Hewlett Packard Enterprise

HPE Solid State Drives (SSDs)

Excellent solid state storage performance for HPE ProLiant and HPE Synergy servers

It is estimated that 2.5 exabytes (a billion gigabytes) of data are created every day. To tap the potential of Big Data, applications must read and write more data, faster than ever. HPE Solid State Drives help you access data faster by providing exceptional performance, extended endurance, and consistently low latency—all while using less power.

And with current transitions in the Hard Disk Drive (HDD) industry, many customers are now experiencing the great performance of SSDs at competitive pricing, especially for capacities under 1 TB.

Peak performance for random data applications

HPE SSDs are suited to enterprise environments with highly random data under a variety of write-workload applications. The SSDs provide significantly better random read and write I/O operations per second (IOPS) compared to HDDs. While sequential read and write throughput is also improved over HDDs, the greatest benefit is recognized in random data applications. As a result, these high-performance, low-latency, and low-power SSDs provide significant system benefits for applications that previously over-provisioned HDD capacity to achieve better performance.

Enterprise features for data center applications

HPE Solid State Drives have the key features you need in your data center—full data path error detection, surprise power loss protection, and HPE SmartSSD Wear Gauge support. We enable the SmartSSD Wear Gauge through the HPE Smart Carrier. With the SmartSSD Wear Gauge utility, HPE SSDs monitor the amount of data written and report when the device may be nearing its maximum supported lifetime.

Targeted at extreme operating environments or local storage, these drives provide higher I/O throughput, excellent latency, reduced power consumption, enhanced reliability, and faster reads and writes when compared to traditional rotating media. They remove the latency found in conventional rotating HDDs caused by seek time for each read operation, so they deliver high random read performance. Most of these SSDs are available as small form factor (SFF), large form factor (LFF), quick release carriers, or non-hot plug (NHP) for general use across the HPE ProLiant Server portfolio. The drives are fully qualified and fit seamlessly into the existing HPE server infrastructure.

With no moving parts, more reliability, and greater power savings than traditional rotating media drives, SSDs are finding new applications in the Big Data era.

Compatible with your server environment

HPE SSDs are fully tested and qualified to enable compatibility with HPE ProLiant, HPE Synergy, and HPE BladeSystem solutions. The HPE Qualified Option designation places HPE SSDs among the best of the best compared to products available on the open market. It is important to note that SSDs on the open market—even those with similar vendor model numbers—may not have the same level of performance, endurance, and quality as HPE Qualified Options. For example, the NAND or even the controller in non-qualified products may be different from an HPE Qualified Option. HPE firmware optimizes our qualified SSD performance, wear leveling, and over-provisioning.

You get an outstanding product when you buy from HPE—and a three-year warranty.

The right SSD for every application

HPE SSDs are available in three broad categories based on their typical target workloads: Read Intensive, Mixed Use and Write Intensive. The HPE SSDs categories include both SAS SSDs and also SATA SSDs.

The categories indicate the number of drive writes per day (DWPD[1]) that you can expect from the drive. (DWPD is the maximum number of 4K host writes to the entire drive capacity of the SSD per day over a five-year period.)

Read Intensive SSDs are typically the lowest price, with a typical Endurance of <= 1 DWPD. Write Intensive SSDs typically have the highest Write performance, with a typical Endurance of >= 10 DWPD. Mixed Use SSDs are for workloads that need a balance of strong Read and Write performance, with Endurance typically >1 and <10 DWPD.

[1] DWPD = Full drive writes per day for 5 years

HPE Qualified Options—HPE Solid State Drives

Table 1. HPE SSDs categories

	WRITE INTENSIVE	MIXED USE	READ INTENSIVE
Interface	12/6 Gb SAS or 6 Gb SATA NVMe PCIe	12/6 Gb SAS or 6 Gb SATA NVMe PCIe	12/6 Gb SAS or 6 Gb SATA NVMe PCIe
Endurance	>=10 DWPD	>1 and <10 DWPD	<=1 DWPD
Typical workload	High read/write applications	Mixed read/write applications	High read/low write applications

HPE Write Intensive Solid State Drives
HPE Write Intensive 12G SAS SSDs provide high write performance and endurance. They are best suited for mission-critical enterprise environments with workloads high in both reads and writes. Workloads best suited for these WI SSDs include online transaction processing (OLTP), virtual desktop infrastructure (VDI), business intelligence, and Big Data Analytics.

