



HPE SMALL BUSINESS SOLUTIONS FOR FILE AND BACKUP

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HPE SMALL BUSINESS SOLUTIONS FOR FILE AND BACKUP

HPE Small Business Solutions for File and Backup provide two use-case options.

- Configurations optimized for file provide a central repository for files and data with fast performance so employees can collaborate more easily and securely.
- Configurations optimized for backup and disaster recovery help minimize downtime by protecting data and making it fast and easy to recover when disaster strikes.

USE THE IQQUOTE 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 or contact your preferred HPE authorized partner or distributor for live pricing.

BUILD YOUR FILE SERVER SOLUTION

Step 1: Determine your file server needs

To size your file server, start by determining the following:

- Performance level required
- Storage capacity required over the life of the file server

Performance level

The File Solutions provide storage and access control of user and application files, which can be accessed from local or remote networks. Low latency is preferred, but some latency is generally acceptable.

HPE SMB Solutions for File are optimized as follows:

- **Compute**—Low to medium processor performance (One processor, no more than 16 cores, less than 2.5 GHz is generally acceptable).
- **Memory**—Low to medium memory capacity (8–32 GB is acceptable, 64 GB should be considered if more than 250 users will share the server storage).
- **Networking**—The standard 1GbE (2 or 4 ports) on HPE ProLiant servers is sufficient for all but the most demanding SMB file server environments.
- **Storage performance**—Low to medium performance hard disk drives (HDDs); 7.2K rpm SATA HDDs are sufficient for fewer than 25 users, beyond 25 users you should choose 10K/15K rpm SAS HDDs. For extreme sensitivity to disk latency, implement a disk accelerator such as HPE SmartCache, or go with all SAS or SATA solid-state drives (SSDs).

Solution capacity

Capacity requirements can be widely variable, making it difficult to determine. But unless you are starting a new organization with no storage history, you can estimate capacity needed by evaluating your existing storage usage over time. Two methods can be used to determine the needed capacity:

- Analyze existing storage
- Estimate storage needs

Method 1: Analyze existing file storage

Every file system tracks the date a file is created and the current size of the file. This information can be used to determine storage usage over time. There are plenty of tools available on the web to acquire file utilization data, but even a simple script that dumps these attributes into a .csv file can be used to analyze storage usage and provide a starting point to calculate storage requirements of the new file server.

A Microsoft Windows PowerShell script can be run on a specific shared folder to get a .csv file of a list of the creation date and size of all files in the folder and all of its subdirectories, which can then be analyzed in a spreadsheet.



Copy the entire command below and paste it into a text editor (such as Notepad). Replace “z:\” with the appropriate file path of the folder to be analyzed. The path for both the folder to be analyzed and the location of the resulting .csv file must be enclosed in double quotes. Then copy the edited version of the script from the text editor and paste it into the PowerShell command line and press ENTER. The resulting .csv file will be stored as “export.csv” in the folder that was analyzed.

NOTE

This script may not record “Hidden” or “System” files, depending on file system settings.

```
Get-ChildItem -r "Z:\" | select CreationTime,Length | Export-Csv -Path "Z:\export.csv" -En UTF8 -NoType -Delim ','
```

Method 2: Estimate storage needs

If you don't have a file history to analyze, such as when establishing a new office, you can create a general estimate using the following example:

- 1. Define storage user profiles.
Organizations typically have a mix of user profiles with different storage needs (adjust the **bolded** values for files per day, average file size, and profile mix to fit your organization).
 - a. Office worker: Creates **10** files per day averaging **5** MB = 50 MB per day (MBpd)
 - b. Media worker: Creates **5** files per day averaging **15** MB = 75 MBpd
 - c. Data analyst: Creates **7** files per day averaging **10** MB = 70 MBpd
- 2. Determine organizational mix of storage profiles.
 - a. Office worker: **60%**
 - b. Media worker: **10%**
 - c. Data analyst: **30%**
- 3. Calculate needs based on the organization size and the expected service life of the server.
 - a. Five-year service life = approximately 1,175 workdays (235 workdays per year after vacations and holidays)
 - b. Capacity required = ((profile-a MBpd x (.6 x company size)) + (profile-b MBpd x (.1 x company size)) + (profile-c MBpd x (.3 x company size))) x 1,175)

Refer to the table below for estimated storage needs based on this example profile mix:

