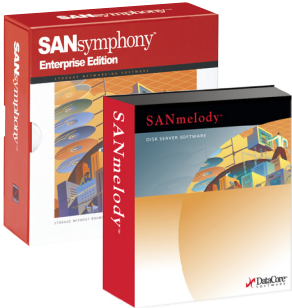


# Storage Virtualization Software Essential To Your Microsoft® Virtualization Strategy



Experience SANs with the highest availability, fastest performance and fullest utilization

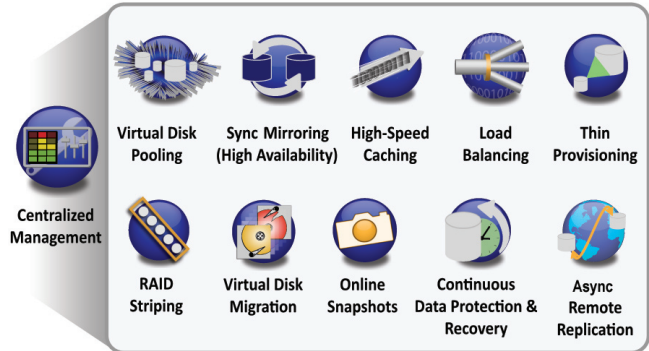
**Solution Highlights**

- Makes business continuity and disaster recovery practical for virtual servers, virtual desktops and general IT consolidation
- Eliminates storage-related disruptions due to inevitable maintenance, reconfiguration, upgrades, expansion and failures
- Speeds up application performance by removing disk I/O bottlenecks
- Maximizes use of available disk capacity
- Centralizes and automates storage administration despite variations in equipment

Virtually everything hinges on storage. Server and desktop consolidation, in particular, place extraordinary demands on it. Too often, disks slow down, interrupt or endanger these centralized IT operations not because they are poorly designed or built, but because they are physically constrained. Microsoft Windows Server® 2008 Hyper-V® and Hyper-V Server help you to overcome similar limitations in CPU and memory, however, when it comes to advanced functions such as workload migration, load balancing, fail-over and disaster recovery, server virtualization is completely dependent on highly available (HA) shared storage. You will be shocked at the high hardware costs and major overhaul generally proposed to put such a storage infrastructure in place.

DataCore™ storage virtualization software delivers a radically simple, high availability solution to meet Hyper-V's shared storage requirements. The software abstracts your storage into idealized, virtual disks akin to virtual machines. It pools and mirrors disk blocks across available devices, despite differences in make and model. In the process, it speeds up I/O response and throughput using extensive SAN-wide caching. This lets you take optimum advantage of Microsoft's full suite of capabilities without hesitation. From a central console, you can non-disruptively provision, share, clone, replicate and expand virtual disks among physical servers and VMs. DataCore yields the highest availability, fastest performance and fullest utilization from your storage assets, making it an essential element of your Microsoft "Data Center to Desktop" Virtualization Strategy.

**SAN-wide Features Work Across  
Unlike and Incompatible Storage Devices**



## Business Challenges

- Finding it unaffordable to put in place the highly-available, shared storage required to support a Microsoft Hyper-V and/or Microsoft VDI virtualization project.
- Experiencing frequent disruptions attributed to storage. For example, outages are required to expand capacity, take backups, resize volumes, swap out disk drives, upgrade equipment and migrate data to different equipment.
- Applications and virtual machines run slowly. Problems can be traced to disk I/O bottlenecks and programs running out of disk space because 5 to 15 times more workloads are competing for the same storage resources.
- High risk of losing critical information due to major and mini disasters that damage or impair storage hardware. Such a loss might jeopardize the organization's ability to continue IT operations and lead to business collapse.
- Budget cuts impeding rollout of adequate SAN to support server consolidation.

## Use Case Scenarios

### Scenario 1:

Midsized (Less than 10 Terabytes) shared storage requirement for Windows Server 2008 Hyper-V environment.

### Challenge:

You are eager to take advantage of non-disruptive live migrations and VM auto-failover between physical servers, but your direct-attached storage cannot be shared. You have also determined that multiple VMs on the same physical server are generating far more disk I/Os and throughput than its storage equipment can handle. The cost to implement SAN approaches proposed by others exceeds your budget.

