Overview

HP StoreEasy 3830 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 DL380p Generation 8 hardware, the HP StoreEasy 3830 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 3830 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

- Now built on ProLiant DL380p Gen 8 server
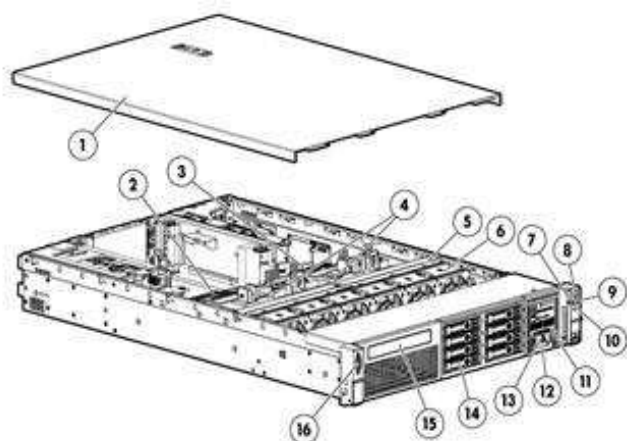- Windows Storage Server 2012, Standard Edition Operating System

HP StoreEasy 3830 Gateway Storage

The HP StoreEasy 3830 Gateway Storage sets the standard for performance and expandability in gateway services for your array or Fibre Channel SAN. The StoreEasy 3830 is built upon a ProLiant DL380p Gen8 server.

Models

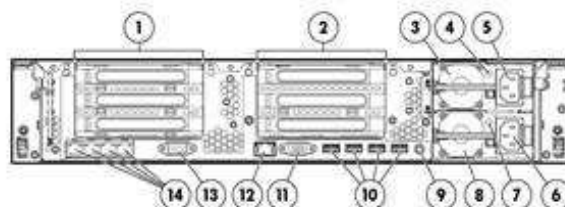HP StoreEasy 3830 Gateway Storage   B7E00A

Front View:

1. Quick removal access panel
2. Second Intel Processor
3. First Intel Processor
4. 24 DIMM slots: DDR3 Registered (RDIMM), Load Reduced (LRDIMM), or Unbuffered (UDIMM) memory
5. Air Baffle
6. Hot-plug fans, full N+1 redundancy
7. Health LED
8. Power On /Standby button and system power LED button
9. USB connector
10. Unit ID LED
11. Systems Insight Display

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 communication)
7. Power supply 2 Power LED
8. Power supply 2
9. Unit ID LED/Button
10. USB connectors (4)
11. Video connector

Overview

12. Asset Tag
13. USB connector
14. Drive Bays
15. Optional Slim Optical Bay (SATA DVD-RW /ROM Optical Drive)
16. Video connector

12. iLO connector
13. Serial connector
14. FlexibleLOM ports

Features and Benefits

Efficiently Enhance Your Resources While Saving Money	The HP StoreEasy 3000 Gateway Storage systems support large numbers of users concurrently accessing their files thanks to a high performance file serving controller and a range of drive media including SSDs.

Increase capacity use with non-intrusive data deduplication that provides an average 50-60% in space savings.

Leverage advanced data management to automatically enhance resource use, enable compliance with data retention policies, and apply added protection to sensitive files.

Consolidate multiple workloads and roles 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 support for services such as print, DNS, and DHCP.

Reduce branch office WAN usage by automatically caching frequently accessed corporate data center files with Hosted BranchCache. |
| **Security is Built-in with On-board Data Protection** | 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.

Protect data while at rest with file system encryption and BitLocker Drive Encryption, and while it is being transferred with SMB 3.0 encryption and signing. |
| **Highly Available, Reliable and Robust Platform** | Increase uptime with such standard features as multi-node clustering, continuous health monitoring with HP Active Health System, mirrored operating system disks, hot plug redundant fans and power, advanced memory protection, and a 3-year onsite warranty.

Confidently deploy large volumes leveraging improved file system self-healing, file system online analysis, and greatly reduced downtime for corruption correction. |

Standard Features

Operating System   Microsoft Windows Storage Server 2012, Standard Edition

- Windows Storage Server 2012 (WSS2012) includes a robust range of file serving and storage capabilities. It addresses heterogeneous environments and it enables more efficient storage utilization. WSS2012 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 leverages your Windows Server management skill sets and tools including Active Directory, PowerShell and System Center.
- SMB 3.0: 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 16 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, 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 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 Server 2012 installation to systems running 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 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.
- 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

Standard Features

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.
- 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 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
- Print Management Console: Manage multiple printers (license for unlimited printer support) from a single console, whether locally or over the WAN
- Unlimited Client Access Licenses (CALs) included

More information on Windows Storage Server 2012 Standard Edition can be found here:
http://www.microsoft.com/en-us/server-cloud/windows-storage-server/default.aspx

Processor / Cache Memory	Intel® Xeon® E5-2609 (2.40GHz/4-core/10MB/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

Standard Features

HP StoreEasy 3830
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

Standard Features

Storage Controller	**NOTE:** HP StoreEasy 3000 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	
		3830
	Internal	Eight 2.5" (Small Form Factor) hot-plug bays
		● 2 x 450GB 6G SAS 15K 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 460 Watts Platinum

Power Cords	**NOTE:** The HP StoreEasy 3830 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 a110V receptacle see Power Cord option section for more options.