File server storage capacity planner										
User profiles	User profile (235 workdays per year)				Company size					
	Profile mix	Average files/day	Average file size	Daily files	Five-year capacity	10 users	25 users	50 users	100 users	250 users
Office worker: low file count and size	60%	10	5 MB	50 MB	58.7 GB	0.4 TB	0.9 TB	1.8 TB	3.5 TB	8.8 TB
Media worker: low file count, large file size	10%	5	15 MB	75 MB	88.1 GB	0.1 TB	0.2 TB	0.4 TB	0.9 TB	2.2 TB
Data analyst: medium file count and size	30%	7	10 MB	70 MB	82.2 GB	0.2 TB	0.6 TB	1.2 TB	2.5 TB	6.2 TB
Total profile mix (must = 100)	100%				Five-year total	0.7 TB	1.7 TB	3.4 TB	6.9 TB	17.2 TB



Step 2: Choose the right configuration

File Solutions include a starting capacity of 4 TB to 9.6 TB of raw storage. Multiple drives allow for configuration of RAID arrays for protection against drive failures. All servers except the HPE ProLiant MicroServer Gen10 Plus can be expanded by adding more drives and, in some cases, additional drive bays.

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

Sizing for HPE Small Business Solutions for File

Platform	Solution capacity	Processor	Memory	Max. Additional Available Drive Bays*
HPE ProLiant MicroServer Gen10 Plus	Starting at 4 TB HDD (raw)	Intel® Xeon® E-Series (4-core/3.4 GHz)	1 x 16 GB	0
HPE ProLiant ML30 Gen10	Starting at 4.8 TB HDD (raw)	Intel Xeon E-Series (4-core/3.4 GHz)	2 x 16 GB	2
HPE ProLiant ML110 Gen10	Starting at 4.8 TB HDD (raw)	Intel Xeon Scalable (8-core/2.1 GHz)	2 x 16 GB	10
HPE ProLiant ML350 Gen10	Starting at 9.6 TB HDD (raw)	Intel Xeon Scalable (10-core/2.4 GHz)	2 x 16 GB	18
HPE ProLiant DL20 Gen10	Starting at 4 TB HDD (raw)	Intel Xeon E-Series (6-core/3.4 GHz)	2 x 16 GB	2
HPE ProLiant DL160 Gen10	Starting at 4.8 TB HDD (raw)	Intel Xeon Scalable (8-core/2.1 GHz)	2 x 16 GB	2
HPE ProLiant DL180 Gen10	Starting at 6 TB SSD (raw)	Intel Xeon Scalable (10-core/2.4 GHz)	2 x 16 GB	17
HPE ProLiant DL325 Gen10 Plus	Starting at 4.8 TB HDD (raw)	AMD EPYC (16-core/3.0 GHz)	4 x 16 GB	4
HPE ProLiant DL360 Gen10	Starting at 4.8 TB HDD (raw)	Intel Xeon Scalable (10-core/2.4 GHz)	2 x 16 GB	4
HPE ProLiant DL380 Gen10	Starting at 9.6 TB HDD (raw)	Intel Xeon Scalable (10-core/2.4 GHz)	2 x 32 GB	24
HPE ProLiant DL385 Gen10 Plus	Starting at 9.6 TB SSD (raw)	AMD EPYC (16-core/3.0 GHz)	4 x 16 GB	24
HPE MSA 1060 Gen10 SAS HPE ProLiant DL160 Gen10	Starting at 7.2 TB HDD (raw)	Intel Xeon Scalable (8-core/2.1 GHz)	2 x 16 GB	18 (MSA) 8 (Server)

* Max. Available Drive Bays is the total possible bays including optional drive cages less the number of bays populated in the solution default configuration.

Step 3: Configure the HPE Small Business Solution for File

HPE Small Business Solutions for File and Backup consist of an HPE SMB Offer, plus additional hardware and software options to complete the configuration. HPE SMB Offer configurations are the foundation for special pricing and are the starting point for building your solution configuration. Additional options are then carefully selected from among the most popular and best priced HPE options available to complete the File Solution.

After selecting the appropriate HPE Small Business Solution configuration for your business outcome and sizing requirements, you may also wish to expand its capabilities by adding recommended options.

The configurations for File Solutions were designed for cost-effectiveness and structured as building blocks for easy expandability. Most configurations include redundant boot drives for OS mirroring. The use of SAS drives provides faster data transfers for better performance and low latency and is recommended for supporting more than 25 users on a single system. All configurations include multiple data volume drives to enable RAID for protection against disk failure. For additional reliability, most HPE Small Business Solutions are equipped with redundant power supplies.



