Shape the Future of QuickSpecs - Your Input Matters

HPE Alletra Storage MP X10000 QuickSpecs

Data drives modern business, providing insights, innovation, and competitive advantage.

To stay ahead, organizations must accelerate and prioritize their data-driven modernization efforts. However, this journey is often hindered by challenges such as limited performance, scalability limitations, and operational complexity.

HPE Alletra Storage MP X10000 is a next-generation, software-defined, scale-out data system that delivers high-performance object and file storage services, data intelligence services, and an architecture designed for exabyte-scale capacities to accelerate time-to-value from data-intensive workloads including active data lakes, digital repositories, and modern data protection. The X10000 is managed through the HPE GreenLake cloud, which uniquely enables simplified and unified cloud management of HPE's block, file, and object services, allowing enterprises to optimize their hybrid estate to take full advantage of AI.

Overview

HPE Alletra Storage MP X10000
(2-Node all NVMe Storage Base)

What's new

- Native-namespace NFSv4.1 file system is now supported along side object storage
- High performance 400 GbE switch bundle is available now
- Bucket-level replication between X10000 systems for efficient, scalable data protection
- Object Lock and Versioning provide data immutability, protecting objects from deletion or modification while preserving historical versions are now available
- Data intelligence services automatically add custom metadata to objects.
- Optional data protection acceleration (DPA) node(s) to increase performance and efficiency when HPE Alletra Storage MP X10000 provides the storage for high-capacity and high-restore performance data protection workloads.
- HPE Alletra Storage MP Disconnected for X10000 is *now available*

Data intelligence to enhance AI and analytics

- Infuse data with intelligence: Built-in, inline data intelligence services provide the ability to easily and efficiently enrich file metadata to improve the speed, accuracy and outcomes for AI and analytics projects.
- Built-in support for instant Retrieval-Augmented Generation (RAG) pipelines: The X10000 enables you to accelerate data pipelines by extracting metadata in the form of vector embeddings. These embeddings can then be used to connect to large language models (LLMs).
- Software development kit (SDK) for NVIDIA AI Data Platform: Streamline unstructured data pipelines for AI-driven ingestion, training, and inference. The SDK for the X10000 integrates seamlessly with the NVIDIA AI Data Platform reference design, enabling accelerated performance and intelligent pipeline orchestration for agentic AI.

Enhance and accelerate data access

- **Bring data closer to compute:** Manage your unstructured data with a singular solution that delivers a high-performance object and file storage service, exabyte-scale capacity, a flexible containerized design, and radically simple management with HPE GreenLake cloud.
- **Access data across your hybrid estate:** Designed to integrate with on-premises and cloud-native environments, the X10000 is a software defined containerized solution featuring Kubernetes-based orchestration

Overview

Sustain efficient performance at scale

- **Built for data intensive workloads:** Power your most demanding data lake, digital repository, and data protection workloads with a high-performance, high throughput, low latency solution optimized for flash that leverages a disaggregated architecture to maximize resource utilization and deliver linear performance at scale.
- **Accelerated recovery:** Modernize your backup environment by replacing legacy data storage solutions with the X10000 to accelerate data recovery from outages and disasters, such as ransomware attacks.
- **Right-size with ease to support diverse workloads:** The X10000's disaggregated architecture allows for independent scaling of performance and capacity to meet the needs of any workload while lowering costs and increasing flexibility. Rebalance performance and capacity during expansion with minimal performance impact and no need for expensive data movement.
- **Start small, scale big:** Avoid being forced to overprovision right from the start. The X10000 allows you to start with just three nodes and is designed to scale to hundreds of nodes, while always maintaining storage efficiency and high availability.
- **Store data efficiently and densely:** Lower your storage hardware requirements and reduce costs with inline data reduction and efficient erasure coding technologies.

