

Overview

HPE Hard Disk Drives

HPE Hard Disk Drives (HDDs) deliver 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 12TB and growing.

HPE HDD portfolio: Proven performance for every workload

Class	Enterprise		Midline	Entry*
Workload	High		Medium	Low
Usage	Mission-critical, high I/O: Email, enterprise resource planning (ERP), customer relationship management (CRM)		High capacity, high availability storage: Backup, archive, reference	Low I/O: Boot and backup
Interface	SAS 12Gb		SAS 12Gb SATA 6Gb	SATA 6Gb
RPM	15000	10000	7200	7200
Form factor	SFF & LFF	SFF	SFF & LFF	LFF
Capacities	Up to 900GB	Up to 2.4TB	Up to 12TB	Up to 4TB
Warranty	3 years	3 years	1 year	1 year

NOTE:* Supported on select HPE ProLiant servers only.

Overview

What's New

- HPE 12TB Midline 7.2K SAS 12G LFF (3.5in) Helium 512e Digitally Signed Firmware HDD.

HPE Recommended Options

HPE recommended options have best performance, value and availability.

Recommended

Offering the best combination of performance, value and availability, Recommended Options have been selected by HPE experts to provide the right technology for a range of workloads and market segments. Fully integrated into the ProLiant management and security experience, Recommended Options provide the best fit with timely availability.

Extended

Extended Options provide an extended catalog of products tailored for customers in specific markets or with specific workloads, requiring the utmost in performance or value. Fully integrated into the ProLiant management and security experience, Extended Options represent great value and performance but typically have a longer lead-time.

HPE Recommended Options – [View the list for your region](#)

Firmware Updates:

- Digitally Signed Firmware – Prevent unauthorized access to your data with the expansion of integrated HPE Digitally Signed Firmware (DS) on new drives; providing the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks.
- For advanced data protection and encryption, customers should consider HPE Smart Array Controllers with HPE Smart Array Secure SR Encryption. It is a controller-based data encryption solution for HPE servers that protect data-at-rest on any bulk attached storage. This solution meets stringent compliance regulations such as HIPAA and Sarbanes-Oxley.

Overview

Recommended Models

Offering the best combination of performance, value and availability, Recommended Options have been selected by HPE experts to provide the right technology for a range of workloads and market segments.

Fully integrated into the ProLiant management and security experience, Recommended Options provide the best fit with timely availability.

Category	Interface	Form factor	Format	Capacity	HDD Carrier		
					Smart Carrier SKU	Low Profile SKU	Standard Carrier SKU
Enterprise (15K rpm)	SAS 12G	SFF	512n	300GB	870753-B21	-	
				600GB	870757-B21		
				900GB	870759-B21		
		LFF		300GB	737261-B21		
				600GB	765424-B21		
				300GB	872475-B21	-	
Enterprise (10K rpm)	SAS 12G	SFF	512e	600GB	872477-B21	-	
				1.2TB	872479-B21	-	
				1.8TB	872481-B21	-	
		LFF		2.4TB	881457-B21	-	
				2TB	872485-B21	833926-B21	
				4TB	872487-B21	833928-B21	
Midline (7.2K rpm)	SAS 12G	LFF	512e	8TB	819201-B21 861590-B21 ^{He}	834031-B21	858384-B21
				10TB		857646-B21 ^{He}	
				12TB		881781-B21	
		SFF		2TB	765466-B21	-	
				1TB	832514-B21	-	
				1TB	861691-B21	861686-B21	
Midline (7.2K rpm)	SATA 6G	LFF	512n	4TB	872491-B21	861683-B21	
				6TB	861750-B21	861742-B21	
			512e	8TB	819203-B21 861594-B21 ^{He}	834028-B21 861596-B21 ^{He}	
				10TB		857650-B21 ^{He}	
				12TB		881787-B21	
			512n	2TB	765455-B21	-	
				1TB	655710-B21	-	

NOTE: ^{He} Helium Drive.

NOTE: Refer to the appropriate Server QuickSpecs for full compatibility details.

