



# HPE 6G SATA Midline Hard Disk Drive

As the demand for data escalates, server and storage environments expect increasingly more from hard drives; more capacity, more reliability, and more performance. The HPE 6G SATA Hard Drive is designed to deliver more.



Fueled by the growth of social media and the spread of cloud-based computing services, the appetite for all things digital is driving the expansion of worldwide data by 50 percent each month. Under this relentless force, storage has become intrinsic to the reliability and performance of enterprise data centers.

Coinciding with the introduction of HPE ProLiant Gen8 servers, HPE has designed a new generation of hard drive that's built to respond to the data explosion. The HPE 6G SATA Midline Hard Drive is a smarter, faster, and more efficient device for your non-mission-critical applications. These drives deliver twice the data transfer speed of the 3G hard drive generation, provide storage capacity of up to 4 TB, and offer drive carrier encryption authentication to enable compatibility and quality. The new midline drive comes in both small form factor (2.5-inch disc) and large form factor (3.5-inch disc) options, and features the management and reliability benefits of a SmartDrive Carrier Hot Plug option.

More storage capacity also necessitates the means to protect that data; smart data protection technologies in HPE drives are able to predict drive failure, and proactively rebuild from a spare if failure should occur. Additionally, smart data services can optimize system performance by analyzing different types of workloads and adapting storage performance in real time.

## What's new

Striving to help the enterprise keep pace with application demands, the HPE 6G SATA Midline Hard Drive now offers an accelerated data transfer rate. At 6 GB per

second, the HPE Midline Drive doubles the pace of reading and writing your data. These 7.2K drives also expand storage capacity, with sizes that range from 500 GB to 4 TB. Additionally, they are available in Smart Carrier Hot Plug, Non-Hot Plug, or Quick Release options.

Hallmarks of the SmartDrive Carrier Hot Plug option include a space-efficient form factor, carrier encryption authentication to secure your investment, as well as drive-based activity instead of host-based activity, and enhanced LEDs to simplify local management with a "Do Not Remove" light and information that alerts users to potential failures before they happen. Smart Carrier features also include drive error log NVRAM and Smart Array technology to allow for System Insight settings.

## Key features and benefits

HPE 6G SATA Midline Hard Drives provide a host of storage and performance advantages that make it a faster, smarter, and more efficient option to previous generations.

## Higher performance

The HPE 6G SATA Midline Drive defines a new standard for performance that's characterized by the doubling of data transfer speed, expanded storage capacity of up to 4 TB, and advanced stability with enhanced rotational vibration tolerance. Additionally, performance is boosted with native command queuing (NCQ), which allows the disc to optimize the order in which read/write commands are executed, and smart data services, which conduct real-time, workload-aware analysis to optimize storage performance.

**Enhanced reliability**

As an HPE qualified option, the HPE 6G SATA Midline Drive is designed for compatibility with HPE ProLiant environments, which reduces the possibility of drive failures that can occur with third-party drives. And with proper usage at workloads of 40 percent or less, the SATA Midline Drive provides twice the reliability of the SATA Entry Drive.

**Simplified manageability**

The Smart Carrier option features an enhanced LED and animation panel that simplifies management on site, making it easier to monitor the condition of the drives. And when used with SMART Array Controller and Systems Insight Manager software, HPE drives can alert you to potential problems before the drive fails. HPE drives feature embedded smart data protection technologies that predict drive failures, and ProLiant systems automatically activate spare drives to prevent long-term outages and data loss.

**Low acquisition cost**

The 6G SATA Midline Drive features the lowest cost per GB. And with a form factor that's reduced by 10 to 15 percent,

data centers can accommodate more drive bays in the existing space. It's possible to fit 114 TB per square foot in the data center footprint.

**Ideal environment**

HPE 6G SATA Midline Hard Drives are tailored to deliver economical reliability and performance for non-mission-critical applications, including external storage, backup servers, and archival applications.

**Best price advantage**

These enterprise-class, high-capacity drives provide the lowest cost per GB in low workload environments of 40 percent or less. With the new Midline Drives, expect 2x data transfer rate, offered at the same price as previous generation SATA drives.

**An HPE qualified option**

HPE 6G SATA Drives are proven to perform in HPE ProLiant Gen8 servers, passing a rigorous qualification procedure for compatibility and functionality. These drives also support Self Monitoring Analysis and Reporting Technology (SMART) and HPE Systems Insight Manager software.

**Technical specifications | HPE 6G SATA Midline Hard Disk Drives**



**2.5-inch disc**

**6G SATA Hot Plug SFF**

**6G SATA Quick Release SFF**

	6G SATA Hot Plug SFF	6G SATA Quick Release SFF
<b>Capacities</b>	500 GB, 1 TB	500 GB, 1 TB
<b>Height</b>	0.62 inch (15.6 mm)	0.74 inch (18.8 mm)
<b>Width</b>	2.98 inch (75.7 mm)	2.91 inch (73.9 mm)
<b>Depth</b>	4.67 inch (118.7 mm)	3.95 inch (100.2 mm)
<b>Interface</b>	Serial ATA	Serial ATA
<b>Transfer rate (maximum)</b>	6 GB/s	6 GB/s
<b>Native command queuing</b>	Supported	Supported
<b>Seek time (typical reads, including settling)</b>	Single track: .7 ms Average: <8.5 ms Full-stroke: 16.96 ms Rotational speed: 7,200 RPM	Single track: .7 ms Average: <8.5 ms Full-stroke: 16.96 ms Rotational speed: 7,200 RPM
<b>Physical configuration</b>	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168
<b>Operating temperature (System inlet air temperature)</b>	50° to 95°F (10° to 35° C)	50° to 95°F (10° to 35°C)
<b>Warranty</b>	1-year warranty	1-year warranty
<b>QuickSpecs URL</b>	<a href="http://h18004.www1.hp.com/products/servers/proliantstorage/drives-enclosures/index.html">h18004.www1.hp.com/products/servers/proliantstorage/drives-enclosures/index.html</a>	