HPE Mixed Use Solid State Drives
HPE Mixed Use 12G SAS and 6G SATA SSDs are best suited for high I/O applications with workloads balanced between reads and writes. The SAS and SATA SSDs provide the workload-optimized performance required for demanding I/O-intensive applications. When paired with HPE ProLiant servers, these SSDs help you meet the challenges of Big Data. They achieve twice the performance and endurance of previous HPE SAS and SATA SSDs. The SATA SSDs come with a six gigabit per second (Gb/s) SATA hot-plug interface.

HPE Read Intensive Solid State Drives
HPE Read Intensive 12G SAS and 6G SATA SSDs deliver enterprise features for a low price in HPE ProLiant server systems. This entry-level pricing is fueling rapid SSD adoption for read-intensive workloads because the cost per IOPS compares very favorably to HDDs. Read Intensive SSDs deliver great performance for workloads high in reads such as boot/swap, Web servers, and read caching, just to name a few.

HPE Read Intensive M.2 Solid State Enablement Kits
The HPE M.2 Solid State Enablement Kit is the newest addition to our Read Intensive solid state drive family and is best suited for boot/swap. The M.2 Solid State Enablement Kit is available in dual and single 64 GB capacity with an endurance of 0.3 drive writes per day (DWPD). The kits are compatible to ProLiant Gen9 Blades and currently support a 6 Gb SATA interface. Also, the dual and single 120 GB capacity is available in the M.2 Enablement Kit and currently supports ProLiant ML/DL servers.

SAS or SATA interface available
HPE has a full portfolio of 12 Gb/s SAS SSDs. The SAS SSDs transfer data at full duplex (bidirectional) allowing greater I/O bandwidth to alleviate bottlenecks. Additionally SAS uses SCSI commands for error recovery and error reporting, which have more functionality than the ATA command set used by Serial ATA (SATA). HPE has a 12 Gb/s SAS Expander to scale storage capacity for multi-workload needs. SATA SSDs are great in half-duplex (unidirectional) direct connect scenarios when lower price is a priority.

Boost performance with HPE NVMe PCIe 2.5" SSDs

HPE NVMe PCIe 2.5" SSDs talk directly to your applications via the PCIe bus, boosting I/O and reducing latency to scale performance in line with your processing requirements. This means, for example, that you can host your entire database on one or more HPE NVMe PCIe 2.5" SSDs for enhanced in-memory access and performance. NVMe, or Non-Volatile Memory Express, is a from-the-ground-up industry specification that focuses on efficiency, scalability, and performance. With the introduction of NVMe, an industry interface specification for accessing solid-state storage through PCI Express, manufacturers have a set of guidelines that seeks to release them from the limitations of previous standards, and also provides a wide range of interoperability benefits.

Key features and benefits

Higher performance and better latency

HPE SSDs enable rapid reads and writes of transactional data. On an HDD, random reads require constant repositioning of the read/write head to seek the exact location of data on the platter before the data transfer can begin. However, SSDs have no moving parts or rotating platters that can cause latency problems, and that results in faster access to data. Therefore, with faster seek times, the drives achieve high IOPS, producing quicker data access and better latency.

The drives also pack the operating performance of several rotating HDDs into the same space as a single HDD, so you can get more performance out of your existing data center.

Lower power consumption

Steadily increasing storage requirements pose power and performance challenges to data centers. Solid state devices have a significantly better performance-to-power rating than traditional rotating HDDs. The lack of a motor greatly reduces an SSD's power consumption, so the drives draw less energy—less than two watts idle and less than nine watts maximum—for SSDs.

Environmental ruggedness

The inherent environmental ruggedness of SSDs makes them well suited for extreme environments where traditional drives cannot operate. The drives can tolerate significantly higher operating shock and vibration levels compared to traditional rotating HDDs. In fact, they virtually eliminate rotational vibration problems.

High reliability

Reliability is important for any storage medium, and it is essential when considering a storage device that can be used in servers. HPE SSDs pass a rigorous HPE ProLiant qualification of 2.4 million test hours.

Investment protection

HPE SSDs are a drop-in replacement for existing HDDs. They fit into existing HDD hot-plug bays and require no modification to operating system or infrastructure tools. The drives are recognized as standard SAS or SATA devices with no special changes in firmware or hardware. Although you cannot mix SSDs and HDDs in the same logical array, you can mix them within the system to provide a more effective use of both technologies.

Technical specifications

HPE SSDs come in a range of performance, endurance, and interface options.

