



*Serving Information*

**FOR IMMEDIATE RELEASE**

**3PAR UK Contact**  
Federica Monsone  
A3 Communications for 3PAR  
+44 (0) 1252 875 203  
fred.monsone@a3communications.co.uk

### **3PAR INTRODUCES THIRD-GENERATION VIRTUALISED STORAGE ARRAY**

*New T-Class Featuring Thin Built In Architecture Achieves Record-Setting Performance Results*

London, UK, 4<sup>th</sup> September 2008—[3PAR](#)<sup>®</sup> (NYSE Arca: PAR), the leading global provider of [utility storage](#), introduced today the [3PAR InServ<sup>®</sup> T400 and T800 Storage Servers](#), built on a third-generation 3PAR InSpire<sup>®</sup> Architecture that features the 3PAR Gen3 ASIC with integrated fat-to-thin processing. With the delivery of the new T-Class arrays, 3PAR has become the first storage vendor to incorporate efficient, silicon-based thin technologies into system hardware. The InServ T800 also set a new Storage Performance Council Benchmark™ 1 (SPC-1) record<sup>1</sup>, doubling the performance of the previous generation of InServ arrays to become the fastest single-system storage array according to published results on file with the Storage Performance Council (SPC).

“Enterprise datacentre managers continually seek to decrease complexity and increase utilisation. To this end, virtualisation technologies such as thin provisioning are fast becoming ‘must have’ features to realise greater efficiencies in the virtualised datacentre,” said Brad Nisbet, Research Manager, Storage Systems at IDC. “As a leader in bringing software-based thin provisioning to the open-systems market, 3PAR’s endeavour to build thin technologies into hardware is a logical progression that will increase the efficiencies of enterprise organisations.”

#### **Thin Built In™ Design**

The 3PAR Gen3 ASICs within the T-Class arrays feature a Thin Built In™ design to increase capacity utilisation while maintaining high service levels. This design incorporates detection of allocated but unused capacity (“zero-detection” capability) into the 3PAR Gen3 ASIC to offer a silicon-based mechanism for fat-to-thin volume conversions. These fat-to-thin volume conversions are intended to boost capacity utilisation by removing allocated but unused space from traditional volumes. 3PAR is the first in the industry to commercially ship storage systems with fat-to-thin capability designed into the hardware architecture of its arrays.

The Thin Built In architecture of the T-Class arrays was designed to preserve service levels and prevent disruption to production workloads during migration of “fat” volumes from other storage platforms to new “thin” volumes on the InServ. When fat-to-thin volume conversions take place in specialised silicon, controller CPU and memory resources are not diverted away from application workloads. This averts the negative performance impact of a software-based fat-to-thin implementation.

InServ T-Class arrays featuring the 3PAR Gen3 ASIC with the Thin Built In design are available today. 3PAR is developing additional software functionality to make fat-to-thin volume conversions, which are not currently supported in software, possible on the T-Class arrays with the next release of the 3PAR InForm<sup>®</sup> Operating System.

#### **Enhanced Performance**

3PAR designed the InServ family of arrays to deliver high levels of performance and consolidation simply and affordably, so that customers don't have to overprovision capacity or resort to complex administration to increase performance and improve utilisation. To demonstrate the power of the new InServ T-Class, 3PAR has posted record-setting SPC-1 results in which the 3PAR InServ T800 achieved a total of 224,989.65 SPC-1 IOPS, an SPC-1 Price-Performance of \$9.30/SPC-1 IOPS, and a total ASU capacity of 77,824 gigabytes<sup>1</sup>. With these results, the InServ T-Class more than doubles the performance of the InServ S-Class to become the fastest single-system storage array as measured by SPC-1 results on file with the SPC.

The SPC ([www.storageperformance.org](http://www.storageperformance.org)) is a vendor-neutral standards body focused on the storage industry. SPC benchmark results such as the SPC-1 are intended to provide a source of comparative storage performance information that is objective, relevant, and verifiable. SPC benchmarks are designed to be vendor and platform independent and are applicable across a broad range of storage configurations and topologies. Any vendor may sponsor and publish an SPC benchmark result provided their tested configuration satisfies the requirements of the appropriate SPC benchmark specification. The SPC-1 benchmark uses a single workload designed to demonstrate the performance of a storage subsystem while performing the typical functions of business-critical applications.

An IBM System p5 595 server was used to drive the SPC-1 benchmark load to the 3PAR T-Class. "The IBM System p5 595 provides exceptional scalability, making it superb to drive a high-end storage benchmark," said Scott Handy, VP of Worldwide Strategy, IBM Power Systems. "The combination of IBM Power Systems with the 3PAR T-Class enables customers to meet the performance demands of their mission-critical UNIX applications."