Businesses that need greater than 10 TB of high-performance storage, or need 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 1050 dual SAS controller external storage array. With two ports per controller, two servers can share the external storage to achieve a highly available configuration which can withstand failure of one server. The servers connect directly to the storage enclosure via HPE Direct Attach cables so there is no need for expensive SAN fabric network. And with up to four enclosures (up to 96 SFF drive bays) there is plenty of room for storage growth. And enclosures can be a mix of LFF or SFF enclosures to enable maximum flexibility in your storage strategy.

Operating system and storage considerations: HPE ProLiant MicroServer Gen10 Plus

The Windows Server or ClearOS operating system (OS) is intended to be installed on the two of the 1 TB HDDs to allow for RAID protection of the OS volume. This configuration leaves the remaining two 1 TB HDDs for a separate data volume which should also be configured in a RAID for protection. Alternatively, you can configure all 4 HDDs in a single RAID volume for both boot and data.

NOTE

HPE does not offer ClearOS support. ClearCenter provides all ClearOS support.

ClearOS does not support RAID configuration on the embedded HPE Smart Array S100i Controller. To configure drive arrays, use another HPE storage controller like the HPE Smart Array E208 or P408 Controller, or use the software RAID capability included with ClearOS.

OS and storage considerations: HPE ProLiant Gen10 servers

The Windows Server or ClearOS¹ OS is intended to be installed on the dual low-capacity drives, which should be configured as a RAID 1 array to protect against the failure of one disk. The remaining HDDs should also be configured in a RAID array for protection against drive loss. In most cases more storage can be added to expand capacity now or as your needs grow.

For the fastest deployment, HPE Gen10 servers now have Rapid Setup built into the server. Simply boot the server into Rapid Setup and it will provide a recommended RAID configuration for all installed drives, select the boot volume, and install your choice of Windows or ClearOS onto the boot volume. See the [HPE Small Business Solutions Deployment Guide](#) for details.

Optional enhancements

Most HPE Small Business File Solutions can be enhanced with one or more of the following options:

- iLO Advanced
- HPE Secure Encryption
- HPE SmartCache

Storage options for archiving and disaster recovery

HPE Cloud Volumes Backup enables cloud-based disaster 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.

HPE RDX Removable Disk Backup System is a recommended option for reliable disk-based backup and recovery with unmatched portability, fast recovery, and easy integration.² The HPE RDX Removable Disk Solution provides a simple, cost-effective way to back up and protect critical data. Complement your local backups with a cloud backup strategy so you can recover quickly, even if you lose your entire site or local backup copies.

¹ ClearOS is supported on MicroServer Gen10 Plus, ML30 Gen10, and DL20 Gen10 only.

² HPE RDX is recommended on solution configurations built on HPE ProLiant MicroServer Gen10 Plus, ML30 Gen10, ML110 Gen10, ML350 Gen10, and DL20 Gen10 servers with Windows Server. RDX is not supported in ClearOS.



HPE StoreEver MSL 1/8 Tape Autoloader or MSL2024 Tape Library are recommended options that meet demanding storage requirements for businesses needing unattended backup, disaster recovery, or low-cost long-term archive capability.³ Both systems offer a broad choice of storage capacities and technology including LTO-8, LTO-7, LTO-6, or LTO-5 Ultrium tape drives. Web-based remote management enables easy management from across the room or across the globe. Quickly manage tape media both in and out of the library with the standard bar code reader, configurable mail slots, and multiple removable magazines. Protect important business data from unauthorized access with several data encryption options. Quickly increase capacity and/or performance with tool-free drive upgrades in the MSL2024/MSL4048 or move tape drive kits to an MSL3040/MSL6480 for scalability and additional enterprise class features.

