Overview

HPE StoreEasy 1000 Storage with the HPE StoreEasy Management Console

Sixth generation (1460, 1560, 1660, 1660 Expanded, 1860)

Whether you are a small, medium, or large distributed organization with remote offices, you need reliable, cost-efficient storage that can keep pace with users and growing volumes of file data without getting in the way of how your organization operates.

If you're in search of an easy-to-manage centralized space for securely storing documents, images, audio, and video files, look no further than HPE StoreEasy 1000 Storage: flexible, efficient, and reliable network-attached storage, right-sized for your organization's needs and budget, without compromising on quality or capabilities.

Built from the foundation of the most secure industry standard servers and running Microsoft Windows Storage Server 2016 Standard Edition operating system, HPE StoreEasy 1000 Storage appliances deliver a radically simplified administration experience through the new HPE StoreEasy Management Console, lower-cost internal capacity expansion, better performance options for resource-intensive workloads, and more security protections built-in and included as standard to help you better protect your customers, employees, and organization against loss, corruption, and breaches.

Opt for pre-configured models that include the compute, capacity, and connectivity options most organizations need in a NAS, or tailor a HPE StoreEasy to your requirements with standard and higher performance configure-to-order models and options.

What's New

Introducing updates to HPE StoreEasy 1460, 1560, 1660, and 1860 Storage models:

- Now featuring Intel® Xeon® Scalable Bronze 3204 and Silver 4208 processors with PC4-2933 memory
- Mirrored SFF boot SSDs and an additional open PCIe slot (1660 and 1860 models only)
- Same Microsoft Windows Storage Server 2016 Standard Edition operating system with HPE StoreEasy Management Console
- Same base system SKU numbers (now ending in 'B'), system descriptions, and included raw storage capacities

Notes:

System Lifecycle Notification: StoreEasy 1460, 1560, 1660, and 1860 models with SKU numbers that end in 'A' are included in this document but are approaching end of life. As noted above, new models with SKU numbers ending in 'B' feature several updates and directly substitute for 'A' SKUs with the same base SKU numbers, system descriptions, and raw storage capacities. HPE strongly recommends conversion of orders to the new 'B' SKUs as soon as possible to avoid any potential issues with material availability and extended lead times.

Overview

HPE StoreEasy 1460 Storage

HPE StoreEasy 1460 Storage solutions deliver multi-protocol file serving and application storage in a compact and affordable 1U rack-mount form factor. They're easy to install and manage, making them perfect for a small workgroup, small business, or remote office. All HPE StoreEasy 1460 models come with Microsoft Windows Storage Server 2016 pre-installed from the factory on the four internal LFF drives.



HPE StoreEasy 1460 Storage

Models

Description	SKU
HPE StoreEasy 1460 8TB SATA Storage	Q2R92B
HPE StoreEasy 1460 16TB SATA Storage	Q2R93B
HPE StoreEasy 1460 32TB SATA Storage	Q2R94B
HPE StoreEasy 1460 8TB SATA Storage	Q2R92A
HPE StoreEasy 1460 16TB SATA Storage	Q2R93A
HPE StoreEasy 1460 32TB SATA Storage	Q2R94A

Overview

HPE StoreEasy 1560 Storage

HPE StoreEasy 1560 Storage solutions are built on a compact and affordable tower form factor package and deliver multi-protocol file serving and application storage to environments that don't have rack space. They're easy to install and manage, making them perfect for a small workgroup, small businesses or remote offices. All HPE StoreEasy 1560 models come with Microsoft Windows Storage Server 2016 Standard Edition pre-installed from the factory on the four internal LFF drives.



HPE StoreEasy 1560 Storage

Models

Description	SKU
HPE StoreEasy 1560 8TB SATA Storage	Q2R96B
HPE StoreEasy 1560 16TB SATA Storage	Q2R97B
HPE StoreEasy 1560 8TB SATA Storage	Q2R96A
HPE StoreEasy 1560 16TB SATA Storage	Q2R97A

Overview

HPE StoreEasy 1660 Storage

HPE StoreEasy 1660 Storage solutions deliver high capacity that drives down your cost per GB. Four- to eight-core processing (depends on model selected), up to 16 LFF hot-plug drive slots, and external expandability capability enhance this dense 2U shared storage solution for small, medium, or large IT environments. All HPE StoreEasy 1660 models come with Microsoft Windows Storage Server 2016 Standard Edition pre-installed from the factory on mirrored solid state drives.



HPE StoreEasy 1660 Storage

Models

Description	SKU
HPE StoreEasy 1660 Performance Storage	Q2P71B
HPE StoreEasy 1660 Storage	Q2P72B
HPE StoreEasy 1660 16TB SAS Storage	Q2P73B
HPE StoreEasy 1660 32TB SAS Storage	Q2P74B
HPE StoreEasy 1660 64TB SAS Storage	Q2P75B
HPE StoreEasy 1660 Performance Storage	Q2P71A
HPE StoreEasy 1660 Storage	Q2P72A
HPE StoreEasy 1660 16TB SAS Storage	Q2P73A
HPE StoreEasy 1660 32TB SAS Storage	Q2P74A
HPE StoreEasy 1660 64TB SAS Storage	Q2P75A

Overview

HPE StoreEasy 1660 Expanded Storage

The HPE StoreEasy 1660 Expanded Storage is a density-optimized 2U rack-mount network-attached storage appliance with 28 LFF hot-plug drive slots and up to 448TB raw internal capacity. Ideal for bulk file data and secondary storage workloads, the StoreEasy 1660 Expanded includes Microsoft Windows Storage Server 2016 pre-installed from the factory on mirrored solid state drives.



HPE StoreEasy 1660 Expanded Storage

Model

Description	SKU
HPE StoreEasy 1660 Expanded Storage	R0R67A

Overview

HPE StoreEasy 1860 Storage

HPE StoreEasy 1860 Storage solutions deliver enterprise-class performance, expandability, and flexibility. Four- to eight-core processing (depending on model selected), 24 (or more) internal SFF data drives for performance, and external expandability capability enhance this 2U shared storage solution for small, medium, or large IT environments. HPE StoreEasy 1860 models come with Microsoft Windows Storage Server 2016 Standard Edition pre-installed from the factory on mirrored solid state drives.



HPE StoreEasy 1860 Storage

Models

Description	SKU
HPE StoreEasy 1860 Performance Storage	Q2P76B
HPE StoreEasy 1860 Storage	Q2P77B
HPE StoreEasy 1860 9.6TB SAS Storage	Q2P78B
HPE StoreEasy 1860 14.4TB SAS Storage	Q2P79B
HPE StoreEasy 1860 Performance Storage	Q2P76A
HPE StoreEasy 1860 Storage	Q2P77A
HPE StoreEasy 1860 9.6TB SAS Storage	Q2P78A
HPE StoreEasy 1860 14.4TB SAS Storage	Q2P79A

Standard Features

Focus on your business, not your file storage

- The HPE StoreEasy 1000 Storage systems come with pre-configured hardware and Microsoft Windows Storage Server 2016 Standard Edition operating system for purpose-built file storage. All models feature the HPE StoreEasy Management Console, which centralizes management workflows and helps you save time and effort.
- HPE-enhanced Initial Configuration Tasks Wizard: HPE StoreEasy installation and network configuration wizards simplify installation and prevent network configuration errors for faster deployment.
- The HPE StoreEasy Tools menu within Windows Server manager to access the most commonly accessed tools and tasks that an administrator uses for day-to-day management of StoreEasy. The HPE StoreEasy Tools menu provides management of storage pools, snapshots, emails alerts, enclosure settings, and firmware updates. It also includes access to the Deduplication Evaluation tool, storage viewer and the initial configuration task wizard.
- Optional download of the HPE StoreEasy Management Console is available through the HPE Support Center at any time during the warranty period of your HPE StoreEasy 1000. The web-based GUI enables administrators to manage and monitor storage, performance, hardware events, quotas, snapshots, and more – providing an optimized task-focused experience that simplifies day-to-day management and storage provisioning.
- HPE StoreEasy hard drive bundles make it easier for you to buy, deploy and provision additional storage capacity over the life of the system.
- Windows Storage Server 2016 includes a set of new and enhanced features. HPE StoreEasy 1000 systems based on WSS2016 have an improved deduplication engine that supports individual files up to 1TB in size and file systems up to 64TB in size. Additionally, new security and encryption technologies provide stronger protection against man-in-the-middle attacks.

Optimized: Tailored for file storage

The Microsoft Windows Storage Server 2016 Standard Edition operating system includes a robust range of file serving and storage capabilities. They address heterogeneous environments and enable more efficient storage utilization. They deliver a similar level of performance and reliability as more expensive storage solutions and they offer support for both file (CIFS/SMB and NFS) and block (iSCSI) protocols, allow for a flexible mix of configurations and includes advanced data management tools. WSS2016 leverages your Windows Server management skill sets and tools including Active Directory, PowerShell and System Center.
Extensive protocol support: SMB (2.0, 2.1, 3.0, 3.02 and 3.1.1), NFS (v2, v3, v4.1), WebDAV, HTTP/HTTPS, FTP/FTPS, iSCSI
Notes: The SMB 3.1.1 protocol is only supported on Windows Storage Server 2016, Windows Server 2016, Windows Server 2019, and Windows 10 operating systems.

- SMB 3.X.X protocol: Leverage high performance continually-available file shares to deliver feature-rich storage for business-critical applications and virtual servers using advanced new functionality.
- SMB 3.1.1 protocol: Enhances security between SMB clients and StoreEasy. When both a client and HPE StoreEasy connect over SMB 3.1.1, SMB signing and encryption protects against an attacker tampering with or eavesdropping on any network packets. SMB 3.1.1 with AES-128-GCM, the latest fixed cryptographic algorithm, showed a 2x performance improvement compared with SMB 3.0 using AES-128-CCM in certain scenarios such as copying large files over an encrypted SMB connection.
- SMB 3.X.X Multi-channel: Enable aggregation of network bandwidth and network fault tolerance when multiple paths are available between SMB clients and file servers.
- NFS v4.1: Delivers increased security, performance, and interoperability compared to NFS version 3. Deployment and management of NFS has also improved with new Windows PowerShell cmdlets that make it easier to configure and manage NFS file shares, and with upgrades to ease-of-use of the Server Manager graphical user interface.
- iSCSI: Some applications require block storage. iSCSI Target Server can provide these applications with continuously available block storage. Since the storage is remotely accessible it can also consolidate block storage for central or branch office locations.