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

Form Factor	2U Rack form factor

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.

All HP StoreEasy 3830 support using Data Protector as a backup software solution.

For more information on HP Data Protector:
http://h18006.www1.hp.com/products/storage/software/dataprotector/index.html

HP Autonomy LiveVault HP Autonomy 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 Autonomy'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. Visit www.autonomy.com/StoreEasy

SAN / Array Compatibility

Host Bus Adapter (HBA) Support	HP StoreEasy 3830 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://h18006.www1.hp.com/storage/disk_storage/msa_diskarrays/index.html

HP StoreEasy 3830 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 3830 products. HP will provide support for the HP StoreEasy 3830 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 3830 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 Standard Edition.

Models (Pre-configured)

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 3830 Gateway Storage			B7E00A
Specifications	Operating System	Microsoft Windows Storage Server 2012, Standard	
	Processor	Intel® Xeon® E5-2609 (2.40GHz/4-core/10MB/80W) Processor	
	Memory	16 GB (4 x 4GB)	
	Storage Controller	Smart Array P420i with 1 GB FBWC Controller with internal SAS port for O/S drives)	
	Internal Storage	2 x 450GB 6G SAS 10K 2.5" ENT hot-plug LFF HDDs (O/S mirror)	
	Expansion Slots	3 x PCIe (6 with option PCIe Riser)	
	Network Ports	4 x 1GbE	
	Form Factor	2U Rack	

Add a second processor

Intel® Xeon® E5-2609 (2.40GHz/4-core/10MB/80W) Processor Kit	662252-B21

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-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit — 647893-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: www.hp.com/go/ddr3memory-configurator.
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

Models (Pre-configured)

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 NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21

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/385p/560 Gen8 3 Slot PCI-E Riser Kit	653206-B21

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

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 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: 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.

HP 2U Security Bezel Kit (StoreEasy 3830)	666988-B21

HP StoreEasy 3830 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

Storage Fibre Channel HBA

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

Brocade Fibre Channel HBAs

HP 82B 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AP770B

Emulex Fibre Channel HBAs

HP 82E 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ763B
HP SN1000E 16Gb 2-port PCIe Fibre Channel Host Bus Adapter	QR559A
HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A

QLogic Fibre Channel HBAs

HP 82Q 8Gb 2-port PCIe Fibre Channel Host Bus Adapter	AJ764A

Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter	BK835A
HP CN1000Q Dual Port Converged Network Adapter	BS668A

Models (Pre-configured)

HP SCSI	**SCSI HBA**	
	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter	412911-B21
HP SAS	**SAS HBA**	
	HP H221 Host Bus Adapter	650931-B21

Add a Power Cord

The HP StoreEasy 3830 Storage product comes standard with at least one rack (IEC-IEC) PDU power cord. If you wish to use wall outlet power instead, you can choose a country- or region-specific power cord.

StoreEasy 3830	HP 1.83m 10A C13-UL US Power Cord	AF556A
	HP 1.83m 10A C13 China Power Cord	AF557A
	HP 2.5m 10A C13-Argentina Power Cord	AF558A
	HP 1.83m 10A C13 Brazil Power Cord	AF559A
	HP 1.83m 10A C13 Korea Power Cord	AF560A
	HP 1.83m 10A C13 Taiwan Power Cord	AF561A
	HP 2.0m 10A C13 India Power Cord	AF562A
	HP 2.5m C13 AU/NZ Power Cord	AF569A
	HP 1.83m 10A C13 CH Power Cord	AF565A
	HP 1.83m 10A C13 DK Power Cord	AF566A
	HP 1.83m 10A C13 EU Power Cord	AF568A
	HP 1.83m 10A C13 IL Power Cord	AF564A
	HP 1.83m C13 IT/CL Power Cord	AF571A
	HP 2m C13 Japan Power Cord	AF572A
	HP 1.83m 10A C13 UK Power Cord	AF570A
	HP 2.5m C13 ZA/IN Power Cord	AF567A
	HP 1.83m 10A C13 NBR14136 Brazil Power Cord	AF591A

HP X3800 G2 WSS2012 OS Upgrade	**HP X3800 G2 Upgrade to Windows Storage Server 2012 Standard Edition** X3800 G2 Network Storage Server Gateways with the Microsoft Windows Storage Server 2008 R2, Enterprise Edition Operating System are eligible for a Software-Only Pay -for-Upgrade to the Microsoft Windows Storage Server 2012 Standard Edition operating system:	
	This upgrade is performed as a clean install and all system configuration will be lost including share configurations, so a full backup of the data should be done prior to upgrading	
	* A minimum of two OS drives that are the same type and capacity (146GB minimum) must be present in the system before installation.	
	NOTE: Some expansion cards, including HBAs and NICs, may not be supported by Windows Storage Server 2012. Check Windows Server 2012 driver availability before purchase and installation. All original components that were standard on the X3800 G2 are supported.	
	NOTE: Check for HP and 3rd-party software qualification with the Windows Storage Server 2012 operating system before purchase and installation.	
	HP X1800/X3800 G2 WSS2012 Upgrade Software	TC392A

Service and Support, HP Care Pack, and Warranty Information

Warranty

HP StoreEasy 3830 Gateway Storage 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, new version license rights, and media and documentation distribution service).

