Overview

HPE Hard Disk Drives

HPE Hard Disk Drives (HDDs) are engineered to deliver optimum performance, reliability, compatibility, and data security across HPE server and storage platforms making them the preferred choice for workloads ranging from small businesses to large enterprise.

Performance
- HPE HDDs are tuned and tested with on-going quality monitoring throughout their lifecycle
- HPE optimizes HDD firmware for predictable and consistent HDD performance
- Full portfolio of high-performance Mission Critical and high-capacity Business Critical drive solutions

Reliability
- Hewlett Packard Enterprise-s industry-leading rigorous testing and qualification program, backed by 2.4 million test hours
- Pre-failure Alerts with HPE Smart Array Controller, Systems Insight Manager, and HPE Smart firmware
- 3x faster firmware and software updates with HPE Service Pack for ProLiant (HPE SPP)
- Best-in-class supply assurance program reduces downtime due to product delays

Compatibility
- Simplify HDD planning and standardize HDDs across HPE server and storage solutions
- Common HDD carriers mean re-purposing drives in other servers is a snap

Security
- HPE Digitally Signed Firmware helps prevent against malicious attacks
- HPE Smart Array SR Secure Encryption is a FIPS 140-2 Level 1 validated enterprise class controller-based encryption solution for data-at-rest on all SAS/SATA drives
- HPE Smart Carriers report drive activity and health
- Self-Encrypting Drives (SEDs) provide hardware-based data encryption. All data that is committed to the media is encrypted with either a 128-bit or 256-bit key.

HPE HDDs are available for three types of workloads: Enterprise high-performance (Mission Critical), Midline high-capacity (Business Critical) and Entry-level storage solutions.

HPE HDD portfolio: Proven performance for every workload				
Class	**Mission Critical (Enterprise)**		**Business Critical (Midline)**	**Entry***
Workload	**High**		**Medium**	**Low**
Usage	**Mission-critical, high I/O:** Email, enterprise resource planning (ERP), customer relationship management (CRM)		**Business Critical, 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 20TB	Up to 4TB
Warranty	3 years	3 years	1 year	1 year
Notes: * Supported on select HPE ProLiant servers only.				

Overview

What's New

- Introduced largest capacity 20TB and largest air-filled 10TB HDD in Business Critical 7.2K LFF Smart Carrier and Low-Profile Carrier Portfolio.

P53552-B21 Vendor HDD   HPE 20TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi

P53553-B21 Vendor HDD   HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi

P53554-B21 Vendor HDD   HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi

P53555-B21 Vendor HDD   HPE 20TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi

P53556-B21 HDD   HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor

P53557-B21 HDD   HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor

P53558-B21 HDD   HPE 10TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e ISE Multi Vendor

P53559-B21 HDD   HPE 10TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e ISE Multi Vendor

Notes: A -B21 suffix may be replaced with -H21 and -K21 to support across different server family lines. Please refer to the appropriate Server QuickSpecs for full compatibility details

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.

Standard Features

Models

Category	Interface	Form Factor	Format	Capacity	HDD Carrier		
					Smart Carrier SKU	Low Profile SKU	Basic Carrier SKU
Mission Critical (15K rpm)		SFF		300GB	870753-B21		P28028-B21
				600GB	870757-B21		P53560-B21
				900GB	870759-B21		P40432-B21
Mission Critical (10K rpm)			512n	300GB	872475-B21		P40430-B21
				600GB	872477-B21		P53561-B21
				1.2TB	872479-B21		P28586-B21
		SFF	512e	1.8TB	872481-B21		P53562-B21
				2.4TB	881457-B21		P28352-B21
Mission Critical (10K rpm) Self-Encrypting Drives (SED)		SFF	512n	1.2TB			P28622-B21
		SFF	512e	2.4TB			P28618-B21

