



HPE 3PAR Peer Motion Software

Enabling storage federation



Multiarray, bidirectional nondisruptive data mobility across systems enables you to load balance at will, refresh technology seamlessly, reduce costs of asset lifecycle management, and lower technology refresh CAPEX.

HPE 3PAR Peer Motion Software is a nondisruptive, do-it-yourself (DIY) data mobility tool for enterprise block storage that does not require any external appliance to be included in the data path, nor does it introduce any additional overhead on the host resources. Unlike traditional block migration approaches, the HPE 3PAR Peer Motion Software enables nondisruptive data mobility of storage volumes between any HPE 3PAR StoreServ system that is part of a storage federation, and without complex planning or dependency on extra tools. Federated multiarray bidirectional data mobility between HPE 3PAR StoreServ Storage systems is easy to implement and manage via the HPE 3PAR StoreServ Management Console (SSMC). Simple predefined workflows have been

implemented within HPE SSMC that give you the ability to move data—for example, moving all volumes associated with a host from one HPE 3PAR StoreServ Storage system to another or moving individual volumes for workload balancing purposes—all with just a single click. Customers can also migrate host and hostset.

The HPE 3PAR Peer Motion Software leverages HPE 3PAR Thin Built In technology to power the simple and rapid inline conversion of inefficient, fat volumes on source arrays to more efficient, higher-utilization thin volumes on the destination HPE 3PAR StoreServ system.

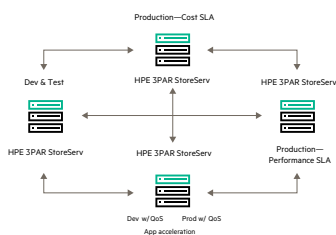


Figure 1. HPE 3PAR Storage Federation: Run workloads at the right cost and SLA via Peer Motion

Key features and benefits

Load balance data between systems at will

- Provides multiarray, bidirectional, nondisruptive, and on-demand data mobility between HPE 3PAR StoreServ Storage systems that are part of a storage federation
- Works between any-to-any HPE 3PAR StoreServ Storage systems, including midrange and enterprise systems
- Does not require any complex planning or dependency on new technology layers or extra tools
- Coordinates with HPE 3PAR StoreServ Management Console to enable do-it-yourself data mobility that is simple and foolproof
- One time setup of storage federation with simplified zoning requirements, enables users to move data between HPE 3PAR StoreServ Storage systems at will and without complex planning
- Split workloads between multiple arrays to get the best of the resources available for your applications at the right SLAs without over burdening your storage resources
- Assign right level of priorities to migrate for some volumes ahead of others based on criticality of data
- Regulates data mobility speed through self-throttled data movement to preserve application performance

Effortlessly migrate data without interruption

- Multiarray bidirectional nondisruptive data mobility between HPE 3PAR StoreServ systems while the application remains online in majority host environments including Windows® and Red Hat® Enterprise Linux® (RHEL) cluster environments

- Works with HPE 3PAR StoreServ Management Console to automate, simplify, and foolproof the movement of data between federated HPE 3PAR StoreServ Storage systems, thereby enabling a do-it-yourself data migration approach while reducing the need for professional services
- Performs with inter-generational all inclusive software licensing enabling do-it-yourself data migration that is simple and foolproof
- Does not require introducing any external appliance into the data path nor any additional overheads to the host resources for data mobility

Reduce asset lifecycle management costs

- Unlocks the flexibility to increase the purchase and addition of new resources to an existing system over its lifecycle, through nondisruptive data mobility between any HPE 3PAR StoreServ systems

Lower capital expenditure on technology refresh

- Adopts HPE 3PAR Thin Express ASIC to power the simple and rapid conversion of inefficient, fat volumes on the source system to more efficient, higher-utilization thin volumes on the destination HPE 3PAR StoreServ system
- Removes allocated, but unused storage capacity, so the purchased capacity on the destination HPE 3PAR StoreServ system can be right-sized for written data
- Adjusts the RAID level, subsystem failure protection level, drive type, stripe width, or radial placement of volumes to increase data quality of service (QoS) levels and lower capital expenditure on the destination HPE 3PAR StoreServ system seamlessly