Standard Features

What is HPE Hard disk drive?	Hewlett Packard Enterprise drives are tuned to deliver optimum performance for HPE Servers. They undergo an intense qualification process to eliminate firmware and O/S incompatibilities. HPE drive firmware is designed to maximize both functionality and compatibility with HPE ProLiant Rack and Tower Servers, Apollo family, Blade and Synergy Platforms.
Drive Quality and Performance	While selecting the drives in our Enterprise portfolio, only those drives with a performance level suitable for an enterprise environment are selected through the Hewlett Packard Enterprise qualification process and are labeled "best-in-class." HPE Midline drives undergo a similar qualification process to ensure that you get the economical reliability and performance you need for your low workload (less than 40% I/O) environments.
Pre-Failure Alert	<p>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.</p> <p>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 one or three-year limited on-site warranty period for the system in which they are installed. The drive warranty is automatically uplifted when used in a server or MSA for which a HPE Pointnext is purchased. Please see the Support Services section below for additional services.</p>
Smart Carriers	HPE Hard Drives with smart carriers are designed to provide an interface to communicate critical status and management information. System status LED icons and a spinning activity ring reflecting the data-writing process notify users of the current system status. A blue LED located behind the handle can be activated remotely to guide users to a specific drive tray, while a do-not-remove icon positioned on the tray's eject button lights up to warn users when the removal of the drive would cause data loss.
Helium Drives	Although hard drives are sealed, they have air inside. Air can create turbulence-induced risk vibrations which can limit the storage density of HDDs. Newer helium-filled drives virtually eliminate turbulence because helium is 1/7th as dense as air. This lower density allows the read/write mechanism to spin more easily and precisely, with less drag. Less internal turbulence means the drive platters can be closer together, allowing more platters and increasing the capacity potential in the same space. Less turbulence also means helium drives tend to use less power, and run cooler and quieter.
Support Matrix	Please see the following URL for the latest list of supported servers and enclosures: https://www.hpe.com/us/en/servers/server-options.html
Warranty	Enterprise hard drives have a 3 year limited warranty regardless of the warranty period for the system in which they are installed. Midline hard drives have a 1 year limited warranty regardless of the warranty period for the system in which they are installed.

Service and Support

Service and Support

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.

NOTE: HPE Hard drives are covered under the HPE Pointnext /Service Contract applied to the HPE ProLiant Server. No separate HPE Pointnext s need to be purchased.

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%¹ reduction in down time, near 100%² 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.

1. IDC Whitepaper
 2. HPE CSC Reports 2014-2015
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HPE Support Center

Personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more

<https://support.hpe.com/hpesc/public/home>

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

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Services or HPE contractual support agreement.

NOTE: HPE Support Center Mobile App above 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 reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

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

Technical Specifications – Recommended Portfolio

Warranty / 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, purchased at the same time or afterward and internal to the enclosure. These items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been reached.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. It does not apply Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by Hewlett Packard Enterprise as consumable parts and/or that have reached maximum supported lifetime and/or the maximum usage limits 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 service feature option.

Subject to: Maximum supported lifetime: This is a period in years set to equal the warranty for the specific drive. After this period no further service coverage will be available for the drive. Maximum usage limit: This is the maximum amount of data that can be written to the drive. Drives that have reached this limit will not be eligible for services coverage.

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For more information

To learn more on services for HPE Server Options, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit: <https://www.hpe.com/us/en/product-catalog/servers/proliant-servers.html> or <https://www.hpe.com/us/en/integrated-systems/bladesystem.html>

HDD Selection

To streamline the configuration process for HPE ProLiant servers and to provide the best product availability, HPE recommends HDDs from the list located here: <http://www.hpe.com/products/recommend>

Best product availability is limited to US, Canada, and Latin America at this time.

Supporting Helpful Links

<http://www.hpe.com/info/rackandpower>

<http://www.hpe.com/info/poweradvisor>

<http://www.hpe.com/info/infrastructurearchitect>

<https://www.hpe.com/us/en/storage/entry-level.html>

Technical Specifications

Recommended Portfolio

Enterprise (15K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	15000 rpm	Dimensions				
Interface	SAS	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870753-B21	300,000MB	585,937,500	0.22 ms	2.72 ms	5.36 ms
HPE 600GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870757-B21	600,127MB	1,172,123,568	0.22 ms	2.72 ms	5.36 ms
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	870759-B21	900,185MB	1,758,174,768	0.22 ms	2.72 ms	5.36 ms

