

IBM SmartCloud Virtual Storage Center: Virtual storage made simple

Efficient virtualization and management of the entire storage infrastructure



Highlights

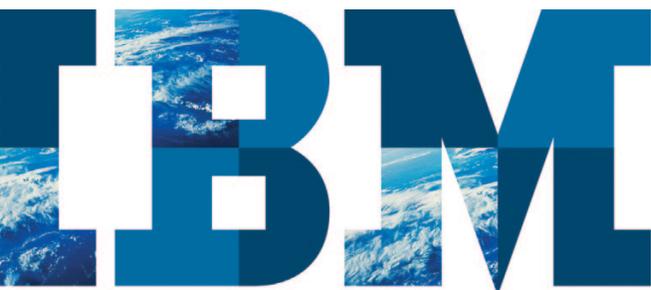
- Take a first step toward migrating storage to an agile, cloud-based storage services environment
 - Implement a robust management system to keep your infrastructure functioning smoothly
 - Optimize storage provisioning, capacity, availability, reporting and management
 - Lower storage costs, while dramatically improving flexibility
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Most IT managers today are already exploiting virtual server infrastructures, or hypervisors, for their demanding server environments. Having made this transition for their server environments—and realized the resulting management efficiencies and cost benefits of virtualization—the natural next step is to do the same for their storage environments, since the same principles apply.

Moving to virtualized storage can improve operational efficiency, provide transparent data mobility and enable common management capabilities, regardless of the hardware you're using. It can be more affordable than traditional storage methods. And it can make even more sense on today's smarter planet, where instrumented, interconnected and intelligent businesses collect, process, use and store more information than ever before.

But making the transition from a physical to a virtual cloud environment can seem daunting, and especially in a virtualized cloud, organizations often fear for their data integrity. What, then, is the smoothest way to transition from traditional storage methods to virtual, and how can you make sure your organization's data remains safe in this environment?

The IBM SmartCloud™ Virtual Storage Center solution enables IT storage managers to easily migrate to an agile, cloud-based storage environment—and then manage it effectively. This powerful solution



removes the physicality of storage, as well as the complexity associated with managing multivendor infrastructures. It ultimately enables businesses to optimize provisioning, capacity, availability, reporting and management for virtualized storage. The IBM SmartCloud Virtual Storage Center solution is a strong foundation on which to build your storage infrastructure, as well as a robust management system to keep that infrastructure functioning smoothly—and safely—well into the future.

Transitioning to a virtual storage environment

The IBM SmartCloud Virtual Storage Center solution comprises of a storage virtualization platform, a comprehensive set of storage virtualization management tools, and application-aware snapshot backup and restore capabilities. Using this solution to transition traditional storage into a virtual offering can make a real, tangible impact on your storage costs, while dramatically improving your flexibility. Here's how you can achieve these benefits:

Virtualize storage

IBM SmartCloud Virtual Storage Center enables you to virtualize your storage resources from multiple arrays, vendors and data centers. Pooling storage devices enables you to access capacity anywhere, as opposed to the mobility limitations inherent with physical array boundaries. You can then consume your storage capacity one virtual “slice” at a time, boosting utilization. Virtual volumes are mobile from tier to tier, vendor to vendor and site to site, giving IT the flexibility to respond faster and streamline data management.

As a key component of the IBM SmartCloud Virtual Storage Center solution, IBM SAN Volume Controller is the storage virtualization platform that will perform this function. It is designed to deliver storage virtualization in environments from large enterprises to small and mid-size organizations.

Set up management controls

After virtualization is in place, users can standardize their storage services by selecting settings from a storage service catalog, instead of customizing a configuration, as with traditional IT practice. The catalog will help define specific service-level needs for different data categories. Service levels can range from capacity efficiency and improved I/O performance to data access resilience and disaster protection.

