



HPE StoreOnce Systems



HPE StoreOnce Systems with HPE StoreOnce Catalyst is the only federated deduplication solution providing disk-based backup for IT environments, from the smallest remote sites to the largest enterprises. It helps our customers reduce the risk of data loss, reduce the cost of data protection, in particular management overhead and increase their ability to move backup data around their organization in deduplicated form providing disaster recovery and reducing network bandwidth expense.

If unpredictable data growth has resulted in management complexity and risk then HPE StoreOnce Systems with StoreOnce Catalyst will resolve these problems, providing a simple consistent, high performance architecture that spans your organization.

You can reduce the amount of space needed to store backup data by 95 percent¹ and choose between powerful dedicated appliances for larger offices and data centers, and flexible virtual appliances for small and remote offices. StoreOnce industry-leading backup and restore speeds means that you can meet shrinking backup windows and recovery service-level agreements (SLAs). Plus, with HPE StoreOnce as the industry's only federated deduplication technology, you can dedupe in any location anywhere and control the movement of dehydrated data across the enterprise using your backup application.

¹ HPE Get Protected Guarantee program
hp.com/storage/getprotected

Seamlessly integrating with your current backup environment, StoreOnce Systems provides flexible integration for Ethernet, Fibre Channel and iSCSI SAN, and virtualized environments.

Key features and benefits

Industry-leading, scale-out, scale-up architecture to meet enterprise requirements

The scale-out, scale-up architecture allows you to grow as your business needs dictate and not be limited by technology or vendor constraints. Choose capacity points available through virtual backup solutions or dedicated appliances that start small and allow you to add in virtual capacity, storage, or nodes as needed.

With a range of capacity points, StoreOnce Systems suits all requirements from small remote offices to enterprise data centers with centralized monitoring through HPE StoreOnce Enterprise Manager.

For enterprise data centers, the HPE StoreOnce 6500 scales from 120 TB raw (72 TB usable) to 2240 TB raw (1728 TB usable). StoreOnce Federated Catalyst simplifies manageability and allows more scalability while maximizing backup and restores speeds through automatic load balancing, all while ensuring failover and autonomic restart is maintained.

For large and midrange data centers and regional offices, one can choose from HPE StoreOnce 5100 which scales from 48 TB raw (36 TB usable) to 288 TB raw (216 TB usable), or the high density HPE StoreOnce 4900 to scale from 60 TB raw (36 TB usable) to 560 TB raw (432 TB usable) in a small footprint.

For enterprises with large remote and regional offices or SMBs looking for a comprehensive data protection solution choose from StoreOnce 3520 which can scale from 12 TB raw (7.5 TB usable) to 24 TB raw (15.5 TB usable) or the high density StoreOnce 3540 which can scale from 24 TB raw (15.5 TB usable) to 48 TB raw (31.5 TB usable) within the same 2U footprint for valuable rack space savings.

For small and remote offices choose the entry-level StoreOnce 3100 that can protect up to 8 TB raw data (5.5 TB usable) or the StoreOnce VSA are efficient backup targets and enable cost-effective backup data replication to a remote StoreOnce System for added data protection.

The StoreOnce VSA leverages the flexibility of virtual infrastructures by packaging the StoreOnce deduplication technology in virtual appliances for VMware®, Microsoft® Hyper-V, and Ubuntu KVM environments. StoreOnce VSA is licensed at 4 TB, 10 TB, and 50 TB capacity points and can be deployed on any industry standard server with the appropriate specification. To enable scalability, the 4 TB license can be upgraded to 10 TB and the 10 TB license can be upgraded to a 50 TB license. The 1 TB StoreOnce VSA can also be downloaded free of charge.²

Federated deduplication across the enterprise with a single deduplication technology

Deduplicate anywhere—at the application source or at the backup server or at the target appliance. Choose to deduplicate in a hardware or virtual appliance or in software with Data Protector. Deduplicate where it makes sense for your business, not where technology vendors' limitations mandate. Save time and money by moving backup data around the enterprise in its deduplicated state.

HPE StoreOnce delivers a unified solution for seamless data movement across the enterprise; with cost-effective StoreOnce VSAs ideal for smaller remote offices, high-performance hardware appliances for larger sites, and highly scalable, powerful systems for your data center.

Federated deduplication is supported by many of StoreOnce's data protection software partners like—HPE Data Protector, Veeam, Veritas NetBackup, and Backup Exec software through OST, BridgeHead Software and by using the StoreOnce plug-ins for direct backup from Oracle RMAN, Microsoft SQL server, SAP® HANA, Veritas NetBackup, Veritas Backup Exec 2015, and SAP on Oracle.