Standard Features

- File Server Resource Manager (FSRM): File Server Resource Manager is a set of features within the Windows Storage Server OS that allows you to manage and classify data that is stored on file servers. File Server Resource Manager includes the following features: Storage Quotas: Quotas allow you to limit the space that is allowed for a volume or folder, and they can be automatically applied to new folders that are created on a volume. You can also define quota templates that can be applied to new volumes or folders.
- File screening: File screens help you control the types of files that user can store on a file server. You can limit the extension that can be stored on your shared files. For example, you can create a file screen that does not allow files with an MP3 extension to be stored in personal shared folders on a file server.
- File Classification Infrastructure: File Classification Infrastructure provides insight into your data by automating classification processes so that you can manage your data more effectively. You can classify files and apply policies based on this classification. Example policies include dynamic access control for restricting access to files, file encryption, and file expiration. Files can be classified automatically by using file classification rules or manually by modifying the properties of a selected file or folder.
- File Management Tasks: File Management Tasks enables you to apply a conditional policy or action to files based on their classification. The conditions of a file management task include the file location, the classification properties, the date the file was created, the last modified date of the file, or the last time the file was accessed. The actions that a file management task can take include the ability to expire files, encrypt files, or run a custom command.
- Storage reports: Storage reports are used to help you identify trends in disk usage and how your data is classified. You can also monitor a selected group of users for attempts to save unauthorized files.
- WSS 2016 includes an unlimited Client Access License (CAL)

Notes:
Microsoft Windows Server 2016 and Microsoft Windows Storage Server 2016 are built on the same code base. Applications certified for Windows Server 2016 are expected to have the same application compatibility profile on Windows Storage Server 2016. Windows Storage Server and Windows Server have the same application frameworks, services, and plumbing to support running the full breadth of Windows-compatible applications. Applications that rely upon certain roles that are removed from Windows Storage Server 2016, such as fax server, Active Directory domain controller (all Windows Storage Server 2016-based systems can join an Active Directory domain, but they cannot be a domain controller), or terminal services will not be able to leverage those roles. Independent Software Vendors (ISVs) ultimately decide what versions and editions of Windows are supported by their products and users should review ISV compatibility and support information before purchasing. Customers should review the End User License Agreement (EULA) to see the types of applications that are permitted for installation on a HPE StoreEasy 1000 Storage system.

More Information on Windows Storage Server 2016 can be found here:
https://blogs.technet.microsoft.com/storageserver/2016/10/14/announcing-windows-storage-server-2016/

Standard Features

Efficient: Saves you money and time

- Achieve an average of 50 percent space savings with granular data deduplication and compression.
- Data deduplication enables Windows Storage Server 2016 to store more data in less physical space for greater storage efficiency. Data deduplication uses variable size chunking and compression, which deliver optimization ratios of 2:1 for general file servers and up to 20:1 for virtualization data. Evaluate your deduplication savings with the included deduplication evaluation tool which allows you to determine the expected savings that you would get if deduplication is enabled on a particular volume. The Deduplication evaluation tool supports local drives and mapped or unmapped remote shares.
- Data deduplication within Windows Storage Server 2016 has specific improvements for deduplicating large volumes and large files - up to 64 TB and 1TB respectively. WSS 2016's deduplication engine will run multiple threads in parallel using multiple I/O queues on a single volume and thereby improve the performance for deduping large volumes.
- With the Work Folders feature in Windows Storage Server 2016 users can store and access work files on personal computers and devices, often referred to as bring-your-own device (BYOD), in addition to corporate PCs. Users gain a convenient location to store work files, and they can access them from anywhere. Organizations maintain control over corporate data by storing the files on centrally managed file servers, and optionally specifying user device policies such as encryption and lock-screen passwords. Work Folders can be deployed with existing deployments of Folder Redirection, Offline Files, and home folders. Work Folders stores user files in a folder on the server called a sync share. You can specify a folder that already contains user data, which enables you to adopt Work Folders without migrating servers and data or immediately phasing out your existing solution. Work Folders is supported on Windows 10, Windows 8.1, Windows 8, Windows 7, Apple iOS and Android devices. New for Windows Storage Server 2016 version of Work Folders, when a Windows 10 client makes any changes to a file those changes are immediately synched to Work Folders and the client notified.
- The file sync and share feature enables mobile workers to access their files from anywhere, and provides corporate data controls including data encryption, data wipe, user lock screen password enforcement, file classification, and storage quotas
- Use advanced data management to automatically improve use of resources, comply with data retention policies, and enhance protection of sensitive files.
- Consolidate multiple workloads and IT services in a single platform with included support for a broad range of file access protocols, Microsoft® Hyper-V and SQL Server application storage, iSCSI block access, and IT infrastructure services such as print.
- DFS Namespaces: Enables you to group shared folders that are located on different servers into one or more logically structured namespaces. Each namespace appears to users as a single shared folder with a series of subfolders. However, the underlying structure of the namespace can consist of numerous file shares that are located on different servers and in multiple sites.
- Hosted Branch Cache: Using client/server architecture, Windows 7/8 client computers can cache content on the local network via the Hosted Cache running on HPE StoreEasy 1000 Storage. Other clients who need the same content retrieve it directly from the Hosted Cache.

Standard Features

Secure: Protect your data always

- HPE StoreEasy 1000 Storage protects data while at rest with file system encryption and BitLocker Drive Encryption, and while it is being transferred with SMB encryption and signing.
- Use File Classification Infrastructure to dynamically identify files based on sensitivity and implement sophisticated access controls using Active Directory Rights Management Services.
- Volume Shadow Copy Service: Creates point-in-time copies (snapshots) of files and folders at predetermined time intervals that can then be accessed from client computers.
- Distributed File System Replication (DFS-R): Enables you to efficiently replicate folders (including those referred to by a DFS namespace path) across multiple servers and sites. DFS Replication uses a compression algorithm known as remote differential compression (RDC). RDC detects changes to the data in a file, and it enables DFS Replication to replicate only the changed file blocks instead of the entire file.
- Install and run endpoint protection, such as an antivirus, on the system itself—reducing the cost and complexity of connecting to an external endpoint protection server. Prevent against data loss with Volume Shadow Copy Service online snapshots and support for agent-based backup software.
- Opt for simplified and cost-efficient compliant archiving with iTernity Compliant Archive Solution (iCAS), validated to meet the United States Securities and Exchange Commission (SEC) 17a-4(f) requirements and available through HPE Complete.

Highly Available: Prevent business and user disruption

- Increase uptime with such standard features as near continuous health monitoring with HPE Active Health System, mirrored OS drives, redundant fans (not available on all models) and power, and advanced memory protection.
- Confidently deploy large file systems leveraging file system online self-healing, online verification, and precise and rapid repair that massively reduces downtime from file corruption.
- Take advantage of Carbonite's Double-Take Availability software for critical data protection with real-time byte-level replication. In the event of a failure, recover the data—with a minimum of loss—from the replicated data repository. Software installation files now included with free 14-day evaluation license.
- Get support from file storage experts with 3-Year Parts, 3-Year Labor, and 3-Year Onsite support with next business day response. All HPE StoreEasy Storage systems also include one year of 9x5 software telephone support for the Windows Storage Server operating system.

Replication with Carbonite Availability

Protect your critical HPE StoreEasy data with Carbonite Availability's real-time byte-level replication. In the event of a failure, recover the data—with a minimum of loss—from the replicated data repository. For more information on how to obtain Carbonite Availability for replication using HPE StoreEasy 1000, visit the **HPE Complete Carbonite Availability** product page.

Archiving with iTernity Compliant Archive Software

Get open, flexible, and expandable long-term archiving with iTernity Compliant Archive Solution (iCAS). Together, HPE StoreEasy and iCAS are your key to legally-compliant data archiving.
For more information on how to obtain the iCAS for archiving visit the **HPE Complete iTernity iCAS** product page.

Expansion with HPE MSA SAN Storage or D3X10 / D6020 Disk Enclosures

All HPE StoreEasy models support external storage using HPE MSA SAN Storage or D3X10 / D6020 Disk Enclosure product families. A Fibre Channel, SAS, or iSCSI connection must be added to support MSA SAN Storage (note that high-availability clustering is not supported) while a Smart Array controller with external ports must be added to support external Disk Enclosures. The maximum number of disk enclosures supported is 8, a limit imposed by the disk enclosures and controllers. See the MSA SAN Storage, D3X10 Disk Enclosure, or D6020 Disk Enclosure **QuickSpecs** for more information.

Service and Support

Warranty

HPE StoreEasy 1460, 1560, 1660, 1660 Expanded, and 1860 Storage systems come with a standard 3-3-3 warranty (3 years parts exchange, 3 years labor and 3 years onsite, next business day response). Software media is warranted to be free of physical defect for a period of 90 days from delivery.

Services Included with the Product

One year of Hewlett Packard Enterprise Software Support for the Windows Storage Server 2016 Operating System, standard 9x5 business hours (software advisory and remedial software telephone support, and media and documentation distribution service).

Windows Storage Server 2016 Support Statement

Standard support for the Microsoft Windows Storage Server 2016 operating system installed on HPE StoreEasy 1000 Storage includes (but is not limited to) initial configuration, troubleshooting of operating system installation and/or recovery issues, hardware and driver problems, and system-specific / storage-centric features (Volume / File system creation; File/Folder/Share Permissions; Active Directory integration.; DFS-R; DFS-N; quotas; deduplication; NFS, SMB, iSCSI protocols; performance tuning; etc.). Microsoft Clustering Services is not supported on HPE StoreEasy 1000 Storage. HPE Support Services will also not troubleshoot a Microsoft Operating System feature that has been deprecated or has limited functionality as per design by Microsoft. HPE Support Services will not troubleshoot third-party software or issues related to Microsoft Active Directory Services that are external to the HPE StoreEasy system that may be hindering implementation of Active Directory integration. In those cases, customers should resolve issues with their third-party software vendor and/or by opening a support case with Microsoft directly.

Service and Support

Achieve maximum return from your IT investment

Get the expertise you need at every step of your IT journey with **HPE Pointnext services and support**. We help you lower your risks and costs using proven best practices, automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. With **Advisory Services,** we focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time, increase diagnostic accuracy and have a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support. Learn more about getting connected at **http://www.hpe.com/services/getconnected**

Discover, plan, and design

Choose from a rich portfolio of services to make the most of HPE StoreEasy Storage, so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.
Hewlett Packard Enterprise Services can help you discover needs and create a plan for simplifying the environment, reducing risk, and maximizing your storage investments

HPE Backup Recovery Impact Analysis - Focus placed on service requirements and design as the key to success for gaining a clear understanding of the role of increasingly diverse data protection strategies.

HPE Storage Cloud Design Service - Build a scalable, low-cost enterprise storage environment with inherent cloud benefits to meet big data needs.

Service and Support

Deploy and integrate

We can help you configure, set up, and efficiently use your HPE StoreEasy Storage, as well as help migrate data, improve capacity utilization, and establish information management standards used across backup, replication, and archiving needs.

HPE StoreEasy 1000 Storage Installation and Startup Service

Expert system installation and setup by a Hewlett Packard Enterprise technical specialist designed to reduce implementation time and cost, with your basic questions about the service answered during the included orientation session.
https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=4AA2-6112ENW

HPE Storage Data Migration Services

End-to-end data migration service providing seamless discovery, assessment, planning, and design, completely customizable to your organization's storage area network or network attached storage environment and using innovative software to help you migrate to Hewlett Packard Enterprise storage quickly and efficiently.
https://h20195.www2.hpe.com/V2/GetPDF.aspx/4AA5-3759ENW.pdf

HPE Service Credits

Offer flexible services and technical skills to meet your IT demands as your business evolves. With a menu of services, you can access additional resources and specialist skills to help you maintain peak performance of your IT. HPE Service Credits help you proactively respond to your dynamic IT and business needs.

Free up resources with Operational Services from HPE Pointnext Services

Choose from the recommended services for customers purchasing from Hewlett Packard Enterprise or an authorized reseller are quoted using Hewlett Packard Enterprise order configuration tools.

HPE Proactive Care Support Service

HPE Proactive Care gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice. This service includes available response times of next business day, 4 hour response or 6 hour to repair with answers to software questions within two hours. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers.
http://www.hpe.com/services/proactivecare

HPE Proactive Care

Gives customers an enhanced call experience. When your products are connected to HPE, Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice.

