



Rethinking Storage Virtualization with the HP SAN Virtualization Services Platform

Take a giant leap in improving the economics of SANs with a virtualized storage infrastructure

Overview

- Consolidate fragmented pools of heterogeneous storage resources and significantly improve asset utilization rates
- Reduce storage management complexity and administration costs
- Better protect your data while maintaining production-level performance and availability

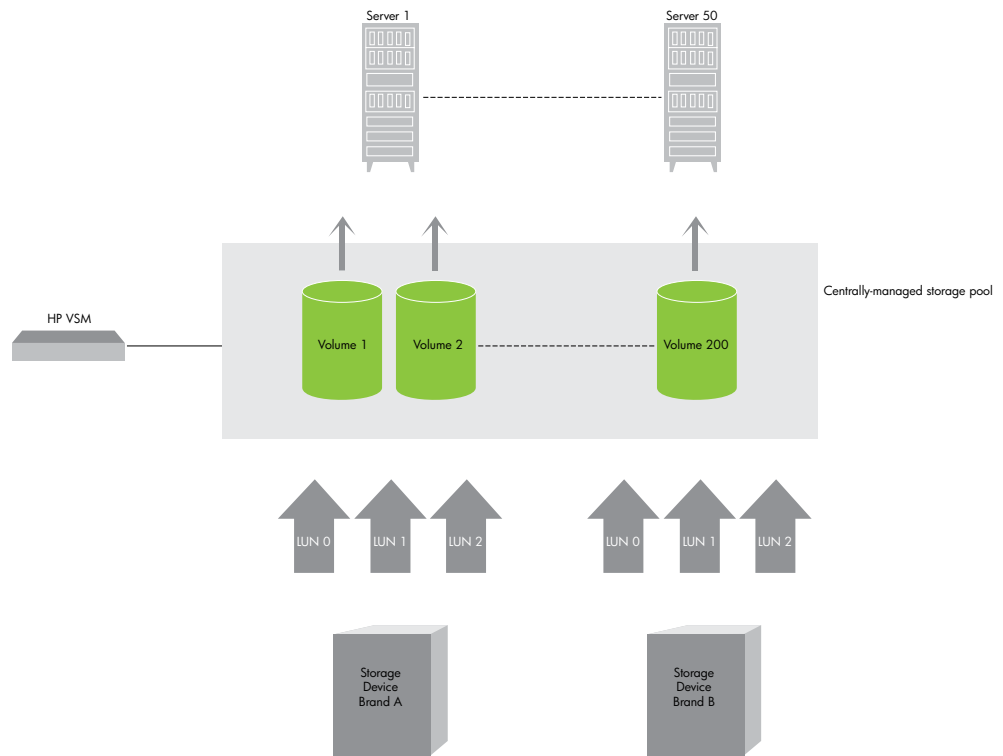
If you are looking to dramatically improve the efficiency of your storage infrastructure, consider the HP StorageWorks SAN Virtualization Services Platform (SVSP). The HP SVSP allows you to flexibly provision virtual volumes to meet the requirements of your standard and virtual servers. It delivers improved storage resource utilization along with comprehensive data protection and ease of management.

On a global level, IT organizations are striving to transform IT to increase productivity, control costs, and improve efficiency. This has given a boost to server virtualization initiatives that can help achieve a more efficient, business-ready infrastructure. However, server virtualization creates a series of storage challenges, such as poor storage capacity utilization and increased infrastructure complexities. It also places additional demands on data management. These challenges, if not addressed, will decrease and even nullify its benefits. Dealing with the difficulties of provisioning storage, migrating data, expanding storage capacity, and managing diverse storage resources in a virtualized infrastructure can be frustrating and inefficient.

But the good news is that, if implemented properly, a virtualized storage infrastructure can enable you to meet those challenges while satisfying your data growth requirements—without injecting complexity into your infrastructure.

At HP, we can help you apply the right approach to storage consolidation and virtualization with the SAN Virtualization Services Platform (SVSP). Ideal for enterprise and midsize firms experiencing significant storage growth, the HP SVSP offers centrally managed storage pooling and virtual volume provisioning for heterogeneous storage arrays—enabling greater scalability, exceptional performance, and high availability of all your SAN resources. Based on an innovative split-path architecture, it brings significant improvements to managing enterprise storage; substantially reducing capital and operating expenses; and improving asset utilization, while offering unmatched data protection features.

