



# **HPE SMALL BUSINESS SOLUTIONS FOR SHARED STORAGE**

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## HPE SMALL BUSINESS SOLUTIONS FOR SHARED STORAGE

HPE Small Business Solutions for Shared Storage include HPE MSA Storage arrays to help you extend storage capacity without purchasing additional servers—preserving budget for more pressing matters. They also enable redundancy for high availability via failover. They're ideal for these use cases:

- **File and backup:** HPE ProLiant DL160 Gen10 with HPE MSA 1060 12Gb SAS SFF Storage is an affordable option for businesses that need to keep large amounts of file and/or backup data on local disk or need two to four redundant servers to meet availability requirements or tight backup window objectives.
- **Virtualization:** HPE ProLiant DL360 Gen10 and HPE MSA 2060 10GbE iSCSI Storage enables a low-cost SAN that's ideal for multi-server high availability virtualization.
- **Database:** HPE ProLiant DL360 Gen10 and HPE MSA 2062 16Gb Fibre Channel Storage offers high performance SAN capabilities combined with high performance—low core count servers to limit the cost of core-based licensing of database software, making it suitable for high availability database serving and storage.

### Use the iQuote solutions tile

iQuote is an online sales enablement program that simplifies the process of configuring, quoting, and purchasing HPE products and solutions from a single location. The iQuote Solution tile makes it easy to find and select the recommended options because they are bundled kits with all the options necessary to fully deploy your solution—just click and add. You can access the universal version via [iquote.hpe.com](http://iquote.hpe.com), or contact your preferred HPE Authorized Partner or Distributor for live pricing.



## BUILD YOUR SOLUTION

### Step 1: Determine the use case

HPE Small Business Solutions for Shared Storage are available in different configurations, depending on your use case. The following sections show the available configurations for each use case.

#### NOTE

Configurations are subject to change as options can EOL/DISC. Be sure to replace with comparable options that match the option specifications.

#### File and backup

Businesses that need greater than 8 TB of high-performance storage or redundant servers for highly available applications should consider the HPE Small Business Shared Storage Solution for file and backup, consisting of a bundle of an HPE ProLiant DL160 Gen10 Server combined with an HPE MSA 1060 12Gb SAS SFF Storage system. The servers connect directly to the storage enclosure via HPE Mini SAS High Density to Dual 2-lane Mini SAS High Density External Fanout cables so there is no need for expensive SAN network fabric. With the 1060 SAS system, it is recommended to start with the SAS Fanout cables which will allow up to 4 servers to connect to a single 1060 SAS system. By starting with Fanout cables in the beginning you avoid any downtime to add the 3rd and 4th servers in the future. The HPE MSA 1060 12Gb SAS SFF Storage system is only available with the 24 slot SFF enclosure, and up to three expansion enclosures can be added. The expansion enclosures can be a mix of LFF or SFF enclosures providing a total of up to 96 SFF drives, or 24 SFF plus 36 LFF drives, to enable maximum flexibility in your storage strategy.

Note that only two of the eight SFF drive bays in the ProLiant DL160 Server are populated (boot disks), leaving the remaining six bays available for additional local storage. An HPE SmartArray Controller is required if the additional local drives are SAS drives.

**TABLE 1.** HPE Small Business Shared Storage File and Backup Solution

<b>Solution Components</b>	HPE MSA 1060 12Gb SAS SFF Storage HPE ProLiant DL160 Gen10 Server
<b>Solution Capacity</b>	Starting at 7.2 TB HDD (raw)
<b>Storage</b>	
<b>Form Factor</b>	2U Modular Storage Array 24 x SFF Hot-Plug bays
<b>Disk Controller</b>	2 x HPE MSA 12Gb SAS (2 ports per controller)
<b>Data Storage</b>	6 x 1.2 TB SAS HDD
<b>Storage Connectivity</b>	HPE Mini SAS High Density to Dual 2-lane Mini SAS High Density External Fanout Cable or HPE Mini SAS High Density (HD) Cable
<b>Out of band Management</b>	1 x port 100/1000 Mb Ethernet; 1 x USB
<b>Server</b>	
<b>Form Factor</b>	1U Rack Server 8 x SFF Hot-Plug bays
<b>Processor</b>	Intel® Xeon® Scalable (8-core/2.1 GHz)
<b>Memory</b>	2 x 16 GB
<b>OS Storage</b>	2 x 240 GB SATA SSD
<b>Disk Controller</b>	HPE SmartArray S100i (boot volume)
<b>Storage HBA</b>	E208e-p (2 x External Mini-SAS HD ports)
<b>Data Network</b>	2 x ports 1GbE
<b>Power Supply</b>	2 x 500w
<b>OS Software</b>	Microsoft Windows Server 2019 Standard
<b>Optional Software</b>	HPE iLO Advanced



