

# HPE Server Hard Disk Drives— Server Options and Upgrades

Proven performance and large capacities to  
enhance data center storage



13.3  
exabytes

of storage were shipped by Hewlett Packard Enterprise in the last year—and that number is growing.<sup>1</sup>

**Don't take chances with your data**

All HPE Server HDDs must pass a rigorous qualification process so that every HPE drive is proven to perform in your HPE server.

## Reliable, cost-effective, large capacity storage

As you attempt to keep pace with the idea economy, you need to find new and better ways to process and store massive amounts of data in a cost-effective way. **Hewlett Packard Enterprise** offers a broad portfolio of **server options**, including hard disk drives (HDDs) designed to deliver superior performance on **HPE server platforms**, and are proven for applications that demand reliable performance in 24x7 operational environments. HPE Server HDDs offer the greatest value per gigabyte without sacrificing performance. In addition, an industry-leading testing and qualification program certifies that our drives are rugged enough for any need.

**HPE Server HDDs** are available for three types of workloads (entry, midline, and enterprise) and two interfaces (SAS and SATA), and in a variety of capacities—up to 12 TB and growing. HPE Digitally Signed Firmware prevents unauthorized access to your data. It provides the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks. You'll find a drive to fit any workload.

<sup>1</sup> HPE internal sales figures for 2017



**Built to reduce data loss**

- All HPE Server HDDs are backed by over 3.35 million hours of the industry's most rigorous testing and qualification program, ensuring reliable, rugged drives.<sup>2</sup>
- Prevent unauthorized access to your data with **HPE Digitally Signed Firmware**. It provides the security and assurance that drive firmware comes from a trusted source and protects against malicious attacks.

**Enterprise HDDs**

Enterprise HDDs from Hewlett Packard Enterprise deliver the highest levels of performance and reliability for your mission-critical and I/O-intensive applications. Enterprise drives help you improve server response times, power more transactions per second, and accelerate data transfer (I/O) speeds. These are excellent for enterprise-class data storage, where performance, reliability, and data integrity are crucial.

- Ideal for transaction processing, database applications, analytics, and high-performance computing (**HPC**)
- Broad portfolio of solutions with up to 2.4 TB of storage in a smaller footprint
- Available in 2.5-inch small form factor (SFF) and 3.5-inch large form factor (LFF)
- Efficient drives for power- and space-constrained data centers
- Latest 12G SAS interface for increased performance

**Midline HDDs**

Midline HDDs from Hewlett Packard Enterprise deliver high capacity, performance, and reliability for your business-critical applications.

- Ideal for bulk storage, backup, archive, and reference
- Broad portfolio of solutions with up to 12 TB of storage in a single drive
- Lower start-up costs without sacrificing reliability at the lowest \$/GB
- Available in 2.5-inch SFF and 3.5-inch LFF, SAS, and SATA
- Rotational vibration sensors deliver enhanced rotational vibration tolerance for enterprise-class reliability in midline drives
- Available in 512e format and Helium
- Latest 12G SAS interface for increased performance

**Entry HDDs**

Entry HDDs from Hewlett Packard Enterprise are built for reliability and larger capacity needs for today's server applications and storage environments. These high-capacity drives provide the lowest \$/GB offering a significant price advantage for applications with low workloads—of 40% or less.

- Ideal for boot and backup on select HPE ProLiant 10 series servers only
- Lower start-up costs without sacrificing reliability
- Available in 3.5-inch LFF with a wide variety of capacity points
- Data transfer rate of 6 Gbps supporting existing servers

<sup>2</sup> HPE Internal Lab Testing. 3.35M hour test quant is derived from a combination of drive qualification test plans, specifically HDDQ spec-supplier responsibility to perform, HDDQ spec-HPE responsibility to perform, Reliability Demonstration Test (RDT) spec, CSI integration test spec and Pilot test requirements. Test conducted May 2017.





HPE Server HDD with intuitive icons

**HPE Smart Carrier**

First developed at Hewlett Packard Enterprise, HPE self-monitoring analysis and reporting technology (SMART) takes the guesswork out of the status of a drive, with intuitive icons that report drive activity at a glance, and a do-not-remove button to prevent data loss from human error. Now, you can detect possible failures before they occur.

**HPE Server HDD portfolio: proven performance for every workload**

Class	Enterprise 15K	Enterprise 10K	Midline 7.2K	Entry 7.2K
Usage	<b>Mission-critical, high I/O:</b> Email, enterprise resource planning (ERP), customer relationship management (CRM)		<b>High-capacity, high-availability storage:</b> Backup, archive, reference	<b>Low I/O:</b> Boot and backup
Interface	SAS 12 Gb		SAS 12 Gb SATA 6 Gb	SATA 6 Gb
Capacities	Up to 900 GB	Up to 2.4 TB	Up to 12 TB	Up to 4 TB

See Server QuickSpecs for specific drive compatibility or the [Hard Disk Drive QuickSpecs](#).

**Frequently asked questions**

**What’s the difference between 512e and 512n drives?**

HPE 512e drives are compatible in your HPE servers and storage enclosures without sacrificing performance. The standard sector size on hard drives used to be 512 bytes (512n). The industry is moving toward 4Kn (4096 bytes) to increase drive efficiency and capacity. However, not all operating systems and applications support 4Kn sectors. HPE 512e drives use emulation to be backward compatible with legacy systems, exposing 512 bytes as their logical sector size, while making their 4096 physical sector size information available.

**What are the benefits of Helium-filled HDDs?**

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 drastically reduce turbulence because Helium is one-seventh 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.

**Service and support—you’re covered**

**Protect your business beyond warranty, with HPE Support Services**

HPE Support Services offer complete care and support expertise with committed response choices designed to meet your IT and business needs. When you purchase HPE servers, the service on the main product covers **HPE Server Options** that are qualified for the server, are purchased at the same time or later, and are internal to the enclosure.<sup>3</sup> Note that HPE Midline hard drives have a maximum warranty period of one (1) year, regardless of the warranty period for the system in which they are installed.

**HPE Pointnext** delivers confidence, reduces risk, and helps you realize agility and stability, with a rich portfolio of consulting and support services designed to add value to our core products and solutions.

**Connect to Hewlett Packard Enterprise**

Help prevent problems and solve issues faster, with support technology that lets you tap into the knowledge of millions of devices and thousands of experts, to stay informed and in control.

<sup>3</sup> Does not include some server options, which are designated as requiring separate coverage. Refer to [HPE Care Pack Services Coverage for HPE ProLiant options](#) for complete details.



## Why Hewlett Packard Enterprise

As a leading innovator in storage technology, Hewlett Packard Enterprise's unwavering commitment to reliability begins in the design phase and extends to how we build, source, and support HPE server storage products.

### Design

Driven by a history of innovation that began in a garage over three quarters of a century ago, Hewlett Packard Enterprise designs customer-inspired product enhancements to increase data center uptime.

### Source

Our size and scale allow us to collaborate with suppliers to drive industry standards, in order to bring superior technology to our customers.

### Build

World-class manufacturing along with a rigorous qualification process result in superior HPE server storage options.

### Support

HPE server storage options and upgrades are supported by comprehensive customer support, like our global server option support coverage of 24x7 in more than 140 countries and in more than 30 languages.

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