HPE Proactive Care is available in 3, 4 and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR). This Service combines both reactive support when there is a problem with an enhanced call experience and start to finish case management with proactive reporting and advice. This service also includes collaborative software support for Independent Software Vendors (ISVs), (Red Hat, VMWare, Microsoft, etc.).
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf

HPE Proactive Care Advanced

incorporates all the deliverables of HPE Proactive Care plus includes personalized support from a local, assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to help increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging and parts dispatch. For business critical incidents, Proactive Care Advanced offers critical event management to help reduce mean time to resolution. HPE Service Credits are included to redeem for technical and operational services. HPE Proactive Care Advanced is offered in 3, 4, and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR).
https://www.hpe.com/h20195/v2/getdocument.aspx?docname=4AA5-3259ENW

Service and Support

Notes: HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to HPE to help make the most of these services and receive all the deliverables.

HPE Foundation Care – (choose the response level that meets your needs)
HPE Foundation Care helps when there is a problem and is available in 3, 4, and 5 year terms with a choice of response levels: Next Business day (NBD), 24x7 with a 4 hour response, and 24x7 with 6 hour call to repair (CTR). Note that Call-To-Repair Service connects you to HPE 24 hours a day, seven days a week for assistance on resolving issues -this includes our highest level commitment to repair hardware within six hours after opening your case and respond to software questions within two hours. In addition, Collaborative software support is included and provides troubleshooting assistance on industry leading software running on your server. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.
https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en

HPE Datacenter Care
Helps customers to address the pressing needs of IT today and smoothly transform to a more agile cloud-like IT operations model. We help run and monitor your IT by offloading the day to day routine tasks, helping customers be more predictive and proactive, and saving time with one place to call with for all of their IT. Datacenter Care is available as both tailored statement of work and as a packaged service for 3, 4, and 5 year terms.

Partner with an assigned account team backed by local and global experts, access HPE enhanced call experience with priority access, use specialized support for complex, technologies, choose hardware and software support for your devices, implement proactive monitoring to stay ahead of issues , and access HPE IT best practices and IP. HPE Datacenter Care advantage options are available to add to your agreement to give you specialized expertise for performance, security, back up analysis, and much more.

Other related services from HPE Pointnext Services

Defective Media Retention is an option available with HPE Datacenter Care, HPE Proactive Care, Proactive Care Advanced, and HPE Foundation Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

HPE Education Services
Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment. **http://www.hpe.com/ww/learn**

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and support options.

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Service and Support

HPE Support Center

The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers.

Learn more **http://www.hpe.com/support/hpesc**
The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Support Center is available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.

Notes: *HPE Support Center Mobile App is subject to local availability

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For more information

http://www.hpe.com/services
https://www.hpe.com/us/en/services/operational.html
To learn more about HPE Storage Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. HPE Pointnext operational services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:
Contact information for a representative in your area can be found at "Contact HPE"
https://www.hpe.com/us/en/contact-hpe.html

- Services for customers purchasing from Hewlett Packard Enterprise or an enterprise reseller are quoted using Hewlett Packard Enterprise order configuration tools.
- Customers purchasing from a commercial reseller can find HPE Pointnext operational services at **http://ssc.hpe.com/portal/site/ssc/**

Configuration Information

HPE StoreEasy 1460 Storage

Common Specifications (all HPE StoreEasy 1460 Storage models)	
Operating System	Microsoft® Windows Storage Server 2016, Standard Edition with HPE StoreEasy Management Console
Memory installed	8GB
Storage Controller	HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller
Internal Drive Support	4 x LFF (3.5") hot-plug front drive bays standard
Network Ports Standard	4 x 1GbE
Expansion Slots	2x PCIe; optional secondary riser with one additional PCIe slot
Power	1 x 500W Platinum standard; optional 2nd redundant power supply
Cooling	5 hot-plug redundant fans (single processor), 7 hot-plug redundant fans (dual processors)
Form Factor	1U rackmount
Additional Licenses	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features **Notes:** For more information, visit: **iLO Supported Servers and Features**

Q2R92B, Q2R93B, and Q2R94B	
Processor	1 x Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 8GB Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Network Adapter	HPE Ethernet 1Gb 4-port 366FLR FlexLOM Adapter; optional PCIe NIC
Security	1U Lockable Security Bezel; Trusted Platform Module 2.0 optional

Q2R92A, Q2R93A, and Q2R94A	
Processor	1 x Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 8GB Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Network Adapter	Embedded; optional FlexLOM adapter or PCIe NICs
Security	1U Lockable Security Bezel and Trusted Platform Module 2.0

Notes: Options listed in the steps below are limited to those recommended for use with the StoreEasy 1460.
For a complete set of options and information, please reference the ProLiant DL360 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw

Configuration Information

Step 1: Choose your HPE StoreEasy 1460 Storage model

All HPE StoreEasy 1460 SKUs are pre-configured Build-to-Order (BTO) models with the operating system pre-installed on a 150GB RAID10 partition across the four factory-installed data drives. All models can be factory-racked, but all options in the configuration steps below are not factory integrated and are shipped separately.

Notes: All model names are based on raw storage capacity, not available user storage.

Description	SKU
HPE StoreEasy 1460 8TB SATA Storage	Q2R92B
Notes: (4 x 2TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1460 16TB SATA Storage	Q2R93B
Notes: (4 x 4TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1460 32TB SATA Storage	Q2R94B
Notes: (4 x 8TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1460 8TB SATA Storage	Q2R92A
Notes: (4 x 2TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1460 16TB SATA Storage	Q2R93A
Notes: (4 x 4TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1460 32TB SATA Storage	Q2R94A
Notes: (4 x 8TB SATA 6G Midline 7.2K LFF HDDs)	

Step 2: Choose a second processor (optional)

Q2R92B, Q2R93B, and Q2R94B only

Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor Kit for HPE ProLiant DL360 Gen10	P02565-B21

Q2R92A, Q2R93A, and Q2R94A only

Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit for HPE ProLiant DL360 Gen10	860649-B21

Step 3: Choose additional memory kit(s) (optional)

Q2R92B, Q2R93B, and Q2R94B only

HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-K21

Q2R92A, Q2R93A, and Q2R94A only

HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-K21

Notes:

- There are 12 DIMM slots per processor for a total maximum of 24 DIMM slots. All HPE StoreEasy 1460 models come with one processor and one 8GB DIMM standard.
- Dual-processor HPE StoreEasy 1460 systems must have the same number and type of memory DIMMs installed for each processor.

Step 4: Choose a riser kit to add a PCIe slot (optional)

HPE DL360 Gen10 Low Profile Riser Kit	867982-B21

Notes: Expands the number of available PCIe slots from 2 to 3 and also requires addition of a second processor.

Configuration Information

Step 5: Choose an external storage controller to connect to external enclosures (optional)

Description	SKU
HPE Smart Array SAS Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: If you wish to enable Data at Rest Encryption on the HPE StoreEasy 1460 using the included Smart Array P408i-a or with an optional Smart Array P408e-p listed above, you must order the optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE).

HPE Special Reminder

Before enabling encryption on the Smart Array controller module on this system, you must ensure that your intended use of the encryption complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

For any compliance issues arising from your operation/usage of encryption within the Smart Array controller module which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. Hewlett Packard Enterprise will not be responsible for any related liabilities.

For more information see the **HPE Smart Array SR Secure Encryption QuickSpecs**.

Step 6: Choose additional network adapter(s) (optional)

Notes: SFP and SFP+ Adapters do not include a transceiver by default.
SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

PCIe Network Adapters	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE StoreEasy 10GbE 2-port 530T Adapter	Q2P91A
HPE StoreEasy 10GbE 2-port 530SFP+ Adapter	Q2P92A
FlexLOM Network Adapters (Q2R92A, Q2R93A, and Q2R94A only)	
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter	727054-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21

Notes: FlexibleLOM Adapters provide flexibility in meeting networking needs now and adapt to any future requirements without using a standard PCIe slot. Q2R92B, Q2R93B, and Q2R94B ship standard with the 1Gb 4-port 366FLR Adapter while Q2R92A, Q2R93A, and Q2R94A can accommodate one FlexibleLOM adapter.
For more adapter options and information, please go to the ProLiant DL360 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw

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Configuration Information

Step 7: Choose the HPE Trusted Platform Module (optional for Q2R92B, Q2R93B, and Q2R94B only)

Description	SKU
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

Notes:

- Q2R92A, Q2R93A, and Q2R94A include the HPE Trusted Platform Module 2.0 as standard.
- HPE StoreEasy systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Step 8: Choose second power supply (optional)

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21

Step 9: Choose the System Recovery Media Kit (optional)

HPE StoreEasy 1X60 Recovery Software Media Kit	Q2P95B

Notes:

- The HPE StoreEasy 1X60 Recovery Software Media Kit contains a System Recovery USB key that is used to re-install the factory operating system image. Booting the system from the System Recovery media will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the HPE StoreEasy 1X60 Administrator Guide for more information on performing a System Recovery.
- Alternatively, the HPE StoreEasy 1X60 Recovery Software image can be downloaded from the HPE's Software Depot at no charge. The Recovery Software is available here: **https://h20392.www2.hpe.com/portal/swdepot/displayProductsList.do?category=NAS**
- For more information on how to perform a system recovery on a HPE StoreEasy 1460 refer to the HPE StoreEasy 1X60 Administrator's Guide. The guide can be downloaded from **http://www.hpe.com/support** . Select HPE Support Center and search for the HPE StoreEasy system model in the drivers and download section.
- All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Configuration Information

HPE StoreEasy 1560 Storage

Common Specifications (all HPE StoreEasy 1560 Storage models)	
Operating System	Microsoft® Windows Storage Server 2016, Standard Edition with HPE StoreEasy Management Console
Memory installed	8GB
Storage Controller	HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller
Internal Drive Support	4 x LFF (3.5") hot-plug drive bays standard 4 x LFF second drive cage (optional)
Network Ports Standard	2 x 1GbE
Network Adapter	Embedded; optional PCIe NICs
Expansion Slots	5x PCIe (one slot occupied by Smart Array P408i-p controller)
Power	1 x 500W Platinum standard; optional 2nd redundant power supply
Cooling	2 non hot-plug redundant fans
Form Factor	4.5U tower
Additional Licenses	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features **Notes:** For more information, visit: **iLO Supported Servers and Features**

Q2R96B and Q2R97B	
Processor	1 x Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor
Memory Type	1 x HPE 8GB Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Security	Lockable Security Bezel; Trusted Platform Module 2.0 optional

Q2R96A and Q2R97A	
Processor	1 x Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor
Memory Type	1 x HPE 8GB Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory)
Security	Lockable Security Bezel and Trusted Platform Module 2.0

Notes: Options listed in the steps below are limited to those recommended for use with the StoreEasy 1560.
For a complete set of options and information, please reference the ProLiant ML110 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00021851enw

Configuration Information

Step 1: Choose your HPE StoreEasy 1560 Storage model

All HPE StoreEasy 1560 SKUs are pre-configured Build-to-Order (BTO) models with the operating system pre-installed on a 150GB RAID10 partition across the four factory-installed data drives. All options in the configuration steps below are not factory integrated and are shipped separately.

Notes: All model names are based on raw storage capacity, not available user storage.

