



Gridstore HyperConverged Appliance

HyperConverged All-Flash Infrastructure for the Microsoft Cloud-Inspired Data Center



Gridstore HyperConverged Appliance, based on Gridstore HyperConverged Infrastructure, is built to increase performance, maximize resources, and streamline IT costs. Our customers gain a 10X performance improvement over traditional storage as we put all-flash as close to the workload as possible. Customers realize 4X lower TCO by consolidation of three layers of infrastructure into one scalable layer built on X86 hardware, and 10X less management effort due to fewer management points and less infrastructure to manage.

About the HyperConverged Appliance

The Gridstore HyperConverged Appliance (HCA) is a single system that includes both compute and storage. Each Appliance can have up to four Nodes that can be configured as almost any combination of compute and storage, offering maximum flexibility to meet a variety of workloads and data

center demands. Each Node can have up to six SSDs, for a total of up to 24 SSDs per Appliance. Expansion can be with additional Appliances, Storage-Only Nodes, and with integration with any Windows Server, up to a total of 256 nodes in a Grid™.

Use Cases

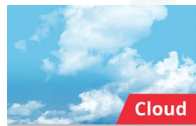
HyperConverged Appliances are well suited to certain crucial IT challenges including:



VDI

Where each HyperConverged Appliance can support

up to 600 desktops in a typical deployment. Since VDI scales in uniform chunks based on the number of desktops being added, a hyper-converged solution is a fast and easy way to scale these deployments.



Hyper-V / Cloud in a Box

Initial deployment where a

HyperConverged Appliance can be installed and up and running the same day ready for application deployment or migration from existing environments.



Remote Office/ Branch Office (ROBO)

Deployment of a complete compute and storage solution in a box for those remote or branch offices that need turnkey, easy-to-deploy and manage systems.



SQL Server Consolidation

Consolidate islands of physical servers onto the HyperConverged Appliance to decrease infrastructure costs and realize predictable high performance to each SQL workload.

Key Benefits

- Power on and provision
- Predictable performance per VM
- 50% lower TCO
- Flash performance
- Scaling to fit your needs

“GRIDSTORE’S ABILITY TO NOT ONLY DELIVER A COMPLETE HYPER-CONVERGED SYSTEM BUT ALSO ALLOW FOR INDEPENDENT EXTENSIBILITY OF THE STORAGE AND COMPUTE MAKES IT STAND OUT IN THIS MARKET.”

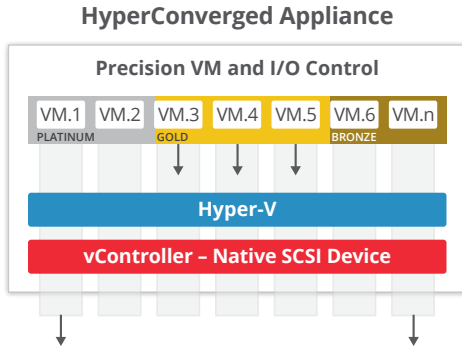
— Arun Taneja, Founder
The Taneja Group



Unique Features

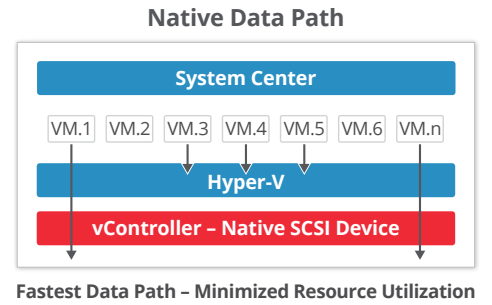
Native Bare Metal Integration

With the only hyper-converged architecture that offers native Windows integration, Gridstore installs a software driver (vController™) at the Windows kernel level. This eliminates guest-VM complexity and provides the tightest integration possible with Windows management and functionality.