HPE Small Business Solutions for File technical specifications

Tower systems

Platform	HPE ProLiant MicroServer Gen10 Plus	HPE ProLiant ML30 Gen10	HPE ProLiant ML110 Gen10	HPE ProLiant ML350 Gen10
Solution capacity	Starting at 4 TB HDD (raw)	Starting at 4.8 TB HDD (raw)	Starting at 4.8 TB HDD (raw)	Starting at 9.6 TB HDD (raw)
Form factor	Micro Tower Server 4 x LFF Non-Hot Plug bays	4U Tower Server 8 x SFF Hot-Plug bays	4.5U Tower Server 8 x SFF Hot-Plug bays	4U Tower Server 8 x SFF Hot-Plug bays
Processor	Intel Xeon E-Series (4-core/3.4 GHz)	Intel Xeon E-Series (4-core/3.4 GHz)	Intel Xeon Scalable (8-core/2.1 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)
Memory	1 x 16 GB	2 x 16 GB	2 x 16 GB	2 x 16 GB
OS storage	**	2 x 300 GB HDD	2 x 240 GB SSD	2 x 240 GB SSD
Data storage	4 x 1 TB HDD	4 x 1.2 TB GB HDD	4 x 1.2 TB GB HDD	4 x 2.4 TB HDD
Disk controller	HPE E208i-p Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10
Network	4 x ports 1GbE 1 x port iLO Enablement	2 x ports 1GbE	2 x ports 1GbE	4 x ports 1GbE
Power supply	1 x 180W external	2 x 500W	2 x 800W	2 x 800W
OS software	Microsoft Windows Server 2019 Standard ClearOS Bronze*	Microsoft Windows Server 2019 Standard ClearOS Bronze*	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard
Optional software	HPE iLO Advanced HPE Secure Encryption	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache
Archival/DR	HPE RDX External USB 3.0 Backup System 1TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE RDX External USB 3.0 Backup System 2TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup

* **NOTE:** RDX, Veeam, and HPE Cloud Volumes Backup not supported on ClearOS.

** **NOTE:** MicroServer Gen10 Plus recommended configuration is 4 x 1 TB HDDs in RAID 5, if separate OS and data volumes are required then 2 x 1 TB HDDs in RAID 1 can be configured for both OS and data volumes.

³ HPE StoreEver MSL 1/8 Tape Autoloader or MSL2024 Tape Library are recommended on solution configurations built on HPE ProLiant DL100 and DL300 series Gen10 servers.

Rack systems

Platform	HPE ProLiant DL20 Gen10	HPE ProLiant DL160 Gen10	HPE ProLiant DL180 Gen10	HPE ProLiant DL325 Gen10 Plus	HPE ProLiant DL360 Gen10	HPE ProLiant DL380 Gen10	HPE ProLiant DL385 Gen10 Plus
Solution capacity	Starting at 4 TB HDD (raw)	Starting at 4.8 TB HDD (raw)	Starting at 6 TB SSD (raw)	Starting at 4.8 TB HDD (raw)	Starting at 4.8 TB HDD (raw)	Starting at 9.6 TB HDD (raw)	Starting at 9.6 TB SSD (raw)
Form factor	1U Rack Server 4 x SFF Hot-Plug bays	1U Rack Server 8 x SFF Hot-Plug bays	2U Rack Server 8 x SFF Hot-Plug bays	1U Rack Server 4 x SFF Hot-Plug bays	1U Rack Server 4 x SFF Hot-Plug bays	2U Rack Server 8 x SFF Hot-Plug bays	2U Rack Server 8 x SFF Hot-Plug bays
Processor	Intel Xeon E-Series (6-core/3.4 GHz)	Intel Xeon Scalable (8-core/2.1 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)	AMD EPYC (16-core/3.0 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)	Intel Xeon Scalable (10-core/2.4 GHz)	AMD EPYC (16-core/3.0 GHz)
Memory	2 x 16 GB	2 x 16 GB	2 x 16 GB	4 x 16 GB	2 x 16 GB	2 x 32 GB	4 x 16 GB
OS storage	**	2 x 240 GB SSD	2 x 240 GB SSD	2 x 240 GB SSD	2 x 240 GB SSD	2 x 240 GB SSD	2 x 240 GB SSD
Data storage	4 x 1 TB HDD	4 x 1.2 TB HDD	5 x 1.2 TB HDD	4 x 1.2 TB HDD	4 x 1.2 TB HDD	4 x 2.4 TB GB HDD	4 x 2.4 TB GB HDD
Disk controller	HPE E208i-p Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10	HPE P408i-a Gen10
Network	2 x ports 1GbE	2 x ports 1GbE	2 x ports 1GbE	4 x ports 1GbE	4 x ports 1GbE	4 x ports 1GbE	4 x ports 1GbE
Power supply	2 x 500W	2 x 500W	2 x 500W	2 x 500W	2 x 500W	2 x 800W	2 x 500W
OS software	Microsoft Windows Server 2019 Standard ClearOS Bronze*	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard
Optional software	HPE iLO Advanced HPE Secure Encryption	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache	HPE iLO Advanced HPE Secure Encryption HPE SmartCache
Archival/DR	HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL 1/8 Tape Autoloader Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL 1/8 Tape Autoloader Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL 1/8 Tape Autoloader Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL 1/8 Tape Autoloader Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL2024 Tape Library Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL2024 Tape Library Veeam Backup and Replication + HPE Cloud Volumes Backup

* **NOTE:** RDX, Veeam, and HPE Cloud Volumes Backup not supported on ClearOS.

