

Features and Benefits

HP StoreEasy 3850 Gateway Storage

HP StoreEasy 3850 Gateway Storage is a new breed of optimized, efficient, secure, and highly available storage to address the file storage challenges of customers’ medium to large business and branch office SAN environments. HP StoreEasy 3850 Gateway Storage, built on industry leading HP ProLiant DNA and Microsoft Windows Storage Server, integrates easily into new and existing SAN environments with a straightforward, consistent management experience for IT generalists or storage administrators.

What's New

- Brand new model - StoreEasy 3850 Gateway System with one or two StoreEasy 3850 Gateway Single Nodes
- StoreEasy 3850 Gateway Single Node runs Windows Storage Server 2012 R2, Standard Edition

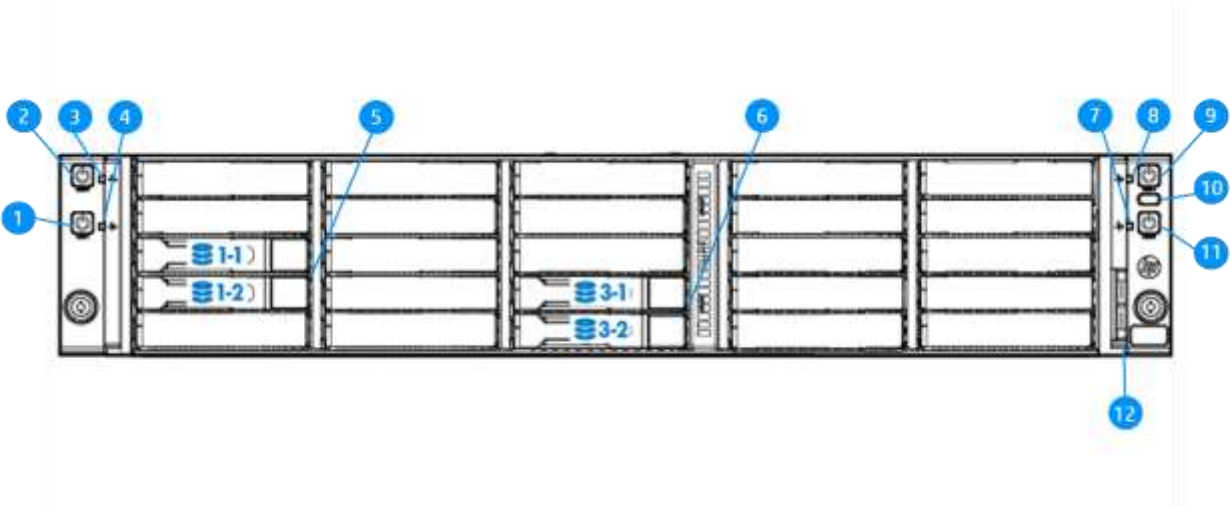
HP StoreEasy 3850 Gateway System

The HP StoreEasy 3850 Gateway System sets the standard for performance and expandability in gateway services for your array or Fibre Channel SAN. The StoreEasy 3850 Gateway System consists of the StoreEasy 3850 Gateway Storage 2U chassis and one or two StoreEasy 3850 Gateway Single Nodes. A StoreEasy 3850 Gateway System with two nodes provides high availability by clustering the nodes together. Up to four StoreEasy 3850 Gateway Systems can be configured together as an 8 node cluster.

Models

HP StoreEasy 3850 Gateway Storage (chassis)	K2R69A
HP StoreEasy 3850 Gateway Single Node	K2R70A

HP StoreEasy 3850 Gateway System – Front View

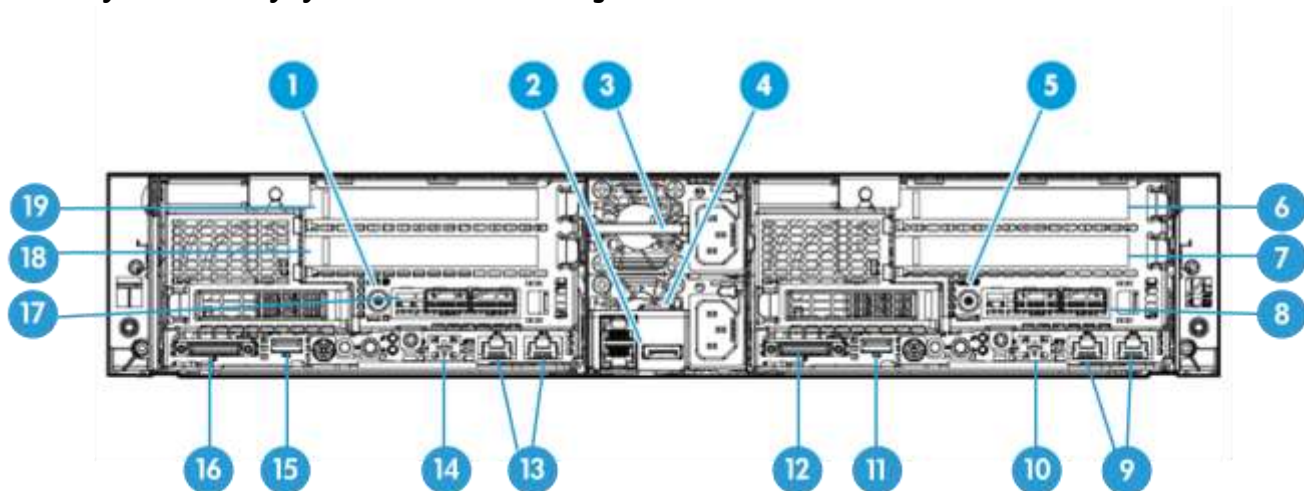


Item	Description
1	Power On/Standby button and system power LED (Node 1)
2	Power On/Standby button and system power LED (Node 2) – not active
3	Health LED (Node 2) – not active
4	Health LED (Node 1)
5	SSDs (Node 1)
6	SSDs (Node 3)
7	Health LED (Node 3)

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- 8 Health LED (Node 4) – not active
- 9 Power On/Standby button and system power LED (Node 4) – not active
- 10 UID button/LED
- 11 Power On/Standby button and system power LED (Node3)
- 12 Chassis serial label pull tab

StoreEasy 3850 Gateway System - Rear view showing 2 nodes installed



Item	Description
1	<u>StoreEasy 3850 Gateway Single Node (configured as Node 3)</u>
2	<u>RCM module</u>
3	<u>Power Supply 2</u>
4	<u>Power Supply 1</u>
5	<u>StoreEasy 3850 Gateway Single Node (configured as Node 1)</u>
6	<u>PCIe slot 1 (Node 1)</u>
7	<u>PCIe slot 2 (Node 1)</u>
8	<u>FlexibleLOM (Node 1)</u>
9	<u>2 x 1GbE NIC connectors (Node 1)</u>
10	<u>Dedicated iLO port (Node 1)</u>
11	<u>USB 3.0 connector (Node 1)</u>
12	<u>SUV connector (Node 1)</u>
13	<u>2 x 1GbE NIC connectors (Node 3)</u>
14	<u>Dedicated iLO port (Node 3)</u>
15	<u>USB 3.0 connector (Node 3)</u>
16	<u>SUV connector (Node 3)</u>
17	<u>FlexibleLOM (Node 3)</u>
18	<u>PCIe slot 2 (Node 3)</u>
19	<u>PCIe slot 1 (Node 3)</u>

Features and Benefits

Optimized for File Storage in the Enterprise

The HP StoreEasy 3850 Gateway Systems comes to your business pre-configured with hardware and the latest generation storage OS for purpose-built file storage. StoreEasy installation and network configuration wizards simplify installation and prevent configuration errors for faster deployment.

HP StoreEasy Dashboard consolidates all key status information such as capacity utilization, performance, and health in a single interface and reduces the need to navigate multiple tools and interfaces for system management. Low capacity warning email alerts now available to minimize disruption.

Best practices driven storage provisioning tool discovers system storage and recommends the most efficient setup for optimum performance, optimum capacity or a balanced configuration based on the available storage.

Efficient: Saves you money and time

Achieve an average of 50–60 percent space savings with granular data deduplication.

File sync and share feature enable mobile workers to access their files from anywhere. 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, Domain Name System (DNS), and DHCP.

Reduce your branch office WAN usage with Hosted BranchCache, automatically caching frequently accessed corporate data center files.

Secure: Protect your data always

The HP StoreEasy 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.

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 to utilize the power of HP LiveVault for easy data backup to the cloud with 7-year retention, software installation files now included and requires optional licenses. Also, enable simplified and cost efficient compliance archiving with iTernity Compliant Archive Solution (iCAS), now validated to meet the United States Securities and Exchange Commission (SEC) 17a-4(f) requirements.

Highly Available: Prevent Increases uptime with such standard features as near continuous health monitoring with HP Active

Features and Benefits

business and user disruption

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 Vision Solutions 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 StoreEasy products also include one year of 24x7 software telephone support for the Windows Storage Server operating system.

