Hewlett Packard Enterprise

HPE 3PAR StoreServ 8000 Storage

Effortless, Tier-1 flash with midrange affordability

Key features and benefits

Lower your total cost of storage with flash

- All-flash as low as $19,000 USD with 5-year warranty on all SSDs, no caveats

- Cut capacity requirements by at least 50 percent with data compaction technologies

- Simplify storage management and reduce footprint by 71 percent with unified block and file

- Get industry-leading density of 5.5 PB per floor tile

Deliver performance without compromise

- Remove bottlenecks with a flash-optimized, scale-out architecture delivering over 1 million IOPS and over 20 GB/s

- Protect service levels with QoS optimization and consistent, sub-millisecond latency

- Support mixed workloads and accelerate performance with the Gen5 Thin Express ASIC

- Boost flash performance by 35 percent and reduce latency by 2.5X with 16 Gbps Fibre Channel[2]

Avoid downtime and consolidate with confidence

- Maintain high availability and tier-1 resiliency with a complete set of persistent technologies

- Achieve near-synchronous RPOs with flexible, transparent, model-agnostic remote replication

- Simplify backup and restores with application-aware, flash-integrated data protection

- Protect against unauthorized access with Data-at-Rest encryption

[1] 25 percent overhead (RAID 5 7+1, + system overhead), 4:1 compaction, 2N system, 24x7 Proactive care 3 years, standard discount, Base OS

[2] Demartek Evaluation Report: All-Flash HPE 3PAR StoreServ 7450 Storage System and Generation 5 (Gen5) 16 Gb/s Fibre Channel (March 2015)

Looking to consolidate onto an enterprise-class flash array without compromising performance, scalability, data services, or resiliency? With unmatched versatility, performance, and density, HPE 3PAR StoreServ 8000 Storage has you covered.

HPE 3PAR StoreServ 8000 Storage delivers the performance advantages of a purpose-built, flash-optimized architecture without compromising resiliency, data services, or data mobility. A flash-optimized architecture reduces the performance bottlenecks that can choke hybrid and general-purpose disk arrays. However, unlike other purpose-built flash arrays, HPE 3PAR StoreServ 8000 does not require you to introduce an entirely new architecture into your environment to achieve flash-optimized performance.

As a result, you don't have to sacrifice rich, Tier-1 data services, quad-node resiliency, or flexibility to get midrange affordability. A choice of all-flash, converged flash, and tiered-flash models gives you a range of options that support true convergence of block and file protocols, all-flash array performance for $1.50 USD[1] per gigabyte usable, and the use of spinning media to further optimize costs. All-flash performance now starts at $19,000 USD with a full suite of thin technologies including Thin Deduplication and growth without disruption. Support for iSCSI connectivity gives you the flexibility to deploy flash using Ethernet while preserving sub-millisecond latencies.

You'll be up and running in just minutes, meeting mixed workload demands with improved service levels and virtually unlimited scalability options. You'll spend less time managing your storage with converged block, file, and object access from a single interface. You'll maintain high availability through a complete set of persistent technologies and have the option of simple and efficient data protection with flat backup to HPE StoreOnce Backup appliances. You'll rid yourself of tradeoffs that have forced you to sacrifice critical capabilities like all-flash performance for scalability and Tier-1 data services.

Figure 1: HPE 3PAR StoreServ Storage models

Respond effortlessly to unpredictable and changing demands
- Grow with freedom in any direction, from as little as 3 TB to 7.3 PB usable in a single system[3]
- Remove complexity with iSCSI for Ethernet or speed configuration with automated storage networking
- Modernize your EMC, HDS, and IBM storage infrastructure with painless, no-cost data migration
- Address storage at the data center level with seamless data movement between arrays
- Unify management with a single experience from device to data services to data center

Get industry-leading density
HPE compaction technologies not only drive flash affordability, but also improve scalability, specifically with relation to density.

