

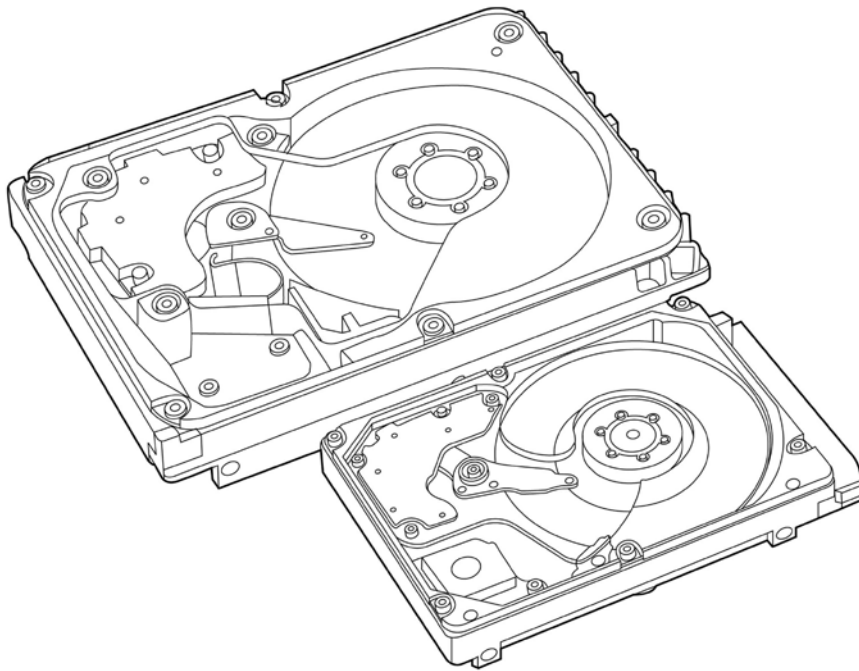
Overview

HPE Hard Disk Drives

HPE Hard Disk Drives (HDDs) delivers proven performance at industry leading capacities backed by high quality and reliability, preferred choice for many workloads ranging from small businesses to large enterprise.

HPE hard disk drives are optimized to deliver maximum performance on HPE server platforms, and are proven for applications that demand reliable performance in 24x7 operational environments. HPE HDDs offer customers great value per gigabyte without sacrificing performance. In addition, an industry-leading testing and qualification program ensures that our drives are rugged enough for any need.

HPE HDDs are available for three types of workloads —Entry, Midline and Enterprise, two interfaces—SAS and SATA, and in a variety of capacities—up to 10 TB and growing.



What's New

- HPE 6TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive
- HPE 10TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive
- HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive
- HPE 1TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive
- HPE 3TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive

Overview

Models

NOTE: SATA Drive Write Cache is disabled by default to minimize the risk of data loss in case of power loss. For information on how to enable Drive Write Cache on SATA drives via supported controllers and HBAs and what precautions should be followed please visit: <http://www.hp.com/go/SATA>

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

HPE 6G SATA “SmartDrive” Carriers

6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21
HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21

6G SATA Hot Plug with SmartDrive SFF (2.5-inch) 512e (MDL) Drives

HP 2TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765455-B21
HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive	765453-B21

NOTE: Not supported by VMWare: VMWare is not 512e “Aware”.

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives

HPE 6TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	846510-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	753874-B21
HPE 4TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861678-B21
HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	693687-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	628061-B21
HPE 3TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861693-B21
HPE 2TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861676-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658079-B21
HPE 1TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861691-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	657750-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658071-B21

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Drives

HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive	819203-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765255-B21
HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive	765253-B21

NOTE: Not supported by VMWare: VMWare is not 512e “Aware”.

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Performance Drives

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive	793667-B21
HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drives	793665-B21

NOTE: Not supported by VMWare: VMWare is not 512e “Aware”.

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Helium Drives

HPE 10TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive	857648-B21
HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive	861594-B21
HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793695-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive	793683-B21

NOTE: Not supported by VMWare: VMWare is not 512e “Aware”.

HPE 6G SATA “Non-hot Plug” Carriers

6G SATA Non-hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	628065-B21
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Overview

HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659339-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659337-B21
HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive	659341-B21

6G SATA Non-hot Plug LFF (3.5-inch) Standard (STND) Drives

HP 4TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801888-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801886-B21
HP 2TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801884-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive	801882-B21

6G SATA Non-hot Plug LFF (3.5-inch) Entry (ETY) Drives

NOTE: Supported on select 10 series servers only.

HP 4TB 6G SATA 5.9K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive	815635-B21
HPE 3TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive	843270-B21
HPE 2TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive	843268-B21
HPE 1TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive	843266-B21
HPE 500GB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive	843264-B21

HPE 6G SATA Hot Plug Hard Drives

NOTE: These drives are not supported by Gen8/Gen9 servers.

