StorMagic

DATA SHEET

StorMagic SvSAN
A VIRTUAL SAN MADE SIMPLE

StorMagic SvSAN

StorMagic SvSAN is a virtual SAN - a software-defined solution designed to run on two or more servers and deliver highly available shared storage.

SvSAN simplifies your IT infrastructure. It eliminates the need for a physical SAN, enabling hyperconvergence by virtualizing the internal compute and storage of any x86 server and presenting it via a hypervisor as shared storage.

A typical two-node SvSAN configuration, with a centralized management interface and witness, is shown in fig. 1.

This data sheet is broken down into four sections, covering SvSAN's features, its requirements, hardware and software compatibility and finally support levels.

For a greater technical examination of StorMagic SvSAN, including deployment options and use cases, please refer to the **SvSAN Technical Overview white paper**.

SvSAN'S FEATURES

StorMagic SvSAN has a range of features enabling the storage architect to get the most out of their infrastructure. These features are detailed in the table at the end of this document.

There are two versions of SvSAN available, Standard Edition and Advanced Edition. The Standard Edition provides all of the features necessary to deliver highly available shared storage, while the Advanced Edition includes additional performance features, collectively known as Predictive Storage Caching. Many of

these features are covered in more detail within their own white papers. **View the full range on the StorMagic website.**

Furthermore, SvSAN has an encryption and key management feature known as StorSecure. This feature is available separately and can be added to either Standard or Advanced Edition licenses. **More information on StorSecure can be found here.**

StorMagic SvSAN is licensed based on the usable VSA storage capacity. License tiers are set at 2TB, 6TB, 12TB and Unlimited TB.

SvSAN licenses are perpetual - after a single payment they can be used forever. Ongoing costs concern only support renewal payments. Pricing is based on a two node license bundle, with one license key per server. Single licenses are also available however.

A free, fully functional evaluation of SvSAN is available to download, enabling organizations to trial and experience the features and benefits of SvSAN, before purchasing.

For more information and to download an evaluation copy, visit: **stormagic.com/trial**

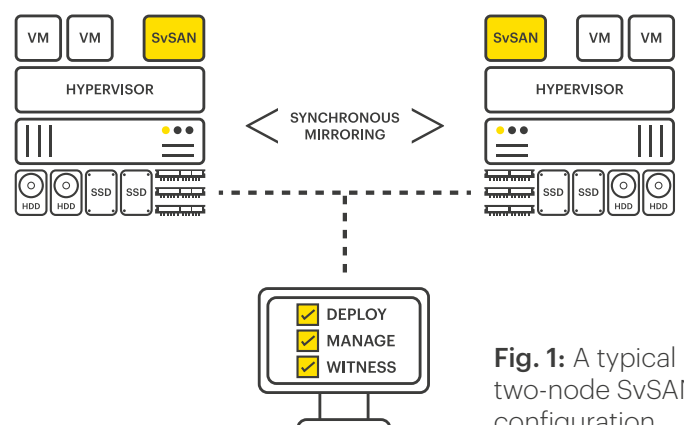**Fig. 1:** A typical two-node SvSAN configuration

SYSTEM REQUIREMENTS

SvSAN has the following minimum hardware requirements:

CPU	1 x virtual CPU core[1] 🖊 2 GHz or higher reserved
Memory	1GB RAM[2]
Disk	2 x virtual storage devices used by VSA 🖊 1 x 512Mb Boot Device 🖊 1 x 20Gb Journal Disk
Network	1 x 1Gb Ethernet 🖊 Multiple interfaces required for resiliency 🖊 10Gb Ethernet supported 🖊 Jumbo frames supported

[1] When using StorSecure to encrypt data, 2+ virtual CPUs are recommended

[2] Additional RAM may be required when caching is enabled

Witness system requirements
The witness sits separately from the SvSAN nodes and therefore has its own minimum requirements:

CPU	1 x virtual CPU core (1 GHz)
Memory	512MB (reserved)
Disk	512MB
Network	1 x 1Gb Ethernet NIC When using the witness over a WAN link use the following recommendations for optimal operation: 🖊 Latency of less than 3000ms, this would allow the witness to be located anywhere in the world 🖊 9Kb/s of available network bandwidth between the VSA and witness (less than 100 bytes of data is transmitted per second)
Operating System	The SvSAN witness can be deployed onto a physical server or virtual machine with the following: 🖊 StorMagic SvSAN Witness Appliance 🖊 Windows Server 2019 (64-bit) 🖊 Windows Server 2016 (64-bit) 🖊 Hyper-V Server 2016 (64-bit) 🖊 Raspbian Jessie (32-bit)[1] 🖊 Raspbian Stretch (32-bit)[2] 🖊 vCenter Server Appliance (vCSA)[3]

[1] On Raspberry Pi 1, 2 and 3
[2] On Raspberry Pi 2, 3 and 3+
[3] VMware vSphere 5.5 and higher

NOTE *The witness should be installed onto a server separate from the SvSAN VSA.*

HARDWARE AND SOFTWARE COMPATIBILITY

SvSAN works with any x86 server that exists on the VMware vSphere ESXi or Microsoft Hyper-V Hardware Compatibility List (HCL). Furthermore, SvSAN will work with any supported internal server disk storage or JBOD array.

Hypervisor support
SvSAN supports VMware vSphere, Microsoft Hyper-V and Linux KVM hypervisors. It is installed as a Virtual Storage Appliance (VSA) requiring minimal server resources to provide the shared storage necessary to enable the advanced hypervisor features.

SvSAN is supported on the following versions of VMware vSphere ESXi and Microsoft Windows Server/Hyper-V Server:

Hypervisor		SvSAN Version		
		6.0	**6.1**	**6.2**
VMware	vSphere 6.7 & updates			●
	vSphere 6.5 & updates	●	●	●
	vSphere 6.0 & updates	●	●	
Microsoft	Windows Server 2019			●
	Windows Server 2016		●	●
	Hyper-V Server 2016		●	●
Linux KVM	CentOS 7.6			●[1]
	CentOS 7.5			●[1]
	RHEL 7.6			●[1]
	RHEL 7.5			●[1]

[1] Linux KVM compatibility is available for SvSAN 6.2 Patch 5 and onwards

If VMware vSphere is chosen as the hypervisor to deploy with SvSAN, StorMagic recommends vSphere Essentials Plus as a minimum to enable high availability.

For further details of SvSAN's capabilities on KVM hypervisors, please refer to the **SvSAN with KVM data sheet.**

	GOLD SUPPORT	PLATINUM SUPPORT
Hours of operation	8 hours a day[1] (Mon – Fri)	24 hours a day[2] (7 days a week)
Length of service	1, 3 or 5 years	1, 3 or 5 years
Product updates	Yes	Yes
Product upgrades	Yes	Yes
Access method	Email	Email + Telephone
Response method	Email + Telephone	Email + Telephone
Remote support / WebEx	Yes	Yes
Maximum number of support administrators per contract	2	4

[1] Gold Support is only available within the timezones of UTC -08:00 to UTC +02:00. If you fall outside of this range, you must purchase Platinum Support.

[2] Global, 24x7 support for Severity 1 - Critical Down issues

VMware vCenter support

With the dedicated plugin, SvSAN can be managed directly from VMware vCenter. SvSAN is compatible with the following versions of vCenter:

VMware vCenter version	SvSAN Version		
	6.0	6.1	6.2
vSphere 6.7 & updates			●
vSphere 6.5 & updates	●	●	●
vSphere 6.0 & updates	●	●	

SvSAN MAINTENANCE & SUPPORT

SvSAN Maintenance & Support provides organizations with access to StorMagic support resources, including product updates, knowledgebase access and email support with our technical support staff.

Two levels are available. A summary of each is shown in the table above:

More information on SvSAN Maintenance & Support can be found at **stormagic.com/svsan/support**

In minutes we were able to present datastores to our environment. Working with the technical support was nothing short of awesome.

