

## Nominee: StarWind Software, Inc.

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### Nomination title: StarWind Virtual SAN

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.

Benefits:

#### 1. Cost of ownership

Cost of ownership is cut by at least half. StarWind Virtual SAN completely eliminates the actual shared storage, corresponding infrastructure and associated deployment and maintenance activities. There is physically less expensive hardware to buy and service.

#### 2. Simplicity

Simplicity is a key feature. StarWind Virtual SAN runs as a native hypervisor component so it does not require any deep storage and network orchestration or UNIX management skills. A typical system administrator with minimal experience in either Hyper-V or Windows can install, configure and maintain Virtual SAN operations.

#### 3. Performance

Performance is uncompromised by the reduced deployment and management costs. StarWind Virtual SAN brings to the table server-side flash and memory caches, log-structuring and an absolutely minimalistic I/O path. The resulting performance can't be matched by either virtual appliances or physical shared storage.

Differentiation

- Absolutely minimalistic hardware footprint. StarWind Virtual SAN needs just two physical hosts running Hyper-V/VMware hypervisor and literally no other hardware. Typically, Ethernet switches aren't required, because StarWind prefers direct cable connections for better performance, lower cost and simplicity. StarWind Virtual SAN uses sophisticated algorithms to compensate for the requirement of the third node (i.e. VMware vCenter and VSA Manager, HP Failover Manager) and avoid split-brain issue with just two nodes. Flash is also not mandatory (like in case with VMware VSAN) but still usable, because

StarWind uses RAM cache to adsorb the writes. CapEx is reduced because there's much less hardware to deploy and OpEx – because there's less maintenance labor.

- Flash-friendly. StarWind Virtual SAN uses Log-Structured File System (LSFS) and Space Reduction Technologies (Deduplication and Compression). VM workload typically creates tons of random writes, which burn “holes” in SSD. LSFS eliminates the issue by turning lots of small writes into one big page, initiating fewer (by order of magnitude!) erase cycles, making Flash wear out much slower. Additionally StarWind Virtual SAN uses in-line Space Reduction Technologies – Compression and Deduplication, which reduce the actual data flow though SSD to a minimum, prolonging flash life cycle even further.

- Native to Windows. StarWind Virtual SAN is a native Windows application, so any Windows administrator can use it immediately. There's no Unix/Linux, FreeBSD or any other proprietary operating system used, so no specialized staff training is required. In addition, Microsoft offers updates and support of VM core components on a routine basis, meaning up-to-date security and resolving of any possible issues with Windows VMs typical run on vSphere.

These differentiation factors are making StarWind Virtual SAN attractive for SMB and especially ROBO scenarios, which are usually low on hardware resources and are restricted to a modest budget. The savings for ROBO infrastructure are huge, because even a single Ethernet switch (not to mention a whole server) discarded from the solution would be multiplied by thousands and hundreds of thousands.

Testimonials:

Michael J. Gage, Network Operations Manager, LocalTel Communications:

"We strongly recommend StarWind solution. Since our initial deployment our storage needs have grown and the product has successfully grown with us. We have increased our storage exponentially without any complications. We can now perform maintenance on our storage cluster without creating an outage."

Sander van't Hullenaar, IT Director, Nitroserve.nl:

"We have tried different storage system solutions to obtain data synchronization and redundancy, but most of them didn't provide the real-time syncing that we required. Then we tested StarWind, and even tried to "sabotage" it but it just kept working! StarWind meets all our needs and has taken a prominent place in our IT environment."

Aitor Ibarra, Director, Vmhotel:

"Because of my investment in StarWind's fantastic HA solution and Microsoft Hyper-V clustering & Live Migration, it was possible to physically move my servers from one datacenter to another without any interruption of service and without risking data."

Peter Tkatchenko, Director of Information Technology Department:

"With the StarWind solution, Reseaunance obtained reliable SAN with advanced features. The StarWind storage solution offered security for our data. It can be scaled according to the company's storage needs with promised zero downtime and fast disaster recovery."

"...Data deduplication technology was exactly the thing we required, because it permits us to store a large amount of data without extending our existing storage."

### **Why nominee should win**

- StarWind Virtual SAN significantly reduces CapEx and OpEx. StarWind doesn't require dedicated hardware, expensive SAN boxes. Only 2 existing Hyper-V/ESXi hosts of commodity hardware is enough to create fault-tolerant high-performance shared storage. As a result, CapEx is reduced because there's much less hardware to deploy and OpEx – because there's less maintenance labor.
- StarWind Virtual SAN is the first solution running on Windows that creates clusters of multiple hypervisor hosts without separate physical shared storage (unlike SAS (JBOD), FC or iSCSI).
- StarWind Virtual SAN is very easy to use and manage: StarWind Virtual SAN runs as a native hypervisor component so it does not require any deep storage and network orchestration or UNIX management skills. A typical system administrator with minimal experience in either Hyper-V or Windows can install, configure and maintain Virtual SAN operations.
- StarWind Virtual SAN has everything that is expected from a high-end storage appliance. It makes enterprise features affordable for SMBs.