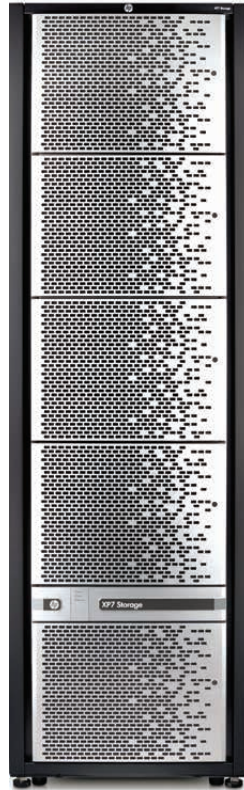




# HP XP7 Storage



The HP XP7 Storage provides Extreme Availability, Top Performance, and Easy Consolidation for enterprise data centers.

The XP7 Storage is designed for applications requiring 100 percent data availability with no downtime. It combines the seven 9s platform—full online scalability and completely redundant hardware—with ultra-high performance, advanced data replication, disaster recovery (DR), and online data migration capabilities.

The XP7 Storage array-based virtualization integrates with clustering solutions for complete business continuity, disaster tolerance, and data protection. The XP7 Storage virtualization increases availability, simplifies DR, and improves resource utilization by helping eliminate storage silos.

XP7 Storage supports open systems, mainframe, and HPE Integrity NonStop Servers—all on a single XP7 Storage platform.

## Key features and benefits

### Avoid interruption to applications and DR solutions while reducing risk of data loss

- XP7 Storage with multi-array virtualization provides seven 9s<sup>1</sup> data availability and storage uptime, even in the event of a data center disaster. Avoid unplanned downtime with disaster-resistant HP XP7 Storage Active-Active High Availability Solution, while avoiding planned downtime for server or application maintenance.
- The storage platform provides flexibility and convenience for server or operating system maintenance by providing data storage access. By presenting a virtual storage layer to hosts, one side of an application cluster can be taken offline, while the other side continues to access the XP7 data.<sup>2</sup>
- XP7 Storage enables nearly continuous DR capabilities before, during, and after array migrations with HP XP7 Storage Online Data Migration. Move workloads from legacy XP disk arrays to XP7 with no interruption to applications, no server reboots, and no suspension of your XP disaster recovery solution.
- It increases uptime and availability, while reducing operational and data risks. XP7 also saves data center, administrative, operational, and capital costs.

### Resilient constant data availability allows operations to continue no matter what happens

- Operating a business demands constant uptime; the risk of data loss or downtime must be minimized. XP7 Storage mitigates that risk, since all active components are redundant, hot-swappable, and can be upgraded online.
- With a large-scale disaster, you need to not only have high levels of data protection but also business continuance. XP7 Storage supports clustering solutions that allow remote mirroring to be integrated with a high availability (HA) server cluster to provide multisite disaster recovery.
- XP7 Storage protects data even if power fails when write cache is backed up to a solid state drive (SSD). RAID 6 (14D + 2P) adds fault tolerance. HPE C-Track software proactively monitors while XP7 Storage self-manages to avoid component failures. End-to-end checksum confirms data integrity from host port to disk, and back.
- Decrease exposure to data loss with the encryption capability of XP7 Storage Reduce risk of unauthorized access, prevent unauthorized modification, and protect your information at the end of its lifecycle by completely deleting data on a specified volume.

<sup>1</sup> The XP7 Storage data availability has been mathematically calculated to seven 9s. The actual XP field data is higher than seven 9s—most months even 100 percent for the life of the XP7; and the previous XP generation, the XP P9500.

<sup>2</sup> The new XP7 Storage Active-Active High Availability based on multi-array virtualization allows two XP7 Storage platforms to read/write the same data to the same virtual LUN. If at any time, one of the arrays is unavailable (due to a data center disaster) in a stretch-clustered host configuration or a single host configuration, the other array transparently continues to provide the data to the cluster or host—and the application continues with no interruption.