### Solution:

Configure DataCore SANmelody™ storage virtualization software on a pair of network servers that will be repurposed during the server virtualization project. These “universal storage controllers” form a centrally-managed, virtual storage pool by drawing disk space from their internal drives as well as any arrays externally attached to them. Serve shared storage for high-availability using the built-in synchronous mirroring feature. The software will use the CPUs and memory on the DataCore storage controllers as high-speed cache to handle the I/Os and throughput placed on the SAN by aggregated VMs.

### Scenario 2:

Large (greater than 100 Terabytes) Microsoft Desktop and Application Virtualization configuration split across two sites.

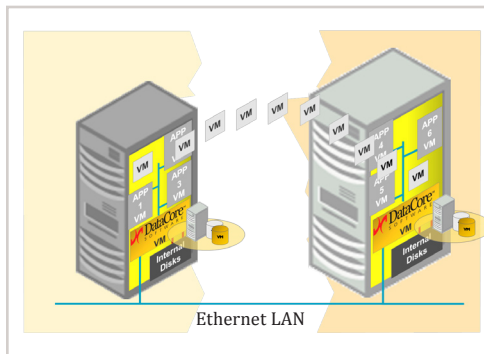
### Challenge:

Remote and local users are experiencing frequent outages and very poor application response from their virtual desktops. The problems have been isolated to a) bottlenecks in the back-end disk farms and b) the need to interrupt applications when making storage-related changes. Regulatory pressures have now made disaster recovery a priority.

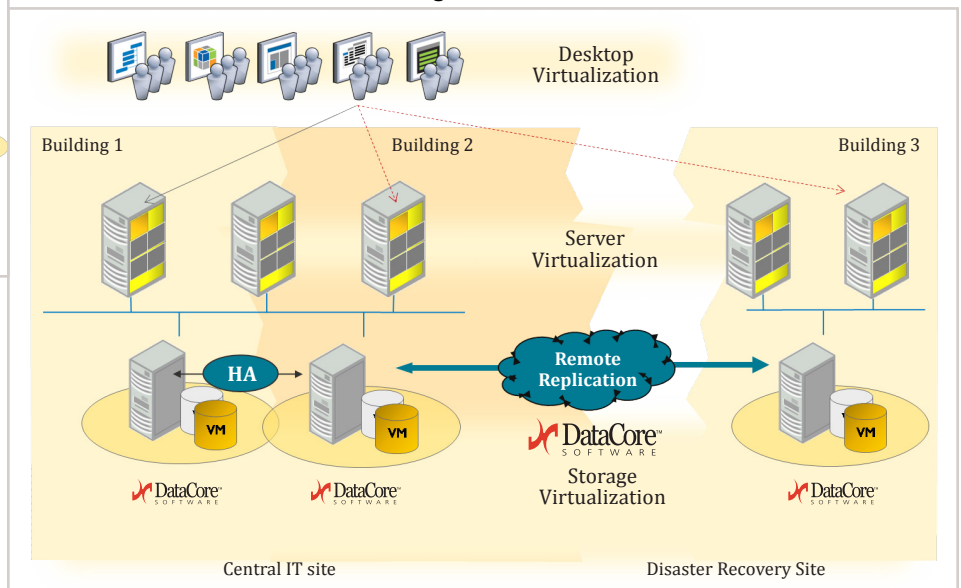
### Solution:

Place the disk farms under the control of DataCore SANsymphony™ storage virtualization software running on network servers to front-end the existing SAN. Configure the software for thin provisioning and synchronously mirror virtual disks between the DataCore universal storage controllers. Any storage-related changes going forward can now take place non-disruptively and the software will automatically provision just enough space, just-in-time. In the process, set up the software to automatically replicate virtual disks asynchronously between sites over an IP network to underpin your disaster recovery solution.

### Small virtual SAN



### Large multi-site SANs



For additional information, please visit: [www.datacore.com](http://www.datacore.com) or e-mail: [info@datacore.com](mailto:info@datacore.com)