Effortless storage. Today. Tomorrow. Every day.

HP 3PAR 7000 Data Optimization Software Suite

HP 3PAR StoreServ 7000 Storage: agile Tier 1 storage capabilities at a midrange price

As an organization that constantly makes leaps and strides toward growth, you've seen firsthand what it means to maintain a perfect balance between managing large and increasing data volumes, rising business demands, cost efficiency, and sustainable growth. And while you juggle these multiple facets within your business, you also consider advancements and changes on the outside that can deeply impact what goes on inside your business.

HP 3PAR StoreServ 7000 Storage is an easy-to-deploy, affordable, upgradable system that has been designed from the ground up to meet fluctuating and mixed workload demands. With efficient, autonomic, and resilient Tier-1 capabilities and a unique, quad-node-capable storage architecture, HP 3PAR StoreServ 7000 Storage provides affordable scalability to your data center, meeting your application demands and enabling sustainable growth. HP 3PAR StoreServ 7000 Storage prepares and supports your data center regardless of what your future holds—whether it's server virtualization, an infrastructure refresh, or just simplifying storage to more efficiently handle rapid data growth.

Get smart with data optimization for HP 3PAR StoreServ 7000 Storage

The HP 3PAR 7000 Data Optimization Software Suite is designed specifically for storage requirements that are constantly changing. This software suite bundles HP 3PAR Dynamic Optimization software, HP 3PAR Adaptive Optimization software, and HP 3PAR Peer Motion software to help you react quickly to constant ups and downs in allocation, capacity, and performance more economically than purchasing these technologies separately. The HP 3PAR 7000 Data Optimization Software Suite also allows you to redistribute and refresh your storage nondisruptively, thus simplifying management, reducing problem-solving, and increasing management efficiency.

Key features and benefits

The agility to do more for less

Policy-driven, autonomic storage tiering technologies make efficiency effortless by balancing cost and performance to meet service-level requirements for the lowest cost while increasing business agility and minimizing risk. The HP 3PAR 7000 Data Optimization Software Suite 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

Key features and benefits

Autonomic storage tiering
- Reduces storage cost by accommodating usage spikes
- Delivers the required service level with fine-grained data movement
- Migrates data to less expensive storage tiers without manual intervention
- Allows varied tier definitions and usage limits by application

Optimized data quality-of-service levels
- Adjusts volume service levels nondisruptively
- Enhances data service levels by tuning array characteristics
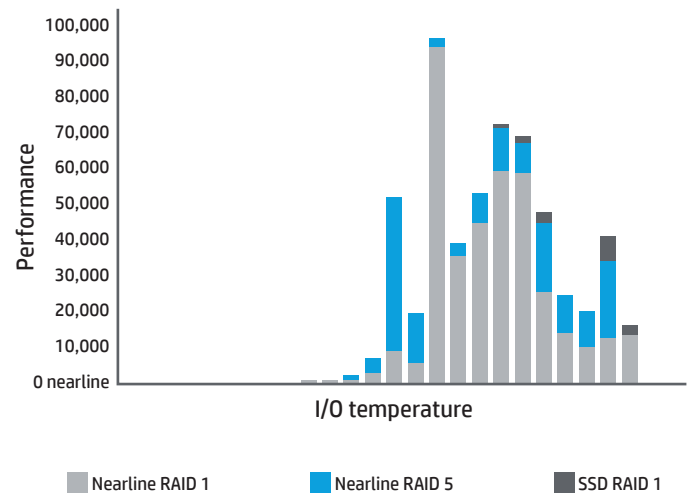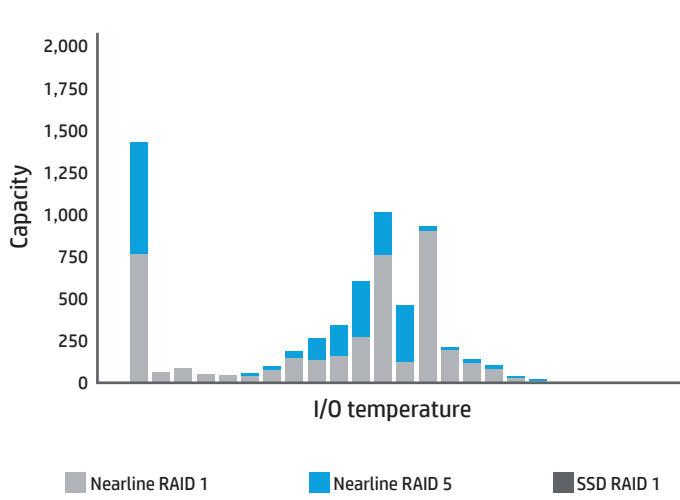
Nondisruptive data mobility
- Efficiently uses storage resources with online, nondisruptive data placement
- Performs technology refreshes seamlessly
- Right sizes storage capacity to match written data

at the right time so you can meet service-level targets for up to 30 percent less.