Table 2. HPE Write Intensive (WI) SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 12G SAS Write Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
800 GB 802586-B21	1,000	580	103,000	89,000	9	25
400 GB 802582-B21	1,000	660	106,000	89,000	9	25
200 GB 802578-B21	1,000	660	106,000	83,000	9	25
HPE 12G SAS Write Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports G7)						
800 GB 802584-B21	1,000	580	103,000	89,000	9	25
400 GB 802580-B21	1,000	660	106,000	89,000	9	25
200 GB 802576-B21	1,000	660	106,000	83,000	9	25
HPE 12G SAS Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 779176-B21	1,000	565	66,000	62,000	9	10
800 GB 779172-B21	1,000	565	66,000	64,000	9	10
400 GB 779168-B21	1,000	700	70,000	62,000	9	10
200 GB 779164-B21	1,000	510	70,000	51,000	9	10
HPE 12G SAS Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives (supports G7)						
1.6 TB 779174-B21	1,000	565	87,000	58,000	9	10
800 GB 779170-B21	1,000	565	66,000	64,000	9	10
400 GB 779166-B21	1,000	700	70,000	62,000	9	10
200 GB 779162-B21	1,000	510	70,000	51,000	9	10
HPE 6G SATA Write Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
1.2 TB 804677-B21	540	370	64,500	45,000	9	10
800 GB 804671-B21	540	370	64,500	46,500	9	10
400 GB 804665-B21	540	380	64,500	48,000	9	10
200 GB 804639-B21	540	300	64,500	42,000	9	10
HPE 6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives (supports Gen8 servers and beyond only)						
800 GB 691868-B21	480	450	61,000	35,000	9	10
400 GB 691866-B21	480	450	63,000	35,000	9	10
200 GB 691864-B21	480	350	63,000	32,000	9	10
100 GB 691862-B21	480	185	63,000	19,200	9	10
HPE 6G SATA Write Intensive Hot Plug LFF (3.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
1.2 TB 804680-B21	540	370	64,500	45,000	9	10
800 GB 804674-B21	540	370	64,500	46,500	9	10
800 GB 831725-B21	540	370	64,500	46,500	9	10
400 GB 804668-B21	540	380	64,500	48,000	9	10
200 GB 804642-B21	540	300	64,500	42,000	9	10

Table 2. HPE Write Intensive (WI) SSDs (continued)
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 6G SATA ME Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives (supports Gen8 servers and beyond only)						
800 GB 691860-B21	480	450	61,000	35,000	9	10
400 GB 691856-B21	480	450	63,000	35,000	9	10
200 GB 691854-B21	480	350	63,000	32,000	9	10
100 GB 691852-B21	480	185	63,000	19,200	9	10
HPE 6G SATA ME Quick Release (2.5-inch) Enterprise Mainstream Solid State Drives (supports select SL, Gen8 and G7 servers)						
800 GB 730057-B21	480	450	61,000	35,000	9	10
400 GB 730055-B21	480	450	63,000	35,000	9	10
200 GB 730053-B21	480	350	63,000	32,000	9	10
100 GB 730051-B21	480	185	63,000	19,200	9	10
HPE 6G SATA ME Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives (supports G7)						
800 GB 730065-B21	480	450	61,000	35,000	9	10
400 GB 730063-B21	480	450	63,000	35,000	9	10
200 GB 730061-B21	480	350	63,000	32,000	9	10
100 GB 730059-B21	480	185	63,000	19,200	9	10

Table 3. HPE NVMe PCIe Write Intensive SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE NVMe PCIe Write Intensive SFF 2.5-in SC2 Solid State Drives (supports select Gen9 servers only)						
2 TB 764892-B21	2,600	1,400	145,000	170,000	25	10
800 GB 736939-B21	2,600	1,700	155,000	99,000	25	10
400 GB 736936-B21	2,600	1,000	150,000	80,000	25	10

Table 4. HPE Mixed Use (MU) SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 3.2TB 12G SAS Mixed Use-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
3.2 TB 822567-B21	950	950	93,000	53,000	9	3
HPE 1.6TB 12G SAS Mixed Use-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 822563-B21	950	915	95,000	73,000	9	3
HPE 800GB 12G SAS Mixed Use-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
800 GB 822559-B21	950	815	110,000	74,500	9	3