Standard Features

Operating System

Microsoft Windows Storage Server 2012 R2, Standard Edition with HP enhanced value and unique features

- HP enhanced Initial Configuration Tasks Wizard: StoreEasy installation and network configuration wizards simplify installation and prevent network configuration errors for faster deployment.
 - HP StoreEasy Dashboard consolidates all key status information such as capacity utilization, performance, and health in a single interface and reduces the need to navigate multiple tools and interfaces for system monitoring. Low capacity warning email alerts now available to minimize disruption.
 - HP StoreEasy Pool Manager is a best practices driven storage provisioning tool that automatically discovers system storage and recommends the most efficient setup for optimum performance, optimum capacity, or a balanced configuration based on the available storage.
 - HP 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 StoreEasy Tools menu provides management of storage pools, snapshots, emails and alerts, enclosure settings, and firmware updates. It also includes access to the Deduplication Evaluation tool, storage viewer and the initial configuration task wizard.
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- Windows Storage Server 2012 R2 (WSS2012 R2) includes a robust range of file serving and storage capabilities. It addresses heterogeneous environments and it enables more efficient storage utilization. WSS2012 R2 delivers a similar level of performance and reliability as more expensive storage solutions and it offers support for both file (CIFS/SMB and NFS) and block (iSCSI) protocols, allows for a flexible mix of configurations and includes advanced data management tools. WSS2012 R2 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), NFS (v2, v3, v4.1), WebDAV, HTTP/HTTPS, FTP/FTPS, iSCSI
 - SMB3 protocol: Leverage high performance continually available file shares to deliver feature-rich storage for business-critical applications and virtual servers using advanced new functionality.
 - SMB3 Multi-channel: Enable aggregation of network bandwidth and network fault tolerance when multiple paths are available between SMB clients and file servers.
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 - NFS v4.1: For Windows Storage Server 2012 R2, Server for NFS has been updated to support continuous availability. These improvements make it possible to reliably store and run VMware ESX on a virtual machine that is running Windows Server 2012 by using the NFS protocol to share files. Additional improvements in failover clustering take advantage of better resilience to hardware and software outages that may afflict individual cluster nodes. At the same time, failover clustering isolates VMware ESX hypervisor hosts from intermittent glitches during failovers.
 - iSCSI: Some applications require block storage. iSCSI Target Server can provide these applications with continuously available block storage. Since the storage is remotely

Standard Features

accessible it can also consolidate block storage for central or branch office locations. By using boot-capable NICs or a software loader, you can deploy hundreds of diskless servers. This is ideal for large deployments of identical operating system images, such as a Hyper-V server farm or High Performance Computing (HPC) clusters.

- **File Server Resource Manager (FSRM):** File Server Resource Manager is a set of features within the WSS2012 R2 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.
- **Data Deduplication:** Data deduplication enables Windows Storage Server 2012 R2 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.
- **Work Folders:** With Work Folders 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.

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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 in support on Windows 7, Windows 8 and Apple iPad clients.

- **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 the StoreEasy 1000 Storage. Other clients who need the same content retrieve it directly from the Hosted Cache.
- **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.
- **VSS for Remote SMB File Shares:** Leverage proven Volume Shadow Copy Service (VSS) to offload snapshot and backup operations to remote storage from VSS hardware providers within Hyper-V virtual machines.
- **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.
- **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.
- **New VHDX Standard:** Deploy larger capacity virtual storage that can grow to 64 terabytes, is more resilient against corruption, and provides more efficient usage of new 4 KB sector hard disks with the new VHDX virtual storage standard.
- **Live Storage Migration:** Maintain maximized service-level availability even while moving virtual machine storage between host servers independent of the actual virtual machine.
- **Unlimited Client Access Licenses (CALs) included**

NOTE: Windows Storage Server 2012 R2 and Windows Server 2012 R2 are built on the same code base. Applications certified for Windows Server are expected to have the same application compatibility profile on Windows Storage Server. Windows Storage Server 2012 R2 and Windows Server 2012 have the same application frameworks, services and plumbing to support running the full breadth of Window-compatible applications. Applications that rely upon certain roles that are removed from Windows Storage Server 2012 R2, such as fax server, active directory 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. HP StoreEasy customers should review the End User License Agreement (EULA) to see the types of applications that are permitted for installation. All versions of Windows Storage Server 2012 R2 can join Active Directory domains, but cannot be a domain controller.

- More information on Windows Storage Server 2012 R2 Standard Edition can be found here:

Standard Features

<http://technet.microsoft.com/en-us/library/jj643303.aspx>

Note: The following specifications are for a HP StoreEasy 3850 Gateway Single Node unless otherwise indicated.

Processor / Cache Memory		Intel Xeon E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor				
Memory	Type	DDR4 Registered (RDIMM) standard				
	Standard	32GB (4 x 8GB)				
	DIMM Sockets	16				
Network Controller		NIC Ports		2 x 1GbE		
Expansion Slots	Expansion Slot #	Technology	Bus Width*	Source	Connector Width	Form Factor
	1	PCIe 3.0	x16	CPU1	X16	Low profile
	2	PCIe 3.0	X16	CPU1	x16	FHFLDW
	FlexibleLOM	PCIe 3.0	x8	CPU1	x16	FlexibleLOM
Storage Controller		NOTE: HP StoreEasy 3850 Gateway Storage nodes include a storage controller designed for internal drives housing the O/S mirror only; an HBA is required to address external SAN or array storage.				
	Controller(s)	HP Dynamic Smart Array B140i Controller				
	RAID	0 and 1				
Storage		Hard Drives				
	Internal	24 x 2.5" (Small Form Factor) hot-plug bays in the StoreEasy 3850 Gateway System Chassis (only four slots are useable – each node will use two slots for its two operating system SSDs				
		<ul style="list-style-type: none">2 x 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot SSDs for Operating System mirrored pair for each StoreEasy 3850 Gateway Single Node				

Standard Features

	External	Designed for attach to Fibre Channel (HBA required) or iSCSI (Microsoft iSCSI initiator included) arrays
Power Supply	2 x 800 Watts (located in StoreEasy 3850 Gateway System chassis)	
Power Cords	NOTE: The HP StoreEasy 3850 Gateway Systems are primarily connected to PDU's in data center racks and ship standard with a PDU 6-foot C-14 to C13 power cord (142258-001).	
System Fans	8 (4+4 redundancy) non hot-plug	
Form Factor	2U rack mount (StoreEasy 3850 Gateway System chassis and one or two nodes)	

Optional Software

HP Data Protector software

HP Data Protector Software is enterprise data protection and disaster recovery, ensuring recovery from any disruption. Data Protector integrates a variety of techniques to eliminate backup and recovery windows. The capabilities to eliminate planned downtime range from online backup and backup of open files to zero-downtime, zero-impact backup. The software provides industry-leading instant recovery as well as several disaster recovery alternatives to eliminate unplanned downtime, allowing recovery of entire data centers in minutes.

Data Protector is enabling organizations to reduce costs by automating routine tasks to maximize the effectiveness of the data protection staff. For the price of an entry-level product, it provides the enterprise functionality customers need. Data Protector scales from single server to distributed enterprise, covering an extensive range of heterogeneous applications, operating environments and storage configurations with a single solution. For more information on HP Data Protector:

<http://www.hp.com/go/dataprotector>

HP LiveVault

HP LiveVault enables organizations to protect their critical application data and manage their long-term retention needs in the cloud. The LiveVault agent that is installed on HP StoreEasy Storage encrypts all data before transferring it. All data remains encrypted at HP's secure, offsite, underground data centers - as well as on the optional TurboRestore(TM) appliance which resides in the customer data center. To ensure the physical security and availability of stored data, the LiveVault service mirrors all data to a second, geographically dispersed data center for full failover and redundancy. For a 30 day free trial of HP LiveVault go to: <http://www.remotedatabackups.com/storeeasy>

Double-Take Availability from Vision Solutions

Protect your critical HP StoreEasy data with Double-Take 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 read the [Technical White Paper](#).

iCAS software by iTernity

Get open, flexible, and expandable long-term archiving with iTernity Compliant Archive Solution (iCAS). Together, HP StoreEasy and iCAS are your key to legally compliant data archiving.

For more information on iTernity iCAS go to: http://www.iternity.com/hp-icas_en.html

SAN / Array Compatibility

Host Bus Adapter (HBA) Support HP StoreEasy 3850 Gateway Storage products are designed to be connected to a SAN or storage array by adding a recommended Fibre Channel or by using an iSCSI initiator.

HBA selection is left as your choice based on existing infrastructure and/or desired array support. Please see compatible HBAs listed in the 'Options' section below.