For increased uptime, productivity and ROI-HP Care Pack packaged services for Storage

These days, you need to get the most out of your storage investment-you can't afford not to. When you buy HP storage products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your storage. Unlike storage-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HP Care Pack packaged services for Storage.

Protect your business beyond the warranty

When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts-but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime- but not the business. By using a standard approach to warranty uplifts, such as HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HP Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HP Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HP Care Pack packaged services for Storage assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

HP Storage Services: Offering reliability, flexibility and value-just like your storage

HP Storage Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education offers flexible, comprehensive training on storage networking, disk storage systems, and storage software to help your IT staff get the most out of your investments. And HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HP Storage Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. http://www.hp.com/hps/storage

NOTE: Care Pack Services availability may vary by product and country.

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 http://www.hp.com/go/lookuptool

Service and Support, HP Care Pack, and Warranty Information

Recommended HP Care Pack Services for optimal satisfaction with your HP product.

Recommended Services

3-Year HP Support Plus 24

For a higher return on your storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Improve uptime with responsive hardware and software services
- Enjoy consistent service coverage across geographically dispersed sites
- Update HP software at a predictable cost
- Increase customer satisfaction-with no interoperability gaps

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

HP Installation and Startup Service for StoreEasy Storage

For smooth startup, HP Installation and Startup Service provides for deployment of your HP StoreEasy product while helping you establish readily available access to and management of your critical data and applications. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- System installation and setup by a HP technical specialist
- Reduced implementation time and cost
- Verification prior to installation that all service prerequisites are met
- Availability of an HP service specialist to answer basic questions related to this service during the orientation session
- Potential expansion of the number of shares and hosts

http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-6112ENL.pdf

HP Proactive Select Service

HP Proactive Select Service improves your IT performance and manageability through the use of cost effective flexible services. HP provides technical expertise and best practices to accelerate ROI of your technology investment. Selectable proactive services span a wide range of technology and process services - a flexible way to purchase proactive services that fit your particular environment and situation.

HP Proactive Select Service is technology agnostic and purchased in addition to your choice of underlying reactive support.

- Access to a list of flexible and customizable proactive service activities
- Enhance customers' in-house IT team with complementary assistance from HP
- Improved time to solution
- Reduce business risk and project costs by accessing HP specialists
- Simplify IT operational procedures by leveraging HP best practices

http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-3842ENN.pdf

Optional HP Care Pack Services that will enhance your HP product experience.

Optional Services

HP Data Migration Service for Windows

For customers who need to safely migrate Windows data within their TCP/IP networks with minimal impact to their operations:

You have a need to migrate data between Windows servers within your TCP/IP network. Or you

Service and Support, HP Care Pack, and Warranty Information

have a need to migrate storage for your Windows servers. Or both. And you need to accomplish these migrations efficiently while minimizing risk at the same time.

HP Data Migration Service for Windows offers you a cost competitive and convenient way to accommodate data migration triggered by a need to refresh or consolidate storage, or to create different storage tiers. This service offers a migration cost in line with the costs of storage products in small and medium-sized storage environments. The service is delivered via a skilled HP service specialist with special consideration for data availability, integrity, and ongoing operational performance during the transfer process.
http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-4734ENW.pdf

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

Customer Technical Training

Consider education as an integral part of your strategy to get the best return on investment for your HP storage solution. HP offers a variety of training courses on storage software, networking, archiving and disk storage systems. Our classes are available in many delivery modalities from traditional instructor-led courses at one of our 80 training centers worldwide to on-site training customized to your needs or online. www.hp.com/learn/storage
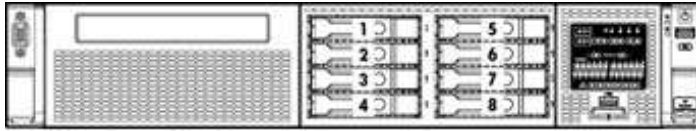
HP Services Awards

HP Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction. For a list of all our awards, please visit:
http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.html

Additional Services Information

For more information about HP Care Pack Services for Storage, please visit:
http://www.hp.com/hps/storageIf you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP"
http://www.hp.com

Storage

1-8   Eight 3.5" (LFF) hot plug hard drive
               bays (3830 ships with only two SAS
               drives for OS)

Technical Specifications

StoreEasy 3830 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), 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:

Technical Specifications

		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 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	FCC Rating	Class A

Technical Specifications

	Classification (EMC)	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: www.hp.com/go/compareilo
	Client Browser Support	Microsoft Internet Explorer 9 **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

Technical Specifications

	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 • 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)

Technical Specifications

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 Compatibility	10Base-T/100Base-TX/1000Base-TX	
		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.
		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.