



**SPC BENCHMARK 2™
EXECUTIVE SUMMARY**

**SUN MICROSYSTEMS, INC.
SUN STORAGE TEK 9985 SYSTEM**

SPC-2™ V1.2

**Submitted for Review: August 23, 2006
Submission Identifier: B00009
Revised: August 29, 2006**

EXECUTIVE SUMMARY**Test Sponsor and Contact Information**

Test Sponsor and Contact Information	
Test Sponsor Primary Contact	Sun Microsystems, Inc. – http://www.sun.com Leah Schoeb – leah.schoeb@sun.com 5300 Riata Park Court AUS08 Austin, TX 78721 Phone: (877) 319-0457 FAX: (512) 266-2523
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Auditor	Storage Performance Council – http://www.storageperformance.org Walter E. Baker – AuditService@StoragePerformance.org 643 Bair Island Road, Suite 103 Redwood City, CA 94063 Phone: (650) 556-9384 FAX: (650) 556-9385

Revision Information and Key Dates

Revision Information and Key Dates	
SPC-2 Specification revision number	V1.2
SPC-2 Workload Generator revision number	spc2rc9f
Date Results were first used publicly	August 23, 2006
Date FDR was submitted to the SPC	August 23, 2006
Date revised FDR was submitted to the SPC Corrected FDR Submission Identifier from A00009 to B00009	August 29, 2006
Date the TSC will be available for shipment to customers	currently available
Date the TSC completed audit certification	August 22, 2006

SPC-2 Reported Data

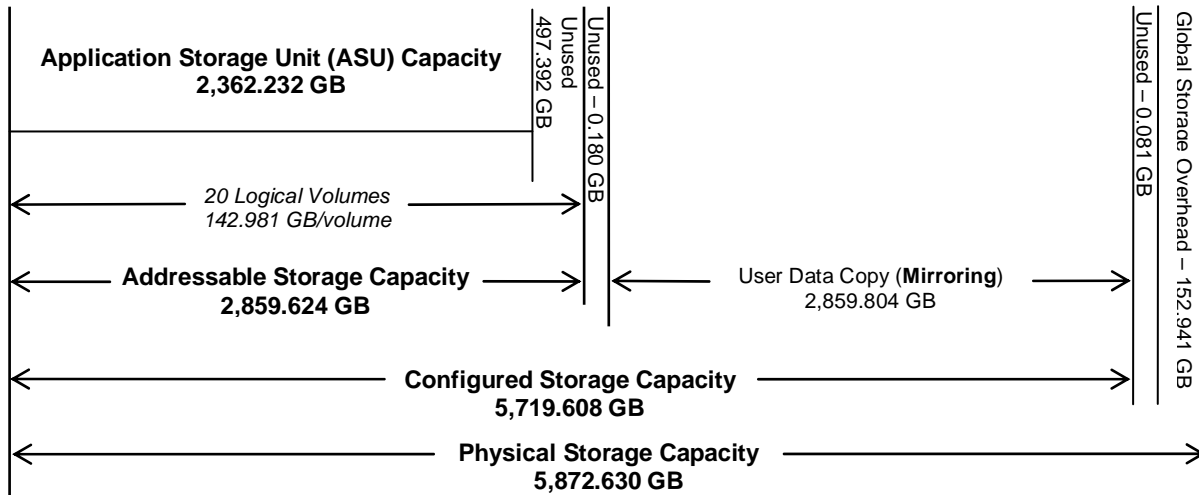
SPC-2 Reported Data consists of three groups of information:

- The following SPC-2 Primary Metrics, which characterize the overall benchmark result:
 - SPC-2 MBPS™
 - SPC-2 Price Performance
 - Application Storage Unit (ASU) Capacity
- Supplemental data to the SPC-2 Primary Metrics.
 - Total Price
 - Data Protection Level
- Reported Data for each SPC Test: Large File Processing (LFP), Large Database Query (LDQ), and Video on Demand Delivery (VOD) Test.