Category	Interface	Form Factor	Format	Capacity	HDD Carrier		
					Smart Carrier SKU	Low Profile SKU	Basic Carrier SKU
Business Critical (7.2K rpm)	SAS 12G	LFF	512n	2TB	872485-B21	833926-B21	
				4TB	872487-B21	833928-B21	
		LFF	512e	6TB	861754-B21	861746-B21	
				8TB	819201-B21	834031-B21	
				10TB	P53558-B21	P53556-B21	
				12TB	881779-B21 [He]	881781-B21 [He]	
				14TB	P09153-B21 [He]	P09155-B21 [He]	
				16TB	P23863-B21 [He]	P23608-B21 [He]	
				18TB	P37664-B21 [He]	P37669-B21 [He]	
				20TB	P53552-B21 [He]	P53553-B21 [He]	
		SFF	512n	1TB	832514-B21		P53563-B21
			512e	2TB	765466-B21		P28505-B21
	SATA 6G	LFF	512n	1TB	861691-B21	861686-B21	

Standard Features

Category	Interface	Form Factor	Format	Capacity	HDD Carrier		
				2TB	872489-B21	861681-B21	
				4TB	872491-B21	861683-B21	
			512e	6TB	861750-B21	861742-B21	
				8TB	819203-B21	834028-B21	
				10TB	P53559-B21	P53557-B21	
				12TB	881785-B21 [He]	881787-B21 [He]	
				14TB	P09163-B21 [He]	P09165-B21 [He]	
				16TB	P23857-B21 [He]	P23449-B21 [He]	
				18TB	P37673-B21 [He]	P37678-B21 [He]	
				20TB	P53555-B21 [He]	P53554-B21 [He]	
		SFF		2TB	765455-B21		P28500-B21
			512n	1TB	655710-B21		P28610-B21
Category	**Interface**	**Form Factor**	**Format**	**Capacity**	**HDD Carrier**		
Entry (7.2K)	**SATA 6G**				**Non Hot Plug Carrier SKU**		
			512n	1TB	801882-B21		
				4TB	801888-B21		

Notes:

[He] Helium Drive.

A -B21 suffix may be replaced with -H21 and -K21 to support across different server family lines. Please refer to the appropriate Server QuickSpecs for full compatibility details.

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 HPE 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."

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

Notes: 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

Standard Features

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 service contract is purchased. Please see the Support Services section below for additional services.

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

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services**, focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms
HPE GreenLake brings the cloud experience directly to your apps and data wherever they are-the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations
HPE GreenLake Management Services provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

Recommended Services

HPE Pointnext Tech Care.
HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.
https://www.hpe.com/services/techcare

HPE Pointnext Complete Care
HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

Service and Support

https://www.hpe.com/services/completecare

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 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Tech Care Service and HPE Complete 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.

Notes:

[1]IDC Whitepaper

[2]HPE CSC Reports 2014-2015

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.

Notes: 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 QuickSpecs, 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.

Service and Support

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.

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

Supporting Helpful Links
http://www.hpe.com/info/rackandpower
http://www.hpe.com/info/poweradvisor
https://www.hpe.com/us/en/storage/entry-level.html

Technical Specifications

HDD Specifications

Mission Critical (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	**SKU Description**	**OD Media Rate, Max Sequential Throughput (MiB/s)**	**128Kib Random Rd (IOPs)**	**128Kib Random 70% RD/ 30% WT (IOPs)**	**128Kib Random 50% RD/ 50% WT (IOPs)**	**Power Idle Time (Watts)**	**Powe Rand R/W (Watt**	
870753-B21	HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	2.6	3.6	
870757-B21	HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	7.1	
870759-B21	HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.8	7.8	

Mission Critical (15K rpm)								
Form Factor		SFF (2.5")		**Carrier**		Basic Carrier (B		
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 m		
Operating Temperature		50° to 95° F (10° to 35°C)						
SKU	**SKU Description**	**OD Media Rate, Max Sequential Throughput (MiB/s)**	**128Kib Random Rd (IOPs)**	**128Kib Random 70% RD/ 30% WT (IOPs)**	**128Kib Random 50% RD/ 50% WT (IOPs)**	**Power Idle Time (Watts)**	**Pow Rand R/W (Wat**	