NOTE: See the following URL for additional information about Fibre Channel HBAs:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

HP SAN / Array Support	HP 3PAR StoreServ	http://h18006.www1.hp.com/storage/disk_storage/3par/index.html
	HP StoreVirtual	http://h18000.www1.hp.com/products/quickspecs/13254_div/13254_div.html
	HP P9000/XP	http://h18006.www1.hp.com/storage/xparrays.html
	HP P6000/EVA	http://h18006.www1.hp.com/products/storageworks/eva/index.html
	HP P2000/MSA	http://h18000.www1.hp.com/products/quickspecs/13551_div/13551_div.pdf

HP StoreEasy 3850 Gateway Storage products and third-party storage arrays/SAN interoperability statement

HP will provide support for the HP StoreEasy 3850 products when connected to third-party storage arrays, but HP will not provide support on third-party storage arrays/SAN unless specifically called out in an HP Support contract. HP may support the third-party SAN environment attached to HP StoreEasy 3850 product when specifically under contract with HP, but that SAN coverage does not extend to supporting the SAN connectivity of the third-party array.

If you call HP Services and the problem is determined to be caused by a third-party storage array or the storage arrays' connectivity into a non-HP supported SAN, you will be directed to contact the third-party storage array supplier for support. Please refer to the third-party supplier for information relating to specific support of their storage arrays with Windows Storage Server 2012 R2 Standard Edition.

Models (Pre-configured)

These models come with factory-installed SSD drives and the Microsoft Windows Storage Server 2012 Standard Edition operating system pre-installed

Step 1 – Select the 3850 Gateway System and add one or two nodes

	Part Number
HP StoreEasy 3850 Gateway System (chassis)	K2R69A

	Part Number
HP StoreEasy 3850 Gateway Single Node	K2R70A

NOTE: One or two 3850 Gateway Single Nodes can be added to a StoreEasy 3850 Gateway System (sku K2R69A)

Specifications- per node	Operating System	Microsoft Windows Storage Server 2012 R2, Standard
	Processor	Intel Xeon E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor
	Memory	32 GB (4 x 8GB Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory)
	Network Ports	2 x 1GbE ports; FlexLOM Adapter (optional)
	Expansion Slots	2 x PCIe
	Storage Controller	HP Dynamic Smart Array B140i Controller (used only for Operating System SSDs)
	Internal Storage	2 x 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot SSDs for Operating System Mirrored Pair
	External Storage	Connected via HBA or iSCSI initiator

Step 2 – Add a FlexLOM Adapter

NOTE: For two node systems the FlexLOM Adapter must be the same for each node

HP Networking	Ethernet Options	
	HP Ethernet 1Gb 2P 332T Adapter	615732-B21
	HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HP Ethernet 1Gb 2P 361T Adapter	652497-B21
	HP Ethernet 10Gb 2P 530SFP+ Adapter	652503-B21
	HP Ethernet 10Gb 2P 530T Adapter	656596-B21
	HP Ethernet 10Gb 2P 560SFP+ Adapter	665249-B21
	HP Ethernet 10Gb 2P 561T Adapter	716591-B21
	HP Ethernet 10G 2-port 546SFP+ Adapter	779793-B21

Models (Pre-configured)

HP XL170r/190r Dedicated NIC IM Board Kit 798192-B21

NOTE: For 2U, total Slots available for PCIe is 4, total Slots available for FlexLOM is 1.

This is a total selection from anything in the following categories:

Infiniband, Networking, Controllers

FlexibleLOM Adapters

HP 1Gb Ethernet 4P 331FLR Adptr 629135-B22

HP Ethernet 1Gb 4-port 366FLR Adapter 665240-B21

HP Ethernet 10Gb 2P 560FLR-SFP+ Adptr 665243-B21

HP FlexFabric 10Gb 2P 534FLR-SFP+ Adptr 700751-B21

HP FlexFabric 10Gb 2P 533FLR-T Adptr 700759-B21

HP FlexFabric 10Gb 2P 556FLR-SFP+ Adptr 727060-B21

HP Ethernet 10Gb 2P 546FLR-SFP+ Adptr 779799-B21

InfiniBand Options

QLogic 4X QDR IB PCI-e G2 HCA 583211-B21

HP IB FDR 2P 545QSFP Adptr 702211-B21

HP IB FDR/EN 40Gb 2P 544+QSFP Adptr 764284-B21

HP IB FDR 2P 545FLR-QSFP Adptr 702212-B21

HP IB FDR/EN 40Gb 2P 544+FLR-QSFP Adptr 764285-B21

HP IB QDR/EN 10Gb 2P 544+FLR-QSFP Adptr 764286-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: <http://www.hp.com/go/ProLiantNICs>

Step 3 - Add an optional second processor

Intel Xeon E5-2609v3 (1.9GHz/6-core/15MB/85W) Processor Kit 793014-B21

Step 4 - Add optional Memory

NOTE: HP recommends that you add the same type memory to the product that is shipped standard with the product.

NOTE: For two node systems the amount of memory must be the same for each node

Registered DIMMs (RDIMMs)

HP 8GB (1x8GB) Single Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 726718-B21

HP 16GB (1x16GB) Dual Rank x4 DDR4-2133 CAS-15-15-15 Registered Memory Kit 726719-B21

HP 32GB (1x32GB) Dual Rank x4 PC4-2133P-R (DDR4-2133) Registered memory Kit 728629-B21

NOTE: The HP StoreEasy 3850 Gateway Single Node comes standard with 32GB (4 x 8GB) of memory factory installed. For some installations, a customer may want

Models (Pre-configured)

to replace the 32GB memory that ships standard. The 16GB and 32GB Memory skus listed are supported in the 3850 Gateway node and can be ordered as an option for field installation only.

NOTE: HP memory from previous generation servers (DDR3) is not compatible with this server. HP SmartMemory is required to realize the memory performance improvements and enhanced functionality listed in this document for Gen9. For additional information, please see the HP SmartMemory QuickSpecs at:

<http://www8.hp.com/h20195/v2/GetHTML.aspx?docname=c04111535>

Step 5 – In place of Step 2, 3 or 4 you can add an optional Performance Kit

NOTE: A performance kit bundles an Intel Xeon E5-2609v3 processor, 32 GB memory (4 x 8GB Single Rank x4 DDR4-2133 CAS-15-15-15) and one HP 10GbE 560SFP+ 2-port Adapter

NOTE: For two node systems, two performance kits must be ordered – one for each node

HP StoreEasy 3850 Gateway Storage 10Gb Performance Kit

K2R71A

Step 6 – Add an optional Host Bus Adapter

NOTE: HP StoreEasy 3850 Gateway Storage products are designed and optimized for connection to SAN storage arrays using HBAs.

Fibre Channel

Emulex Fibre Channel HBA

HP 82E 8Gb 2 port PCIe Fibre Channel Host Bus Adapter

AJ763B

HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter

C8R39A

Step 6 – Add security hardware

HP Security

HP Trusted Platform Module Option

488069-B21

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the system. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Storage Server 2012 R2. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a node running Windows Storage Server 2012 R2 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to:

<http://www.hp.com/go/TPM>.

NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

Models (Pre-configured)

Service and Support, HP Care Pack, and Warranty Information

Warranty

HP StoreEasy 3850 Gateway Storage Blade products 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.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Services Included with the Product One year of HP Software Support, standard 9x5 business hours (software advisory and remedial software telephone support, and media and documentation distribution service).

Service and Support **Services to accelerate time to results**

HP Storage Services bring you a rich portfolio of consulting and support services designed to add value to our core storage products and solutions. We have the know-how and experience to put storage technology to work for you. We work closely with you as your strategic partner, leveraging our full services portfolio to make sure that everything works to optimize your enterprise.

Choose from services aligned to our storage product offerings and lifecycle. From mission-critical onsite services to innovative web-based remote support, you choose the precise level of attention and support your business demands.

Discover, plan, and design

Choose from a rich portfolio of services to make the most of HP StoreEasy Storage, so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.

HP Services can help you discover needs and create a plan for simplifying the environment, reducing risk, and maximizing your storage investments

HP Backup Recovery Efficiency Analysis - Assessment of how efficiently backup components are being used as the amount of data to be backed up continues to grow exponentially via analysis intelligence and a snapshot of your current backup environment.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8490ENW.pdf>

HP 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.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1175ENW.pdf>

HP Backup Recovery Modernization - Initial discovery, interviews, reference architecture design, proposal content development, vendor grading, and final recommendations carried out so as to require minimal resources and locations on your part.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1199ENW.pdf>

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

Deploy and integrate

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

Service and Support, HP Care Pack, and Warranty Information

HP StoreEasy 1000/3000 Storage Installation and Startup Service -Expert system installation and setup by an HP technical specialist designed to reduce implementation time and cost, with your basic questions about the service answered during the included orientation session.

http://h20195.www2.hp.com/v2/GetDocument.aspx?cc=us&doclang=EN_US&docname=4AA2-6112ENW&doctype=data%20sheet&lc=en&searchquery=&jumpid=reg_r1002_usen_c001_title_r0004

HP 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 HP storage quickly and efficiently.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-0774ENW.pdf>

HP Storage and Data Consultant Residency Service - Strategic augmentation of your current environment with HP resources who become your trusted advisor to provide answers that are right for your storage and backup environment.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9481ENW.pdf>

HP Proactive Select - A flexible way to purchase services to fit your environment with an extensive menu of HP Proactive Select event and technical services, such as onsite firmware upgrades, health checks, assessments, and education.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENW.pdf>

Operate and support

Choose the right support to maximize uptime, free up your resources, and achieve improved value- as you get the most out of the existing IT assets while accelerating time-to-revenue.

