entities in the array (examples—disks, enclosures, RAID devices/sets, volumes, snapshots, clones).

Robust snapshot technologies

- HPE StoreVirtual 3200 Storage supports over 2000 snapshots and mid-range snapshot capabilities providing you the ability to determine the right availability profile for any application host on the array.

Application-consistent snapshots

- HPE StoreVirtual 3200 Storage allows for the creation of application-consistent snapshots of VMware® and Hyper-V VMs and of Microsoft® VSS-enabled applications.
- Application-consistent snapshots create instant application-consistent copies of data on a per-volume basis. Snapshots can be created in a variety of ways to meet business or application requirements. You can create snapshots manually, on a scheduled or scripted basis, or via the Microsoft VSS framework. You can then access snapshot data to recover individual files or folders from the volume, or roll back an entire volume to a specific point in time. StoreVirtual 3200 snapshots are always thinly provisioned for efficiency, only consuming storage space on the array for the data written to the snapshot—removing any upfront space reservation or guesswork that could lead to snapshot and backup job failures.

- SmartClone technology allows you to quickly and easily make multiple identical virtual copies (or clones) of volumes without requiring additional storage space. The feature works by taking any volume or snapshot and making one or many clones in an instant. The cloning function makes a permanent, read/write volume on the array, pointing back to the original volume's blocks instead of duplicating the blocks. These space-efficient, thin-provisioned volume clones can be used to develop, test, and deploy new operating system versions and applications, or implement a virtual desktop infrastructure, and so on.

Advanced replication capabilities

- Remote Copy² allows you to replicate thin-provisioned snapshots between primary and remote locations. Because remote copies are thin-provisioned, no space reservation at the remote location is required. Remote Copy can be used for centralized backup and disaster recovery and can be set up on a per-volume basis. Remote copies placed on a recurring schedule allow you to achieve point-in-time asynchronous replication of the data between locations, sites, or data centers.
- Integrated into the Remote Copy capability is intelligent bandwidth management that facilitates sending data traffic across shared WAN links without adversely affecting other network traffic. You simply set the bandwidth limit for remote copies between the two sites and the StoreVirtual 3200 software holds that limit.
- Remote Copy leverages application-consistent snapshots to enable VMware and Hyper-V VMs as well as Microsoft VSS applications to be replicated in a quiesced state, providing faster application recovery.

Auto-tiering

- The HPE StoreVirtual 3200 Adaptive Optimization³ (AO) feature is an innovative technology that greatly increases the efficient use of faster storage devices (such as SSDs) by automatically and intelligently moving data between tiers of storage with different performance characteristics within a single storage system.
- AO reduces planning complexity by utilizing innovative algorithms to pinpoint hot data at a highly granular level and moving data in real time while maintaining a balance between background I/O operations and application I/O requirements. The result is a hands-free sub-LUN tiering solution that increases application performance substantially without any administrator intervention.
- AO is configurable on a per-volume basis, and requires no tuning or specialized configuration to implement.
- Performance benefits are experienced immediately, as the AO engine constantly monitors the I/O demands placed on the StoreVirtual 3200 array and reacts in near-real time to changes in workloads—very different than some competitive tiering offerings which only move data once or twice a day.

Multi-Site Stretch Cluster (with FOM)⁴

- The Multi-Site Stretch Cluster feature enables to mirror data synchronously between logical or physical sites automatically. Sites for a Multi-Site SAN can be geographically disparate, such as a primary data site and a back-up site in another building or on another campus. Sites can exist within the same building on different floors or in different labs on the same floor. Sites can be two different racks in the same server room or even two groups of storage systems in the same rack.
- A failover manager is required (FOM) to support for automatic failover/failback.

² The Remote Copy feature requires purchase of the HPE StoreVirtual 3200 Advanced Data Services Suite license

³ The Adaptive Optimization feature requires purchase of the HPE StoreVirtual 3200 Advanced Data Services Suite license

⁴ The Multi-Site Stretch Cluster feature requires purchase of HPE StoreVirtual 3200 Advanced Data Services Suite license

HPE StoreVirtual 3000 File Controller Features

Sub-file Deduplication

Deduplication uses variable size chunking and compression, which deliver optimization ratios of 2:1 for general file serving and up to 20:1 for virtualization data. Evaluate your deduplication savings with the included deduplication evaluation tool.

Snapshots (Volume Shadow Copy Service)

Point-in-time copies (snapshots) of files and folders at predetermined time intervals that can then be accessed from client computers.

Replication

Distributed File System Replication (DFS-R) enables efficient replication of folders across multiple servers and sites. Detects changes to the data in a file and replicates only the changed file blocks instead of the entire file.

File Classification Infrastructure

Classify and apply policies to files. Some applicable policy examples are restricting access to files with sensitive data, encrypting file data and file expiration. Classification can be automated with rules or manually by modifying the properties of a selected file or folder.

Storage Quotas

Quotas limit the storage space that is allowed for a volume or folder. Quotas can be set as hard or soft limits. Create quota templates that can be applied to new volumes or folders.

File Screening

File screens can restrict certain file extensions such as MP3, AVI, etc., from being stored.