Technical Specifications

SKU	SKU Description						
P28028-B21	HPE 300GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	2.6	3.6
P53560-B21	HPE 600GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	
P40432-B21	HPE 900GB SAS 12G Mission Critical 15K SFF BC 3-year Warranty Multi Vendor HDD	260	220	220	220	4.7	

Mission Critical (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	**SKU Description**	**OD Media Rate, Max Sequential Throughput (MiB/s)**	**128Kib Random Rd (IOPs)**	**128Kib Random 70% RD/ 30% WT (IOPs)**	**128Kib Random 50% RD/ 50% WT (IOPs)**	**Power Idle Time (Watts)**	**Power Random R/ (Wat**
872475-B21	HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	180	180	180	3.8	5.8
872477-B21	HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.7	6.1
872479-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.0	7.5
872481-B21	HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	230	165	170	185	4.6	6.9
881457-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	255	160	180	195	4.8	6.0

Technical Specifications

Mission Critical (10K rpm)				
Form Factor	SFF (2.5")	**Carrier**	Basic Carrier (B
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 m
Operating Temperature	50° to 95° F (10° to 35°C)		

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Rand R/W (Wat
P40430-B21	HPE 300GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	195	180	180	180	3.8	6.9
P53561-B21	HPE 600GB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	200	165	165	165	4.7	6.1
P28586-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Multi Vendor HDD	195	165	165	165	4.1	7.5
P53562-B21	HPE 1.8TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	260	165	180	190	2.6	3.6
P28352-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Multi Vendor HDD	255	160	180	190	4.8	6

Technical Specifications

Mission Critical (10K rpm) Self-Encrypting Drives (SED)

Form Factor	SFF (2.5")	Carrier	Basic Carrier (BC)
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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)
P28622-B21	HPE 1.2TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty Self-encrypting HDD	250	170	170	170	2.6	3.6
P28618-B21	HPE 2.4TB SAS 12G Mission Critical 10K SFF BC 3-year Warranty 512e Self-encrypting HDD	255	160	180	195	4.8	6.0

Business Critical (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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)
872485-B21	HPE 2TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2
872487-B21	HPE 4TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2
861754-B21	HPE 6TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	200	100	105	110	8.8	12.2
819201-B21	HPE 8TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	8.3	11.3

Technical Specifications

P53558-B21	HPE 10TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty 512e ISE Multi Vendor HDD	255	108	115	129	9.0	12.4
881779-B21	HPE 12TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.7
P09153-B21	HPE 14TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	6.1	9.2
P23863-B21	HPE 16TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	250	105	115	125	5.7	9.6
P37664-B21	HPE 18TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	108	115	127	6.1	9.9
P53552-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	6.1	9.9

Business Critical (7.2K rpm)			
Form Factor	LFF (3.5")	**Carrier**	Low Profile (LP)
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 m
Operating Temperature	50° to 95° F (10° to 35°C)		

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random ( )
833926-B21	HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12
833928-B21	HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12
861746-B21	HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	215	100	110	110	8.8	12

Technical Specifications

SKU	SKU Description						
834031-B21	HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	8.3	11
P53556-B21	HPE 10TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	255	108	115	129	9.0	12
881781-B21	HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.
P09155-B21	HPE 14TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	6.1	9.
P23608-B21	HPE 16TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	250	105	115	125	5.7	9.
P37669-B21	HPE 18TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	108	115	127	6.1	9.
P53553-B21	HPE 20TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	6.1	9.