Description	SKU
HPE StoreEasy 1560 8TB SATA Storage	Q2R96B
Notes: (4 x 2TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1560 16TB SATA Storage	Q2R97B
Notes: (4 x 4TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1560 8TB SATA Storage	Q2R96A
Notes: (4 x 2TB SATA 6G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1560 16TB SATA Storage	Q2R97A
Notes: (4 x 4TB SATA 6G Midline 7.2K LFF HDDs)	

Step 2: Choose additional memory kit(s) (optional)

Q2R96B and Q2R97B only

HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-K21

Q2R96A and Q2R97A only

HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815097-K21

Notes: There are 6 DIMM slots available on the HPE StoreEasy 1560. All HPE StoreEasy 1560 models come with one processor and one 8GB DIMM standard.

Step 3: Choose a second drive cage (optional)

HPE ML110 Gen10 4LFF Drive Backplane Cage Kit	869491-B21

Notes: Adding the 2nd LFF drive cage requires adding the 2nd power supply (865408-B21).

Step 4: Choose drives for the second drive cage (optional)

HPE single drive options

HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861686-K21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861681-K21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861683-K21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e HDD	861742-K21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834028-K21
HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881787-K21

Notes: As a best practice, HPE recommends ordering and installing 4 LFF drives for the 2nd drive cage that match the same capacity and type already installed in the first drive cage.

For more drive options and information, please refer to the ML110 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00021851enw

Configuration Information

Step 5: Choose an external storage controller to connect to external enclosures (optional)

Description	SKU
HPE Smart Array SAS Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: If you wish to enable Data at Rest Encryption on the HPE StoreEasy 1560 using the included Smart Array P408i-p or with an optional Smart Array P408e-p listed above, you must order the optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE).

HPE Special Reminder

Before enabling encryption on the Smart Array controller module on this system, you must ensure that your intended use of the encryption complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

For any compliance issues arising from your operation/usage of encryption within the Smart Array controller module which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. Hewlett Packard Enterprise will not be responsible for any related liabilities.

For more information see the **HPE Smart Array SR Secure Encryption QuickSpecs**.

Step 6: Choose additional network adapter(s) (optional)

Notes: SFP and SFP+ Adapters do not include a transceiver by default.
SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

PCIe Network Adapters	
HPE StoreEasy 10GbE 2-port 530T Adapter	Q2P91A
HPE StoreEasy 10GbE 2-port 530SFP+ Adapter	Q2P92A

For more adapters and information, please refer to the ML110 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00021851enw

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Configuration Information

Step 7: Choose the HPE Trusted Platform Module (optional for Q2R96B and Q2R97B only)

Description	SKU
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

Notes:

- Q2R96A and Q2R97A include the HPE Trusted Platform Module 2.0 as standard.
- HPE StoreEasy systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Step 8: Choose a second power supply (optional)

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21

Step 9: Choose the System Recovery Media Kit (optional)

HPE StoreEasy 1X60 Recovery Software Media Kit	Q2P95B

Notes:

- The HPE StoreEasy 1X60 Recovery Software Media Kit contains a System Recovery USB key that is used to re-install the factory operating system image. Booting the system from the System Recovery media will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the HPE StoreEasy 1X60 Administrator Guide for more information on performing a System Recovery.
- Alternatively, the HPE StoreEasy 1X60 Recovery Software image can be downloaded from the HPE's Software Depot at no charge. The Recovery Software is available here: **https://h20392.www2.hpe.com/portal/swdepot/displayProductsList.do?category=NAS**
- For more information on how to perform a system recovery on a HPE StoreEasy 1560 refer to the HPE StoreEasy 1X60 Administrator's Guide. The guide can be downloaded from **http://www.hpe.com/support** . Select HPE Support Center and search for the HPE StoreEasy system model in the drivers and download section.
- All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Configuration Information

HPE StoreEasy 1660 Storage

Common Specifications (all HPE StoreEasy 1660 Storage models)	
Operating System	Microsoft® Windows Storage Server 2016, Standard Edition with HPE StoreEasy Management Console
Memory Installed	16GB
Storage Controllers	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller (for data drives) HPE Smart Array S100i SR Gen10 SW RAID (for mirrored OS drives only)
Internal Drive Support	12 x LFF (3.5") hot-plug front drive bays standard 4 x LFF hot-plug mid-chassis drive cage (optional)
Network Ports Standard	4 x 1GbE
Power	2 x 800W Platinum hot-plug redundant
Cooling	6 hot-plug, high-performance redundant fans
Form Factor	2U rackmount
Additional Licenses	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features **Notes:** For more information, visit: **iLO Supported Servers and Features**

Q2P71B (Performance model)	
Processor	1 x Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Network Adapter	HPE Ethernet 1Gb 4-port 366FLR FlexLOM Adapter; optional PCIe NICs
Expansion Slots	3 x PCIe; optional 3-slot secondary riser
Security	2U Lockable Security Bezel; Trusted Platform Module 2.0 optional

Q2P72B, Q2P73B, Q2P74B, and Q2P75B	
Processor	1 x Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Network Adapter	HPE Ethernet 1Gb 4-port 366FLR FlexLOM Adapter; optional PCIe NICs
Expansion Slots	3 x PCIe; optional 3-slot secondary riser
Security	2U Lockable Security Bezel; Trusted Platform Module 2.0 optional

Q2P71A (Performance model)	
Processor	1 x Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Network Adapter	Embedded; optional FlexLOM adapter or PCIe NICs
Expansion Slots	3 x PCIe (two available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by M.2 kit used for boot drives
Security	2U Lockable Security Bezel and Trusted Platform Module 2.0

Q2P72A, Q2P73A, Q2P74A, and Q2P75A	
Processor	1 x Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Network Adapter	Embedded; optional FlexLOM adapter or PCIe NICs
Expansion Slots	3 x PCIe (two available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by M.2 kit used for boot drives
Security	2U Lockable Security Bezel and Trusted Platform Module 2.0

Notes: Options listed in the steps below are limited to those recommended for use with the StoreEasy 1660.
For a complete set of options and information, please reference the ProLiant DL380 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

Configuration Information

Step 1: Choose your HPE StoreEasy 1660 Storage model

Fixed configuration models

These HPE StoreEasy 1660 SKUs are pre-configured Build-to-Order (BTO) models with the operating system pre-installed on mirrored solid state drives and include eight data drives factory-installed in front slots (leaving four open front LFF slots for expansion). These models can be factory-racked, but all options in the configuration steps below (including additional data drives) are not factory integrated and are shipped separately.

Notes:

- All model names are based on raw storage capacity, not available user storage.
- When adding drives to the any open LFF slots for the models below, Hewlett Packard Enterprise recommends as a best practice to use all internal data drives of the same type and capacity.

Description	SKU
HPE StoreEasy 1660 16TB SAS Storage	Q2P73B
Notes: (8 x 2TB SAS 12G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1660 32TB SAS Storage	Q2P74B
Notes: (8 x 4TB SAS 12G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1660 64TB SAS Storage	Q2P75B
Notes: (8 x 8TB SAS 12G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1660 16TB SAS Storage	Q2P73A
Notes: (8 x 2TB SAS 12G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1660 32TB SAS Storage	Q2P74A
Notes: (8 x 4TB SAS 12G Midline 7.2K LFF HDDs)	
HPE StoreEasy 1660 64TB SAS Storage	Q2P75A
Notes: (8 x 8TB SAS 12G Midline 7.2K LFF HDDs)	

Configurable models

These HPE StoreEasy 1660 SKUs are Configure-to-Order (CTO) models with the operating system pre-installed on mirrored solid state drives and do not include data drives standard. These models can be factory-racked, and most added options (including data drives) can be factory integrated.

Notes: Hewlett Packard Enterprise recommends as a best practice that the internal data drives for the CTO models be the same type and capacity.

HPE StoreEasy 1660 Performance Storage	Q2P71B
HPE StoreEasy 1660 Storage	Q2P72B
Notes: For Q2P71B and Q2P72B, the operating system is mirrored on two SFF (2.5") solid state drives in a rear drive cage, leaving all three standard PCIe slots available for expansion.	
HPE StoreEasy 1660 Performance Storage	Q2P71A
HPE StoreEasy 1660 Storage	Q2P72A
Notes: For Q2P71A and Q2P72A, the operating system is mirrored on two M.2 solid state drives in a rear PCIe slot, leaving two PCIe slots available for expansion.	

Step 2: Choose a second processor (optional)

Q2P71B only

Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	P02491-B21

Q2P72B, Q2P73B, Q2P74B, and Q2P75B only

Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	P02489-B21

Configuration Information

Q2P71A only

Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor Kit for HPE ProLiant DL380 Gen10 873647-B21

Q2P72A, Q2P73A, Q2P74A, and Q2P75A only

Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit for HPE ProLiant DL380 Gen10 873641-B21

Step 3: Choose additional memory kit(s) (optional)

Description	SKU
Q2P71B, Q2P72B, Q2P73B, Q2P74B, and Q2P75B only	
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-K21
Q2P71A, Q2P72A, Q2P73A, Q2P74A, and Q2P75A only	
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-K21

Notes: There are 12 DIMM slots per processor for a total maximum of 24 DIMM slots. All HPE StoreEasy 1660 models come with one processor and one 16GB DIMM standard.

Step 4: Choose a riser kit to add PCIe slots (optional)

HPE DL Gen10 x8/x16/x8 Riser Kit 870548-B21

Notes: Adds three PCIe slots and also requires addition of a second processor.

Step 5: Choose a drive cage to add LFF slots (optional)

HPE StoreEasy 1660 4LFF Midplane Drive Cage Q2P93A

Notes: Expands the total number of Large Form Factor (3.5") drive slots from 12 to 16.

Step 6: Choose internal storage drives (optional)

Drive Options

Maximum number of internal LFF drives supported

- 12 (in standard configuration)
- 16 (with optional mid-chassis 4LFF drive cage in step 5)

HPE StoreEasy 1660 LFF Drive Bundles

Midline / Business Critical - 12G SAS

HPE StoreEasy 8TB SAS LFF (3.5in) Smart Carrier 4-pack HDD Bundle Q2P80A

Notes: Contains 4 x HPE 2TB SAS 12G 7.2K LFF HDDs (reference SKU 872485-K21)

HPE StoreEasy 16TB SAS LFF (3.5in) Smart Carrier 4-pack HDD Bundle Q2P81A

Notes: Contains 4 x HPE 4TB SAS 12G 7.2K LFF HDDs (reference SKU 861756-K21)

HPE StoreEasy 24TB SAS LFF (3.5in) Smart Carrier 4-pack HDD Bundle Q2P82A

Notes: Contains 4 x HPE 6TB SAS 12G 7.2K LFF HDDs (reference SKU 861754-K21)

HPE StoreEasy 32TB SAS LFF (3.5in) Smart Carrier 4-pack HDD Bundle N9Y12A

Notes: Contains 4 x HPE 8TB 12G SAS 7.2K LFF HDDs (reference SKU 861590-K21)

HPE StoreEasy 40TB SAS LFF (3.5in) Smart Carrier 4-pack HDD Bundle Q0F60A

Notes: Contains 4 x HPE 10TB 12G SAS 7.2K LFF HDDs (reference SKU 857644-K21)