The InServ T-Class arrays feature the only single-system storage architecture to report 224,989.65 IOPS in a published SPC-1 result, which was achieved with 83% capacity utilisation and without complex configuration or performance tuning. According to results on file with the SPC, this makes the InServ T-Class the only modular array capable of delivering performance in excess of 224,000 IOPS right out of the box, without performance-enhancing techniques such as "short stroking," a common practice whereby vendors leave physical capacity space unaccessed in order to speed disk performance.

"With more than 1.6 million jobs and 23 million unique visitors to our site each month, performance is critical to our business, but so is simplicity and ease of use," said Ali Shahzad, Storage Architect at CareerBuilder.com, the largest online job site in the United States. "The 3PAR T-Class offers the kind of performance we require, right out of the box."

### **Innovative 3PAR InSpire Architecture Featuring the 3PAR Gen3 ASIC**

3PAR's unique and tightly clustered InSpire Architecture was designed to ensure high and predictable levels of performance for all workloads—even under failure conditions—as well as high utilisation rates for purchased resources. Central to the InSpire design is a high-bandwidth, low-latency backplane that unifies cost-effective, modular, and scalable components into a highly available and autonomically load-balanced cluster.

The 3PAR Gen3 ASIC in each 3PAR Controller Nodes acts to communicate and move data between controllers across this passive, full-mesh backplane. Each application workload is distributed and shared across all system resources in a massively parallel fashion. This approach differs substantially from other quality of service schemes based on the purchase and ongoing management of dedicated (not shared) and often underutilised system resources.

The 3PAR Gen3 ASIC was also designed to alleviate performance concerns and cut traditional array costs by allowing the InServ to deliver mixed workload support. With the InServ, transaction- and throughput-intensive workloads run without contention on the same storage resources. This is made possible through parallelising data movement (with the 3PAR Gen3 ASIC and associated Data Cache) and metadata processing (using Intel® CPUs and associated Control Cache) within each Controller Node.

In addition, the 3PAR Gen3 ASIC supports 3PAR Fast RAID 5, a unique capability through which 3PAR customers have reported achieving high levels of performance with 33% less storage capacity. The abundant memory bandwidth and built-in RAID 5 XOR engine within the 3PAR Gen3 ASIC allows 3PAR's Fast RAID 5 to deliver performance levels comparable to RAID 1 without the higher data protection overhead.

### **Building Block for Cloud Computing**

As organisations build out their virtualised infrastructures to support the delivery of enterprise IT as a utility service via cloud and self-service computing models, they are turning to server virtualisation, blade servers, and utility storage technologies. With its distinct architectural advantages, Thin Built In hardware, and superior performance, the InServ T-Class is purpose-built to meet the needs of these virtualised datacentres.

“With mounting interest in cloud and self-service computing as delivery models for enterprise IT as a utility service, it’s increasingly important for organisations to build cost-effective and sharable virtualised IT infrastructures based on utility computing architectures,” said David Scott, CEO of 3PAR. “With its unique, ‘Thin Built In’ architecture, the T-Class is a storage building block designed to do just this.”

A wide array of companies are enabling a virtualised platform for cloud and self-service computing with 3PAR Utility Storage, including Brocade, Data Domain, Emulex, IBM, Microsoft, Oracle, QLogic, Red Hat, Riverbed, Symantec and VMware. A 3PAR T-Class [partner quote sheet](#) is available at (<http://www.3par.com/documents/3PAR-tcpe-gs-08.0.pdf>).

### **About 3PAR**

[3PAR](#)® (NYSE Arca: PAR) is the leading global provider of utility storage, a category of [highly virtualized](#), tightly clustered, and dynamically tiered storage arrays built for utility computing. Organisations use utility computing to build cost-effective virtualised IT infrastructures for flexible workload consolidation. 3PAR Utility Storage gives customers an alternative to traditional arrays by delivering resilient infrastructure with increased agility at a lower total cost to meet their rapidly changing business needs. As a pioneer of thin provisioning—a green technology developed to address storage underutilisation and inefficiencies—3PAR offers products designed to minimise power consumption and promote environmental responsibility. With 3PAR, customers have reduced the costs of allocated storage capacity, administration, and SAN infrastructure while increasing adaptability and resiliency. 3PAR Utility Storage is built to meet the demands of open systems consolidation, integrated data lifecycle management, and performance-intensive applications. For more information, visit the 3PAR Website at: [www.3PAR.com](http://www.3PAR.com).

<sup>1</sup>3PAR InServ® T800 Storage Server SPC-1 result details are available at: [http://www.storageperformance.org/results/benchmark\\_results\\_spc1#a00069](http://www.storageperformance.org/results/benchmark_results_spc1#a00069)