Paired with data compaction technologies, this density means you can consolidate more data in a smaller footprint:
- Start with 280 TB usable capacity in a single 2U enclosure
- Grow to 5.5 PB usable capacity in a single rack
- Scale to 7.3 PB usable capacity in a single HPE 3PAR StoreServ 8000 system

The autonomic experience

Figure 2: The HPE 3PAR StoreServ Manage Console (SSMC) dashboard view provides health, performance, and capacity at a glance for up to 16 HPE 3PAR StoreServ arrays of any model

[3] Minimum configuration starts with six HDDs or SSDs. Maximum configuration includes 5.6 TB usable SSD capacity (with 4:1 compaction) and 1.7 TB usable HDD capacity (with 2:1 compaction)

[4] Subject to qualification and compliance with the HPE 3PAR Get Thin Guarantee Program Terms and Conditions, which will be provided by your HPE Sales or Channel Partner representative

[5] HPE internal analysis compared to EMC VNX, September 2014

Lower your total cost of storage with flash

With rich capabilities at a low entry price of $19,000 USD for all-flash performance and non-disruptive scalability to four nodes, HPE 3PAR StoreServ 8000 Storage eliminates tradeoffs. You no longer need to choose between affordability and Tier-1 resiliency or flash-optimized performance and Tier-1 data services. That's because HPE 3PAR StoreServ 8000 Storage shares the same flash-optimized architecture and software stack with the entire family of HPE 3PAR StoreServ arrays—so you'll not only get an industry-leading storage platform, but a storage platform that you can grow into, not out of.

Unlike bolt-on thin storage on legacy arrays, HPE 3PAR StoreServ 8000 Storage features hardware-enabled thin technologies—including in-line deduplication for any SSD tier—that allow the system to run in a state of consistent high-capacity utilization without performance tradeoffs. This allows you to save on the cost of a storage technology refresh and then increase storage ROI by keeping incremental purchases, administration, and operating costs low over time. In fact, the HPE 3PAR Get Thin Guarantee Program promises new HPE 3PAR StoreServ customers at least 50 percent reduction in capacity requirements by replacing legacy storage with HPE 3PAR StoreServ—guaranteed.[4]

When combined with high-density 3.84 TB SSDs, HPE 3PAR compaction technologies lower the cost of flash storage to below that of traditional 10K spinning media. In cases where there is a large amount of duplicate data, HPE 3PAR Thin Deduplication software also improves write throughput and performance. Other storage architectures that support deduplication are not able to offer these benefits at the same capacity and scale at the same performance level.

True convergence of block, file, and object access
With the optional HPE 3PAR File Persona Suite, you can unlock the native file and object access capabilities within any of 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, converged solution for provisioning both block volumes and file shares from a single storage system. Unlike traditional solutions, this 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 HPE 3PAR File Persona Suite is a licensed feature of the HPE 3PAR OS that enables a rich set of file protocols, file data services, and an Object Access API (REST). By unlocking File Persona capabilities, you gain the ability to provision file shares in addition to block volumes from a single user interface. This solution extends the spectrum of storage workloads natively addressed by the system's default Block Persona. The Block Persona is ideal for your virtualization, database, and application workloads with the File Persona enabling home directory and user shares, enhanced content management and collaboration, and data preservation and governance. By expanding the use of your system, 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.[5]

Flexible management that's so simple, it's autonomic
The HPE 3PAR StoreServ Management Console (SSMC) is a new way of managing your HPE 3PAR StoreServ Storage, making management effortless (figure 2). It is a sleek, Web-based console that gives you comprehensive, consolidated management of your entire converged storage deployment with HPE OneView integration. Support for a variety of application interfaces and for OpenStack® gives you unprecedented flexibility and increases productivity by giving your application and VMware® administrators greater visibility and control. Flexibly manage block, file, and object access from a single interface serving diverse workloads. Get all the information you need at a glance with customizable reporting capabilities. Remove the need for add-on software tools as well as diagnosis and troubleshooting that typically require professional services.