Enterprise (15K rpm)						
Form Factor	LFF (3.5")	Carrier	Smart Carrier Converter			
Rotational Speed	15000 rpm	Dimensions				
Interface	SAS	Height	1.06 in (26.8 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.16 in (105.8 mm)			
Bytes/Sector	512	Depth	6.69 in (170.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD	737261-B21	300,000MB	585,937,500	0.24 ms	2.9 ms	6.5 ms
HPE 600GB SAS 12G Enterprise 15K LFF (3.5in) SCC 3yr Wty HDD	765424-B21	600,127MB	1,172,123,568	0.22 ms	2.9 ms	6.5 ms

Enterprise (15K rpm)						
Form Factor	LFF (3.5")	Carrier	Low Profile Converter			
Rotational Speed	15000 rpm	Dimensions				
Interface	SAS	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.15 in (105.5 mm)			
Bytes/Sector	512	Depth	6.16 in (156.58 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke

Technical Specifications

Recommended Portfolio

Enterprise (10K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	10000 rpm	Dimensions				
Interface	SAS	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 300GB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872475-B21	300,000MB	585,937,500	0.32 ms	4.15 ms	7.61 ms
HPE 600GB SAS 12G Enterprise 10K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	872477-B21	600,127MB	1,172,123,568	0.33 ms	3.92 ms	8.33 ms
HPE 1.2TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD	872479-B21	1,200,243MB	2,344,225,968	0.33 ms	4.12 ms	8.26 ms
HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	872481-B21	1,800,360MB	3,516,328,368	0.23 ms	4.00 ms	8.5 ms
HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	881457-B21	2,400,476MB	4,688,430,768	0.23 ms	4.04 ms	7.71 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.06 in (26.8 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.16 in (105.8 mm)			
Bytes/Sector	512	Depth	6.69 in (170.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872485-B21	2,000,398MB	3,907,029,168	0.80 ms	8.5 ms	15.1 ms
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872487-B21	4,000,787MB	7,814,037,168	0.80 ms	8.5 ms	15.7 ms
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819201-B21	8,001,563MB	15,628,053,168	0.70 ms	8.5 ms	15.7 ms
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	861590-B21	8,001,563MB	15,628,053,168	0.22 ms	8.0 ms	16.0 ms

Technical Specifications

Recommended Portfolio

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Low Profile			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.15 in (105.5 mm)			
Bytes/Sector	512	Depth	6.16 in (156.58 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 2TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833926-B21	2,000,398MB	3,907,029,168	0.80 ms	8.5 ms	15.7 ms
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	833928-B21	4,000,787MB	7,814,037,168	0.80 ms	8.5 ms	15.7 ms
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834031-B21	8,001,563MB	15,628,053,168	0.70 ms	8.5 ms	15.7 ms
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857646-B21	10,000,831MB	19,532,873,728	0.22 ms	8.0 ms	16.0 ms
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881781-B21	12,000,138 MB	23,437,770,752	0.23ms	8.0ms	16.0ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Standard Carrier			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.04 in (26.4 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.36 in (110.7 mm)			
Bytes/Sector	512	Depth	7.43 in (188.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 8TB SAS 12G Midline 7.2K LFF (3.5in) ST 1yr Wty 512e HDD	858384-B21	8,001,563MB	15,628,053,168	0.70 ms	8.5 ms	15.7 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SATA	Height	1.06 in (26.8 mm)			
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.16 in (105.8 mm)			
Bytes/Sector	512	Depth	6.69 in (170.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					

Technical Specifications

SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	861691-B21	1,000,204MB	1,953,525,168	0.80 ms	8.7 ms	16.5 ms
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872491-B21	4,000,787MB	7,814,037,168	0.80 ms	8.5 ms	15.1 ms
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	861750-B21	6,001,175MB	11,721,045,168	0.80 ms	8.5 ms	15.1 ms
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	819203-B21	8,001,563MB	15,628,053,168	0.80 ms	8.5 ms	15.7 ms
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	861594-B21	8,001,563MB	15,628,053,168	0.22 ms	8.0 ms	4.16 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")		Carrier	Low Profile		
Rotational Speed	7200 rpm		Dimensions			
Interface	SATA		Height	1.028 in (26.1 mm)		
Transfer Rate Synchronous (Max)	6Gb/sec		Width	4.15 in (105.5 mm)		
Bytes/Sector	512		Depth	6.16 in (156.58 mm)		
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861686-B21	1,000,204MB	1,953,525,168	0.5 ms	8.7 ms	16.0 ms
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861683-B21	4,000,787MB	7,814,037,168	0.32 ms	7.45 ms	14.2 ms
HPE 6TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	861742-B21	6,001,175MB	11,721,045,168	0.32 ms	7.45 ms	14.2 ms
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	834028-B21	8,001,563MB	15,628,053,168	0.70ms	8.5 ms	15.7 ms
HPE 8TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	861596-B21	8,001,563MB	15,628,053,168	0.22 ms	8.0 ms	4.16 ms
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	857650-B21	10,000,831MB	19,532,873,728	0.22 ms	8.0 ms	4.16 ms

