

# HP 3PAR StoreServ 7000 Storage



## Make storage effortless

### Key features and benefits

#### Grow with freedom in any direction

- One architecture and a single stack for HDDs and SSDs, from midrange to high end
- Meet block, file, and even object storage needs as they arise
- Ease data migration with storage federation software
- Affordable entry pricing and nondisruptive scalability to four nodes<sup>3</sup>

#### Get Tier 1 features, resiliency, and data mobility at a midrange price

- Automated disaster recovery (DR) configuration protects your data with one step
- Mixed workload support increases consolidation opportunities
- Persistent technologies deliver high availability and Tier 1 resiliency
- Snapshots for online recovery
- Storage federation for data mobility, including load balancing and painless data migration
- HP 3PAR Data-At-Rest (DAR) Encryption meets security and compliance requirements
- Industry-leading thin technologies cut capacity requirements in half
- Automated sub-volume tiering enhances service levels and reduces costs
- Flexible priority policy to assure service levels

#### Simple to install, own, and upgrade

- Software suites simplify purchasing and lower costs
- HP SmartStart and HP 3PAR Rapid Provisioning get you up and running in minutes
- Reconfigurable in just seconds without disruption
- Shared management console across all HP 3PAR StoreServ arrays simplifies administration
- Self-diagnostic and “phone home” capabilities automate support
- HP 3PAR Online Import makes upgrading from HP EVA Storage effortless

### Bulletproof Tier 1 storage at a midrange price

Have budget constraints forced you to settle for midrange storage that compromises performance and scalability? Is managing your storage taking up more and more time while delivering diminishing returns?

The gold standard storage platform for Tier 1 storage has extended its midrange offerings—delivering effortless, efficient, bulletproof, and future-proof storage for the entire midrange. HP 3PAR StoreServ 7000 Storage delivers the same industry-leading architecture chosen by 3 out of 4 of the world’s largest managed service providers (MSPs)<sup>1</sup> with pricing that makes compromises a thing of the past. Store all of your data on a single system that supports advanced features including storage federation and automated tiering, and that enables you to start small and grow without disruption. Make storage effortless.

With models that give you a range of options including the use of solid-state drives (SSDs), HP 3PAR StoreServ 7000 Storage is effortless to install, own, and upgrade. 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 and be able to meet new demands with increased responsiveness. You’ll get an architecture that meets your current block and file storage needs with enhanced efficiency using traditional spinning media, SSD-based media, or a combination of both. You’ll get an architecture also designed to meet your object storage needs as they emerge. You’ll rid yourself of tradeoffs that have forced you to sacrifice critical capabilities like performance for scalability or Tier 1 data services. You’ll even be able to double virtual machine (VM) density on your physical servers—guaranteed.<sup>2</sup>

