



News Advisory

HP Delivers All-flash Arrays for the Mainstream

HP 3PAR StoreServ 7450 serves up flash-optimized enterprise-class performance, scale and resiliency at disk cost per gigabyte

Editorial contacts

John D'Avolio, HP

+1 503 308 3096

john.davolio@hp.com

www.hp.com/go/newsroom

LAS VEGAS, June 9, 2014 — HP today announced enhancements to the all-flash HP 3PAR StoreServ 7450 Storage array that deliver predictably faster response times at the same price as high-performance spinning media without sacrificing enterprise-class storage resiliency and petabyte scalability.⁽¹⁾

Use of all-flash arrays to accelerate performance-intensive applications is on the rise. IDC forecasts that by 2016 the market for all-flash storage arrays will jump to \$1.6 billion—representing a 59 percent compound annual growth rate (CAGR) over the 2012–2016 forecast period.⁽²⁾ Yet a much wider set of mission-critical applications which are today implemented on traditional enterprise-class disk-based storage architectures could benefit from the faster and more predictable response times of all-flash arrays. However, the relatively high cost, limited scale and lack of guaranteed enterprise-class resiliency in current first-generation all-flash appliances present barriers to widespread adoption.

To eliminate these cost and scale limitations, HP has enhanced the all-flash HP 3PAR StoreServ 7450 Storage array with new features including hardware-accelerated, inline primary deduplication, thin cloning software, Express Indexing and new 1.92TB commercial multi-level cell (cMLC) solid state drives (SSDs) that combine to eliminate the cost and scale limitations that force compromises on competitive all-flash systems. HP also introduced the HP 3PAR Get 6-Nines Guarantee, which commits to 99.9999 percent storage uptime,⁽³⁾ as well as a five-year warranty on HP 3PAR StoreServ SSDs.⁽⁴⁾

“Enterprises have seen the performance that flash can provide applications but have faced limitations that prevent broad use,” said David Scott, senior vice president and general manager, HP Storage. “By driving down the total cost of all-flash arrays using innovations that also boost performance and scale, and backed by availability guarantees, HP has developed a solution that makes all-flash arrays viable for a wide range of mainstream enterprises and service provider use that represent an expansion of the addressable all-flash market by billions of dollars.”

Reduce capacity needs 75 percent without compromising performance and scale

HP 3PAR StoreServ 7450 arrays offers new compaction technologies, including [HP 3PAR Thin Deduplication](#) and [HP 3PAR Thin Clones software](#), which added to the benefits of existing thin provisioning with zero-block deduplication reduce usable capacity requirements by more than 75 percent.⁽⁵⁾ HP Thin Deduplication software includes Express Indexing, a patented innovation that allows customers to deploy all-flash arrays for a wide range of applications by scaling to 460 terabytes (TB) raw and more than 1.3 petabytes of equivalent usable capacity.⁽⁶⁾ This industry-leading, all-flash scalability is six times that of typical raw and usable capacities provided on first-generation all-flash systems.⁽⁷⁾

Low-cost flash with guaranteed high availability

HP offers a new high-density 1.92TB cMLC drive that when combined with HP 3PAR compaction technologies, lowers the cost of storage to below \$2 per usable gigabyte. This is the same cost as systems using performance-oriented spinning disk drives today. Using patented HP Adaptive Sparing technology, HP collaborated with SSD suppliers to extend usable capacity per drive up to 20 percent by reducing the amount of over-provisioned capacity typically reserved by media suppliers.

In addition to lowering the cost of all-flash storage, HP is backing the use of the 3PAR StoreServ Storage system architecture for mission-critical application deployments with the HP 3PAR Get 6-Nines Guarantee. This guarantee provides that customers with quad-controller or larger HP 3PAR StoreServ Storage arrays, including the all-flash 7450, will achieve 99.9999 percent data availability.⁽⁴⁾

“Metro Health needed storage with high performance and availability to support our virtual desktop environment,” said Aivars Apsite, Technology Strategist, Metro Health. “The HP 3PAR StoreServ 7450 all-flash array has delivered — high IOPS, low latency, and scale — all while providing time and cost savings”

The HP StoreServ 7450 all-flash array provides a profound opportunity for customers supporting enterprise-class applications by delivering:

- Lower latency for critical applications than traditional high-end arrays.
- More predictable latency than hybrid or auto-tiered arrays at comparable pricing.
- The scale to consolidate and support a wide range and variety of applications.
- Tier 1 features and a proven architecture lacking with first-generation all-flash appliances.

