

# StarWind VSAN Free

## Introduction

IT admin's life is full of Test & Development and building different POC projects. Buying new hardware, EOL-ing and re-purposing old one, trying new approaches to solve good old and brand-new tasks. Server virtualization, VDI, backup, Disaster Recovery. Making long story short: a lot of things are happening at the same time. IT is fun!

Software Defined Storage (SDS) is the best way to tackle the storage requirement for PoC and testing. It can even be tier 1 storage for a small company that is OK with self-supported CLI-only SDS solution.

## Problem

Lack of inexpensive fault-tolerant and still easy to manage storage. Typical IT admin's worst nightmare is picking up proper storage platform for his virtualization Test & Development, POC and backup and Disaster Recovery scenarios. "White bone" storage appliances from EMC and NetApp are extremely reliable but simply too expensive to be used either for Test & Development and POC or for backup and DR. Overkill! "Roll your own" single server ZFS setups have outstanding performance and exceptional data integrity but... There's no fault tolerance to offer as a virtual machine shared storage pool and ZFS deduplication raises more questions than it answers in terms of backup destination. Windows Server 2016 installation offers nice backup-friendly deduplication but bringing in second server for fault-tolerant configuration requires serious investments into storage hardware: SAS JBOD (or better three of them for enclosure redundancy and awareness), all-SAS disks and SAS HBAs. No high-capacity inexpensive SATA spindles and IOPS savvy PCIe/NVMe flash. Kind of a dilemma...

## Solution

StarWind Virtual SAN Free successfully solves “lack of inexpensive fault-tolerant and still easy to manage storage” problem. StarWind 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. The storage becomes accessible via a number of supported protocols - iSCSI, iSER, SMB3, NFSv4.1. Resulting solution exposes continuously available SMB 3.02 shares and failover NFS v4.1 mount points and targets for such 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 (NFSv4.1)
- Failover file server (common data, VDI profiles, backups and so on) (SMB3 & NFSv4.1)

StarWind Virtual SAN Free setup is exceptionally easy to manage because there're no LUNs only NAS shares and mount points. File server is extremely space-efficient because a resource-friendly off-line deduplication mitigates replication overhead. Usable space can be scaled up “on the go” by increasing amount of disks and flash in servers acting as a SAN and NAS “controllers” and by bringing in external disk enclosures. Extra copy of on-site data can be optionally stored in Microsoft Azure for DR purpose for free. StarWind Virtual SAN Free is managed via CLI, but includes UI for monitoring purposes. StarWind allows production use which is a huge differentiation point. Solution is self-supported and community-supported on StarWind publicly open discussion forums.

Paid version unlocks high available iSCSI SAN functionality, Scale Out, Disaster Recovery site spawned in any public or private cloud and 24/7 support with strict Service Level Agreements. Hardware-less Hyper-Converged installation option is also possible with a paid version. Free deployment can be easily turned into paid one with a simple license upgrade. No downtime would happen and no data migration is required!

## Conclusion

StarWind offers the fastest and the most feature-rich free SDS stack with production use allowed. If you're an experienced admin who is fine with a CLI-managed SDS that he can manage and maintain with his eyes closed - look no further.