** **NOTE:** DL20 Gen10 recommended configuration is 4 x 1 TB HDDs in RAID 5, if separate OS and data volumes are required then 2 x 1 TB HDDs in RAID 1 can be configured for both OS and data volumes.

External storage system

Platform	HPE MSA 1060 Gen10 SAS HPE ProLiant DL160 Gen10
Solution capacity	Starting at 7.2 TB HDD (raw)
Form factor	1U 8 SFF Rack Server + 2U Modular Storage Array 24 x SFF Hot-Plug bays
Processor	Intel Xeon Scalable (8-core/2.1 GHz)
Memory	2 x 16 GB
OS storage	2 x 240 GB SSD (Server)
Data storage	6 x 1.2 TB HDD (MSA)
Disk controller	HPE Smart Array E208e-p SR Gen10 Controller (External SAS Controller) HPE MSA 12Gb SAS Controller (Storage)
Network	2 x ports 1GbE
Power supply	2 x 500W
OS software	Microsoft Windows Server 2019 Standard
Optional software	HPE iLO Advanced
Archival/DR	Veeam Backup and Replication + HPE Cloud Volumes Backup



BUILD YOUR BACKUP SERVER SOLUTION

Step 1: Determine your backup server needs

To size your backup server, start by determining the following:

- Performance level required
- Storage capacity required over the life of the file server

Performance level

The Backup Solutions provide high-capacity storage for on-premises backups of user and application files. High-capacity storage solutions are typically optimized for performance or price. Since backups tend to be scheduled during off-hours to minimize performance impact on production systems, lower-performing, low-cost, mid-grade SATA HDDs are usually acceptable as long as the backup window remains acceptable (i.e., the time it takes for all backups to be completed). When the backup window begins to encroach on the normal usage schedule of the production systems, you may need to consider performance upgrades in the form of disk acceleration or faster (and more expensive) enterprise-grade disks, or even SSDs in the most extreme cases.

Backup Solutions are optimized as follows:

- **Compute**—Low to medium processor performance (one processor, no more than 16 cores, less than 2.5 GHz is generally acceptable).
- **Memory**—Low to medium memory capacity (8–32 GB is acceptable, 64 GB should be considered if backing up multiple data sources simultaneously).
- **Networking**—The standard 1GbE (two or four ports) on HPE ProLiant servers is sufficient for all but the most demanding Small Business backup server requirements.
- **Storage performance**—Low- to medium-grade 7.2K rpm SATA HDDs are sufficient for most Small Business backup requirements. But if multiple large backups are required in a short backup window you can potentially reduce your backup window by implementing a disk accelerator such as HPE SmartCache or go with 10K rpm SAS HDDs or even SAS or SATA SSDs for demanding backup windows.

Storage capacity

The capacity required for a backup server can vary widely depending on the backup strategy and amount of data to be backed up. Adding tape-based archival storage to your backup strategy can minimize the size and cost of disk-based capacity. Additionally, adding cloud backup to your strategy, for example, with Microsoft Azure cloud services, can be an alternative to either supplement or eliminate local long-term storage of backup data.

A good rule of thumb is to have enough capacity for 10 full backups. Using the servers in the File Server Storage Capacity Planner example table in the [previous section](#) as a model, 10 full backups would eventually grow to 10 TB, 20 TB, 40 TB, 70 TB, and 180 TB of backup disk storage needed (respective to each company size of 10, 25, 50, 100, and 250 users in the example). Keeping all this backup data on disk storage can be extremely expensive. A cost-efficient strategy is to keep the two most recent full backups (and their related incremental backups) on local disk storage for quick access in case of an emergency recovery, and off-load backups to tape or other removable media like the RDX, or to the cloud to enable recovery from off-premises media should the entire data center be lost. This strategy would reduce the disk storage needed from the example above to 2 TB, 4 TB, 8 TB, 14 TB, and 36 TB, respectively.

Step 2: Choose the right configuration

The Backup Solutions include a starting capacity of 4 TB to 16 TB of raw storage. Multiple drives allow for configuration of RAID arrays for protection against drive failures. All except the HPE ProLiant MicroServer Gen10 Plus and the ML30 Gen10 server can be expanded by adding more drives and, in some cases, additional drive bays.

