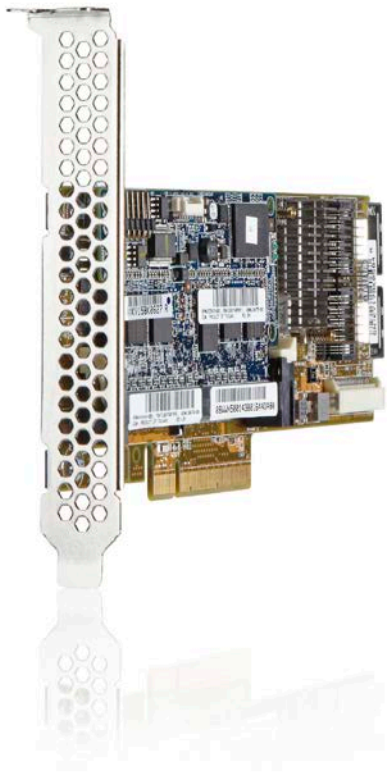
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Overview

HPE Smart Array P421 Controller

The HPE Smart Array P421 Controller is a low profile, 6Gb/s, PCIe 3.0, Serial Attached SCSI (SAS) RAID controller that provides enterprise class, storage performance, maximum external scalability, and data protection for select HPE ProLiant Gen8 rack servers and tower servers.
It features eight external SAS ports and delivers increased server uptime by providing advanced storage functionality, including online RAID level migration (between any RAID levels) with flash back write cache, global online spare, and pre-failure warning. Data Compatibility among all models of Smart Array controllers allows simple and easy migration at any time when needs for higher performance, capacity, and availability increase. Even new generations of Smart Array controllers can understand the data format of previous generations of Smart Array controllers.



Models

HPE Smart Array P421 Controller	HP Smart Array P421/1GB FBWC 6Gb 2-ports Ext SAS Controller	631673-B21
	HP Smart Array P421/2GB FBWC 6Gb 2-ports Ext SAS Controller	631674-B21

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Standard Features

The Smart Array Advantage

HPE's innovative design and integration work of the Smart Array family of products creates customer value that is unmatched in the industry. Use of Smart Array products across multiple applications results in a much lower Total Cost of Ownership (TCO) than any other server storage RAID product. The HPE Smart Array family brings an unparalleled return on investment through:

Data Compatibility among most current shipping Smart Array controllers allows simple and easy upgrades any time needs for higher performance, capacity, and availability increase. Even successive generations of Smart Array controllers understand the data format of other Smart Array Controllers.

Consistent Configuration and Management Tools. Most current shipping Smart Array products utilize a standard set of management and utility software. These tools minimize Total Cost of Ownership (TCO) by reducing training requirements and technical expertise necessary to install and maintain the HPE server storage.

Pre-Failure Warranty means HPE Insight Manager not only reports when a drive is going to fail but allows replacement of failing drives prior to actual failure. For complete details, consult the HPE Support Center or refer to your HPE Server documentation.

Key Features

- The SA-P421 Controller supports up to 200 drives.
- The SA-P421 Controller supports the HPE D2600 Disk Enclosure and HPE D2700 Disk Enclosure (up to 8 daisy chained)Seamless upgrades to current or next generation HPE high performance and high capacity Serial Attached SCSI Smart Array controllers
- 6Gb/s SAS technology delivers high performance and data bandwidth and contains full compatibility with 3Gb/s SATA technology.
- x8 PCIe 3.0 host interface technology delivers high performance and data bandwidth up to 8.5GB/s maximum bandwidth.
- Standard on the P421 are RAID 6, RAID 60, RAID 1 ADM, Capacity Expansion, mirror split, recombine, and rollback in Online Mode, Drive Erase, Performance Optimization-Degraded Reads and Read Coalescing, Move/Delete any individual LUNS
- The HPE SSD Smart Path feature included in the Smart Array software stack improves SSD reads for all RAID levels and RAID 0 write operations by optimizing the path to each SSD attached to the controller
- The HPE SmartCache licensed feature (available as an additional option) is a controller-based read caching solution in a DAS environment that caches the most frequently accessed data ("hot" data) onto lower latency SSDs to dynamically accelerate application workloads
- Mix-and-match SAS and SATA hard drives, lets you deploy drive technology as needed to fit your computing environment
- Support for SAS tape products
- Software consistency on most current shipping Smart Array products: HPE Smart Storage Administrator, HPE Systems Insight Manager, and HPE Intelligent Provisioning. The HPE Smart Storage Administrator configures and manages a host of Smart Array controllers and other storage devices using a single interface. It replaces the HPE Array Configuration Utility (ACU) with an updated design and configuration enhancements
- 1GB or 2 GB 72-bit wide DDR3 1333 MHz Flash Back Write Cache module standard
- Low-profile PCI Express form factor - ships with a full size bracket for deployment in either a low-profile or full sized slot

