

SOLUTION BRIEF

StorMagic SvSAN & HPE PROLIANT

INTRODUCTION

For business-critical applications the ambition should always be to avoid downtime and disruption as much as possible. Not only does this involve designing an IT infrastructure with adequate redundancy, it also encompasses the selection of reliable, quality hardware. Combining the simplicity and affordability of StorMagic SvSAN with the ubiquity and popularity of HPE ProLiant servers delivers a lightweight, highly available hyperconverged infrastructure that can be trusted to keep applications online. This document explains StorMagic's relationship with HPE and how the ProLiant Gen10 rack portfolio can be combined with SvSAN to provide an innovative, high performance solution.

A PARTNERSHIP TRUSTED AROUND THE WORLD

StorMagic is an active member of HPE's Partner Ready for Technology Partner Program in the Server and Integrated System categories. This document lists two ProLiant server models that SvSAN has been tested and verified on - the HPE ProLiant DL325 Gen10 and DL360 Gen10, yet SvSAN is compatible with all HPE servers with hundreds of organizations placing their trust in HPE hardware and StorMagic software. There are multiple reference architectures available that combine the power and security of HPE servers with SvSAN. As well as the ProLiant range, SvSAN has been verified on HPE's Edgeline product line too. Read more about the combination of SvSAN and Edgeline systems in [this solution brief](#). There

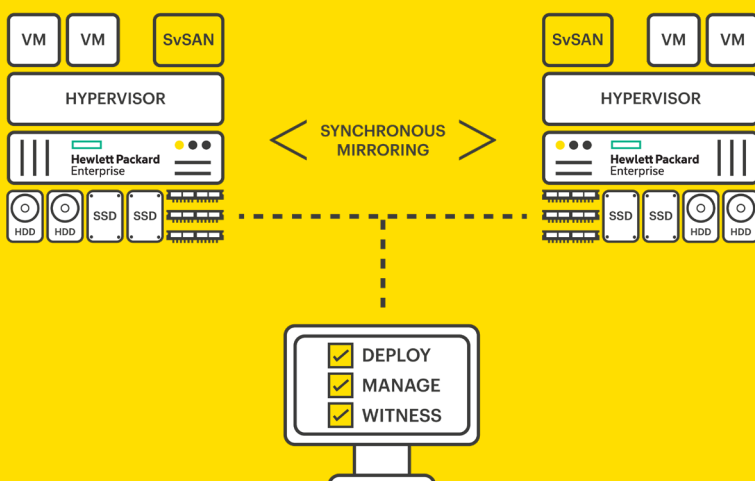


Fig. 1: A typical two-node SvSAN configuration

are [numerous case studies](#) of organizations in a variety of industries using StorMagic SvSAN on HPE, and multiple reference architectures available that combine the power and security of HPE servers with SvSAN. For these, please contact sales@stormagic.com.

INDUSTRY-LEADING INNOVATION, PERFORMANCE AND RELIABILITY

HPE's DL family of servers are the most flexible, reliable, and performance-optimized ProLiant rack servers, ever. The new ProLiant Gen10 rack portfolio, with flexible choices and versatile design, along with improved energy efficiencies, ultimately lowers your TCO. Integrated with a simplified, but comprehensive management suite and industry-leading support, the ProLiant Gen10 rack portfolio delivers a more reliable, fast, and secure infrastructure solution, helps increase IT staff productivity, and accelerates service delivery. In addition, the rack portfolio is performance-optimized for multi-application workloads to significantly increase the speed of IT operations and enable IT to respond to business needs of any size, faster.

Explore HPE's ProLiant Gen10 rack portfolio in more detail on the [HPE website](#).

SIMPLIFYING STORAGE AT THE EDGE

SvSAN is the virtual SAN that makes the complex world of virtualized storage simple. Perfect for edge computing environments and small datacenters, the technology is based on software-defined storage that eliminates the need for physical SANs. SvSAN is designed to be very simple to install and manage

“ SvSAN makes the complex world of virtualized storage simple. ”

whether deployed as part of a hyperconverged solution or as a storage-only target for any HPE server. SvSAN has very low system hardware requirements, centralized management/deployment and an [incredibly lightweight witness](#) that tolerates low bandwidth, high latency links and is completely separate from the server cluster. The witness allows for the creation of genuine 2-node highly available clusters, or 3-node clusters that can withstand an offline server due to either failure or maintenance and still maintain high availability.

The following table illustrates SvSAN's 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 SvSAN's data encryption feature to encrypt data, 2+ virtual CPUs are recommended	
² Additional RAM may be required when caching is enabled	

SvSAN is licensed based on the usable VSA (Virtual Storage Appliance) 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. The only ongoing costs are for support renewals which provide software updates and access to our world-class technical support team.

All of the features necessary for highly available shared storage are included in an SvSAN license. There are also two performance and security-enhancing add-ons available, which are SvSAN's caching and data encryption features. All of SvSAN's features, including caching and encryption, can be explored in more detail on the [StorMagic website](#).

SvSAN's data encryption feature enables organizations to encrypt the data being mirrored by SvSAN. This allows vulnerable edge sites and the data they hold to be protected. It is



FIPS 140-2 compliant, eliminates the need for expensive OS or hypervisor-level solutions, and is compatible with any KMS that uses KMIP, including StorMagic's own key manager, [SvKMS](#).

