



**SPC BENCHMARK 1™
EXECUTIVE SUMMARY**

**XIOTECH CORPORATION
XIOTECH EMPRISE™ 5000
(73 GB DISK DRIVES)**

SPC-1 V1.10.1

**Submitted for Review: April 8, 2008
Submission Identifier: A00065**

EXECUTIVE SUMMARY

Test Sponsor and Contact Information

Test Sponsor and Contact Information	
Test Sponsor Primary Contact	Xiotech Corporation – http://www.xiotech.com Ken Bates – ken_bates@xiotech.com 2250 Federal Drive, Suite 100 Colorado Springs, CO 80921-3686 Phone: (719) 388-5509 FAX: (719) 388-5300
Test Sponsor Alternate Contact	Xiotech Corporation – http://www.xiotech.com Tim Hershberger – tim_hershberger@xiotech.com 2250 Federal Drive, Suite 100 Colorado Springs, CO 80921-3686 Phone: (719) 388-5470 FAX: (719) 388-5300
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-1 Specification revision number	V1.10.1
SPC-1 Workload Generator revision number	V2.00.04a
Date Results were first used publicly	April 8, 2008
Date the FDR was submitted to the SPC	April 8, 2008
Date the TSC is available for shipment to customers	June 25, 2008
Date the TSC completed audit certification	April 7, 2008

Tested Storage Product (TSP) Description

Emprise 5000 from Xiotech Corporation is a revolutionary concept in data storage. It is built on a perfectly balanced building block of performance, reliability, and scalability known as Intelligent Storage Element (ISE) technology.

The ISE is a purpose-built storage environment of tightly integrated components, designed to maximize both performance and reliability. Each ISE includes one or two sealed DataPacs (capacity modules) and dual Managed Reliability Controllers, which locally manage cache, data protection processes, and more.

Built on this ISE foundation, Emprise 5000 is a complete, self-enclosed storage solution, which you can configure to meet your specific needs. In just 3U of rack space, you can have up to 16 terabytes of virtualized capacity or a high performance storage powerhouse for your transactional applications.

Emprise 5000 is easy to attach to your network—either directly or via a Fibre Channel switch. And it requires minimal configuration or administration, so it is perfect for departmental or branch office deployment.

Summary of Results

SPC-1 Results	
Tested Storage Configuration (TSC) Name: Xiotech Emprise™ 5000 (73 GB disk drives)	
Metric	Reported Result
SPC-1 IOPS™	8,720.12
SPC-1 Price-Performance	\$4.19/SPC-1 IOPS™
Total ASU Capacity	1,030.792 GB
Data Protection Level	Mirroring
Total TSC Price (including three-year maintenance)	\$36,500

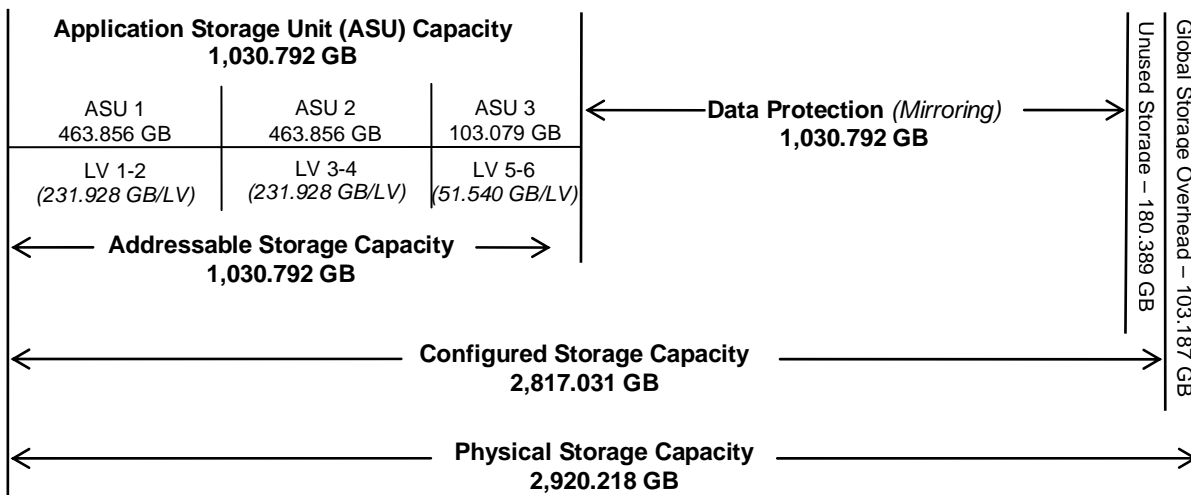
SPC-1 IOPS™ represents the maximum I/O Request Throughput at the 100% load point.