Online Management Features

- Online array expansion
- Online capacity expansion
- Online logical drive extension
- Online RAID level migration
- Online stripe size migration
- Online mirror split, recombine and rollback
- Online and high performance offline Rapid Parity Initialization (RPI)
- Unlimited global online spare assignment
- User selectable expand and rebuild priority
- User selectable RAID level and stripe size

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Standard Features

	• User selectable read and write cache size • Supports Predictive Spare Activation
Ports	• Eight (8) SAS physical links distributed across 2 external x4 miniSAS connectors.
Performance	HPE's High Performance Architecture sets new boundaries of industry performance expectations! • Second Generation 6Gb/s SAS (600MB/s bandwidth per physical link) • x8 6Gb/s SAS physical links (compatible with 3Gb/s SATA) • 1GB or 2GB 72-bit wide DDR3-1333MHz flash backed write cache provides up to 10.6GB/s maximum cache bandwidth • Read ahead caching • Write-back caching (with FBWC)
Capacity	• Up to 384TB of external storage per controller with 8 x HPE D2600 Disk Enclosure and 96 x 4TB 3.5" SAS or SATA hard drives • Up to 240TB of external storage per controller with 8 x HPE D2700 Disk Enclosures and 200 x 1.2TB SFF SAS hard drives • Up to 200 TB of external storage per controller with 8 x HPE D2700 Disk Enclosures and 200 x 1TB SFF SATA hard drives • Up to 280TB of external storage per controller with 1 x HPE D6000 Disk Enclosure and 70 x 4TB LFF SAS hard drives **NOTE:** Support for greater than 2TB in a single logical drive. Please check the website of the supported Disk Storage System to get the most recent information on maximum capacity
Availability	• Online RAID level migration between any RAID levels • Online stripe size migration • Online capacity expansion • Online logical drive extension • Online active drive replacement • Online drive firmware upgrade • Unlimited global online spare • Pre-Failure Warranty
Fault Prevention	The following features offer detection of possible failures before they occur, allowing preventive action to be taken: • S.M.A.R.T. (Self Monitoring Analysis and Reporting Technology) was first developed by HPE which detects possible hard disk failure before it occurs, allowing replacement of the component before failure occurs. • Drive Parameter Tracking monitors drive operational parameters, predicting failure and notifying the administrator. • Dynamic Sector Repairing continually performs background surface scans on the hard disk drives during inactive periods and automatically remaps bad sectors, ensuring data integrity. • Smart Array Cache Tracking monitors integrity of controller cache, allowing pre-failure preventative maintenance. • Environment Tracking for External Storage System: Monitors fan speed and cabinet temperature of Modular Smart Array Enclosures and HPE Disk Enclosures.
Fault Tolerance	Keeps data available and server running while a failed drive is being replaced; several fault tolerance configurations are supported including: • **RAID 6** (Advanced Data Guarding): Supported with a minimum of 4 drives. This allocates two sets of parity data across drives. This level of fault tolerance can withstand a double drive failure without downtime or data loss.