² [Unlock your free 1TB StoreOnce VSA](#)

HPE StoreOnce Federated Catalyst in a multi-node system allows a store that spans more than one node, reducing the number of stores, and thus simplifying management of large backup environments.

Back up within your window and meet your restore SLAs with StoreOnce industry-leading performance

- A broad range of superior price/performance points to meet backup windows across the enterprise
- Up to 139 TB/hr backup speeds at the high end, with StoreOnce 6500 and StoreOnce Catalyst
- Up to 26.7 TB/hr backup performance with StoreOnce 5100 and StoreOnce Catalyst
- Up to 22 TB/hr with StoreOnce 4900 and StoreOnce Catalyst
- Up to 12.7 TB/hr StoreOnce 3520 or 3540 with StoreOnce Catalyst and up to 6.4 TB/hr for StoreOnce 3100 with StoreOnce Catalyst
- Up to 6 TB/hr for StoreOnce VSA with StoreOnce Catalyst
- HPE StoreOnce Systems delivers the fastest restore performance at up to 75 TB/hr³ or up to 119 percent⁴ of the backup performance, and HPE states the restore speed unlike other vendors

StoreOnce Integrity Plus architecture to ensure your data is safe, secure, and recoverable

HPE StoreOnce has been architected for security. Whether that is error checking to ensure that what you save to disk is what you backed up, high availability with autonomic restart on the StoreOnce 6500 or encryption of both data at rest or in flight to industry standards. Couple that with secure erase of data to ensure your data is erased and cannot be accessed by unauthorized people and file system consistency checks to validate your data, you can be assured your data is safe with HPE StoreOnce.

Automated, efficient backup and disaster recovery operations with StoreOnce Catalyst

Manage backup and disaster recovery (DR) operations from a single pane of glass with StoreOnce Catalyst. Catalyst over Fibre Channel provides all the independent software vendor (ISV) control and source-side deduplication benefits of the current StoreOnce Catalyst but via your Fibre Channel fabric.

- Implement disaster recovery plans that were not previously feasible due to lack of multi-site capabilities, cost of bandwidth, and time.
- One-to-many disaster recovery moves data simultaneously from one site to many sites.
- Cascaded disaster recovery moves data sequentially from one site to any number of other sites.
- Alerting and trending in StoreOnce Enterprise Manager enables backup capacity management.

Complete Flash Class Protection for HPE 3PAR StoreServ

Protect your business critical applications without impacting performance using the Express Protect feature of HPE StoreOnce Recovery Manager Central (RMC) software. This automated, non-intrusive solution combines the simplicity and performance of snapshots with the reliability and cost-effective retention of deduplicated backups. StoreOnce RMC seamlessly integrates the world's most robust flash-optimized primary storage system HPE 3PAR StoreServ and the world's fastest, most scalable, and highly available backup system HPE StoreOnce Systems.

The result is a converged data protection solution that simply and efficiently delivers the end-to-end availability and backup that modern applications demand.

³ HP (now Hewlett Packard Enterprise) internal engineering testing, January 2014

⁴ The 119 percent is derived by dividing restore speed of 75 TB/hr by VTL backup speed of 63 TB/hr

HPE StoreOnce Systems

Drive description	(560) LFF SAS Maximum, depending on model
Drive type	4 TB 6G 7.2K LFF Dual-port MDL SAS 2 TB 6G 7.2K LFF Dual-port MDL SAS 2 TB 3G 7.2K LFF Dual-port MDL SAS Supported, depending on model
Capacity	8 TB to 2240 TB raw 5.5 TB to 1728 TB usable depending on model
Transfer rate	139 TB/hr Maximum, depending on model and backup interface
Deduplication	HPE StoreOnce federated deduplication
Storage expansion options	StoreOnce upgrade kits and expansion modules are available for all HPE StoreOnce productions (except 3100) and scalability is dependent on model selected
Host interface	10GbE and 8 Gb Fibre Channel and 1 Gb Ethernet and 1GbE, 10GbE vNIC Up to 4 Flexible I/O slots are available with StoreOnce 3520, 3540, and 5100 to provide options for future data protection requirements
RAID support	Hardware RAID 6 (RAID 5 with StoreOnce 3100 only)
Replication support	Yes—HPE StoreOnce Replication and StoreOnce Catalyst
Target for backup applications	NAS (CIFS/NFS), StoreOnce Catalyst, Virtual Tape Library
Tape devices emulated	HPE LTO-2/LTO-3/LTO-4/LTO-5/LTO-6 Ultrium Tape Drives in HPE MSL2024 Tape Library, HPE MSL4048 Tape Library, HPE D2D generic library with HPE D2D generic tape library. IBM TS3500 Tape Library and IBM TD3 Tape Drive
Number of NAS targets and virtual tape libraries	(384) maximum, depending on model
Maximum number of source appliances	(384) per target device
Form factor	19-inch rack
Warranty (parts/labor/onsite)	1/1/1

