

HPE Small Business Solutions for Hyperconverged Infrastructure

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About this configuration guide

HPE Small and Medium Business Solutions

HPE Small and Medium Business Solutions are validated configurations designed to meet a variety of IT workloads and sizes for small to medium sized businesses. They consist of a base system plus options and software to make up a complete solution. In most cases these combinations are the foundation for Flex Offer special pricing. Note that pricing and special offers change much more frequently than these configurations and subject to change without notice.

- Remote Worker ([VDI](#))—Fast and secure remote access for all your apps and data from anywhere
- Small Office Deployment—A simple approach for your first complete IT solution including wired and wireless networking
- General Purpose—Low-cost solutions for smaller environment with customizable functionality
- [Business Continuity](#)—Protect data and applications from catastrophic loss
- [Virtualization](#)—Run multiple workloads on a single server
- Shared Storage—A single storage pool for multiple servers with recommended workload configurations
- Hyperconverged Infrastructure (HCI)—Software-defined storage (SDS) for high availability virtualization
- Database and Application—Host line-of-business database and applications on-premises

HPE Small and Medium Business Solutions for Hyperconverged Infrastructure

HPE Small Business Solutions are SDS reference configurations based on HPE ProLiant Gen10 servers and designed for small to medium businesses that require highly available workloads. There are three types of HPE SMB/MM Hyperconverged Infrastructure Solutions:

- Microsoft Storage Spaces Direct—a feature of Microsoft Windows Server 2019, 2022, and Windows Hyper-V
- VMware vSAN™—based on VMware vSphere® and VMware ESXi™ virtualization platforms
- StorMagic SvSAN—a SDS product that works with both Microsoft and VMware® virtualization platforms

You can easily make hybrid cloud a reality through HPE Cloud Volumes and Microsoft Azure Cloud Services, or co-located private cloud services offered by HPE partners. Combining on-premises HPE infrastructure with cloud services gives you the flexibility to protect mission-critical workloads and sensitive data on-premises, while using the cloud for business continuity and agility.

Important note: HPE offers certified HCI solutions known as “Microsoft Azure Stack HCI” and “VMware vSAN ReadyNode” that should not be confused with HPE SMB/MM Solutions for Hyperconverged Infrastructure. Those certified configurations are listed on Microsoft and VMware sites and have met very rigorous certification testing on very specific hardware configurations directed by the software vendor. In contrast, HPE SMB/MM Solutions for Hyperconverged Infrastructure are scaled down versions of a select set of those certified configurations designed for smaller environments. HPE SMB/MM Solutions for Hyperconverged Infrastructure meet the Microsoft and VMware requirements for “configure-your-own” solutions and have been validated by HPE, but they are not certified as “Azure Stack HCI” or “vSAN ReadyNode”.

Configuration disclaimer

The configurations in this guide have been tested and validated to meet the stated solution capacity for a variety of typical small to medium business workloads. While they are complete solutions as configured, they can be considered reference configurations and may be sensibly modified as needed to achieve your unique solution requirements as long as the configuration specifications are not reduced. They are typically a minimum configuration for the solution size, so if a smaller configuration is needed it is often more advantageous to scale up from a smaller configuration rather than scale down from a larger configuration.

The stated capacity for workloads in this guide is highly subjective and depends on the environment they are deployed to. Use these values as a guide—not as an absolute. The stated capacity is also based on default settings for the server and storage options specified in the configuration. Stated capacity does not take into account all of the possible system settings or option modifications available, which can greatly impact the configuration’s stated capacity. For example, certain BIOS settings are not factored into the solution capacity by default but can potentially greatly increase the number of virtualized desktop workloads possible in a VDI or virtualization solution. Another example would be the increased performance that can be achieved by replacing hard disk drives with solid-state drives or by adding more memory.

Note also that this guide is updated from time to time and these configurations are subject to change without notice, as solution components can be discontinued before this guide is next updated. When substituting discontinued options be sure to replace with comparable options that match or exceed the discontinued option specifications.