[6] Based on HPE internal testing with HPE 3PAR Adaptive Flash Cache enabled

[7] Based on a random, 100 percent write workload with an 8 KB block size

Assess what's happening across the entire data center in seconds via a simple dashboard and you are just one click away from collecting configuration and health information on any resource. Historical performance and capacity reports are also accessible with one click via HPE 3PAR System Reporter to help you plan future configuration changes to improve infrastructure investments.

Deliver performance without compromise

HPE 3PAR StoreServ 8000 Storage removes the bottlenecks that prevent legacy storage from taking full advantage of flash-based media. A flash-optimized architecture enables optimal performance of flash-based SSDs that may also be used as a true extension of DRAM cache. Block-level storage tiering and mixed workload optimization enable high levels of performance for both spinning and flash media.

This flash-optimized architecture allows the HPE 3PAR StoreServ 8000 Storage family to deliver multi-petabyte scalability with accelerated performance of over 1 million IOPS, over 20 GB/s, and sub-millisecond latency. This flash-optimized architecture relies on several unique HPE 3PAR StoreServ innovations:

- **Multi-controller, scale-out architecture:** Up to four controllers form a Mesh-Active cluster based on a unique system of controller node interconnects. Unlike traditional "Active/Active" architectures, this clustered design delivers robust, load-balanced performance and greater headroom for cost-effective scalability that overcomes the tradeoffs typically associated with modular and monolithic storage.

- **HPE 3PAR Gen5 Thin Express ASIC:** Supports mixed workloads and enables thin technologies to take place in silicon rather than consuming processing cycles, including in-line deduplication that alleviates performance issues that bog down other storage architectures. The Thin Express ASIC supports mixed workloads with extremely high performance levels so that transaction-intensive and throughput-intensive workloads run on the same storage resources without contention.

- **Adaptive read and write technology:** Matches host I/O size reads and writes to flash media at a granular level to avoid unnecessary data reads and writes to reduce latency, enhance backend performance, and extend flash media lifespan to lower the total cost of ownership (TCO) for storage.

- **Autonomic cache offload:** Reduces cache bottlenecks by automatically changing the frequency at which data is offloaded from cache to flash media based on utilization rate. This helps achieve consistently high performance levels as you scale up the workload to millions of IOPS.

- **Multi-tenant I/O processing:** Enables performance improvement for mixed workloads or virtual desktop infrastructure (VDI) deployments by breaking large I/O into smaller chunks so that small read requests don't get held up behind larger I/O requests, which helps ensure reduced latency.

- **Adaptive Flash Cache:** A feature that allows SSDs to act as a true extension of DRAM cache. This feature can improve throughput and reduce latency[6] with HPE 3PAR StoreServ Storage arrays that are configured with SSDs.

- **Express Writes:** Write acceleration that helps optimize CPU utilization and, depending on workload, delivers greater throughput, up to 30 percent more IOPS, and up to 20 percent reduced latency.[7]

- **Quality of Service (QoS) controls:** Reduce contention and certify that performance is delivered where you need it to support multi-tenancy. Optional software lets you quickly and easily assign minimum goals for I/O per second, bandwidth, and latency to protect mission-critical applications in enterprise environments (see sidebar).

Boost flash performance with 16 Gbps Fibre Channel

Need proof?
See the results from the Demartek Evaluation Report All-Flash HPE 3PAR StoreServ 7450 Storage System and Generation 5 (Gen5) 16 Gbps FC.

HPE StoreOnce Recovery Manager Central
Express Protect
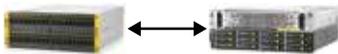
Figure 3: Simplify backup and restores with application-aware, storage-integrated data protection

Converged data protection with HPE StoreOnce Backup
If you are looking for virtually instant application-consistent backups for your VMware environment, look no further than rapid and granular backup and recovery with HPE StoreOnce Backup. With HPE StoreOnce Recovery Manager Central software, you get fast, efficient, flat backup from HPE 3PAR StoreServ Storage to HPE StoreOnce Backup. This solution transforms traditional approaches to backup and recovery, giving you application-aware, flash-integrated data protection that bypasses traditional backup server-based processes.