HPE StoreOnce VSA (Software Defined Data Protection)

Capacity	Licensed at 4 TB, 10 TB, 50 TB Upgrades from 4 TB to 10 TB and 10 TB to 50 TB Free 1TB StoreOnce VSA (no support)
License period	3 or 5 years license to use Can be extended at end of 3 or 5 year license term
Transfer rate	6 TB/hr Maximum, depending on licensed capacity and backup interface
Deduplication	HPE StoreOnce federated deduplication
Storage expansion options	Storage is allocated using virtual disks with 1 TB, 5 TB, or 10 TB sizes
Target for backup applications	Catalyst, CIFS, NFS over Ethernet, VTL
Replication support	Yes—HPE StoreOnce Replication and StoreOnce Catalyst
Tape devices emulated	HPE LTO-2/LTO-3/LTO-4/LTO-5/LTO-6 Ultrium Tape Drives in HPE MSL2024 Tape Library, HPE MSL4048 Tape Library, HPE D2D generic library with HPE D2D generic tape library
Number of virtual tape libraries and NAS targets	16 (50 TB StoreOnce VSA)
Maximum number of source appliances	12 (50 TB StoreOnce VSA)
Form factor	Virtual appliance
Support	Business hours phone support included for duration of license term. Can be upgrade with Care Packs

**HPE Storage Quick ROI Calculators**

Take five minutes to calculate the potential three year cost savings and ROI of migrating from your current storage to the newest HPE storage and backup systems. Create migration scenarios from your existing infrastructure to HPE StoreOnce Systems (information protection).

The total package

Data replication

Replication, is licensed by target appliance. Unlike some more expensive licensing schemes, no replication license is required for appliances that are only replication sources. The dedupe-optimized replication is available for the HPE StoreOnce Systems to provide centralized data protection and DR for remote offices. HPE StoreOnce Catalyst, licensed by the system or couplet, is one of the most efficient backup interfaces that simplifies management and enhances the efficiency of data movement across the enterprise.

For more information on licensing replication for the HPE StoreOnce Systems, visit the product's Q&A page at hp.com/go/StoreOnce.

Scalable upgrades

HPE StoreOnce Systems scale to meet the need to protect growing data volumes:

- HPE StoreOnce 3100 has a maximum usable capacity of 5.5 TB and no capacity upgrade is available.
- The VSA StoreOnce has 3 or 5 year licenses. StoreOnce VSA is licensed to enable up to 4 TB, 10 TB, or 50 TB of usable capacity. Capacity upgrades are available to increase maximum capacity from 4 TB to 10 TB and 10 TB to 50 TB.
- HPE StoreOnce 3520 and 3540 is designed for small and mid sized data centers and is an excellent replication target device and can connect up to 36 remote and branch offices. The StoreOnce 3520 delivers a scalable 2 U solution from 12 TB raw (7.5 TB usable) to 24 TB raw (15.5 TB usable) whereas, the StoreOnce 3540 scales from 24 TB raw (15.5 TB usable) to 48 TB raw (31.5 TB usable) within the same 2U footprint. Capacity is upgraded using a simple and cost effective capacity upgrade kit. Meet backup windows with speeds of up to 12.7 TB/hr using HPE StoreOnce Catalyst for protection of up to 50.8 TB of data in a 4 hour window.
- HPE StoreOnce 4900—start with 60 TB raw (36 TB usable) in a 7U unit and expand using up to 5x44 TB (36 TB usable) capacity upgrade kits to complete the first two storage drawers for up to 280 TB raw (216 TB usable). If more storage is needed, add an additional expansion kit containing 60 TB raw (36 TB usable) capacity and again add up to 5 additional 44 TB (36 TB usable) capacity upgrade kits to complete the second set of drawers for a total capacity of up to 560 TB raw (432 TB usable). Note that fully expanded, the HPE StoreOnce 4900 includes 4 drawers of disk (2 drawers in each unit). A fully configured HPE StoreOnce 4900 is 12U (or 36 TB per U in terms of density).