Reporting

Reports identify trends in disk usage and how your data is classified. Also monitor attempts to access or save unauthorized files.

Technical specifications



HPE StoreVirtual 3200 Storage

Drive description	Up to 100 SFF or 48 LFF drives Up to three SFF and/or LFF 2U drive enclosures								
Drive types*	<table border="0"> <tr> <td>SFF SSDs:</td> <td>Mixed use: 400GB, 800GB, 1.6TB, 3.2TB Write intensive: 200GB, 400GB, 800GB</td> </tr> <tr> <td>LFF SSDs:</td> <td>Mixed use: 400GB, 800GB Write intensive: 400GB, 800GB</td> </tr> <tr> <td>SFF HDDs:</td> <td>15,000 RPM: 300GB, 600GB 10,000 RPM: 300GB, 600GB, 900GB, 1.2TB, 1.8TB 7,200 RPM SAS-MDL: 2.0TB</td> </tr> <tr> <td>LFF HDDs:</td> <td>7,200 RPM SAS-MDL: 2TB, 4TB, 6TB, 8TB</td> </tr> </table> <p>* All SSDs and HDDs are 12G SAS</p>	SFF SSDs:	Mixed use: 400GB, 800GB, 1.6TB, 3.2TB Write intensive: 200GB, 400GB, 800GB	LFF SSDs:	Mixed use: 400GB, 800GB Write intensive: 400GB, 800GB	SFF HDDs:	15,000 RPM: 300GB, 600GB 10,000 RPM: 300GB, 600GB, 900GB, 1.2TB, 1.8TB 7,200 RPM SAS-MDL: 2.0TB	LFF HDDs:	7,200 RPM SAS-MDL: 2TB, 4TB, 6TB, 8TB
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LFF HDDs:	7,200 RPM SAS-MDL: 2TB, 4TB, 6TB, 8TB								
Capacity	288TB maximum including expansion								
Storage expansion options	HPE StoreVirtual 3200 LFF Drive Enclosures (2U) HPE StoreVirtual 3200 SFF Drive Enclosure (2U) Up to three drive enclosures supported								
Host interfaces	8/16Gb Fibre Channel (Four ports, speed determined by SFP+ module) 1GbE iSCSI (Four or eight ports) 10GbE iSCSI (Four ports) 10GBase-T (Four ports)								
Compatible operating systems	The HPE StoreVirtual 3200 supports a wide variety of operating systems. For a complete list of supported operating systems, visit HPE Storage SPOCK at h20272.www2.hpe.com/spock/								
Form factor	2U base array, 2U LFF, or SFF drive enclosures								
Warranty (parts/labor/onsite)	3/0/0								

HPE Technology Services

Deployment Services

HPE StoreVirtual 3200 Storage Startup Service

Designed to provide a smooth startup, HPE StoreVirtual 3200 Storage Installation and Startup Service provides deployment of your HPE StoreVirtual 3200 Storage, helping to facilitate proper installation in your storage environment as well as helping you increase the benefit from your storage investment.

The service provides activities required to help you deploy your HPE StoreVirtual 3200 Storage into operation. When ordered with hardware upgrade products, the service also provides deployment of hardware upgrades to your existing HPE StoreVirtual 3200 Storage.

Service and support

Protect your business beyond warranty with **HPE Support Services**. HPE Technology Services delivers confidence, reduces risk, and helps you realize agility and stability. Our integrated portfolio of services for storage help you reduce costs, enhance data, streamline storage management, and improve backup and recovery. HPE Support Services enable you to choose the right service level, length of coverage, and response time as you purchase your new storage solution, giving you full entitlement for the support you need for your IT and business.

Enhanced care

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

HPE Proactive Care Service gives you an enhanced call experience, helps prevent problems, and maintains IT stability by utilizing tailored, proactive reports with recommendations and advice when your products are connected to HPE. This service combines three years of proactive reporting and advice with our highest level of hardware support—HPE's 24x7, six-hour hardware call-to-repair.

Standard care

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

HPE Proactive Care Service gives you an enhanced call experience, 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 of proactive reporting and advice with our 24x7 coverage, and four-hour hardware response time when there is a problem.

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. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.

Additional service offers

HPE Proactive Care Advanced

HPE Proactive Care Advanced builds on HPE Proactive Care Service, providing additional benefits such as the assignment of a dedicated local account support manager (ASM) for collaboration and best practices and critical event management that provides 24x7 fast response and IT service restoration with incident follow-up to prevent a repeat. This service is designed to give you an incredibly personalized, high-touch support experience that keeps your system fully available and running at peak performance.

HPE Foundation Care Call-to-Repair Service

HPE Foundation Care Call-to-Repair Service offers 24x7 service, including on HPE holidays, with a six-hour call-to-repair time, where our commitment is to have the hardware operational within six hours after your call is opened. Software support is 24x7 with a two-hour response time.

HPE Proactive Select

HPE Proactive Select addresses ongoing operational and staffing needs of IT environments. You can buy HPE Proactive Select credits upfront, and choose from around 100 services to consume the required level of expertise and resources throughout a year. A vast array of services—health checks, optimization, performance, and security—help you address your skills and staffing requirements with flexibility.

Learn more at
[HPE StoreVirtual 3200](#)



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