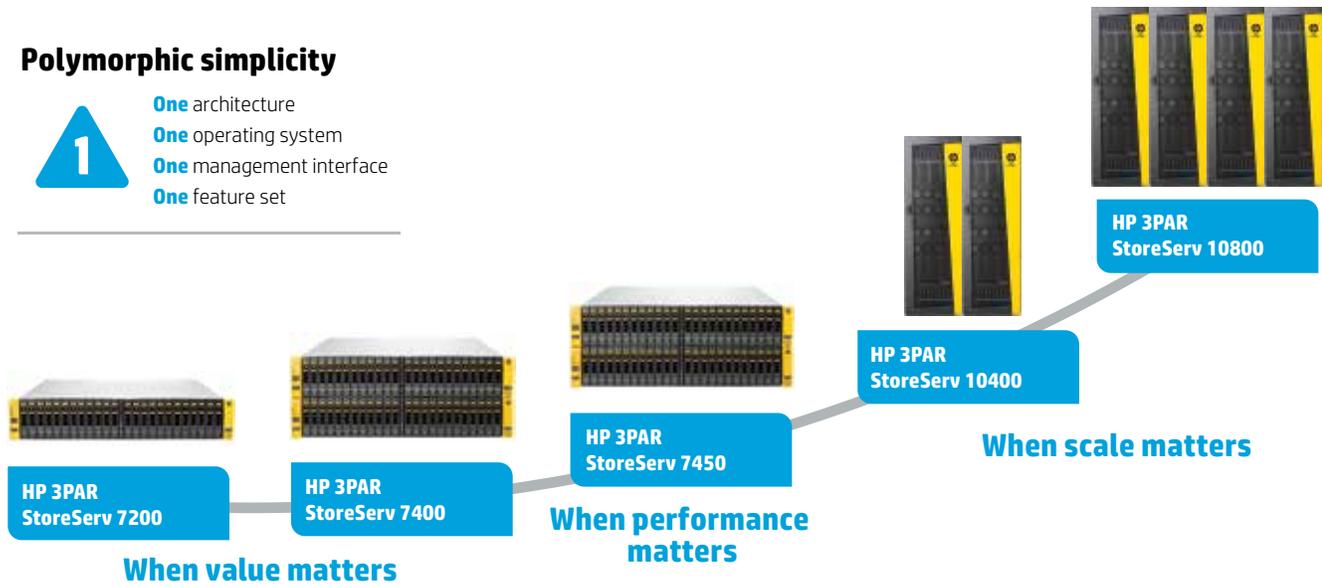
The HP 3PAR Operating System Suite that comes with HP 3PAR StoreServ 7000 Storage includes everything you need to get started, a true extension of DRAM cache and offering lower latency for read intensive workloads. Optional software suites are also available to offer advanced data optimization, replication, security, reporting, and application integration—making enterprise Tier 1 features available at a price that you can afford. It’s storage that offers the performance and flexibility you need to accelerate new application deployment and support server virtualization, the cloud, new service delivery models, data growth, or whatever else your future may hold—effortlessly.

**Figure 1.** HP 3PAR StoreServ Storage

## Polymorphic simplicity



- One** architecture
- One** operating system
- One** management interface
- One** feature set



### Inline zero block deduplication

- Improve performance and extend media endurance by automatically detecting zero-pages inline and updating metadata table without writing to SSDs
- Reduce expensive replication bandwidth by automatically detecting zero pages
- Increase storage efficiency across arrays by automatically detecting zeros with Peer Motion

## Ready for whatever your future may hold

The one thing we know about the future is that it's 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's adaptable, so it supports a variety of different applications and workloads without sacrificing performance. Storage that supports data mobility, so the right data is in the right place at the right time, making painful data migrations a thing of the past. And you need it all for a price you can afford.

With rich capabilities at an unbelievably low entry price and nondisruptive scalability to four nodes, HP 3PAR StoreServ 7000 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 HP 3PAR StoreServ 7000 Storage shares the same flash-optimized architecture and software stack with the entire line of HP 3PAR StoreServ arrays, so you'll not only get an industry-leading advanced storage platform, but you'll also be able to meet block and file storage needs today and object storage needs as they arise.

HP 3PAR StoreServ File Services offer a tightly integrated, converged solution that allows you to provision file shares and block volumes from a single user interface via native SMI-S capability on HP 3PAR StoreServ Storage. With this solution, the HP 3PAR StoreServ File Controller leverages HP 3PAR Thin Technologies to autonomously reclaim unused capacity on the array. With combined deduplication and thin provisioning capabilities, HP 3PAR StoreServ Storage provides the most efficient converged file and block solution available.

Mastering the unpredictable also means being able to move data and workloads between arrays without impact to your applications, users, or services. With HP 3PAR StoreServ 7000 Storage, you can simply and nondisruptively shift data between HP 3PAR StoreServ systems of any model without additional management layers or appliances. The underlying storage federation capabilities that make this seamless data movement possible can also help improve availability in clustered VMware environments. And if you are currently an HP EVA Storage customer, this seamless data mobility allows you to effortlessly import your data from your current EVA system onto your new HP 3PAR StoreServ array, providing you with a simple upgrade path.

<sup>1</sup> 451 Research—Market Monitor, 2012.

<sup>2,7</sup> The above is intended to highlight certain aspects of our Get Virtual Guarantee and does not contain the full terms, conditions, limitations, definitions, and other provisions ("terms") of the Get Virtual Guarantee. The terms shall be contained in a written Get Virtual Guarantee terms and conditions, which shall take precedence over the above. Qualification for the Get Virtual Guarantee is subject to your acceptance of the Get Virtual Guarantee terms and conditions and your compliance with such terms. A copy of the Get Virtual Guarantee terms and conditions will be provided to you by your sales representative.