Simplify with an intuitive cloud operational experience

- **Unify management for IT and end-users:** HPE Data Services Cloud Console (DSCC) enables centralized management, monitoring, protection, self-provisioning, and proactive support capabilities for your global infrastructure with a singular cloud console.
- **Scale simply, non-disruptively and infinitely:** Seamlessly scale without pausing your business operations based on an elastic cloud-native software platform that scales autonomously with your data infrastructure.
- **Optimize your infrastructure and meet SLAs:** Take the guesswork out of provisioning decisions. Data Ops Manager (DOM) provides better visibility into the utilization of the existing infrastructure to avoid over-saturation situations.
- **Simplify onboarding:** Streamlined device deployment can be completed in minutes. New systems are automatically discovered and onboarded.
- **Ensure secure management of global infrastructure:** Secure entry points end-to-end—from identity and access management, through to back-end hardening and intrusion detection based on multilevel advanced capabilities.
- **Cloud-like, consumption-based acquisition:** HPE GreenLake allows cloud-like procurement through a pay-as-you-go, consumption basis model. HPE GreenLake allows you to scale storage and compute capacity up and down while paying only for the capacity consumed.

Standard Features

Hardware

- HPE Alletra Storage MP X10000 is powered by the HPE Alletra Storage MP hardware platform. This platform features a 2U chassis as the building block, with each chassis holding either two storage controller nodes or 24 high-performance SSDs. In addition, a pair of dedicated 100 Gbps Ethernet switches provide interconnect between the modules.
- The optional data protection accelerator node is based on a StoreOnce Gen 5 System. Up to 4 of these accelerator nodes can be added to the HPE Alletra Storage MP X10000 to support high-capacity and high-performance data protection workloads. The HPE Alletra Storage MP X10000 SPOCK document should be consulted to check interoperability with backup software. Each accelerator node includes 8 SSDs with RAID 6 protection to provide 92 TB of cache and can be configured with up to 2 PB of backup data storage.

Simplified management with an intuitive cloud and disconnected on-premises experience

- **Simplify operations and move faster with a cloud operational experience:** Reduce on-premises storage complexity across the lifecycle— from install to upgrade — with an AI-driven cloud operational experience powered by the HPE GreenLake cloud.
- **Unified storage management:** 100% cloud-managed infrastructure means you can manage, monitor, and protect your global storage environment from a single cloud console that's accessible from any location, on any device – so managing hundreds of systems across geographies is as simple as managing one.
- **HPE Alletra Storage MP Disconnected:** A simple-to-manage, secure, enterprise-grade object storage solution for effective on-premises data management. It is built on the HPE GreenLake Dedicated Platform for environments with limited internet connections required to support.

Data Services Cloud Console (DSCC) APIs

Data Services Cloud Console (DSCC) APIs are published for customers and partners, and these API are S3-compatible. All operations that can be done from the DSCC can be performed via the APIs listed.

Here is the link to access the APIs and guide to use the APIs

HPE Alletra Storage MP X10000 – Storage Controller Nodes	
Base Chassis	2U
Minimum Number of Nodes	3
Maximum Number of Nodes	8
Number of slots per Node[1]	4
Minimum / Maximum Host Ports per Storage Controller (100 Gbps)	2 / 4 Ports
Minimum / Maximum Host Ports per Storage Controller (10/25 Gbps)	4 / 8 Ports
Max Raw Capacity per System[3]	11,796.48 TB
Max Effective Capacity[2] **per System**[3]	17,553.16 TB

Standard Features

HPE Alletra Storage MP X10000 – JBOF Storage Shelf	
JBOF Storage Shelf	2U
Minimum Number of JBOFs	1
Maximum Number of JBOFs[3]	8
SSDs per Expansion Shelf	24
Max Raw Capacity per expansion shelf	1,474.56 TB
Max Effective Capacity[2] **per expansion shelf**	2,194.14 TB

HPE Alletra Storage MP X10000 – Data Protector Accelerator Node	
Accelerator node	2U
Minimum number of nodes	0
Maximum number of nodes	10 active (+2 optional HA)
SSDs	8
25 GbE ports	8
Usable cache for data management operations	92 TB
Max usable storage for backup data per accelerator node	2 PB
Max effective[4] **storage for backup data per accelerator node**	120 PB

