



# HPE MSA Storage

Flash-ready, entry-level storage systems designed to deliver the optimal balance of simplicity, performance, and affordability where you can invest once and evolve endlessly



## Grow into your first storage array

Small businesses typically have small IT requirements. Most start-ups begin with just laptops and an internet connection. If they need server or storage resources, they typically turn to a single server or the public cloud. But as a small business grows, this start-up IT setup might not be enough. They might need more of everything. This is a turning point in the life of a start-up.

As a company grows, more users, customers, applications, and data require more IT resources. When there is only one server to manage, things are easier. Add a second server and things can quickly become chaotic and inefficient and possibly a waste of money if the business is not using all the compute resources on the first server. Alternatively, virtualization — turning a single physical server into multiple virtual machines (VMs) — may be a more appropriate and cost-conscious solution. But at some point, as growth continues, a second server will be required.

Going from one server to two servers will also create new problems for data storage. Running multiple servers means it's possible to have data stored on multiple devices. This is the moment when a storage array becomes necessary, or the average company will likely experience more IT headaches than they should. A storage array combines multiple data storage drives into one system, which can then store huge amounts of data. The storage array is virtually carved up into smaller chunks of storage and presents to servers as if it were a drive attached to each server itself. But it's not a drive on the server — it's storage on a separate device accessed over a wire. That wire could be a cable directly connected between the server and the storage array or it could be that the server and the storage array are connected through a network.

The advantages of a storage array are huge no matter how it's connected. Here are three of the most common.

- 1. Data protection and redundancy:** A storage array takes multiple drives and connects them together. When data is stored, it's spread across multiple drives. This feature is called redundant array of independent disks (RAID), and it ensures that a drive failure doesn't result in lost data.
- 2. Scalability:** Adding capacity to a storage array is straightforward and cost efficient. When you first get the array, you will add drives based on how much data you have, plus a buffer of around 20%. When the data stored reaches that buffer, it's easy to add more capacity. Simply add new drives by plugging them into empty slots in the array and the overall storage capacity grows. Many arrays can expand to support hundreds of drives for hundreds of terabytes (TB) or petabytes (PB) of data storage.
- 3. Virtualization support:** Storage arrays centralize data storage so each VM can access data independently and this includes the VM image itself. When you have two or more servers, you may be running multiple VMs on each server. If you move a VM from one server to another, you don't have to move the data because the new machine accesses the VM image and the data on the storage array too.





## Upgrade or replace your existing storage array

A small to medium-sized business (SMB) that currently utilizes a storage array has already realized the benefits of centralized storage. However, there are times when upgrading an existing array or replacing it altogether becomes necessary. There are many different reasons why businesses need a new storage array, but the most common one is that the storage array has reached the end of its service life. If you own a storage array, at some point the manufacturer will notify you that an end-of-life (EOL) process has begun. Every manufacturer does things a little differently, but all of them have a process that includes a last-time-to-buy date (can be up to one year from the EOL announcement) and an end-of-service life date that marks the point in time when the company will no longer support the product with upgrades, bug fixes, and technical support (usually up to five years from the last-time-to-buy date).

Owners of an EOL array should start exploring options at least six months before the last-time-to-buy date. It's important to project capacity needs that take the storage array to the end of its support contract. This is the time to purchase additional drives, drive enclosures, and any other hardware that won't be available after the last-time-to-buy date. If your storage array is within one year of its end of service life or its support contract expiration, you should be looking to buy a new storage array and move the data from your current array.

## HPE MSA Storage is centralized storage for today's SMB

Whether you are looking for your first storage array or upgrading to a new one, the HPE MSA Storage system is a great choice. The average SMB relies heavily on technology. However, they still have limited IT resources. Today's SMBs must do more with less and this requires systems and tools that are easy to use, capable of performing at a high level, and priced to fit within an SMB-sized budget. HPE MSA Storage is a true entry-level array that enables businesses to start small and expand capacity and performance as business needs grow.

