

# StarWind Hyper-Converged Platform: Data Sheet

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## Value Proposition

For ROBOs, mid-sized and especially small SMBs who are looking to bring in quick deployment and operational simplicity to virtualization workloads and reduce related expenses, our solution is a Hyper-Converged Platform (H-CP). StarWind unifies: commodity servers and storage hardware, hypervisor and associated software into a single scalable layer. StarWind Hyper-Converged Platform has minimalistic initial hardware footprint of just two servers, called Hyper-Converged Platform Units (H-CPUs). Network switches are optional. Scaling unit is just one server at a time. Compute and storage resources can be leveraged individually matching customer workload and other requirements. H-CPUs are pre-configured, pre-tested and pre-tuned for every specific case, and shipped by StarWind's hardware partners.

StarWind employs the "best of breed" components for H-CPUs: server hardware from Dell, and associated software which plays the key role by turning the commodity servers into a fully functional hyper-converged appliances. Microsoft Hyper-V is used since it is the hypervisor of choice for most Enterprise ROBOs and smaller SMBs. StarWind Virtual SAN is used for virtual storage and Veeam Backup and Replication utilized for VM backup. In order to manage the hypervisor, Microsoft SCVMM, or 5nine Manager are employed along with 5nine Antivirus for better security. We cut down operational costs even further by allowing the use of either a free Hyper-V Server or a full-blown Windows Server 2012 R2 with Hyper-V role enabled. The latter comes with a number of Windows VMs already licensed, thus reducing TCO. StarWind is the "one throat to choke" in terms of support. StarWind H-CP costs at least 40% less than all the components separately, thanks to cooperation between StarWind and their software and hardware partners.

## Components:

**Servers:** Dell PowerEdge T320 / Dell PowerEdge R620 / Dell PowerEdge R720 provided by StarWind premier hardware partner xByte Technology.

xByte Technologies is a premier reseller of IT equipment with a history of quality service for over 11 years. They specialize in servers, storage, and parts for Dell, HP, and IBM.

**Hypervisor:** Microsoft Hyper-V Server 2012 R2 or Windows Server 2012 R2

Microsoft Hyper-V Server is a dedicated stand-alone product that contains the hypervisor, Windows Server driver model, virtualization capabilities, and supporting components such as failover clustering, but does not contain the robust set of features and roles as the Windows Server operating system. As a result, Hyper-V Server produces a small footprint and requires minimal overhead.

**Virtual Shared Storage:** StarWind Virtual SAN® V8

StarWind Virtual SAN is entirely software-based, hypervisor-centric VM storage which “mirrors” disks and flash between the servers running virtualization workload. It eliminates the need for any physical shared storage and seamlessly integrates into a hypervisor for unbeatable performance.

**Virtual Machine Backup and Replication:** Veeam Backup and Replication V8

Veeam® Backup & Replication™ provides fast, flexible, and reliable recovery of virtualized applications and data. It brings backup and replication together in a single solution to both increase the value of backup and reinvent data protection for Microsoft Hyper-V virtual environments.

**Management and Security:** 5nine Hyper-V Manager & Antivirus V6.1

5nine Manager is an easy-to-use and cost-effective management solution for Microsoft Hyper-V. It provides most of the features of Microsoft System Center VMM that SMBs need for everyday Hyper-V management. 5nine Manager could be run either locally or remotely. The solution also provides cluster management capabilities, built-in performance monitoring and agentless antivirus.

## StarWind Hyper-Converged Platform Units (H-CPUs)

For each particular virtualization usecase StarWind delivers a Hyper-Converged Platform properly matched for customers workload.

The Hyper-Converged Platform (H-CP) consists of Hyper-Converged Platform Units (H-CPU). H-CPU is the minimum building block of the platform: a pre-configured, ready to use server which runs the hypervisor, virtual shared storage, management and backup tools.

“One size fits all” approach does not work for virtualization environments so StarWind provides multiple size options of the H-CPU which can be added and combined to optimally fit your environment. The H-CPU comes in 3 different models, each configured with a particular workload or scenario.

## StarWind H-CPU “S”

HC-P Model S is the entry level system designed for SMBs and ROBOs. The starter set packs all the essential components of the virtualization platform in just 2 servers simplifying the configuration and minimizing the initial investment. Tower form factor simplifies the deployment for customers who don't have a rack available in the office, rack mount kit can be optionally added to the 2-node starter set purchase. The 2-node starter set does not require dedicated network switches and can be plugged in directly into the existing network switch<sup>1</sup>. All storage traffic runs through a direct connected 10 GbE back end and does not affect existing networks.



	1 node	2-node starter set
<b>CPU</b>	1x E5-2420 1.9GHz / 1x E5-2450v2 2.5GHz	
<b>Sockets</b>	1	2
<b>Cores</b>	6C / 8C	12C / 16C
<b>RAW Space</b>	4TB (4x1TB) / 8TB (8x1TB) /12TB (12x1TB)	8 TB / 16 TB / 32 TB
<b>RAM</b>	48 GB/ 64 GB / 96 GB	96 GB / 128 GB / 192 GB
<b>Usable Space</b>	2TB / 4 TB / 6 TB	2 TB / 4 TB / 6 TB
<b>SSD</b>	NO / 2x 240 GB / 4x 240 GB	NO / 4x 240GB / 8x 240GB
<b>Networking</b>	4x1GbE LAN, 2x10 GbE direct connected backend	
<b>Power supply</b>	495W or 750W Hot Swap Redundant	
<b>Form factor</b>	Tower	
<b>Performance</b>	Minimum - 400 - 1000 IOPS - 4K 100% Random, 4000 - 11000 IOPS 4K Sequential	
<b>VDI Density</b>	20-40 Virtual Desktops	

Typical usecase: Remote offices with limited IT staff who have moderate compute power requirements and growing amounts of stored data.