The complete HPE 3PAR software portfolio



Manage

StoreServ Management Console
Command Line Interface
System Reporter
Service Processor
File Persona
Smart SAN
HPE OneView integration
WSAPI, SMI-S, and SNMP
OpenStack® integration
VMware® integration
Docker containers support



Protect

Remote Copy
Peer Persistence & CLX
Recovery Manager Central
Data-at-rest Encryption
File Store snapshots
Persistent Checksum
Persistent Cache
Persistent Ports
Virtual Lock and File Lock
VSS Provider



Optimize

Adaptive Sparing
Adaptive Flash Cache
Priority Optimization
Federation (Peer Motion,
Online Import)
Adaptive Optimization
Express Protect
Adaptive Reads and Writes
Express Writes
Autonomic cache offload
Mixed Workload Technology



Efficient

Zero Detect
Deduplication
Compression
Data Packing
Thin Provisioning
Virtual Copy
Thin Conversion
Thin Persistence
Express Layout
Express Indexing
Express Scan

Predictive analytics powered by StoreFront Remote

Manage: Everything you need to get up and running quickly and efficiently

Simplified management is offered by the **HPE 3PAR StoreServ Management Console (SSMC)**. The scriptable **HPE 3PAR Command Line Interface (CLI)** gives you powerful customization capabilities that are simple to configure and reduce the need for extra management tools. **HPE 3PAR System Reporter** helps track performance and capacity utilization trends for multiple HPE 3PAR StoreServ systems. Remote error detection along with support for diagnostics and maintenance activities is offered via **HPE 3PAR Service Processor**. Rich file protocols from SMB/CIFS to NFS and FTP, and a RESTful Object Access API for programmatic access to files are offered with **HPE 3PAR File Persona**. Built-in automated SAN configuration is offered with **HPE 3PAR Smart SAN**. **HPE OneView integration**, gives you a web-based interface that is common and across enterprise servers, storage, and networking. Support for the **Storage Management Initiative Specification (SMI-S)** provides simplified storage management from within the Microsoft® System Center Management framework. With **OpenStack integration**, over both iSCSI and Fibre Channel protocols, the flexibility and cost-effectiveness of a highly resilient cloud-based open source platform that meets the requirements of your mission-critical applications, is offered. **HPE 3PAR StoreServ Storage integration with VMware vSphere®** enables you to take advantage of architectural benefits such as wide striping, a Mesh-Active clustered controller design, mixed workload support, and hardware-assisted VMware vSphere® Storage APIs—Array Integration (VAAI) support. **Docker containers support** helps deliver enterprise-grade storage availability, resiliency, and performance for stateful containers.

Protect: Safeguard your most mission-critical of applications

HPE 3PAR Remote Copy offers simple and cost-effective data protection for efficient multitenant disaster recovery. **HPE 3PAR Peer Persistence** ensures transparent autonomic failover over metropolitan distances. **HPE 3PAR Cluster Extension Software** enables automatic failover across data centers using Remote Copy Asynchronous mode. **HPE Recovery Manager Central** allows you to create, manage, and automate crash-consistent snapshots for any application and app-consistent snapshots for VMware vSphere, Microsoft SQL Server, Oracle, and SAP HANA®. **HPE 3PAR StoreServ Data-at-Rest Encryption** protects data from both internal and external security breaches by securely encrypting all data as it is written to the drive. End-to-end data integrity, and protection against silent corruption from the host to the storage array are offered via **HPE 3PAR Persistent Checksum**. **HPE 3PAR Persistent Cache** maintains service levels, so they are not impacted by unplanned component failures—a key requirement for the virtual data center. Nondisruptive upgrades to HPE 3PAR StoreServ 8000 Storage systems without relying on multipathing software and without initiating failover are initiated via **HPE 3PAR Persistent Ports**. **HPE 3PAR Virtual Domains and HPE 3PAR Virtual Lock Software** help 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 File Lock** enables data preservation to meet the enterprise governance requirements.