HPE MSA Storage has been serving the storage needs of SMBs for more than 25 years. Over this time, HPE MSA Storage has primarily undergone evolutionary changes rather than revolutionary transformations. It's this incremental and thoughtful approach to change that has contributed to the success of HPE MSA with more than a half million sold since 1996. Here are the reasons why, year after year, HPE MSA Storage is a top choice in the entry-level storage array space.

### The shared storage system anyone can use

HPE MSA Storage requires little technical knowledge to get started and can even be configured and deployed in a matter of minutes. Small businesses, remote offices, branch offices, or departments typically have limited resources and lack the time and expertise to learn a complicated system. HPE MSA Storage is purpose-built

for simplicity, helping eliminate the need for extensive training. With the simplicity of HPE MSA Storage, you won't need manuals or extensive training to use it.

HPE MSA Storage helps administrators deploy and manage storage resources quickly and easily with:

- A unique GUI, known as the Storage Management Utility, which has step-by-step instructions and guided workflows to set up the array
- A simplified system dashboard that has at-a-glance views to monitor system alerts, performance, capacity, and required activities
- The MSA Storage Health Check tool that provides a summarized report of findings, recommended improvements, and opportunities to improve the array's availability
- A hands-free tiering engine that fully automates archive and performance tuning so the manual work of managing data to the appropriate storage tier is drastically reduced
- Customer self-repairable parts that make it easy for anyone to swap out media, controllers, and power supplies

### **Real performance you can see and feel**

HPE MSA Storage is a top performing storage array in the entry-level segment. It consistently delivers a great experience across a large variety of businesses and their use cases. HPE MSA Storage systems are optimized to run a variety of workloads. It's capable of delivering high performance read and write data access across a broad range of applications from databases and virtualization to backup and recovery. Without a high performant storage array, applications may perform poorly and lag as the server waits for data to be written or retrieved.

HPE MSA Storage delivers high performance storage capabilities with:

- Up to 783,000 random read (RR) input/output operations per second (IOPS)
- Up to 14.1 GB/s sequential read throughput
- Real-time data tiering that places the most-used data on high performance drives and the least-used data on high-capacity drives

- Rebuild times for failed drives that are up to 25x faster than RAID 6<sup>1</sup>
- Spare drives that are integrated and used instead of sitting idle
- All-flash systems that can be built using a wide array of high performance capacity drives

### **Big or small, it's a great value**

HPE MSA Storage is designed to be affordable without sacrificing performance. The HPE MSA Storage design focuses on delivering consistent, high performance storage through innovation as opposed to adding higher-cost components to achieve similar performance. The result is that you can configure an HPE MSA Storage array to be one of the lowest-priced storage systems on the market or to be a high performance or high-capacity storage system at an affordable price. No matter how you configure your HPE MSA Storage, it's a great value. Without affordability designed into the platform, you would be forced to compromise on performance or spend more than necessary.

HPE MSA Storage provides affordable capacity and performance for centralized storage with:

- HPE MSA Storage array solutions starting at less than \$9000
- A dedicated ASIC for RAID rather than using higher-cost components such as memory and more CPUs to achieve similar performance
- Free access to Health Check, a tool to assess performance and configuration against a set of best practices
- Value-driven bundles including drive 6 packs and hybrid flash and all-flash solution bundles at affordable prices

<sup>1</sup> Based on HPE internal performance testing, 2024

# Why choose the HPE MSA Storage system?

Small businesses don't usually have dedicated storage administrators like medium and large businesses do. Small businesses don't typically have complex environments that require millions of IOPS. Small businesses don't generally have large IT budgets and are typically cost-conscious. The HPE MSA Storage system is built to meet the needs of most small businesses. It is the optimal balance of simplicity, speed, and affordability.

## Simple

HPE MSA Storage is a true entry-level storage array with a user experience that is designed to be smooth for everyone. The HPE MSA Storage system is designed for SMBs who only look after their storage resources part-time. HPE MSA Storage has a unique GUI, called the Storage Management Utility that doesn't require storage expertise or an instruction manual. It is driven by features like guided workflows, which take you through the HPE MSA Storage setup process step by step. After setup, at-a-glance monitoring makes system reporting easy to access. There is no need to search for important data. This makes HPE MSA Storage easy to deploy and manage for an IT generalist who is responsible for managing all of IT.

