HPE Complete solutions: StorMagic SvSAN with HPE ProLiant MicroServer

Solution overview

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

HPE GreenLake | StorMagic

StorMagic SvSAN

StorMagic SvSAN, made available through Hewlett Packard Enterprise through the HPE Complete Program, 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 that we have launched 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.

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) 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

In addition to participating in the HPE Complete Partner Program, StorMagic is an active member of the HPE Partner Ready for Technology Partner Program in the server and integrated system categories. This overview 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 overview and the HPE Complete—Sizing Guide for StorMagic SvSAN Solutions.

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.

Table 1. SvSAN minimum hardware requirements

Component	Requirement
CPU	1 x virtual CPU core[1]
Memory	1 GB RAM[2]
Disk	2 x virtual storage devices used by VSA • 1 x 512 Mb boot device • 1 x 20 Gb journal disk
Network	1 x 1GbE • Multiple interfaces required for resiliency • 10GbE supported • Jumbo frames supported

[1] When using SvSAN's data encryption feature to encrypt data, more than two 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 2 TB, 6 TB, 12 TB, and unlimited TB. SvSAN licenses are perpetual—after a single payment, they can be used forever. The only ongoing costs are for support renewals that provide software updates and access to our world-class technical support team. 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.

StorMagic is an HPE Complete partner that brings these benefits

Completeness—Enables acquisition and simplifies integration of best-in-class third-party products that complement and complete HPE solutions for complex customer problems. Through HPE, customers get the benefits of a complete infrastructure solution, validated and supported by HPE.

Confidence—All third-party solutions have continuous HPE oversight and are ordered through long-established and trusted HPE. The HPE Complete offerings have been through the HPE Complete Engineering Assured compatibility and interoperability validation process, which helps ensure solutions work in the HPE ecosystem at the time of deployment and into the future.

Convenience—HPE Complete engineering creates and maintains HPE and third-party product integration and sizing guides and creates unique, easy-to-order hardware configurations specifically designed and validated for use with third-party solutions. All this comes with customer and selling convenience of being on one HPE purchase order or delivered through the HPE GreenLake edge-to-cloud platform solutions.

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.

Table 2. StorMagic SvSAN features

SvSAN features
Synchronous mirroring / HA
Stretch / metro cluster
Volume migration
VSE 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

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. You can find StorMagic solutions available from HPE on the HPE Complete solutions for StorMagic.

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 directly from HPE with hardware, allowing for simple procurement of a complete end-to-end solution. 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.
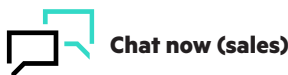
Commonly seen deployments

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.

Table 3. 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 + InstantOn AP22	• Ideal for up to 5 vCPUs
• Xeon E-2224 4-core	• Xeon E-2224 4-core
• 7 x 16 GB DIMM	• 2 x 16 GB DIMM
• 4 x 1 TB SATA HDD; Windows 2019 Standard	• 4 x 1 TB SATA HDD
• 1 HPE ProLiant MicroServer Gen10 Plus and E-2224 S100i 4LFF-NHP 180W External PS server	• VMware vSphere® Essentials Kit
• 4 HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	• 1 HPE ProLiant MicroServer Gen10 Plus and E-2224 S100i 4LFF-NHP 180W External PS server
• 1 HPE MicroServer Gen10 Plus and HPE iLO Enablement Kit	• 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 MicroServer Gen10 Plus and HPE iLO Enablement Kit
• 1 Microsoft Windows Server 2019 (16-core) Standard Reseller Option Kit English SW	• 1 HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in controller
• 1 3-year HPE Pointnext Tech Care Basic MicroServer Gen10 Plus service	• 1 HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Unbuffered Standard Memory Kit
• 1 Aruba InstantOn AP11 (US) 2x2 11ac Wave 2 Indoor Access Point	• 1 VMware vSphere Essentials 3yr E-LTU
	• 1 3-year HPE Pointnext Tech Care Basic MicroServer Gen10 Plus service

Hewlett Packard Enterprise

Learn more at

hpe.com/us/en/storage/hpe-complete.html

hpe.com/storage/stormagic-via-hpe-complete

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