

Sun StorEdge™ 3510 FC Array

Ranked No.1 In Price/Performance

Sun StorEdge 3510 FC Array Posts World Beating Price/Performance In Storage Performance Council Benchmark-1™ (SPC-1)



Key Highlights

World Record SPC-1 Benchmark:

The Sun StorEdge 3510 Fibre Channel Array achieved a performance of 11,647.63 SPC-1 IOPS™ with a price/performance ratio of \$5.94/IOPS, the best Fibre Channel array price/performance at the time of submission¹.

Performance without sacrificing data integrity:

The closest competing results from IBM and HP were derived from non-mirrored cache configurations in an attempt to generate higher IOPS at the expense of data protection. All submissions for the Sun StorEdge 3510 FC Array utilized a mirrored cache for full data protection.

Extreme Disk Utilization - Reducing Your Total Cost of Ownership:

The StorEdge 3510 FC Array is extremely efficient in utilizing disk drive performance owing to its advanced cache management and disk de-staging algorithms. Just 36 disk drives were used to achieve 323 IOPS/disk, a higher disk/performance ratio than any other result at the time of submission¹.



WORLD RECORD BENCHMARK: Sun StorEdge 3510 Fibre Channel Array price/performance beats IBM and HP by over 46% and 70% respectively

Outstanding Features With Proven Outstanding Performance

The Sun StorEdge 3510 FC Array has always been an outstanding product in its class with an impressive enterprise-class feature set designed to allow easy modular expansion and unrivaled performance for entry level storage area networks (SANs). The Sun StorEdge 3510 FC Array has now demonstrated its world beating qualities, achieving a class leading world record for price/performance in the Storage Performance Council's Benchmark-1 (SPC-1). Sun's world record result beat the closest competing price/performance submissions from IBM and HP by over 46% and 70% respectively.



World Leading Results With Real World Relevance

The SPC-1 benchmark is designed to provide a level playing field for all storage subsystem manufacturers in order to demonstrate both performance and price/performance within a test environment that simulates the workloads of common business applications. In order to ensure relevant, objective and verifiable performance data, the SPC specifically prohibits the use of benchmark configurations which optimize SPC performance results without any applicable benefit to real-world environments. The calculation of price/performance extends way beyond the initial capital acquisition cost of the storage subsystem to include a 3 year total cost of ownership (TCO), based on a full support and maintenance contract covering each component of the tested storage subsystem configuration.

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Interpreting The Storage Performance Council Benchmark-1 (SPC-1) Results

SPC-1 is the first industry standard storage benchmark and the first comprehensive performance analysis environment for direct attach and SAN configurations. SPC-1 benchmark workloads are characterized by I/O operations that are typical of real world multi-user online transaction processing (OLTP), database and email server applications. Such environments comprise of systems with many users or multiple executing application threads which can saturate the I/O throughput capability of a storage system. To ensure service availability and meet service level agreements, a storage system needs the capacity to process the peak level of I/O requests while maintaining acceptable response times to the users and applications it supports. SPC-1 determines the maximum I/O request processing capability of a storage system based on typical OLTP workloads and reports this measurement through the SPC-1 IOPS™ (I/Os per second) metric.

The SPC-1 benchmark simulates a community of users or applications running against storage which is logically arranged into three application storage units (ASUs) as would typically be found in a real world environment. ASUs are assigned as a Data Store (ASU1) holding system-level data, a User Store (ASU2) holding user-level data and a Log (ASU3) containing log files written by the server in the course of normal operations to provide recovery in the event of a system failure. The ASU Capacity represents the total of these three ASUs and is also the total storage capacity read and written in the course of executing the SPC-1 benchmark. Table 1. illustrates selected SPC-1 metrics for external storage array submissions.

Table 1. Storage Performance Council Benchmark-1 (SPC-1) Selected External Storage Array Benchmark Results - (15 February 2005)

Storage Array	\$/IOPS	ASU Capacity (GB)	Performance SPC-1 IOPS	Data Protection	Submission Date	Rank ¹
Sun StorEdge 3510 FC Array	5.94	604.00	11,647.63	Mirroring	1 February 2005	1
Sun StorEdge 6920 System (20 Tray)	10.73	3,022.00	48,646.62	Mirroring	16 August 2004	3
IBM FAST600 Turbo (non-mirrored write cache)	11.07	478.43	12,102.97	Mirroring	Revised 15 April 2004	5
Sun StorEdge 6920 System (8 Tray)	12.10	1,222.00	19,496	Mirroring	20 September 2004	6
IBM FAST900 (non-mirrored write cache)	12.63	1,196.09	24,507.22	Mirroring	26 August 2003	9
IBM FAST600 Turbo (mirrored write cache)	14.23	478.437	9,099.86	Mirroring	Revised 15 April 2004	16
Sun StorEdge 6920 System (12 Tray)	15.40	1,960.13	25,340.29	Mirroring	7 April 2003	19
IBM FAST900 (mirrored write cache)	16.78	1,196.09	18,447.55	Mirroring	26 August 2003	23
HP - EVA 2C12D (non-mirrored write cache)	19.99	2,596.30	24,005.54	Mirroring	6 December 2002	25
HP - EVA 2C12D (mirrored write cache)	23.88	2,596.30	20,096.97	Mirroring	6 December 2002	26

1 - The SPC-1 benchmark allows submissions from a variety of host platforms and storage network topologies. The figure of Rank shown in Table 1. represents the relative position in price/performance for external storage array product submissions as of 15 February 2005 (Source: <http://www.storageperformance.org> 02/15/2005)

Get the details.

Sun's workgroup storage solutions:

www.sun.com/storage/workgroup

Storage Performance Council Benchmarks:

www.storageperformance.org

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