Table 4. HPE Mixed Use (MU) SSDs (continued)
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 400GB 12G SAS Mixed Use-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
400 GB 822555-B21	950	510	108,000	49,000	9	3
HPE 6G SATA LE Hot Plug SFF (2.5-inch) Enterprise Light Solid State Drives (supports Gen8 servers and beyond only)						
960 GB 756601-B21	470	455	58,800	13,200	9	3.8
HPE 6G SATA Mixed Use Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
1.92 TB 817011-B21	535	500	67,000	29,500	9	3
960 GB 816995-B21	535	500	67,000	26,500	9	3
480 GB 816985-B21	535	495	67,000	26,500	9	3
240 GB 816975-B21	535	495	69,000	19,300	9	3
120 GB 816965-B21	510	475	68,000	12,000	9	3
HPE 6G SATA Mixed Use Hot Plug LFF (3.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
1.92 TB 817015-B21	535	500	67,000	29,500	9	3
960 GB 816999-B21	535	500	67,000	26,500	9	3
480 GB 816989-B21	535	495	67,000	26,500	9	3
240 GB 816979-B21	535	495	69,000	19,300	9	3
120 GB 816969-B21	510	475	68,000	12,000	9	3
HPE 6G SATA LE Hot Plug SFF (2.5-inch) Enterprise Light Solid State Drives (supports G7)						
9600 GB 756611-B21	470	455	58,800	13,200	9	3.8
HPE 6G SATA LE Hot Plug LFF (3.5-inch) Enterprise Light Solid State Drives (supports Gen8 servers and beyond only)						
9600 GB 756604-B21	470	455	58,800	13,200	9	3.8
HPE 6G SATA LE Non-hot Plug SFF (2.5-inch) Enterprise Light Solid State Drives						
9600 GB 756614-B21	470	455	58,800	13,200	9	3.8
HPE 6G SATA LE Quick Release SFF (2.5-inch) Enterprise Light Solid State Drives (supports select SL Gen8 servers)						
9600 GB 756607-B21	470	455	58,800	13,200	9	3.8
HPE 6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
480 GB 756657-B21	470	470	59,500	14,400	9	1.9
240 GB 756636-B21	470	460	59,500	14,300	9	1.9
120 GB 756621-B21	470	310	60,000	10,200	9	1.9
HPE 6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
480 GB 756660-B21	470	470	59,500	14,400	9	1.9
240 GB 756639-B21	470	460	59,500	14,300	9	1.9
120 GB 756624-B21	470	310	60,000	10,200	9	1.9
HPE 6G SATA VE Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives (supports G7)						
480 GB 756666-B21	470	470	59,500	14,400	9	1.9
240 GB 756651-B21	470	460	59,500	14,300	9	1.9
120 GB 756630-B21	470	310	60,000	10,200	9	1.9

Table 4. HPE Mixed Use (MU) SSDs (continued)
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 6G SATA VE Quick Release (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
480 GB 756663-B21	470	470	59,500	14,400	9	1.9
240 GB 756642-B21	470	460	59,500	14,300	9	1.9
120 GB 756627-B21	470	310	60,000	10,200	9	1.9
HPE 6G SATA VE Non-hot Plug (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
480 GB 756669-B21	470	470	59,500	14,400	5	1.9
240 GB 756654-B21	470	460	59,500	14,300	5	1.9
120 GB 756633-B21	470	310	60,000	10,200	5	1.9

Table 5. HPE NVMe PCIe Mixed Use SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE NVMe PCIe Mixed Use Hot Insertion/Assisted Removal SFF 2.5-in SC2 Solid State Drives (supports select Gen9 servers only)						
2 TB 765038-B21	2,600	1,600	145,000	64,000	25	3
800 GB 736936-B21	2,400	900	140,000	53,000	25	3
400 GB 765034-B21	2,000	475	130,000	39,500	25	3

Table 6. HPE Read Intensive (RI) SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 3.84TB 12G SAS Read Intensive-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
3.84 TB 816576-B21	940	975	110,000	24,000	9	1
HPE 1.92TB 12G SAS Read Intensive-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
1.92 TB 816572-B21	940	925	110,000	36,500	9	1
HPE 12G SAS Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
1.92 TB 802891-B21	1,000	510	102,000	34,000	9	1.37
HPE 12G SAS Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports G7)						
1.92 TB 802888-B21	1,000	510	102,000	34,000	9	1.37
HPE 12G SAS Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 762272-B21	1,000	385	96,000	25,000	9	1
800 GB 762270-B21	1,000	390	91,000	28,000	9	1
HPE 960GB 12G SAS Read Intensive-3 SFF 2.5-in SC Solid State Drives (supports Gen8 servers and beyond only)						
960 GB 816568-B21	940	900	110,000	30,000	9	1