HP Proactive Care 24x7 - Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center Specialists plus firmware and software management and best practice advice

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HP Proactive Care Personalized Support - An option-if you have HP Proactive Care- to bring increased personalization of the Proactive Care support experience through the assignment of an Account Service Manager (ASM) who provides IT best practice advice to help address IT issues and projects.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-3446ENW.pdf>

HP Support Plus 24 - Support for environments where proactive help from HP is not required, with 24x7 hardware and software support onsite that includes third-party support with a maximum four-hour onsite response.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf>

HP Education Services - Comprehensive training for new, as well as experienced, storage administrators designed to expand your skills and keep you up to speed with the latest storage and virtualization technology from HP Storage.

<http://education.hp.com/curr-storsan.htm>

Optimized Care - Delivers Choose from three levels of operate and support care

Service and Support, HP Care Pack, and Warranty Information

the highest levels of performance and stability through deployment and proactive management practices

HP Proactive Care 24x7-Plus, 20 credits per year

Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year

Standard Care-maintains high level of uptime, along with expert help to cut the cost and complexity of implementation and support

HP Proactive Care 24x7-Plus, 10 credits per year

Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year

Basic Care-Minimum recommended support

Support Plus 24- Plus, 10 credits per year

Additional options - 10 HP Proactive Select credits per year

Remote Support Automation

HP Insight Remote Support-Available at no additional cost to all warranty, HP Care Pack Service and service agreement customers, uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnosis and problem resolution.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-4676ENW.pdf>

<http://h18004.www1.hp.com/products/servers/management/insight-remote-support/overview.html>

For more information

<http://www.hp.com/services/storage>

To learn more on HP Storage Services, please contact your HP sales representative or HP Authorized Channel Partner

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: www.hp.com/go/lookuptool

Technical Specifications

StoreEasy 3850 Gateway System	Dimensions	Height	3.44 in (8.73 cm)
		Width	17.64 in (44.81 cm)
		Depth	32.4 in (82.27 cm)
	Shipping Dimensions	Height	11.5 in (29.2 cm)
		Width	23 in (58.4 cm)
		Depth	37.12 in (94.3 cm)
	Chassis Weight	Empty	21.74 lb (9.86 kg)
	Max Enclosure Weight	Approximate	51.69 lb (23.45 kg)
	Temperature Range	Operating	50° to 95° F (10° to 35° C)
		Non-Operating	-22° to 140° F (-30° to 60° C)
	Relative Humidity	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) 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.

NOTE: Operating temperature has an altitude derating of 1.8° F (1° C) per 1,000 ft (304.8 m). No direct sunlight. Upper operating limit is 10,000 ft (3,048 m) or 70Kpa/10.1 psia. Upper non-operating limit is 30,000 ft (9,144 m) or 30.3 KPa/4.4 psia. Storage maximum humidity of 95% is based on a maximum temperature of 113° F (45° C). Altitude maximum for storage is 70 KPa.

Acoustic Noise (No data so far)	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).	
	Idle	
	LWAd	7.1 Bels
	LpAm	54 dBA
	Operating	
	LWAd	7.2 Bels
	LpAm	54 dBA

System Unit	Server Dimensions (L x W x D)	3.30 x 7.07 x 27.23 in (8.36 x 17.95 x 69.15 cm)	
	Weight (approximate)	Maximum (four hard drives and two processors installed)	14.27 lb (6.47 kg)
	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

Technical Specifications

		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.
	Extended Ambient Operating Support	<p>System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).</p> <p>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.hp.com/servers/ASHRAE</p> <p>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: www.hp.com/servers/ASHRAE</p> <p>System performance may be reduced if operating in the extended ambient operating range or with a fan fault.</p>
Relative Humidity (non-condensing)	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.
Altitude	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	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).

Technical Specifications

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and measured 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.

	Configuration	SKU	Entry	Base	Performance
Idle					
LWAd	6.9 B	6.9 B	6.9 B		
LpAm	51 dBA	51 dBA	51 dBA		
Operating					
LWAd	8.0 B	8.3 B	8.7 B		
LpAm	62 dBA	66 dBA	72 dBA		

Emissions Classification (EMC)

FCC Rating	Class A
Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP 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 web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

StoreEasy 3850 Gateway Single Node

Server Dimensions (L x W x D)

3.30 x 7.07 x 27.23 in (8.36 x 17.95 x 69.15 cm)

Weight (approximate)

Maximum 14.27 lb (6.47 kg)
(four hard drives and two processors installed)

Technical 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.
	Extended Ambient Operating Support	<p>System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).</p> <p>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.hp.com/servers/ASHRAE</p> <p>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: www.hp.com/servers/ASHRAE</p> <p>System performance may be reduced if operating in the extended ambient operating range or with a fan fault.</p>
Relative Humidity (non-condensing)	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Operating	Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity.
Altitude	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	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).

Technical Specifications

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and measured 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.

	Configuration SKU		Entry	Base	Performance
Idle					
LWAd	6.9 B	6.9 B	6.9 B		
LpAm	51 dBA	51 dBA	51 dBA		
Operating					
LWAd	8.0 B	8.3 B	8.7 B		
LpAm	62 dBA	66 dBA	72 dBA		

Emissions Classification (EMC)

FCC Rating Class A

Normative Standards CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
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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 web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Overview - StoreEasy 3840 Gateway

HP StoreEasy 3840 Gateway Storage

HP StoreEasy 3840 Gateway Storage is a new converged storage platform from HP that supports both file and application workloads over ubiquitous Ethernet. HP StoreEasy delivers file and application storage made easy. Built on industry-standard HP ProLiant DL 380p Generation 8 hardware, the HP StoreEasy 3840 Gateway Storage is designed to deliver efficient, secure, and highly available storage that supports hundreds to thousands of concurrent users and multiple workloads. The HP StoreEasy 3840 Storage products reduces your cost of ownership by simplifying management, increasing resource utilization, centralizing growth, and protecting your data. StoreEasy management provides a simple and consistent experience for centrally managing block and file storage for multiple workloads.

What's New

- StoreEasy 3840 runs Windows Storage Server 2012 R2, Standard Edition

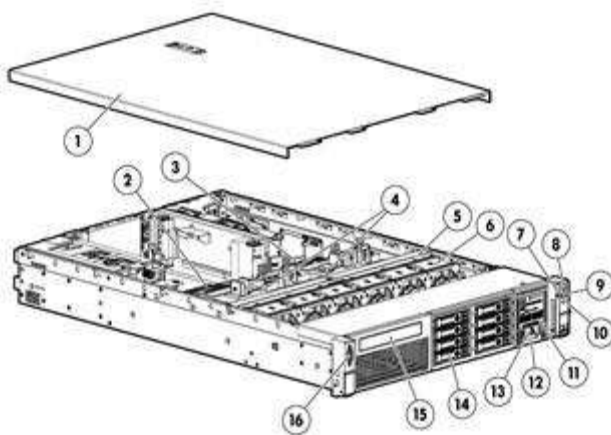
HP StoreEasy 3840 Gateway Storage

The HP StoreEasy 3840 Gateway Storage sets the standard for performance and expandability in gateway services for your array or Fibre Channel SAN. The StoreEasy 3840 is built upon a ProLiant DL380p Gen8 server.

Models

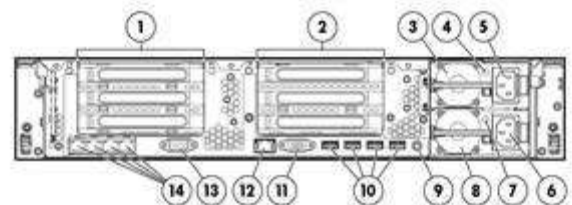
HP StoreEasy 3840 Gateway Storage

E7X03A



Front View:

1. Quick removal access panel
2. Second Intel Processor
3. First Intel Processor
4. 24 DIMM slots
5. Air Baffle
6. Hot-plug fans, full N+1 redundancy



Rear View:

1. PCIe 3.0 Slots 1, 2, 3-PCIe 2.0 top to bottom
2. PCIe 3.0 Slots 4-6 top to bottom (optional)
3. Power supply 1
4. Power supply 1 Power LED
5. Power supply 1 Power connection (with Intelligent PDU communication)
6. Power supply 2 Power connection (with Intelligent PDU)

Overview - StoreEasy 3840 Gateway

- | | |
|--|-----------------------------|
| 7. Health LED | communication) |
| 8. Power On /Standby button and system power LED button | 7. Power supply 2 Power LED |
| 9. USB connector | 8. Power supply 2 |
| 10. Unit ID LED | 9. Unit ID LED/Button |
| 11. Systems Insight Display | 10. USB connectors (4) |
| 12. Asset Tag | 11. Video connector |
| 13. USB connector | 12. iLO connector |
| 14. Drive Bays | 13. Serial connector |
| 15. Optional Slim Optical Bay (SATA DVD-RW /ROM Optical Drive) | 14. FlexibleLOM ports |
| 16. Video connector | |

Features and Benefits - StoreEasy 3840 Gateway

Optimized for File Storage in the Enterprise

The HP StoreEasy 3840 Gateway Storage comes to your business pre-configured with hardware and the latest generation storage OS for purpose-built file storage. StoreEasy installation and network configuration wizards simplify installation and prevent configuration errors for faster deployment.