<sup>3</sup> Scalability to four nodes restricted to the HP 3PAR StoreServ 7400.

## The gold standard for Tier 1 storage, now for all of the midrange

High availability and uncompromising data protection are must-haves for any enterprise data center—not just those that can afford high-end storage. With HP 3PAR StoreServ 7000 Storage, you can dramatically reduce the cost of remote data replication and DR with highly efficient, multimode replication across all HP 3PAR StoreServ models.

Part of the HP 3PAR 7000 Replication Software Suite, HP 3PAR Remote Copy software allows you to achieve low recovery-time objectives (RTOs) and zero-data-loss recovery-point objectives (RPOs) with complete distance flexibility. And because HP 3PAR Remote Copy configuration is autonomic, you can simply and quickly complete set-up in one step to ensure that your data is protected from the start.

A suite of unique persistent technologies powers HP 3PAR StoreServ 7000 Storage in delivering high availability and Tier 1 resiliency to the midrange. HP 3PAR Persistent Cache preserves service levels so they are not impacted by unplanned component failures—a key requirement for the virtual data center. HP 3PAR Persistent Ports allows nondisruptive upgrades to HP 3PAR StoreServ 7000 Storage systems without relying on multipathing software or failover initiation and now automatically fails over a front-end controller node port that experiences physical connection loss such as a cable or switch failure.

Effortless resilience is delivered by HP 3PAR Peer Persistence software, with VMware vSphere Metro Storage Cluster (vMSC) certification. With Peer Persistence, you'll also be able to federate storage across data centers, regardless of physical boundary constraints. Automated failover and failback between two sites or data centers is transparent to hosts, which keeps your VMware deployments seamlessly running even in the event of a disaster.

A flash-optimized architecture enables optimal performance of flash-based SSDs while block-level storage tiering and mixed workload optimization enable high levels of performance for both spinning and non-spinning media, so you can put more applications on the same storage to lower total infrastructure cost. Unlike traditional arrays that require you to “scale up” to support growth or increase performance, the platform's clustered, Mesh-Active design, with fine-grained virtualization and system-wide striping, delivers capacity and performance that scales even at extremely high capacity utilization levels.

<sup>4</sup>The above is intended to highlight certain aspects of our Get Virtual Guarantee and does not contain the full terms, conditions, limitations, definitions, and other provisions (“terms”) of the Get Virtual Guarantee. The terms shall be contained in a written Get Virtual Guarantee terms and conditions, which shall take precedence over the above. Qualification for the Get Virtual Guarantee is subject to your acceptance of the Get Virtual Guarantee terms and conditions and your compliance with such terms. A copy of the Get Virtual Guarantee terms and conditions will be provided to you by your sales representative.

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Flash-optimized software innovations like the HP 3PAR Adaptive Read and Write features enable a more granular approach than can be achieved with spinning media by matching host I/O size reads and writes to flash media to avoid unnecessary data reads and writes. This significantly reduces latency and enhances backend performance to meet the requirements of response-time sensitive applications like Oracle Database and Microsoft® Exchange. Reducing unnecessary writes also helps extend the life of flash-based media for better cost-efficiency. Additional innovations to the HP 3PAR StoreServ Storage platform deliver media endurance benefits that enable you to extend the life of your SSDs to get the most out of every dollar and I/O for increased storage return on investment (ROI).

A high-performance architecture also allows you to get more out of your VMware vSphere deployment, where extensive use of virtual memory pages to disk can limit VM consolidation on your physical servers when paired with legacy storage, but not with HP 3PAR StoreServ Storage. In fact, HP stands behind your ability to double VM density on your physical servers when replacing legacy storage with HP 3PAR StoreServ Storage, including the 7000 series models, with the industry's only Get Virtual Guarantee.<sup>4</sup>

In the area of effortless efficiency, unlike bolt-on thin storage on legacy arrays, HP 3PAR StoreServ 7000 Storage features hardware-enabled thin technologies 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 HP Get Thin Guarantee promises new HP 3PAR StoreServ customers at least 50 percent reduction in capacity requirements by replacing legacy storage with HP 3PAR StoreServ—guaranteed.<sup>5</sup>

## Currently an HP EVA Storage customer? Upgrading to HP 3PAR StoreServ Storage is effortless!

If you are an existing HP EVA Storage customer looking for a pain-free evolution that takes the best of EVA into the future of storage, then look no further than HP 3PAR StoreServ 7000 Storage. With the new Online Import feature, you can quickly and easily move data from HP EVA to HP 3PAR StoreServ Storage using HP Command View EVA. The upgrade process couldn't be simpler, and HP 3PAR StoreServ Storage is everything you could want in a next generation of EVA—and more.