Table 6. HPE Read Intensive (RI) SSDs (continued)
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 12G SAS Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 762263-B21	1,000	385	96,000	25,000	9	1
800 GB 762261-B21	1,000	390	91,000	28,000	9	1
HPE 480GB 12G SAS Read Intensive-3 SFF 2.5-in SC 3yr Solid State Drives (supports Gen8 servers and beyond only)						
480 GB 816562-B21	940	515	108,000	17,500	9	1
HPE 6G SATA Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
3.84 TB 816929-B21	535	480	63,000	20,000	9	0.8
1.92 TB 816919-B21	535	480	63,000	20,000	9	0.8
960 GB 816909-B21	535	485	62,000	19,000	9	0.8
480 GB 816899-B21	530	405	61,000	14,300	9	0.4
480 GB 789145-B21	530	405	61,000	14,300	9	0.4
240 GB 816889-B21	530	275	65,000	10,500	9	0.8
120 GB 816879-B21	375	125	67,000	5,500	9	0.8
HPE 6G SATA Value Endurance Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 757339-B21	485	400	59,000	14,300	9	0.3
800 GB 717973-B21	480	445	64,000	12,000	9	0.3
480 GB 717971-B21	480	400	64,000	10,000	9	0.3
240 GB 717969-B21	475	250	64,000	8,000	9	0.3
HPE 6G SATA Read Intensive Hot Plug LFF (3.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
3.84 TB 816933-B21	535	480	63,000	20,000	9	0.8
1.92 TB 816923-B21	535	480	63,000	20,000	9	0.8
960 GB 816913-B21	535	485	62,000	19,000	9	0.8
480 GB 816903-B21	530	405	61,000	14,300	9	0.4
480 GB 789147-B21	530	405	61,000	14,300	9	0.4
240 GB 816893-B21	530	275	65,000	10,500	9	0.8
120 GB 816883-B21	375	125	67,000	5,500	9	0.8
HPE 6G SATA Value Endurance Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives (supports Gen8 servers and beyond only)						
1.6 TB 757342-B21	485	400	59,000	14,300	9	0.3
800 GB 718189-B21	480	445	64,000	12,000	9	0.3
480 GB 718183-B21	480	400	64,000	10,000	9	0.3
240 GB 718177-B21	475	250	64,000	8,000	9	0.3
HPE 6G SATA Read Intensive Hot Plug SFF (2.5-inch) Solid State Drives (supports G7)						
480 GB 789151-B21	530	405	61,000	14,300	9	0.4
240 GB 789141-B21	530	275	61,000	11,800	9	0.4

Table 6. HPE Read Intensive (RI) SSDs (continued)
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 6G SATA VE Hot Plug SFF (2.5-inch) Enterprise Value Solid State Drives (supports G7)						
1.6 TB 757351-B21	485	400	59,000	14,300	9	0.3
800 GB 728743-B21	480	445	64,000	12,000	9	0.3
480 GB 728739-B21	480	400	64,000	10,000	9	0.3
240 GB 728735-B21	475	250	64,000	8,000	9	0.3
HPE 6G SATA VE Hot Plug LFF (3.5-inch) Enterprise Value Solid State Drives (supports G7)						
1.6 TB 757354-B21	485	400	59,000	14,300	9	0.3
800 GB 728745-B21	480	445	64,000	12,000	9	0.3
480 GB 728741-B21	480	400	64,000	10,000	9	0.3
240 GB 728737-B21	475	250	64,000	8,000	9	0.3
HPE 6G SATA Value Endurance Hot Plug SFF (2.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
120 GB 717965-B21	410	n/a	64,000	n/a	9	n/a
80 GB 734360-B21	335	n/a	59,000	n/a	9	n/a
HPE 6G SATA Value Endurance Hot Plug LFF (3.5-inch) Solid State Drives (supports Gen8 servers and beyond only)						
120 GB 718171-B21	410	n/a	64,000	n/a	9	n/a
80 GB 734362-B21	335	n/a	59,000	n/a	9	n/a
HPE 6G SATA Read Intensive Quick Release (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
480 GB 789149-B21	530	405	61,000	14,300	9	0.4
240 GB 789139-B21	530	275	61,000	11,800	9	0.4
HPE 6G SATA VE Quick Release (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
1.6 TB 757345-B21	485	400	59,000	14,300	9	0.3
800 GB 718192-B21	480	445	64,000	12,000	9	0.3
480 GB 718186-B21	480	400	64,000	10,000	9	0.3
240 GB 718180-B21	475	250	64,000	8,000	9	0.3
120 GB 718174-B21	410	n/a	64,000	n/a	9	n/a
80 GB 734364-B21	335	n/a	59,000	n/a	9	n/a
HPE 6G SATA Read Intensive Non-hot Plug (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
480 GB 789153-B21	530	405	61,000	14,300	9	0.4
240 GB 789143-B21	530	275	61,000	11,800	9	0.4
HPE 6G SATA VE Non-hot Plug (2.5-inch) Solid State Drives (supports select Gen9, Gen8, G7)						
1.6 TB 757357-B21	485	400	59,000	14,300	9	0.3
HPE 6G SATA VE Hot Plug SFF (2.5-inch) Enterprise Boot Solid State Drives (supports G7)						
120 GB 728726-B21	410	n/a	64,000	n/a	9	n/a
80 GB 734366-B21	335	n/a	59,000	n/a	9	n/a
HPE 6G SATA VE Hot Plug LFF (3.5-inch) Enterprise Boot Solid State Drives (supports G7)						
120 GB 728732-B21	410	n/a	64,000	n/a	9	n/a
80 GB 734368-B21	335	n/a	59,000	n/a	9	n/a