HPE Alletra Storage MP X10000 – Data Intelligence Node	
Data Intelligence Node	2U
Minimum number of nodes	0
Maximum number of nodes	1
GPU (L40S)	1

- All Storage Controllers in an X10000 must have identical host-port configurations.
- Mixing 100 Gbps and 10/25 Gbps host-ports is not supported

Notes:

- [1]Slot 3 and Slot 4 can be used for host connectivity (at least one is required); Slot 1 and Slot 2 are used for inter-node communication
- [2]Effective capacity assumes 2:1 data compaction ratio (compression) in a triple parity RAID (20+3+1) configuration. Note TB vs TiB. Actual ratios will vary based on workload.
- [3]Limits will increase with future software versions
- [4]Assumes the HPE DPA Catalyst deduplication achieves a 60:1 space saving of backup data written compared to backup data stored. The actual space saving may be higher or lower depending upon multiple factors, including the protected data type, the change rate of the protected data, the backup frequency and the restore retention times.

Host OS Support

The X10000 supports connections from any host capable of making HTTPS connections.
The AWS and MinIO S3 SDKs have been tested and are supported.

Warranty

HPE Alletra Storage MP X10000 has a 1-year, parts only warranty. The warranty on all X10000 Solid State Drives (SSD) is 1 year, parts only, and offers unconditional replacement in case of drive failure, media wear-out, or both. For more information about Hewlett Packard Enterprise's Global Limited Warranty and Technical Support, visit: http://www.HPE.com/storage/warranty

Notes:

- For hardware warranty claims, defective parts must be received before replacement parts are shipped
- Warranty is covered under HPE Storage Global Limited Warranty and Technical Support
- Link to HPE Global Limited Warranty and Technical Support

Service and Support

Support is required for all HPE Alletra Storage MP X10000 systems. Support SKUs provide up to five years of 24x7 telephone support for the arrays and hardware components (Including SSDs reaching the write wear limit).

HPE Services Tech Care is an operational service experience that goes beyond traditional support by providing access to product specific experts, an AI-Driven digital experience, and general technical guidance. HPE Services Tech Care has been reimagined from the ground up to support a customer-centric, AI-driven, and digitally enabled customer experience to move your business forward.

Additional recommended HPE Services to help you accelerate your business outcomes

- HPE Service Credits
- HPE Backup and Recovery Efficiency Analysis Service - Datasheet Customer Presentation
- HPE Data Profiling Service – Datasheet - Customer Presentation
- HPE File Data Migration Service (also support object/S3) – Datasheet - Customer Presentation
- HPE Data Sanitization Service

Notes: Support contract is mandatory for all HPE Alletra Storage MP X10000 products

Data Services Support with HPE Alletra Storage MP X10000

A valid subscription enables the following enterprise-level support:

- 24x7 telephone support for all entitled services available through HPE Data Services
- Direct connection to expert-level support within minutes
- Guidance through troubleshooting and configuration of available services and interoperability within your cloud and/or on-premises environment.

For a summary of HPE Alletra Storage MP X10000 service and support features, see the following Tech Care addendum: https://www.HPE.com/psnow/doc/a50003571enw

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Proactive Support Account Manager Services – Pro SAM (PSM)

For any organization with a sizeable deployment of HPE Alletra Storage MP X10000 or business-critical use cases, the assigned HPE Proactive Support Manager (HPE Pro SAM) Service can be enlisted to provide management and support services that are tailored to fit the exact needs of the organization. The world-class HPE Pro SAM team includes some of the most experienced and reliable storage experts in the industry. HPE Pro SAM services are strongly recommended for your HPE Alletra Storage MP X10000 product and experience. For a summary of the Pro SAM (PSM) benefits, see the following data sheet: https://www.HPE.com/psnow/doc/a00030176enw

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HPE Services Tech Care

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 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 Services Tech Care is available with the following service level options for HPE Alletra Storage MP X10000:

- Essential, which provides 24x7 onsite parts exchange

Service Feature	Coverage Window	Feature Description
Enhanced phone response	Remote response service is available 24 hours per day, 7 days per week including HPE holidays.	15-minute callback for severity 1 incidents, 1 hour for severity 2 and 3; where available, direct phone access to product specialists without the need for a callback (all severities).
4-hour on-site attendance	On-site response service is available 24 hours per day, 7 days per week including HPE holidays.	4-hour on-site attendance3* for covered hardware.