Configuration Information

Description	SKU
SmartCache Kit	
HPE StoreEasy 1.6TB LFF (3.5in) Smart Carrier Converter SmartCache Kit	Q2P86A
Notes: Contains 2 x HPE 800GB SAS 12G Mixed Use LFF SSDs (reference SKU 872378-K21). For use with the SmartCache feature included with the HPE Smart Array P816i-a SR Gen10 Storage Controller which adds a Flash Acceleration data tier to the HPE StoreEasy 1660. For more detailed information about HPE SmartCache go to: **https://www.hpe.com/us/en/product-catalog/detail/pip.5364342.html**	
HDDs	
Midline / Business Critical - 12G SAS	
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872485-K21
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872487-K21
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861754-K21
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819201-K21
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857644-K21
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	881779-K21
HPE 14TB SAS 12G Business Critical 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD	P09153-K21
HPE 16TB SAS 12G Business Critical 7.2K LFF (3.5in) SC 1yr Wty 512e ISE HDD	P23863-K21
Midline / Business Critical - 6G SATA	
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty HDD	861691-K21
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872489-K21
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872491-K21
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e HDD	861750-K21
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819203-K21
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857648-K21
HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	881785-K21
HPE 14TB SATA 6G Business Critical 7.2K LFF (3.5in) SC 1yr Wty Helium 512e HDD	P09163-K21
HPE 16TB SATA 6G Business Critical 7.2K LFF (3.5in) SC 1yr Wty 512e ISE HDD	P23857-K21
SSDs	
Mixed Use - 12G SAS	
HPE 800GB SAS 12G Mixed Use LFF SCC PM5 SSD	P04529-K21
Mixed Use - 6G SATA	
HPE 480GB SATA 6G Mixed Use LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware SSD	P07924-K21
HPE 960GB SATA 6G Mixed Use LFF SCC SM883 SSD	P09718-K21
HPE 1.92TB SATA 6G Mixed Use LFF SCC SM883 SSD	P09724-K21
Read Intensive - 6G SATA	
HPE 960GB SATA 6G Read Intensive LFF SCC PM883 SSD	P09689-K21
HPE 1.92TB SATA 6G Read Intensive LFF SCC PM883 SSD	P09693-K21
Notes: The recommended maximum number of SSDs for the HPE StoreEasy 1660 is 8; however, there is nothing architecturally that prevents the use of more than 8 SSDs.	

For more drive options and information, please refer to the DL380 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

Configuration Information

Step 7: Choose an external storage controller to connect to external enclosures (optional)

Description	SKU
HPE Smart Array SAS Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: If you wish to enable Data at Rest Encryption on the HPE StoreEasy 1660 using the included Smart Array P816i-a or with an optional Smart Array P408e-p listed above, you must order the optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE).

HPE Special Reminder: Before enabling encryption on the Smart Array controller module on this system, you must ensure that your intended use of the encryption complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

For any compliance issues arising from your operation/usage of encryption within the Smart Array controller module which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. Hewlett Packard Enterprise will not be responsible for any related liabilities.

For more information see the **HPE Smart Array SR Secure Encryption QuickSpecs**.

Step 8: Choose additional network adapter(s) (optional)

Notes: SFP and SFP+ Adapters do not include a transceiver by default.
SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

PCIe Network Adapters	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
HPE StoreEasy 10GbE 2-port 530T Adapter	Q2P91A
HPE StoreEasy 10GbE 2-port 530SFP+ Adapter	Q2P92A

FlexLOM Network Adapters (Q2P71A, Q2P72A, Q2P73A, Q2P74A, and Q2P75A only)	
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter	727054-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21

Notes: FlexibleLOM Adapters provide flexibility in meeting networking needs now and adapt to any future requirements without using a standard PCIe slot. Q2P71B, Q2P72B, Q2P73B, Q2P74B, and Q2P75B ship standard with the 1Gb 4-port 366FLR Adapter while Q2P71A, Q2P72A, Q2P73A, Q2P74A, and Q2P75A can accommodate one FlexibleLOM adapter.
For more adapter options and information, please refer to the DL380 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

Configuration Information

Step 9: Choose the HPE Trusted Platform Module (optional for Q2P71B, Q2P72B, Q2P73B, Q2P74B, and Q2P75B only)

Description	SKU
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

Notes:

- Q2P71A, Q2P72A, Q2P73A, Q2P74A, and Q2P75A include the HPE Trusted Platform Module 2.0 as standard.
- HPE StoreEasy systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Step 10: Choose cable management arm (optional)

HPE 2U Cable Management Arm for Easy Install Rail Kit 733664-B21

Notes: All HPE StoreEasy 1660 models include a rail kit, but the cable management arm for that rail kit is optional and can be added separately.

Step 11: Choose the System Recovery Media Kit (optional)

HPE StoreEasy 1X60 Recovery Software Media Kit Q2P95B

Notes:

- The HPE StoreEasy 1X60 Recovery Software Media Kit contains a System Recovery USB key that is used to re-install the factory operating system image. Booting the system from the System Recovery media will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the HPE StoreEasy 1X60 Administrator Guide for more information on performing a System Recovery.
- Alternatively, the HPE StoreEasy 1X60 Recovery Software image can be downloaded from the HPE's Software Depot at no charge. The Recovery Software is available here: **https://h20392.www2.hpe.com/portal/swdepot/displayProductsList.do?category=NAS**
- For more information on how to perform a system recovery on a HPE StoreEasy 1660 refer to the HPE StoreEasy 1X60 Administrator's Guide. The guide can be downloaded from **http://www.hpe.com/support** . Select HPE Support Center and search for the HPE StoreEasy system model in the drivers and download section.
- All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Configuration Information

HPE StoreEasy 1660 Expanded Storage

Specifications	
Operating System	Microsoft® Windows Storage Server 2016, Standard Edition with HPE StoreEasy Management Console
Processor	1 x Intel® Xeon-Silver 4110 (2.1GHz/8-core/85W); 2nd processor optional
Memory Installed	32GB
Memory Type	2 x HPE 16GB Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Storage Controllers	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller (for data drives) HPE Smart Array S100i SR Gen10 SW RAID (for mirrored OS drives only)
Internal Drive Support	24 x LFF (3.5") hot-plug front drive bays standard 4 x LFF hot-plug rear drive cage standard
Network Ports Standard	2 x 1GbE
Network Adapter	Embedded; optional PCIe NICs
Expansion Slots	5 x PCIe **Notes:** One PCIe slot occupied by M.2 SSD card used for boot drives (half-height, half-length riser).
Security	2U Lockable Security Bezel; Trusted Platform Module 2.0 optional
Power	2 x 1600W Platinum hot-plug redundant **Notes:** 1600W Flex Slot Platinum power supplies must be used with high-line input (200V - 240V AC).
Cooling	10 fans
Form Factor	2U rackmount
Additional Licenses	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features **Notes:** For more information, visit: **iLO Supported Servers and Features**

Notes: Options listed in the steps below are limited to those recommended for use with the StoreEasy 1660 Expanded.
For a complete set of options and information, please reference the Apollo 4200 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00056091enw

Configuration Information

Step 1: Choose your HPE StoreEasy 1660 Expanded Storage model

The HPE StoreEasy 1660 Expanded Storage SKU is a Configure-to-Order (CTO) model with the operating system pre-installed on mirrored solid state drives and does not include data drives standard. It can be factory-racked, and most added options (including data drives) can be factory integrated.

Description	SKU
HPE StoreEasy 1660 Expanded Storage	R0R67A

Notes: Hewlett Packard Enterprise recommends as a best practice that any drives added to the 28 open LFF slots be the same type and capacity.

Step 2: Choose a second processor (optional)

Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit for HPE Apollo 4200 Gen10	P08045-B21

Step 3: Choose additional memory kit(s) (optional)

HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-K21

Notes: There are 8 DIMM slots per processor for a total maximum of 16 DIMM slots. The HPE StoreEasy 1660 Expanded comes with one processor and two 16GB DIMMs standard.

Step 4: Choose internal storage drives (optional)

Drive Options

Maximum number of internal LFF drives supported: 28

HPE StoreEasy 1660 Expanded LFF LP Drive Bundles

Midline / Business Critical - 12G SAS

HPE StoreEasy 16TB SAS LFF (3.5in) Low Profile Carrier 4-pack HDD Bundle	N9Y43A
Notes: Contains 4 x HPE 4TB SAS LFF LP HDDs (reference SKU 833929-K21)	
HPE StoreEasy 32TB SAS LFF (3.5in) Low Profile Carrier 4-pack HDD Bundle	N9Y45A
Notes: Contains 4 x HPE 8TB SAS LFF LP HDDs (reference SKU 834032-K21)	
HPE StoreEasy 40TB SAS LFF (3.5in) Low Profile 4-pack HDD Bundle	Q0F61A
Notes: Contains 4 x HPE 10TB SAS LFF LP HDDs (reference SKU P09150-K21)	
HPE 56TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 4-pack HDD Bundle	R0R66A
Notes: Contains 4 x HPE 14TB SAS LFF LP HDDs (reference SKU P09155-K21)	

Midline / Business Critical - 6G SATA

HPE StoreEasy 32TB SATA LFF (3.5in) Low Profile Carrier 4-pack HDD Bundle	N9Y46A
Notes: Contains 4 x HPE 8TB SATA LFF LP HDDs (reference SKU 834029-K21)	
HPE StoreEasy 40TB SATA LFF (3.5in) Low Profile 4-pack HDD Bundle	Q0F62A
Notes: Contains 4 x HPE 10TB SATA LFF LP HDDs (reference SKU P09162-K21)	
HPE StoreEasy 48TB SATA LFF (3.5in) Low Profile Carrier 4-pack HDD Bundle	Q2S06A
Notes: Contains 4 x HPE 12TB SATA LFF LP HDDs (reference SKU 881788-K21)	
HPE 56TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 4-pack HDD Bundle	R0R65A
Notes: Contains 4 x HPE 14TB SATA LFF LP HDDs (reference SKU P09165-K21)	

Configuration Information

Description	SKU
HPE single drive options	
HDDs	
Midline / Business Critical - 12G SAS	
HPE 14TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	P09155-K21
HPE 16TB SAS 12G Business Critical 7.2K LFF (3.5in) LP 1yr Wty 512e ISE HDD	P23608-K21
Midline / Business Critical - 6G SATA	
HPE 14TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	P09165-K21
HPE 16TB SATA 6G Business Critical 7.2K LFF (3.5in) LP 1yr Wty 512e ISE HDD	P23449-K21
SSDs	
Mixed Use - 12G SAS	
HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10452-K21
HPE 1.92TB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10458-K21
HPE 3.84TB SAS 12G Mixed Use LFF LPC Value SAS RM5 SSD	P10462-K21
Mixed Use - 6G SATA	
HPE 960GB SATA 6G Mixed Use LFF LPC 5300M SSD	P19980-K21
HPE 1.92TB SATA 6G Mixed Use LFF LPC SM883 SSD	P09726-K21
HPE 1.92TB SATA 6G Mixed Use LFF LPC 5300M SSD	P19984-K21
Read Intensive - 6G SATA	
HPE 480GB SATA 6G Read Intensive LFF LPC 5300P SSD	P19974-K21
HPE 960GB SATA 6G Read Intensive LFF LPC PM883 SSD	P09691-K21
HPE 1.92TB SATA 6G Read Intensive LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware SSD	P04501-K21
HPE 1.92TB SATA 6G Read Intensive LFF LPC 5300P SSD	P19976-K21

For more drive options and information, please refer to the Apollo 4200 Gen10 QuickSpecs: **https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00056091enw**.

Notes: Carefully select LFF low profile carrier (LP) hard disk drives and Low Profile Converter (LPC) solid state drives.