Technical Specifications

Recommended Portfolio

Midline (7.2K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	832514-B21	1,000,204MB	1,953,525,168	0.5 ms	6.8 ms	17.0 ms
HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765466-B21	2,000,398MB	3,907,029,168	0.5 ms	6.8 ms	17.0 ms

Midline (7.2K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SATA	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	6Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty Digitally Signed Firmware HDD	655710-B21	1,000,204MB	1,953,525,168	0.5 ms	7.2 ms	17.0 ms
HPE 2TB SATA 6G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765455-B21	2,000,398MB	3,907,029,168	0.5 ms	7.2 ms	17.0 ms

Technical Specifications

Extended Options provide an extended catalog of products tailored for customers in specific markets or with specific workloads, requiring the utmost in performance or value.

Fully integrated into the ProLiant management and security experience, Extended Options represent great value and performance but typically have a longer lead-time.

Category	Interface	Form factor	Format	Capacity	HDD Carrier		
					Smart Carrier SKU	Low Profile SKU	Standard Carrier SKU
Enterprise (15K rpm)	SAS 12G	SFF	512n	900GB	870765-B21	-	-
				300GB		870755-B21	
		LFF	512e	900GB	-	870761-B21	
					HDD Carrier		
					Smart Carrier SKU	Low Profile SKU	Standard Carrier SKU
Midline 7.2K rpm	SAS 12G	LFF	512n	1TB	846524-B21	846526-B21	-
				6TB	846514-B21	-	-
			512e	4TB	-	861748-B21	-
				6TB	861754-B21	861746-B21	-
				10TB	857644-B21He		869347-B21He
				12TB	881779-B21		881783-B21
		SFF		1TB	765464-B21	-	-
		Midline 7.2K rpm	SATA 6G	LFF	512n	2TB	872489-B21
4TB						861744-B21	
512e	10TB				857648-B21He		-
	12TB				881785-B21	881787-B21	-
					HDD Carrier		
					No Carrier SKU (Raw/Non-Hot Plug)		
Entry	SATA (7.2K)	LFF	512n	1TB	801882-B21		
				4TB	801888-B21		
			512e	1TB	843266-B21*		

NOTE: *Also known as “Desktop Drive”, this drive has Generic Firmware (Non-HPE)

Technical Specifications

Enterprise (15K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	15000 rpm	Dimensions				
Interface	SAS	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 900GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD	870765-B21	900,185MB	1,758,174,768	0.22 ms	2.72 ms	5.36 ms

Enterprise (15K rpm)						
Form Factor	LFF (3.5")	Carrier	Low Profile Converter			
Rotational Speed	15000 rpm	Dimensions				
Interface	SAS	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.15 in (105.5 mm)			
Bytes/Sector	512	Depth	6.16 in (156.58 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 300GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	870755-B21	300,000MB	585,937,500	0.22 ms	2.72 ms	5.36 ms
HPE 900GB SAS 12G Enterprise 15K LFF (3.5in) LPC 3yr Wty Digitally Signed Firmware HDD	870761-B21	900,185MB	1,758,174,768	0.22 ms	2.72 ms	5.36 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Standard Carrier			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.04 in (26.4 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.36 in (110.7 mm)			
Bytes/Sector	512	Depth	7.43 in (188.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) ST 1yr Wty Helium 512e HDD	869347-B21	10,000,831MB	19,532,873,728	0.22 ms	8.0 ms	16.0 ms
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) ST 1yr Wty Helium 512e HDD	881783-B21	12,000,138MB	23,437,770,752	0.23 ms	8.0	16.0