George Knops, Network Administrator, City of Milwaukee Water Works

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SvSAN FEATURES

<!-- Table header: STANDARD | ADVANCED -->

Feature	STANDARD	ADVANCED
SYNCHRONOUS MIRRORING / HIGH AVAILABILITY ⬤ Data is written to two SvSAN VSA nodes to ensure service uptime ⬤ Write operations only complete once acknowledged on both SvSAN VSAs ⬤ In the event of a failure, applications are failed over to other available resources	●	●
STRETCHED / METRO CLUSTER SUPPORT - *white paper with more information* ⬤ Separate nodes geographically to provide an added layer of resiliency ⬤ Different racks, separate rooms or buildings, or even across an entire city	●	●
VOLUME MIGRATION - *white paper with more information* ⬤ Transparently and non-disruptively migrate volumes from one storage location to another ⬤ Simple and mirrored volumes can be migrated between storage pools on the same SvSAN VSA node or to another SvSAN VSA node entirely	●	●
VSA RESTORE (VMware ONLY) ⬤ Automates the recovery process of an SvSAN VSA node following a server failure or replacement ⬤ SvSAN VSA configuration changes are tracked and stored on another SvSAN VSA in the cluster ⬤ Mirror targets are rebuilt and resynchronized, enabling a quick return to optimal service ⬤ Simple targets can be automatically recreated, ready for data recovery from backup	●	●
VMware vSphere STORAGE API (VAAI) SUPPORT (VMware ONLY) ⬤ Accelerating VMware I/O operations by offloading them to SvSAN ⬤ Supports the Write Same and Atomic Test & Set (ATS) primitives	●	●
CENTRALIZED MONITORING AND MANAGEMENT ⬤ Monitor and manage SvSAN from a single location with multiple options including WebGUI ⬤ Seamless integration with vCenter Web Client enabling alerts to be forwarded and captured on one screen ⬤ Email alert notifications using SMTP, and SNMP integration with support for v2 and v3	●	●
WITNESS - *white paper with more information* ⬤ Acts as a quorum or tiebreaker and assists cluster leadership elections to prevent "split-brain" ⬤ Hundreds of locations can share a single witness and it tolerates low bandwidth, high latency WAN links ⬤ Supported configurations include local witness, remote shared witness or no witness	●	●
I/O PERFORMANCE STATISTICS ⬤ Provides granular, historical I/O transaction, throughput and latency statistics for each volume ⬤ Simple, intuitive graphical presentation with minimum, maximum, and average values for daily, monthly, yearly time periods ⬤ Data can be exported to CSV for further analysis	●	●
MULTIPLE VSA GUI DEPLOYMENT AND UPGRADE ⬤ Deploy and upgrade VSAs through a single wizard either immediately or in a staged approach for out-of-hours activity ⬤ SvSAN handles dependencies and performs a health check ensuring there is no impact to environments	●	●
POWERSHELL SCRIPT GENERATION ⬤ Deployments over many locations can be handled by generating a custom PowerShell script	●	●
WRITE BACK CACHING (SSD) - *white paper with more information* ⬤ Utilizes SSDs to improve the performance of all write operations by lowering latencies and increasing the effective IOPS, resulting in faster response times, especially for random write workloads ⬤ All write I/O's are directed to the SSD allowing completion to be immediately acknowledged back to the server, at a later time the data is written from SSD to the hard disk		●
PREDICTIVE READ AHEAD CACHING (SSD AND MEMORY) - *white paper with more information* ⬤ Beneficial to sequential read workloads - populates memory with data prior to being requested ⬤ Boosts performance by reducing I/O requests going to disk, instead serving data from low latency memory		●
DATA PINNING - *white paper with more information* ⬤ Allows data to permanently reside in memory, ensuring that data is always available in the highest performing, lowest latency cache tier, useful for frequently repeated operations such as booting virtual machines ⬤ Intelligent caching algorithms identify 'hot' and 'cold' data, elevating the 'hot' data to the highest performing, lowest latency storage tier (SSD or memory)		●
StorSecure ENCRYPTION AND KEY MANAGEMENT - *data sheet with more information* ⬤ Available separately for both Standard and Advanced Editions ⬤ Utilizes a FIPS 140-2 compliant algorithm (XTS-AES-256) to deliver military-grade encryption to all data handled by SvSAN or just selected volumes ⬤ Flexible KMS allows millions of keys to be generated and stored across multiple locations, whether onsite, in a datacenter, or in the cloud.	●	●