## StarWind H-CPU “L”

HC-P Model L is the mid-level system for SMB virtualized environments. The starter set packs all the essential components of the virtualization platform in just 2 servers simplifying the configuration and minimizing the initial investment. 1U form factor provides maximum compute power density in smallest possible rack space. Starter set does not require any dedicated network switches and can be plugged in directly into the existing network switch<sup>1</sup>. All storage traffic runs through a direct connected 10 GbE back end and does not affect existing networks.



	1 node	2-node starter set
<b>CPU</b>	2 X E5-2620 2.0GHz / 2 X E5-2640v2 2.0GHz / 2 X E5-2660v2 2.2 GHz	
<b>Sockets</b>	2	4
<b>Cores</b>	12C / 16C / 20C	24C / 32C / 40C
<b>RAM</b>	96 GB / 128 GB / 256 GB	192 GB / 256 GB / 512 GB
<b>RAW Space</b>	4TB (4x1TB) / 7.2TB (6x1.2TB) / 9.6TB (8x1.2TB)	8 TB / 14.4 TB / 19.2 TB
<b>Usable Space</b>	2TB / 3.6TB / 4.8TB	2TB / 3.6TB / 4.8TB
<b>SSD</b>	NO / 2x 240 GB / 2x 480 GB	NO / 4x 240 GB / 4x 480 GB
<b>Networking</b>	4x1GbE LAN, 2x10 GbE direct connected backend	
<b>Power Supply</b>	495W or 750W or 1100W Hot Swap Redundant	
<b>Form Factor</b>	1U	
<b>Performance min.</b>	Minimum - 400 - 2200 IOPS - 4K 100% Random, 4000 - 15000 IOPS 4K Sequential	
<b>VDI Density</b>	70 - 120 Virtual Desktops	

Typical usecase: SMBs and ROBOs with growing compute power requirements, hosting service providers who demand maximum compute power with minimum Rackspace occupied.



## StarWind H-CPU “XL”

StarWind H-CP Model XL is a high end virtualization platform which provides maximum compute and storage density and uncompromised performance for high load virtual server and VDI workloads. The starter set packs all the essential components of the virtualization platform in just 2 servers simplifying the configuration and minimizing the initial investment. Starter set does not require any dedicated network switches and can be plugged in directly into the existing network switch<sup>1</sup>. All storage traffic runs through a direct connected 10 GbE back end and does not affect existing networks.



	1 node	2-node starter set
<b>CPU</b>	2 X E5-2660v2 2.2GHz / 2 X E5-2680v2 2.8 GHz / 2x E5-2695v2 2.4 GHz	
<b>Sockets</b>	2	4
<b>Cores</b>	20 / 20 / 24	40 / 40 / 48
<b>RAM</b>	128 GB / 256 GB / 512 GB	256 GB / 512 GB / 1024 GB
<b>RAW Space</b>	7.2TB(6x1.2TB) / 14.4TB(12x1.2TB) / 19.2TB (16x1.2TB)	14.4 TB / 28.8 TB / 38.4 TB
<b>Usable Space</b>	3TB	3.6TB / 7.2TB / 9.6TB
<b>SSD</b>	2x 240GB / 4x 480 GB / 4x 480 GB	4x 240GB / 8x 480 GB / 8x 480 GB
<b>Networking</b>	4x1GbE LAN, 10 GbE / 40 GbE direct connected backend	
<b>Power Supply</b>	495W or 750W or 1100W Hot Swap Redundant	
<b>Form Factor</b>	2U	
<b>Performance</b>	Minimum 1100 - 2900 IOPS - 4K 100% Random, 10,000 - 26,000 IOPS 4K Sequential	
<b>VDI Density</b>	120 – 160 Virtual desktops	

Typical usecases: SMBs with high performance computing demands, VDI deployments for mid-size Enterprise ROBOs.

<sup>1</sup> - Switchless scale-out supported for up to 4 nodes. Additional 10 GbE NIC required for every node in a switchless setup.

## Contacts

US Headquarters	EMEA and APAC
 1-617-449-7717	 +44-0-2071936727
 1-617-507-5845	+44-0-2071936350
	+330-977197857 (French)
	 1-866-790-2646

Customer Support Portal: <https://www.starwind.com/support>  
Support Forum: <https://www.starwind.com/forums>  
Sales: [sales@starwind.com](mailto:sales@starwind.com)  
General Information: [info@starwind.com](mailto:info@starwind.com)



**StarWind Software, Inc.** 301 Edgewater Place Suite 100 Wakefield MA 01880 USA [www.starwind.com](http://www.starwind.com)  
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