The inclusion of HP 3PAR Adaptive Optimization software in this suite helps deliver an increase in IOPS and reduced latency at a lower storage cost than traditional storage. Adaptive Optimization operates on the principle of I/O access density, which is the observation that for most applications, a very small amount of the total user data receives most of the I/O accesses. By configuring only the very active data blocks on Tier 0 storage and the rest of your application data on SAS or nearline SAS storage, an HP 3PAR StoreServ 7000 Storage system configured with a small number of solid state drives (SSDs) can deliver higher performance at a lower cost than traditional storage platforms. HP 3PAR Adaptive Optimization works with the HP 3PAR Security Software Suite to analyze actual user I/O patterns, which enables Adaptive Optimization to move only the blocks with high I/O activity to premium SSD storage.

Using System Reporter with Adaptive Optimization also enables you to react swiftly to changing business needs while delivering service-level optimization over the entire application lifecycle—autonomically and nondisruptively. With this software combination, you can prioritize each application by configuring up to three storage tiers (each defined by drive type, RAID level, stripe width, and/or radial placement of data). From this point on, Adaptive Optimization intelligently monitors sub-volume performance and applies the user-specified policies to move data autonomically and nondisruptively using QoS gradients to shift that data at a

By using Adaptive Optimization with System Reporter, you can efficiently monitor workloads.

Nearline RAID 1 Nearline RAID 5 SSD RAID 1

Nearline RAID 1 Nearline RAID 5 SSD RAID 1

granular level toward the most appropriate resources according to changing QoS demands. Support for multiple Adaptive Optimization configurations and for the coexistence of tiered and non-tiered application volumes provides the flexibility to consolidate a wide range of applications onto a single array.

Become more proactive

With the inclusion of HP 3PAR Dynamic Optimization software in the Data Optimization Suite, you'll be able to realign application requirements with data QoS levels on demand by nondisruptively redistributing application volumes across tiers. Dynamic Optimization analyzes how volumes use physical disks and automatically makes intelligent, nondisruptive adjustments to help ensure optimal volume performance and capacity utilization.

Dynamic Optimization also gives you the ability to nondisruptively alter service levels associated with a storage volume with a single click. Use Dynamic Optimization to seamlessly adjust the following service level parameters for optimizing data QoS levels:

- **RAID level**
  For example, convert between RAID 10 and RAID 5, or RAID 10 and RAID 6.
- **Subsystem failure protection level**
  For example, a volume with "cage-level" availability can tolerate the failure of a drive enclosure because its RAID sets use chunklets from different drive enclosures, while a volume with "drive-level" availability can tolerate a drive failure.
- **Drive type**
  Choose between SSDs, enterprise-class SAS drives, or more economical midline SAS drives.
- **Stripe width**
  Stripe volumes across a variety of system resources (controllers, cache, disks, and loops) to leverage the system's fine-grained virtualization capabilities and achieve superior performance.

- **Radial placement**
  Place data directly on inner or outer tracks of disk platters to impact performance.

Hassle-free data movement

Nondisruptive data mobility across systems enables you to load balance at will, refresh technology seamlessly, reduce asset lifecycle management costs, and lower technology-refresh CAPEX. As part of the HP 3PAR 7000 Data Optimization Software Suite, HP 3PAR Peer Motion software is the first nondisruptive, do-it-yourself data migration tool for SAN storage.

HP 3PAR Peer Motion software saves CAPEX on your technology refresh because it uses the HP 3PAR ASIC to power the simple and rapid conversion of inefficient, "fat" volumes on your source system to more efficient, higher-utilization "thin" volumes on the HP 3PAR StoreServ storage system. Peer Motion also removes allocated but unused storage capacity, so the purchased capacity on the destination system can be right-sized for written data. You can increase data QoS levels and lower capital expenditures because Peer Motion can also adjust the RAID level, subsystem failure protection level, drive type, stripe width, and radial placement of volumes.

Unlike traditional block migration approaches, Peer Motion software enables you to migrate storage volumes between any two HP 3PAR StoreServ storage systems online, nondisruptively, and without complex planning or dependency on extra tools. The HP 3PAR Management Console included with the system orchestrates all stages of the data migration lifecycle to enable simple and foolproof data migration.

Transform your data center into one that is scalable, enables growth, and meets enterprise-class application demands. Visit **hp.com/go/storeserv7000**.

Software suites for HP 3PAR StoreServ 7000 Storage

HP 3PAR StoreServ 7000 Storage supports the same operating system and software offerings as the other members of the HP 3PAR StoreServ family, but with these specific 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 can also be purchased separately, as indicated below.