## Fast

As most small businesses don't need millions of IOPS, HPE MSA Storage focuses on increasing performance for how small businesses typically use shared storage. HPE MSA Storage has high performance metrics that put it near the top of the entry-level space. HPE MSA Storage can deliver up to 783,000 IOPS and 14.1 GB/s of throughput.<sup>2</sup> Many storage arrays on the market will have fewer IOPS or slower throughput or both. Additionally, if you opt for a hybrid array with a mix of spinning disks for capacity and solid-state drives for speed, HPE MSA Storage will move data approximately every five seconds to keep the hottest data spread out on the fastest drives and the coldest data on the slowest drives. Some entry-level storage arrays do not support real-time data tiering and can only move data once per day, which can lead to slow performance if a hot application is accessing cold data.

## Affordable

HPE MSA Storage is designed to fit within the average small business IT budget. Some vendors will typically use a combination of extra cache, high-end general-purpose processors, and extra memory to achieve their performance benchmarks. The problem with this approach is that it adds unnecessary extra costs. HPE MSA Storage is different because it has a custom-designed offload ASIC that provides high performance with less memory. Designing and engineering this ASIC requires a significant commitment to the entry-level storage space, but it results in structurally lower costs to manufacture. After the HPE MSA Storage system is up and running, you can use the HPE MSA Health Check tool to assess performance and configuration against a set of best practices while also checking system health and firmware levels. HPE MSA Health Check is a free tool available to all HPE MSA Storage platforms and doesn't require a licensing fee to use it.

## Ready to adapt and grow when you are

You can expect HPE MSA Storage to continue to serve your data storage needs for years after your initial investment. HPE MSA Storage supports modular expansion with the ability to grow capacity easily by adding drive enclosures and media. HPE MSA Storage can scale up to 7.3 PB of storage capacity using its wide range of SFF and LFF HDD media options. Each HPE MSA Storage system comes with a default set of features every SMB uses. HPE MSA Storage also provides an upgrade path to an expanded feature set used by some SMBs. Increasing the number of snapshots and adding remote snap replication can happen anytime. Finally, when it's time to upgrade to a new HPE MSA Storage generation, data-in-place upgrades make migration easy. Just take out the drives from one HPE MSA and insert them into the new HPE MSA and it starts up right where you left off.<sup>3</sup>

<sup>2</sup> Based on HPE internal performance testing, 2024

<sup>3</sup> Supported on HPE MSA Gen6 to HPE MSA Gen7 Storage transitions

## Better together with HPE ProLiant servers

HPE MSA Storage and HPE ProLiant have been delivering better together solutions since 1996. A key to this relationship is integration testing from Hewlett Packard Enterprise. HPE engineers test a wide array of HPE ProLiant NICs and HBAs across many generations to validate interoperability between HPE ProLiant and HPE MSA Storage. Testing helps HPE deliver greater confidence to customers before purchase and a better support experience afterward. HPE's commitment to interoperability between HPE ProLiant servers and HPE MSA Storage is well documented in HPE publicly accessible [Single Point of Connectivity Knowledge \(SPOCK\)](#) tool available on HPE.com. The improved combination of HPE ProLiant and HPE MSA Storage also applies to customer support as HPE becomes the single support call for compute and storage, contributing to a greater overall experience with both products.



## The HPE MSA Storage system technology

HPE MSA Storage has been operating on the principles of simple, fast, and affordable, through evolution, not revolution, since 1996. This well-established trend of providing iterative performance and scalability, all while expanding features that are truly useful to SMBs, has rightfully earned HPE MSA Storage a place as a go-to solution for the SMBs looking for shared, centralized storage. Current customers have come to understand that HPE MSA Storage is all about operating well on simple, fast, and affordable principles, not reinventing the platform with each generation.