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Standard Features

	• **RAID 60**: Supported with a minimum of 8 drives. This volume is composed of two or more RAID 6 sub-volumes (parity groups) where data is striped across each parity group as if it were a single physical drive. Each RAID 6 parity group can sustain up to two drive failures without incurring data loss. • **RAID 5** (Distributed Data Guarding): Supported with a minimum of 3 drives. This allocates one set of parity data across drives. This level of fault tolerance can withstand a single drive failure without downtime or data loss. • **RAID 50**: Supported with a minimum of 6 drives. This volume is composed of two or more RAID 5 sub-volumes (parity groups) where data is striped across each parity group as if it were a single physical drive. Each RAID 5 parity group can sustain a single drive failure without incurring data loss. • **RAID 1 & 10** (Drive Mirroring): Supported with a minimum of 2 drives. This allocates half of the drive array to the data and the other half to the mirrored data, providing two copies of the data. • **RAID 1 ADM & 10 ADM** (Advanced Data Mirroring): Supported with a minimum of 3 drives. RAID 1 ADM creates redundant copies of the data using 3 drives. RAID 10 ADM stripes data across two or more sets of RAID 1 ADM volumes. This level of fault tolerance can withstand a double drive failure within a RAID 1 ADM volume without downtime or data loss.
Fault Recovery	Minimizes downtime, reconstructs data, and facilitates a quick recovery from drive failure • Recovery ROM: This feature protects the user from a firmware image corruption by storing a redundant copy of the firmware image. If the active firmware image becomes corrupt, the controller will use the redundant firmware image and continue operating. • On-Line Spares: There is no limit to the number of spare drives that can be installed prior to drive failure. If a failure occurs, recovery begins with an On-Line Spare and data is reconstructed automatically. • DRAM ECC corrects against single bit data and address corruption. • Flash Backed Write Cache provides read ahead caching and write back caching with indefinite write cache data retention in the case of unexpected power outage.
Ease of Use	• GUI based configuration, management and diagnostic software tools with the HPE Smart Storage Administrator • Common data format between generations of products • Data migration between servers and external HPE Modular Smart Array enclosures and HPE Disk Enclosures
HPE SSD SmartPath	The HPE SSD Smart Path feature included in the Smart Array software stack improves Solid State Disk (SSD) read performance. With up to 4x better SSD read performance, HPE SSD Smart path chooses the optimum path to the SSD and accelerates reads for all RAID levels and RAID 0 writes. HPE SSD Smart Path Requires updated firmware, drivers, and configuration utility available at: **http://www.hp.com/go/ssdsmartpath**. HPE SSD Smart Path is ideal for read intensive workloads and is included as a base feature on HPE Smart Array P-series controllers. The following operating systems are supported by the HPE SSD Smart Path feature: • Microsoft Windows Server 2008 • Microsoft Windows Server 2008 R2 • Microsoft Windows Server 2012
HPE SmartCache	The HPE SmartCache licensed feature is a controller-based read caching solution in a DAS environment that caches the most frequently accessed data ("hot" data) onto lower latency SSDs to dynamically accelerate application workloads. The HPE SmartCache architecture is flexible and supports any HPE ProLiant Gen8 supported HDD for bulk storage and any HPE ProLiant Gen8 supported SSD as an accelerator. HPE SmartCache is deployed and managed through the HPE Smart Storage Administrator (HPE SSA)

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Standard Features

or the HPE Array Configuration Utility (ACU).

The basic HPE SmartCache architecture is comprised of the following three elements:

- **Bulk storage:** The first element is the bulk storage device, which is any supported HDD attached to the HPE Smart Array controller.
- **Accelerator:** The second element, the accelerator, is a faster/lower latency SSD device that caches data.
- **Metadata:** The final element is metadata, information held in a relatively small storage area that maps the location of information residing on the accelerator and bulk storage devices.

For more information please visit **http://www.hpe.com/servers/smartcache**

Warranty

The warranty for this device is 3 years parts only.

Pre-Failure Warranty: Drives attached to the Smart Array Controller and monitored under Insight Manager are supported by a Pre-Failure (replacement) Warranty. For complete details, consult the HPE Support Center or refer to your HPE Server Documentation.

