



HP X9000 NETWORK STORAGE SYSTEMS FAMILY

Family data sheet

Designed for enterprise customers experiencing the explosive sprawl of unstructured data, the HP X9000 Network Storage Systems deliver the simplicity and intelligence at large scale needed to better manage your data growth. The X9000 Network Storage Systems provide massive scalability in an efficient, adaptable system that allows customers to change the economics and simplify the management of large data sets.

Are you faced with a hard-to-manage data explosion? Legacy network-attached storage (NAS) scale-up architectures are inefficient in dealing with the exponential sprawl of unstructured (file) data, increasing your OPEX and CAPEX. At a petabyte scale, these monolithic systems force customers to choose among performance, capacity, and management simplicity. As capacity grows, IT is left with complex management, underutilized assets, and a high cost of ownership.

X9000 Network Storage Systems scale out beyond traditional NAS in both capacity and performance. Designed for extreme scalability, flexibility, and efficiency, these systems deliver excellent performance and a modular storage infrastructure to accommodate unprecedented storage growth. Central management allows the administrator to manage not just terabytes but multi-petabytes environments at the highest density available from HP. The pay-as-you-grow architecture and the all-inclusive feature set reduce storage overprovisioning and expensive add-ons. The X9000 Network Storage Systems provide an ideal platform for customers designing the next-generation data center.

Key features and benefits

Simplicity at scale that offers uncomplicated management of massive storage and reduces administrative burden

Present a single namespace for easy management of all storage resources: Conveniently manage up to 16 PB of data in a single global namespace that can include up to 1000+ nodes, to evolve with your business needs.

Reduce administrator's load through easy-to-use central management: More effectively manage file system provisioning, performance, and enhancement from a centralized management tool helping your IT staff be more productive.

Provide automated mobility and dynamic load balancing: Reduce downtime during upgrades through non-disruptive scaling, and avoid bottlenecks and hotspots with automated load balancing.



Lower infrastructure and management costs with HP management tools: Integration with enterprise-level management tools help you better manage the overall infrastructure and further reduce administrative loads. Frameworks supported include HP Systems Insight Manager (SIM), Storage Essentials, and Insight Remote Support.

Breakthrough efficiency that delivers operational excellence

Improve storage efficiency using data tiering: The X9000 Network Storage Systems have built-in, non-disruptive, and policy-based automated data tiering, which reduces cost by moving less active data from higher-cost storage to more affordable storage, thus lowering operational costs and improving performance and overall storage efficiency.

Protect and manage your critical data using retention policies: Retain data reliably and cost effectively through date-based data retention mechanism, with per-file application controlled retention date settings. Satisfy that regulatory or compliance requirements for retained files is met with write once, read many (WORM) file immutability.

Enable easy scalability through the modular pay-as-you-grow architecture: Easily add nodes or storage components as your requirements evolve. No need to overprovision your IT investments; you can now evolve with your business needs. The all-inclusive software model enables you to have access to the data services you need to maximize your investment.

Reduce capital and operation costs with Converged Infrastructure: Built on HP ProLiant DNA with features such as Integrated Lights-Out (iLO), intelligent power, and Insight Remote Support, the X9000 Network Storage Systems reduce operational overheads.

Extreme adaptability that helps meet your changing requirements

Scale capacity and performance independently: Fully distributed metadata and multi-node architecture provides breakthrough performance and scalability that reduce controller bottlenecks, do away with hotspots, and enhance availability.

Achieve seamless resiliency: Respond to rapidly changing business needs by distributing files evenly across storage to remove hotspots and enable that performance level is maintained. Easily add or replace nodes, and migrate storage components to new technologies without disruption; for ultimate investment protection and future proofing.

Build for all workloads: While traditional NAS deployments offer limited flexibility for mixed and unpredictable workloads, the HP solution is designed for unpredictability with parallel optimization for small and large files, random and sequential streams, and metadata-intensive applications.

Deliver superior performance using a rich set of data services: A set of all-inclusive data services improves operational flexibility and enables you to better manage your deployment including policy-based tiering, continuous remote replication, software snapshots, automatic load balancing, and data evacuation.

What's new?

