



vmOptimized™ Storage for Windows Server 2012

Gridstore 3 is optimized for Windows Server 2012. Its patented Server-side Virtual Controller™ Technology (SVCT) provides the combined performance, scalability and data protection that is unparalleled to any other storage solution for Windows Server 2012 on the market today. Tight integration with System Center further enables the option of single pane of glass management. Admins subsequently can use Virtual Machine Manager (VMM) and System Center Operations Manager (SCOM) to holistically manage and monitor storage in the same way as everything else in the network.

Benefits

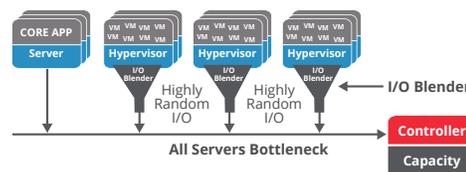
- Accelerate I/O for Windows 2012 and Hyper-V apps
- Easily scale from 12TB to 3PB of capacity on the fly with zero downtime
- Truly fault-tolerant data protection using advanced erasure coding

Microsoft
GOLD CERTIFIED
Partner

All Traditional Storage Suffers from the I/O Blender

Regardless of the deployment scenario of Windows Server 2012—file cluster, standalone application server, Hyper-V—all traditional storage arrays supporting these scenarios suffer from the I/O blender. This ultimately results in severely compromised application performance. At the root of this problem is an architectural mismatch between the underlying storage and the server infrastructure.

Prior to virtualization, an application server OS could optimize the I/O specifically for that application before moving it efficiently to the storage subsystem. As more of the datacenter moved toward a mixed environment of physical and virtual servers, I/O from each of these servers got blended together in a shared storage environment. By the time the I/O reached the storage controller, all the I/O had been blended together and there were conflicting I/O patterns that caused as much as a 10X drop in performance.



Even the latest all-SSD and hybrid storage arrays continue to use this same architecture. And while they do improve performance, they are an expensive, brute force approach that does not address the root cause of the problem. High-performance arrays still cannot optimize or prioritize for each different workload and they force organizations to pay an unnecessary premium even for those applications that do not need such high performance.

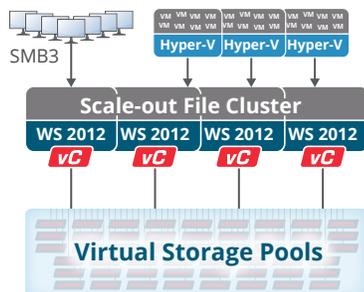
The Solution: Optimized Storage for Windows 2012

Leveraging SVCT, Gridstore eliminates the I/O blender and accelerates application performance while providing a shared storage resource purpose-built for Windows Server 2012.

Unlike traditional storage arrays, Gridstore eliminates the I/O blender by virtualizing the storage controller and moving it across the network and into the server. By moving the intelligent storage processing as close as possible to the application, the virtualized storage controller—called the vController™—is able to isolate and optimize the I/O before leaving the server. The result is optimized storage for every application despite being in a shared storage environment.

Typical Deployment Scenarios

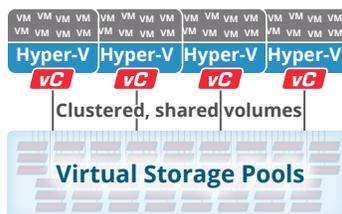
Primary Storage for Windows Server 2012



Block storage capacity with unsurpassed reliability for a single Windows server or a Windows scale-out file cluster

- **vmOptimized Storage:** Self-optimize workloads to accelerate applications
- **GridScale™:** Easily scale from 12TB to 12PB of capacity on the fly with zero downtime
- **TrueQoS™:** Guarantee performance of your most important applications
- **GridProtect™:** Truly fault tolerant data protection utilizing advanced erasure coding to protect against any combination of disk, Storage Node, or network connection failures
- **Single-pane-of-glass management** with Windows Server Management Tools, including GridControl™ stand-alone UI, Server Manager, System Center, or PowerShell

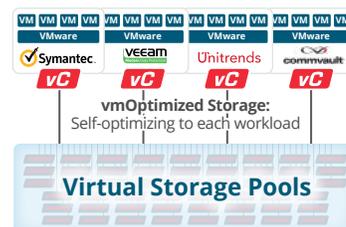
Optimized Storage for Hyper-V Servers



Block storage capacity with high IOPS to a single Hyper-V Server or a Windows scale-out file cluster for Hyper-V

- **vmOptimized Storage:** Accelerate I/O for every application
- **TrueQoS:** Guarantee performance of your most important apps and VMs
- **GridScale:** Massively scale performance without loss
- **Single-pane-of-glass management** with Windows Management Tools, including GridControl™ stand-alone UI, System Center, Virtual Machine Manager, Hyper-V Manager, or PowerShell

Optimized Backup Storage Target



Block-based backup-to-disk storage target with high throughput to one or more Windows-based backup servers using any popular backup application or the built-in capabilities of Windows Server 2012

- **vmOptimized Storage:** Powerful performance when it counts. Deliver both the random and sequential I/O performance required for physical and virtual backups
- **GridScale:** Massively scalable target that grows I/O along with capacity to always meet your backup window for growing backups simply by adding blocks of capacity (Storage Nodes) to your grid. No more over-provisioning. No more forklift upgrades
- **GridProtect:** Fault-tolerant design, so your backups never fail. Leveraging advanced erasure code technology, Gridstore can suffer multiple failures of disks, network connections, even entire Storage Nodes, without data loss or disruption to backup processes

Gridstore vController Gridstore Storage Node: 1U, 4 or 12TB



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