Warranty Upgrade Options

- Response - Upgrade on-site response from next business day to same day 4 hours
- Coverage - Extend hours of coverage from 9 hours x 5 days to 24 hours x 7 days
- Duration - Select duration of coverage for a period of 1, 3, or 5 years
- Warranty upgrade options can come in the form of Care Packs, which are sold at the HPE System level to which this product attaches

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Compatibility

Server Support

For up to date compatibility, please see the following URL for complete Smart Array P421 Controller compatibility and support information: **http://www.hp.com/go/smartarray**

Operating Systems

Microsoft Windows Server 2008 (x64 & x86)
Microsoft Windows Server 2012
Red Hat Enterprise Linux 5 (x64 & x86)
Red Hat Enterprise Linux 6 (x64 & x86)
SUSE Linux Enterprise Server 10 (x64 & x86)
SUSE Linux Enterprise Server 11 (x64 & x86)
VMware ESX 4.1
VMware ESXi 4.1
VMware ESXi 5.0
VMware ESXi 5.1

NOTE: For more information on HPE's Certified and Supported ProLiant Servers for OS and Virtualization Software and the latest listing of software drivers available for your server and Smart Array RAID controller, please visit our Support Matrix at: **http://www.hp.com/go/ossupport**
NOTE: For more Linux OS support and certification information, please visit: **http://h18004.www1.hp.com/products/servers/linux/hplinuxcert.html**

Software Suite

Most current shipping Smart Array products share a common set of configuration, management and diagnostic tools, including HPE Smart Storage Administrator, and HPE Systems Insight Manager. These software tools reduce the cost of training for each successive generation of product and take much of the guesswork out of troubleshooting field problems. These tools lower the total cost of ownership by reducing training and technical expertise necessary to install and maintain HPE server storage.

HPE Systems Insight Manager

- Powerful server and server options/storage manager tool
- Monitors over 1200 system wide parameters
- Configuration/Diagnostic Utilities

HPE Smart Storage Administrator (HPE SSA)

- Comprehensive management for HPE Smart Storage products
- Simplified and intuitive interface and functionality
- Advanced scripting and diagnostic features

For more information please visit: **http://www.hp.com/go/hpssa**

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Service and Support

Service and Support

HPE Technology Services
Capitalizing on HPE ProLiant server and HPE BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know Hewlett Packard Enterprise infrastructure hardware and software best - the experienced professionals at HPE Services.

Protect your business beyond warranty with HPE Pointnext operational services
When you buy HPE Options, it's also a good time to think about what level of service you may need. HPE Pointnext operational services provide total care and support expertise with committed response choices designed to meet your IT and business need.

HPE Foundation Care services offer scalable reactive support-packages for Hewlett Packard Enterprise servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. HPE Proactive Care delivers high levels of system availability through proactive service management and advanced technical response.

Recommended HPE Pointnext operational services for optimal satisfaction with your HPE product

Optimized Care

3-Year HPE 6 hour Call to Repair Response, Proactive Care
Combined reactive and proactive support for hardware and software helping optimize your systems and delivering high levels of availability through proactive service management and advanced technical response. Hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request. A Technical Account Manager, as your single point of contact, will own your call or issue end to end until resolved.
https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855EEE.pdf

HPE Installation of ProLiant Add On Options Service
This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware or software is installed smoothly, efficiently, and with minimal disruption of your IT and business operations

Standard Care

3-Year HPE 24x7 4 hour response, Proactive Care Service
This service gives you combined reactive and proactive support including rapid access to our Advanced Solution Center to manage and prevent problems and a Technical Support Specialist with a broad level of technical knowledge that will engage with additional technical expertise as needed from HPE's vast global resources.
http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf

HPE Installation of ProLiant Add On Options Service
This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware or software is installed smoothly, efficiently, and with minimal disruption of your IT and business operations

Insight Online/Insight Remote Support

HPE Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HPE solution. Learn more about Insight Remote Support **http://www.hp.com/go/insightremotesupport and Insight Online http://h18013.www1.hp.com/products/servers/management/insight-online/index.html.**

HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more **http://www.hp.com/go/hpsc**

The HPE Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

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Service and Support

NOTE: HPE Support Center Mobile App is subject to local availability

Parts and materials	Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired or replaced as part of this service. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.
For more information	To learn more on services for HPE ProLiant servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized ServiceOne Channel Partner. Or visit: **http://www.hp.com/services/proliant**

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Related Options

NOTE: This is a list of supported options. Some may be discontinued.