The HPE MSA Storage system is built with a redundant architecture that helps eliminate single point of failure in key areas of the system. This improves reliability, application availability, and uptime. The HPE MSA Storage system supports a wide range of SFF and LFF media, including HDDs and solid-state drives (SSDs), many of which support drive encryption technology.

While each HPE MSA Storage system has its unique characteristics and use cases, these common features form the foundation.

### Broad performance

HPE MSA Storage continues to achieve some of the highest performance metrics in the entry-level storage space. It begins with an unwavering commitment to research and development. Every HPE MSA Storage controller includes a custom-designed offload ASIC, which is key to its ability to support consistently high performance storage. Boost performance even further by combining the high performance of SSDs with the low cost per GB of HDDs to create a performance/capacity-optimized hybrid storage array with hands-free, automated data tiering. Or simply max out performance with an all-flash array that includes factory-integrated SSD media.

Each HPE MSA Storage model can achieve up to 2x more IOPS performance<sup>4</sup> and up to 30% more GB/s of throughput performance<sup>5</sup> compared to prior HPE MSA Storage generations. HPE MSA Storage also includes HPE MSA-DP+ technology, which is capable of restoring data up to 25x faster than RAID 6 in the event of a drive failure.<sup>6</sup>

<sup>4</sup> Based on HPE internal performance testing of random reads IOPS, 2024

<sup>5</sup> Based on HPE internal performance testing of segmented sequential writes, 2024

<sup>6</sup> Based on HPE internal performance testing, 2024

The numerous options available for HPE MSA Storage means you can configure and operate your new HPE MSA Storage with the right balance of performance and capacity at an affordable price. Start with a budget-optimized or performance-optimized array controller system and expand capacity with each drive enclosure you add. Drive enclosures are available in two varieties: one holds 12 LFF drives and the other holds 24 SFF drives.

### Automated tiering

Data tiering is the concept that the most-used data is on high performance drives while the least-used data is on high-capacity drives. Setting up a storage array to have separate high performance and high-capacity drives optimizes cost for systems with both hot and cold data. High performance drives cost more per GB (sometimes much more) while high-capacity drives cost less per GB (sometimes much less). The HPE MSA Storage system is flexible and can handle configurations with all HDDs, all SSDs, or a hybrid of both.

With hybrid storage, placing the data that consumes the most input/output (I/O) on the highest-performing drives is key. It's possible to manually place the data on the appropriate drive. For instance, an accounting system used daily might be a perfect fit for the highest-performing drives. However, not all data has a constant high-usage characteristic. Data used a lot for a couple of days but lies dormant for the rest of the month would be forced to sit on costly high performance drives while it waits for days of high usage.

HPE MSA Storage supports combining multiple drive technologies such as SSDs, high performance HDDs, and large-capacity HDDs in a single array. To help ensure data that consumes the most I/O is on the fastest drives, a fully automated tiering engine moves data to the most suitable tier. Automated tiering uses the latest version 2.0 enhancements to respond to I/O changes in near real time to provide an optimized balance between system performance, drive capacity utilization, and cost. This feature helps eliminate human decision-making, intervention, and manual work to move data.

Automated tiering is an option available on every HPE MSA Storage array. To use automated tiering, the HPE MSA Storage system must have an HPE MSA Advanced Data Services (ADS) license and more than one data storage tier, such as SSDs and HDDs. The HPE MSA 2062 and HPE MSA 2072 include the ADS license.

### HPE MSA-DP+

RAID is a feature in storage systems that is used to reduce the possibility of data loss due to a drive failure. It works by writing data to more than one drive. Thus, if one drive fails, the remaining drives have the data and can rebuild the failed drive on an empty spare drive. There are multiple RAID configurations that are possible, and each requires a minimum number of drives. For example, RAID 1 requires two drives, RAID 5 requires three drives, and RAID 6 and RAID 10 require four drives.