**NOTE**

Up to four nodes can be directly attached to the storage in this solution using HPE Mini SAS High Density to Dual 2-lane Mini SAS High Density External Fanout Cables to provide multi-server independent or redundant configuration. If more than four nodes are expected to connect to the storage array then consider one of the following HPE SMB Shared Storage Solutions featuring iSCSI or Fibre Channel.

**Virtualization**

Businesses that need a highly scalable/highly available virtualization solutions should consider the HPE Small Business Solution for Shared Storage for virtualization. This solution consists of one or more HPE ProLiant DL360 Gen10 Servers optimized for virtualization use cases, combined with an HPE MSA 2060 10GbE iSCSI SFF Storage array to add scalable storage that reduces cost of storage ownership by sharing a single storage pool versus multiple servers with their own internal storage. Servers connect to the MSA storage array via an iSCSI SAN fabric (10GbE Switch and connecting cables) which reduces the cost of the storage fabric compared to Fibre Channel. The MSA storage array scales easily by adding disks and enclosures—up to 9 additional SFF or LFF expansion enclosures for a maximum of 240 SFF, 120 LFF, or a combination of both.

Note that only two of the eight SFF drive bays in the ProLiant DL360 Server are populated (boot disks), leaving the remaining six bays available for additional local storage.

**TABLE 2.** HPE Small Business Shared Storage Virtualization Solution

<b>Solution Components</b>	HPE MSA 2060 10GbE iSCSI Storage HPE ProLiant DL360 Gen10 Server
<b>Solution Capacity</b>	Starting at 33 vCPU/7.2 TB HDD (raw)
<b>Storage</b>	
<b>Form Factor</b>	2U Modular Storage Array 24 x SFF Hot-Plug bays
<b>Disk Controller</b>	2 x HPE MSA 10GbE iSCSI (4 ports per controller)
<b>Data Storage</b>	6 x 1.2 TB SAS HDD
<b>Storage Connectivity</b>	Aruba or HPE FlexNetwork 10G SFP+ to SFP+ Direct Attach Copper Cable*
<b>Out of band Management</b>	1 x port 100/1000 Mb Ethernet; 1 x USB
<b>Server</b>	
<b>Form Factor</b>	1U Rack Server 8 x SFF Hot-Plug bays
<b>Processor</b>	2 x Intel Xeon Scalable (12-core/2.4 GHz)
<b>Memory</b>	12 x 32 GB
<b>OS Storage</b>	2 x 480 GB SATA SSD
<b>Disk Controller</b>	HPE SmartArray P408i-a (boot volume)
<b>Data Network</b>	4 x ports 1GbE
<b>Storage HBA</b>	2 x SFP+ ports 10GbE PCIe
<b>Power Supply</b>	2 x 500w
<b>OS Software</b>	Microsoft Windows Server 2019 Datacenter, or, VMware vSphere® Essentials
<b>Optional Software</b>	HPE iLO Advanced

\* Note: Check SPOCK for HBA/Cable/Switch compatibility

**NOTE**

Recommend multiple servers for high availability failover (such as VMware vSphere® vMotion® or Microsoft VM Live Migration or Failover Clusters).



**IMPORTANT**

VMware® does not support “direct connect” between the server and the MSA. The storage network must consist of a switched network fabric whether using HPE Direct Attach Cables or optical transceivers. In a switched network the DAC cables must be supported by the switch. MSA is qualified with a range of DAC cables (see QuickSpecs), check SPOCK for end-to-end compatibility with your switch.

**NOTE**

Up to four nodes running Microsoft Windows Server 2019 can be directly attached to the storage in this solution using Aruba 10G SFP+ to SFP+ Direct Attach Over Copper Cables to provide multi-server independent or redundant configuration. If running a different operating system, or more than four nodes are expected to connect to the storage array, then a switched storage network is required. In a switched network the DAC cables must be supported by the switch. MSA is qualified with a range of DAC cables (see QuickSpecs), check SPOCK for end-to-end compatibility with your switch.