HPE Optional Upgrades	HPE 2GB P-series Smart Array Flash Backed Write Cache	631681-B21
HPE Disk Storage Systems	**Disk Enclosures**	
	HPE D2000 Disk Enclosures	
	HP D2600 Disk Enclosure **NOTE:** Supports 12 LFF drives, and SAS 6Gb/s and SATA 3Gb/s.	AJ940A
	HPE D2700 Disk Enclosure **NOTE:** Supports 25 SFF drives, and SAS 6Gb/s and SATA 3Gb/s.	AJ941A
	NOTE: Please see the supported Disk Enclosure QuickSpecs for a list of compatible hard drives: **https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04111697**	
	HPE D6000 Disk Enclosure	
	HPE D6000 Dual I/O Module Disk Enclosure	QQ695A
	NOTE: Please see the supported Disk Enclosure QuickSpecs for a list of compatible hard drives: **https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04111505** (HPE D6000 Disk Enclosure)	
HPE Tape Backup	**NOTE:** For the complete range of StorageWorks tape drives, autoloaders, libraries and media see: **http://www.hp.com/go/tape**.	
	SAS Tape Drives	
	HPE StoreEver LTO-5 Ultrium 3000 SAS Internal Tape Drive	EH957B
	HPE StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive	EH958B
	HPE StoreEver LTO-5 Ultrium 3000 SAS Tape Drive in a 1U Rack Mount Kit	EJ014B
	HPE StoreEver LTO-5 Ultrium 3280 SAS Internal Tape Drive	EH899B
	HPE StoreEver LTO-5 Ultrium 3280 SAS External Tape Drive	EH900B
	HP StoreEver LTO-5 Ultrium 3280 SAS Tape Drive in 3U Rack-mount	EJ013B
	HPE StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive	EH963A
	HPE StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive	EH964A
	HPE StoreEver LTO-6 Ultrium 6250 External Tape Drive	EH970A
	HPE StoreEver LTO-6 Ultrium 6250 Tape Drive in a 1U Rack Mount Kit	C0L99A
	NOTE: HPE internal tape drives are only supported when installed in a Rack-mount Tape Drive Enclosure	
	SAS Tape Autoloaders	
	HPE StoreEver 1/8 G2 LTO-6 Ultrium 6250 SAS Tape Autoloader	C0H18A
	HPE StoreEver 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader	AK377B
	HPE StoreEver 1/8 G2 LTO-5 Ultrium 3000 SAS Tape Autoloader	BL536B
	SAS Tape Libraries	
	HP StoreEver MSL2024 1 LTO-6 Ultrium 6250 SAS Tape Library	C0H20A
	HP StoreEver MSL2024 2 LTO-6 Ultrium 6250 SAS Tape Library	C0H21A
	HP MSL2024 1 LTO-4 Ultrium 1760 SAS Tape Library	AK378B
	HP StoreEver MSL4048 2 LTO-6 Ultrium 6250 SAS Tape Library	C0H23A

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Related Options

	HP MSL4048 2 LTO-4 Ultrium 1760 SAS Tape Library	AK380B
	HPE StoreEver MSL4048 0-drive Tape Library	AK381A
	HP StoreEver MSL8096 2 LTO-6 Ultrium 6250 SAS Tape Library	C0H25A
	SAS Cables for Tape Drives and Automation	
	HPE SAS Min-Min 1x-2M Cable Assembly Kit NOTE:NOTE: Use this cable to connect HPE StorageWorks SAS external tape devices to HPE SAS controllers with external Mini-SAS (SFF8088) connectors.	AE470A
	HPE SAS MIN-MIN 1X-4M Cable Assembly Kit NOTE:NOTE: Use this cable to connect HPE StorageWorks SAS external tape devices to HPE SAS controllers with external Mini-SAS (SFF8088) connectors.	AE465A
	HPE StoreEver 2m External Mini-SAS to 4x1 Mini-SAS Cable **NOTE:** One cable is required for every four drives. Use this cable to connect HPE StorageWorks MSL SAS Tape Libraries to Mini-SAS (SFF8088) ports.	AN975A
	HPE StoreEver 4m External Mini-SAS to 4x1 Mini-SAS Cable **NOTE:** One cable is required for every four drives. Use this cable to connect HPE MSL SAS Tape Libraries to Mini-SAS (SFF8088) ports.	AN976A
HPE SmartCache	HPE Smart Array SR SmartCache (Single Key/Single Server) LTU NOTE:NOTE: This part number can be used to purchase a single license or to order multiple licenses with a unique activation key per server. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HPE Software Technical Support Services.	D7S26A
	HPE Smart Array SR SmartCache (Single Key/Multiple Servers) E-LTU NOTE:NOTE: This part number can be used to purchase multiple licenses with a single activation key. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24x7 HPE Software Technical Support Services.	D7S27AAE
	HPE Smart Array SR SmartCache (Single Key/Multiple Servers) LTU NOTE:NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HPE Software Technical Support Services. **NOTE:** HPE SmartCache requires the following: Min 1 or 2 GB FBWC module along with HPE ProLiant Gen8 supported HDD(s) and SSD(s) for more information visit: **http://www.hpe.com/servers/smartcache**	D7S27A