Policy-driven, autonomic storage tiering technologies also make efficiency effortless by balancing cost and performance to meet service-level requirements for the lowest cost, while increasing business agility and mitigating risk. For example, HP 3PAR Adaptive Optimization software leverages a proven, fine-grained data movement engine and applies it to independent regions within a volume to deliver highly reliable, nondisruptive, autonomic-tiered storage to provide the right quality of service (QoS) to the right data at the right time so you can meet service level targets.

The HP 3PAR StoreServ Data at Rest Encryption solution protects data from both internal and external security breaches. If your application or environment requires protection from unauthorized access of the data on a drive, then you should consider this solution. HP 3PAR StoreServ models are available with self-encrypting drives (SEDs), where data is encrypted as it is written to the drive. You get the peace of mind in knowing that all data contained on these drives is protected against unauthorized access, even if a drive is stolen, fails, or has to be retired. 3PAR StoreServ now offers drives that are FIPS 140-2 validated, which is often a compliance requirement in Health Care, Financial and Public Sector market segments.

Support for multitenant storage is a must-have requirement in modern data centers. But multitenancy can create resource contention. With HP 3PAR Priority Optimization software, you can reduce this contention by limiting maximum performance or setting a minimum goal for IOPs and bandwidth for a specific application, tenant, or workload. It provides high-priority applications with all the resources they need to meet service levels. It enables certainty and predictability for all applications and tenants.

## Incredibly simple to install, own, and upgrade

Simplicity saves you money, but it must be there from the start. With HP 3PAR StoreServ 7000 Storage, streamlined software suites make selecting and purchasing enterprise-class features simple and affordable.<sup>6</sup> In addition, you get:

- **HP 3PAR SmartStart:** New SmartStart installation gets you up and running in six quick and easy steps, while Rapid Provisioning reduces array planning by intelligently and autonomically managing system-wide striping of data across internal resources.
- **HP 3PAR Autonomic Groups:** Autonomic Groups gives you the flexibility to create host, volume, and domain groups to further automate and expedite storage provisioning, both now and in the future. Three clicks and 60 seconds are all you need to fully create and provision multiple volumes to multiple servers. All of these volumes are reconfigurable in just seconds, without disruption and without compromise.
- **HP 3PAR Management Console:** A unified, point-and-click interface that supports all HP 3PAR StoreServ arrays, makes management effortless. Rich instrumentation and robust, customizable reporting capabilities remove the need for add-on software tools as well as diagnosis and troubleshooting that require professional services.
- **Open administration support:** Open administration support is provided via SNMP, Storage Management Initiative Specification (SMI-S), and a recently added Web services application programming interface (API).
- **Secure Services Architecture:** Ongoing support is also effortless with HP 3PAR StoreServ 7000 Storage, which features automated support and is designed to be self-healing. Behind this capability is the HP 3PAR StoreServ technical services enablement platform known as the Secure Services Architecture. This platform creates a dedicated, enhanced-security communication channel between the system and remote support resources. Diagnostic information such as system health statistics, configuration data, performance data, and system events are periodically collected on each HP 3PAR StoreServ array and transferred to HP for remote diagnostic analysis and proactive fault detection.

<sup>6</sup>See page 7 for descriptions of each of these suites.

## Storage built for server virtualization

Virtualizing your data center? Then you probably know that server virtualization can stretch traditional storage to the breaking point when it comes to performance, availability, efficiency, and manageability. Addressing these requirements is critical to achieving full business benefit from server virtualization. HP 3PAR StoreServ 7000 Storage is designed from the ground up to help you optimize VM density, reduce storage costs, and simplify management with virtualization software from VMware, Microsoft, and Citrix.