By connecting HPE 3PAR StoreServ Storage directly to HPE StoreOnce Backup, you can maintain business productivity by expediting the backup and recovery process and eliminating application performance impact. This streamlined backup process also reduces total cost of ownership for storage by leveraging HPE StoreOnce Backup systems for cost-effective backup retention. The native movement of snapshots from HPE 3PAR StoreServ Storage to HPE StoreOnce Backup confirms that online storage threats are quickly mitigated with highly-available, single-click data recovery. This is made possible by HPE StoreOnce Recovery Manager Central, which allows VMware owners to seamlessly manage snapshots, backup, and recovery directly from within VMware vCenter.

Boost flash performance by 35 percent and reduce latency by 2.5X with 16 Gbps Fibre Channel
When replacing traditional HDD storage with hybrid or all-flash arrays to serve high-performance workloads, it is critical to consider the role of your storage network and confirm that it is not acting as a bottleneck. For example, a typical OLTP workload can saturate 8 Gbps host Fibre Channel (FC) bandwidth without fully utilizing all of your compute or storage resources. To ensure you receive the anticipated returns on your flash investments, you may need to consider increasing your storage networking performance.

HPE 3PAR StoreServ Storage support for 16 Gbps offers a simple and immediate solution. By replacing the 8 Gbps FC components with 16 Gbps FC on your all-flash HPE 3PAR StoreServ array, FC switch and host FC HBAs, you can easily increase I/O bandwidth and IOPS by up to 35 percent and realize a 2.5X or better latency improvement, remaining significantly and consistently under a millisecond. With older 4 Gbps FC infrastructure in its end-of-support life and 8 Gbps FC infrastructure starting to end-of-life, now is the time to evaluate 16 Gbps technology for your flash deployments.

Avoid downtime and consolidate with confidence

A unique suite of persistent and encryption technologies power HPE 3PAR StoreServ 8000 Storage in delivering high-availability and Tier-1 resiliency to performance-critical applications:

- **Persistent Cache:** Preserves service levels, so they are not impacted by unplanned component failures—a key requirement for the virtual data center.

- **Persistent Ports:** Allows non-disruptive upgrades to HPE 3PAR StoreServ 8000 Storage systems without relying on multi-pathing software and without initiating failover. This feature also automatically fails over a front-end controller node port that experiences physical connection loss due to a cable or switch failure in order to preserve service levels.

- **Persistent Checksum:** Ensures end-to-end data integrity, protecting against silent corruption from the host to the storage array.

- **HPE 3PAR Peer Persistence:** Delivers effortless resilience that comes with VMware vSphere Metro Storage Cluster (vMSC) certification and support for Microsoft® Windows Server® and Microsoft Windows® Hyper-V environments. With Peer Persistence, you could also be able to federate storage across data centers without being constrained by physical boundaries. Automated failover and failback between two sites or data centers is transparent to hosts, which keeps your virtualized deployments seamlessly running even in the event of a disaster.

- **Data-at-Rest encryption:** Protects your data from both internal and external security breaches. If your application or environment requires protection from unauthorized access of the data, then consider the HPE 3PAR StoreServ Data-at-Rest Encryption solution. HPE 3PAR StoreServ models are fully FIPS 140-2 compliant, support intelligent key management, and available with self-encrypting drives (SEDs), where data is encrypted as it is written to the drive. You get peace of mind in knowing that all user data contained on these drives is protected against unauthorized access, regardless of hardware theft, drive failure, or drive retirement. HPE 3PAR Data-at-Rest Encryption supports all of the advanced data services on HPE 3PAR StoreServ Storage.

