

## Flash Performance for Every Mainstream Application

The Nimble Adaptive Flash array is the industry's only predictive hybrid flash array. It combines a flash-optimized architecture with InfoSight™ Predictive Analytics — giving you the fastest, most reliable access to data. Backed by Nimble's Timeless Storage™, there is no need to pay for optional software and forklift upgrades are a thing of the past.

### Speed with Efficiency

Purpose-built flash architecture delivers sub-ms performance with unparalleled efficiency. And it's five times faster than other hybrid solutions.

### Adaptive Service Levels

Assign, or change, the service level of an application at the click of a button.

- **Auto Flash:** High performance for mainstream applications
- **All Flash:** Guaranteed flash performance for the most performance sensitive applications
- **Minimal Flash:** Optimized for lowest cost of capacity

### Non-Disruptive Scalability and Flexibility

Independently grow the capacity and performance of an array and scale the amount of flash to suit any application. Scale-out to petabytes at sub millisecond latency with up to 4 arrays managed as one.

### Absolute Resiliency

- **99.9997% measured availability** through predictive analytics and “no single point of failure” hardware and software design.
- **Triple+ Parity RAID:** Tolerate three simultaneous drive failures plus additional protection from intra-drive parity.
- **SmartSecure encryption:** Application-granular, FIPS-certified encryption, and secure data shredding provides end-to-end security for data at rest and on-the-wire when replicated offsite.

### Simple to Manage

- Storage is pre-configured and optimized for applications out-of-the-box. Tasks like selecting RAID-level, media layout, aggregations and reserves are no longer required. Initial configuration and set-up can be completed in less than two hours. Routine storage management operations can be completed in minutes.
- Manage storage at VM-level granularity using VMware vVols or through a vCenter plugin.
- Integration and certification with major hypervisors, applications, and infrastructure components.

## Nimble Storage CS-Series Arrays

The **CS1000** array provides value and capacity for small to medium-sized IT organizations or remote offices, for mixed mainstream workloads.

The **CS3000** and **CS5000** are ideal for midsize IT organizations or distributed sites of larger organizations. These arrays offer the best capacity per dollar for mixed mainstream workloads and for virtual server consolidation.

The **CS7000** offers the highest performance for larger-scale deployments or IO-intensive mixed mainstream workloads and provides the best performance and IOPS per dollar. It is designed for consolidating multiple large-scale critical applications with aggressive performance demands.



### Performance and Scalability

- Scale-up capacity and performance non- disruptively in an array
- Scale-out with up to four arrays managed as one
- Achieve multiple petabytes and over 1 million IOPS at sub-ms latency



### One Third the TCO of Legacy Hybrid Flash

- Write to disk at flash like speeds through write serialization
- Inline compression and zero pattern elimination
- Integrated data protection efficiency
- Ground-up design efficiently leveraging flash as a cache



### Absolute Resiliency

- Non-stop availability measured at 99.9997%
- Triple+ parity RAID
- Application granular encryption and secure data shredding

“Our customers see large data sets, small data sets and diverse workloads. Nimble's CS700 and all-flash expansion shelf combine to offer customers a means of covering lots of ground in terms of both performance and capacity, within an attractively small data center footprint.”