The RAID configuration also affects how long it takes to rebuild the drive. Rebuild times are a function of the drive capacity and the average sustained write speed. Depending on the RAID configuration, rebuild times can be extremely long — sometimes measured in days — as the remaining drives all write data to a single physical drive. During the rebuild, the risk of data loss increases if another drive fails. Also, while the rebuild is happening, usually the storage array is in a degraded state as it must actively provide data storage resources while simultaneously rebuilding the failed drive.

HPE MSA-DP+ is an advanced disk group type that overcomes many of the challenges of traditional RAID. The result is a far more efficient scheme of storing and protecting data. Unlike traditional RAID configurations where spare drives sit idle, HPE MSA-DP+ spare drives are active and used. Spare capacity is distributed across multiple physical drives rather than using a single physical drive as the designated spare. When a physical drive fails, rebuild times are up to 25x faster than some traditional RAID configurations<sup>7</sup> because the rebuild occurs across multiple drives (many-to-many vs. many-to-one). Traditional RAID also requires adding a minimum number of identical drives to expand capacity. With HPE MSA-DP+, you can expand capacity with just one drive that is up to twice the capacity of the others in the group.

HPE MSA-DP+ makes the entire array more cost-efficient with faster recovery, greater availability, and more performance by uniquely spreading data across disk groups and utilizing spares. It also supports easy and flexible data growth. Traditional RAID requires a minimum number of identical drives to expand capacity. With HPE MSA-DP+, you can expand capacity with just one drive that is up to twice the capacity of the others in the group.

<sup>7</sup> Based on HPE internal performance testing, 2024

## Choose your performance and capacity

The HPE MSA Storage system is made up of one array controller system and optional expansion drive enclosures.

### Array controller systems

An array controller system is an all-in-one storage array that fits in a 2U rack space and includes dual connections that attach directly to a server (through an SAS cable) or link to a network switch (through iSCSI or Fibre Channel).

### Budget-optimized HPE MSA Gen6 array controller systems



	HPE MSA 1060	HPE MSA 2060	HPE MSA 2062	HPE MSA 2060 Flash Bundle
<b>Purpose</b>	Low-cost entry	High capacity with a la carte customization	Cost-effective hybrid	Cost-effective high performance
<b>Great for</b>	<ul style="list-style-type: none"><li>— Maximum affordability</li><li>— Small deployments</li></ul>	<ul style="list-style-type: none"><li>— Maximum configuration flexibility</li><li>— TAA requirements</li></ul>	<ul style="list-style-type: none"><li>— Day 1 hybrid flash</li><li>— Optimizing performance for minimal investment</li></ul>	<ul style="list-style-type: none"><li>— Day 1 all flash</li><li>— Highly demanding workloads</li></ul>
<b>Usage</b>	You expect only minimal capacity and performance requirements	You expect capacity and performance needs to change over time	You expect to serve a range of applications that require different levels of read/write intensity and data retention periods	You expect to serve mostly high performance applications, databases, and VMs
<b>Need</b>	You need only the minimum performance and capacity	You need to custom build a solution using the largest number of media options including SSD, HDD, and self-encrypting drives	You need the best pricing on an automated tiering HPE MSA Gen6 Storage solution	You need the best pricing on the highest-performing HPE MSA Gen6 Storage solution
<b>Maximum IOPS (random reads)</b>	154,000	395,000	395,000	395,000
<b>Maximum throughput (sequential reads)</b>	6.6 GB/s	13.1 GB/s	13.1 GB/s	13.1 GB/s
<b>Capacity included</b>	None	None	2x 1.92 TB SSD	12 SSDs totaling 12 TB, 23 TB or 46 TB of capacity
<b>Maximum raw capacity</b>	184 TB	184 TB (SFF) 240 TB (LFF)	173 TB	138 TB
<b>Maximum expansion drive enclosures</b>	3	9	9	9
<b>Automated Tiering</b>	Optional (\$)	Optional (\$)	Included	Optional (\$)