HP 3PAR StoreServ Storage removes storage as a bottleneck from your virtualization deployment by delivering high I/O performance and workload agility—effortlessly. As a result, you can double VM density on your physical servers for greater consolidation and cost savings and lower application deployment costs.<sup>7</sup>

HP 3PAR StoreServ integration with VMware vCenter and Microsoft System Center gives you enhanced visibility into storage resources and precise insight into how VMs are mapped to data stores and system volumes. HP 3PAR Recovery Manager for VMware vCenter provides vSphere administrators with superior granularity and control of array-based snapshots that can be used for rapid online data protection and recovery. Integration with VMware VAAI, vSphere APIs for Storage Awareness (VASA), Microsoft Offload Data Transfer (ODX), and HP 3PAR Thin Provisioning enables HP 3PAR StoreServ Storage to improve virtual infrastructure performance, efficiency, and scalability.

In client virtualization environments, HP 3PAR StoreServ Storage delivers industry-leading performance, high availability, dynamic tiering, and advanced storage virtualization features. This delivers a seamless user experience, enables “bring your own device” (BYOD) and desktop modernization, and drives down IT administration costs. Organizations that have deployed HP 3PAR StoreServ Storage in client virtualization environments consistently cite reduced total cost of ownership (TCO) and increased ROI as two of the key advantages it has delivered.

## Storage customized for your applications

Your critical business infrastructure and applications require a single storage infrastructure that can deliver the service levels, application availability, and efficiencies that your business requires. HP 3PAR StoreServ 7000 Storage allows you to consolidate applications onto a single, high-performance system, giving your business the flexibility to meet changing business needs on demand.

In Microsoft SQL Server 2012 and Oracle Database deployments, HP 3PAR StoreServ 7000 Storage meets the performance demands of your databases via mixed workload support and the ability to scale down to smaller system capacities, while HP 3PAR Adaptive Optimization software delivers balanced performance and cost. HP 3PAR Thin Provisioning software and the use of Common Provisioning Groups (CPGs) allow your database deployment to grow over time, simplifying your initial design and sizing. With HP 3PAR Recovery Manager for Microsoft SQL Server and Oracle, you can automatically create and manage hundreds of application-consistent, reservationless, point-in-time (PIT) snapshots of Microsoft SQL Server and Oracle databases for rapid online recovery and near-continuous data protection. Oracle Database 11g with Automatic Storage Management (ASM) and HP 3PAR Thin Provisioning simplify database storage management and enable enhanced resource utilization, resulting in unmatched cost of storage.

With Microsoft Exchange 2010, HP 3PAR StoreServ 7000 support for HP 3PAR Rapid Provisioning simplifies deployment of new Exchange mailboxes by provisioning storage, creating RAID groups, and adjusting logical unit numbers (LUNs) in seconds with no preplanning required. HP 3PAR Thin Technologies remove the need for full provisioning of storage since Exchange database availability groups (DAGs) consume only what they need. Autonomic storage tiering gives you the flexibility to meet a wide variety of Exchange workloads within the same mailbox database while also reducing cost. HP 3PAR Recovery Manager for Microsoft Exchange uses a unique asynchronous periodic mode to deliver a DR solution that provides data integrity and application-consistent snapshots at the remote site.

SAP landscapes feature unique challenges such as exponentially growing SAP database instances, the need to improve storage performance while increasing availability for SAP systems, and the need to keep up with rapid deployment of virtualized SAP systems. HP 3PAR StoreServ 7000 Storage addresses these challenges with capabilities such as industry-leading thin technologies for defining the SAP database size of tomorrow while paying for the hardware requirements of today. HP 3PAR Autonomic Groups and HP 3PAR Virtual Domains simplify SAP database provisioning and organization of storage resources, while system-wide striping meets SAP environment demands for low-latency I/O response times under all conditions.

In Microsoft Windows® Server 2012 environments, built-in, fine-grained virtualization, system-wide striping, and support for multitenancy give you the ability to consolidate mixed workloads onto a single HP 3PAR StoreServ 7000 system. With Windows Server 2012 Offload Data Transfer (ODX) and HP 3PAR StoreServ 7000 Storage, you can migrate large files—such as databases or video assets—up to seven times faster with near-zero network impact due to zero-detection capability built into the HP 3PAR StoreServ ASIC. HP 3PAR Thin Technologies and Windows Server 2012 automatic reclamation of storage automate storage growth and shrinkage, while HP 3PAR Adaptive Optimization software delivers the right QoS to the right data at the right time in Windows Server 2012 environments.