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive	625609-B21
HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive	507750-B21

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 4TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	694374-B21
HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	628059-B21
HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	507632-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	454146-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive	458928-B21

SATA Hot Plug LFF (3.5-inch) Midline (MDL) 512e Drives

HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) 512e Helium 1yr Warranty Hard Drive	793693-B21
HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) 512e Helium 1yr Warranty Hard Drive	793680-B21

NOTE: Not supported by VMWare: VMWare is not 512e "Aware".

HPE 6G SATA Quick Release Hard Drives

6G SATA Quick Release SFF (2.5-inch) Midline (MDL) Drives

NOTE: These drives are supported by the SL Gen8 servers and Moonshot server.

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive	632080-B21
HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive	632078-B21

6G SATA Quick Release LFF (3.5-inch) Midline (MDL) Drives

NOTE: These drives are supported by the SL Gen8 servers.

HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) Quick-release Midline 1yr Warranty Hard Drive	697954-B21
HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive	647274-B21
HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive	672621-B21

Standard Features

Drive Quality

Today's entry-level servers and external storage solutions are seeing an increase in maximum storage capacity and demand for increased levels of drive quality. In the often-changing entry-level server and storage environment, storage has become a critical component of the information system, significantly defining both the systems reliability. This is why HPE drives undergo an intense qualification process that eliminates firmware and O/S incompatibilities. All drives are proven to perform in the HPE ProLiant and Modular Smart Array (MSA) storage systems for which they were designed.

Performance

Only those drives whose quality is suitable for an entry-level, external storage enclosures and server environments are selected through the Hewlett Packard Enterprise qualification process. All our drives are proven to be reliable in the ProLiant server and MSA storage environment.

Native Command Queuing

Native Command Queuing (NCQ) is a technology designed to increase performance of SATA hard disk drives by allowing the individual hard disk to internally optimize the order in which received read and write commands are executed. This can reduce the amount of unnecessary going back-and-forth on the drive's heads, resulting in increased performance for workloads where multiple simultaneous read/write requests are outstanding, most often occurring in server or storage-type applications. Without NCQ the drive has to process and complete one command at a time. For NCQ to be enabled, it must be supported and turned on in the controller and in the hard drive itself.

NOTE: Please reference the [HPE Smart Array Controller website](http://www.hp.com/products/smartarray) for NCQ enabled controllers at: <http://www.hp.com/products/smartarray>.

Please see [SATA hard drive Technical Specifications section](#) for specific capacities supported with NCQ.

Integration

Many issues customers have with third party Serial-ATA drives are integration related issues. When buying from another supplier, there is no guarantee that a drive has been correctly set for proper operation with ProLiant entry-level servers or MSA enclosures. These incompatibilities can create problems in configuration, can rob your system of performance, or at their worst, can result in data corruption. HPE hard drives are specifically designed and tested for flawless operation in your Hewlett Packard Enterprise equipment. The integration of hard drives in HPE systems means that cables, controllers, and firmware are right for your ProLiant entry level server or MSA enclosures.

Pre-Failure Alert

When used in conjunction with a SMART Array Controller and Systems Insight Manager, the SMART capable firmware in HPE hard drives enables extensive fault prediction capabilities. If potential problems develop in one of the drives, the Smart Array Controller, Systems Insight Manager and/or SMART hard disk drive lets you know in advance so you can have the drive replaced, before it fails, under warranty.

NOTE: All drives are protected by a Pre-Failure Alert when used with a HPE Smart Array controller and Systems Insight Manager, allowing hard drives to be replaced before failure under warranty. In addition, all drives are covered by a 1 or 3 year limited on-site warranty, regardless of the warranty period of the system in which they are installed. However, the drive warranty is automatically uplifted when used in a server or MSA for which a care pack is purchased. Please see the below [HPE Care Pack Information section](#) for additional services.

NOTE: SATA hard drives have a 1 year limited warranty regardless of the warranty period for the system in which they are installed.

Server and Storage Support

Please see the following URL for the latest list of supported servers and enclosures: <http://www.hp.com/servers/hdd-documentation>

Service and Support

Service and Support

NOTE: HPE SATA and SAS Hard drives are covered under the HPE Support Service/ Service Contract applied to the HPE ProLiant Server. No separate HPE Support Service need to be purchased.

HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability powered by a rich portfolio of consulting and support services designed to add value to our core products and solutions Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

Connect your devices to HPE

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77% reduction in down time, near 100% diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

Warranty

ATA, SATA and MDL SAS hard drives have a maximum warranty period of one (1) year regardless of the warranty period for the system in which they are installed.

Service Coverage

For ProLiant servers and storage systems, the service on the main product covers HPE-branded hardware options not designated by Hewlett Packard Enterprise as requiring separate coverage that are qualified for the server, are purchased at the same time or afterward, and are internal to the enclosure. The service also covers external monitors up to 22 inches in size and tower UPS products during their supported life of up to 5 years beyond sales discontinuance. These items will be covered at the same service level as the main product.

Maximum supported lifetime/maximum usage:

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.

Data Retentive components that are specified by Hewlett Packard Enterprise as consumable parts and/or that have exceeded the maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual, the product QuickSpecs, or the technical data sheet are not eligible for the defective media retention or the comprehensive defective material retention service feature option.