## Performance-optimized HPE MSA Gen7 Storage array controller systems



	HPE MSA 2070	HPE MSA 2072	HPE MSA 2070 Flash Bundle
<b>Purpose</b>	High capacity with a la carte customization	Cost-effective hybrid	Cost-effective high performance
<b>Great for</b>	<ul style="list-style-type: none"> <li>— Maximum configuration flexibility</li> <li>— TAA requirements</li> </ul>	<ul style="list-style-type: none"> <li>— Day 1 hybrid-flash</li> <li>— Optimizing performance for minimal investment</li> </ul>	<ul style="list-style-type: none"> <li>— Day 1 all flash</li> <li>— Highly demanding workloads</li> </ul>
<b>Usage</b>	You expect capacity and performance needs to change over time	You expect to serve a range of applications that require different levels of read/write intensity and data retention periods	You expect to serve mostly high performance applications, databases, and VMs
<b>Need</b>	You need to custom build a solution using the largest number of media options including SSD, HDD, and self-encrypting drives	You need the best pricing on an automated tiering HPE MSA Gen7 Storage solution	You need the best pricing on the highest-performing HPE MSA Gen7 Storage solution
<b>Maximum IOPS (random reads)</b>	783,000	783,000	783,000
<b>Maximum throughput (sequential reads)</b>	14.1 GB/s	14.1 GB/s	14.1 GB/s
<b>Capacity included</b>	None	2x 1.92 TB SSD	12 SSDs totaling 23 TB or 46 TB of capacity
<b>Maximum raw capacity</b>	737 TB (SFF) 288 TB (LFF)	173 TB	138 TB
<b>Maximum expansion drive enclosures</b>	9	9	9
<b>Automated Tiering</b>	Optional (\$)	Included	Optional (\$)

### Expansion drive enclosures

When an HPE MSA Storage array controller system has reached its maximum drive capacity, adding more capacity first requires adding an expansion drive enclosure. There are two options for drive enclosures based on the drive form factor (LFF or SFF). Drive enclosures feature dual SAS connectivity for redundant configuration to the array controller system. Multiple drive enclosures can be added, up to the maximum supported by each array controller system.

### Budget-optimized HPE MSA Gen6 Storage expansion drive enclosures



	HPE MSA 2060 12-disk LFF drive enclosure	HPE MSA 2060 24-disk SFF drive enclosure
<b>Maximum drives</b>	12	24
<b>Maximum raw capacity</b>	184 TB	240 TB
<b>Rack unit</b>	2U	2U

Performance-optimized HPE MSA Gen7 Storage expansion drive enclosures



	HPE MSA 2070 12-disk LFF drive enclosure	HPE MSA 2070 24-disk SFF drive enclosure
Maximum drives	12	24
Maximum raw capacity	288 TB	737 TB
Rack unit	2U	2U

For a full list of supported options and details for array controller systems and expansion drive enclosures, review the QuickSpecs for the [HPE MSA 1060 Storage Array](#), HPE MSA 2060 Storage Array, or HPE MSA 2062 Storage Array. Find all the supported options and details for the HPE MSA Gen7 Storage models through the [Gen7 QuickSpecs](#).

**Note:** All HPE product QuickSpecs are accessible from the [QuickSpecs home page](#).

6-pack drive bundles

HPE MSA Storage provides flexibility and affordability options when it’s time to upgrade capacity. HPE MSA-DP+ delivers a unique upgrade option where you can expand capacity with as little as one drive at a time. HPE offers a large variety of drives for HPE MSA Storage in quantities as small as one. However, there is another option that will likely save you money versus buying them individually. 6-pack drive bundles are available on some of the more popular form factors (SFF and LFF), media types (HDD and SSD), and sizes (GB to TB), available in standard or self-encrypting drives. Check with your HPE sales representative or channel partner for further details.

Additional features and tools

HPE MSA Storage has a large variety of standard features and capabilities. There are also additional free tools and optional add-ons that are available for purchase. Some of the most popular are as follows.

HPE MSA Health Check

HPE MSA Health Check is a cloud-based tool that provides users insight into the general health of their HPE MSA Storage system. The tool uses a powerful rules-based analytics engine, which can predict failures before they happen. It performs a full sweep of analytics and checks thousands of data points from sensors inside the HPE MSA Storage system.