SvSAN Features

Synchronous mirroring / high availability
Stretch / metro clusters
Volume migration
VSA restore (VMware only)
VMware vSphere Storage API (VAAI) support
Centralized management and monitoring
Multiple VSA GUI deployment and upgrade
I/O performance statistics
Witness
PowerShell script generation
Cluster aware upgrades
Software RAID
Additional add-on features available:
Predictive read ahead caching (SSD and memory)
Write back caching (SSD)
Data pinning
Data encryption

Further details about SvSAN's features, capabilities and requirements can be found in the [product data sheet](#) and [technical overview white paper](#).

COMMONLY-SEEN DEPLOYMENTS

The two server models in the table are the most frequently deployed with SvSAN from the HPE ProLiant range and have been comprehensively tested and certified with SvSAN. However, SvSAN is compatible with all HPE servers, meaning there is a huge range of possibilities for any organization and environment.

MORE INFORMATION AND NEXT STEPS

There is plenty of additional information available on the HPE server range on the [HPE website](#), including individual data sheets for each server model. Likewise, StorMagic has a [library of documentation](#) on SvSAN, including installation guides, white papers and data sheets. You can find StorMagic solutions available from HPE at [StorMagic via HPE](#).



StorMagic is an official HPE Partner in the server and integrated system categories. StorMagic's software has been tested, and verified with HPE technologies. Furthermore, StorMagic is one of a select number of solution providers

who are part of the HPE Complete program. This means StorMagic software can be bought direct from HPE with hardware, allowing for simple procurement of a complete end-to-end solution. For more information, contact your local HPE partner or HPE representative, or speak to the team at StorMagic who are ready to provide information and assistance on the partnership and its possibilities. Simply email sales@stormagic.com to reach out.

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ProLiant DL325 Gen10



ProLiant DL360 Gen10



Overview	<p>The HPE ProLiant DL325 Gen10 server is a secure and versatile single socket (1P) 1U AMD EPYC based platform which offers an exceptional balance of processor, memory and I/O for virtualization and data intensive workloads. With up to 32 cores, up to 16 DIMMs, 2 TB memory capacity and support for up to 10 NVMe drives, this server delivers 2P performance with 1P economics.</p>	<p>The HPE ProLiant DL360 Gen10 server delivers security, agility and flexibility without compromise. It supports the Intel Xeon Scalable processor, along with 2933 MT/s HPE DDR4 SmartMemory supporting up to 3.0 TB. With the added performance that HPE Persistent Memory, HPE NVDIMMs and 10 NVMe bring, the HPE ProLiant DL360 Gen10 means business.</p>
Form factor, dimensions	<p>1U rack 4.29cm x 43.46cm x 61.49cm</p>	<p>1U rack SFF Chassis: 4.29cm x 43.46cm x 70.7cm LFF Chassis: 4.29cm x 43.46cm x 74.98cm</p>
Processor, cores, cache (max), speed (max)	<p>1 socket AMD EPYC 7000 Series 8, 16, 24 or 32 cores available 32.00 MB L3 or 64.00 MB L3 3.8 GHz maximum</p>	<p>1 or 2 socket Intel Xeon Scalable 8100/8200 series and 3100/3200 series 4 to 28 cores available 8.25 - 38.50 MB L3 3.8 GHz maximum</p>
Memory	<p>Up to 2.0 TB with 128 GB DDR4 16 slots HPE DDR4 SmartMemory</p>	<p>Up to 3.0 TB with 128 GB DDR4, 6.0 TB with HPE 512GB 2666 Persistent Memory Kit 24 DIMM slots HPE DDR4 SmartMemory and HPE Persistent Memory 16 GB single rank HPE NVDIMM-N - only available on 1st Gen Intel Xeon Scalable processors</p>
Expansion slots	<p>3</p>	<p>3</p>
Supported drives	<p>4 LFF SAS/SATA/SSD 8 SFF SAS/SATA/SSD with Optional 2 SFF SAS/SATA/SSD or 2 SFF NVMe 8 SFF NVMe with Optional 2 SFF NVMe or 2 SFF SAS/SATA/SSD</p>	<p>4 LFF SAS/SATA 8 SFF SAS/SATA + 2 NVMe 10 SFF SAS/SATA 10 SFF NVMe 1 SFF or 1 Dual UFF rear drive optional</p>
Storage controller	<p>1 HPE Smart Array P408i-a and/or 1 HPE Smart Array P816i-a and/or 1 HPE Smart Array E208i-a</p>	<p>1 HPE Smart Array S100i and/or 1 HPE Essential or Performance RAID controller</p>
Security and availability features		<p>Optional locking Bezel Kit, Intrusion Detection Kit, and HPE TPM 2.0</p>
Network interface	<p>HPE 1 Gb 331i Ethernet adapter 4-ports per controller and/or optional FlexibleLOM and/or optional PCIe Network adapters</p>	<p>Embedded 4 X 1GbE Ethernet Adapter and/or optional HPE FlexibleLOM</p>
Remote management software	<p>HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download) HPE iLO Advanced, HPE iLO Advanced Premium Security Edition and HPE OneView Advanced (require licenses)</p>	<p>HPE iLO Standard with Intelligent Provisioning (embedded), HPE OneView Standard (requires download), Optional- HPE iLO Advanced, and HPE OneView Advanced (require licenses)</p>
Warranty	<p>Server Warranty includes three years of parts, three years of labor, three years of on-site support coverage.</p>	<p>Server Warranty includes three years of parts, three years of labor, three years of onsite support coverage.</p>