Total ASU (Application Storage Unit) Capacity represents the total storage capacity read and written in the course of executing the SPC-1 benchmark.

A **Data Protection Level of Mirroring** configures two or more identical copies of user data.

Storage Capacities and Relationships

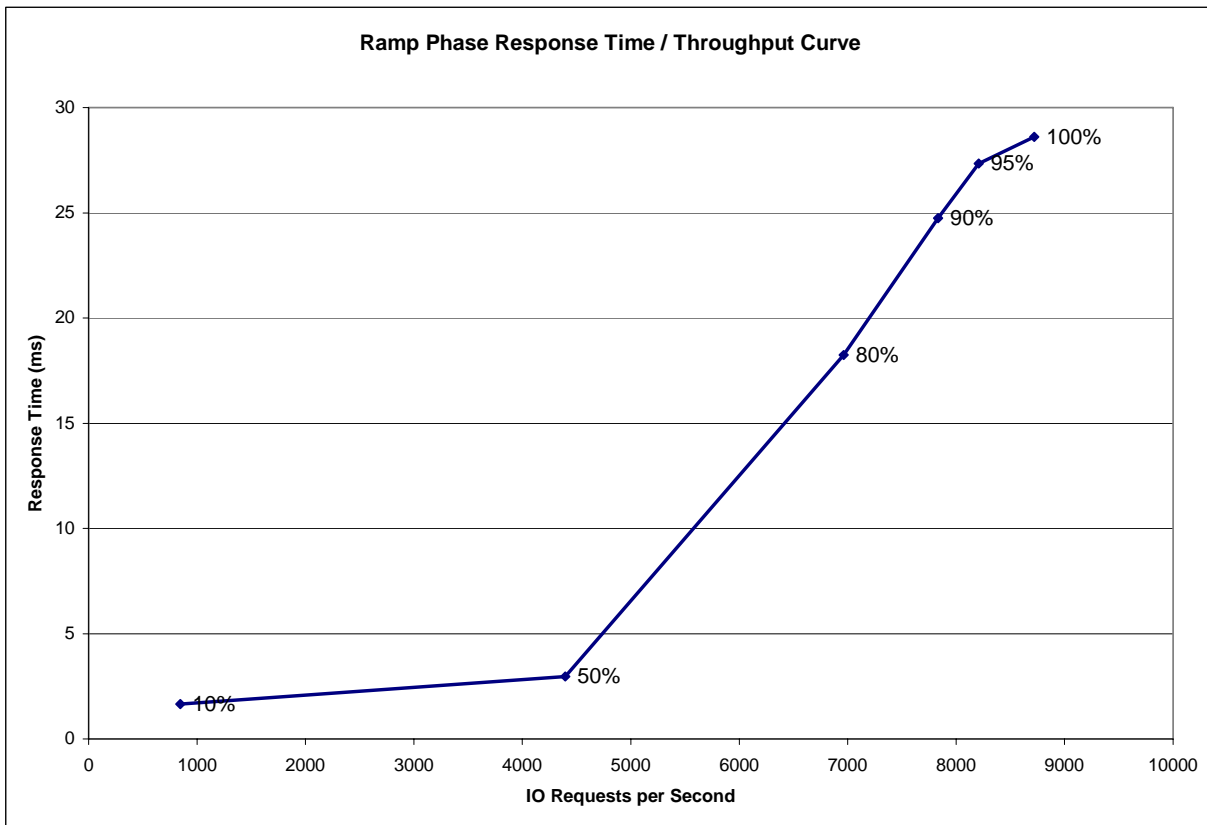
The following diagram documents the various storage capacities, used in this benchmark, and their relationships.