Notes:

- *See Hardware on-site support service limitations section for more information regarding on-site response times.
- Regardless of the service level, customers have direct access to Level 3 support engineers by telephone 24x7: https://www.HPE.com/us/en/services/tech-care.html

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HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.

- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.HPE.com/us/en/services/lifecycle-services.html

For a list of the most frequently purchased services using service credits, see the HPE Service Credits Menu

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Installation Services

Installation Services are intended to guide you from start to finish and to help make your installation a success. This installation service is mandatory, and the installation engagement includes:

- Inventory and verify HPE Alletra Storage MP X10000 equipment against the sales order and site preparation survey conducted by the pre-sales team.
- Physically rack and cable all HPE Alletra Storage MP X10000 equipment, including connecting network cables provided by the customer.
- Conduct power-on tests and verify operation.
- Add the storage and compute to an existing HPE Alletra Storage MP X10000
- Configure basic management, monitoring, & reporting capabilities
- Configure for additional data networks / SAN connectivity as needed
- Installation services are required for all components of HPE Alletra Storage MP X10000 products.

Other Related Services from HPE Services:

HPE Education Services

Training and certification are designed for IT and business professionals across all industries. A broad catalogue of course offerings is available to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.
https://www.HPE.com/services/training

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Service and Support

Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at https://ssc.HPE.com/portal/site/ssc/

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 into 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 seamless transition when needed to a live support agent.
https://support.HPE.com/hpesc/public/home/signin

Consume IT On Your Terms

HPE GreenLake edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or 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 edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

For more information about HPE Alletra Storage MP X10000 on HPE GreenLake platform please visit:
HPE GreenLake for Alletra Storage MP X10000

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" https://www.HPE.com/us/en/contact-HPE.html

For more information**:** http://www.HPE.com/services

Service and Support

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environmental service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- 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

https://www.HPE.com/services/completecare

Configuration Information

Section 1: Storage chassis and controller nodes.

HPE Alletra Storage MP X10000 configuration starts with selecting the HPE Alletra Storage MP Chassis and Storage Controller Nodes. Each HPE Alletra Storage MP Chassis is a 2U unit that includes two 1600-watt high-line power supplies and can house either 1 or 2 controller nodes. Although the chassis includes 24-drive bays, they do not contain SSDs. A minimum of two MP chassis with compute nodes is required. Based on the configuration, all chassis, except the final one, must be populated with two storage controller nodes. The final chassis may be configured with either one or two controller nodes. Additional storage shelves can be added to expand capacity as needed.

Each Controller Node contains two (2) OCP slots for front-end host adapters, Slot 3 and Slot 4, and Slot 1 and Slot 2 are used for internode and back-end communication.

Section 2: Storage Shelves (JBOFs)

- The minimum supported quantity is twenty-four (24) drives per chassis.
- Within a cluster, drive types can NOT be mixed.
- Within a shelf all drives must be of the same capacity and type. Mixing drives of different capacities on the same shelf is NOT allowed.
- Mixing shelves with different drive sizes is supported; however, the ratio of capacity of the highest capacity shelf to the lowest capacity shelf should be less than or equal to 2.
- The system supports up to eight (8) storage shelves

To support a variety of performance and capacity needs, the X10000 OS 1.2.0.0 introduces support for QLC drives alongside existing TLC options. This enhancement offers greater flexibility with a broader range of capacity and performance profiles to suit diverse workload requirements. All drives in a cluster must be either TLC or QLC to maintain consistency in performance,

TLC drives are optimized for high write throughput, making them ideal for write-intensive workloads. In contrast, the new QLC drive options deliver significantly higher storage density, making them better suited for capacity-centric workloads where write performance is less critical. For guidance on selecting the best drive type, please refer to the HPE Ninja Sizer tool (https://ninjaonline.ext.HPE.com/).