For customers concerned about flash wear out cases, HP stands behind its technology to extend flash media lifespan using Adaptive Sparing and offers a five-year warranty on SSDs. The five-year SSD warranty applies to 480GB, 920GB and 1.92TB HP 3PAR StoreServ SSDs and provides unconditional replacement due to drive failures, media wear-out or both.

Pricing and availability⁽⁸⁾

- The 3PAR StoreServ Get 6-Nines Guarantee is available as of today.
- Availability of the 3PAR StoreServ 1.92TB cMLC drives is planned for July at \$14,315 per drive.
- 3PAR Thin Deduplication and 3PAR Thin Clones software for 3PAR StoreServ 7450 is expected to begin shipping as part of the 3PAR Operating System Software Suite in September 2014 at no additional charge.

About HP

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. With the broadest technology portfolio spanning printing, personal systems, software, services and IT infrastructure, HP delivers solutions for customers' most complex challenges in every region of the world. More information about HP (NYSE: HPQ) is available at <http://www.hp.com>.

- (1) When combined with 1.92TB cMLC, and 3PAR compaction technologies, HP 3PAR StoreServ 7450 brings usable capacity to over a petabyte and cost to \$2/GB usable.
- (2) IDC, "Worldwide Enterprise All-Solid State Storage Array 2013–2016 Forecast," Doc. No. 240424, April 2013.
- (3) 6-Nines, or 99.9999 percent availability, translates to less than 31.5 seconds of downtime per year. Qualification for the HP 3PAR Get 6-Nines Guarantee is subject to customer's acceptance of the Get 6-Nines Guarantee Terms and Conditions and compliance with such Terms.
- (4) The five-year warranty on 480GB, 920GB and 1.92TB drives is provided by HP at no additional cost and went into effect on March 31, 2014.
- (5) As compared to not using data compaction technologies. Based on a 4:1 data compaction ratio.
- (6) 460TB raw, with 25 percent overhead, and 4:1 compaction (subject to variation depending on workloads) results in 1.38PB of usable capacity.
- (7) For a single system. Based on HP internal comparative analysis of publicly available data from major competitors, May 2014.
- (8) Estimated U.S. list prices. Actual prices may vary.

This news advisory contains forward-looking statements that involve risks, uncertainties and assumptions. If such risks or uncertainties materialize or such assumptions prove incorrect, the results of HP and its consolidated subsidiaries could differ materially from those expressed or implied by such forward-looking statements and assumptions. All statements other than statements of historical fact are statements that could be deemed forward-looking statements, including but not limited to statements of the plans, strategies and objectives of management for future operations; any statements concerning expected development, performance, market share or competitive performance relating to products and services; any statements regarding anticipated operational and financial results; any statements of expectation or belief; and any statements of assumptions underlying any of the foregoing. Risks, uncertainties and assumptions include the need to address the many challenges facing HP's businesses; the competitive pressures faced by HP's businesses; risks associated with executing HP's strategy and plans for future operations; the impact of macroeconomic and geopolitical trends and events; the need to manage third-party suppliers and the distribution of HP's products and services effectively; the protection of HP's intellectual property assets, including intellectual property licensed from third parties; risks associated with HP's international operations; the development and transition of new products and services and the enhancement of existing products and services to meet customer needs and respond to emerging technological trends; the execution and performance of contracts by HP and its suppliers, customers, clients and partners; the hiring and retention of key employees; integration and other risks associated with business combination and investment transactions; the execution, timing and results of restructuring plans, including estimates and assumptions related to the cost

and the anticipated benefits of implementing those plans; the resolution of pending investigations, claims and disputes; and other risks that are described in HP's Annual Report on Form 10-K for the fiscal year ended October 31, 2013, and that are otherwise described or updated from time to time in HP's Securities and Exchange Commission reports. HP assumes no obligation and does not intend to update these forward-looking statements.

© 2014 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.