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



Sizing for HPE Small Business Solutions for Backup

Platform	Solution capacity	Processor	Memory	Max. Additional Available Drive Bays*
HPE ProLiant ML30 Gen10	Starting at 4 TB HDD (raw)	Intel Xeon E-Series (4-core/3.4 GHz)	2 x 16 GB	0
HPE ProLiant ML110 Gen10	Starting at 8 TB HDD (raw)	Intel Xeon Scalable (8-core/1.9 GHz)	2 x 16 GB	4
HPE ProLiant ML350 Gen10	Starting at 16 TB HDD (raw)	Intel Xeon Scalable (8-core/1.9 GHz)	2 x 16 GB	6
HPE ProLiant DL180 Gen10	Starting at 16 TB HDD (raw)	Intel Xeon Scalable (8-core/2.1 GHz)	2 x 16 GB	6
HPE ProLiant DL385 Gen10 Plus	Starting at 16 TB HDD (raw)	AMD EPYC (8-core/3.2 GHz)	2 x 16 GB	16

* Max. Available Drive Bays is the total possible bays including optional drive cages less the number of bays populated in the solution default configuration.

Step 3: Configure the HPE Small Business Backup Solution

HPE Small Business Solutions for File and Backup consist of an HPE SMB Offer plus additional hardware and software options to complete the configuration. HPE SMB Offer configurations are the foundation for special pricing and are the starting point for building your solution configuration. Additional options are then carefully selected from among the most popular and best priced HPE options available to complete the Backup Solution.

After selecting the appropriate HPE Small Business Solution configuration for your business outcome and sizing requirements, you may also wish to expand its capabilities by adding recommended options.

The configurations for Backup were designed for cost-effectiveness and structured as building blocks for easy expandability. The use of SATA HDDs provides economical high-capacity storage. All configurations include multiple data volume drives to enable RAID for protection against disk failure. For additional reliability, most HPE Small Business Backup Solutions are equipped with redundant power supplies.

Businesses that need to keep large amounts of backups on local disk, or need redundant servers to meet tight backup window objectives, 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 1050 dual SAS controller external storage array. With two ports per controller, two servers can share the external storage to run multiple backup jobs simultaneously. The servers connect directly to the storage enclosure via HPE Direct Attach cables so there is no need for expensive SAN fabric network. And with up to four enclosures (up to 96 SFF drive bays) there is plenty of room for storage growth. And enclosures can be a mix of LFF or SFF enclosures to enable maximum flexibility in your storage strategy.

OS and storage considerations

NOTE

ClearOS is only supported on the MicroServer and ML30 Backup Solution. All solutions support Microsoft Windows Server.

Drives in the tower (ML and MicroServer) systems are intended to be configured in a single RAID 5 volume used by both OS and backup data due to the limited number of drive bays of the default configuration. If a separate boot volume is required, consider using M.2 SSDs as the boot volume or adding the optional drive bay expansion.

NOTE

ML30 does not support adding a drive bay expansion.

Rack (DL) systems are equipped with sufficient drive bays to separate drives for the boot and storage volumes. In the case of rack servers, the Windows Server OS is intended to be installed on the dual low-capacity drives, which should be configured as a RAID 1 array to protect against the failure of one disk. The remaining HDDs for the data volume should be configured in a RAID array for protection against drive loss. In most cases more storage can be added to expand capacity now or as your needs grow.



For the fastest deployment, HPE Gen10 servers now have Rapid Setup Software (RSS) built into the server. Simply boot the server into Rapid Setup and it will provide a recommended RAID configuration for all installed drives, select the boot volume, and install your choice of Windows or ClearOS onto the boot volume. See the [HPE Small Business Solutions Deployment Guide](#) for details.

Optional enhancements

Most HPE SMB Backup Solutions can be enhanced with one or more of the following additional options:

- iLO Advanced
- HPE Secure Encryption
- HPE SmartCache (excluding MicroServer and ML30)
- Capacity expansion bundles

Storage options for archiving and off-loading disk backup data to external media

HPE Cloud Volumes Backup enables cloud-based disaster 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.

HPE RDX Removable Disk Backup System is a recommended option for reliable disk-based backup and recovery with unmatched portability, fast recovery, and easy integration.⁴ The HPE RDX Removable Disk Solution provides a simple, cost-effective way to back up and protect critical data. Complement your local backups with a cloud backup strategy so you can recover quickly, even if you lose your entire site or local backup copies.