HP 3PAR Operating System Software Suite	Required for all new HP 3PAR StoreServ 7000 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, Management Console, Host Explorer, and SmartStart—software designed to get you off to a quick start with your new HP 3PAR StoreServ 7000 system. It also includes all of the platform's thin software offerings—Thin Provisioning, Thin Conversion, and Thin Persistence. Other highlights of this suite include Full Copy, autonomic rebalancing capabilities that help you optimize the use 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.
HP 3PAR Replication Software Suite	This optional suite bundles HP 3PAR Virtual Copy with Remote Copy Software, both also sold separately for all HP 3PAR StoreServ 7000 models. Included in this bundle is Peer Persistence, which enables peer federation for VMware clusters to improve overall availability. Licensed based on system capacity.
HP 3PAR Data Optimization Software Suite	This optional software bundle combines HP 3PAR Dynamic Optimization, Adaptive Optimization, and Peer Motion Software so you can move data and workloads between arrays without impacting applications, users, or services. Licensed based on system capacity, the three software titles bundled in this suite are also sold separately for all HP 3PAR StoreServ 7000 models.
HP 3PAR Security Software Suite	This optional suite bundles HP 3PAR Virtual Domains and Virtual Lock Software, both also sold separately for all HP 3PAR StoreServ 7000 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.
HP 3PAR Application Software Suite for VMware	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 3PAR management plug-in for VMware View. This suite is optional and licensed on a per-system basis.
HP 3PAR Application Software Suite for Exchange	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.
HP 3PAR Application Software Suite for Oracle	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.
HP 3PAR Application Software Suite for SQL	Protect Microsoft SQL databases with HP 3PAR Recovery Manager for Microsoft SQL and the 3PAR VSS Provider Software, bundled with this optional suite and licensed on a per-system basis.
HP 3PAR Reporting Software Suite	Enhance system visibility and reporting capabilities with this optional suite, which includes HP 3PAR System Reporter Software and the 3PARInfo application, licensed on a per-system basis.

HP Factory Express

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**.

Customer technical training

We offer a variety of training courses on storage software, networking, archiving, and disk storage systems. Our classes are available in many delivery modalities, from traditional instructor-led courses at one of our 80 training centers worldwide to online and onsite training. Visit **hp.com/learn/storage**.

HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you acquire, manage, and ultimately retire your HP solutions. Visit **hp.com/go/hpfinancialservices**.

HP Technology Services for HP 3PAR StoreServ

Tap into the HP Technology Services advantage—backed by the strategic and technical know-how of our consulting experts—for a single-source solution that makes the most of your investments. Choose from services recommended for HP 3PAR StoreServ Storage that meet your business needs.

Discovery, planning, and design services

HP Services can help you assess and understand your options, develop a comprehensive plan, detail the end-to-end solution, and specify the right technology to meet your business needs. HP Services provides assessment services and planning workshops that clearly define business requirements and help develop the business case for your new storage investment.

- **Discovery services**
  HP Storage Efficiency Analysis Service
- **Planning services**
  HP Storage Impact Analysis Service
- **Design services**
  HP Storage Modernization Service

Deployment services

Mitigate risk and accelerate storage implementation with services that provide a best practices design, provide configuration and deployment from day one, and improve time to revenue. The proper configuration and setup of HP 3PAR StoreServ Storage is crucial to safeguard the performance, efficiency, and utilization of your environment, as well as to protect against data loss.

- HP 3PAR StoreServ and Software 7000 Storage Installation and Startup Services
- HP 3PAR 7000 Replication Software Suite Installation and Startup Service
- HP 3PAR Adaptive Optimization Policy Implementation Service
- HP Enhanced Implementation Service for SANs
- HP Data Replication Solution Service
- HP Storage Virtual Volume Design and Implementation Service

Integration services

These services can help migrate your data and integrate HP 3PAR StoreServ Storage into your environment to effortlessly respond to changing business needs. HP can also help you operate and manage your HP 3PAR StoreServ Storage throughout the full lifecycle of the array. With integration services from HP, we can help you efficiently use your storage, improve capacity utilization to reduce costs, and establish information management standards that can be used across backup, replication, and archiving.

- HP Data Migration Services
- HP 3PAR Health Check
- HP Performance Analysis Service
- HP 3PAR Rebalance Service
- HP 3PAR Storage Assessment Service
- HP Thin Volume Conversion Service
- HP EVA to 3PAR StoreServ Acceleration Service

Support services

Your product warranty protects against product defects, while services protect your business, helping you to avoid downtime and improve performance with the right support level and access to firmware and patch updates and upgrades. Depending on your individual support requirements, choose from three levels of support that cover the entire product lifecycle to better address your needs:

Optimized Care	For mission-critical environments demanding the best performance and stability: • **Support:** HP Critical Service • **Additional options:** 10 HP Proactive Select credits per year per array
Standard Care	For business-critical environments that need to maintain the highest level of uptime: • **Support:** HP Proactive Care 24x7, plus 20 HP Proactive Select 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	For the minimum recommended support: • **Support:** HP Proactive Care 24x7, plus 10 HP Proactive Select 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

We can also 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. Visit **hp.com/services/storage**.

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