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Technical Specifications

Dimensions (excluding bracket)	Low Profile PCIe Form Factor 19.05 cm x 24.13 cm x 5.72 cm (7.5 in x 9.5 in x 2.25 in)
Disk Drive and Enclosure Protocol Support	6Gb/s SAS (Serial Attached SCSI) 6Gb/s SATA (Serial AT Attachment)
SAS Connectors	2 external (Mini SAS) x8 wide port connectors
SAS Port Link Rate	6Gb/s per physical link
PCIe Link Rate	PCIe3 x8
Cache Memory	DDR3-1333 MHz, 72-bit wide bus at 10.6GB/s
Logical Drives Supported	Up to 64 logical drives
Memory Addressing	64-bit, supporting servers with memory space greater than 4 GiB (4.4 GB)
RAID Support	RAID 6, 60 (Advanced Data Guarding) RAID 5, 50 (Distributed Data Guarding) RAID 1, 10 (Drive Mirroring) RAID 1 ADM, 10 ADM (Advanced Data Mirroring) RAID 0 (Striping)
Upgradeable Firmware	Upgradeable Firmware with recovery ROM feature

Environment-friendly Products and Approach	**End-of-life Management and Recycling**	Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise 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 Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: **http://www.hp.com/go/green**. These instructions may be used by recyclers and other WEEE treatment facilities as well as HPE OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

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Summary of Changes

Date	Version History	Action	Description of Change
23-Oct-2017	Version 19	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
2-Sep-2016	From Version 17 to 18	Changed	Overview and Related Options were revised.
12-Dec-2014	From Version 16 to 17	Removed	Removed reference to MSA2040.
18-Apr-2014	From Version 15 to 16	Changed	Related Options was revised.
01-Nov-2013	From Version 14 to 15	Changed	Changes made to the following Sections Overview Standard Features Compatibility Service and Support Related Options Technical Specifications
13-Sep-2013	From Version 13 to 14	Changed	Changes made to the following Sections Overview Standard Features Compatibility Service and Support Related Options Technical Specifications
10-Sep-2013	From Version 12 to 13	Changed	HPE Disk Backup and HPE Tape Storage were revised Hard Drives were removed
10-Jun-2013	From Version 11 to 12	Changed	Changes in the following sections: Overview- What's New Standard Features - Key Features
		Added	Added HPE SmartCache and HPE SSD SmartPath sections to Standard Features.
19-Feb-2013	From Version 10 to 11	Removed	Removed HPE Optional Upgrades from the Related Options section.
		Changed	Changes in Overview, Standard features, Compatibility and Related Options sections.
04-Dec-2012	From Version 9 to 10	Added	Added new Hard Drives to Related Options section.
26-Nov-2012	From Version 8 to 9	Added	Added missing sub-header in Related Options section.
28-Sep-2012	From Version 7 to 8	Changed	Change made in Related Options section.
06-Jun-2012	From Version 6 to 7	Changed	Changed Smart Drive to SmartDrive in Standard Features
16-May-2012	From Version 5 to 6	Changed	The Hard Drives section was revised.

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Summary of Changes

20-Apr-2012	From Version 4 to 5	Changed	Changes made in the Related Options section.
06-Apr-2012	From Version 3 to 4	Changed	Changes made in the Standard Features and Technical Specifications sections.
15-Mar-2012	From Version 2 to 3	Changed	Changes made in the Hard Drives section of Related Options.
07-Mar-2012	From Version 1 to 2	Changed	Changes made in the Hard Drives section of Related Options.

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

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