SPC-2 Reported Data				
Sun StorageTek 9985 System				
SPC-2 MBPS™	SPC-2 Price-Performance	ASU Capacity (GB)	Total Price	Data Protection Level
972.45	\$513.04	2,362.232	\$498,905	Mirroring
<i>The above SPC-2 MBPS™ value represents the aggregate data rate of all three SPC-2 workloads: Large File Processing (LFP), Large Database Query (LDQ), and Video On Demand (VOD)</i>				
SPC-2 Large File Processing (LFP) Reported Data				
	Data Rate (MB/second)	Number of Streams	Data Rate per Stream	Price-Performance
LFP Composite	827.12			\$603.18
Write Only:				
1024 KiB Transfer	645.53	44	14.67	
256 KiB Transfer	647.24	44	14.71	
Read-Write:				
1024 KiB Transfer	831.32	44	18.89	
256 KiB Transfer	826.24	50	16.52	
Read Only:				
1024 KiB Transfer	1,021.78	50	20.44	
256 KiB Transfer	990.61	50	19.81	
<i>The above SPC-2 Data Rate value for LFP Composite represents the aggregate performance of all three LFP Test Phases: (Write Only, Read-Write, and Read Only).</i>				
SPC-2 Large Database Query (LDQ) Reported Data				
	Data Rate (MB/second)	Number of Streams	Data Rate per Stream	Price-Performance
LDQ Composite	871.26			\$572.63
1024 KiB Transfer Size				
4 I/Os Outstanding	1,443.33	44	32.80	
1 I/O Outstanding	1,225.24	50	24.50	
64 KiB Transfer Size				
4 I/Os Outstanding	507.37	14	36.24	
1 I/O Outstanding	309.08	\$ 8.00	38.64	
<i>The above SPC-2 Data Rate value for LDQ Composite represents the aggregate performance of the two LDQ Test Phases: (1024 KiB and 64 KiB Transfer Sizes).</i>				
SPC-2 Video On Demand (VOD) Reported Data				
	Data Rate (MB/second)	Number of Streams	Data Rate per Stream	Price-Performance
	1,218.97	1,550	0.79	\$409.28

Storage Capacities and Relationships

The following diagram documents the various storage capacities, used in this benchmark, and their relationships.



Tested Storage Configuration Pricing (*Priced Storage Configuration*)

