

SOLUTION BRIEF

StorMagic™ SvSAN™ with HPE ProLiant MicroServer

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Combine HPE ProLiant MicroServer and StorMagic SvSAN for a robust, all-in-one architecture specifically suited for implementing applications at the edge

INTRODUCTION

The necessity for near real-time processing in essential applications is driving a push to deploy compute power where it's most valuable: at the edge. On-premises edge computing also requires high availability and disaster recovery at a reasonable price. By integrating the power of the HPE ProLiant MicroServer [Gen10](#) Plus platform with the ease and dependability of StorMagic SvSAN, edge models can be swiftly deployed and maintained locally or remotely, with virtually instant self-heal capabilities. This joint solution is edge ready and edge optimized.

When deployed with StorMagic SvSAN, HPE ProLiant MicroServer Gen10 Plus servers are a robust, all-in-one architecture specifically suited for implementing applications at the edge. StorMagic's lightweight software can be loaded on the HPE ProLiant MicroServer Gen10 Plus, making it easy to run applications with SAN functionality anywhere while reducing workloads for IT teams.

The HPE ProLiant MicroServer Gen10 Plus server is designed for sites that require high availability (HA)

STORMAGIC SvSAN

StorMagic SvSAN is the virtual SAN that makes the complex world of virtualized storage simple. Perfect for edge computing environments, the technology is based on software-defined storage that helps eliminate the need for physical SANs. SvSAN is designed to be very simple to install and manage whether deployed as part of a hyperconverged solution or as a storage-only target for any server environment.

HPE PROLIANT MICROSERVER GEN10 PLUS SERVER

The HPE ProLiant MicroServer Gen10 Plus server delivers an affordable compact yet powerful entry-level server that you can customize for on-premises or for hybrid cloud possibilities. It is the most compact HPE ProLiant MicroServer so far, which can be placed flat or vertically depending on your space. The latest Intel® Xeon® E and Pentium® processors deliver compute performance as well as security and remote management into the server with silicon root of trust from HPE iLO. Along with other enhancements such as 4 x 1GbE onboard NICs and USB 3.2 Type-A Gen2, you will be surprised that there is nothing micro about the HPE ProLiant MicroServer Gen10 Plus.



infrastructure outside the data center. It can be deployed in practically any location, even a server closet or other places without server racks. It provides a fully functional, integrated platform for running applications, including HA clustering, rolling software upgrades, and integrated data security while utilizing an exceedingly small footprint. General-purpose, industrial, and the Internet of Things (IoT) applications can benefit from its form factor and connectivity. The compact form consumes little power and is simple to install and scale while providing the reliability required for edge computing. The HPE ProLiant MicroServer Gen10 Plus portfolio can be combined with SvSAN to provide an innovative, high-performance solution for numerous organizations in various industries. The power and security of StorMagic SvSAN on HPE servers provides a superior solution for the edge.

A PARTNERSHIP TRUSTED AROUND THE WORLD

StorMagic® is an active member of the HPE Partner Ready for Technology Partner Program in the server and integrated system categories. This solution brief focuses on two HPE ProLiant server models that SvSAN has been tested and verified on: the HPE ProLiant MicroServer for small office deployment and the HPE ProLiant MicroServer and VMware® Virtualization solution. SvSAN is compatible with 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 across HPE ProLiant and HPE Edgeline platforms. Read more about the combination of SvSAN and HPE servers from the [HPE Edgeline solution brief](#) and the [HPE ProLiant solution brief](#).

INDUSTRY-LEADING INNOVATION, PERFORMANCE, AND RELIABILITY

HPE ProLiant MicroServer Gen10 Plus delivers an affordable, compact yet powerful edge-optimized server that can be customized for edge, hybrid cloud, or even workloads demanding data-center-like performance. It is the most compact HPE ProLiant MicroServer

launched so far, which can be placed flat or vertically depending on the location and space requirements.

The latest Intel Xeon E and Pentium processors are supported to deliver compute performance and security, and remote management with silicon root of trust from HPE iLO. Other enhancements such as 4 x 1GbE onboard NICs and USB 3.2 Gen2 Type-A, make the HPE ProLiant MicroServer an extremely affordable and capable server, whether it is used as a general-purpose server, NAS, or even as a virtualization server.