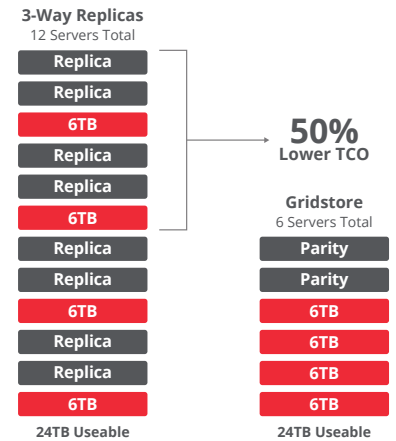
Efficient Elastic Scaling

Pay as you grow while reducing TCO up to 50%. Gridstore eliminates the need for three-way replicas, improving efficiency and eliminating waste. Using erasure coding, customers achieve/experience 50% better CPU utilization and 50% lower TCO. Performance steadily increases linearly as nodes are added (up to 256 nodes per pool).

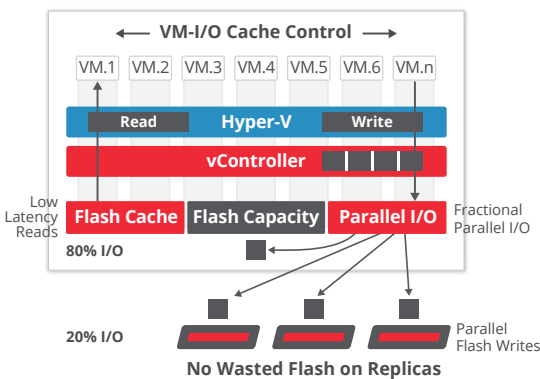


End-to-End I/O Control per VM

Gridstore offers granular visibility and control with its TrueQoS™ (Quality of Service) per VM. QoS enables precision I/O for each VM based on user-defined priority—giving you top performance for the most critical VMs while reducing noisy neighbors.



End-to-End Flash Architecture

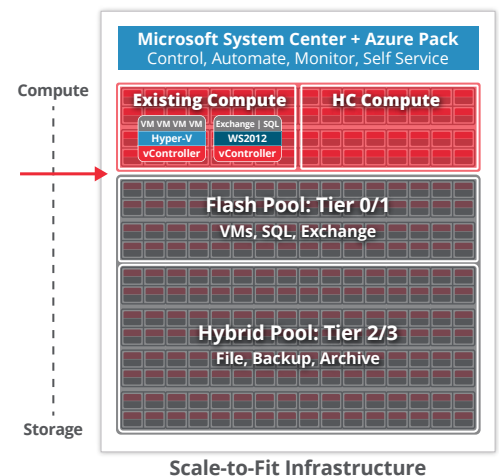


End-to-End Flash Architecture

With both read and write cache positioned optimally to provide the lowest latency, Gridstore is architected for end-to-end flash performance using SSDs.

Independent Scaling

Unlike other hyper-converged vendors, Gridstore enables compute and storage scaling either together or independently. By simply adding either HyperConverged Appliances, Storage Nodes, or any Windows Server, customers achieve maximum flexibility that fits into existing environments or standalone.