Step 5: Choose an external storage controller to connect to external enclosures (optional)

HPE Smart Array SAS Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: If you wish to enable Data at Rest Encryption on the HPE StoreEasy 1660 Expanded using the included Smart Array P816i-a or with an optional Smart Array P408e-p listed above, you must order the optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE).

HPE Special Reminder: Before enabling encryption on the Smart Array controller module on this system, you must ensure that your intended use of the encryption complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable.

For any compliance issues arising from your operation/usage of encryption within the Smart Array controller module which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. Hewlett Packard Enterprise will not be responsible for any related liabilities. For more information see the **HPE Smart Array SR Secure Encryption QuickSpecs**.

Notes: For additional details and Smart Array controller options, please see **HPE Smart Array Gen10 Controllers Data Sheet**.

Configuration Information

Step 6: Choose additional network adapter(s) (optional)

Notes: SFP and SFP+ Adapters do not include a transceiver by default.
SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

Description	SKU
PCIe Network Adapters	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE Ethernet 10Gb 2-port SFP+ 57810S Adapter	652503-B21
HPE Ethernet 10Gb 2-port BASE-T 57810S Adapter	656596-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21
HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter	817718-B21
HPE Ethernet 10/25Gb 2-port SFP28 CX4121B Adapter	817753-B21
HPE Ethernet 10/25Gb 2-port SFP28 QL41401-A2G Adapter	867328-B21
HPE Ethernet 100Gb 1-port QSFP28 CX556A Adapter	874253-B21

Notes: If more than one PCIe card is added, a second processor is required to provide access to the remaining PCIe slots.

Step 7: Choose the HPE Trusted Platform Module (optional)

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

Notes: HPE StoreEasy systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Step 8: Choose cable management arm (optional)

HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21

Notes: The HPE StoreEasy 1660 Expanded includes a rail kit, but the cable management arm for that rail kit is optional and can be added separately.

Step 9: Choose the System Recovery Media Kit (optional)

HPE StoreEasy 1X60 Recovery Software Media Kit	Q2P95B

Notes:

- The HPE StoreEasy 1X60 Recovery Software Media Kit contains a System Recovery USB key that is used to re-install the factory operating system image. Booting the system from the System Recovery media will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the HPE StoreEasy 1X60 Administrator Guide for more information on performing a System Recovery.
- Alternatively, the HPE StoreEasy 1X60 Recovery Software image can be downloaded from the HPE's Software Depot at no charge. The Recovery Software is available here:
  https://h20392.www2.hpe.com/portal/swdepot/displayProductsList.do?category=NAS
- For more information on how to perform a system recovery on a StoreEasy 1660 Expanded refer to the HPE StoreEasy 1X60 Administrator's Guide. The guide can be downloaded from **http://www.hpe.com/support** . Select HPE Support Center and search for the HPE StoreEasy system model in the drivers and download section.
- All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Configuration Information

HPE StoreEasy 1860 Storage

Common Specifications (all HPE StoreEasy 1860 Storage models)	
Operating System	Microsoft® Windows Storage Server 2016, Standard Edition with HPE StoreEasy Management Console
Memory Installed	16GB
Storage Controllers	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller (for data drives) HPE Smart Array S100i SR Gen10 SW RAID (for mirrored OS drives only)
Internal Drive Support	24 x SFF (2.5") hot-plug front drive bays standard
Power	2 x 800W Platinum hot-plug redundant
Cooling	6 hot-plug, high-performance redundant fans
Form Factor	2U rackmount
Additional Licenses	HPE iLO Advanced Premium Security Edition License with 1yr Support on Licensed Features **Notes:** For more information, visit: **iLO Supported Servers and Features**

Q2P76B (Performance model)	
Processor	1 x Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Internal Drive Support	2 x SFF hot-plug rear-chassis drive cage (optional)
Network Ports Standard	4 x 1GbE
Network Adapter	HPE Ethernet 1Gb 4-port 366FLR FlexLOM Adapter; optional PCIe NICs
Expansion Slots	3 x PCIe (two available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by a SAS Expander
Security	2U Lockable Security Bezel; Trusted Platform Module 2.0 optional

Q2P77B, Q2P78B, and Q2P79B	
Processor	1 x Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory
Internal Drive Support	2 x SFF hot-plug rear-chassis drive cage (optional)
Network Ports Standard	4 x 1GbE
Network Adapter	HPE Ethernet 1Gb 4-port 366FLR FlexLOM Adapter; optional PCIe NICs
Expansion Slots	3 x PCIe (two available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by a SAS Expander
Security	2U Lockable Security Bezel; Trusted Platform Module 2.0 optional

Configuration Information

Q2P76A (Performance model)	
Processor	1 x Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Internal Drive Support	4 x SFF hot-plug rear-chassis drive cage (optional)
Network Ports Standard	4 x 1GbE + 2 x 10GbE
Network Adapter	HPE Ethernet 10Gb 2-port 562FLR-T FlexLOM Adapter; optional PCIe NICs
Expansion Slots	3 x PCIe (one available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by M.2 kit used for boot drives and one PCIe slot is occupied by a SAS Expander
Security	2U Lockable Security Bezel and Trusted Platform Module 2.0

Q2P77A, Q2P78A, and Q2P79A	
Processor	1 x Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor; 2nd processor optional
Memory Type	1 x HPE 16GB Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory
Internal Drive Support	4 x SFF hot-plug rear-chassis drive cage (optional)
Network Ports Standard	4 x 1GbE
Network Adapter	Embedded; optional FlexLOM adapter or PCIe NICs
Expansion Slots	3 x PCIe (one available); optional 3-slot secondary riser **Notes:** One PCIe slot is occupied by M.2 kit used for boot drives and one PCIe slot is occupied by a SAS Expander
Security	2U Lockable Security Bezel and Trusted Platform Module 2.0

Notes: Options listed in the steps below are limited to those recommended for use with the StoreEasy 1860.
For a complete set of options and information, please reference the ProLiant DL380 Gen10 QuickSpecs at:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

Configuration Information

Step 1: Choose your HPE StoreEasy 1860 Storage model

Fixed configuration models

These HPE StoreEasy 1860 SKUs are pre-configured Build-to-Order (BTO) models with the operating system pre-installed on mirrored solid state drives and include eight data drives factory-installed in front slots (leaving 16 open front SFF slots for expansion). These models can be factory-racked, but all options in the configuration steps below (including additional data drives) are not factory integrated and are shipped separately.

Notes:

- All model names are based on raw storage capacity, not available user storage.
- When adding drives to the any of the 16 open SFF slots for the models above, Hewlett Packard Enterprise recommends as a best practice to use all internal data drives of the same type and capacity.

Description	SKU
HPE StoreEasy 1860 9.6TB SAS Storage	Q2P78B
Notes: (8 x 1.2TB SAS 12G Enterprise 10K SFF HDDs)	
HPE StoreEasy 1860 14.4TB SAS Storage	Q2P79B
Notes:(8 x 1.8TB SAS 12G Enterprise 10K SFF HDDs)	
HPE StoreEasy 1860 9.6TB SAS Storage	Q2P78A
Notes: (8 x 1.2TB SAS 12G Enterprise 10K SFF HDDs)	
HPE StoreEasy 1860 14.4TB SAS Storage	Q2P79A
Notes: (8 x 1.8TB SAS 12G Enterprise 10K SFF HDDs)	

Configurable models

These HPE StoreEasy 1860 SKUs are Configure-to-Order (CTO) models with the operating system pre-installed on mirrored solid state drives and do not include data drives standard. These models can be factory-racked, and most added options (including data drives) can be factory integrated.

Notes: Hewlett Packard Enterprise recommends as a best practice that the internal data drives for the CTO models be the same type and capacity.

HPE StoreEasy 1860 Performance Storage	Q2P76B
HPE StoreEasy 1860 Storage	Q2P77B
Notes: For Q2P76B and Q2P77B, the operating system is mirrored on two SFF (2.5") solid state drives in a rear drive cage, leaving two standard PCIe slots available for expansion (one PCIe slot is occupied by a SAS Expander).	
HPE StoreEasy 1860 Performance Storage	Q2P76A
HPE StoreEasy 1860 Storage	Q2P77A
Notes: For Q2P76A and Q2P77A, the operating system is mirrored on two M.2 solid state drives in a rear PCIe slot, leaving one PCIe slot available for expansion (another PCIe slot is occupied by a SAS Expander).	

Step 2: Choose a second processor (optional)

Q2P76B only	
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	P02491-B21
Q2P77B, Q2P78B, and Q2P79B only	
Intel Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	P02489-B21
Q2P76A only	
Intel Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	873647-B21
Q2P77A, Q2P78A, and Q2P79A only	
Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit for HPE ProLiant DL380 Gen10	873641-B21

Configuration Information

Step 3: Choose additional memory kit(s) (optional)

Q2P76B, Q2P77B, Q2P78B, and Q2P79B only

Description	SKU
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-K21

Q2P76A, Q2P77A, Q2P78A, and Q2P79A only

HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-K21

Notes: There are 12 DIMM slots per processor for a total maximum of 24 DIMM slots. All HPE StoreEasy 1860 models come with one processor and one 16GB DIMM standard.

Step 4: Choose a riser kit to add PCIe slots (optional)

HPE DL Gen10 x8/x16/x8 Riser Kit	870548-B21

Notes:
- Adds three PCIe slots and also requires addition of a second processor.
- If the Riser Kit is selected, optional rear HDD cages (826688-B21 or Q2P94A) cannot be selected.

Step 5: Choose a drive cage to add SFF slots (optional)

Notes: If any drive cage is selected for any HPE StoreEasy 1860 model, the optional Riser Kit (870548-B21) cannot be selected.

Q2P76B, Q2P77B, Q2P78B, and Q2P79B only

HPE DL38X Gen10 2SFF HDD SAS/SATA Riser Kit	826688-B21

Notes: Expands the number of Small Form Factor (2.5") drive slots from 24 to 26 and adds a PCIe slot.

Q2P76A, Q2P77A, Q2P78A, and Q2P79A only

HPE StoreEasy 1860 4SFF Rear Drive Cage	Q2P94A

Notes: Expands the number of Small Form Factor (2.5") drive slots from 24 to 28 and adds a PCIe slot.