SIMPLIFYING STORAGE AT THE EDGE

SvSAN is a virtual SAN that makes the complex world of virtualized storage simple. Perfect for edge computing environments and small data centers, the technology is based on software-defined storage that helps eliminate the need for physical SANs. SvSAN is designed to be very simple to install and manage, whether deployed as part of a hyperconverged solution or as a storage-only target for any HPE server. SvSAN has extremely low hardware requirements, centralized management and deployment, and an incredibly lightweight witness that tolerates low-bandwidth and high-latency links while being separate from the server cluster. The witness allows for highly available genuine 2-node clusters or 3-node clusters that can withstand an offline server due to either failure or maintenance.

The following table illustrates SvSAN's minimum hardware requirements.

Servers	2 servers required ⚡ 3 optional for high availability during offline upgrades, maintenance, etc
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 virtual storage appliance (VSA) capacity. License tiers are set at 2TB, 6TB, 12TB, 24TB, 48TB and unlimited TB. SvSAN is available as a perpetual or subscription license. After a single payment, perpetual SvSAN licenses can be used forever, with ongoing costs only for support renewal payments. Subscription SvSAN licenses are paid for upfront for a specific time period, one year for example, and then renewed as required. Pricing is based on a single SvSAN license – the number of nodes in the cluster defines how many licenses are required. The features necessary for highly available shared storage are included in a SvSAN license. Also, there are two performance and security-enhancing add-ons available: SvSAN’s caching and data encryption features. 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 mirrored by SvSAN. This allows vulnerable edge sites and the data they hold to be protected. It is FIPS 140-2 compliant, helps eliminate the need for expensive OS or hypervisor-level solutions, and is compatible with any Key Management Service (KMS) that uses Key Management Interoperability Protocol (KMIP), including StorMagic’s key manager, SvKMS™.

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

SvSAN FEATURES

Synchronous mirroring / high availability
Stretched / metro luster support
Volume Migration
VMware Fault Tolerance feature
VSA Restore (VMware only)
VMware vSphere Storage API (VAAI) support (VMware only)
Edge Control centralized monitoring and management
Witness
I/O performance statistics
Multiple VSA GUI deployment and upgrade
PowerShell script generation
Cluster aware upgrades
Software RAID
Container Storage Interface (CSI) driver

Additional add-on features available:
Predictive read ahead caching (SSD and memory)
Write back caching (SSD)
Data pinning
Data encryption

MORE INFORMATION AND NEXT STEPS

Additional information is available for HPE servers 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.

StorMagic is an official HPE partner in the server and integrated system categories. StorMagic’s software has been tested and verified with HPE technologies. 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 contactsales@hpe.com to reach out.



COMMONLY SEEN DEPLOYMENTS

The following server specs are the most frequently deployed when using SvSAN with the HPE ProLiant MicroServer. They 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. Additional solution bundles can be found on the [HPE website](#).

COMMON HPE ProLiant MicroServer GEN10 PLUS SOLUTION BUNDLES USED WITH STORMAGIC SvSAN	
HPE ProLiant MicroServer Gen10 Plus for small office deployment solution	HPE ProLiant MicroServer Gen10 Plus and VMware Virtualization solution
HPE ProLiant MicroServer Gen10 Plus for small office deployment solution	HPE ProLiant MicroServer Gen10 Plus and VMware Virtualization solution
1 HPE ProLiant MicroServer Gen10 Plus and E-2224 S100i 4LFF-NHP 180W External PS server	1 HPE ProLiant MicroServer Gen10 Plus and E-2224 S100i 4LFF-NHP 180W External PS server
Xeon E-2224 4-core	Xeon E-2224 4-core
7 x 16 GB DIMM	2 x 16 GB DIMM
4 HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	4 HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD
1 HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in controller	1 HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in controller
1 Microsoft Windows Server 2019 (16-core) Standard Reseller Option Kit English SW	1 VMware vSphere Essentials 3yr E-LTU
1 Aruba InstantOn AP11 (US) 2x2 11ac Wave 2 Indoor Access Point	1 HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit
1 HPE MicroServer Gen10 Plus and HPE iLO Enablement Kit	1 HPE MicroServer Gen10 Plus and HPE iLO Enablement Kit
1 3-year HPE Pointnext Tech Care Basic MicroServer Gen10 Plus service	1 3-year HPE Pointnext Tech Care Basic MicroServer Gen10 Plus service

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