Affordable, flexible disaster recovery
In order to meet service-level demands for modern IT and cloud environments, high availability and uncompromising data protection are necessary. With HPE 3PAR StoreServ 8000 Storage, you can dramatically reduce the cost of remote data replication and disaster recovery with highly efficient, multi-mode replication across all HPE 3PAR StoreServ models.

HPE 3PAR Remote Copy Software, including new support for true asynchronous streaming, allows you to achieve low recovery time objectives (RTOs) and zero-data loss recovery point objectives (RPOs) with complete distance flexibility. In addition, since HPE 3PAR Remote Copy configuration is autonomic, set-up only requires one step so you can protect your data from the start. Refer to the HPE 3PAR Replication Software Suite data sheet for additional details on Remote Copy and related functionality.
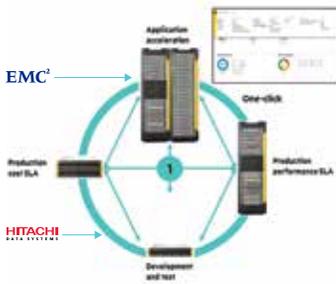
Figure 4: An elastic resource pool with one-click workload balancing

Respond effortlessly to unpredictable and changing demands

The one thing we know about the future is that it is unpredictable. So how do you prepare for data growth and new business initiatives in such an environment? You need storage that gives you the power to master the unpredictable. Storage that is scalable and can grow with you. Storage that is adaptable, so it supports a variety of different applications and workloads without sacrificing performance. Storage that supports non-disruptive data mobility, so the right data is in the right place at the right time, and painful data migrations are a thing of the past. And you need it all for a price you can afford.

With HPE 3PAR 8000 StoreServ Storage, you get rich storage federation capabilities among all HPE 3PAR StoreServ Storage array models, such as bi-directional data mobility. With this capability, you get the agility and flexibility to run workloads at the right cost and service level with one-click workload rebalancing (figure 4).

• Non-disruptively shift data between HPE 3PAR StoreServ 8000 Storage and any other HPE 3PAR StoreServ array without additional management layers, appliances, or overhead impact to host resources

• Map workloads to the right resources and establish tiers of storage across a data center for different SLAs

• Lower costs and manage capacity at a data center level by thinly provisioning volumes with the freedom to move data between systems non-disruptively

Refreshing your storage technology is effortless

With HPE 3PAR StoreServ Storage, you can refresh technology effortlessly by streamlining the movement of data from older systems and non-disruptively update storage without application impact. If you are looking to consolidate your HDS arrays, IBM XIV, EMC Symmetrix VMAX, CLARiiON CX4, or VNX arrays, HPE 3PAR Online Import Software make it easy for you.

Every HPE 3PAR StoreServ Storage system comes with this software at no additional charge for a year—giving you painless, non-disruptive migration. And if you are currently an HPE EVA Storage customer, you can use HPE 3PAR Online Migration to import data from your EVA system onto your new HPE 3PAR StoreServ array, providing you with a simple upgrade path.

Get more out of your virtualization deployment

HPE 3PAR StoreServ Storage is built to deliver performance that exceeds even the most stringent application demands along with transformative levels of simplicity, agility, and efficiency. Integration with Microsoft System Center and VMware vCenter gives you enhanced visibility into storage resources and precise insight into how VMs are mapped to data stores and system volumes. Support for VMware Virtual Volumes (VVOLs) enables granular VM-level storage control, disaster recovery, and QoS in environments with VMware vSphere.