HPE StoreEver MSL 1/8 Tape Autoloader or MSL2024 Tape Library are recommended options that meet demanding storage requirements for businesses needing unattended backup, disaster recovery, or low-cost long-term archive capability.⁵ Both systems offer a broad choice of storage capacities and technology including LTO-8, LTO-7, LTO-6, or LTO-5 Ultrium tape drives. Web-based remote management enables easy management from across the room or across the globe. Quickly manage tape media both in and out of the library with the standard bar code reader, configurable mail slots, and multiple removable magazines. Protect important business data from unauthorized access with several data encryption options. Quickly increase capacity and/or performance with tool-free drive upgrades in the MSL2024/MSL4048 or move tape drive kits to an MSL3040/MSL6480 for scalability and additional enterprise class features.

Veeam Backup & Replication software is a recommended option when considering any HPE Small Business Solution, or when using an HPE Small Business Solutions for Backup as a Veeam backup target. Veeam Backup & Replication delivers powerful availability across all cloud, virtual, and physical workloads with a simple, flexible, and reliable solution. Protect your data no matter the location or workload type.

⁴ RDX is recommended for HPE Small Business Backup solutions based on HPE ProLiant ML series servers. RDX is not supported in ClearOS.

⁵ HPE StoreEver MSL 1/8 Tape Autoloader or MSL2024 Tape Library are recommended on solution configurations built on HPE ProLiant DL100 and DL300 series Gen10 servers.



HPE Small Business Solutions for Backup technical specifications

Tower systems

Platform	HPE ProLiant ML30 Gen10	HPE ProLiant ML110 Gen10	HPE ProLiant ML350 Gen10
Solution capacity	Starting at 4 TB HDD (raw)	Starting at 8 TB HDD (raw)	Starting at 16 TB HDD (raw)
Form factor	4U Tower Server 4 x LFF Hot-Plug bays	4.5U Tower Server 4 x LFF Hot-Plug bays	4U Tower Server 8 x LFF Hot-Plug bays
Processor	Intel Xeon E-Series (4-core/3.4 GHz)	Intel Xeon Scalable (8-core/1.9 GHz)	Intel Xeon Scalable (8-core/1.9 GHz)
Memory	2 x 16 GB	2 x 16 GB	2 x 16 GB
OS storage	***	***	2 x 480 GB SSD
Data storage	4 x 1 TB HDD	4 x 2 TB HDD	4 x 4 TB HDD
Disk controller	HPE E208i-p Gen10 (Optional)	HPE E208i-p Gen10 (Optional)	HPE P408i-a Gen10
Network	2 x ports 1GbE	2 x ports 1GbE	4 x ports 1GbE
Power supply	1 x 350W	1 x 550W	2 x 500W
OS software	Microsoft Windows Server 2019 Standard ClearOS Bronze*	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard
Optional software	HPE iLO Advanced HPE Secure Encryption**	HPE iLO Advanced HPE Secure Encryption**	HPE iLO Advanced HPE Secure Encryption HPE SmartCache
Archival/DR	HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL 1/8 Tape Autoloader HPE RDX External USB 3.0 Backup System 4TB Bundle Veeam Backup and Replication + HPE Cloud Volumes Backup

* **NOTE:** RDX, Veeam, and CVB not supported on ClearOS.

** **NOTE:** HPE Secure Encryption requires an HPE Smart Array Controller.

*** **NOTE:** ML30 Gen10 and ML110 Gen10 recommended configuration is 4 x HDDs in RAID 5, if separate OS and data volumes are required then 2 x HDDs in RAID 1 can be configured for both OS and data volumes.

Rack systems

Platform	HPE ProLiant DL180 Gen10	HPE ProLiant DL385 Gen10 Plus
Solution capacity	Starting at 16 TB HDD (raw)	Starting at 16 TB HDD (raw)
Form factor	2U Rack Server 12 x LFF Hot-Plug bays	2U Rack Server 8 x LFF Hot-Plug bays
Processor	Intel Xeon Scalable (8-core/2.1 GHz)	AMD EPYC (8-core/3.2 GHz)
Memory	2 x 16 GB	2 x 16 GB
OS storage	2 x 480 GB SSD	2 x 480 GB SSD
Data storage	4 x 4 TB HDD	4 x 4 TB HDD
Disk controller	HPE P816i-a Gen10	HPE E208i-a Gen10
Network	2 x ports 1GbE	4 x ports 1GbE
Power supply	2 x 500W	2 x 500W
OS software	Microsoft Windows Server 2019 Standard	Microsoft Windows Server 2019 Standard
Optional software	HPE iLO Advanced HPE Secure Encryption HPE SmartCache (Incl. with P816 Controller)	HPE iLO Advanced HPE Secure Encryption HPE SmartCache
Archival/DR	HPE StoreEver MSL 1/8 Tape Autoloader Veeam Backup and Replication + HPE Cloud Volumes Backup	HPE StoreEver MSL2024 Tape Library Veeam Backup and Replication + HPE Cloud Volumes Backup