- HPE StoreOnce 5100 delivers cost-effective, scalable disk-based backup with deduplication for longer term onsite data retention and offsite disaster recovery for large data centers or regional offices. It also provides a replication target device for up to 50 remote or branch offices. StoreOnce 5100 delivers a scalable 2U to 14U solution from 48 TB raw (36 TB usable) to 288 TB raw (216 TB of usable) capacity and speeds of up to 26.7 TB/hr with HPE StoreOnce Catalyst for protection of over 213 TB of data in an 8-hour window.
- HPE StoreOnce 6500—start with 120 TB raw (72 TB usable) and expand to 2240 TB raw (1728 TB usable). HPE StoreOnce 6500 120 TB system consists of two nodes pre-integrated into HPE's standard depth 42U racks. Add up to 5 capacity upgrade kits to each couplet. Each upgrade kit contains 22x4 TB disks, giving 88 TB raw capacity (72 TB usable), allowing up to a maximum of 560 TB raw capacity (432 TB usable) associated with the original couplet. A fully configured couplet with 5 capacity upgrade kits, offers up to 560 TB raw capacity (432 TB usable). Add in one more HPE StoreOnce 6500 120 TB system and scale up by adding capacity upgrade kits. Giving a maximum configuration of two fully configured HPE StoreOnce 6500 120 TB systems of two couplets with a total capacity of 1120 TB raw capacity (864 TB usable) in a single rack. To scale out to 2240 TB raw (1728 TB usable) add an HPE StoreOnce 6500 120 TB backup for extra racks and populate as before.

HPE Data Protector software

HPE Data Protector is backup software that enables customers to centrally manage and orchestrate protection for data center and remote offices, from managing replication and store creation, to securing data in local storage and within the network; e.g., encrypted StoreOnce stores and IPsec. HPE Data Protector provides simple management without having to rethink how backup and restores are performed or taking on additional infrastructure spend. Data Protector 9 delivers adaptive intelligence, analytical reporting, secure data transfer, highly intuitive and interactive monitoring dashboard, rapid root-cause analysis and problem solving, and ability to predict capacity needs to optimize CAPEX/OPEX investments.

Periodic copy to HPE StoreEver Tape for archive

The StoreOnce Systems are ideal solutions for regular and daily backup; there is no longer any need to store daily incremental backups on tape. However, HPE still recommends periodic copy to tape as the most cost-effective, energy-efficient, and robust solution for long-term archival of data to meet regulatory requirements or offsite storage for disaster recovery where data replication is not an option. Copy to tape is executed using the backup and recovery management software such as HPE Data Protector. For more information, visit hp.com/go/StoreEver.

Resources

[QuickSpecs](#)

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 deployment. hp.com/go/factoryexpress

Gain the skills you need with HPE ExpertOne training and certification. With HPE Converged Storage training, you can accelerate your technology transition, improve operational performance, and get the highest return on your HPE 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

HPE Technology Services

Expert HPE storage consultants and service professionals sit down with you and your team to map your storage needs. Not only can we help you accelerate implementation and reduce deployment risk, but we can also help you realize the full value of your storage purchases as you transform storage for the New Style of IT.

Advise, transform, and integrate

Navigate through the complexities of storage, backup, archive, disaster recovery, and Big Data with advisory, transformation, and integration consulting.

Deploy and implement

Access expertise to support deployment, operations, relocation, sanitization, and disposal, plus improvement-focused education.

Operate and support

Find the level of personalized, proactive, and simplified support right for your business.

Note: Specific service availability varies by product

Foundation Care

System-level IT hardware and software support delivers flexible coverage window and response time for more choice and simplicity.

Proactive Care

Combined reactive and proactive services provide easy-to-purchase, cost-efficient system-level support coupled with personalized expert advice and products connected to HPE to help prevent problems and reduce downtime.

HPE Proactive Care Advanced—builds and incorporates on Proactive Care and also gives customers personalized technical and operational advice from an assigned, local Account Support Manager for personalized technical collaboration, flexible access to specialist skills to help optimize business critical IT, and Enhanced Critical Incident Management to help so the business is not affected if there is a system or device outage.

Datacenter Care

Get the support you need to deploy, operate, and evolve your data center environment to be hybrid-cloud ready with single-point-of-accountability for HPE and others' product. Get connected and get back to business—HPE Storage Technology Services provide the path to get your HPE Storage solutions and your business connected to HPE. Once connected, our experts are able to scan your system and run health checks, then use that data to create personalized reports and recommendations for actions to take to prevent problems and downtime.

Learn more at
hp.com/go/StoreOnce



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