Best practices driven storage provisioning tool discovers system storage and recommends the most efficient setup for optimum performance, optimum capacity or a balanced configuration based on the available storage.

Saves Your Business Time and Money for Greater Efficiency

The HP StoreEasy 3840 Gateway Storage supports large numbers of users thanks to a high-performance file serving controller and a wide range of disk drives. Utilize a broad range of file access protocols, including Microsoft Hyper-V and SQL Server application storage over SMB3 or iSCSI.

File sync and share feature enables mobile workers to access their files from anywhere, while providing corporate data controls including data encryption, data wipe, user lock screen password enforcement, file classification and storage quotas.

You can increase capacity use with non-intrusive data de-duplication that provides an average 50-60% in space savings.

Reduce your branch office WAN usage by automatically caching frequently accessed corporate datacenter files with Hosted BranchCache.

Safeguard Your Data

The HP StoreEasy 3840 Gateway Storage protects data while at rest with file system encryption and BitLocker Drive Encryption, and while it is being transferred with SMB3 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.

Install and run endpoint protection such as antivirus on the system itself - eliminating the cost and complexity of connecting an external endpoint protection server. Prevent against data loss with Volume Shadow Copy Service online snapshots and support for agent based backup software.

Leverage optional HP Autonomy LiveVault and HP Data Protector software for highly secure and efficient policy driven offsite cloud and hybrid cloud backup.

Highly Available: Prevent User and Organization Disruption

The HP StoreEasy 3840 Gateway Storage helps you increase uptime of the system with such standard features as near continuous health monitoring with HP Active Health System, mirrored OS disks, redundant fans (not available on all models) and power, and advanced memory protection.

Confidently deploy large volumes leveraging improved file system online self-healing, online verification, and precise and rapid repair that massively reduces downtime from file corruption.

Built on HP ProLiant Gen8 servers and Microsoft Windows Storage Server 2012 R2 for reliability and ease-of-use.

Three year onsite parts and labor warranty for the system, and one year of 24 x 7 software telephone

Features and Benefits - StoreEasy 3840 Gateway

support.

Standard Features - StoreEasy 3840 Gateway

Operating System

Microsoft Windows Storage Server 2012 R2, Standard Edition

- Windows Storage Server 2012 R2 (WSS2012 R2) includes a robust range of file serving and storage capabilities. It addresses heterogeneous environments and it enables more efficient storage utilization. WSS2012 R2 delivers a similar level of performance and reliability as more expensive storage solutions and it offers support for both file (SMB and NFS) and block (iSCSI) protocols, allows for a flexible mix of configurations and includes advanced data management tools. WSS2012 R2 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), NFS (v2, v3, v4.1), WebDAV, HTTP/HTTPS, FTP/FTPS, iSCSI
- SMB 3: Leverage high performance continually available file shares to deliver feature-rich storage for business-critical applications and virtual servers using advanced new functionality.
- New VHDX Standard: Deploy larger capacity virtual storage that can grow to 64 terabytes, is more resilient against corruption, and provides more efficient usage of new 4 KB sector hard disks with the new VHDX virtual storage standard.
- Live Storage Migration: Maintain maximized service-level availability even while moving virtual machine storage between host servers independent of the actual virtual machine.
- SMB 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: For Windows Storage Server 2012 R2, Server for NFS has been updated to support continuous availability. These improvements make it possible to reliably store and run VMware ESX on a virtual machine that is running Windows Server 2012 by using the NFS protocol to share files. Additional improvements in failover clustering take advantage of better resilience to hardware and software outages that may afflict individual cluster nodes. At the same time, failover clustering isolates VMware ESX hypervisor hosts from intermittent glitches during failovers.
- 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. By using boot-capable NICs or a software loader, you can deploy hundreds of diskless servers. This is ideal for large deployments of identical operating system images, such as a Hyper-V server farm or High Performance Computing (HPC) clusters.
- **Data Deduplication:** Data deduplication enables Windows Storage Server 2012 R2 to store more data in less physical space and achieve storage efficiency that is significantly higher than was possible in previous releases of Windows Storage Server that used Single Instance Storage (SIS) or NTFS file system compression. 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 savings with the Deduplication Evaluation Tool. When the deduplication feature is installed, the Deduplication Evaluation Tool (DDPEval.exe) is automatically installed to the \Windows\System32\ directory. This tool can be copied from any Windows Storage Server 2012 installation to systems running Windows Server 2012 R2, Windows Server 2012, Windows Server 2008 R2, or Windows 7. . You can use it to determine the expected savings that you would get if deduplication is enabled on a particular volume. DDPEval.exe supports local drives, and it supports evaluating mapped or unmapped remote

Standard Features - StoreEasy 3840 Gateway

shares.

- **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.
- **VSS for Remote SMB File Shares:** Leverage proven Volume Shadow Copy Service (VSS) to offload snapshot and backup operations to remote storage from VSS hardware providers within Hyper-V virtual machines.
- **Offloaded data transfer (ODX):** Enables you to accomplish more with existing external storage arrays by letting you quickly move large files and virtual machines directly between storage arrays, which reduces host CPU and network resource consumption.
- **Thin Provisioning and Trim:** Full support for thinly provisioned storage arrays, which lets you get the most out of your storage infrastructure. Sophisticated storage solutions offer just-in-time allocations known as "thin provisioning," and the ability to reclaim storage that is no longer needed, known as "trim."
- **Hosted Branch Cache:** Using client/server architecture, Windows 7 client computers can cache content on the local network via the Hosted Cache running on the StoreEasy 5000 Storage. Other clients who need the same content retrieve it directly from the Hosted Cache.
- **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.
- **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.
- **Work Folders:** With Work Folders 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
- **File Server Resource Manager (FSRM):** File Server Resource Manager is a set of features that allow you to manage and classify data that is stored on file servers. File Server Resource Manager includes the following features:
 - **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.
 - **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

Standard Features - StoreEasy 3840 Gateway

- 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.
 - Quota management: 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 management: 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.
- Initial Configuration Tasks Wizard: Simplifies and accelerates new device deployment by presenting basic system settings on your first boot.
- Server Manager
- Unlimited Client Access Licenses (CALs) included

NOTE: Windows Storage Server 2012 R2 and Windows Server 2012 R2 are built on the same code base. Applications certified for Windows Server are expected to have the same application compatibility profile on Windows Storage Server. Windows Storage Server 2012 R2 and Windows Server 2012 R2 have the same application frameworks, services and plumbing to support running the full breadth of Window-compatible applications. Applications that rely upon certain roles that are removed from Windows Storage Server 2012 R2, such as fax server, active directory 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. HP StoreEasy customers should review the End User License Agreement (EULA) to see the types of applications that are permitted for installation. All versions of Windows Storage Server 2012 R2 can join Active Directory domains, but cannot be a domain controller.

More information on Windows Storage Server 2012 R2 Standard Edition can be found here:
<http://technet.microsoft.com/en-us/library/jj643303.aspx>

Processor / Cache Memory	Intel® Xeon® E5-2609 v2 (2.5GHz/4-core/10MB/6.4GT-s QPI/80W) Processor	
Memory	Type	DDR3 Registered (RDIMM) standard
	Standard	16GB (4 x 4GB)
	DIMM Sockets	24
Network Controller	NIC Ports	4
	Controller	HP Ethernet 1Gb 4-port 331FLR Adapter

HP StoreEasy 3840



Standard Features - StoreEasy 3840 Gateway

Expansion Slots

Primary Riser (Standard)	Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
	1	PCIe 3.0	X16	X16	7	Full Length, Full Height Slot	Proc 1
	2	PCIe 3.0	X8	X8	10	Half Length, Full Height Slot	Proc 1
	3	PCIe 2.0	X4	X8	13	Half Length, Full Height Slot	Chipset

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

** Indicates the number of physical electrical lanes running to the connector.

NOTE: When populating the second optional riser slot, the second processor must be installed.

NOTE: All slots support up to 150w PCIe cards, but an additional Power Cord Option is required (PN 669777-B21). See Option Section below for offering.

PCIe Riser (Optional 3-slot)	Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
	4	PCIe 3.0	X16	X16	16	Full Length, Full Height Slot	Proc 2
	5	PCIe 3.0	X8	X8	20	Half Length, Full Height Slot	Proc 2
	6	PCIe 3.0	X4	X8	23	Half Length, Full Height Slot	Proc 2

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

** Indicates the number of physical electrical lanes running to the connector.

NOTE: When populating the second optional riser slot, the second processor must be installed.