Below are the available drive choices from which to select:

Choices of TLC drives include:

- HPE Alletra Storage MP 3.84 TB NVMe SFF Self-encrypting TLC SSD
- HPE Alletra Storage MP 7.68 TB NVMe SFF Self-encrypting TLC SSD
- HPE Alletra Storage MP 15.36 TB NVMe SFF Self-encrypting TLC SSD
- HPE Alletra Storage MP 30.72 TB NVMe SFF Self-encrypting TLC SSD

Choices of QLC drives include:

- HPE Alletra Storage MP 15.36 TB NVMe SFF Self-encrypting QLC SSD
- HPE Alletra Storage MP 30.72 TB NVMe SFF Self-encrypting QLC SSD
- HPE Alletra Storage MP 61.44 TB NVMe SFF Self-encrypting QLC SSD

Section 3: Switch Bundles

For each HPE Alletra Storage MP X10000 configuration, two (2) of the switch bundles are required. The switch bundles can only be used for interconnectivity of HPE Alletra Storage MP X10000 storage controller nodes and HPE Alletra Storage MP X10000 JBOFs.

Choices of switch bundles include:

- HPE Alletra Storage MP 9300-32D 32-port 400 GB Switch Bundle
- HPE Alletra Storage MP 32-port 100 GbE Switch Bundle

Notes: HPE Alletra Storage MP switch bundles cannot be used for connectivity to host servers or any other systems

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Section 4: Power Supplies and Power Cords

The HPE Alletra Storage MP X10000 Chassis requires two (2) Power Supplies per chassis.
All Power Supplies will be factory-integrated in the Storage chassis for shipment.
Notes:

- For 200 Vac/220 Vac/230 Vac input operation use 1600 W AC Input PS (R7C76A) OR 2200 W AC Input PS (R9Z97A).
- For 110 Vac input operation use 1500 W/1800 W AC Input PS (R7C77A).
- For -48 VDC input operation use 1600 W -48 Vdc Input PS (R7C78A).

All power cords will default to 2 m length cords.

Section 5: Front-side Host Network Configuration (Network Adapters)

Host adapters are used for connection to hosts. HPE Alletra Storage MP X10000 does not have any built-in host ports, therefore, any configuration needs to have at least one (1) host adapter per storage controller node. Host adapters provide connectivity between the storage controller nodes and the hosts and the data protection accelerator node when that is configured. These adapters are factory-integrated into the controller nodes.

For each X10000 configuration, a choice is available between a HPE Alletra Storage MP 100 GbE 2-port OCP Bus Adapter (HBA) or HPE Alletra Storage MP 10/25 GbE 4-port HBA.

- Each Storage Controller Node must have at least one 10/25 GbE HBA or one 100 GbE HPA for host connectivity. A Controller Node without any host adapters is not a supported configuration.
- Maximum of two (2) 10/25 GbE HBA or two (2) 100 GbE can be ordered per Controller Node.
- All Storage Controller nodes in an X10000 system must have the same number and type of host adapters.
- Mixing 10/25 GbE and 100 GbE host adapters is not supported. This requirement is applicable to all nodes in a cluster.

Section 6: Front-side Host Network Configuration for RDMA Configurations

Customers who wish to use the Remote Direct Memory Access (RDMA) features of the HPE Alletra Storage MP X10000 must configure appropriate connectivity to the hosts that will use RDMA.