The analytics engine will pick up common failure signatures and check against HPE MSA Storage best practices. When completed, it will produce a simple, easy-to-digest PDF report with status and suggested courses of action to correct anything found in the scan. The tool is free of charge to HPE MSA Storage customers.

HPE MSA Advanced Data Services

The HPE MSA Advanced Data Services license is included on HPE MSA 2062 and HPE MSA 2072 array controller systems. It can also be purchased as an option on any other HPE MSA Storage array controller system. The HPE MSA Advanced Data Services license includes the following functionality:

- Automated tiering
- Snapshot expansion from 64 to 512
- Remote snap functionality that makes the HPE MSA Storage system capable of remote asynchronous replication from a local system to a volume on a second independent system. This second system may be colocated with the first system or may be located at a remote site.

HPE Storage Integration Pack for VMware vCenter

The HPE Storage Integration Pack for VMware vCenter® (formerly known as HPE OneView for VMware vCenter) is a component that enables VMware vSphere® administrators to quickly obtain context-aware information and manage their HPE MSA Storage system directly from within vCenter. By providing a clear relationship between VMs, data stores, and storage, the VMware® administrator’s productivity increases, as does the ability to ensure quality of service. Roles for administrators can be defined on an individual basis, providing the ability to apply specific permissions for both view and control functions. This plug-in operates independently of the core HPE OneView product and does not require a license to use.

## Warranty

HPE MSA Storage systems carry a three-year limited warranty, parts-only exchange, normal business hours, with next business day response.

- HPE MSA Enterprise SAS (10K RPM) SFF HDDs carry a three-year limited warranty, parts-only exchange, normal business hours, with next business day response.
- HPE MSA Midline SAS (7.2K RPM) LFF HDDs carry a one-year limited warranty, parts-only exchange, normal business hours, with next business day response.
- HPE MSA SSDs carry a three-year limited warranty, parts-only exchange, normal business hours, with next business day response. The HPE MSA SSD warranty includes unconditional replacement in case of drive failure, media wear out, or both.
- The HPE MSA Storage system has been designed with customer-self-repairable parts to minimize repair time and provide greater flexibility in performing defective parts replacement.

Visit [HPE Storage Global Limited Warranty and Technical Support](#) for further details.

## HPE Services

No matter where you are in your transformation journey, you can count on [HPE Services](#) to deliver the expertise you need when, where, and how you need it. From planning to deployment, ongoing operations, and beyond, our experts can help you realize your digital ambitions.

### Consulting services

No matter where you are in your journey to hybrid cloud, our [consulting services](#) experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

### HPE Managed Services

[HPE Managed Services](#) runs your IT operations, providing 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.

### Operational support services

Optimize your entire IT environment and drive innovation with our [operational support services](#). Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

### Recommended services

**HPE Tech Care Service:** [HPE Tech Care Service](#) is the operational support service experience for HPE products. The service 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 also constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI-driven, and digitally-enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a two-hour response time. Essential, which provides a 15-minute response time 24x7 for most enterprise-level customers. Critical, which includes a six-hour repair commitment where available and outage management response for severity 1 incidents.

**HPE Complete Care Service:** [HPE Complete Care Service](#) is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed-upon IT outcomes and business goals through a personalized experience. HPE Complete Care Service is delivered by an assigned team of HPE Services experts, who provide:

- 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

## AI-powered and digitally-enabled support experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data-driven customer experience. [Sign in to the HPE Support Center experience](#), featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with a seamless transition to a live support agent when needed.

## Consume IT on your terms

[HPE GreenLake cloud](#) brings the cloud experience directly to your apps and data wherever they are — at the edge, in colocations, or in 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 total cost of ownership (TCO), align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

## Learn more about services and how to purchase

To learn more about HPE Services, contact your HPE sales representative or HPE Authorized Channel Partner. Contact information for a representative in your area can be found at [Contact HPE](#).

For more information, [see our HPE Services website](#).

\* May be subject to minimums or reserve capacity may apply

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