## Technical specifications



**HP 3PAR StoreServ 7200**



**HP 3PAR StoreServ 7400**

	HP 3PAR StoreServ 7200	HP 3PAR StoreServ 7400
Controller nodes	2	2/4
Max. SFF drives	240 <sup>8</sup>	240/480
Max. LFF drives	216 <sup>9</sup>	216/432
Cache	24 GB	32/64 GB
Max. 8 Gb/s FC ports	12 = 4 (built in) + 8 (optional)	24 = 4/8 (built in) + 8/16 (optional)
Max. 10 Gb/s iSCSI/FCoE	4 (optional)	4/8 (optional)
Built-in IP remote copy port (can also use FC ports)	2	2/4
Controller enclosure	2U with 24 SFF drive slots (2x for a 4-node 3PAR StoreServ 7400)	
Drive enclosure (can be mixed behind one controller pair)	SFF drive enclosure: 24 slots in 2U LFF drive enclosure: 24 slots in 4U	

<sup>8,9</sup> For systems running HP 3PAR OS 3.1.3 or later. For more information on technical specifications, refer to the [QuickSpec](#).

## Software suites for HP 3PAR StoreServ Storage

HP 3PAR StoreServ Storage supports the same OS and software offerings as the other members of the HP 3PAR StoreServ family. As with all HP 3PAR StoreServ models, you have the opportunity to purchase software bundled into a series of suites designed to simplify purchasing and save you money. Selected software titles may also be purchased separately, as indicated below.

<b>HP 3PAR Operating System Software Suite</b>	Required for all new HP 3PAR StoreServ systems, this foundational software suite gives you everything you need to get up and running quickly and efficiently. This suite includes the HP 3PAR Operating System, including HP 3PAR Management Console, HP 3PAR Host Explorer, and HP 3PAR SmartStart <sup>10</sup> —software designed to get you off to a quick start with your new HP 3PAR StoreServ system. It also includes all of the platform’s thin software offerings—HP 3PAR Thin Provisioning, HP 3PAR Thin Conversion, and HP 3PAR Thin Persistence. Other highlights of this suite include HP 3PAR Full Copy, autonomic rebalancing capabilities that help you get optimal use out of future capacity expansions, and support for standard multipathing software for high availability in clustered environments. A 180-day license for online import is included to enable migration from HP EVA Storage.
<b>HP 3PAR Replication Software Suite</b>	This optional suite bundles HP 3PAR Virtual Copy with HP 3PAR Remote Copy software, both also sold separately for all HP 3PAR StoreServ models. Included in this bundle is Peer Persistence, which enables peer federation for VMware clusters to improve overall availability. Licensed based on system capacity.
<b>HP 3PAR Data Optimization Software Suite</b>	This optional software bundle combines HP 3PAR Dynamic Optimization, HP 3PAR Adaptive Optimization, HP 3PAR Peer Motion, and HP 3PAR Priority Optimization software so you can move data and workloads between arrays without impacting applications, users, or services. Licensed based on system capacity, the four software titles bundled in this suite are also sold separately for all HP 3PAR StoreServ models. Depending on purchase date, titles included in this suite may vary. Check the <a href="#">HP 3PAR Software QuickSpec</a> for complete details. For the 10000 models only, HP 3PAR Optimization Suite is available and includes Adaptive Optimization and Dynamic Optimization.
<b>HP 3PAR Security Software Suite</b>	This optional suite bundles HP 3PAR Virtual Domains and HP 3PAR Virtual Lock Software, both also sold separately for all HP 3PAR StoreServ models. 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. Licensed based on system capacity.
<b>HP 3PAR Application Software Suite for VMware</b>	Everything you need to make your VMware environment more agile and efficient—including HP 3PAR Recovery Manager for VMware, Host Explorer for VMware, VASA support, and three essential plug-ins: the VMware Site Replication Manager (SRM) Adapter, the HP 3PAR VAAI Plug-in, and the HP 3PAR Management Plug-in for VMware View. This suite is optional and licensed on a per-system basis.
<b>HP 3PAR Application Software Suite for Hyper-V</b>	Protect your Microsoft Hyper-V environment with HP 3PAR Recovery Manager for Microsoft Hyper-V and the HP 3PAR VSS Provider software, included in this optional suite and licensed on a per-system basis.
<b>HP 3PAR Application Software Suite for Exchange</b>	This bundle gives you the essentials for use with Microsoft Exchange, including HP 3PAR Recovery Manager for Exchange and the VSS Provider software. This suite is optional and licensed on a per-system basis.
<b>HP 3PAR Application Software Suite for Oracle</b>	Everything you need for protecting Oracle Databases, including HP 3PAR Recovery Manager for Oracle and Oracle space reclamation capabilities, sold as an optional suite and licensed on a per-system basis.
<b>HP 3PAR Application Software Suite for SQL</b>	Protect Microsoft SQL DB with HP 3PAR Recovery Manager for Microsoft SQL and the HP 3PAR VSS Provider software, bundled with this optional suite and licensed on a per-system basis.
<b>HP 3PAR Reporting Software Suite</b>	Enhance system visibility and reporting capabilities with this optional suite, which includes HP 3PAR System Reporter software and the HP 3PARinfo application, licensed on a per-system basis.