External storage system

MSA 1050 SAS/DL160 Gen10 bundle	
MSA 1050 system	2U rack 24 x SFF hot-plug
Controller	2 x 2 port mini-SAS HD
Connectivity	Mini SAS High Density cables
Storage drives	6 x 1.2 TB 12G 10K SAS HDD
DL160 system	1U rack 8 x SFF hot-plug
Processor (cores/freq.)	Intel® Xeon® Silver 4208 (8/2.1)
Memory	2 x 16 GB PC4-2933
Boot drives	2 x 240 GB 6G Read Intensive SATA SSD
Storage drives	N/A
Disk controller	HPE Smart Array E208e-p
Network	2 x ports at 1GbE
Power supply	2 x 500W
Optional enhancements	iLO Advanced

HYBRID FILE AND BACKUP OPTIONS

HPE Cloud Volumes Backup enables cloud-based disaster 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.

Start the configuration and follow the considerations as outlined in the section on HPE Small Business Solutions for File and Backup with Windows Server. The additional Microsoft Azure services that make up the hybrid file and backup solution are:

- **Azure Files** offers fully-managed file shares in the cloud that are accessible via the industry-standard Server Message Block protocol. Azure file shares can be mounted concurrently by cloud or on-premises deployments of Windows, Linux®, and macOS®.
- **Azure File Sync** centralizes file shares in Azure Files while keeping the flexibility, performance, and compatibility of an on-premises file server. Azure File Sync transforms Windows Server machines into a quick cache of your Azure file share. You can use any protocol that's available on Windows Server to access your data locally, including server message block, network file system, and file transfer protocol service. You can have as many caches as you need across the world.
- **Azure Backup** can be used to back up and restore data in the Microsoft cloud. Azure Backup replaces existing on- or off-site backup with a cloud-based solution that is reliable, secure, and cost-competitive. Azure Backup automatically allocates and manages backup storage with a pay-as-you-go model, so you only pay for the storage that you consume. In addition, Azure Backup uses the underlying power and unlimited scale of the Azure cloud to deliver high availability with no maintenance or monitoring overhead.
- **Azure Storage Service Encryption** for data at rest helps protect data to meet security and compliance commitments. With this feature, the Azure storage platform automatically encrypts data before persisting it to Azure Files and decrypts the data before retrieval. All data written to the Azure storage platform is encrypted through 256-bit AES encryption, one of the strongest block ciphers available.

To create the hybrid cloud business continuity plan, start by using Azure File Sync to replicate data from the legacy file server(s) to the on-premises HPE Small Business Solution for File and Backup. For additional accessibility, replicate to the Azure File Service located in a local or remote region. Azure Backup Services can be set up to provide full backup and restore capabilities between the legacy server(s), the HPE Small Business Solution server, and Microsoft Azure. Finally, all storage can be encrypted using HPE Secure Encryption on-premises and Azure Storage Service Encryption in the cloud for enhanced security.



SERVICES AND FINANCING

HPE Pointnext Services

HPE Pointnext Services is a services partner built for your business today and tomorrow. HPE Pointnext Services enable you to meet availability commitments with a variety of coverage levels and response times, and easily connects 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 Datacenter Care
- HPE Tech Care

NOTE

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

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

HPE Subscription services allow SMBs to select a complete solution from predefined 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's tech refresh program replaces ownership with predictable monthly or quarterly payments and provides for a shorter, routine refresh cycle every 24 to 48 months. SMBs don't have to be locked into holding on to aging IT equipment and delaying upgrades. With HPE tech refresh, SMBs can have the IT they need to meet business goals and pay overtime to conserve cash, saving 10–15% over three or four years.

PROTECT YOUR DATA

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/.

RESOURCES

- Solution brief: [HPE Small Business Solutions for File and Backup](#)
- [HPE ProLiant Server QuickSpecs](#)
- [HPE ProLiant Server Options](#)
- [IT Support Services](#)
- [iQuote](#)



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