Integration with VMware vSphere API for Array Integration (VAAI), VMware vStorage APIs for Storage Awareness (VASA), Microsoft Offload Data Transfer (ODX), and thin provisioning enable HPE 3PAR StoreServ Storage to improve virtual infrastructure performance, efficiency, and scalability. Low latency levels allow you to get more out of your VMware deployment, where extensive use of virtual memory pages to disk can limit VM consolidation on physical servers when paired with legacy storage. By contrast, deploying HPE 3PAR StoreServ Storage enables you to double VM density on your physical servers—guaranteed.[8]

If you are looking for virtually instant application-consistent backups for your VMware environment, look no further than rapid and granular backup and recovery with HPE StoreOnce Backup. With HPE StoreOnce Recovery Manager Central, you get fast, efficient, flat backup from HPE 3PAR StoreServ Storage to HPE StoreOnce Backup. This solution transforms traditional approaches to backup and recovery, giving you application-aware, storage-integrated data protection that bypasses traditional backup server-based processes.

[8] Subject to qualification and compliance with the HPE 3PAR Get Virtual Guarantee Program Terms and Conditions, which will be provided by your HPE Sales or Channel Partner representative

Technical specifications

	HPE 3PAR StoreServ 8200 Converged Flash	HPE 3PAR StoreServ 8400 Converged Flash	HPE 3PAR StoreServ 8440 Converged Flash	HPE 3PAR StoreServ 8450 All-Flash
Controller nodes	2	2 or 4	2 or 4	2 or 4
Maximum total cache	832 GiB	1664 GiB	8384 GiB	384 GiB
Maximum on-node cache	64 GiB	128 GiB	384 GiB	384 GiB
Total flash cache	768 GiB	1536 GiB	8000 GiB	N/A
Maximum number of HDDs	240	576	960	N/A
Maximum number of SSDs	120	240	480	480
Maximum raw capacity	750 TiB	2400 TiB	3000 TiB	1843 TiB
Maximum usable file capacity	128 TiB	256 TiB	256 TiB	256 TiB
16 Gbps Fibre Channel host ports	4–12	4–24	4–24	4–24
10 Gbps iSCSI host ports	0–4	0–8	0–8	0–8
10 Gbps FCoE host ports	0–4	0–8	0–8	0–8
1 Gbps Ethernet Adapter	0–8	0–16	0–16	0–16
10 Gbps Ethernet Adapter	0–4	0–8	0–8	0–8
Built-in 1 Gbps ports	2	2–4	2–4	2–4