**Reduce the cost and complexity of storage through efficient data management**

- Increase data center efficiency using XP7 Storage virtualization with HP XP7 Thin Provisioning Software, heterogeneous external storage, local and remote multisite replication, smart tiered capacity, and fully online data migration.
- XP7 Storage has an easy-to-use task-based GUI, common and consistent CLI, simplified serviceability, and simple provisioning with one-click volume creation, dynamic or automatic provisioning, and optimization.
- Save power and cooling costs on XP7 Storage with thin provisioning and smart tiers that decrease stranded storage, thereby reducing the unused storage that consumes power, requires cooling, and takes up space.
- XP7 Storage uses standard size 19-inch racks with 2.5-inch and 3.5-inch form factor Drives to easily fit into existing data center space and improves the capacity per square meter.
- Simplify operations and reduce costs by consolidating multiple applications onto a single XP7 Storage. By having multiple hosts running diverse operating systems connected to the XP7 Storage, you can better manage the environment and simplify the implementation of backup and DR solutions.

**Accelerate business growth with swift adaptability**

- HP XP7 Flash Modules cater to your extreme performance and low latency needs, which are efficiently met with the higher performance and lower cost solid-state non-volatile data capacity. Attain both ultra-high performance and sustained extreme low response times for the most-demanding application workloads.
- With XP7 Storage, you get ultimate performance for your 24x7 demands to deliver your critical data at a very high speed. XP7 Storage offers the flexibility you need to meet your performance and latency objectives without sacrificing availability or disaster recovery.
- The dilemma of overbuying capacity today or planning for a costly “forklift” upgrade tomorrow is now history. XP7 Storage scales up capacity or performance seamlessly. Components can be added or replaced online with no impact to production systems. Simply buy what you need now and grow as needs change.
- HP XP7 Smart Tiers Software and XP7 Thin Provisioning provides quick and automated flexibility for changing application needs. You can now configure all the capacity for your future, only buy what you need today, and allow the XP7 Storage to automatically monitor and adjust for performance and capacity needs.

## HP XP7 Storage

<b>Drive description</b>	2304 SFF SAS or 1152 LFF SAS or 384 SFF SAS/SSD or 576 Flash Module SAS Maximum supported quantity of media form factors; HP XP7 Storage supports combining multiple media formats in the same system.
<b>Drive type</b>	300 GB 6G 15K SFF Dual-port SAS 600 GB 6G 15K SFF Dual-port SAS 600 GB 6G 10K SFF Dual-port SAS 600 GB 6G 10K LFF Dual-port SAS 900 GB 6G 10K SFF Dual-port SAS 1.2 TB 6G 10K SFF Dual-port SAS 1.8 TB 6G 10K SFF Dual-port SAS 4 TB 6G 7.2K LFF Dual-port MDL SAS 6 TB 6G 7.2K LFF Dual-port MDL SAS 400 GB ENT MLC SAS Solid State Drive 400 GB 6G LFF MLC SAS Solid State Drive 800 GB ENT MLC SAS Solid State Drive 1.6 TB Gen2 Flash Module 3.2 TB Gen2 Flash Module 6.4 TB Gen2 Flash Module 1.6 TB Flash Module 3.2 TB Flash Module
<b>Minimum frames (Cabinets)</b>	1
<b>Maximum frames (Cabinets)</b>	6
<b>Capacity</b>	6.8 PB raw 5.9 PB useable 247 PB external storage Maximum supported capacities
<b>Host interface</b>	16 Gb/8 Gb Fibre Channel (96) ports or; 8 Gb Fibre Channel (192) ports or; 10 Gb FCoE (176) ports or; 10 Gb iSCSI (88) ports or; 16 Gb FICON (176) ports
<b>Cache</b>	2 TB Maximum supported cache, includes up to 80 GB of shared memory
<b>Compatible operating systems</b>	HPE NonStop HPE OpenVMS VMware® HP-UX IBM AIX Linux® Mainframe Microsoft® Windows® Oracle Solaris
<b>Availability</b>	All active components are redundant and hot-swappable
<b>RAID support</b>	RAID 1 (2D + 2P), RAID 1 (4D + 4P), RAID 5 (3D + 1P), RAID 5 (7D + 1P), RAID 5 (14D + 2P), RAID 5 (28D + 4P), RAID 6 (6D + 2P), RAID 6 (14D + 2P) recommended
<b>Warranty (parts/labor/onsite)</b>	3/3/3

## The total package

Bundling 24x7 software support provides a world-class HPE support at a competitive price point.

Experienced response center engineers provide trustworthy, round-the-clock advice on issues such as software features and use, problem diagnosis and resolution, and software defect identification.

