

 **OUTDATED**

StarWind Virtual SAN[®] Free

Getting Started

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TECHNICAL PAPER



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In 2016, Gartner named StarWind “Cool Vendor for Compute Platforms”.

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About StarWind

StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind “Cool Vendor for Compute Platforms” following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

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Introduction

StarWind Virtual SAN® is entirely software-based, hypervisor-centric virtual machine storage. It creates a fully fault-tolerant and high-performing storage pool that is built for the virtualization workload “from scratch”. StarWind Virtual SAN basically “mirrors” inexpensive internal storage between hosts. Virtual SAN completely eliminates any need for an expensive SAN or NAS or other physical shared storage. It seamlessly integrates into the hypervisor for unbeatable performance and exceptional simplicity of use

StarWind comes with the different set of options and deployment scenarios. It allows implementation of:

- Hyper-Converged architecture, which assumes running StarWind on the same physical host where the client is running
- Compute and Storage Separated architecture, where StarWind is running on the dedicated physical box.

Free version comes with basic set of features (and is targeting just one deployment scenario which is Compute and Storage Separated, while paid version can also do Hyper-Converged and various combined ones. StarWind Virtual SAN Free takes two servers with some internal storage, brand new or decommissioned from other project and turns them into a “shared nothing” fault-tolerant SAN and NAS. HA iSCSI SAN protocol is kept for “internal housekeeping” and not available to external initiator servers. Highly available shared storage is available to the client servers through Continuously Available SMB 3.02 and Failover NFSv4.1. This dramatically simplifies the installation, support, and management of the storage solution. Performance is not throttled and still stands in line with Enterprise-grade storage arrays.

This guide is intended to highlight the specific implementation that StarWind Virtual SAN Free allows, its pros and cons.

A full set of up-to-date technical documentation can always be found [here](#), or by pressing the **Help** button in the StarWind Management Console.

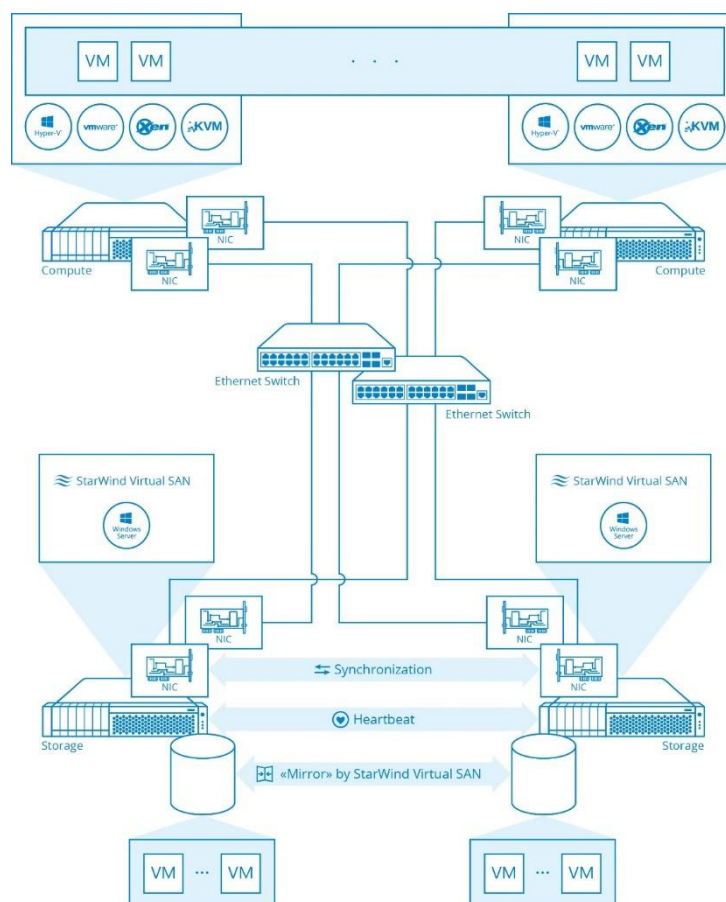
For any technical inquiries, please visit our [online community](#), [Frequently Asked Questions](#) page, or use the [support form](#) to contact our technical support department.

Implementation

StarWind Virtual SAN Free takes a pair of new or decommissioned commodity servers and turns them into a DIY dual-controller “shared nothing” fault-tolerant SAN and NAS by “mirroring” their internal storage between them. Resulting solution exposes continuously available SMB 3.02 shares and failover NFS v4.1 mount points and targets such a use cases:

- Shared storage for Microsoft Hyper-V VMs and SQL Server DBs (CA SMB3)
- Shared storage for VMware vSphere & ESXi, Citrix XenServer and various Xen VMs (NFS)
- Failover file server (common data, VDI profiles, backups and so on) (SMB3 & NFS)

Though a hyper-converged scenario is an industry trend now, the differentiation of compute and storage layers makes sense if there’s need to grow by capacity or compute separately from each other. Typical use cases are shared storage for huge clustered SQL Server and Oracle deployments and an inexpensive block back-end for Scale-Out File Servers, NFS shared file servers, etc.



This option assumes manual installation and configuration of the StarWind Virtual SAN on the Windows Server that is running on the separate physical box. As mentioned previously it really sensitive hardware utilization control leverages, such deployment usually considered for the big








deployments, where underprovisioning may result in significant waste of budget on the hardware that wouldn't be actually used, as in some case of hyper-converged architecture usage.

While running StarWind in Compute and Storage architecture, it is possible to scale compute and storage resources independently, with different leverages regardless from each other. As a result, the system better fits the task while CapEx and OpEx go through the floor, since there is no need to purchase hardware that will be essentially wasted. Thus, the system can be created specifically for a particular task.

In order to configure the configurations that StarWind Virtual SAN Free allows please refer to the one of the step-by-step manuals that you can find by using the links below:

- <http://www.starwindsoftware.com/configuring-ha-file-server-for-smb-nas>
- <http://www.starwindsoftware.com/configuring-ha-file-server-for-nfs-nas>
- <http://www.starwindsoftware.com/sw-providing-ha-shared-storage-for-scale-out-file-servers>

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