



# Achieve high availability in your multisite federated environment

## HP 3PAR Peer Persistence

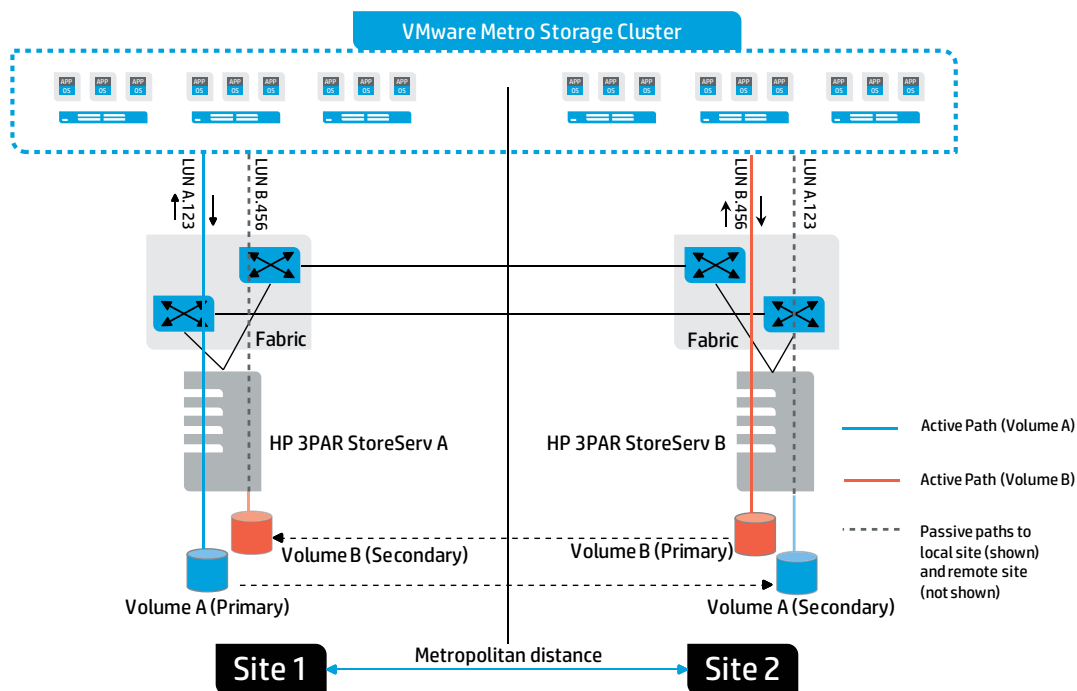
Break the boundaries of storage. Allow your hosts, virtual machines, and data to move freely across data centers without impacting your business applications. Implement a true cloud solution, where storage resources are shared across data centers, and are not constrained by their physical boundaries.

### High-availability solution for federated storage

HP 3PAR Peer Persistence software enables HP 3PAR StoreServ systems located at metropolitan distances to act as peers to each other, presenting a nearly continuous storage system to hosts and servers connected to them. This capability allows you to configure a high-availability solution between two sites or data centers where failover and failback remains completely transparent to the hosts and applications running on those hosts. Compared to the traditional failover models where upon failover, the hosts must be restarted, the Peer Persistence software allows hosts to remain online serving their business applications even when they switch from their original site to the disaster-recovery (DR) site, resulting in a much improved recovery time.

The Peer Persistence software achieves this key enhancement by taking advantage of the Asymmetric Logical Unit Access (ALUA) capability that allows paths to a SCSI device to be marked as having different characteristics.

**Figure 1.** Transparent failover with HP 3PAR Peer Persistence



As seen in the figure 1, each host is connected to each HP 3PAR StoreServ on both sites via redundant fabric. Additionally, each volume maintains a synchronous copy of itself at the other site. While primary volume on site 1 is exported in a read/write mode, its corresponding secondary volume on site 2 is exported in a read-only mode.