Jeff Thomas  
Director of IT Operations  
MarkLogic

## Adaptive Flash Array Specifications

Nimble CS-Series Array <sup>1,2</sup>	CS1000H	CS1000	CS3000	CS5000	CS7000	Scale-Out <sup>3</sup> 4x CS7000
Raw Capacity (TB/TiB) <sup>4</sup>	11-778 / 10-708	21-882 / 19-802	21-882 / 19-802	21-882 / 19-802	21-882 / 19-802	3,528 / 3,208
Usable Capacity (TB/TiB) <sup>4</sup>	7-617 / 6-561	16-710 / 14-646	16-710 / 14-646	16-710 / 14-646	16-710 / 14-646	2,840 / 2,584
Effective Capacity (TB/TiB) <sup>4,5</sup>	13-1,234 / 12-1,122	32-1,421 / 29-1,292	32-1,421 / 29-1,292	32-1,421 / 29-1,292	32-1,421 / 29-1,292	5,684 / 5,168
Max # of Expansion Shelves (Hybrid/All Flash)	6 / 1	6 / 1	6 / 1	6 / 1	6 / 1	24 / 4
Flash Capacity (TB/TiB) <sup>4</sup>	0.5-28 / 0.4-25	0.7-28 / 0.65-25	0.7-36 / 0.65-33	0.7-76 / 0.65-69	0.7-108 / 0.65-98	2.9-432 / 2.6-393
RAID Level	Triple+ Parity					
Max IOPS (100% Read)	40,000	40,000	60,000	140,000	270,000	1,080,000
Max IOPS (70% Read / 30% Write)	35,000	35,000	50,000	120,000	230,000	920,000
Onboard iSCSI/Mgmt 1Gb/10Gb ports per array <sup>6</sup>	4	4	4	4	4	16
Optional iSCSI 1Gb/10Gb ports per array <sup>6</sup>	4	4	4 or 8	4, 8, or 12	4, 8, or 12	Up to 48
Optional FC 8Gb/16Gb ports per array	4	4	4 or 8	4, 8, or 12	4, 8, or 12	Up to 48
Max Power Requirement	500W / 0.56kVA	600W / 0.67kVA	700W / 0.78kVA	800W / 0.89kVA	900W / 1kVA	3600W / 4kVA
Thermal (BTU)	1,638	1,965	2,293	2,620	2,948	11,792

## ES2 Expansion Shelves

	ES2 Hybrid	ES2 All Flash for Hybrid <sup>7</sup>
Raw Capacity (TB/TiB) <sup>2</sup>	21-126 / 18-117	N/A
Usable Capacity (TB/TiB) <sup>2</sup>	16-101 / 14-92	N/A
Effective Capacity (TB/TiB) <sup>2,3</sup>	81-505 / 75-461	N/A
Flash Capacity (TB/TiB) <sup>2</sup>	0.7-108 / 0.7-98	3.8-184 / 3.5-167
Power Requirement (Watts)	300W / 0.33kVA	300W / 0.33kVA

### NOTES

- CS1000, CS3000, and CS5000 support scale up to any model within the CS family. CS1000H supports scale up to the CS3000H.
- The CS1000H consists of up to 22 HDDs and 2 DFCs (Dual Flash Carriers). All other CS Series models consists of up to 21 HDD drives and 3 DFCs (holding up to 6 SSDs).
- Scale-out configuration consists of 4x CS7000 arrays, each with six maximum capacity expansion shelves.
- Raw, usable, and effective capacities are shown in TB (10<sup>12</sup>) and TiB (2<sup>40</sup> bytes). Usable and effective capacities take into account space used for parity, spares, SSD cache, and system overhead.
- Effective capacity is a range from minimum in the base array to maximum in the array plus expansion shelves. Assumes data reduction of two to one (2X) from compression.
- Each array controller has 2x 10GbE ports built in. Optional ports are 1GbaseT, 10GbaseT or 10GbE SFP+.
- The ES2-AFS2 (ES2-All Flash for Hybrid) accommodates up to 48 SSDs, which can be populated in packs of 4 at a time.

## Physical and Environmental Specifications

Dimensions	7"H x 17.2"W x 26.5"D 17.8 cm x 43.7 cm x 67.3 cm 4 Rack Units
Weight	83 lbs. / 38 kg
Weight (All Flash Shelf)	68 lbs. / 31 kg
Operating Temperature	10 - 35° C (50 - 95° F)
Non-Operating Temperature	0° C - 40° C (32° F - 104° F)
Operating Humidity	8 - 90%
Non-Operating Humidity	5 - 95%



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