NOTE: All slots support up to 150w PCIe cards, but an additional Power Cord Option is required (669777-B21). See Option Section below for offering

Storage Controller	NOTE: HP StoreEasy 3840 Gateway Storage products include a storage controller designed for internal drives housing the O/S mirror only; an HBA is required to address external SAN or array storage.						
Controller(s)	HP Smart Array P420i/1GB with FBWC						
RAID	0/1/1+0/5/5+0						

Storage	Hard Drives
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3840

Standard Features - StoreEasy 3840 Gateway

Internal	Eight 2.5" (Small Form Factor) hot-plug bays <ul style="list-style-type: none"> 2 x 300GB 6G SAS 10K SFF HDDs for O/S mirror
External	Designed for attach to Fibre Channel (HBA required), SAS (HBA required), or iSCSI (Microsoft iSCSI initiator included) arrays

Power Supply 2 x 750 Watts Gold

Power Cords **NOTE:** The HP StoreEasy 3840 Gateway Storage products are primarily connected to PDU's in data center racks so they now ship standard with only a PDU 6-foot C-14 to C13 power cord (142258-001). If a user wishes to power a system using a 110V receptacle see Power Cord option section for more options.

System Fans (4) (N+1 redundancy standard)

Form Factor 2U Rack form factor

Optional Software - StoreEasy 3840 Gateway

HP Data Protector software

HP Data Protector software is enterprise data protection and disaster recovery, ensuring recovery from any disruption. Data Protector integrates a variety of techniques to eliminate backup and recovery windows. The capabilities to eliminate planned downtime range from online backup and backup of open files to zero-downtime, zero-impact backup. The software provides industry-leading instant recovery as well as several disaster recovery alternatives to eliminate unplanned downtime, allowing recovery of entire data centers in minutes.

Data Protector is enabling organizations to reduce costs by automating routine tasks to maximize the effectiveness of the data protection staff. For the price of an entry-level product, it provides the enterprise functionality customers need. Data Protector scales from single server to distributed enterprise, covering an extensive range of heterogeneous applications, operating environments and storage configurations with a single solution.

All HP StoreEasy 3840 support using Data Protector as a backup software solution.

For more information on HP Data Protector: <http://www.hp.com/go/dataprotector>

HP Autonomy LiveVault

HP LiveVault enables organizations to protect their critical application data and manage their long-term retention needs in the cloud. The LiveVault agent that is installed on HP StoreEasy Storage encrypts all data before transferring it. All data remains encrypted at HP secure, offsite, underground data centers - as well as on the optional TurboRestore(TM) appliance which resides in the customer data center. To ensure the physical security and availability of stored data, the LiveVault service mirrors all data to a second, geographically dispersed data center for full failover and redundancy. For a 30 day free trial of HP LiveVault go to: <http://www.remotedatabackups.com/storeeasy>

SAN / Array Compatibility - StoreEasy 3840 Gateway

Host Bus Adapter (HBA) Support HP StoreEasy 3840 Gateway Storage products are designed to be connected to a SAN or storage array by adding a recommended Fibre Channel or SAS HBA, or by using an iSCSI initiator.

HBA selection is left as your choice based on existing infrastructure and/or desired array support. Please see compatible HBAs listed in the 'Options' section below.

NOTE: See the following URL for additional information about Fibre Channel HBAs:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

HP SAN / Array Support	HP 3PAR StoreServ	http://h18006.www1.hp.com/storage/disk_storage/3par/index.html
	HP StoreVirtual	http://h18000.www1.hp.com/products/quickspecs/13254_div/13254_div.html
	HP P9000/XP	http://h18006.www1.hp.com/storage/xparrays.html
	HP P6000/EVA	http://h18006.www1.hp.com/products/storageworks/eva/index.html
	HP P2000/MSA	http://h18000.www1.hp.com/products/quickspecs/13551_div/13551_div.pdf

HP StoreEasy 3840 Gateway Storage products and third-party storage arrays/SAN interoperability statement

HP acknowledges that some third-party storage arrays/SAN environments have been successfully tested for interoperability with HP StoreEasy 3840 products. HP will provide support for the HP StoreEasy 3840 products when connected to third-party storage arrays, but HP will not provide support on third-party storage arrays/SAN unless specifically called out in an HP Support contract. HP may support the third-party SAN environment attached to HP StoreEasy 3840 product when specifically under contract with HP, but that SAN coverage does not extend to supporting the SAN connectivity of the third-party array.

If you call HP Services and the problem is determined to be caused by a third-party storage array or the storage arrays' connectivity into a non-HP supported SAN, you will be directed to contact the third-party storage array supplier for support. Please refer to the third-party supplier for information relating to specific support of their storage arrays with Windows Storage Server 2012 R2 Standard Edition.

Models (Pre-configured) - StoreEasy 3840 Gateway

These models come with factory-installed drives and the Microsoft Windows Storage Server 2012 Standard Edition operating system pre-installed

Choose a Pre-configured Model

NOTE: All options ship separately and are not factory integrated.

			Part Number
HP StoreEasy 3840 Gateway Storage			E7X03A
Specifications	Operating System	Microsoft Windows Storage Server 2012 R2, Standard	
	Processor	Intel® Xeon® E5-2609 v2 (2.5GHz/4-core/10MB/6.4GT-s QPI/80W) Processor	
	Memory	16 GB (4 x 4GB Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory)	
	Storage Controller	Smart Array P420i with 1 GB FBWC Controller with internal SAS port for O/S drives)	
	Internal Storage	2 x 300GB 6G SAS 10K 2.5" ENT hot-plug SFF HDDs (for pre-installed OS, configured as RAID1)	
	Expansion Slots	3 x PCIe (6 with option PCIe Riser)	
	Network Ports	HP Ethernet 1Gb 4-port 331FLR Adapter	
	Form Factor	2U Rack	

Add a Performance Kit (adds second processor, doubles standard memory and provides additional 1GbE or 10GbE)

HP StoreEasy 3840 Gateway Storage 1Gb Performance Kit	E7X06A
NOTE: This kit contains one Intel® Xeon® E5-2609 v2 processor, 16GB (4 x 4GB Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage) Memory, and one HP NC365T 1Gb 4-port Ethernet Server Adapter	
HP StoreEasy 3840 Gateway Storage 10Gb Performance Kit	E7X07A
NOTE: This kit contains a one Intel® Xeon® E5-2609 v2 processor, 16GB (4 x 4GB Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage) Memory of memory, and one HP 560SFP+ 10Gb 2-port Ethernet Adapter	

Add a second processor

Intel® Xeon® E5-2609 v2 (2.5GHz/4-core/10MB/6.4GT-s QPI/80W) Processor Kit	715222-B21
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Add More Memory

NOTE: HP recommends that you add the same type memory to the product that is shipped standard with the product.

NOTE: HP memory from previous generation servers are not fully compatible with Smart Memory features in Gen8 Servers.

Registered DIMMs (RDIMMs)

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit	713981-B21
NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: http://www.hp.com/go/ddr3memory-configurator .	

Models (Pre-configured) - StoreEasy 3840 Gateway

NOTE: PC3L is a low voltage memory.

See the HP ProLiant Gen 8 QuickSpecs for information on memory configurations.

http://h18004.www1.hp.com/products/quickspecs/14212_div/14212_div.html

Add additional options

NOTE: Multifunction Server Adapters support the installed Microsoft Windows Server Scalable Networking Pack, which enables TCP Chimney offload, Receive-side Scaling (RSS), and Network Direct Memory Access (NetDMA) features.

HP Networking

Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter	503746-B21
HP NC365T 4-port Ethernet Server Adapter	593722-B21
HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
HP Ethernet 1Gb 2-port 361T Adapter	652497-B21
HP Ethernet 1Gb 2-port 332T Adapter	615732-B21

10 Gigabit Ethernet Adapters

NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.

NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.

HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
HP Ethernet 10Gb 2-port 530T Adapter	656596-B21
HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
HP Ethernet 10Gb 2-port 561T Adapter	716591-B21
HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
HP Ethernet 10Gb 2-port 570SFP+ Adapter	718904-B21
HP Ethernet 10Gb 2-port 571SFP+ Adapter	728987-B21

HP InfiniBand

QLogic InfiniBand 4X QDR PCI-E G2 Dual Port HCA	583211-B21
HP InfiniBand 4X QDR ConnectX-2 PCIe G2 Dual Port HCA	592520-B21
HP Infiniband FDR/Ethernet 10Gb/40Gb 2-port 544QSFP Adapter	649281-B21

NOTE: For the following two InfiniBand Adapters, only 1 FlexibleLOM can be added to the system. These two options are for upgrade or change from original configuration.

NOTE: FLR Indicates new HP FlexibleLOM Adapter series.