Figure 1. Consolidation and centralized storage management with the HP SVSP



With these capabilities, it now becomes possible to accelerate the benefits of server virtualization, while also significantly improving efficiency, simplifying operations, and lowering the TCO of your virtual environment.

Benefits and value

Capacity optimization and asset management

Over allocating storage capacity for applications is a common approach to remedy short-term database and storage management challenges created when applications run out of storage capacity. Such “stranded” capacity lowers storage efficiency and creates cost issues. With the HP SVSP, customers can aggregate all available capacity into centrally managed “pools” that can be easily provisioned to standard and virtual servers. This allows better utilization of storage by assigning free storage from the pools. It helps consolidate storage platforms and improve asset utilization. It also simplifies storage administration—bringing greater efficiencies into play.

The different “pools” can represent different service levels and become your storage tiers. The SVSP lets you easily provision the right type of storage to match the value of the data, significantly decreasing your near-term capital expenses. The platform also provides non-disruptive migration services, allowing the seamless movement of data across tiers.

The HP SVSP can also help improve portfolio and asset management. The unintended consequences of systems coming off warranty and onto maintenance can be significant, with expenses often running into hundreds of thousands of dollars and the possibility of major disruptions. The SVSP can be of help in these situations, where it provides seamless “any-to-any” migration of volumes among heterogeneous storage platforms and rollback features that help minimize any risk of a failed attempt. Everyday migrations become easy and routine with the SVSP, allowing devices to be removed, replaced, or upgraded due to lease expiration, warranty expiration, or just the desire or need to extend the life of the asset.

Flexible storage provisioning

The HP SVSP significantly improves your ability to manage virtual environments through easy provisioning of volumes to virtual machines. Additionally, you can choose to “thin provision” volumes for even greater asset utilization. Thin provisioning gives the ability to allocate virtual disk storage based on anticipated capacity requirements without having to dedicate physical capacity in advance. This allows you to purchase less storage hardware upfront and easily add capacity as your business grows. Recent studies show that utilization can be improved by as much as 300 percent depending on the comparison environments with platforms like the SVSP.¹

¹ IDC, Business Value of Storage Virtualization: Scaling the Storage Solution; Leveraging the Storage Investment, February 2009

The HP SVSP also allows for arrays or capacity to be added to the storage pools without any disruption to the servers. The virtual volumes can then be mirrored, copied, replicated, and migrated with the flexibility needed in a growing virtualized environment.

Data management and protection

Protecting your data is no longer a daunting task. With the HP SVSP, data protection is enhanced through its ability to take a virtual volume back to a prior point-in-time (PiT) without moving data or affecting performance. “These performance preserving” PiTs and snapshots become the basis for faster recovery from potential failure.

The SVSP also provides both synchronous and asynchronous data mirroring capabilities that facilitate fast service resumption after storage, site, or regional disasters. Its ability to support heterogeneous storage provides greater flexibility in choosing storage hardware at the primary and remote sites, helping to lower overall costs. It also provides space-efficient copy services, including snapshots, which keep the system online and fully available during backups. This enables you to restore the entire application in minutes rather than hours. Centralized management of the recovery operations reduces administrative tasks, improves productivity, and helps minimize errors.

With capacity growing at exponential rates and processing hours becoming more and more important, backup windows are becoming non-existent. Simply stated, there is too much data to back up during off-hours. With the HP SVSP, snapshots can be used as the source for the backup process. Using this approach, the backup can take place at any time during the day, without taking the application offline. This creates a zero-window backup. For many users, it solves the “shrinking backup” window problem. Recent studies show the ability to shrink backup times by up to 80 percent with platforms like the HP SVSP.¹

Rely on advanced data and mobility services

The HP SVSP comes with a comprehensive set of data and mobility services for consolidated storage pools that enables you to perform complex operations in a multi-vendor environment:

- Volume management for easy provisioning of physical and virtual servers
- Migration services for non-disruptive data movement
- Snapclone for full-size replications

- Space-efficient snapshots to improve application recovery and operation flexibility
- Local synchronous and remote asynchronous mirroring for Business Continuity and Disaster Recovery solutions
- Thin provisioning for greater storage utilization (supported on any vendor’s hardware)

What the HP SVSP can do for you

An SVSP-based storage infrastructure offers a common set of tools and methodologies that can help organizations address an important set of use cases to streamline operations and improve productivity. These include:

Storage consolidation

You may have storage arrays from different vendors or at least different generations of arrays from the same vendor. As the number of physical and virtual servers and storage devices grows, hundreds or thousands of volumes must be individually monitored and managed by storage administrators—a daunting task to say the least. A better approach is to use the HP SVSP platform to develop a consolidated storage infrastructure that drives better economics.

Non-disruptive data migration

Data migration is often costly, time-consuming, disruptive, and can result in service outages. However, using the data migration services included with the basic HP SVSP Volume Manager Package, you can deploy and use data migration capabilities as soon as you acquire basic virtualization capabilities. With online “any-to-any” migration of volumes among heterogeneous storage platforms and rollback features to reduce any risk of a failed attempt, your storage infrastructure can be refreshed or upgraded without application disruption.

Rapid application recovery

The HP SVSP improves application and information availability—through well-integrated low-capacity snapshots and virtual disk group technologies—while shrinking backup times. The SVSP delivers data protection without moving data by creating performance-preserving PiTs; and enables further protection by presenting snapshots of those PiTs to an offline, parallel process, moving selected PiTs to alternate media, such as tape.

¹ IDC, Business Value of Storage Virtualization: Scaling the Storage Solution; Leveraging the Storage Investment, February 2009

Application testing and development

The HP SVSP can help accelerate software development, testing, and delivery to improve business efficiency without disrupting operations. It also allows faster deployment of new solutions. When you use the SVSP Business Copy services, IT personnel can instantaneously present a snapshot to a virtual or physical server to start testing on copies of production data without disrupting production systems.

Tiered storage infrastructure

The HP SVSP boosts asset utilization while enabling cost-effective tiered storage. It can help you leverage tiers of storage with varied performance and cost characteristics, so that administrators can assign applications to different storage pools. It now becomes easy to move from a single storage tier to a multi-tier, using the migration capabilities of the HP SVSP, which provides seamless non-disruptive data movement across the tiers, to match the storage assets to the value of the data.

Cost-effective disaster recovery

Every organization needs effective disaster recovery capabilities. Synchronous mirroring features in the SVSP Volume Manager or remote Async Mirroring capabilities in the SVSP Continuous Access option can facilitate instantaneous service resumption after storage, site, or regional disaster.

Global citizenship at HP

At HP, we are committed to global citizenship, which means we hold ourselves to high standards of integrity, contribution, and accountability in balancing our business goals with our impact on society and the planet. To learn more, visit www.hp.com/go/customer, and for information about the HP Eco Solutions program, go to www.hp.com/ecosolutions

For more information

Learn more about the HP StorageWorks SAN Virtualization Services Platform by contacting your HP sales representative or by visiting www.hp.com/go/svsp

HP Services

When you buy an HP StorageWorks SAN Virtualization Services Platform, it's a good time to think about what level of service and support you may need. To help take the worry out of deploying and managing your environment, we've designed a portfolio of service options that is as flexible, scalable, and affordable as your storage.

Recommended services

- **Three-year HP Proactive 24:** An integrated hardware and software support solution, combining industry-leading technical assistance with proactive account services to cover the entire IT infrastructure and improve the stability, availability, and operational effectiveness of the IT environment.
- **HP Installation and Startup for HP StorageWorks SVSP:** Provides for the deployment of key product features in your storage environment.

Related services

- **HP Critical Service (CS):** A comprehensive support solution designed for businesses that run mission-critical applications where any downtime causes significant business impact.

For more information about HP services and support, contact your HP sales representative or HP-authorized Channel Partner or, visit www.hp.com/hps/storage

Technology for better business outcomes

To learn more, visit www.hp.com/go/svsp

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