- RDMA is only supported on 100 Gbps networks.
- Connections to the hosts must use an RDMA-capable lossless Ethernet switch. HPE has tested, validated, and strongly recommends the NVIDIA Spectrum switches, particularly the SN4000 and SN5000 series switches. More information on NVIDIA switches is available at: https://www.nvidia.com/en-us/networking/ethernet-switching/.
- The hosts must use an RDMA-capable 100 Gbps (or faster) NIC. HPE has tested, validated, and strongly recommends the NVIDIA ConnectX-6 and ConnectX-7 NICs. More information on NVIDIA ConnectX NICs is available at https://www.nvidia.com/en-us/networking/ethernet-adapters/

There are additional configuration settings that are required. These are documented in the X10000 RDMA configuration guide.

Section 7: Bluetooth Connectivity Kit Option

HPE Alletra Storage MP supports a Chassis Discovery Module (CDM) – Bluetooth Connector Kit – which enables the chassis connecting to Data Services Cloud Console (DSCC) without the presence of a controller node. There is an optional Bluetooth setup and configuration of the chassis.

Section 8: Racking

HPE Alletra Storage MP X10000 is compatible with most industry standard 4-post EIA 19-inch racks with square mounting holes. HPE Alletra Storage MP X10000 will be shipped without a rack for field integration into an existing rack.

Section 9: Software

HPE Alletra Software and Support SaaS

HPE Alletra Storage MP X10000 includes a subscription to HPE Alletra Storage MP Software and Support SaaS that includes all-inclusive software features for the specified raw capacity and term, and it enables cloud-based management of the array from the HPE Data Services Cloud Console and access to data services., and related support.

HPE Alletra Software and Support SaaS

HPE Alletra Storage MP X10000 per TB 3-year Software and Support SaaS
HPE Alletra Storage MP X10000 per TB 5-year Software and Support SaaS

Section 10: Data protection accelerator (DPA) node for X10000

The HPE data protection accelerator (DPA) node for X10000 provides a high-performance HPE Catalyst backup target for HPE Alletra Storage MP X10000 environments. Each accelerator node can be configured with up to 2 PB of X10000 capacity.

For capacity-aligned configurations, up to four (4) accelerator nodes may be deployed to fully utilize the current 8 PB maximum usable capacity of an X10000 cluster. For customers with more demanding backup and recovery SLAs, the current performance alignment supports deployment of up to ten (10) active accelerator nodes to achieve higher aggregate ingest and restore throughput. Customers may optionally add one (1) or two (2) additional nodes to provide high-availability (HA) resiliency.

The HPE Data Protection Accelerator Node for X10000 is ordered directly through the X10000 configuration menu in OCA. All required support, warranty, and software licensing for the accelerator node is included with the hardware SKU at purchase.

Ordering SKU:

- R6X33A — HPE Data Protection Accelerator Node for X10000

For configuration planning, customers and partners should use HPE Ninja Online to size the appropriate number of accelerator nodes based on backup throughput requirements, retention policies, deduplication expectations, and X10000 capacity configuration.

Section 11: Optional Disconnected Configuration Information

For ordering, in the disconnected menu select the SKU:
S6U17A – HPE Alletra Storage MP X10000 Disconnected FIO.
This will populate the appliance, and all other components associated with on-premises management.

HPE Alletra Storage MP X10000 Disconnected Solution Add-on Tracking SKU (S6W29A) is used when adding a new HPE Alletra Storage MP X10000 to an existing HPE GreenLake Dedicated Platform.

- S6U17A – HPE Alletra MP X10000 Disconnected FIO Trigger Configuration
- S6W29A - HPE Alletra Storage MP X10000 Disconnected Solution Add-on Tracking

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Section 12: Support

Choose HPE Services Tech Care to experience the new operational service for HPE products. For HPE Alletra Storage MP X10000, only one level of HPE Services Tech Care is currently available:

- Essential: provides 4-hour parts exchange where available

All levels of Tech Care enjoy 7x24 access to experienced technical engineers upon calling HPE for support.
https://www.HPE.com/psnow/doc/a50003571enw