For example, in the figure, Volume A (primary) and Volume A (secondary) are being exported to hosts on both the sites with a common WWN (LUN A.123). However, volume paths for a given volume are “active” only on the StoreServ where the “primary” copy of the volume resides. In the figure, for Volume A (primary), path is active on StoreServ A on Site 1 whereas for Volume B (primary), path is active on StoreServ B on Site 2.

In a managed switchover scenario when hosts from Site 1 failover to Site 2, the paths marked passive for their secondary volumes become active and the hosts continue to access the same volumes (with the same WWN) as they were accessing prior to the failover. This transparent failover capability enabled by the Peer Persistence software protects customers from unplanned host and application outage.

Supported platforms	Licensing requirements
<p><b>Storage systems</b> HP 3PAR StoreServ 10000, HP 3PAR StoreServ 7000, HP 3PAR T-Class, HP 3PAR F-Class</p> <p><b>Host OS:</b> VMware</p>	<ul style="list-style-type: none"> <li>• HP 3PAR Remote Copy is a prerequisite for Peer Persistence. The Peer Persistence software works with HP 3PAR Remote Copy synchronous mode only.</li> <li>• The Peer Persistence license is required on both primary and secondary HP 3PAR StoreServ systems (just like HP 3PAR Remote Copy).</li> <li>• For HP 3PAR StoreServ 7000 systems, the Peer Persistence is included in the Replication Suite while also being available as a separate title. For other supported HP 3PAR systems, Peer Persistence is available as a separate software title.</li> </ul>

## Load balancing across sites

The Peer Persistence software allows you to use both their primary and secondary sites in an “active-active mode” thereby putting your secondary site to a much active use than just using it as an expensive insurance policy against disaster. It enables you to move your hosts from one site to another based on your business and performance needs without impacting the applications running on those hosts.

An example would be the use of vMotion within a VMware vSphere Metro Storage Cluster (vMSC). vMSC allows an ESX cluster to span across data centers (see figure 1). In the figure, a few virtual machines (VMs) are being serviced by a HP 3PAR storage system on site 1 while other VMs are being serviced by another HP 3PAR storage system at site 2 located within metropolitan distance from site 1. vMotion allows customers to move VMs across sites. However, under standard storage infrastructure, as the VMs move from site 1 to site 2, it forces presentation of new virtual volumes to those VMs, resulting into a forced reset of the VMs before continuing their operations.

The Peer Persistence software addresses this very limitation by presenting a VM with the “same” virtual volume even when it moves across data centers. In other words, movement of VMs across data centers becomes completely transparent to the applications those VMs are running.

## Federated high-availability for your storage infrastructure

HP 3PAR Peer Persistence leverages the robust high-availability solutions already available on HP 3PAR StoreServ systems, and extends it even further by enabling a peer relationship between

two storage systems located at geographically separated sites. The software is built on the same industry-leading mesh-active technology and massively parallel architecture that HP 3PAR is known for, and thereby allows HP 3PAR customers with remote replication setup to deploy the Peer Persistence without any appliance or additional hardware needed.

## Why HP

- HP 3PAR delivers highly available storage infrastructure solutions that are easy to configure and use
- HP 3PAR provides strong integration with VMware, enabling vMotion across data centers transparent to the hosts
- HP 3PAR reduces CAPEX and OPEX with common software stack and common manageability across high-end and mid-range storage segments

With HP 3PAR Peer Motion and HP 3PAR Peer Persistence, HP enables customers to take advantage of the leading storage federation technologies, helping them maximize their storage efficiency while maintaining high availability across data centers. As is the case with any 3PAR software capability, these federation technologies are available across all 3PAR storage systems serving both high-end and mid-range segments. HP 3PAR Storage delivers the efficiency and agility required by the most demanding virtual, cloud and IT-as-a-Service environments.

## For more information

Take advantage of HP 3PAR Peer Persistence today, and reap the benefits of a highly available storage infrastructure that is truly federated, visit [hp.com/go/3PAR](http://hp.com/go/3PAR).

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