### **HPE Proactive Care Advanced Service**

Builds and incorporates on Proactive Care Service and also gives customers personalized technical and operational advice from an assigned, local account support manager for personalized technical collaboration, flexible access to specialist skills to help optimize business-critical IT, and enhanced critical incident management to help so the business is not affected if there is a system or device outage.

For more information visit: [h20195.www2.hp.com/v2/GetDocument.aspx?docname=4aa5-3259enw&404m=secure-erc](https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4aa5-3259enw&404m=secure-erc)

### **HPE SAN Deployment Service**

HPE SAN Deployment Service offers three levels of services to address customers' diverse needs. These services allow implementation of a SAN along with Fibre Channel (FC), Fibre Channel over Ethernet (FCoE), Fibre Channel over IP (FCIP), FICON (Fibre Channel for HPE XP Storage Array-based mainframe storage), iSCSI, HPE BladeSystem FC, Serial Attached SCSI (SAS) switches, and associated devices.

For more information visit: [h20195.www2.hp.com/v2/GetPDF.aspx/5981-8527EN.pdf](https://h20195.www2.hp.com/v2/GetPDF.aspx/5981-8527EN.pdf)

### **HPE Data Replication Solution Service**

There are two HPE Data Replication Solution Services, which provide implementation of the HP XP7 Business Copy (BC) Software feature of the XP7 Storage or implementation of the HP XP7 Continuous Access (CA) Suite feature of the XP7 Storage, respectively.

These services provide the analysis, design, implementation, and testing services necessary to efficiently deploy the XP7 Storage functionalities, such as local snapshots and real-time data mirroring between a local and remote XP7 Storage.

For more information visit: [hp.com/us/en/business-services/it-services.html?compURI=1078604](https://hp.com/us/en/business-services/it-services.html?compURI=1078604)

### **HP XP7 High Availability Software**

HP XP7 High Availability Software allows two XP7 arrays to provide simultaneous read-write access to one or more hosts, or a cluster. Should one array or half of the cluster become unavailable, the data remains available with no interruption to the host or cluster. The software provides a 100 percent uptime and active-active configuration—at a single site or two sites up to 100 kilometers in distance. The utilization of two XP7 arrays avoids downtime in case of a disaster, and avoids loss of storage access for clustered hosts in case of server, application, or OS maintenance.

**HP XP7 Array Manager Suite**

HP XP7 Array Manager Suite consists of Array Manager Software, Resource Partition Software, External Storage Software, and Thin Provisioning Software. Array Manager Software provides Web-based volume management, resource allocation, access control, and data security for XP7 Storage. Thin Provisioning Software allows you to supply storage capacity to your applications from a pool of virtualized storage. HP XP7 External Storage allows you to host XP7 Storage LUNs on select external storage subsystems.

**HP XP7 Command View Advanced Edition Suite**

HP XP7 Command View Advanced Edition Suite consists of HP XP7 Command View Advanced Edition software and HP XP7 Replication Manager Software. The suite provides centralized, Web-based management for XP7 Storage. It reduces total cost of ownership by enabling collaboration among team members and by increasing the efficiency of storage administrators. It can be used together with the HPE Remote Web Console software shipped free with every HP XP7 Storage system.

**HP XP7 Business Copy Software**

HP XP7 Business Copy Software is a local replication solution that provides data copies within a single XP7 Storage or in storage systems attached to the XP7 as external storage. XP7 Business Copy Software uses array-based mirror and snapshot technologies (fast snap) that do not interfere with host-level operations, allowing you to spend your time conducting business rather than worrying about how backup and testing operations can impact your systems.

**HP XP7 Continuous Access Suite**

The XP7 Continuous Access family of HA data and DR tools enable real-time data mirroring between XP7 Storage. They provide nearly continuous availability for important data and protect against catastrophic failures. HP XP7 Continuous Access Suite products deliver host-independent, array-based remote recovery for a wide range of open systems environments. XP7 Continuous Access Suite provides high-performance remote mirroring in high-workload environments.

**HP XP7 Performance Advisor Software**

HP XP7 Performance Advisor Software is a Web-based application for collecting, monitoring, and displaying the performance of your XP7 Storage. With XP7 Performance Advisor Software, you choose the time and duration of performance data collection—so you can pinpoint activities that significantly affect your XP7 Storage and tune the array accordingly. You can easily monitor storage performance and display usage statistics for your storage system at any level, from a complete system overview down to individual components.