Use the iQuote Solutions tile

Unless otherwise noted, all of the configurations in this guide are available in the **Solutions** tile on the iQuote home page. iQuote is an online sales enablement web application that simplifies the process of configuring, quoting, and purchasing HPE products and solutions from a single location. The **Solutions** tile provides a quick and convenient way to select the complete solutions presented in this guide without having to manually configure them in iQuote. After selecting the desired solution, in iQuote it can be modified as needed. You can access the universal version of iQuote via iquote.hpe.com or contact your preferred HPE authorized partner or distributor for live pricing.

Build your solution

Step 1: Size your solution

HPE Small Business Solutions for HCI are sized by the number of vCPUs and initial storage pool capacity. The following table shows the available configurations, with guidance on which base configuration to select based on the number of vCPUs you need.

Table 1. Sizing for HPE Small Business Solutions for HCI

Platform	Solution size*	Microsoft Storage Spaces Direct	VMware vSAN	StorMagic SvSAN
HPE ProLiant MicroServer Gen10 Plus v2	4 vCPU/2 TB	No	No	Yes
HPE ProLiant DL345 Gen10 Plus	10 vCPU/8 TB	No	No	Yes
HPE ProLiant ML350 Gen10	13 vCPU/4.8 TB**	Yes	Yes	No
HPE ProLiant DL180 Gen10	13 vCPU/4.8 TB**	Yes	Yes	No
HPE ProLiant DL360 Gen10	13 vCPU/4.8 TB**	Yes	Yes	No
HPE ProLiant DL380 Gen10	33 vCPU/9.6 TB	Yes	Yes	No

* Solution size is for each node—two-node minimum, storage capacity is the raw storage for the data volume not including OS or Cache volumes

** The number of vCPUs supported by these configurations can be doubled by adding 2nd processor and associated memory and storage

Step 2: Choose the right configuration and recommended options

Select the solution offer and elements for your business outcome and sizing needs

The configurations for HPE Small Business HCI Solutions were designed for cost-effectiveness and structured as building blocks for easy expandability. Beginning with the HPE ProLiant MicroServer Gen10 Plus and HPE ProLiant DL345 Gen10 Plus configurations, StorMagic enables high availability on the bare minimum of hardware based on only 2 or 4 capacity HDDs. All other HCI solutions based on Microsoft Windows or VMware vSAN are equipped with redundant power supplies for power availability protection, and SSDs are combined with SAS HDDs for high performance data protection. For all HCI solutions, each node adds its storage together to create a storage pool that is shared among all of the nodes in the solution for high availability. When a node fails, the other node(s) will take over the load from the failed node. This can be performed manually, or it can be automated.

All HCI solutions require a minimum of a 2-node cluster. Some nodes can scale up by adding a second CPU and more drives and memory. Microsoft and VMware solutions can scale out by adding more nodes to support more demanding workloads or to increase the number of vCPUs supported. The maximum number of nodes supported varies depending on the software vendor—64 nodes maximum for VMware vSAN and 16 nodes maximum for Microsoft Storage Spaces Direct. StorMagic solutions are most commonly deployed as 2-node clusters, but 3-node clusters are also possible. Also note that two-node Microsoft or VMware solutions require a witness host that is not part of the storage cluster. StorMagic two-node clusters can be configured with or without a separate witness host.

HPE Small Business Solutions for Hyperconverged Infrastructure

HPE Small Business Solutions for Hyperconverged Infrastructure are equipped with sufficient CPU, memory, and storage to provide resources up to the stated solution capacity. Memory and drives can be expanded as needed for increased workloads.

Operating system and storage considerations

Windows: The boot volume for Windows Server is intended to be installed on the dual M.2 SSDs, which should be configured as a RAID 1 array from the S100i controller or within the operating system to protect against the failure of one disk. Each of the remaining HDDs and SSDs are to be configured as pass-through on the P408i-a Smart Array Controller. The storage controller must be dedicated to the storage pool. More storage can be added to expand capacity as your needs grow.