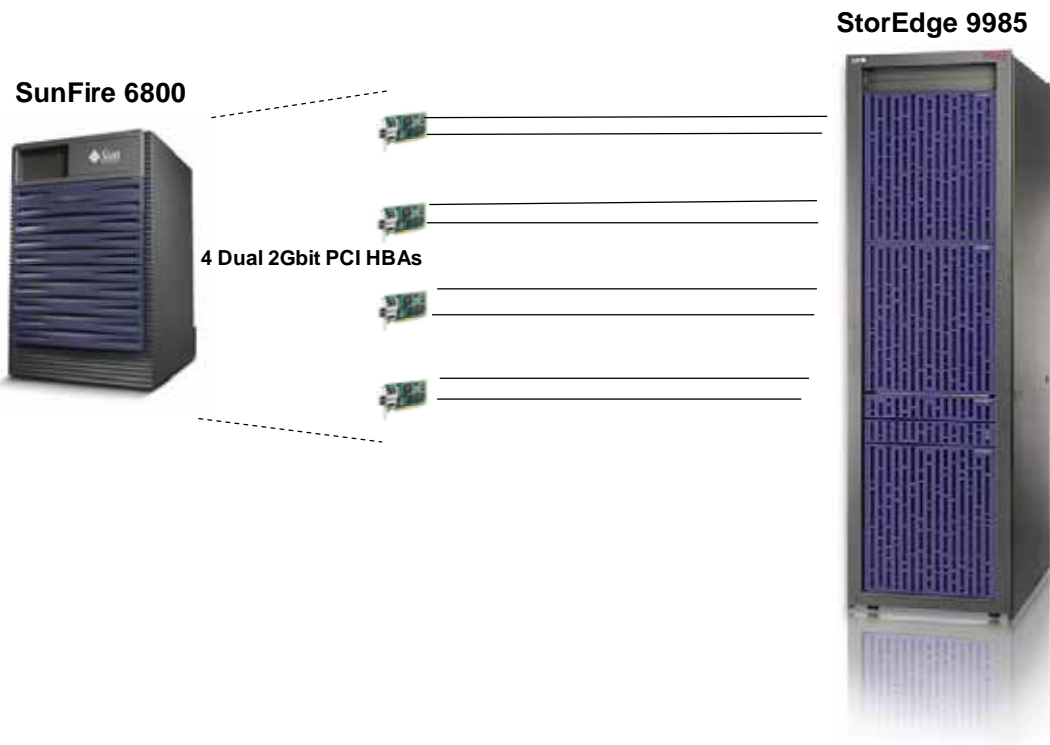
Part Number	Description	Quantity	US List	Total	discount	Ave. Price
TJ97846443R	19 in Rack for NSC HDS-Americas-SUN	1	\$7,495.00	\$7,495.00	38%	\$4,646.90
TJ9DKCF5151-16HSR	Fibre 16-Port High Performance Adapter(2Gbps)	1	\$39,080.00	\$39,080.00	38%	\$24,229.60
TJ9DKC-F5151-B2R	Disk Chassis	2	\$17,495.00	\$34,990.00	38%	\$21,693.80
TJ9DKC-F5151-BCSR	Bezel Kit DKC - SUN	1	\$1,745.00	\$1,745.00	38%	\$1,081.90
TJ9DKC-F5151-BUSR	Bezel Kit B2R - SUN	2	\$1,395.00	\$2,790.00	38%	\$1,729.80
TJ9DKCF5151-C8GR	Cache Memory Module (8GB)	8	\$46,195.00	\$369,560.00	38%	\$229,127.20
TJ9DKC-F5151-LGABR	Additional Battery	2	\$3,695.00	\$7,390.00	38%	\$4,581.80
TJ9DKC-F5151-MIX2R	Mix Adapter (Fibre 16-port and Disk Adapter 8-port)	1	\$43,235.00	\$43,235.00	38%	\$26,805.70
TJ9DKCF5151-S2GR	Control Memory Module (2GB)	3	\$15,055.00	\$45,165.00	38%	\$28,002.30
TJ9DKC-F5151-UC0R	Device Interface Cable connects DKC and DKU-R0	1	\$1,895.00	\$1,895.00	38%	\$1,174.90
TJ9DKC-F5151-UC1R	Device Interface Cable connects DKU-R0 and DKU-R1	1	\$1,895.00	\$1,895.00	38%	\$1,174.90
TJ9DKC5151-5R	Disk Control Frame	1	\$43,195.00	\$43,195.00	38%	\$26,780.90
TJ9DKUF5151-72K1R	1 HDD Canister (DKS2C-K72FC)	1	\$2,255.00	\$2,255.00	38%	\$1,398.10
TJ9DKUF5151-72KSR	1 HDD Canister (DKS2C-K72FC)	80	\$2,255.00	\$180,400.00	38%	\$111,848.00
SE9985-STRGFAMILY	SE9985 Product - Order Structuring Reference Only	1	\$0.00	\$0.00	38%	\$0.00
TJ9-210517-03-3PR	Support-Premium 3 Years SE9900 Resource Mgr Utility Suite License (9985)	1	\$3,816.00	\$3,816.00	38%	\$2,365.92
TJ9-210517-3MED	Support-Base 3 Years SE9900 Resource Mgr Utility Suite-MEDIA	1	\$180.00	\$180.00	38%	\$111.60
TJ9044-210517-01	SE9900 Resource Mgr Utility Suite Base Kit (9985)	1	\$0.00	\$0.00	38%	\$0.00
TJ9044-210517-03	SE9900 Resource Mgr Utility Suite License (9985)	1	\$0.00	\$0.00	38%	\$0.00
X6767A	4 Dual port Qlogic HBAs	4	\$4,900.00	\$19,600.00	38%	\$12,152.00
Total			\$235,781.00	\$804,686.00		\$498,905.32

The above pricing (*three year Gold maintenance*) provides maintenance/support for 24 hours per day, 7 days per week for three years with four hour acknowledgement and four hour subsequent response (support engineer onsite or customer replaceable part available).

Differences between the Tested Storage Configuration (TSC) and Priced Storage Configuration

There were no differences between the Tested Storage Configuration (TSC) and the Priced Storage Configuration.

Benchmark Configuration/Tested Storage Configuration Diagram



Host System(s) and Tested Storage Configuration Components

Host System:	Tested Storage Configuration (TSC):
UID=HS-1 Sun Fire 6800	4 – 2 Gb dual port FC PCI HBAs
12 – 1.2 GHz dual core UltraSPARC-IV processors 64 KB L1 cache per core, 2 MB L2 shared per dual core 32 MB L3 shared per dual core	UID=SC-1: Sun StorageTek™ 9985 System 2 Controller Pairs
48 GB main memory	64 GB cache
Solaris 10 FCS	16 – 2 Gb front end ports
PCI	8 – Backend ports
WG	80 – 73 GB 15K RPM disk drives