Step 6: Choose internal storage drives (optional)

Drive Options

Maximum number of internal SFF drives supported

- 24 (in standard configuration)
- 26 (with optional 2xSFF drive cage in step 5—Q2P76B and Q2P77B only)
- 28 (with optional 4xSFF drive cage in step 5—Q2P76A and Q2P77A only)

HPE StoreEasy 1860 SFF Drive Bundles

Enterprise - 12G SAS

HPE StoreEasy 4.8TB SAS SFF (2.5in) Smart Carrier 4-pack HDD Bundle	Q2P84A

Notes: Contains 4 x HPE 1.2TB SAS 12G Enterprise 10K SFF HDDs (reference SKU 872479-K21)

HPE StoreEasy 7.2TB SAS SFF (2.5in) Smart Carrier 4-pack HDD Bundle	Q2P85A

Notes: Contains 4 x HPE 1.8TB SAS 12G Enterprise 10K SFF HDDs (reference SKU 872481-K21)

SmartCache Kit

HPE StoreEasy 1.6TB SFF (2.5in) Smart Carrier SmartCache Kit	Q2P87A

Notes: Contains 2 x HPE 800GB SAS 12G Mixed Use SFF SSDs (reference SKU 872376-K21). For use with the SmartCache feature included with the HPE Smart Array P816i-a SR Gen10 Storage Controller which provides a Flash Acceleration data tier to the HPE StoreEasy 1860. For more detailed information about HPE SmartCache go to:
https://www.hpe.com/us/en/product-catalog/detail/pip.5364342.html

Configuration Information

Description	SKU
HDDs	
Enterprise - 12G SAS	
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-K21
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-K21
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872477-K21
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-K21
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-K21
HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-K21
SSDs	
Write Intensive - 12G SAS	
HPE 800GB SAS 12G Write Intensive SFF SC PM5 SSD	P04543-K21
HPE 1.6TB SAS 12G Write Intensive SFF SC PM5 SSD	P04545-K21
HPE 3.2TB SAS 12G Write Intensive SFF SC PM5 SSD	P04547-K21
Mixed Use - 12G SAS	
HPE 800GB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09090-K21
HPE 1.6TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09092-K21
HPE 3.2TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09094-K21
HPE 6.4TB SAS 12G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P09096-K21
Read Intensive - 12G SAS	
HPE 960GB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06584-K21
HPE 1.92TB SAS 12G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD	P06586-K21

Notes: The recommended maximum number of SSDs for the HPE StoreEasy 1860 is 8; however, there is nothing architecturally that prevents the use of more than 8 SSDs. HPE recommends the use of SAS SSDs as the HPE StoreEasy 1860 includes a SAS expander, which may impact SATA SSD performance.

For more drive options and information, please refer to the DL380 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

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Step 7: Choose an external storage controller to connect to external enclosures (optional)

HPE Smart Array SAS Controllers	
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: If you wish to enable Data at Rest Encryption on the HPE StoreEasy 1860 using the included Smart Array P816i-a or with an optional Smart Array P408e-p listed above, you must order the optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE).

Configuration Information

HPE Special Reminder

Before enabling encryption on the Smart Array controller module on this system, you must ensure that your intended use of the encryption complies with relevant local laws, regulations and policies, and approvals or licenses must be obtained if applicable. For any compliance issues arising from your operation/usage of encryption within the Smart Array controller module which violates the above mentioned requirement, you shall bear all the liabilities wholly and solely. Hewlett Packard Enterprise will not be responsible for any related liabilities.

For more information see the **HPE Smart Array SR Secure Encryption QuickSpecs**.

Step 8: Choose additional network adapter(s) (optional)

Notes: SFP and SFP+ Adapters do not include a transceiver by default.
SFP transceiver(s) or direct connect cable(s) should be ordered according to the transceiver and cable compatibility matrix found at:
https://www.hpe.com/us/en/pdfViewer.html?resource=/content/hpe/country/us/en/resources/servers/reference-guide/transceiver-networking-server&parentPage=/us/en/products/servers/networking

Description	SKU
PCIe Network Adapters	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
HPE StoreEasy 10GbE 2-port 530T Adapter	Q2P91A
HPE StoreEasy 10GbE 2-port 530SFP+ Adapter	Q2P92A
FlexLOM Network Adapters (Q2P77A, Q2P78A, and Q2P79A only)	
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21
HPE Ethernet 10Gb 2-port FLR-SFP+ X710-DA2 Adapter	727054-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21

Notes: FlexibleLOM Adapters provide flexibility in meeting networking needs now and adapt to any future requirements without using a standard PCIe slot. Q2P76A, Q2P76B, Q2P77B, Q2P78B, and Q2P79B ship standard with a FlexibleLOM adapter already installed, while Q2P77A, Q2P78A, and Q2P79A can accommodate one FlexibleLOM adapter.
For more adapter options and information, please refer to the DL380 Gen10 QuickSpecs:
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00008180enw

Step 9: Choose the HPE Trusted Platform Module (optional for Q2P76B, Q2P77B, Q2P78B, and Q2P79B only)

HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

Notes:
- Q2P76A, Q2P77A, Q2P78A, and Q2P79A include the HPE Trusted Platform Module 2.0 as standard.
- HPE StoreEasy systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

Step 10: Choose cable management arm (optional)

HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21

Notes: HPE StoreEasy 1860 models include a rail kit, but the cable management arm for that rail kit is optional and can be added separately.

Configuration Information

Step 11: Choose optional System Recovery option

Description	SKU
HPE StoreEasy 1X60 Recovery Software Media Kit	Q2P95B

Notes:

- The HPE StoreEasy 1X60 Recovery Software Media Kit contains a System Recovery USB key that is used to re-install the factory operating system image. Booting the system from the System Recovery media will restore the operating system image and logical drive to the factory default state. This enables recovery of the system if all other means to boot the system fail. Refer to the HPE StoreEasy 1X60 Administrator Guide for more information on performing a System Recovery.
- Alternatively, the HPE StoreEasy 1X60 Recovery Software image can be downloaded from the HPE's Software Depot at no charge. The Recovery Software is available here: **https://h20392.www2.hpe.com/portal/swdepot/displayProductsList.do?category=NAS**
- For more information on how to perform a system recovery on a HPE StoreEasy 1860 refer to the HPE StoreEasy 1X60 Administrator's Guide. The guide can be downloaded from **http://www.hpe.com/support** . Select HPE Support Center and search for the HPE StoreEasy system model in the drivers and download section.
- All data on the original operating system logical drive is erased during the System Recovery process. Back up any data on the operating system drives before performing the System Recovery if possible. While the System Recovery process makes every attempt to preserve the existing data volumes, you should have a backup of your data before recovering the system.

Technical Specifications

Processors

HPE StoreEasy 1460	HPE StoreEasy 1560	HPE StoreEasy 1660	HPE StoreEasy 1660 Expanded	HPE StoreEasy 1860
Q2R92B, 93B, 94B, 96B, 97B only Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor **Q2R92A, 93A, 94A, 96A, 97A only** Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor		**Q2P72B, 73B, 74B, 75B only** Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor **Q2P72A, 73A, 74A, 75A only** Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor	Intel® Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor	**Q2P77B, 78B, 79B only** Intel® Xeon-Bronze 3204 (1.9GHz/6-core/85W) Processor **Q2P77A, 78A, 79A only** Intel® Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor
		Q2P71B only Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor **Q2P71A only** Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor		**Q2P76B only** Intel® Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor **Q2P76A only** Intel® Xeon-Silver 4112 (2.6GHz/4-core/85W) Processor

Memory

	HPE StoreEasy 1460	HPE StoreEasy 1560	HPE StoreEasy 1660	HPE StoreEasy 1660 Expanded	HPE StoreEasy 1860
Type	**'B' Models with Xeon-Bronze 3204 or Xeon-Silver 4208 processor:** DDR4-2933 CAS-21-21-21 Registered (RDIMM) **'A' Models with Xeon-Bronze 3104 or Xeon-Silver 411x processor:** DDR4-2666 CAS-19-19-19 Registered (RDIMM)				
Standard	8GB (1 x 8GB)	8GB (1 x 8GB)	16GB (1 x 16GB)	32GB (2 x 16GB)	16GB (1 x 16GB)
DIMM Sockets	24	6	24	16	24
Maximum	24TB (Limit based on operating system license)				

Technical Specifications

Networking

	HPE StoreEasy 1460	HPE StoreEasy 1560	HPE StoreEasy 1660	HPE StoreEasy 1660 Expanded	HPE StoreEasy 1860
NIC Ports	4	2	4	2	4 6 **(Q2R76A only)**
Controller	**Q2R92B, 93B, 94B only** 1Gb Ethernet 4-port 366FLR FlexLOM **Q2R92A, 93A, 94A only** 1Gb Ethernet 4-port embedded	1Gb Ethernet 2-port	**Q2R71B, 72B, 73B, 74B, 75B only** 1Gb Ethernet 4-port 366FLR FlexLOM **Q2R71A, 72A, 73A, 74A, 75A only** 1Gb Ethernet 4-port embedded	1Gb Ethernet 2-port	**Q2R76B, 77B, 78B, 79B only** 1Gb Ethernet 4-port 366FLR FlexLOM **Q2R76A only** 10Gb Ethernet 2-port 562FLR-T FlexLOM + 1Gb Ethernet 4-port embedded **Q2R77A, 78A, 79A only** 1Gb Ethernet 4-port embedded

HPE StoreEasy 1460

Primary PCIe Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	X16	X16	Full-height, 3/4-lengthn (up to 9.5in) slot	Proc 1
2	PCIe 3.0	X8	X8	Low-Profile slot	Proc 1

HPE StoreEasy 1460 - Secondary PCIe Riser (optional)

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
3	PCIe 3.0	X16	X16	Low Profile or Full-height; 3/4 length (up to 9.5")	Proc 2

Technical Specifications

HPE StoreEasy 1560

PCIe slots

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	X16	X16	Full-height, ¾ length (up to 9.5") Slot	Proc 1
2	PCIe 3.0	X4	X8	Full-height, half-length slot	Proc 1
3	PCIe 3.0	x8	x8	Full-height, half-length slot	Proc 1 (occupied by Smart Array P408i-p Controller)
4	PCIe 3.0	X16	X16	Full-height, full-length slot	Proc 1
5	PCIe 3.0	X4	x8	Full-height, half-length slot	PCH

HPE StoreEasy 1660/1860

Primary PCIe Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	x8	X8	Full-height, full-length slot	Proc 1
2	PCIe 3.0	X16	x16	Full-height, full-length slot	Proc 1 (Occupied by SAS Expander on HPE StoreEasy 1860
3	PCIe 3.0	x8	x8	Full-height, half-length slot	Proc 1 (Occupied by M.2 SSD card on HPE StoreEasy 1660 and 1860 'A' models only)

HPE StoreEasy 1660/1860 Secondary

PCIe Riser

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
4	PCIe 3.0	x8	x8	Full height, full length slot	Proc 2
5	PCIe 3.0	x16	x16	Full height, full length slot	Proc 2
6	PCIe 3.0	x8	x8	Full-height, half-length slot	Proc 2

HPE StoreEasy 1660 Expanded -

PCIe slots

Expansion Slots #	Technology	Bus Width	Connector Width	Form Factor	Notes
1	PCIe 3.0	x16	x16	Low profile	Proc 1
2	PCIe 3.0	x24	x24	Low profile	Proc 1
5	PCIe 3.0	x8	x8	Low profile	Proc 2
6	PCIe 3.0	x24	x24	Low profile	Proc 2
7	PCIe 3.0	x16	x16	Low profile	Proc 2

Technical Specifications

Storage Controller					
	HPE StoreEasy 1460	**HPE StoreEasy 1560**	**HPE StoreEasy 1660**	**HPE StoreEasy 1660 Expanded**	**HPE StoreEasy 1860**
Controller(s)	HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes 2GB Cache/SmartCache) 12G SAS Modular Controller for data and OS drives	HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes 2GB Cache/SmartCache) 12G SAS Modular Controller for data and OS drives	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller for data drives; HPE Smart Array S100i SR Gen10 SW RAID for OS drives only		
RAID (for data drives)	RAID 0, 1, 5, 6, 10, 50, 60, 1 ADM, 10 ADM (Advanced Data Mirroring) Not all RAID levels recommended or supported on HPE StoreEasy				
Internal SAS connectors	8 SAS lanes across 2 x4 internal Mini-SAS ports		16 SAS lanes across 4 x4 internal Mini-SAS ports		
External SAS connectors	None				
Data at Rest Encryption Support	Optional HPE Smart Array SR Secure Encryption E-LTU (SKU Q2F26AAE)				