VMware: VMware ESXi and VMware vSAN does not support software RAID on the M.2 SSD/S100i controller combination. Therefore, only one M.2 SSD is needed to host the OS volume. If a RAID 1 boot volume is required then a second M.2 SSD can be added, however VMware requires adding a separate hardware controller (E208 or P408) for the boot volume. The storage controller connected to the disks in the storage pool must be dedicated to the storage pool. Each of the HDDs and SSDs in the storage pool are to be configured as pass-through on the P408i-a Smart Array Controller. More storage can be added to expand capacity as your needs grow.

StorMagic: StorMagic SvSAN is installed “on-top-of” the target system’s OS as a virtual appliance on either Microsoft Windows Hyper-V or VMware vSphere and some Linux® distributions. Therefore, OS dependencies for StorMagic SvSAN are whichever the target systems’ chosen hypervisor requirements are. Note that the HPE ProLiant MicroServer Gen10 Plus v2 configuration is only supported on Windows Server 2022.

Disaster recovery considerations

Extend native HPE Cloud Volumes Backup capabilities to enable cloud-based recovery, DR on demand, and instant migration: VM to VM format, cloud to cloud, and to/from on-premises and back. If you have an existing backup ISV like Veeam/Commvault, this service is plug-and-play enabling you to instantly start backing to cloud simply by pointing your backup target to HPE Cloud Volumes Backup.

Table 2. Tower configurations

Platform	HPE ProLiant MicroServer Gen10 Plus v2	HPE ProLiant ML350 Gen10
Solution Capacity (per node)	4 vCPU/2 TB	13 vCPU/4.8 TB
Form Factor	Micro Tower 4 x LFF Non-Hot Plug bays	4U Tower Server 8 x SFF Hot-Plug bays
Processor	Intel® Xeon® E- series (4-core/2.8 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)
Memory	2 x 16 GB	4 x 16 GB
OS Storage (Microsoft)	N/A	2 x 480 GB M.2
OS Storage (VMware)*	N/A	1 x 480 GB M.2
OS Storage (StorMagic)	2 x 1 TB HDD**	N/A
Data Storage	2 x 1 TB HDD	4 x 1.2 TB HDD
Cache Storage	N/A	2 x 480 GB SSD
Disk Controller	Intel® VROC	HPE P408i-a Gen10
Network***	4 x ports 1GbE	2 x ports 10GbE 4 x ports 1GbE
Power Supply	180W External	2 x 800W
OS Software	StorMagic + Microsoft Windows Server 2022**	Microsoft Windows Server 2019 Datacenter – or – VMware vSphere, VMware vSAN
Optional Software	HPE iLO Advanced (requires HPE iLO Enablement card)	HPE iLO Advanced
Maximum nodes per cluster (2 nodes minimum)	StorMagic SvSAN—3 nodes max.	Windows Storage Spaces Direct—16 nodes max. VMware vSAN—64 nodes max.

* VMware does not support RAID on software controllers, if RAID boot volume is required a 2nd hardware controller is also required