For more information

To learn more on services for HPE ESSN Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit:

<http://www.hp.com/services/proliant> or <http://www.hp.com/services/bladesystem>

Technical Specifications

6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655710-B21	Capacity	1,000,204MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	Serial ATA		
		Transfer Rate (Maximum)	6Gb/s		
		Native Command Queuing	Supported		
		Seek Time (typical reads, including settling)	Single Track	.7 ms	
			Average	<8.5 ms	
			Full-Stroke	16.96 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
			Logical Blocks	1,953,525,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)				

HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive	655708-B21	Capacity	500,107MB		
		Height	0.62 in (15.6 mm)		
		Width	2.98 in (75.7 mm)		
		Depth	4.67 in (118.7 mm)		
		Interface	Serial ATA		
		Transfer Rate (Maximum)	6Gb/s		
		Native Command Queuing	Supported		
		Seek Time (typical reads, including settling)	Single Track	.7ms	
			Average	<8.5ms	
			Full-Stroke	16.96ms	
		Physical Configuration	Rotational Speed	7200	
			Bytes/Sector	512	
			Logical Blocks	976,773,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)				

6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) 512e Drives

HP 2TB 6G SATA 7.2K	765455-B21	Capacity	2,000,398MB
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Technical Specifications

rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive

Height	0.62 in (15.6 mm)	
Width	2.98 in (75.7 mm)	
Depth	4.67 in (118.7 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5 ms
	Average	<7.2 ms
	Full-Stroke	17 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
Operating Temperature (system inlet air temperature)	Logical Blocks	3,907,029,168
	50° to 95° F (10° to 35° C)	

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive

765453-B21

Capacity	1,000,204MB	
Height	0.62 in (15.6 mm)	
Width	2.98 in (75.7 mm)	
Depth	4.67 in (118.7 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5 ms
	Average	<7.2 ms
	Full-Stroke	17 ms
Physical Configuration	Rotational Speed	7200
	Bytes/Sector	512
Operating Temperature (system inlet air temperature)	Logical Blocks	1,953,525,168
	50° to 95° F (10° to 35° C)	

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive

753874-B21

Capacity	6,001,175MB
Height	1.06 in (26.8 mm)
Width	4.16 in (105.8 mm)
Depth	6.69 in (170.0 mm)

Technical Specifications

Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.25ms
	Average	8.5 ms
	Full-Stroke	22 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	11,721,045,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HPE 6TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive

846510-B21

Capacity	6,001,175MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.8 ms
	Average	8.5 ms
	Full-Stroke	15.7 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	11,721,045,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HPE 4TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive

861678-B21

Capacity	4,000,787MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	

Technical Specifications

Seek Time (typical reads, including settling)	Single Track	0.25ms
	Average	7.6 ms
	Full-Stroke	15ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	7,814,037,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive

693687-B21

Capacity	4,000,787MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.8 ms
	Average	8.5 ms
	Full-Stroke	16.2 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	7,814,037,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive

628061-B21

Capacity	3,000,592,982,016	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5 ms
	Average	8.2 ms
	Full-Stroke	16.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512

Technical Specifications

			Logical Blocks	5,860,533,168
		Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HPE 3TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861693-B21	Capacity	3,000,592,982,016	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	Serial ATA	
		Transfer Rate (Maximum)	6Gb/s	
		Native Command Queuing	Supported	
		Seek Time (typical reads, including settling)	Single Track	0.32 ms
			Average	7.45 ms
			Full-Stroke	14.2 ms
		Physical Configuration	Rotational Speed	7,200 rpm
			Bytes/Sector	512
			Logical Blocks	5,860,533,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)			

HPE 2TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861676-B21	Capacity	2,000,398MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	
		Interface	Serial ATA	
		Transfer Rate (Maximum)	6Gb/s	
		Native Command Queuing	Supported	
		Seek Time (typical reads, including settling)	Single Track	0.25ms
			Average	7.6 ms
			Full-Stroke	15ms
		Physical Configuration	Rotational Speed	7,200 rpm
			Bytes/Sector	512
			Logical Blocks	3,907,029,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)			

Technical Specifications

HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive	658079-B21	Capacity	2,000,398MB		
		Height	1.06 in (26.8 mm)		
		Width	4.16 in (105.8 mm)		
		Depth	6.69 in (170.0 mm)		
		Interface	Serial ATA		
		Transfer Rate (Maximum)	6Gb/s		
		Native Command Queuing	Supported		
		Seek Time (typical reads, including settling)	Single Track	.5 ms	
			Average	<8.5ms	
			Full-Stroke	16.0 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
			Logical Blocks	3,907,029,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)				

HP 1TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	657750-B21	Capacity	1,000,204MB		
		Height	1.06 in (26.8 mm)		
		Width	4.16 in (105.8 mm)		
		Depth	6.69 in (170.0 mm)		
		Interface	Serial ATA		
		Transfer Rate (Maximum)	6Gb/s		
		Native Command Queuing	Supported		
		Seek Time (typical reads, including settling)	Single Track	.5 ms	
			Average	<8.5 ms	
			Full-Stroke	16.5 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
			Logical Blocks	1,953,525,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)				