Section 13 – Installations

Storage Installation and Startup Service

- HPE Alletra Storage MP X10000 Installation and Startup Service provides deployment of your HPE Alletra Storage MP X10000, helping to ensure proper installation in your storage environment as well as helping you increase the benefit from your storage investment. The service provides activities required to help you deploy your HPE Alletra Storage MP X10000 into operation.
- HPE Alletra Storage MP X10000 Base Configuration Startup Service fully deploys your HPE Alletra Storage X10000 base configuration. The base configuration includes 3 nodes and 1 JBOF with 2 external switches for basic connectivity.
- HPE Alletra Storage MP X10000 Controller Startup Service —This service provides installation and startup for every additional controller node above the base configuration. The service can be leveraged for also other node slot components such as IOMS and compute nodes.
- HPE Alletra Storage MP X10000 JBOF Startup Service —The service provides installation and startup service for every additional JBOF above base configuration defined previously.
- HPE Alletra Storage MP X10000 data protector acceleration node Startup Service - This service provides installation and startup service for one data protector accelerator node.

No Self-Installation – Startup Services are Required

Self-Installation is not yet available for the HPE Alletra Storage MP X10000 or the data protector accelerator (DPA) node.

Hewlett Packard Enterprise requires HPE Deployment Services.

Power Requirements

Input Voltage - AC PCM option

- HPE Alletra Storage MP X10000 Base: 200 to 240 VAC (50 to 60 Hz)
- HPE Alletra Storage MP X10000 data protection accelerator node: 200 to 240 VAC (50 to 60 Hz)

HPE Alletra Storage MP X10000 Power

Physical Dimensions	Width in/mm	Depth in/mm	Height in/mm/U	Weight lb/kg	Max Power	Idle Power	Max Heat	Idle Heat
HPE Alletra Storage 10000 MP Base Enclosure (Enclosure, two Controller IOMs, two PS, one CDM, no drives, no HBAs)	19.00 / 483	33.11 / 841	3.44 / 87.5 / 2	74.0 / 33.6	1072 W	780 W	3658 BTU/Hr	2662 BTU/Hr
HPE Alletra Storage 10000 MP Base Enclosure Packaging Pallet	23.00/584 24.00/610	38.75/984 40.00/1016	11.50/292					
HPE Alletra Storage MP NVMe SSD with carrier	3.11 / 79	6.57 / 167	0.59 / 15.0	0.63 / 0.28	14.5 W	7 W	49 BTU/Hr	24 BTU/Hr
HPE 10/25 Gb 4-port Ethernet Host Bus Adapter	3.33 / 84.6	5.20 / 132	0.59 / 15.0	0.50 / 0.23	20.33 W	20.1 W	69 BTU/Hr	68 BTU/Hr
HPE Alletra Storage MP X10000 data protection accelerator node (HPE StoreOnce G5, 8 x 15.36 TB SFF SSD, two PS, 4 HBAs providing 8 x 25 GbE host ports)	17.63 / 448	32.00 / 813	3.44 / 88 / 2	47 / 21				

Technical Specifications

Environmental Specifications		
Operating Temperature	41° to 95° F (5° to 35° C) - Reduce rating by 1°F for each 1,000 ft altitude (1.8° C/1,000 m)	
Shipping Temperature	-30° to 60°C (-22 to 140°F). Maximum rate of change is 20°C/hr (36°F/hr)	
Operating Altitude (ft/m) max.	10,000 ft / 3,048 m	
Shipping Altitude (ft/m) max.	40,000ft / 12,192 m	
Humidity	10% to 90% non-condensing	
Shipping Humidity	10% to 90% non-condensing	
Operating Vibration	0.25 G, Sine, 5-500 Hz; 0.25 GRMS, Random 5-500 Hz	
Non-operating Vibration	0.75 G, Sine, 5-500 Hz	
Operating Shock	5G, 11 ms, half-sine	
Non-operating Shock	10 G, 11 ms, half-sine	
Maximum Exhaust Air Flow	HPE Alletra Storage MP Base: 267 CFM	
Acoustic Sound Pressure Level*	Typical 60% Duty Cycle Fans	100% Duty Cycle Fans
HPE Alletra Storage MP Base	65.7 dB	74.5 dB
***Acoustics Sound pressure level measured per ISO 7779 specifications		

