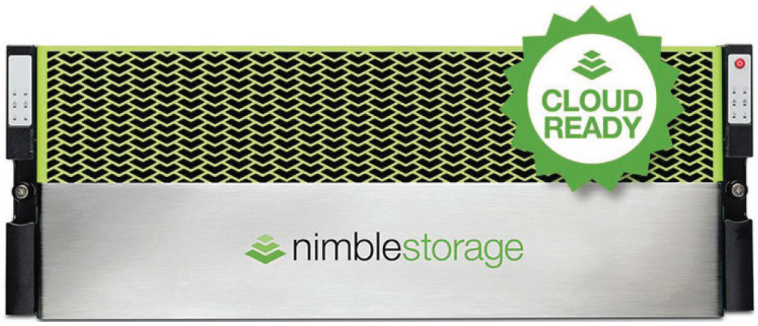
Hewlett Packard Enterprise

Nimble Storage All Flash Arrays

Predictive, radically simple, cloud ready



Sheer performance and scalability
- Scale up capacity and performance nondisruptively in an array
- Scale out with up to four arrays managed as one
- Up to 8 PB+ and 1.2 million IOPS at sub-ms latency

33% to 66% lower TCO[2]
- Requires 10X to 30X less memory
- Cost and performance enhanced for 3D NAND
- 5X or more data reduction from deduplication and compression
- Backup, DR, and archival at one third of the cost

Absolute resiliency
- Non-stop availability measured at 99.9999%
- Triple+ Parity RAID
- Integrated data protection
- Application granular encryption and secure data shredding

The Nimble predictive All Flash array combines the speed of flash with the power of **InfoSight Predictive Analytics**—radically simplifying operations while delivering 33% to 66% lower TCO than other all-flash arrays.[1] Backed by Nimble Timeless Storage, there is no need to pay for optional software and forklift upgrades are a thing of the past. Nimble flash arrays are cloud ready—providing an easy on-ramp to the cloud through Nimble Cloud Volumes.

Sheer performance with unmatched scalability

Built for speed and scalability, **Nimble All Flash arrays** deliver the performance and low latency needed to power the flash data center.

33% to 66% lower TCO

All-flash performance at less than the cost of legacy performance disk solutions and one to two-thirds lower TCO than other all-flash arrays.

Absolute resiliency

Non-stop availability delivers 99.9999% measured uptime through InfoSight Predictive Analytics and no single point of failure hardware and software design.

Backup at one-third of the cost

Storing backup copies on all-flash arrays can be cost-prohibitive. That's why **Nimble** cost-optimized adaptive flash arrays can be used for backup, DR, test/dev and archival even when primary copies are stored on all flash.

Scale-out

Nimble All Flash array scale-out cluster, managed as a single entity, can nondisruptively scale beyond the limits of other all-flash arrays to over 8 PB with more than 1.2 million IOPS at less than 1 ms response time. Moreover, with scale-to-fit, grow capacity and performance of an array independently and nondisruptively.

[1] **"Nimble All Flash Arrays Leapfrog Pure Storage and EMC,"** Nimble, 2016; **nimblestorage.com/technology-products/all-flash-arrays**.

[2] **"Nimble All Flash Arrays Leapfrog Pure Storage and EMC,"** Nimble, 2016

Nimble AF-Series arrays

The Nimble **AF1000 All Flash array** and Nimble **AF3000 All Flash array** are the perfect entry points for all IT organizations that require speed and economy for performance-sensitive workloads.

The Nimble **AF5000 All Flash array** and Nimble **AF7000 All Flash array** offer high performance and attractive economics for performance-sensitive workloads that need the best blend of price, performance, or scalability.

The Nimble **AF9000 All Flash array** is designed for consolidating multiple large-scale performance-sensitive applications with aggressive performance and high-scalability demands.

Nimble All Flash arrays support iSCSI and FC storage protocols.

"Our customers have very high expectations for accessing data quickly. With the Nimble Storage AF9000 All Flash array, we've been able to deliver data three times faster to our customers."

– Dana Skovsende, infrastructure developer, Forca

Nimble All Flash array

Nimble AF-Series array	AF1000	AF3000	AF5000	AF7000	AF9000	4X AF9000[3]
Raw capacity (TB/TiB)[4]	6–46/5–42	6–92/5–83	11–184/10–167	11–323/10–293	23–553/20–503	2212/2012
Usable capacity (TB/TiB)[4]	4–33/3–30	4–67/3–61	8–136/7–123	8–238/7–217	17–409/15–372	1636/1488
Effective capacity (TB/TiB)[4, 5]	20–165/15–150	20–335/15–305	40–680/35–615	40–1190/35–1085	85–2045/75–1860	8180/7440
Max. # of expansion shelves	1	1	1	2	2	8
RAID level	Triple+ Parity					
Onboard iSCSI/Mgmt. 1 Gb/10 Gb ports per array[6]	4	4	4	4	4	16
Optional iSCSI 1 Gb ports per array[7]	4 or 8	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	96
Optional iSCSI 10 Gb ports per array[7]	4 or 8	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	96
Optional FC 8 Gb/16 Gb ports per array	4 or 8	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	4, 8, 12, 16, 20, 24	96
Max. power requirement	550 W/0.61 kVA	600 W/0.67 kVA	700 W/0.78 kVA	800 W/0.89 kVA	900 W/1 kVA	3600 W/4 kVA
Thermal (BTU)	1802	1965	2293	2620	2948	11,792

[3] Scale-out configuration consists of 4X Nimble Storage AF9000 All Flash arrays, each with two all-flash shelves.

[4] Raw, usable, and effective capacities are shown in TB (10^12 bytes) and TiB (2^40 bytes). Usable and effective capacities take into account space used for parity, spares, and system overhead.

[5] Effective capacity is the capacity of the base array and maximum number of expansion shelves. Assumes data reduction of five to one from deduplication and compression.

[6] Onboard ports are 10GbaseT. Optional ports are 1GbaseT, 10GbaseT, or 10GbE SFP+.

[7] Each array controller has 2 x 10GbE ports built in. Optional ports are 1GbaseT, 10GbaseT, or 10GbE SFP+.

SSD expansion shelves[8]

Raw capacity (TB/TiB)[9]	6–184/5–167
Usable capacity (TB/TiB)[9]	4–137/4–124
Effective capacity (TB/TiB)[9, 10]	20–685/19–620
Power requirement	325 W/0.36 kVA

[8] Each shelf consists of up to 48 SSDs. SSDs can be 240 GB, 480 GB, 960 GB, 1.92 TB, or 3.84 TB raw capacity.

[9] Raw, usable, and effective capacities are shown in TB (1012 bytes) and TiB (240 bytes). Usable and effective capacities take into account space used for parity, spares, and system overhead.

[10] Effective capacity is the capacity of the base array and maximum number of expansion shelves. Assumes data reduction of five to one from deduplication and compression.

Physical and environmental specifications

Dimensions	7" x 17.5" x 26.5" (h x w x d) 17.8 cm x 44.5 cm x 67.3 cm 4 rack units
Weight	36 kg (80 lb)
Weight (all-flash shelf)	32 kg (70 lb)
Operating temperature	10°C–35°C (50°F–95° F)
Nonoperating temperature	0°C–40°C (32°F–104°F)
Operating humidity	8%–90%
Nonoperating humidity	5%–95%

Learn more at
nimblestorage.com/technology-products/all-flash-arrays

Sign up for updates

Hewlett Packard Enterprise

a00018500ENW, August 2017