HPE 1TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive	861691-B21	Capacity	1,000,204MB	
		Height	1.06 in (26.8 mm)	
		Width	4.16 in (105.8 mm)	
		Depth	6.69 in (170.0 mm)	

Technical Specifications

Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.32 ms
	Average	7.45 ms
	Full-Stroke	14.2 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
Operating Temperature (system inlet air temperature)	Logical Blocks	1,953,525,168
	50° to 95° F (10° to 35° C)	

HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive

658071-B21

Capacity	500,107MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5ms
	Average	<8.5ms
	Full-Stroke	16.3ms
Physical Configuration	Rotational Speed	7200
	Bytes/Sector	512
Operating Temperature (system inlet air temperature)	Logical Blocks	976,773,168
	50° to 95° F (10° to 35° C)	

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Drives

HPE 10TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive

857648-B21

Capacity	10,000,831 MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	

Technical Specifications

Seek Time (typical reads, including settling)	Single Track	0.22 ms
	Average	8.0 ms
	Full-Stroke	16.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	19,532,873,728
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1 yr Warranty Hard Drive

861594-B21

Capacity	8,001,563MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.22 ms
	Average	8.0 ms
	Full-Stroke	16.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	15,628,053,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Drives

HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1 yr Warranty Hard Drive

819203-B21

Capacity	8,001,563MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.7ms
	Average	8.5 ms
	Full-Stroke	15.7 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	15,628,053,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

Technical Specifications

temperature)

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e 1yr Warranty Hard Drive

765255-B21

Capacity	6,001,175MB						
Height	1.06 in (26.8 mm)						
Width	4.16 in (105.8 mm)						
Depth	6.69 in (170.0 mm)						
Interface	Serial ATA						
Transfer Rate (Maximum)	6Gb/s						
Native Command Queuing	Supported						
Seek Time (typical reads, including settling)	<table> <tr> <td>Single Track</td> <td>0.7ms</td> </tr> <tr> <td>Average</td> <td>8.5 ms</td> </tr> <tr> <td>Full-Stroke</td> <td>15.7 ms</td> </tr> </table>	Single Track	0.7ms	Average	8.5 ms	Full-Stroke	15.7 ms
Single Track	0.7ms						
Average	8.5 ms						
Full-Stroke	15.7 ms						
Physical Configuration	<table> <tr> <td>Rotational Speed</td> <td>7,200 rpm</td> </tr> <tr> <td>Bytes/Sector</td> <td>512</td> </tr> <tr> <td>Logical Blocks</td> <td>11,721,045,168</td> </tr> </table>	Rotational Speed	7,200 rpm	Bytes/Sector	512	Logical Blocks	11,721,045,168
Rotational Speed	7,200 rpm						
Bytes/Sector	512						
Logical Blocks	11,721,045,168						
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)						

HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e 1yr Warranty Hard Drive

765253-B21

Capacity	4,000,787MB						
Height	1.06 in (26.8 mm)						
Width	4.16 in (105.8 mm)						
Depth	6.69 in (170.0 mm)						
Interface	Serial ATA						
Transfer Rate (Maximum)	6Gb/s						
Native Command Queuing	Supported						
Seek Time (typical reads, including settling)	<table> <tr> <td>Single Track</td> <td>0.7ms</td> </tr> <tr> <td>Average</td> <td>8.5 ms</td> </tr> <tr> <td>Full-Stroke</td> <td>15.7 ms</td> </tr> </table>	Single Track	0.7ms	Average	8.5 ms	Full-Stroke	15.7 ms
Single Track	0.7ms						
Average	8.5 ms						
Full-Stroke	15.7 ms						
Physical Configuration	<table> <tr> <td>Rotational Speed</td> <td>7,200 rpm</td> </tr> <tr> <td>Bytes/Sector</td> <td>512</td> </tr> <tr> <td>Logical Blocks</td> <td>7,814,037,168</td> </tr> </table>	Rotational Speed	7,200 rpm	Bytes/Sector	512	Logical Blocks	7,814,037,168
Rotational Speed	7,200 rpm						
Bytes/Sector	512						
Logical Blocks	7,814,037,168						
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)						

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Performance Drives

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive

793667-B21

Capacity	6,001,175MB
Height	1.06 in (26.8 mm)
Width	4.16 in (105.8 mm)
Depth	6.69 in (170.0 mm)

Technical Specifications

Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.25ms
	Average	7.6ms
	Full-Stroke	15ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	11,721,045,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive

793665-B21

Capacity	4,000,787MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.25ms
	Average	7.6ms
	Full-Stroke	15ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	7,814,037,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline 512e Helium Drives

HP 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive

793695-B21

Capacity	8,001,563MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	SATA	
Transfer Rate Synchronous (Maximum)	6 Gb/sec	
Seek Time (typical reads, including settling)	Single Track	

Technical Specifications

settling)

Seek Time	Average	8.5 ms
(typical reads, including settling)	Full-Stroke	16.0 ms
Physical Configuration	Rotational Speed	7200 rpm
	Bytes/Sector	512
Physical Configuration	Logical Blocks	15,628,053,168
Operating Temperature	50° to 95° F (10° to 35° C)	
(system inlet air temperature)		
Capacity	8.001,563MB	

HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive

793683-B21

Capacity	6,001,175MB	
Height	1.06 in (26.8 mm)	
Width	4.16 in (105.8 mm)	
Depth	6.69 in (170.0 mm)	
Interface	SATA	
Transfer Rate Synchronous	6 Gb/sec	
(Maximum)		
Seek Time	Single Track	
(typical reads, including settling)		
Seek Time	Average	8.5 ms
(typical reads, including settling)	Full-Stroke	16.0 ms
Physical Configuration	Rotational Speed	7200 rpm
	Bytes/Sector	512
Physical Configuration	Logical Blocks	11,721,045,168
Operating Temperature	50° to 95° F (10° to 35° C)	
(system inlet air temperature)		

6G SATA Non-hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

628065-B21

Capacity	3,000,592,982,016	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate	6Gb/s	
(Maximum)		
Native Command Queuing	Supported	
Seek Time	Single Track	.5 ms
(typical reads, including settling)	Average	8.2 ms
	Full-Stroke	16.0 ms
	Rotational Speed	7,200 rpm

Technical Specifications

Physical Configuration	Bytes/Sector	512
	Logical Blocks	5,860,533,168
Operating Temperature	50° to 95° F (10° to 35° C) (system inlet air temperature)	

HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

659339-B21

Capacity	2,000,398MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5 ms
	Average	<8.5ms
	Full-Stroke	16.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	3,907,029,168
Operating Temperature	50° to 95° F (10° to 35° C) (system inlet air temperature)	

HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

659337-B21

Capacity	1,000,204MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5ms
	Average	<8.5 ms
	Full-Stroke	16.3ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature	50° to 95° F (10° to 35° C) (system inlet air temperature)	

Technical Specifications

HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive 659341-B21	Capacity	500,107MB		
	Height	1.028 in (26.1 mm)		
	Width	4.00 in (101.6 mm)		
	Depth	5.75 in (146.0 mm)		
	Interface	Serial ATA		
	Transfer Rate (Maximum)	6Gb/s		
	Native Command Queuing	Supported		
	Seek Time (typical reads, including settling)	Single Track	.5 ms	
		Average	<8.5 ms	
		Full-Stroke	17.55 ms	
	Physical Configuration	Rotational Speed	7,200 rpm	
		Bytes/Sector	512	
		Logical Blocks	1,953,525,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)			

6G SATA Non-hot Plug LFF (3.5-inch) Standard (STND) Drives

HP 4TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive 801888-B21	Capacity	4,000,787MB		
	Height	1.028 in (26.1 mm)		
	Width	4.00 in (101.6 mm)		
	Depth	5.75 in (146.0 mm)		
	Interface	Serial ATA		
	Transfer Rate (Maximum)	6Gb/s		
	Native Command Queuing	Supported		
	Seek Time (typical reads, including settling)	Single Track	.8ms	
		Average	<8.5ms	
		Full-Stroke	16.2ms	
	Physical Configuration	Rotational Speed	7200	
		Bytes/Sector	512	
		Logical Blocks	7,814,037,168	
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)			

HP 3TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot 801886-B21	Capacity	3,000,592MB	
	Height	1.028 in (26.1 mm)	

Technical Specifications

Plug Standard 1yr Warranty Hard Drive

Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.8ms
	Average	<8.5ms
	Full-Stroke	16.2ms
Physical Configuration	Rotational Speed	7200
	Bytes/Sector	512
	Logical Blocks	5,860,533,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 2TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive

801884-B21

Capacity	2,000,398MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.8ms
	Average	<8.5ms
	Full-Stroke	16.2ms
Physical Configuration	Rotational Speed	7200
	Bytes/Sector	512
	Logical Blocks	3,907,029,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 1TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Standard 1yr Warranty Hard Drive

801882-B21

Capacity	1,000,204MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	

Technical Specifications

Seek Time (typical reads, including settling)	Single Track	.8ms
	Average	<8.5ms
	Full-Stroke	16.5ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512
	Logical Blocks	1,953,525,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

6G SATA Non-hot Plug LFF (3.5-inch) Entry (ETY) Drives

NOTE: Supported on select 10 series servers only.

HP 4TB 6G SATA 5.9K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive

815635-B21

Capacity	4,000,787MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	1.2ms
	Average	<12ms
	Full-Stroke	25ms
	Rotational Speed	5900
Physical Configuration	Bytes/Sector	512e
	Logical Blocks	980,270,955
Operating Temperature (system inlet air temperature)	41° to 140° F (5C° to 60° C)	

HP 3TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive

843270-B21

Capacity	3,000,593MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	1.0ms
	Average	<8.5ms
	Full-Stroke	18.00ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512e

Technical Specifications

	Logical Blocks	5,860,533,167
Operating Temperature (system inlet air temperature)	41° to 140° F (5C° to 60° C)	

HP 2TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive

843268-B21

Capacity	2,000,398MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	1.0ms
	Average	<8.5ms
	Full-Stroke	18.00ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512e
	Logical Blocks	3,907,029,167
Operating Temperature (system inlet air temperature)	41° to 140° F (5C° to 60° C)	