Electromagnetic Compatibility

- CISPR 32:2015/ EN 55032: 2015 +A11:2020 Class A
- BS EN 55032:2015 +A11:2020
- CISPR 35:2016/ EN 55035:2017 +A11:2020
- BS EN 55035:2017 +A11:2020
- IEN 61000-3-2: 2019 +A1:2021
- EN 61000-3-3: 2013 +A2:2021
- AS/NZS CISPR 32:2015 +A1:2020 Class A
- CNS 13438:2006 Class A
- 47 CFR Part 15 Subpart b Class A
- ICES-003 Issue 7 Class A
- VCCI-CISPR 32: 2016 Class A
- RRA Notice No. 2021-3 (2021.02.08) Class A
- RRA Notice No. 2021-10 (2021.02.08)

Safety

- IEC 60950-1:2005 (2nd Edition); +A1:2009 +A2:2013
- EN 62479:2010
- IEC 62368-1: 2014/ IEC 62368-1:2018
- EN 62368-1:2014+A11:2017/ EN 62368-1:2020 +A11:2020
- CNS 14336-1
- ANSI/UL 62368-1:2021
- CAN/CSA-C22.2 No. 62368-1:19 Update No. 1-2021

Certifications/Markings

- BIS
- BSMI
- cCSAus
- CE
- FCC Class A
- IC Class A
- KCC
- Morocco
- RCM
- VCCI
- WEEE
- China RoHS
- EU RoHS
- UKCA

Summary of Changes

Date	Version History	Action	Description of Change
06-Apr-2026	Version 8	Added	– Added Data Intelligence Node details to Hardware section, including node specifications and GPU support. – Added supplemental hardware-related adjustments. – Expanded What's new section to include: native-namespace NFSv4.1 file system, 400 GbE high-performance switch bundle availability, bucket-level replication, Object Lock and Versioning features, and metadata intelligence capabilities.
		Removed	– Removed reference to QLC drive support for capacity-centric workloads from What's new section.
05-Jan-2026	Version 7	Added	– Introduced details on Data Protection Accelerator (DPA) node in *What is new* section to highlight performance and efficiency benefits for high-capacity workloads. – Added clarification in *Front-side Host Network Configuration* section: requirement applies to all nodes in a cluster.
		Changed	– Updated *What is new* section: replaced "Rapid restore" with "Accelerated recovery" to reflect enhanced backup modernization messaging. Added reference to ransomware recovery. – Revised *Storage Shelves (JBOFs)* section: clarified drive mixing rules and updated ratio guidance to "less than or equal to 2." – Updated *Power Supplies and Power Cords* section: added specific AC/DC input operation notes and part numbers for supported power supplies. – Minor wording refinements in *Bluetooth Connectivity Kit Option* for clarity and consistency.
06-Oct-2025	Version 6	Changed	Configuration information section was updated - Added: RDMA and Disconnected config information
04-Aug-2025	Version 5	Changed	Overview and Standard Features sections were updated - Data intelligence to enhance AI and analytics introduction. Ratio of data protection acceleration node effective capacity to usable capacity revised to 60:1 in line with ratio in HPE StoreOnce QuickSpecs Configuration Information section was updated. - HPE Alletra Storage MP 61,44 TB NVMe SFF Self-encrypting QLC SSD added in Choices of QLC drives
21-Jul-2025	Version 4	Changed	Survey link updated
02-Jun-2025	Version 3	Changed	Overview, Standard Features, Service and Support and Technical Specifications sections were updated Added content on data protector accelerator node and QLC drives Added power data
05-May-2025	Version 2	Changed	Overview, Standard Features, Service and Support and Technical Specifications sections were updated General X10K details, and Service and Support sections were updated
20-Nov-2024	Version 1	New	New QuickSpecs.

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