Technical Specifications

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.06 in (26.8 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.16 in (105.8 mm)			
Bytes/Sector	512	Depth	6.69 in (170.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846524-B21	1,000,204MB	1,953,525,168	0.32 ms	7.45 ms	14.2 ms
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	846514-B21	6,001,175MB	11,721,045,168	0.70 ms	8.5 ms	15.7 ms
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	861754-B21	6,001,175MB	11,721,045,168	0.80 ms	8.5 ms	15.1 ms
HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857644-B21	10,000,831MB	19,532,873,728	0.22 ms	8.0 ms	16.0 ms
HPE 12TB SAS 12G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	881779-B21	12,000,138 MB	23,437,770,752	0.23 ms	8.0 ms	16.0 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Low Profile			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	4.15 in (105.5 mm)			
Bytes/Sector	512	Depth	6.16 in (156.58 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	846526-B21	1,000,204MB	1,953,525,168	0.32 ms	7.45 ms	14.2 ms
HPE 4TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	861748-B21	4,000,787MB	7,814,037,168	0.32 ms	7.45 ms	14.2 ms
HPE 6TB SAS 12G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	861746-B21	6,001,175MB	11,721,045,168	0.32 ms	7.45 ms	14.2 ms

Technical Specifications

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SATA	Height	1.06 in (26.8 mm)			
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.16 in (105.8 mm)			
Bytes/Sector	512	Depth	6.69 in (170.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Digitally Signed Firmware HDD	872489-B21	2,000,398MB	3,907,029,168	0.80 ms	8.5 ms	15.1 ms
HPE 10TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	857648-B21	10,000,831MB	19,532,873,728	0.22 ms	8.0 ms	4.16 ms
HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) SC 1yr Wty Helium 512e Digitally Signed Firmware HDD	881785-B21	12,000,138 MB	23,437,770,752	0.23 ms	8.0 ms	16.0 ms

Midline (7.2K rpm)						
Form Factor	LFF (3.5")	Carrier	Low Profile			
Rotational Speed	7200 rpm	Dimensions				
Interface	SATA	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.15 in (105.5 mm)			
Bytes/Sector	512	Depth	6.16 in (156.58 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 2TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Digitally Signed Firmware HDD	861681-B21	2,000,398MB	3,907,029,168	0.5 ms	8.7 ms	16.0 ms
HPE 4TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty 512e Digitally Signed Firmware HDD	861744-B21	4,000,787MB	7,814,037,168	0.32 ms	7.45 ms	14.2 ms
HPE 12TB SATA 6G Midline 7.2K LFF (3.5in) LP 1yr Wty Helium 512e Digitally Signed Firmware HDD	881787-B21	12,000,138 MB	23,437,770,752	0.23 ms	8.0 ms	16.0 ms

Technical Specifications

Midline (7.2K rpm)						
Form Factor	SFF (2.5")	Carrier	Smart Carrier (SC)			
Rotational Speed	7200 rpm	Dimensions				
Interface	SAS	Height	0.62 in (15.6 mm)			
Transfer Rate Synchronous (Max)	12Gb/sec	Width	2.98 in (75.7 mm)			
Bytes/Sector	512	Depth	4.67 in (118.7 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e Digitally Signed Firmware HDD	765464-B21	1,000,204MB	1,953,525,168	0.5 ms	6.8 ms	17.0 ms

Entry						
Form Factor	LFF (3.5")	Carrier	Non Hot Plug Carrier			
Rotational Speed	7200 rpm	Dimensions				
Interface	SATA	Height	1.028 in (26.1 mm)			
Transfer Rate Synchronous (Max)	6Gb/sec	Width	4.00 in (101.6 mm)			
Bytes/Sector	512	Depth	5.75 in (146.0 mm)			
Operating Temperature	50° to 95° F (10° to 35°C)					
SKU Description	SKU	Physical Configuration		Seek time		
		Capacity	Logical Blocks	Single track	Avg	Full Stroke
HPE 1TB SATA 6G Entry 7.2K LFF (3.5in) RW 1yr Wty HDD	801882-B21	1,000,204MB	1,953,525,168	0.8 ms	<8.5 ms	16.5 ms
HPE 4TB SATA 6G Entry 7.2K LFF (3.5in) RW 1yr Wty HDD	801888-B21	4,000,787MB	7,814,037,168	0.8 ms	<8.5 ms	16.2 ms
HPE 1TB SATA 6G Entry 7.2K LFF (3.5in) RW 1yr Wty 512e HDD	843266-B21	1,000,204MB	1,953,525,168	1.0 ms	<8.5 ms	18.0 ms

Carrier Decoder

HPE Hard Disk Drives (HDDs) utilize a wide variety of carriers, which houses the HDD and also enables a specific chassis fit to support a broad range of HPE server and storage products. The table below summarizes the various form factors, plug types, and carrier attributes.