<sup>10</sup> HP 3PAR SmartStart is available for the 7200, 7400, and 7450 models only.

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment.

[hp.com/go/hpfinancialservices](http://hp.com/go/hpfinancialservices)

HP 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.

Visit [hp.com/go/factoryexpress](http://hp.com/go/factoryexpress).

## HP Technology Services

Choose from a rich portfolio of services to make the most of HP Storage, so you can move with confidence to take full advantage of the broadest, most advanced portfolio in the industry.

**Discover, plan, and design**—services to help you understand your options and build it right from day one:

- HP Backup Recovery Efficiency Analysis
- HP Backup Recovery Impact Analysis
- HP Backup Recovery Modernization
- HP Storage Cloud Design Service

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

[hp.com/learn/storage](http://hp.com/learn/storage)



Take five minutes to calculate the potential three-year cost savings and ROI you can expect by migrating from your current storage to an HP 3PAR StoreServ solution. [Click here](#) to go to the HP Storage Quick ROI Tool.

**Deploy and integrate**—increase uptime and decrease risk as you free up your resources:

- HP 3PAR StoreServ Storage Installation and Startup Service
- HP 3PAR Software Installation and Startup Service
- HP EVA to HP 3PAR StoreServ Acceleration Service
- HP Data Replication Solution Service
- HP Enhanced Implementation Service for SANs
- HP 3PAR Adaptive Optimization Policy Implementation Service
- HP Storage Virtual Volume Design and Implementation Service
- HP Thin Volume Conversion Service
- HP 3PAR StoreServ Health Check
- HP Performance Analysis Service
- HP 3PAR Rebalance Service
- HP 3PAR Storage Assessment Service
- HP Proactive Select
- HP 3PAR StoreServ Replication Software Suite Installation and Startup Service

**Operate and support**—meet service level agreements (SLAs) with the right support level.

Choose from three levels of operate and support care:

- **Optimized Care**—delivers the highest levels of performance and stability through deployment and proactive management practices:  
HP Critical Service  
Additional options: 10 HP Proactive Select credits per year, per array
- **Standard Care**—maintains a high level of uptime, along with expert help to cut the cost and complexity of implementation and support:  
HP Proactive Care 24x7—plus, 20 credits per year, per array  
Additional options: HP Proactive Care Personalized Support (once per each new Proactive Care support environment), HP Personalized Support Additional Day, and an additional 10 HP Proactive Select credits per year, per array
- **Basic Care**—minimum recommended support  
Proactive Care 24x7—plus, 10 credits per year, per array  
Additional options: HP Proactive Care Personalized Support (once per each new Proactive Care support environment), HP Personalized Support Additional Day, and an additional 10 HP Proactive Select credits per year per array

If none of our support recommendations meets your needs, we can tailor a service solution for your unique support requirements. Only HP 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, visit [hp.com/services/storage](http://hp.com/services/storage).

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