Response Time - Throughput Curve

The Response Time-Throughput Curve illustrates the Average Response Time (milliseconds) and I/O Request Throughput at 100%, 95%, 90%, 80%, 50%, and 10% of the workload level used to generate the SPC-1 IOPS™ metric.

The Average Response Time measured at the any of the above load points cannot exceed 30 milliseconds or the benchmark measurement is invalid.



Response Time - Throughput Data

	10% Load	50% Load	80% Load	90% Load	95% Load	100% Load
I/O Request Throughput	848.06	4,394.31	6,963.45	7,834.38	8,208.74	8,720.12
Average Response Time (ms):						
All ASUs	1.65	2.97	18.24	24.74	27.33	28.62
ASU-1	2.36	4.11	23.88	33.69	37.46	39.44
ASU-2	1.47	3.31	18.65	23.81	27.13	28.55
ASU-3	0.22	0.40	6.05	6.16	5.90	5.71
Reads	3.89	6.93	33.05	46.32	52.01	54.94
Writes	0.20	0.40	8.58	10.69	11.23	11.48

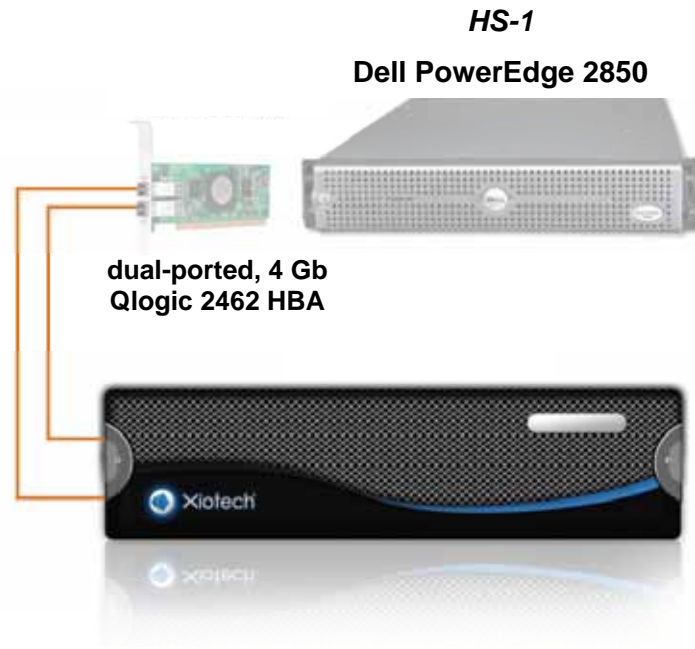
Tested Storage Configuration Pricing (*Priced Storage Configuration*)

P/N	Description	US List	Qty	Extended List Discount	Total
800861-000	Xiotech Emprise High Performance Bundle, including: <ul style="list-style-type: none"> • 1 800819-000: ISE 1401 array controller • 2 800825-000: 20 DataPac mounted 73 GB 15K FC 2.5" disk drives • 1 Xiotech MPIO driver for Windows 2003 • 1 QLogic QLA2462 4 Gb dual port FC HBA • 2 6.6 foot optical FC cables • Five year 7/24 maintenance coverage with 4-hour response and resolution. 	\$60,833	1	\$60,833 40%	\$36,500

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

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

Benchmark Configuration/Tested Storage Configuration Diagram



SC-1/SC-2

Xiootech Emprise 5000
(dual-active controllers)

2 – DataPacs each with 20 disk drives
(40 – 73 GB 15K RPM disk drives)

Benchmark Configuration/Tested Storage Configuration Components

Host System:	Tested Storage Configuration (TSC):
HS-1: Dell PowerEdge 2850	1 – dual-ported, 4Gb Qlogic 2462 HBA
2 – 3.6 GHz Xeon CPUs with 2 MB L2 cache per CPU	SC-1/SC-2: Xiootech Emprise 5000 2 – dual-active controllers each with: 512 MB cache 1 – 4 Gb Fibre Channel host connections (2 total, 2 used) 2 – 4 Gb Fibre Channel initiators (4 total, 4 used)
2 GB main memory	
Windows Server 2003 Standard Edition with SP2	
Xiootech MPIO driver, Build 280	
PCI-X	
WG	2 – DataPacs each with 20 disk drives
	40 – 73 GB 15K RPM disk drives