HP 1TB 6G SATA 7.2K rpm LFF (3.5in) Non-hot Plug Entry 512e 1yr Warranty Hard Drive

843266-B21

Capacity	1,000,204MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	1.0ms
	Average	<8.5ms
	Full-Stroke	18ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512e
	Logical Blocks	1,953,525,168
Operating Temperature (system inlet air temperature)	41° to 131° F (5C° to 131° C)	

HP 500GB 6G SATA 7.2K

843264-B21

Capacity	500,107MB
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Technical Specifications

**rpm LFF (3.5in) Non-hot
Plug Entry 512e 1yr
Warranty Hard Drive**

Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	1.0ms
	Average	<8.5ms
	Full-Stroke	18ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512e
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	41° to 140° F (5C° to 60° C)	

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

NOTE: These drives are not supported by Gen8/Gen9 servers.

**HP 1TB 3G SATA 7.2K
rpm SFF
(2.5-inch) Hot plug
Midline 1yr Warranty
Hard Drive**

625609-B21

Capacity	1,000,204MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.7ms
	Average	<8.5ms
	Full-Stroke	16.96ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512
	Logical Blocks	1,953,525,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

**HP 500GB 3G SATA 7.2K
rpm SFF (2.5-inch)
Midline 1yr Warranty
Hard Drive**

507750-B21

Capacity	500,107MB	
Height	0.63 in (16.0 mm)	
Width	3.00 in (72.2 mm)	
Depth	5.38 in (136.6 mm)	
Interface	Serial ATA	

Technical Specifications

Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5 ms
	Average	8.2 ms
	Full-Stroke	17.55 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

NOTE: These drives are not supported by Gen8/Gen9 servers.

HP 4TB 3G SATA 7.2k rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive

694374-B21

Capacity	4,000,787MB	
Height	1.04 in (26.4 mm)	
Width	4.36 in (110.7 mm)	
Depth	7.25 in (184.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.8 ms
	Average	8.5 ms
	Full-Stroke	16.2 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
	Logical Blocks	7,814,037,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive

628059-B21

Capacity	3,000,592,982,016	
Height	1.04 in (26.4 mm)	
Width	4.36 in (110.7 mm)	
Depth	7.25 in (184.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time	Single Track	0.5 ms

Technical Specifications

(typical reads, including settling)	Average	<8.5 ms
	Full-Stroke	16.9 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	3,907,029,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive

507632-B21

Capacity	2,000,398MB	
Height	1.04 in (26.4 mm)	
Width	4.36 in (110.7 mm)	
Depth	7.25 in (184.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.5 ms
	Average	<8.5 ms
	Full-Stroke	16.9 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	3,907,029,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive

458928-B21

Capacity	500,107MB	
Height	1.04 in (26.4 mm)	
Width	4.36 in (110.7 mm)	
Depth	7.25 in (184.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	2.0 ms
	Average	<8.5 ms
	Full-Stroke	21.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

Technical Specifications

temperature)

SATA Hot Plug LFF (3.5-inch) Midline (MDL) 512e Helium Drives

NOTE: These drives are not supported by Gen8/Gen9 servers.

**HP 6TB 6G SATA 7.2K
rpm LFF (3.5-inch) 512e
Helium 1yr Warranty
Hard Drive**

793680-B21

Capacity	6,001,175MB
Height	1.04 in (26.4 mm)
Width	4.36 in (110.7 mm)
Depth	7.43 in (188.7 mm)
Interface	SATA
Transfer Rate Synchronous (Maximum)	6 Gb/sec
Seek Time (typical reads, including settling)	Single Track
Seek Time (typical reads, including settling)	Average 8.5 ms Full-Stroke 16.0 ms
Physical Configuration	Rotational Speed 7200 rpm Bytes/Sector 512
Physical Configuration	Logical Blocks 11,721,045,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)

**HP 8TB 6G SATA 7.2K
rpm LFF (3.5-inch) 512e
Helium 1yr Warranty
Hard Drive**

793693-B21

Capacity	8,001,563MB
Height	1.04 in (26.4 mm)
Width	4.36 in (110.7 mm)
Depth	7.43 in (188.7 mm)
Interface	SATA
Transfer Rate Synchronous (Maximum)	6 Gb/sec
Seek Time (typical reads, including settling)	Single Track
Seek Time (typical reads, including settling)	Average 8.5 ms Full-Stroke 16.0 ms
Physical Configuration	Rotational Speed 7200 rpm Bytes/Sector 512
Physical Configuration	Logical Blocks 15,628,053,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)

SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

Technical Specifications

NOTE: These drives are not supported by Gen8/Gen9 servers.

HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

507774-B21

Capacity	2,000,398MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.5 ms
	Average	<8.5 ms
	Full-Stroke	16.9 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	3,907,029,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

507772-B21

Capacity	1,000,204MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	2.0 ms
	Average	<8.5 ms
	Full-Stroke	25.0 ms
	Rotational Speed	7,200 rpm
Physical Configuration	Bytes/Sector	512
	Logical Blocks	1,953,525,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive

458941-B21

Capacity	500,107MB	
Height	1.028 in (26.1 mm)	
Width	4.00 in (101.6 mm)	
Depth	5.75 in (146.0 mm)	
Interface	Serial ATA	

Technical Specifications

Transfer Rate (Maximum)	3Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	2.0 ms
	Average	<8.5 ms
	Full-Stroke	21.0 ms
Physical Configuration	Rotational Speed	7,200 rpm
	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

6G SATA Quick Release SFF (2.5-inch) Midline (MDL) Drives (Gen8 only)

HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive

632080-B21

Capacity	1,000,204MB	
Height	0.74 in (18.8mm)	
Width	2.91 in (73.9 mm)	
Depth	3.95 in (100.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.7ms
	Average	<8.5ms
	Full-Stroke	16.96ms
Physical Configuration	Rotational Speed	7200
	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) Quick Release Midline 1yr Warranty Hard Drive

632078-B21

Capacity	500,107MB	
Height	0.74 in (18.8mm)	
Width	2.91 in (73.9 mm)	
Depth	3.95 in (100.2 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.7ms
	Average	<8.5ms

Technical Specifications

settling)	Full-Stroke	16.96ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

6G SATA Quick Release LFF (3.5-inch) Midline (MDL) Drives (Gen8 only)

HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive

697954-B21

Capacity	4,000,787MB	
Height	1.16 in (29.6 mm)	
Width	4.16 in (105.6 mm)	
Depth	5.79 in (147.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	0.8ms
	Average	8.5ms
	Full-Stroke	16.2ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512
	Logical Blocks	7,814,037,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive

647274-B21

Capacity	3,000,592,982,016	
Height	1.16 in (29.6 mm)	
Width	4.16 in (105.6 mm)	
Depth	5.79 in (147.0 mm)	
Interface	Serial ATA	
Transfer Rate (Maximum)	6Gb/s	
Native Command Queuing	Supported	
Seek Time (typical reads, including settling)	Single Track	.5ms
	Average	<8.5ms
	Full-Stroke	16.3ms
	Rotational Speed	7200
Physical Configuration	Bytes/Sector	512
	Logical Blocks	976,773,168
Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

Technical Specifications

temperature)

HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive	672621-B21	Capacity	1,000,204MB	
		Height	1.16 in (29.6 mm)	
		Width	4.16 in (105.6 mm)	
		Depth	5.79 in (147.0 mm)	
		Interface	Serial ATA	
		Transfer Rate (Maximum)	6Gb/s	
		Native Command Queuing	Supported	
		Seek Time (typical reads, including settling)	Single Track	.5 ms
			Average	<8.5 ms
			Full-Stroke	16.5 ms
		Physical Configuration	Rotational Speed	7,200 rpm
			Bytes/Sector	512
			Logical Blocks	1,953,525,168
		Operating Temperature (system inlet air temperature)	50° to 95° F (10° to 35° C)	

Environment-friendly Products and Approach

End-of-life Management and Recycling

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

http://www8.hp.com/us/en/hpe/hp-information/livingprogress/environmentalprogress/product-recycling.html#.V-LPA_krKiM

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

http://www8.hp.com/us/en/hpe/hp-information/livingprogress/environmentalprogress/product-recycling.html#.V-LPA_krKiM

NOTE: To support HPE hard drives exceeding 2.2TB, HPE Smart Array Firmware version 5.0 or later is required for the following controllers:

- HPE Smart Array P212 Controller
- HPE Smart Array P410 Controller
- HPE Smart Array P411 Controller
- HPE Smart Array P711m Controller
- HPE Smart Array P812 Controller

Technical Specifications

To use hard drives exceeding 2.2TB, you must create a boot volume using offline ACU version 8.75 or later. HPE Smart Array controllers do not support boot volumes exceeding 2.2TB.

Summary of Changes

Date	Version History	Action	Description of Change
28-Nov-2016	From Version 35 to 36	Added	Added new HPE 6TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive.
		Changed	Overview, Models, and Technical Specifications were revised.
		Removed	Obsolete Hard Drives were removed from the QuickSpecs.
26-Sep-2016	From Version 34 to 35	Added	Added new SATA HDD offering. HPE 10TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive HPE 1TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive HPE 3TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive
06-Jun-2016	From Version 33 to 34	Added	Added the following HPE drives to the Models and Technical Specifications sections: HPE 4TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive HPE 2TB 6G SATA 7.2K rpm LFF (3.5in) SC Midline 1yr Warranty Hard Drive HPE 8TB 6G SATA 7.2K rpm LFF (3.5in) 512e SC Midline 1yr Warranty Hard Drive
01-Dec-2015	From Version 32 to 33	Added	Added new 6G SATA Non-hot Plug LFF (3.5-inch) Entry Drives.
		Changed	Service and Support section and Technical Specifications were revised.
28-Sep-2015	From Version 31 to 32	Added	Added note to drives not supported by VMWare and note to drives supported on ML10v2 only.
01-Jun-2015	From Version 30 to 31	Added	Added the following to the Models and Technical Specifications sections: HPE 6TB 6G SATA 7.2K rpm LFF (3.5-inch) 512e Helium 1yr Warranty Hard Drive HPE 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive HPE 8TB 6G SATA 7.2K rpm LFF (3.5-inch) 512e Helium 1yr Warranty Hard Drive HPE 8TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive
		Changed	Service and Support section was revised.
30-Mar-2015	From Version 29 to 30	Added	Added new SATA Hard Drives offering.
		Changed	Overview, Service and Support, and Technical Specifications were revised.