HP Infiniband FDR/Ethernet 10Gb/40Gb 2-port 544FLR-QSFP Adapter	649282-B21
HP Infiniband QDR/Ethernet 10Gb 2-port 544FLR-QSFP Adapter	649283-B21
HP InfiniBand FDR 2-port 545QSFP Adapter	702211-B21

NOTE: 10Gb Ethernet requires the use of the QSFP to SFP+ adapter P/N 655874-B21.

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html

HP Optical Drives

HP 12.7mm Slim SATA DVD-ROM JackBlack Optical Drive	652232-B21
HP 12.7mm Slim SATA DVD-RW JackBlack Optical Drive	652235-B21

HP I/O Expansion Options

HP DL380p/560 Gen8 3 Slot PCI-E Riser Kit	653206-B21
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Models (Pre-configured) - StoreEasy 3840 Gateway

NOTE: When populating the second optional riser slot, the second processor must be installed.

HP Security	<p>HP Trusted Platform Module Option</p> <p>NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: http://www.hp.com/go/TPM.</p> <p>NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.</p>	488069-B21
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HP StoreEasy 3840 Gateway Storage products are designed and optimized for connection to SAN storage arrays and use HBAs, rather than additional Storage Controllers.

NOTE: HBAs are not included standard. HBA selection is left as your choice based on existing SAN infrastructure and/or desired array support.

HP Fibre Channel	<p>Storage Fibre Channel HBA</p> <p>NOTE: For the complete listing of Fibre Channel Host Bus Adapters for Windows 2000, Windows Server 2003 and Linux, please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html</p> <p>Brocade Fibre Channel HBAs</p> <p>HP 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter</p> <p>Emulex Fibre Channel HBAs</p> <p>HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter</p> <p>HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter</p> <p>QLogic Fibre Channel HBAs</p> <p>HP 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter</p> <p>HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter</p> <p>Converged Network Adapter</p> <p>HP CN1100E Dual Port Converged Network Adapter</p> <p>HP CN1000Q Dual Port Converged Network Adapter</p> <p>HP StoreFabric CN1100R Dual Port Converged Network Adapter</p>	<p>AP770B</p> <p>AJ763B</p> <p>C8R39A</p> <p>AJ764A</p> <p>QW972A</p> <p>BK835A</p> <p>BS668A</p> <p>QW990A</p>
HP SCSI	<p>SCSI HBA</p> <p>HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter</p>	<p>412911-B21</p>
HP SAS	<p>SAS HBA</p> <p>HP H221 PCIe 3.0 SAS Host Bus Adapter</p> <p>HP H222 Host Bus Adapter</p> <p>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html</p>	<p>729552-B21</p> <p>650926-B21</p>

Models (Pre-configured) - StoreEasy 3840 Gateway

(HBA 221)

http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html

(HBA 222)

Service and Support, HP Care Pack, and Warranty Information - StoreEasy 3840 Gateway

Warranty

HP StoreEasy 3840 Gateway Storage Blade products 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.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Services Included with the Product One year of HP Software Support, standard 9x5 business hours (software advisory and remedial software telephone support, and media and documentation distribution service).

Service and Support **Services to accelerate time to results**

HP Storage Services bring you a rich portfolio of consulting and support services designed to add value to our core storage products and solutions. We have the know-how and experience to put storage technology to work for you. We work closely with you as your strategic partner, leveraging our full services portfolio to make sure that everything works to optimize your enterprise.

Choose from services aligned to our storage product offerings and lifecycle. From mission-critical onsite services to innovative web-based remote support, you choose the precise level of attention and support your business demands.

Discover, plan, and design

Choose from a rich portfolio of services to make the most of HP StoreEasy Storage, so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.

HP Services can help you discover needs and create a plan for simplifying the environment, reducing risk, and maximizing your storage investments

HP Backup Recovery Efficiency Analysis - Assessment of how efficiently backup components are being used as the amount of data to be backed up continues to grow exponentially via analysis intelligence and a snapshot of your current backup environment.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8490ENW.pdf>

HP 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.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1175ENW.pdf>

HP Backup Recovery Modernization - Initial discovery, interviews, reference architecture design, proposal content development, vendor grading, and final recommendations carried out so as to require minimal resources and locations on your part.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1199ENW.pdf>

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

Deploy and integrate

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

Service and Support, HP Care Pack, and Warranty Information - StoreEasy 3840 Gateway

HP StoreEasy 1000/3000 Storage Installation and Startup Service -Expert system installation and setup by an HP technical specialist designed to reduce implementation time and cost, with your basic questions about the service answered during the included orientation session.

http://h20195.www2.hp.com/v2/GetDocument.aspx?cc=us&doclang=EN_US&docname=4AA2-6112ENW&doctype=data%20sheet&lc=en&searchquery=&jumpid=reg_r1002_usen_c001_title_r0004

HP 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 HP storage quickly and efficiently.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-0774ENW.pdf>

HP Storage and Data Consultant Residency Service - Strategic augmentation of your current environment with HP resources who become your trusted advisor to provide answers that are right for your storage and backup environment.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9481ENW.pdf>

HP Proactive Select - A flexible way to purchase services to fit your environment with an extensive menu of HP Proactive Select event and technical services, such as onsite firmware upgrades, health checks, assessments, and education.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENW.pdf>

Operate and support

Choose the right support to maximize uptime, free up your resources, and achieve improved value- as you get the most out of the existing IT assets while accelerating time-to-revenue.

HP Proactive Care 24x7 - Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center Specialists plus firmware and software management and best practice advice

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

HP Proactive Care Personalized Support - An option-if you have HP Proactive Care- to bring increased personalization of the Proactive Care support experience through the assignment of an Account Service Manager (ASM) who provides IT best practice advice to help address IT issues and projects.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-3446ENW.pdf>

HP Support Plus 24 - Support for environments where proactive help from HP is not required, with 24x7 hardware and software support onsite that includes third-party support with a maximum four-hour onsite response.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf>

HP Education Services - Comprehensive training for new, as well as experienced, storage administrators designed to expand your skills and keep you up to speed with the latest storage and virtualization technology from HP Storage.

<http://education.hp.com/curr-storsan.htm>

Optimized Care - Delivers the highest levels of Choose from three levels of operate and support care
HP Proactive Care 24x7-Plus, 20 credits per year

Service and Support, HP Care Pack, and Warranty Information - StoreEasy 3840 Gateway

performance and stability through deployment and proactive management practices

Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year

Standard Care-maintains high level of uptime, along with expert help to cut the cost and complexity of implementation and support

HP Proactive Care 24x7-Plus, 10 credits per year

Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additional HP Proactive Select credits per year

Basic Care-Minimum recommended support

Support Plus 24- Plus, 10 credits per year

Additional options - 10 HP Proactive Select credits per year

Remote Support Automation

HP Insight Remote Support-Available at no additional cost to all warranty, HP Care Pack Service and service agreement customers, uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnosis and problem resolution.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-4676ENW.pdf>

<http://h18004.www1.hp.com/products/servers/management/insight-remote-support/overview.html>

For more information

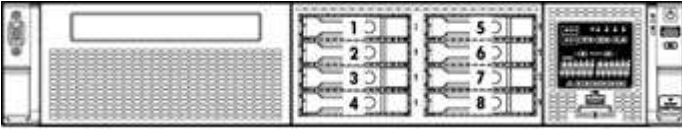
<http://www.hp.com/services/storage>

To learn more on HP Storage Services, please contact your HP sales representative or HP Authorized Channel Partner

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at: www.hp.com/go/lookuptool

Storage - StoreEasy 3840 Gateway



1-8

Eight 2.5" (SFF) hot plug hard drive bays (3840 ships with only two SAS drives for OS)

Technical Specifications - StoreEasy 3840 Gateway

StoreEasy 3840 Gateway Storage			
System Unit	Dimensions (H x W x D) (with bezel)	SFF Drives: 3.44 x 17.54 x 27.50 in (8.73 x 44.55 x 69.85 cm)	
	Weight (approximate)	Maximum (all hard drives, power supply, and processor installed)	61.00 lb (27.66 kg)
		Minimum (one SFF hard drive, power supply, and processor installed, ODD not installed)	41.0 lb (18.59 kg)
	Input Requirements (per power supply)	Rated Line Voltage	100 to 120 VAC 200 to 240 VAC
		Rated Input Current	For 1200 W Power Supply: 10 A (at 100 VAC), 4.9 A (at 200 VAC) For 750 W Power Supply: 8.9 A (at 100 VAC), 4.3 A (at 200 VAC) For 460 W Power Supply: 5.5 A (at 100 VAC), 2.6 A (at 200 VAC)
		Rated Input Frequency	50 to 60 Hz
		Rated Input Power	For 1200 W Power Supply: 930 W (at 100 VAC), 1348 W (at 200 VAC) For 750 W Power Supply: 857 W (at 100 VAC), 824 W (at 200 VAC) For 460 W Power Supply: 526 W (at 100 VAC), 505 W (at 200 VAC)
	BTU Rating	Maximum	For 1200 W Power Supply: 3530 BTU/hr (at 100 VAC), 4600 BTU/hr (at 200 VAC) For 750 W Power Supply: 2925 BTU/hr (at 100 VAC), 2812 BTU/hr (at 200 VAC) For 460 W Power Supply: 1794 BTU/hr (at 100 VAC), 1725 BTU/hr (at 200 VAC)
	Power Supply Output (per power supply)	Rated Steady-State Power	For 1200 W Power Supply: 800 W (at 100 VAC),

Technical Specifications - StoreEasy 3840 Gateway

		900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
	Maximum Peak Power	For 1200 W Power Supply: 800 W (at 100 VAC), 900 W (at 120 VAC), 1200 W (at 200 to 240 VAC) For 750 W Power Supply: 750 W (at 100 to 120 VAC), 750 W (at 200 to 240 VAC) For 460 W Power Supply: 460 W (at 100 to 120 VAC), 460 W (at 200 to 240 VAC)
System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	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	10% to 90% relative humidity (Rh), 28°C (82.4°F) 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	3048 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).
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	

Technical Specifications - StoreEasy 3840 Gateway

		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. NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.	
		Idle	
		LWAd	4.1 B
		LpAm	25 dBA
		Operating	
		LWAd	4.3 B
		LpAm	27 dBA
	Emissions Classification (EMC)	FCC Rating	Class A
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1
		NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements. NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.	