HyperConverged Appliance Specifications

	All-Flash Compute/Storage Node	All-Flash Compute/Storage Node	All-Flash Compute/Storage Node	All-Flash Storage-Only Node
	GS-3000-FCN-90-2	GS-3000-FCN-40-2	GS-3000-FCN-20-2	GS-3000-FSN-20-2
Per Node				
Hot-Swap Node Type	Compute/Storage Nodes	Compute/Storage Nodes	Compute/Storage Nodes	Storage-Only Nodes
Capacity	Up to 6 SSDs per Node 6 x 960GB = 5,760GB Total 6 x 1,920 = 11,520GB Total 6 x 3,840 = 23,040GB Total	Up to 6 SSDs per Node 6 x 960GB = 5,760GB Total 6 x 1,920 = 11,520GB Total 6 x 3,840 = 23,040GB Total	Up to 6 SSDs per Node 6 x 960GB = 5,760GB Total 6 x 1,920 = 11,520GB Total 6 x 3,840 = 23,040GB Total	Up to 6 SSDs per Node 6 x 960GB = 5,760GB Total 6 x 1,920 = 11,520GB Total 6 x 3,840 = 23,040GB Total
Processor	Dual Intel Xeon E5-2690 v3 (24 cores, HT, 60MB cache)	Dual Intel Xeon E5-2640 v3 (16 cores, HT, 40MB cache)	Dual Intel Xeon E5-2620 v3 (12 cores, HT, 30MB cache)	Dual Intel Xeon E5-2620 v3 (12 cores, HT, 30MB cache)
Memory, Standard	256GB DDR4 DRAM	128GB DDR4 DRAM	64GB DDR4 DRAM	32GB DDR4 DRAM
NICS	2 x 10GbE RJ45 (on-board)	2 x 10GbE RJ45 (on-board)	2 x 10GbE RJ45 (on-board)	2 x 10GbE RJ45 (on-board)
Hot-Swap Drives	Yes	Yes	Yes	Yes
Included Software*	WS 2012 R2 Data Center + Gridstore Controller Software	WS 2012 R2 Data Center + Gridstore Controller Software	WS 2012 R2 Data Center + Gridstore Controller Software	Windows Embedded 7 + Gridstore Controller Software
Optional Add-in Network Cards	2-port 10GbE 4-port 1GbE RJ45 2- or 4-port 10GbE SFP+	2-port 10GbE 4-port 1GbE RJ45 2- or 4-port 10GbE SFP+	2-port 10GbE 4-port 1GbE RJ45 2- or 4-port 10GbE SFP+	2-port 10GbE 4-port 1GbE RJ45 2- or 4-port 10GbE SFP+
Optional DRAM	512GB/Up to 16 x 32GB DRAM	512GB/Up to 12 x 16GB DRAM	512GB/Up to 12 x 16GB DRAM	-

2U Enclosure				
Number of Nodes	Up to 4	Up to 4	Up to 4	Up to 4
Chassis Dimensions	3.47" H x 17.25" W x 28.5" D (in) 88 H x 438 W x 724 D (mm)	3.47" H x 17.25" W x 28.5" D (in) 88 H x 438 W x 724 D (mm)	3.47" H x 17.25" W x 28.5" D (in) 88 H x 438 W x 724 D (mm)	3.47" H x 17.25" W x 28.5" D (in) 88 H x 438 W x 724 D (mm)
Maximum Weight	90.3 lbs (41.0 kg)	90.3 lbs (41.0 kg)	90.3 lbs (41.0 kg)	90.3 lbs (41.0 kg)
Power	2 Redundant PSUs	2 Redundant PSUs	2 Redundant PSUs	2 Redundant PSUs
Power Consumption**	1800 Watts max; 500W Idle	1800 Watts max; 500W Idle	1800 Watts max; 500W Idle	1800 Watts max; 500W Idle
Operating Temperature	10°C to 35°C (50°F to 95°F)	10°C to 35°C (50°F to 95°F)	10°C to 35°C (50°F to 95°F)	10°C to 35°C (50°F to 95°F)
Non-Oper Temperature	-40°C to 65°C (-40°F to 149°F)	-40°C to 65°C (-40°F to 149°F)	-40°C to 65°C (-40°F to 149°F)	-40°C to 65°C (-40°F to 149°F)

* On FCN customer can either deploy their Windows Server 2012 R2 Datacenter License, or have Gridstore license it at an additional cost.
On FSN Windows Embedded 7 comes licensed.
** Typical power consumption during spin-up / idle under normal operating conditions.

Gridstore Warranty

Gridstore hardware products come with a 3-year limited hardware warranty. Gridstore may offer different delivery methods for warranty service, including but not limited to parts and product dispatches and mail-in service. Base-level warranty service is mail-in,

which can be changed based on support and service contracts purchased by the customer.

Gridstore Support

Gridstore offers a variety of support options, including 24x7x365 worldwide support. Visit www.gridstore.com/support for details.



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