Summary of Changes

09-Feb-2015	From Version 28 to 29	Added	Added the following to the Models and Technical Specifications Sections: 765253-B21 HPE 4TB 6G SATA 7.2K 3.5in 512e SC MDL HDD 765255-B21 HPE 6TB 6G SATA 7.2K 3.5in 512e SC MDL HDD
		Changed	What's New section was changed. Service and Support section was revised.
28-Aug-2014	From Version 27 to 28	Added	Added the following to the Models and Technical Specifications sections: HPE 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive
		Changed	Overview and What's New sections were revised.
18-Aug-2014	From Version 26 to 27	Changed	Models section was revised.
		Removed	Removed HPE 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive from Models and Technical Specifications sections.
09-Dec-2013	From Version 25 to 26	Removed	Discontinued models were removed.
23-Nov-2013	From Version 24 to 25	Removed	Discontinued models were removed.
24-Jul-2013	From Version 23 to 24	Removed	Discontinued models were removed.
19-Feb-2013	From Version 22 to 23	Changed	Added the following to the Models and Technical Specifications sections: HPE 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive HPE 4TB 6G SATA 7.2k rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive HPE 4TB 3G SATA 7.2k rpm LFF (3.5-inch) Quick Release Midline 1yr Warranty Hard Drive HPE 4TB 3G SATA 7.2k rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive
11-May-2012	From Version 21 to 22	Changed	Changed "Smart Drive" to "SmartDrive" in the Models section.
09-Apr-2012	From Version 20 to 21	Changed	Change made in the Models section only.
22-Mar-2012	From Version 19 to 20	Changed	Changes made to the Models and Technical Specifications sections.
06-Mar-2012	From Version 18 to 19	Changed	Changes made throughout the entire QuickSpecs.
20-Oct-2011	From Version 17 to 18	Changed	Changes made in the North America and Canada versions only.
29-Aug-2011	From Version 16 to 17	Removed	Removed SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives
20-Jun-2011	From Version 15 to 16	Changed	Service and Support was completely revised and HPE 3TB 3G SATA 7.2K rpm LFF Midline and Non-hot Plug Midline Drives and HPE 500GB 3G SATA 7.2K rpm SFF Non-hot Plug Entry Drive were added.
25-Apr-2011	From Version 14 to 15	Removed	HPE 250GB 3G SATA 7.2K rpm SFF Midline Drive was removed from Models and Technical Specifications sections.
08-Apr-2011	From Version 13 to 14	Changed	Minor edit was made in Technical Specifications.
06-Apr-2011	From Version 12 to 13	Changed	Seek Time and Physical Configuration were revised for the HPE 1TB 3G SATA 7.2K rpm SFF Hot Plug Midline Hard Drive

Summary of Changes

			in Technical Specifications.
05-Apr-2011	From Version 11 to 12	Added	HPE 250GB and 1TB 3G SATA 7.2K rpm SFF Hot plug Midline 1yr Warranty Hard Drives were added throughout.
14-Jun-2011	From Version 10 to 11	Changed	Changes made in the North America and Canada versions only.
05-Oct-2010	From Version 9 to 10	Added	Service and Support section was added.
21-Jun-2010	From Version 8 to 9	Removed	HPE 750GB 3G SATA 7.2k rpm LFF Midline and Non-hot Plug Midline 1yr Warranty Hard Drives and HPE 250GB 3G SATA 7.2k rpm LFF Midline and Non-hot Plug Midline 1yr Warranty Hard Drives were removed.
01-Apr-2010	From Version 7 to 8	Changed	Changes made in the Technical Specifications section only.
16-Feb-2010	From Version 6 to 7	Added	HPE 2TB 3G SATA 7.2k rpm Midline 1yr Warranty and Non-hot Plug Midline 1y Wty Hard Drives, HPE 1TB 3G SAS 7.2k rpm Non-hot Plug Midline 1y Wty Hard Drive and HPE 250GB 2G SATA 7.2k rpm Entry 1yr Warranty and Non-hot Plug Entry 1y Wty Hard Drives were added to Models.
13-Jul-2009	From Version 5 to 6	Changed	Completely revised Models throughout the QuickSpecs, as well as made other minor additional edits within the Overview section.
09-Dec-2008	From Version 4 to 5	Changed	Completely revised the Pre-Failure Alert section in the Standard Features.
15-Sep-2008	From Version 3 to 4	Changed	The Models in the Overview and Technical Specifications sections were rewritten.
16-May-2008	From Version 2 to 3	Changed	Change made in the Technical Specifications sections.
12-May-2008	From Version 1 to 2	Changed	Changes made throughout the Overview and Technical Specifications sections.



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



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