Business Critical (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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R (Wa)
861691-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2
872489-B21	HPE 2TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2
872491-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Multi Vendor HDD	190	100	100	100	8.8	12.2

Technical Specifications

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128 Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)
861750-B21	HPE 6TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	215	100	100	105	8.8	12.2
819203-B21	HPE 8TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	7.2	10.8
P53559-B21	HPE 10TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty 512e ISE Multi Vendor HDD	250	110	118	130	8.0	11.8
881785-B21	HPE 12TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.5
P09163-B21	HPE 14TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	5.6	9.3
P23857-B21	HPE 16TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	105	115	125	5.5	9.1
P37673-B21	HPE 18TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	265	108	115	127	5.6	9.3
P53555-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF SC 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	5.8	9.3

Business Critical (7.2K rpm)							
Form Factor	LFF (3.5")		**Carrier**		Low Profile (LP)		
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 m		
Operating Temperature	50° to 95° F (10° to 35°C)						
SKU	**SKU Description**	**OD Media Rate, Max Sequential Throughput (MiB/s)**	**128 Kib Random Rd (IOPs)**	**128Kib Random 70% RD/ 30% WT (IOPs)**	**128Kib Random 50% RD/ 50% WT (IOPs)**	**Power Idle Time (Watts)**	**Power Random R/W (Watts**
861686-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2

Technical Specifications

861681-B21	HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	185	90	90	90	8.8	12.2
861683-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	195	100	100	100	8.8	12.2
861742-B21	HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	215	100	100	105	8.8	12.2
834028-B21	HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	230	100	110	110	7.2	10.8
P53557-B21	HPE 10TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e ISE Multi Vendor HDD	250	110	118	130	8.0	11.8

881787-B21	HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	235	105	115	125	6.3	8.5
P09165-B21	HPE 14TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	250	105	115	120	5.6	9.3
P23449-B21	HPE 16TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	105	115	125	5.5	9.1
P37678-B21	HPE 18TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	265	108	115	127	5.6	9.3
P53554-B21	HPE 20TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e ISE Multi Vendor HDD	260	110	118	130	5.8	9.3

Technical Specifications

Business Critical (7.2K rpm)

Form Factor	SFF (2.5")	Carrier	Smart Carrier (S
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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Pow Ran m R (Wa)
832514-B21	HPE 1TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty HDD	130	105	105	105	2.6	3.6
765466-B21	HPE 2TB SAS 12G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	130	105	105	105	2.6	3.6

Business Critical (7.2K rpm)

Form Factor	SFF (2.5")	Carrier	Bas
Rotational Speed	7200 rpm	**Dimensions**	
Interface	SAS	**Height**	0.62
Transfer Rate Synchronous (Max)	12Gb/sec	**Width**	2.98
Bytes/Sector	512	**Depth**	4.67
Operating Temperature	50° to 95° F (10° to 35°C)		

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)

Technical Specifications

SKU	SKU Description								
P53563-B21	HPE 1TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty HDD	130	105	105	105	2.6	3.6	4.4	3.9
P28505-B21	HPE 2TB SAS 12G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	130	105	105	105	2.6	3.6	4.4	3.9

Business Critical (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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/ 30% WT (IOPs)	128Kib Random 50% RD/ 50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
655710-B21	HPE 1TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty HDD	130	105	105	105	2.6	3.6	4.4	3.9
765455-B21	HPE 2TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	130	105	105	105	2.6	3.6	4.4	3.9

Business Critical (7.2K rpm)			
Form Factor	SFF (2.5")	**Carrier**	Basic 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)		

Technical Specifications

SKU	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/30% WT (IOPs)	128Kib Random 50% RD/50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
P28610-B21	HPE 1TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty HDD	130	105	105	105	2.6	3.6	4.4	3.9
P28500-B21	HPE 2TB SATA 6G Business Critical 7.2K SFF BC 1-year Warranty 512e HDD	130	105	105	105	2.6	3.6	4.4	3.9