** Cache storage is an optional add-on for SvSAN

*** Where configured the 10GbE NIC is to be dedicated to the inter-node iSCSI storage network



Table 3. Rack configurations

Platform	HPE ProLiant DL345 Gen10 Plus	HPE ProLiant DL180 Gen10	HPE ProLiant DL360 Gen10	HPE ProLiant DL380 Gen10
Solution Capacity (per node)	10 vCPU/8 TB	13 vCPU/4.8 TB	13 vCPU/4.8 TB	33 vCPU/9.6 TB
Form Factor	1U Rack Server 8 x LFF Hot-Plug bays	2U Rack Server 8 x SFF Hot-Plug bays	1U Rack Server 8 x SFF Hot-Plug bays	2U Rack Server 8 x SFF Hot-Plug bays
Processor	AMD EPYC (8-core/3.1 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)	2 x Intel Xeon Scalable (12-core/2.4 GHz)
Memory	2 x 32 GB	6 x 16 GB	6 x 16 GB	12 x 16 GB
OS Storage (Microsoft)	N/A	2 x 480 GB M.2	2 x 480 GB M.2	2 x 480 GB M.2
OS Storage (VMware)*	N/A	1 x 480 GB M.2	1 x 480 GB M.2	1 x 480 GB M.2
OS Storage (StorMagic)	2 x 480 GB SSD**	N/A	N/A	N/A
Data Storage	4 x 2 TB HDD	4 x 1.2 TB HDD	4 x 1.2 TB HDD	4 x 2.4 TB HDD
Cache Storage	Optional	2 x 480 GB SSD	2 x 480 GB SSD	2 x 960 GB SSD
Disk Controller	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10
Network***	4 x ports 1GbE	2 x ports 10GbE 2 x ports 1GbE	2 x ports 10GbE 4 x ports 1GbE	2 x ports 10GbE 4 x ports 1GbE
Power Supply	2 x 500W	2 x 500W	2 x 500W	2 x 800W
OS Software	StorMagic + Microsoft Windows Server 2019**	Microsoft Windows Server 2019/2022 Datacenter – or – VMware vSphere, VMware vSAN		
Optional Software	HPE iLO Advanced			
Maximum nodes per cluster (2 nodes minimum)	StorMagic SvSAN—3 nodes max.	Windows Storage Spaces Direct—16 nodes max. VMware vSAN—64 nodes max.		

* VMware does not support RAID on software controllers, if RAID boot volume is required a 2nd hardware controller is also required

** StorMagic SvSAN is installed on top of the Windows. Cache storage is an optional add-on for SvSAN

*** Where configured the 10GbE NIC is to be dedicated to the inter-node iSCSI storage network



Services and financing

HPE Pointnext Services

A services partner built for your business today and tomorrow, [HPE Pointnext Services](#) enables you to meet availability commitments with a variety of coverage levels and response times, and easily connect to HPE for faster problem resolution. HPE Pointnext Services offers comprehensive hardware and software services to help increase the availability of IT infrastructure and extend in-house IT staff with HPE expertise. You can do more with less by leveraging service tools with built-in simplification and remote management tools.

Service offerings include:

- HPE Pointnext Complete Care
- HPE Pointnext Tech Care
- HPE Lifecycle Services

Note

HPE recommends HPE Pointnext Tech Care as the minimum recommended service level for HPE Small Business Solutions.

HPE Financial Services

Simple IT equipment financing, asset lifecycle solutions and SMB finance option designed to help your business seize opportunities to evolve and thrive. hpe.com/us/en/services/finance-it-technology.html

HPE Subscription Services allows you to select a complete solution from defined options that include best-in-class compute, storage, and networking hardware; software; accessories; and worry-free support services for a predictable monthly subscription fee. No large, up-front purchase to make—just subscribe, use, return, and renew. No worries about what to do with old equipment. Need to expand? Simply add more hardware or services. HPE Channel Partners can offer hardware, software, and support services in a single solution and deliver it in one simplified subscription contract.

HPE Technology Refresh program replaces ownership with predictable monthly or quarterly payments and provides for a shorter, routine refresh cycle every 24 to 48 months. You don't have to be locked in to holding onto aging IT equipment and delaying upgrades. With HPE Technology Refresh, you can have the IT you need to meet business goals and pay over time to conserve cash, saving 10% to 15% over three or four years.

Simple, secure, and affordable

HPE Small Business Solutions lower the cost of accessing easy-to-use on-premises and hybrid cloud solutions without sacrificing security. To learn more about HPE Small Business Solutions, visit the resources included in this document, or contact your HPE or authorized partner representative. Find an IT reseller close to you at partnerconnect.hpe.com/partners.



Resources

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