Optimize: Make the best use of the available storage capacity

HPE 3PAR Adaptive Sparing is a feature of the HPE 3PAR Operating System that leverages the system's sparing approach to improve the performance and endurance of flash. Performance acceleration is assured by **HPE 3PAR Adaptive Flash Cache**, which reduces application response times. **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. **HPE 3PAR Online Import** is included to enable migration from HPE EVA, EMC, HDS, or IBM Storage systems. **HPE 3PAR Adaptive Optimization** improves storage utilization by enabling cost-optimized storage tiering. **HPE 3PAR Express Protect** enables backups to StoreOnce—all through the familiar RMC GUI. **HPE 3PAR Adaptive Reads and Writes** help to avoid unnecessary data reads and writes to reduce latency, enhance back end performance, and extend flash media lifespan. **HPE 3PAR Express Writes** enhances write acceleration that helps optimize CPU utilization and depending on workload, delivers greater throughput. **HPE 3PAR Autonomic cache offload** helps reduce cache bottlenecks by automatically changing the frequency at which data is offloaded from cache to flash media based on utilization rate. **HPE 3PAR 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, ensuring reduced latency.

Efficient: Get maximum performance with minimum expenditure

HPE 3PAR Zero Detect reduces the cost of storage by identifying and removing repeated data from incoming data streams. **HPE 3PAR Deduplication** helps reduce the amount of flash needed to store data by preventing the storage of duplicate data. **HPE 3PAR Compression** helps reduce the amount of flash needed to store data by reducing the data footprint. **HPE 3PAR Data Packing** helps improve storage efficiency and bandwidth by condensing multiple smaller data sets together. **HPE 3PAR Virtual Copy Software** protects and shares data affordably with rapid recovery using reservationless, nonduplicative, copy-on-write snapshots. **HPE 3PAR Thin Technologies**—including **HPE 3PAR Thin Provisioning, Thin Conversion, Thin Persistence, and Thin Copy Reclamation**—achieve data compaction by leveraging built-in hardware capabilities. **HPE 3PAR Express Layout** allows HPE 3PAR controller nodes to share access to SSDs in order to drive efficiency. **HPE 3PAR Express Indexing** helps deduplicate data inline and with a high degree of granularity. **HPE 3PAR Express Scan** helps remove redundant data inline and prevents wastage of CPU cycles.

Optimize your IT investment strategy with new ways to acquire, pay for, and use technology, in lock-step with your business and transformation goals.

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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.

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

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

¹ IDC

² HPE CSC reports, 2014–2015



Sign up for updates

HPE Technology Services

The support services portfolio will help complement the performance and reliability of the HPE 3PAR StoreServ Storage infrastructure. Hewlett Packard Enterprise provides complete, end-to-end lifecycle services for your entire infrastructure—servers, storage, networks, and software. Our services also help you consolidate your support management and whenever necessary, we collaborate with independent software vendors directly. By integrating hardware and software services, we offer you a support experience that is relevant to your business needs.

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

A comprehensive suite of hardware and software services aimed to help increase the availability of IT infrastructure.

HPE Proactive Care

An integrated set of reactive and proactive services designed to help you improve the stability and operation of your converged infrastructure to achieve better business outcomes. HPE Proactive Care has been specifically designed to support devices in IT environments, providing enhanced support that covers servers, operating systems, hypervisors, storage, storage area networks (SANs), and networks.

HPE Proactive Care Advanced

This service expands on HPE Proactive Care Service and is designed to help maximize the benefits of IT investments, maintain IT infrastructure stability, achieve business and IT project objectives, reduce operational costs, and free IT staff for other priority tasks. An assigned HPE account support manager (ASM) provides personalized technical and operational advice, including HPE best practices gleaned from HPE's broad support experience.

HPE Datacenter Care

HPE's most comprehensive support solution tailored to meet specific data center support requirements. It offers a wide choice of proactive and reactive service levels to cover requirements ranging from the most basic to the most business-critical environments.

HPE Lifecycle Event Services

These services are sold on a per-event basis and include services to help deploy technologies and solutions as well as assessments and other services to help optimize and operate the IT infrastructure.

Get connected and get back to business

Unlock all of the benefits of your technology investment by connecting your products to HPE. Achieve up to 77%¹ reduction in downtime, near 100%² diagnostic accuracy, and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, prefailure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server, storage, and networking products, securely connected to HPE support.

To learn more, visit hp.com/services/storage.

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4AA3-5714ENN, February 2017, Rev. 6