Entry				
Form Factor	LFF (3.5")	**Carrier**	Non Hot Plug Carrier (RW)	
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	SKU Description	OD Media Rate, Max Sequential Throughput (MiB/s)	128Kib Random Rd (IOPs)	128Kib Random 70% RD/30% WT (IOPs)	128Kib Random 50% RD/50% WT (IOPs)	Power Idle Time (Watts)	Power Random R/W (Watts)	Power Sequential Read (Watts)	Power Sequential Write (Watts)
801882-B21	HPE 1TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	160	95	95	95	8.8	12.2	10.8	10.5
801888-B21	HPE 4TB SATA 6G Business Critical 7.2K LFF RW 1-year Warranty Multi Vendor HDD	160	95	95	95	8.8	12.2	10.8	10.5

Technical Specifications

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.

			SFF Carriers		LFF Carriers		
Server Family	**Server Model**	**Generation**	**Smart Carrier (SC)**	**Basic Carrier (BC)**	**Smart Carrier (SC)l**	**Low Profile (LP)**	**Raw Carrier (RW)/ (AKA NPH)**
	HPE ProLiant DL						
	HPE ProLiant DL20 Gen10 Plus Server	Gen10 Plus		Yes		Yes	Yes
	HPE ProLiant DL160 Gen10 Server	Gen10	Yes			Yes	
	HPE ProLiant DL180 Gen10 Server	Gen10	Yes			Yes	
	HPE ProLiant DL320 Gen11	Gen11		Yes		Yes	
	HPE ProLiant DL325 Gen10 Plus Server	Gen10 Plus	Yes			Yes	
	HPE ProLiant DL325 Gen10 Plus V2 Server	Gen10 Plus V2		Yes		Yes	

Technical Specifications

HPE ProLiant	HPE ProLiant DL325 Gen11 Server	Gen11		Yes		Yes	Yes
	HPE ProLiant DL345 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL345 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL360 Gen10 Server	Gen10	Yes		Yes		
	HPE ProLiant DL360 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL360 Gen11	Gen11		Yes		Yes	Yes
	HPE ProLiant DL365 Gen10 Plus Server	Gen10 Plus		Yes		Yes	Yes
	HPE ProLiant DL365 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL380 Gen10 Server	Gen10	Yes		Yes		
	HPE ProLiant DL380 Gen10 Plus Server	Gen10 Plus		Yes		Yes	
	HPE ProLiant DL380 Gen11	Gen11		Yes		Yes	Yes
	HPE ProLiant DL385 Gen10 Plus Server	Gen10 Plus	Yes			Yes	Yes
	HPE ProLiant DL385 Gen10 Plus V2 Server	Gen10 Plus V2		Yes		Yes	Yes
	HPE ProLiant DL385 Gen11 Server	Gen11		Yes		Yes	
	HPE ProLiant DL 560 Gen10 Server	Gen10	Yes				
	HPE ProLiant DL 580 Gen10 Server	Gen10	Yes				
HPE ProLiant ML							
	HPE ProLiant MicroServer Gen10 Plus	Gen10 Plus					Yes
	HPE ProLiant ML30 Gen10 Plus Server	Gen10 Plus		Yes		Yes	Yes

Technical Specifications

	HPE ProLiant ML110 Gen 10 Server	Gen10	Yes			Yes	Yes
	HPE ProLiant ML350 Gen 10 Server	Gen10	Yes			Yes	Yes
	HPE ProLiant ML350 Gen 11 Server	Gen11	Yes			Yes	

	HPE Synergy						
HPE Synergy	HPE Synergy 480 Gen10 Compute Module	Gen10	Yes				
	HPE Synergy 480 Gen10 Compute Module	Gen10 Plus	Yes				
	HPE Synergy 660 Gen10 Compute Module	Gen10	Yes				
	HPE Synergy D3940 Storage Module		Yes				