Technical Specifications

Storage					
	HPE StoreEasy 1460	**HPE StoreEasy 1560**	**HPE StoreEasy 1660**	**HPE StoreEasy 1660 Expanded**	**HPE StoreEasy 1860**
Internal	4 LFF (3.5") hot-plug bays in front	4 LFF (3.5") hot-plug bays standard and 4 additional LFF (3.5") hot-plug bays optional (total of 8 internal LFF bays maximum)	12 LFF (3.5") hot-plug bays in front and optional 4 LFF hot-plug bays in mid-chassis drive cage (total of 16 internal LFF bays maximum)	24 LFF (3.5") hot-plug bays in front and 4 LFF hot-plug bays in rear (total of 28 internal LFF bays maximum)	24 SFF (2.5") hot-plug bays in front and optional 2 SFF ('B' models) or 4 SFF ('A' models) hot-plug bays in rear drive cage (total of 26 or 28 SFF internal bays maximum)
Carrier type	Smart Carrier (SC)	Low Profile (LP)	Smart Carrier (SC)	Low Profile (LP)	Smart Carrier (SC)
External	Support for external D3X10 and D6020 Disk Enclosures requires optional Smart Array controller with external port				
Maximum Internal Capacity (raw)	32TB	64TB (with optional 4LFF drive cage and 4 x 12TB HDDs)	256TB (with optional 4LFF mid-chassis cage and 16 x 16TB LFF HDDs)	448TB (with 28 x 16TB LFF HDDs)	67.2TB (with optional 4SFF rear cage and 28 x 2.4TB SFF HDDs)

Power & Cooling					
Power Supplies	1 x 500 Watts Platinum, hot-plug (2nd redundant power supply optional)	1 x 500 Watts Platinum, hot-plug (2nd redundant power supply optional)	2 x 800 Watts Platinum, hot-plug	2 x 1600 Watts Platinum hot-plug (high-line input 200V - 240V AC only)	2 x 800 Watts Platinum, hot-plug
Power Cords	One high voltage power cords (IEC C13 to C14) standard; two if second power supply added	One 6-foot 10A, C13 U.S. Power cord; see notes	Two high voltage power cords (IEC C13 to C14) standard	Two high voltage power cords (IEC C13 to C14) standard	Two high voltage power cords (IEC C13 to C14) standard

Notes:

- HPE StoreEasy 1460, 1660, 1660 Expanded and 1860 models ship with a standard 6-foot IEC C-13/C-14 jumper cord. This jumper cord is also included with each standard AC power supply option kit.
- The HPE StoreEasy 1560 model comes with a standard 6-foot 10A, C13—U.S. power cord (AF556A). If you order the optional 2nd power supply you must order also order AF556A to get the above power cord.
- If different power cords are required for any HPE StoreEasy 1000 model, please check **ProLiant Power Cables** to determine what power cord options are available.

System Fans	Single processor system includes 5 hot-plug, redundant fans, standard Dual processor system includes 7 hot-plug redundant fans	2 non hot-plug redundant fans, standard	6 hot-plug, high-performance, redundant fans, standard	10 hot-plug, high-performance redundant fans standard	6 hot-plug, high-performance, redundant fans, standard

Technical Specifications

Additional options

See the corresponding ProLiant and Apollo 4000 QuickSpecs for additional options.

HPE StoreEasy 1460 (ProLiant DL360 Gen 10)
https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00008159enw

HPE StoreEasy 1560 (ProLiant ML110 Gen 10)
https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00021851enw

HPE StoreEasy 1660 (ProLiant DL380 Gen10 LFF),
HPE StoreEasy 1860 (ProLiant DL380 Gen10 SFF):
https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=a00008180enw

HPE StoreEasy 1660 Expanded (Apollo 4200 Gen10 LFF)
https://h20195.www2.hpe.com/v2/getdocument.aspx?docname=a00056091enw

Notes: Options offered in the HPE ProLiant and Apollo servers listed above will work in the respective HPE StoreEasy product if supported on Windows Server 2016 Standard Edition.

Because HPE StoreEasy is a storage system, not every possible option available in the equivalent ProLiant server is listed in the HPE StoreEasy 1000 QuickSpecs. Options that are shown in this document are the most common and recommended ones needed for the primary HPE StoreEasy usage model as a file storage system.

Technical Specifications

HPE StoreEasy 1000 Storage Common System Specifications		
System Inlet Temperature	**Standard Operating Support**	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed. System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F). For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae**
	Extended Ambient Operating Support	For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **http://www.hpe.com/servers/ashrae** System performance may be reduced if operating in the extended ambient operating range or with a fan fault.
	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
Relative Humidity (non-condensing)	**Operating**	8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.
	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	**Operating**	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Emissions Classification (EMC)	To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center: **http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts**	

Technical Specifications

HPE StoreEasy 1460 Storage		
Dimensions	4.29 x 43.46 x 74.98 cm 1.69 x 17.11 x 29.5 in	
Weight (approximate)	16.78 kg 37 lb	Four LFF drives, two processors, two power supplies, two heatsinks, one Smart Array controller and seven fans.
Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	< 557 W (at 100 VAC); < 537 W (at 240 VAC)
BTU Rating	Maximum	1902 BTU/hr (at 100 VAC); 1832 BTU/hr (at 240 VAC)
Power Supply Output (per power supply)	Maximum Rated Output Wattage Rating (Watts)	500W (at 100 VAC); 500W (at 240 VAC)

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

	Minimum (Entry)	**Maximum (Performance)**
Idle		
LWAd	5.1 B	5.2 B
LpAm	35 dBA	36 dBA
Operating		
LWAd	5.3 B	5.9 B
LpAm	36 dBA	45 dBA

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

Technical Specifications

HPE StoreEasy 1560 Storage		
Tower Dimensions	44 x 19.5 x 48.05 cm 17.32 x 7.68 x 18.92 in	
Tower Weight (approximate)	Maximum:	55.0 lbs (25.0 kg)
Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	< 557 W (at 100 VAC); < 537 W (at 240 VAC)
BTU Rating	Maximum	1902 BTU/hr (at 100 VAC); 1832 BTU/hr (at 240 VAC)
Power Supply Output (per power supply)	Maximum Rated Output Wattage Rating (Watts)	500W (at 100 VAC); 500W (at 240 VAC)
Acoustic Noise	Listed are the declared A-Weighted sound power levels (L_{WAd}) and declared average bystander position A-Weighted sound pressure levels (L_{pAm}) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.	
	Idle	
	LWAd	4.0 Bels Entry
		4.0 Bels Perf
	LpAm	24.8 dBA Entry
		24.1 dBA Perf
	Operating	
	LWAd	4.0 Bels Entry
		4.0 Bels Perf
	LpAm	25.1 dBA Entry
		24.1 dBA Perf
	Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.	

Technical Specifications

HPE StoreEasy 1660 Storage and 1860 Storage			
Dimensions	8.73 x 44.54 x 73.02 cm 3.44 x 17.54 x 28.75 in		StoreEasy 1660 (LFF Drives)
	8.73 x 44.54 x 67.94 cm 3.44 x 17.54 x 26.75 in		StoreEasy 1860 (SFF Drives)
	Maximum	24.5 kg 54 lbs	12 LFF hard drives (no rear drives), 2x processors, 2x power supplies, 1x Smart Array, 2x Risers installed)
Input Requirements (per power supply)	Rated Line Voltage		100 to 120 VAC
			200 to 240 VAC
	Rated Input Frequency		50 to 60 Hz
	Rated Input Power		< 899 W (at 100 VAC); < 864 W (at 240 VAC)
BTU Rating	Maximum		3067 BTU/hr (at 100 VAC); 2949 BTU/hr (at 240 VAC)
Power Supply Output (per power supply)	Maximum Rated Output Wattage Rating (Watts)		800W (at 100 VAC); 800W (at 240 VAC)

Acoustic Noise

Listed are the declared A-Weighted sound power levels (L_{WAd}) and declared average bystander position A-Weighted sound pressure levels (L_{pAm}) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your Hewlett Packard Enterprise representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Configuration	Minimum (Entry)	Maximum (Performance)
Idle		
LWAd	4.8 B	4.6 B
LpAm	37 dBA	31 dBA
Operating		
LWAd	4.8 B	4.6 B
LpAm	37 dBA	31 dBA

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

Technical Specifications

HPE StoreEasy 1660 Expanded Storage		
Dimensions	8.75 x 44.80 x 82.55 cm	
	3.44 x 17.63 x 32.50 in	
Weight (approximate)	Maximum	40.6 kg 89.51 lb
Input Requirements (per power supply)	Rated Line Voltage	200 to 240 VAC
	Rated Input Frequency	50 to 60 Hz
	Rated Input Power	< 1734 W (at 200 VAC); < 1725 W (at 240 VAC)
BTU Rating	Maximum	5918 BTU/hr (at 200 VAC); 5884 BTU/hr (at 240 VAC)
Power Supply Output (per power supply)	Rated Steady-State Power	1600W (at 200 VAC); 1600W (at 240 VAC)

Acoustic Noise

Listed are the declared A-Weighted sound power levels (L_{WAd}) and declared average bystander position A-Weighted sound pressure levels (L_{pAm}) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your Hewlett Packard Enterprise representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Configuration	Minimum (Entry)	Maximum (Performance)
Idle		
LWAd	5.1 B	5.2 B
LpAm	35 dBA	36 dBA
Operating		
LWAd	5.3 B	5.26 B
LpAm	36 dBA	45 dBA

Notes: Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.

HPE Smart Array

For latest information on **HPE Smart Array Gen10 Controllers for HPE ProLiant DL, ML and Apollo Servers** please refer to their QuickSpecs. (E208i-a,E208i-p,E208e-p,P408i-a,P408i-p,P408e-p,P816i-a)

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
03-Aug-2020	Version 17	Changed	Overview, Standard Features, Features and Benefits, Configuration Information and Service and Support sections were updated.
06-Jul-2020	Version 16	Changed	Overview, Configuration Information and Technical Specifications sections were updated
01-Jun-2020	Version 15	Changed	Overview, Configuration Information and Technical Specifications sections were updated
06-Apr-2020	Version 14	Changed	Configuration Information Section was updated
02-Mar-2020	Version 13	Changed	Overview, Configuration Information and Technical Specifications sections were updated.
02-Dec-2019	Version 12	Changed	Configuration Information section was updated.
07-Oct-2019	Version 11	Changed	Overview and Configuration Information sections were updated
03-Sep-2019	Version 10	Added	Added HPE StoreEasy 1660 Expanded Storage including configuration information.
10-Jun-2019	Version 9	Changed	Overview, Features and Benefits and Configuration Information sections were updated.
06-May-2019	Version 8	Changed	Configuration Information section was updated
04-Mar-2019	Version 7	Changed	Configuration Information Section was updated.
04-Feb-2019	Version 6	Changed	Overview, Standard Features, Features and Benefits, Configuration Information and Service and Support sections were updated.
03-Dec-2018	Version 5	Changed	Standard Features, Configuration Information and Service and Support sections were revised.
04-Jun-2018	Version 4	Changed	Overview, Standard Features, HPE StoreEasy 1660 configuration information, HPE StoreEasy 1860 configuration information, and Technical Specifications were updated.
16-Apr-2018	Version 3	Changed	Optimized: Tailored for file storage and Optional Software were revised.
02-Apr-2018	Version 2	Changed	Overview and multiple SKU description were updated.
05-Mar-2018	Version 1	New	New QuickSpecs.

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