## Technical specifications



3.5 inch	HPE 6G SATA Hot Plug LFF <sup>1</sup>	HPE 6G SATA Non-Hot Plug LFF <sup>1</sup>	HPE 6G SATA Quick Release LFF
<b>Capacities</b>	500 GB, 1 TB, 2 TB, 4 TB	500 GB, 1 TB, 2 TB	500 GB, 1 TB, 4 TB
<b>Height</b>	1.06 inch (26.8 mm)	1.028 inch (26.1 mm)	1.16 inch (29.6 mm)
<b>Width</b>	4.16 inch (105.8 mm)	4.00 inch (101.6 mm)	4.16 inch (105.6 mm)
<b>Depth</b>	6.69 inch (170.0 mm)	5.75 inch (146.0 mm)	5.79 inch (147.0 mm)
<b>Interface</b>	Serial ATA	Serial ATA	Serial ATA
<b>Transfer rate (maximum)</b>	6 GB/s	6 GB/s	6 GB/s
<b>Native command queuing</b>	Supported	Supported	Supported
<b>Seek time (typical reads, including settling)</b>	Single track: .5 ms Average: <8.5 ms Full-stroke: • 500 GB 16.3 ms • 1 TB 16.5 ms • 2 TB 16.0 ms • 4 TB 16.0 ms Rotational speed: 7,200 RPM	Single track: .5 ms Average: <8.5 ms Full-stroke: • 500 GB 16.3 ms • 1 TB 17.55 ms • 2 TB 16.0 ms • 4 TB 16.0 ms Rotational speed: 7,200 RPM	Single track .5 ms Average: • 500 GB <8.5 ms • 1 TB <8.5 ms • 4 TB 8.2 ms Full-stroke: • 500 GB 6.3 ms • 1 TB 16.5 ms • 4 TB 16.0 ms Rotational speed 7,200 RPM
<b>Physical configuration</b>	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 2 TB 3,907,029,168 • 4 TB 5,860,553,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 2 TB 3,907,029,168 • 4 TB 5,860,553,168	Bytes/Sector 512 Logical blocks: • 500 GB 976,773,168 • 1 TB 1,953,525,168 • 4 TB 5,860,553,168
<b>Operating temperature</b>	50° to 95°F (10° to 35° C)	50° to 95°F (10° to 35° C)	50° to 95°F (10° to 35° C)
<b>Warranty</b>	1-year warranty	1-year warranty	1-year warranty
<b>QuickSpecs URL</b>	<a href="http://h18004.www1.hp.com/products/quickspecs/13021_div/13021_div.html">h18004.www1.hp.com/products/quickspecs/13021_div/13021_div.html</a>		

<sup>1</sup>Note: To support HPE hard drives exceeding 2.2 TB, 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

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

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#### HPE Services

When you purchase HPE ProLiant servers and qualified options, you should consider the level of service necessary for meet your IT and business needs. With HPE Care Pack services, you can experience the benefits of both proactive and reactive care.

#### Experience optimal satisfaction with your HPE solution.

HPE recommends the following set of service offerings to reinforce your investment:

#### Three-year, 24x7 four-hour response, HPE Hardware Support Onsite Service

HPE offers rapid remote support and, if needed, an HPE authorized representative can arrive on site to begin maintenance service within four hours after the service request is logged.

#### HPE ProLiant Server Hardware Installation

HPE experts can assist you with the installation of HPE branded servers, storage devices and networking options in a timely and professional manner.

#### Three-year, six-hour, HPE Call to Repair

An IT manager and a team of support specialists provide onsite troubleshooting of hardware issues within six hours of the initial service request.

#### HPE Proactive Select Service

You can use HPE Proactive Select Service Credits, as needed over 12 months. This is a flexible way to utilize best-in-class consultancy and technical services.

For more information, please contact your HPE sales representative or HPE authorized channel partner, or visit [hp.com/services/proliant](http://hp.com/services/proliant) or [hp.com/services/bladessystem](http://hp.com/services/bladessystem).

## Why HPE 6G SATA Drives?

With HPE 6G SATA Drives with Smart Carrier option, you can benefit from proactive and end-to-end management support, Smart Array feature support, and the reliability that comes from hardware and firmware that are optimized for ProLiant environments.

#### Management support

- HPE Integrated Lights-Out (iLO) service provides active health system monitoring that's always available.
- System Management Homepage simplifies management of ProLiant servers through a Web-based interface.
- HPE Systems Insight Manager (SIM) sustains system uptime and health.
- Storage agents collect event data and make it available for SNMP agents, and deliver SNMP alerts.
- HPE provides proactive online firmware upgrades.

#### Smart Array feature support

- RAID integration that enhances system uptime and optimizes performance
- Rebuild technology for automatic and rapid data recovery in case of drive failure
- Drive erase command that can erase data without the need for added software

#### Reliability

- Interoperability with servers, backplanes, external enclosure, and controllers
- Simplified management with hardware and firmware that's optimized for ProLiant environments

## For more information

For more information about HPE 6G SATA Midline Hard Drives, contact your HPE representative or visit [hp.com/go/SATA](http://hp.com/go/SATA).



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