Carriers				
Form Factor	HP/NHP	Smart/Non-Smart	Carrier Name (Abbreviation)	SFF/LFF
SFF Carrier	Hot Plug	Smart	Smart Carrier (SC)	SFF
		Non-Smart	Standard (ST)	SFF
LFF Carrier	Hot Plug	Smart	Smart Carrier (SC)	LFF
			Smart Carrier Converter (SCC)	LFF
		Non-Smart	Low Profile (LP)	LFF
			Low Profile Converter (LPC)	LFF
			Standard (ST)	LFF
No Carrier	Non-Hot Plug	Non-Smart	Raw LFF HDD (RW)	LFF

HDD SKU Description Decoder

Technical Specifications

Long Name

HPE 10TB SAS 12G Midline 7.2K LFF (3.5in) SC 3yr Wty He 512e Digitally Signed Firmware HDD

Brand	Storage Capacity	Interface Type/ Interface Speed	Workload	Form Factor Type / Form Factor Size	Carriers	Wty	Special Features	Drive Type
HPE	300-900GB 1-12TB	SATA/SAS 6G/12G	Enterprise 15/10K Midline 7.2K Entry 7.2K/5.9K	SFF (2.5IN) LFF (3.5IN)	SC Smart Carrier SCC Smart Carrier Converter ST Standard STC Standard Converter LP Low Profile LPC Low Profile Converter QR Quick Release RW Raw Drive	3yr <u>Wty</u> 1yr <u>Wty</u>	Digitally Signed Firmware 512e - No descriptor (512n) Helium - No descriptor (Air) SMR - Shingle Magnetic Recording; No descriptor (PMR) SED - Self Encrypting Drive Special - Special SKUs <i>In priority order, where 1st is closest to drive type</i>	HDD

Short Name

HPE 10TB SAS 7.2K LFF SC He 512e DS HDD

Brand	Storage Capacity	Interface Type	Workload	Form Factor Type	Carriers	Special Features	Drive Type
HPE	300-900GB 1-12TB	SATA/SAS	15K 10K 7.2K	SFF LFF	SC Smart Carrier SCC Smart Carrier Converter ST Standard STC Standard Converter LP Low Profile LPC Low Profile Converter QR Quick Release RW Raw Drive	DS Digitally Signed Firmware 512e 512 emulation; No descriptor (512n) He Helium; No descriptor (Air) SMR Shingle Magnetic Recording; No descriptor (PMR) SED Self-encrypting drive SPL Special SKU <i>In priority order, where 1st is closest to drive type</i>	HDD

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

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

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **Hewlett Packard Enterprise web site**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
05-Mar-2018	Version 8	Changed	Overview, Service and Support, and Technical Specifications were revised.
05-Feb-2018	Version 7	Added	Added new HPE 12TB Midline 7.2K SAS LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models: 881779-B21, 881781-B21, 881783-B21
		Changed	Change format to breakout recommended and extended portfolios.
		Removed	Obsolete SKUs
04-Dec-2017	Version 6	Added	Added new HPE 12TB Midline 7.2K LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models.
		Changed	Overview, Service and Support, and Technical Specifications were revised.
		Removed	Obsolete SKUs were removed from the QuickSpecs.
23-Oct-2017	Version 5	Changed	Part number 881458-B21 was changed to 881457-B21. Care Pack references changed to HPE Pointnext operational services.
25-Sep-2017	Version 4	Added	Added 881458-B21 HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD
		Changed	Overview, Standard Features, Service and Support, and Technical Specifications were revised.
12-Jun-2017	Version 3	Changed	Overview and Technical Specifications were revised.
27-Mar-2017	Version 2	Added	Added new HDD offering.
		Changed	Overview and Technical Specifications were revised.
13-Feb-2017	Version 1	Added	Combined SAS and SATA into one single QuickSpecs. Overview, Models, Compatibility, Standard Features, Service and Support, and Technical Specifications sections were updated. New part number descriptions have been added.



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

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