**HP XP7 Smart Tiers Software**

HP XP7 Smart Tiers Software improves storage performance and controls costs by transparently migrating data to appropriate tiers of storage within XP7 Storage. XP7 Smart Tiers manages data in thin provisioning pools. It monitors performance at the page level and can migrate the data online to a different tier, automatically or manually, based on policies. It supports up to three tiers per pool. XP7 Smart Tiers supports external storage, which allows users to set up inexpensive external storage as one of the storage tiers for infrequently accessed data. RAID 1, RAID 5, and RAID 6 are also supported.

**HP XP7 Mainframe Basic Suite**

HP XP7 Mainframe Basic Suite consists of mainframe-related software features, thin provisioning software, resource partition software, and external storage software. Basic mainframe software features provides Web-based volume management, resource allocation, access control, and data security for your XP7 Storage. Configure and manage data volumes for most effective use of your XP7 Storage platform. Other features available are, partition array resources to isolate applications, reserve cache memory for your most-frequently accessed data, and control host port usage so that your most-critical applications have the port bandwidth they need.

**HP XP7 Mainframe Performance Suite**

HP XP7 Mainframe Performance Suite consists of Compatible PAV, Compatible Hyper PAV, and High Performance FICON software.

Compatible PAV enables high-performance concurrent access of mainframe volumes by permitting a mainframe host system to issue multiple I/O requests in parallel to individual logical devices within the XP7 Storage.

Compatible Hyper PAV greatly reduces the number of PAV aliases needed per logical subsystem while maintaining response times. PAV aliases are only bound to PAV bases for the duration of a single I/O operation, thus reducing the number of aliases needed.

**HP XP7 Mainframe Tiering Suite**

HP XP7 Mainframe Tiering Suite consists of XP7 Smart Tiers Software and HP XP7 Smart Manager for Mainframe Software. XP7 Smart Tiers Software improves storage performance and controls costs by transparently migrating data to appropriate tiers of storage within XP7 Storage. It manages data in thin provisioning pools, monitors performance at the page level, and can migrate the data online to a different tier, automatically or manually, based on policies. XP7 Smart Tiers supports up to three tiers per pool.

**HPE Technology Services**

Expert HPE storage consultants and service professionals sit down with you and your team to map your storage needs. Not only can we help you accelerate implementation and reduce deployment risk, but we can also help you realize the full value of your storage purchases as you transform storage for the New Style of IT.

**Advise, transform, and integrate**

Navigate through the complexities of storage, backup, archive, disaster recovery, and Big Data with advisory, transformation, and integration consulting.

**Deploy and implement**

Access expertise to support deployment, operations, relocation, sanitization, and disposal, plus improvement-focused education.

### Resources

#### QuickSpecs

HPE Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment.

Visit [hp.com/go/factoryexpress](http://hp.com/go/factoryexpress)

Gain the skills you need with ExpertOne training and certification from HPE. With HPE Converged Storage training, you will accelerate your technology transition, improve operational performance, and get the best return on your HPE investment. Our training is available when and where you need it, through flexible delivery options and a global training capability.

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### Operate and support

Find the level of personalized, proactive, and simplified support right for your business:

- **HPE Foundation Care**—System-level IT hardware and software support, which delivers flexible coverage window and response time for more choice and simplicity.
- **HPE Proactive Care**—Combined reactive and proactive services that provide easy-to-purchase, cost-efficient system-level support coupled with personalized expert advice and products connected to HPE to help prevent problems and reduce downtime.
- **HPE Proactive Care Advanced**—Builds and incorporates on Proactive Care and also gives customers personalized technical and operational advice from an assigned, local account support manager for personalized technical collaboration, flexible access to specialist skills to help optimize business-critical IT, and enhanced critical incident management to help so the business is not affected if there is a system or device outage.
- **HPE Datacenter Care**—Get the support you need to deploy, operate, and evolve your data center environment to be hybrid-cloud ready with single point-of-accountability for HPE and others' product.

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### Note

Specific service availability varies by product

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Get connected and get back to business—HPE Storage Technology Services provides the path to get your HPE Storage solutions and your business connected to HPE. Once connected, our experts are able to scan your system and run health checks, then use that data to create personalized reports and recommendations for actions to take to prevent problems and downtime.

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