HDD SKU Description Decoder

Long Name

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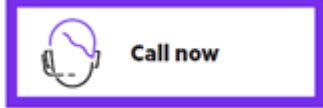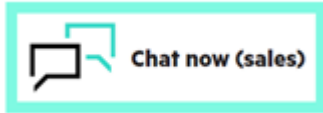
Summary of Changes

Date	Version History	Action	Description of Change
15-May-2023	Version 32	Changed	Technical Specifications Sections was updated
07-Nov-2022	Version 31	Changed	SKUs Names were updated
01-Aug-2022	Version 30	Changed	Tables were fixed, Overview and Technical Specifications Sections were updated
06-Jun-2022	Version 29	Changed	Technical Specifications Section was updated
17-Jan-2022	Version 28	Changed	Technical Specifications Section was updated
06-Dec-2021	Version 27	Changed	Technical Specifications Section was updated
15-Nov-2021	Version 26	Changed	Service and Support Section was updated
04-Oct-2021	Version 25	Changed	SKUs Names were updated
12-Jul-2021	Version 23	Changed	Technical Specifications Section was updated
06-Jul-2021	Version 22	Changed	Overview and Technical Specifications Sections were updated
06-Apr-2021	Version 21	Changed	Tables were fixed, Overview and Technical Specifications Sections were updated
01-Feb-2021	Version 20	Changed	Overview and Technical Specifications Sections were updated
20-Jul-2020	Version 19	Changed	Overview and Technical Specifications Sections were updated
01-Jun-2020	Version 18	Changed	SKUs were Added in Overview Section
03-Feb-2020	Version 17	Changed	Overview Section was updated
09-Dec-2020	Version 16	Changed	Added new HPE 16TB Midline 7.2K LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models.
02-Dec-2019	Version 15	Changed	Technical Specifications and Overview Sections were updated
03-Jun-2019	Version 14	Changed	Technical Specifications and Overview Sections were updated
04-Feb-2019	Version 13	Changed	Technical Specifications and Overview Sections were updated
15-Oct-2018	Version 12	Changed	Technical Specifications was revised.
01-Oct-2018	Version 11	Changed	Overview, Standard Features, Service and Support, and Technical Specifications were revised.
04-Sep-2018	Version 10	Changed	Technical Specifications Section was updated
04-Jun-2018	Version 9	Changed	P04695-B21 HPE 600GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD P04693-B21 HPE 300GB Enterprise 15K SAS 12G LFF (3.5in) SCC 3yr Wty Digitally Signed Firmware HDD Power specs for all drives
			Seek time specs to IOPs From Recommended to Extended: 861590-B21, 861594-B21, 861596-B21 From Extended to Recommended: 801882-B21, 881787-X21
05-Mar-2018	Version 8	Changed	Overview, Service and Support, and Technical Specifications were revised.
05-Feb-2018	Version 7	Changed	Added new HPE 12TB Midline 7.2K SAS LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models: 881779-B21, 881781-X21, 881783-B21
			Change format to breakout recommended and extended portfolios.
			Obsolete SKUs
04-Dec-2017	Version 6	Changed	Added new HPE 12TB Midline 7.2K LFF (3.5in) Helium 512e Digitally Signed Firmware HDD models.
			Overview, Service and Support, and Technical Specifications were revised.
			Obsolete SKUs were removed from the QuickSpecs.

Summary of Changes

Date	Version History	Action	Description of Change
23-Oct-2017	Version 5	Changed	Part number 881458-B21 was changed to 881457-X21. Care Pack references changed to HPE Pointnext operational services.
25-Sep-2017	Version 4	Changed	Added 881458-B21 HPE 2.4TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD
			Overview, Standard Features, Service and Support, and Technical Specifications were revised.
12-Jun-2017	Version 3	Changed	Overview and Technical Specifications were revised.
Date	**Version History**	**Action**	**Description of Change**
27-Mar-2017	Version 2	Changed	Added new HDD offering.
13-Feb-2017	Version 1	New	New QuickSpecs

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