HPE 3PAR Software and Suites

HPE 3PAR Operating System Software Suite	Required for all new HPE 3PAR StoreServ systems, this foundational software suite gives you everything you need to get up and running quickly and efficiently. Powered by HPE 3PAR Gen5 Thin Express ASIC, HPE 3PAR Thin Technologies HPE 3PAR Thin Provisioning, HPE 3PAR Thin Persistence, HPE 3PAR Thin Conversion, and HPE 3PAR Thin Deduplication form the base of this software suite. Performance acceleration is assured by HPE 3PAR Adaptive Flash Cache, which reduces application response times.
	Network simplification and security are covered with iSCSI VLAN tagging. Simplified management is offered by the HPE 3PAR StoreServ Management Console and HPE 3PAR Host—software designed to get you off to a quick start with your new HPE 3PAR StoreServ system. HPE 3PAR System Reporter and HPE 3PARInfo Software are designed to track performance and capacity utilization trends for multiple HPE 3PAR StoreServ Systems. Other highlights of this suite include HPE 3PAR Full Copy and autonomic rebalancing capabilities that help you optimize the use of future capacity expansions, and support for standard multi-pathing software for high availability in clustered environments. A one-year license for HPE 3PAR Online Import is included to enable migration from HPE EVA, EMC*, HDS† or IBM XIV Storage systems.
HPE 3PAR Replication Suite	This suite bundles HPE 3PAR Virtual Copy with HPE 3PAR Remote Copy Software, both also sold separately for all HPE 3PAR StoreServ models. HPE 3PAR Virtual Copy Software protects and shares data affordably with rapid recovery using reservation-less, non-duplicative, copy-on-write snapshots. HPE 3PAR Remote Copy offers simple and cost effective data protection for efficient multi-tenant disaster recovery.
	Also included in this bundle is HPE 3PAR Peer Persistence, which ensures transparent autonomic failover over metropolitan distances using Remote Copy Synchronous mode. For HPE 3PAR StoreServ 20000 and 8000 systems the Suite also includes Cluster Extension Software, which enables automatic failover across data centers using Remote Copy Asynchronous mode.
HPE 3PAR Data Optimization Software Suite	This software bundle combines HPE 3PAR Dynamic Optimization, HPE 3PAR Adaptive Optimization, HPE 3PAR Priority Optimization and HPE 3PAR Peer Motion Software together. HPE 3PAR Dynamic Optimization delivers the required service levels for the lowest possible cost throughout the data lifecycle. HPE 3PAR Adaptive Optimization improves storage utilization by enabling cost-optimized storage tiering. HPE 3PAR Priority Optimization assures service levels with QoS controls for mission-critical applications. HPE 3PAR Peer Motion enables load balancing at will, wherein movement of data and workloads between arrays does not impact, applications, users, or services. These four software titles bundled in this suite are also sold separately for all HPE 3PAR StoreServ models. Depending on purchase date, titles included in this suite may vary. Check the HPE 3PAR Software QuickSpecs for complete details.
HPE 3PAR File Persona Suite	This software suite enables a rich set of file protocols, file data services, and an Object Access API (REST) to extend the spectrum of primary storage workloads natively addressed by HPE 3PAR StoreServ Storage Systems.‡ With this solution, the architectural benefits of HPE 3PAR StoreServ Storage can be extended to the following use cases: enterprise file sync and share; home directory consolidation; enterprise file sync and share, group/corporate shares; and custom cloud applications.
HPE 3PAR Security Suite	This software suite bundles HPE 3PAR Virtual Domains and HPE 3PAR Virtual Lock Software. With this suite, you can segregate access and deliver robust storage services for different applications and user groups with additional security attached to the retention of storage volumes.
HPE 3PAR Application Software Suite for Microsoft Hyper-V	Protect your Microsoft Hyper-V environment with HPE 3PAR Recovery Manager for Microsoft Hyper-V and the HPE 3PAR VSS Provider Software, included in this software bundle.

HPE 3PAR Software and Suites (continued)

HPE 3PAR Application Software Suite for Microsoft Exchange	This bundle gives you the essentials for use with Microsoft Exchange, including HPE 3PAR Recovery Manager for Microsoft Exchange and the VSS Provider Software.
HPE 3PAR Application Software Suite for Oracle	Everything you need for protecting Oracle databases, including HPE 3PAR Recovery Manager for Oracle and Oracle space reclamation capabilities.
HPE 3PAR Application Software Suite for Microsoft SQL	Protect Microsoft SQL databases with HPE 3PAR Recovery Manager for Microsoft SQL and the HPE 3PAR VSS Provider Software.
HPE StoreOnce Recovery Manager Central	By combining the performance of snapshots with the protection of backups, this software integrates HPE 3PAR StoreServ with HPE StoreOnce Backup to provide a converged availability and flat backup service that augments traditional backup processes. With this automated, non-intrusive software, the simplicity and performance of local and remote snapshots can be combined with the reliability and cost-effective retention of deduplicated backups.

* HPE 3PAR Online Import support for EMC Storage extends to EMC VMAX, EMC VNX, EMC CLARiiON CX4 Storage systems.

† HPE 3PAR Online Import support for Hitachi Storage systems extends to Hitachi Data Systems (HDS), TagmaStore Network Storage Controller (NSC), Universal Storage Platforms (USP), and Virtual Storage Platforms (VSP) Storage systems.

‡ HPE 3PAR File Persona is available for 7200c, 7400c, 7440c, and 7450c; 8200, 8400, 8440, and 8450 midrange models, and 20450, 20800, and 20850 high-end models.

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 Business.

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.

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

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

HPE 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 Hewlett Packard Enterprise 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 Hewlett Packard Enterprise. 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. To learn more, visit hp.com/services/storage.

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