**Database**

Businesses that need highly scalable/high performance database solutions that can also be configured in a highly available cluster should consider the HPE Small Business Solution for Shared Storage database configuration. This solution consists of one or more HPE ProLiant DL360 Gen10 Servers optimized for database hosting to limit licensing costs, combined with an HPE MSA 2062 16Gb Fibre Channel Storage. Multiple servers can share the MSA storage to distribute workloads and add failover capability to reduce the cost of storage ownership versus multiple servers with their own internal storage. The MSA storage array scales easily by adding disks and enclosures—up to 9 additional SFF or LFF expansion enclosures for a maximum of 240 SFF, 120 LFF, or a combination of both.

Note that only two of the eight SFF drive bays in the ProLiant DL360 Server are populated (boot disks), leaving the remaining six bays available for additional local storage. An HPE SmartArray Controller is required if the additional local drives are SAS drives.

**TABLE 3.** HPE Small Business Shared Storage Database Solution

<b>Solution Components</b>	HPE MSA 2062 16Gb Fibre Channel Storage HPE ProLiant DL360 Gen10 Server
<b>Solution Capacity</b>	Starting at 10.8 TB HDD (raw)
<b>Storage</b>	
<b>Form Factor</b>	2U Modular Storage Array 24 x SFF Hot-Plug bays
<b>Disk Controller</b>	2 x HPE MSA 16Gb Fibre Channel (4 ports per controller)
<b>Data Storage</b>	6 x 1.8 TB SAS HDD
<b>Cache Storage</b>	2 x 1.92 TB SAS Read Intensive SSD
<b>Storage Connectivity</b>	4 x HPE MSA 16Gb Short Wave Fibre Channel SFP+ Transceiver 2 x HPE Premier Flex LC/LC Multi-mode OM4 2 fiber Cable*
<b>Out of band Management</b>	1 x port 100/1000 Mb Ethernet; 1 x USB
<b>Server</b>	
<b>Form Factor</b>	1U Rack Server 8 x SFF Hot-Plug bays
<b>Processor</b>	Intel Xeon Scalable (8-core/3.2 GHz)
<b>Memory</b>	6 x 32 GB
<b>OS Storage</b>	2 x 240 GB SATA SSD
<b>Disk Controller</b>	HPE SmartArray S100i (boot volume)
<b>Data Network</b>	2 x ports 10GbE
<b>Storage HBA</b>	HPE StoreFabric 16Gb 2-Port Fibre Channel Host Bus Adapter
<b>Power Supply</b>	2 x 800w
<b>OS Software</b>	Microsoft Windows Server 2019 Standard
<b>Optional Software</b>	HPE iLO Advanced

\* Note: Check SPOCK for HBA/Cable/Switch compatibility



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**NOTE**

Direct connect in Fibre Channel is supported in Microsoft Windows, limited to 4 redundantly connected hosts. If running a different operating system, or more than four nodes are expected to connect to the storage array, then a switched storage network is required.

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**Step 2: Don't forget services****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 Foundation Care
- HPE Proactive Care
- HPE Proactive Care Advanced
- HPE Installation and Deployment Services

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**NOTE**

HPE recommends Foundation Care 24x7 as the minimum recommended service level for HPE Small Business Solutions.

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**Step 3: Consider a quote for a flexible monthly payment plan****HPE Financial Services**

Optimize your IT investment strategy with new ways to acquire, pay for, and use technology, in lock-step with your business and transformation goals. [hpe.com/solutions/hpefinancialservices](https://hpe.com/solutions/hpefinancialservices)

**HPE Subscription services** allow 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 [findapartner.hpe.com](https://findapartner.hpe.com).



## RESOURCES

- Solution brief: [HPE Small Business Solutions for Shared Storage](#)
- [HPE ProLiant DL160 Gen10 Server QuickSpecs](#)
- [HPE ProLiant DL360 Gen10 Server QuickSpecs](#)
- [HPE MSA 1060 QuickSpecs](#)
- [HPE MSA 2060 QuickSpecs](#)
- [2062 QuickSpecs](#)
- [HPE ProLiant Server Options](#)
- [IT Support Services](#)
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