HP iLO 4 On System Management

Architecture

PCI Express based health and remote management ASIC

Processor

Embedded ARM processor core operating at 400MHz

Upgradeability

Firmware upgradeable via Flash ROM

Video Support

1920 x 1200 (16 bpp) DVR max resolution

Interfaces

HP iLO Dedicated* Network connection (10/100/1000 Mb/s) on rack, tower and SL systems

***Optional Module on some servers**

HP iLO Shared Network connection (10/100/1000 Mb/s) on rack, tower and SL systems

HP iLO network connection to blades (100 Mb/s) to Onboard Administrator (with 10/100/1000 Mb/s uplink) on blade systems

Memory

16 MB Flash

256 MB DDR 3 with ECC (112 MB after ECC and video)

Operating System Support

For information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: <http://www.hp.com/go/ossupport>

Client System Support

For information on Client System Support, please visit the HP iLO Feature Comparison Site at: <http://www.hp.com/go/compareilo>

Client Browser Support

Microsoft Internet Explorer 9

Technical Specifications - StoreEasy 3840 Gateway

NOTE: For customers using Protected Mode, please use the Java based version of Integrated Remote Console.

Microsoft Internet Explorer 8

NOTE: For customers using Protected Mode, please use the Java based version of Integrated Remote Console.

Microsoft Internet Explorer 7

Firefox Extended Support Release (ESR) 10 (on supported Windows and Linux systems)

Firefox 3.6 (on supported Windows and Linux systems)

Command Line Support

Secure Shell and serial port access

Secure Socket Layer

Secure Shell version 2

Security

Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface

AES encryption of video

RC4 encryption of video

Directory Support Services

Active Directory v1.0 (Windows 2003)

Driver Support

HP ProLiant iLO 4 Management Controller Driver Package

Management protocols supported

SNMP, IPMI 2.0 (system and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML

HP Smart Array P420i Controller

Dimensions

Embedded

Disk Drive and Enclosure Interface - Transfer Rate

6Gb/s SAS (Serial Attached SCSI)

3Gb/s SATA (Serial ATA)

SAS Connectors

2 internal 4X connectors

Cache Memory Speed

512MB FBWC - DDR3-1333MHz with 40-bit wide bus, 1GB or 2GB FBWC
DDR3-1333MHz with 72-bit wide bus

Server Interface

x8 PCIe 3.0 provides 8GB/s maximum bandwidth

SAS Speed

(8) 6Gb/s SAS links provide 4.8GB/s maximum bandwidth

Cache Memory

Zero Memory RAID has no cache memory
40-bit 256MB ECC protected cache (battery upgrade available)
72-bit 512MB BBWC or 72-bit 512MB and 1G FBWC

Logical Drives Supported

Zero Memory, Up to 2 logical volumes (8SFF or 4LFF physical drives)
Up to 64 logical drives with cache

Host Memory Addressing

64-bit, supporting greater than 4GB server memory space

RAID Support

RAID 6, 6+0 (Advanced Data Guarding)

NOTE: RAID 6, 6+0 can be enabled with one of the following combinations:

- 512MB FBWC and Smart Array Advanced Pack License key option upgrades

Technical Specifications - StoreEasy 3840 Gateway

- 1GB or 2GB FBWC and Smart Array Advanced Pack License key option upgrades

RAID 5, 5+0 (Distributed Data Guarding)

NOTE: A minimum of 512MB cache is required to enable RAID 5, 5+0 support

RAID 1+0 (Striping & Mirroring)

RAID 0 (Striping), RAID 1 (Mirroring)

HP Ethernet 1Gb 4-port 331FLR Adapter	HP Flexible Network Technology	HP Flexible Network Technology consists of replaceable network solutions to meet the customers require now or in the future.	
	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	EEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
		IEEE 802.3ad 1000Base-TX	
		IEEE 802.1p 100Base-TX	
		IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Chipset	BCM5719	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000 Mb/s
Connector	Two RJ-45		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
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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 web site at: <http://www.hp.com/go/green>. These

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instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Summary of Changes

Date	Version History	Action	Description of Change:
24-Jul-2015	From Version 13 to 14	Changed	Changes were made throughout all document
01-Jun-2015	From Version 12 to 13	Changed	Added the HP StoreEasy 3850 Gateway Storage
07-Nov-2014	From Version 11 to 12	Removed	Removed all HP StoreEasy 3830 Gateway references. (obsolete), remove some obsolete SKUs (QR559A and 650931-B21)
18-Jul-2014	From Version 10 to 11	Changed	Models (Pre-configured) added section – HP StoreEasy Windows Storage Server 2012 R2 Upgrade – D4T73A
03-Jul-2014	From Version 9 to 10	Changed	Optional software – replaced link in the HP Autonomy LiveVault and HP LiveVault sections
09-May-2014	From Version 8 to 9	Changed	Changes were made throughout.
18-Apr-2014	From Version 7 to 8	Changed	Updated the following: Models - 3840 Gateway Storage - updated callout #4; Standard Features - Operating System - fixed typo in 3rd bullet; changed "16 terabytes" to "64 terabytes" in VHDX bullet. Updated Data Deduplication paragraph; Standard Features - Power Supply changed "460 Watts Platinum" to "750 Watts G; Optional Software - HP Autonomy Live Vault - removed "Autonomy"; Models (Pre-configured) - Choose a Pre-configured Model - Add a Performance Kit - added "1Gb" to the description of the NC365T Adapter - E7X06A and fixed naming of E7X07A; Add Additional options - added "HP InfiniBand" sub-sections with SKUs and notes; removed sub-section on "Windows Storage Server 2012 R2 Upgrade"; Optional Software - replaced sub-section on HP LiveVault; Add additional options- HP Networking - added 716591-B21, 718904-B21, 728987-B21; added HP InfiniBand sub-section; HP Fibre Channel - added C8R39A and QW990A adapters; SAS HBA - added 729552-B21 and 650926-B21 adapters with Notes and links
31-Mar-2014	From Version 6 to 7	Changed	Changes were made throughout.
26-Jul-2013	From Version 5 to 6	Changed	Operating System was revised in Standard Features Internal storage was revised in Standard Features, Models, and Storage
05-Jul-2013	From Version 4 to 5	Changed	Operating System was revised in Standard Features Internal storage was revised in Standard Features, Models, and Storage
10-Jun-2013	From Version 3 to 4	Changed	Overview: Updated What's New " Intuitive wizard driven tool optimizes storage provisioning. " Deduplication evaluation tool that can be launched from StoreEasy interface and run against local data and remote file

Summary of Changes

			<p>shares.</p> <p>" Choice of headless mode for increased security and lower maintenance.</p> <p>"Optional onboard HP Data Protector software and HP Autonomy LiveVault for cloud and hybrid cloud backup and recovery.</p> <p>"Wizard-based easy clustering for gateways simplifies deployment of highly available file services for SANs.</p> <p>Features and Benefits: Completely updated the entire section.</p> <p>Standard Features: Updated Operating System section.</p> <p>Optional Software: UPdate HP Data Protector software and HP Autonomy LiveVault sections.</p> <p>Modesl (preconfigured) UPdated StoreEasy 3830 section completely.</p>
19-Apr-2013	From Version 2 to 3	Changed	<p>Overview: Update Models section information</p> <p>Standard Features: Updated Operating Systems section.</p> <p>Optional Software: Updated HP Autonomy LiveVault section.</p> <p>Models (preconfigured): Updated HP Networking section</p> <p>Service and Support, HP Care Pack, and Warranty Information: Updated Warranty section.</p>
21-Dec-2012	From Version 1 to 2	Changed	<p>Changes were made in the following sections:</p> <p>Overview: update description</p> <p>Models (Pre-Configured) : in Step 1 and HP Fibre Channel updated descriptions and part numbers.</p>

Summary of Changes

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.