* Represents number of full rewrites of drive "surface" per day for five years using 100 percent random 4 KiB writes.

Table 7. HPE Read Intensive M.2 Solid State Enablement Kit
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE 64GB Value Endurance Solid State M.2 Enablement Kit for ProLiant Blades (supports BL Gen9 only)						
64 GB 785233-B21	330	1.9	10,000	710	9	0.3
Dual 64 GB 775588-B21	330	1.9	10,000	710	9	0.3
HPE 120GB Read Intensive Solid State M.2 Enablement Kit for ProLiant ML/DL Servers (supports DL Gen9 only)						
120 GB 788028-B21	455	155	61,000	12,000	9	0.78
Dual 120 GB 777894-B21	455	155	61,000	12,000	9	0.78

Table 8. HPE NVMe PCIe Read Intensive SSDs
Server support may vary. Please refer to HPE QuickSpecs.

MODEL	SEQUENTIAL READS (MB/S)	SEQUENTIAL WRITES (MB/S)	RANDOM READS (IOPS)	RANDOM WRITES (IOPS)	MAXIMUM POWER WATTS	ENDURANCE (DRIVE WRITES/DAY)*
HPE NVMe PCIe Read Intensive SFF 2.5-in SC2 Solid State Drives (supports select Gen9 servers only)						
1.2 TB 764906-B21	2,500	1,600	145,000	29,000	25	0.3
400 GB 764904-B21	2,200	950	150,000	26,500	25	0.3

** Performance shown is for a single 64 GB and 120 GB M.2 Enablement Kit and it will vary for the Dual 64 GB and 120 GB M.2 Enablement kits.

Specifications common to all HPE SSDs

Table 9. Common specifications

Data compression	No
Throttling to guarantee a minimum lifetime	No
Interface	SATA, SAS
Write cache—default	Yes, enabled
User settable	No
Volatile/nonvolatile	Nonvolatile
Operating temperature	0° to 60°C
MTBF	2,000,000 hours
Logical block size	512 bytes
Warranty	3-year warranty, warranty does not cover wear out
Command queuing	Yes
Trim (SATA trim)	Yes
SmartSSD Wear Gauge support	Yes, full ACU/ADU support required. Smart Array Firmware version 5.0 or greater is required
Universal hot-plug carrier	Yes

Data sheet

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- HPE Installation and Startup Service—HPE Services offers complete installation and implementation support—including global rollout capabilities—to get your HPE server-based solution up and running rapidly, with reduced business disruption. You can choose from all server options and storage for inclusion in the server: Microsoft®, Linux®, Solaris, and VMware® operating software, plus HPE Insight Control software management solutions.

- Hardware support—You can cover all the options installed in your server with a single convenient service package. HPE Care Pack Services for HPE ProLiant servers and storage systems provide support for all HPE-branded hardware options qualified for inclusion in your server at the time of purchase or afterward. Any additional HPE-qualified options installed within the server are covered at the same service level and for the same period as the server.

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