



HPE Nimble Storage Adaptive Flash Arrays

Disk Storage Systems



Overview

Experience the Power of Predictive. HPE Nimble Storage Adaptive Flash hybrid storage arrays combine a flash-optimized architecture with HPE InfoSight predictive analytics to achieve fast, reliable access to data and greater than 99.9999% measured availability. [1] Adaptive Flash Arrays are cloud-ready – providing an easy on-ramp to the cloud through HPE Cloud Volumes. Backed by our Timeless Storage guarantee, optional software is included and forklift upgrades are a thing of the past.

Features

HPE InfoSight

Automatically predicts and resolves 86% of problems before you even know there is an issue. [2]

Transforms the support experience through predictive automation and Level 3-only support.

Sees across the infrastructure stack and resolves problems beyond storage.

Simplifies planning with prescriptive forecasts into capacity, performance, and bandwidth needs.

Makes infrastructure smarter and more reliable by learning from the installed base.

Radical Simplicity

Simple deployment. Simple configuration. Simple management.

Deploy flash anywhere, on-prem, or in the public cloud through common data services across the HPE Nimble Storage family.

Seamlessly migrate data between all-flash, hybrid-flash, and multicloud storage.

The Timeless Storage guarantee is your assurance of business value. No worries today. No worries tomorrow.

Radically easy to integrate with many ecosystems. Deep integration with VMware and Veeam.

Flash Performance for Mixed, Mainstream Workloads

Speed and efficiency for mixed workloads with sub-millisecond response and greater efficiency than other hybrid arrays. [3]

Write to cost-optimized disk at flash speeds through write serialization.

Dynamic flash caching accelerates reads even as workloads change in real time.

Assign and change the service level of any volume at the click of a button ("Auto Flash", "All Flash", or "Minimal Flash").

Always-on data reduction delivers up to 5X space savings without performance penalty. [4]

Absolute Resiliency

99.9999% (six-nines) guaranteed availability. [5]

Triple+ Parity RAID tolerates 3 simultaneous drive failures plus additional protection through intra-drive parity.

App-granular, FIPS-certified encryption provides over-the-wire protection. Secure data shredding is built-in.

Built-in application-consistent snapshots and replication. Integration with leading backup software.

Technical specifications

HPE Nimble Storage Adaptive Flash Arrays

Capacity	HPE Nimble Storage CS-Series Adaptive Flash Arrays (capacity per array, with expansion): Up to 1,470 TB Raw Up to 1,185 TB Usable Up to 2,371 TB Effective (assuming two to one data reduction ratio) Depending on configuration. Smaller configurations available for HPE Nimble Storage CS1000H Adaptive Flash Array.
Drive description	LFF SAS HDDs: 1/2/4/6/10 TB drive capacities supported, depending on model.
Enclosures	(6) Maximum, Expansion Shelves supported
Maximum drives per enclosure	(21) HDDs and Flash Cache per CS-Series base array or CS-Series Expansion Shelf.
Host interface	Onboard 1GbE/10GbE iSCSI (4) Ports and Optional 1GbE iSCSI (24) Ports or 10GbE iSCSI (24) Ports or 16 Gb/8 Gb Fibre Channel (24) Ports Depending on configuration.
Storage controller	2
Availability features	Triple+ Parity RAID for data protection Redundant storage controllers Redundant power supplies and fans
Compatible operating systems	Microsoft Windows Server VMware ESXi SUSE Linux Enterprise Server (SLES) Red Hat Enterprise Linux (RHEL) Ubuntu Server Edition LTS Oracle Solaris Oracle Linux Citrix XenServer IBM AIX For the latest information on supported operating systems refer to Single Point of Connectivity Knowledge for HPE Storage Products (SPOCK): https://www.hpe.com/storage/spock
Minimum dimensions (W x D x H)	17.8 cm x 44.5 cm x 67.3 cm
Weight	48 kg (CS1000H: 41 kg)
Warranty	HPE Nimble Storage arrays come with the following warranties: 1 year, parts-only warranty for hardware components 90 day, software updates for defects Additionally, HPE Nimble Storage will provide phone support for replacing a defective part. Additional support coverage is required for HPE Nimble Storage arrays. NOTE: For hardware warranty claims, defective part must be received before replacement parts are shipped.

Additional resources

QuickSpecs

[hpe.com/h20195/v2/GetDocument.aspx?](http://hpe.com/h20195/v2/GetDocument.aspx?docname=a00008274enw)

[docname=a00008274enw](http://hpe.com/h20195/v2/GetDocument.aspx?docname=a00008274enw)

HPE Pointnext

HPE Pointnext leverages our breadth and depth of technical expertise and innovation to help to accelerate digital transformation. A comprehensive portfolio that includes—Advisory, Professional, and Operational Services is designed to help you evolve and grow today and into the future.

Operational Services


- **HPE Flexible Capacity** is a new consumption model to manage on-demand capacity, combining the agility and economics of public cloud with the security and performance of on-premises IT.
- **HPE Datacenter Care** offers a tailored operational support solution built on core deliverables. It includes hardware and software support, a team of experts to help personalize deliverables and share best practices, as well as optional building blocks to address specific IT and business needs.
- **HPE Proactive Care** is an integrated set of hardware and software support including an enhanced call experience with start to finish case management helping resolve incidents quickly and keeping IT reliable and stable.
- **HPE Foundation Care** helps when there is a hardware or software problem offering several response levels dependent on IT and business requirements.

Advisory Services includes design, strategy, road map, and other services to help enable the digital transformation journey, tuned to IT and business needs. Advisory Services helps customers on their journey to Hybrid IT, Big Data, and the Intelligent Edge.

Professional Services helps integrate the new solution with project management, installation and startup, relocation services, and more. We help mitigate risk to the business so there is no interruption when new technology is being integrated in the existing IT environment.

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[1] Based on actual customer data collected by the HPE Nimble Storage Support organization. See also <https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00018503ENW>

[2] Based on actual customer data collected by the HPE Nimble Storage Support organization. See also <https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00018503ENW>

[3] Response times based on actual customer data collected by the HPE Nimble Storage Support organization as of March 2017. Efficiency comparisons based on a combination of technologies including write serialization, dynamic flash caching of reads, and the use of 3D NAND flash.

[4] The HPE Nimble Storage Operating System (NOS) is built to optimize the use of system resources including the CPU and memory. This enables the arrays to provide Always-on data reduction without affecting the storage performance that is delivered.

[5] HPE Six Nines Guarantee: <https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00026086enw>

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