

StorMagic SvSAN Witness

OVERVIEW

Many organizations nowadays are heavily dependent on IT for everyday operations, and as such, the availability and uptime of these systems is critically important. Loss of service equates to loss of productivity which, depending on the severity, can have a huge impact on an organization.

Adding high availability to a business's infrastructure is like adding in an insurance policy, protecting the organization from disruptive downtime. When one node fails or is taken offline, the others remain operational, enabling employees to keep working.

Businesses that require high availability in their applications can design their storage infrastructure in such a way as to create redundancy and eliminate single points of failure. However, in order to properly mitigate against failures and the threat of downtime in

two node, shared storage clusters, an additional element is required - the "witness."

THE STORMAGIC SvSAN WITNESS

StorMagic SvSAN is a virtual SAN solution that creates highly available storage across two nodes or more. SvSAN's ability to provide highly available shared storage on a minimum of just two nodes is a key differentiator, and is made possible by the use of its lightweight witness.

The SvSAN witness prevents split-brain scenarios from occurring in two node SvSAN clusters by regularly checking the state of each node in the cluster. The only data passing between the witness and the SvSAN nodes is the 'heartbeat' - the witness is not in the data path. This allows it to tolerate significant latency and low bandwidth, and can therefore be located great distances from the clusters it provides quorum service for, even if they are in remote, harsh environments.



SIMPLE

One lightweight witness supports up to 1,000 sites

Provide quorum for all 2 server SvSAN clusters

"Set and forget" software that can run anywhere

Seamless integration with onsite SvSAN clusters



ROBUST

Eliminate downtime with only 2 servers per cluster

Keeps clusters running through a variety of failure scenarios

Protect from "split brain" and data corruption

Minimal bandwidth required; withstands high latency



COST EFFECTIVE

Reduce costs by at least 33% at all sites

Eliminate the need for 1 or 2 servers at every site

One witness VM supports up to 1,000 sites

Two deployment options - build it yourself or cloud service

SvSAN WITNESS SYSTEM 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 2016 (64-bit) ✔ Hyper-V Server 2016 (64-bit) ✔ Raspbian Buster (32-bit) ✔ CentOS 7.7, 7.8, 8.1 & 8.2 ✔ RHEL 7.7, 7.8, 8.1, 8.2 ✔ vCenter Server Appliance (vCSA) ¹
¹ VMware vSphere 5.5 and higher	

SvSAN WITNESS DEPLOYMENT OFFERINGS

DEPLOY SOFTWARE - LOCALLY OR REMOTELY

The SvSAN witness is included with every SvSAN license as a piece of additional software that can be run as a VM, or installed on hardware as lightweight as a Raspberry Pi. It can be sited locally to a cluster, or remotely over a WAN link at another location or in the cloud. For any multi-site deployment, the witness can be located at HQ, or in a datacenter, providing quorum to the SvSAN clusters at each location - up to 1000 clusters per witness.

DEPLOY IN THE CLOUD - WITNESS-AS-A-SERVICE

Alternatively, the witness is available as a cloud subscription service, purchased on top of an SvSAN license. This product is known as witness-as-a-service (WaaS) and is part of a suite of features that make up StorMagic Cloud Services. Instead of installing the witness on hardware, an organization can simply connect their SvSAN clusters to the WaaS feature provided

by StorMagic and manage everything from one location, with nothing to maintain.

For more information on the licensing and pricing of StorMagic SvSAN, the witness and WaaS, please refer to the [SvSAN pricing webpage](#).

SvSAN WITNESS FEATURES AND BENEFITS

- ✔ Provides the arbitration service in a cluster leader election process
- ✔ Is a passive element of an SvSAN configuration and does not service any I/O requests for data
- ✔ Maintains the cluster and mirror state
- ✔ Has the ability to provide arbitration for thousands of SvSAN mirrors
- ✔ Is serviced remotely from the StorMagic Cloud
- ✔ Used over a wide area network (WAN) link
- ✔ Can tolerate high latencies and low bandwidth network links
- ✔ Is a unique service provided by StorMagic

Want to read more about how the witness works, its tolerances and failure scenarios? [Consult the SvSAN witness white paper for a more in-depth explanation.](#)

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