- Software snapshots use namespace versioning to provide nearly continuous and real-time view of past, allowing users to recover deleted files and administrators to restore system data
- Data archiving features including file immutability, retention period at the file level, and data validation and verification
- Expanded protocol support including WebDAV and SMB 2.0
- X9320 Network Storage System adds versatility and performance—smaller starting capacity, several capacity sizes to fit customer need, data tier-within-a-box; and the ProLiant G7 generation and the latest 6Gb SAS technology enterprise manageability tools including phone home, storage essentials, and Insight Remote Support
- Consolidated block and file storage with HP 3PAR and X9300 Network Storage Gateway

HP X9000 Network Storage System family

X9320		X9720	X9300
<p>Perform Store Expand</p>			
Scale-out modules			
Optimize for performance	Optimize for capacity	Optimize for performance and capacity	Dense architecture with over 1.3 PB in 2 floor tiles
Raw capacity: 14.4 TB to 56.7 TB	Raw capacity: 24 TB to 192 TB		Flexible solution to use with existing SAN storage
24 to 96 600 GB enterprise SAS drives	24 to 961TB or 2 TB MDL-SAS drives		Scale from 82 TB to 656 TB (1 TB MDL-SAS) or 164TB to 1.3PB (2 TB MDL-SAS)
			Use with HP 3PAR, P4000, P2000 and EVA, or third-party arrays and SANs

For more details see Product QuickSpec at: www.hp.com/go/x9000

Technical specifications

Model	X9300 Network Storage Gateway	X9320 Network Storage System	X9720 Network Storage System
Drive description	SSD, LFF FC, SAS and SATA, SFF FC, SAS and SATA	LFF MDL SAS or LFF Enterprise SAS	LFF MDL SAS
Drive type	Compatible with all drive types supported by 3PAR, P4000, P2000, P6000 EVA, and P9000 XP storage solutions	1 TB 6G 7.2k LFF dual-port MDL SAS; 2 TB 6G 7.2K LFF dual-port MDL SAS 600 GB 6G 15k LFF dual-port ENT SAS 24-196 drives supported	1 TB 6G 7.2k LFF dual-port MDL SAS 2 TB 6G 7.2k LFF dual-port MDL SAS 6G 7.2k LFF dual-port MDL SAS 82-656 drives supported
Capacity	Storage not included	14.4–192 TB	82 TB–1.3 PB
Number of storage blocks	0	1-4	1-8
Number of performance blocks	1	2	2-16
Transfer rate	Transfer rate will vary based on the external storage configuration utilized with the X9300 Gateway	Up to 3.5 GB/s sequential throughput	Up to 3.2 GB/s sequential throughput
Supporting OS	Red Hat Linux included	Red Hat Linux included	Red Hat Linux included
Form factor	2U server	12U–20U storage appliance	1 or 2 42U rack based storage appliance

Service and support

HP Factory Express

HP 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. www.hp.com/go/factoryexpress.

Customer technical training

We offer a variety of training courses on storage software, networking, archiving, and disk storage systems. Our classes are available in many delivery modalities—from traditional instructor-led courses at one of our 80 training centers worldwide to online and/or onsite training. www.hp.com/learn/storage.

HP Financial Services

HP Financial Services provide innovative financing and financial asset management programs to help you acquire, manage, and ultimately retire your HP solutions. www.hp.com/go/hpfinancialservices

HP Services

HP Technology Services has a robust portfolio of packaged lifecycle support solutions that enable you to enhance X9000 Enterprise NAS Systems support for better business outcomes.

Optimized care

Delivers enhanced performance and nearly continuous availability of crucial X9000 Enterprise NAS Systems through deployment and proactive management practices. Optimized care includes:

- **HP Critical Advantage Level 2 with additional 90 CA flexible credits**

Standard care

Maintains high level of X9000 Enterprise NAS Systems availability along with expert help to cut cost and complexity of implementing and supporting storage. Standard care includes:

- **3-Year HP Proactive 24 (P24) Service**

Basic Care

Delivers minimum recommended support service level with expert advice, implementation, and support. Basic care includes:

- **3-Year HP Support Plus 24 with additional 30 Proactive Select Credits**

Recommended installation services

- **Installation and Startup Service**
- **HP Enterprise NAS Implementation Service**
- **HP Storage Data Migration Service**

Only HP brings together deep expertise, proactive and business critical support, and a strong partner network.

For more information, visit <http://www.hp.com/services/storage>.

To manage data explosion and gain control of file-based data, visit www.hp.com/go/x9000.



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