In addition, storage provisioning can now be self-service—after users make their selection from the catalog, administrators simply enter the necessary information into the system and click “go” to automatically allocate capacity. This saves significant time and effort from traditional manual provisioning.

In its own experience using a storage hypervisor solution for internal operations, in fact, IBM has seen provisioning times reduced from months to days, experienced a 20 percent increase in storage utilization, and cut costs in half through storage consolidation and intelligent tiering.

These functions—from creating the storage service catalog to storage provisioning—are performed by IBM® Tivoli® Storage Productivity Center, the management component in the IBM SmartCloud Virtual Storage Center solution. Tivoli Storage Productivity Center enables you to manage storage capacity, availability and performance from a single, central console.

Online, near-instant snapshot backup and restore

In a virtual, high-availability environment, business critical applications such as email and databases require near-instant backup and modernized recovery to avoid data outage and impact on performance—thereby reducing downtime. IBM Tivoli Storage FlashCopy® Manager software, the data backup and restore component in the IBM SmartCloud Virtual Storage Center, provides fast application-aware backups and restores leveraging advanced snapshot technologies available with the IBM storage systems.

Boosting storage efficiency

When a large U.S. telecommunications company merged with a smaller one, they brought four IT shops together. Suddenly, the parent company was dealing with massive heterogeneity and inefficient use of resources in the storage environment, which promised to increase the amount of money and work required for storage management. Maintenance costs began to skyrocket, as the company accumulated more technology. The company found itself too heavy on Tier 1 storage capacity and light on Tier 2, with manual migrations to tertiary storage occurring often.

This telecommunications company tackled the issues head on by implementing a storage hypervisor solution from IBM as the foundation of a new storage strategy. The result has significantly lowered storage costs—maintenance expenses are down 60 percent year over year—without sacrificing performance.

In addition, now provisioning actions can be performed in minutes, and storage capacity utilization has improved from 35 percent to 82 percent. Partnering with IBM dramatically improved the organization's storage efficiency—and greatly lowered costs.

Reaping the benefits

Implementing a virtual storage environment using the IBM SmartCloud Virtual Storage Center solution leaves plenty of room to build upon your base infrastructure.

- Use application-integrated data protection to connect business applications and VMware solutions to virtual volume snapshot to modernize recovery
- Add IT-integrated disaster recovery solutions to connect virtual volume mirroring with IT recovery automation tools to ensure that your business can continue operations after a disaster
- Take advantage of mobility-driven disruption avoidance to connect cross-site virtual volumes with virtual server mobility tools to create virtual datacenters that span physical locations
- Use virtual data center management systems to connect IBM SmartCloud Virtual Storage Center management with server hypervisor management tools to improve management efficiency and reduce training time

In addition to providing a robust storage platform and virtually limitless expansion capabilities, the IBM SmartCloud Virtual Storage Center helps your organization work smarter. It can save your IT managers time and money by easily implementing thin provisioning, multivendor support and smart tiering.

Why IBM?

The IBM SmartCloud Virtual Storage Center solution comprises both a storage virtualization platform and capabilities for storage virtualization management. It is a great first step toward migrating your storage to an agile, cloud-based storage services environment, while leaving plenty of room to build upon your base infrastructure.

For more information

To learn more about the IBM SmartCloud Virtual Storage Center strategy, please contact your IBM representative or IBM Business Partner. Or, please visit: ibm.com/software/tivoli/solutions/storage-hypervisor and read the analyst paper, “Why IBM’s Storage hypervisor is an Excellent Choice” for more insights.

About Tivoli software from IBM

Tivoli software from IBM helps organizations efficiently and effectively manage IT resources, tasks and processes to meet every-shifting business requirements and deliver flexible and responsive IT service management, while helping to reduce cost. The Tivoli portfolio spans software for security, compliance, storage, performance, availability, configuration, operations and IT lifecycle management, and is backed by world-class IBM services, support and research. For more information on Tivoli software from IBM, visit: ibm.com/tivoli

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