



Volume Manager based Virtualization (VMV)

Embedded Data Services

Storageflex™ delivers powerful benefits for IT administrators including:

- **Easy consolidation and optimization of storage resources to maximize capacities**
- **Reduced storage complexity for effective storage management with less manpower Improved administration with increased reliability and security**
- **Significantly improved economies of scale and operational efficiencies**

Using Storageflex's Volume Manager based Virtualization (VMV) technology allows IT administrators to achieve significantly improved economies of scale and operational efficiencies, while delivering superior service to their customers. VMV offers small to mid-size businesses (SMB) and small to mid-size enterprises (SME) many benefits, including the ability to easily consolidate storage resources, reduce complexity, provision storage on demand, and create multiple virtual pools from a single system. With VMV, users can easily add cost-effective diskless servers or new servers with different operating systems and different applications in a single consolidated storage array with no downtime.

With VMV, IT administrators can easily and efficiently allocate storage based on needs of users and applications with flexible, intelligent and nondisruptive storage provisioning. Using VMV, administrators can quickly consolidate and optimize storage resources to maximize capacities, allowing effective data storage management with less manpower, reducing costs. And, with VMV, IT professionals can add or expand additional storage space by creating virtual disks in a non-disruptive manner. In short, VMV delivers workflow efficiencies and cost savings on multiple storage fronts to today's business with enhanced storage utilization, increased reliability, security and improved administrator efficiencies.

Solutions to Increase Resources & Productivity with VMV

The application of VMV technology allows companies to achieve significantly improved economies of scale and operational efficiencies, while delivering superior service to their customers. Several of these applications include:

Flexibility and Intelligent Storage Provisioning - Storageflex's embedded VMV puts flexible and non-disruptive intelligent storage provisioning at your fingertips.

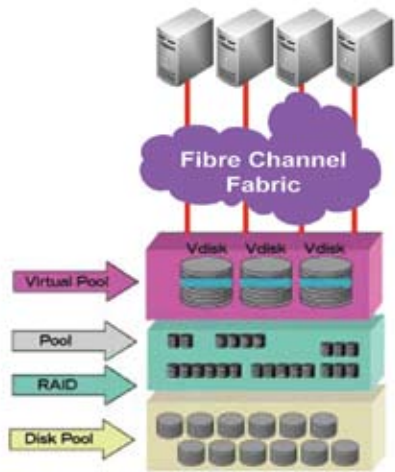


Figure 1: Easily consolidate resources for flexibility and cost savings with VMV

As shown in Figure 1, VMV allows the SAN servers to share the virtualized storage pools, creating virtualized disk volumes (Vdisks) on SAN-attached disk drives, allowing data to reside on any virtual volume.

It is much easier to manage your storage with VMV since VMV masks the physical complexity of a data storage infrastructure. VMV enables management of all volumes from a centralized location, allowing administrators to minimize the time spent on physically attaching, moving and configuring hardware devices.

Storage Consolidation and Cost Control - Using VMV, you can easily consolidate, optimize and use storage resources to their fullest extent (as compared to traditional non-SAN environments which only use about half of their available capacity.) By consolidating storage resources, companies also effectively manage data resources with less manpower, resulting in additional cost savings.

Virtual Disk Volume Expansion - With VMV, IT professionals can easily expand or create a virtual disk as needed on a per file system basis. If an attached server in the network requires additional storage space, either an existing virtual disk can be expanded, or an additional virtual disk can be created and assigned to the server. VMV allows administrators to create multiple virtual volumes from a single system, and add diskless servers and multiple operating systems in a single, consolidated storage array. The process of adding or expanding virtual disk volumes is non-disruptive, allowing companies to avoid system downtime and maintain productivity.

A Powerful Tool for Managing your Storage

Storageflex's VMV feature allows any server to see a large repository of available data as though it was directly attached. It allows users to add storage and to dynamically manage storage resources as virtual storage pools instead of managing individual physical disks. Storageflex's Volume Manager feature enables virtual volumes to be created, expanded, deleted, moved or selectively presented regardless of the underlying storage subsystem.

By using Storageflex's powerful data services and their approach -- addressing virtualization in a volume-based manner -- you can simplify management, storage provisioning and reduce administrative overhead, allowing your business to achieve lower TCO and higher ROI in a highly-competitive world.

