



**SPC BENCHMARK 1™**  
**EXECUTIVE SUMMARY**

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

**SPC-1 V1.10.1**

**Submitted for Review: April 8, 2008**  
**Submission Identifier: A00064**

**EXECUTIVE SUMMARY****Test Sponsor and Contact Information**

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**Revision Information and Key Dates**

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<b>SPC-1 Specification revision number</b>	V1.10.1
<b>SPC-1 Workload Generator revision number</b>	V2.00.04a
<b>Date Results were first used publicly</b>	April 8, 2008
<b>Date the FDR was submitted to the SPC</b>	April 8, 2008
<b>Date the TSC is available for shipment to customers</b>	will become available on
<b>Date the TSC completed audit certification</b>	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: <i>Xiotech Emprise™ 5000 (146 GB disk drives)</i>	
Metric	Reported Result
SPC-1 IOPS™	5,892.60
SPC-1 Price-Performance	\$3.53/SPC-1 IOPS™
Total ASU Capacity	1,073.742 GB
Data Protection Level	Mirroring
Total TSC Price (including three-year maintenance)	\$20,820

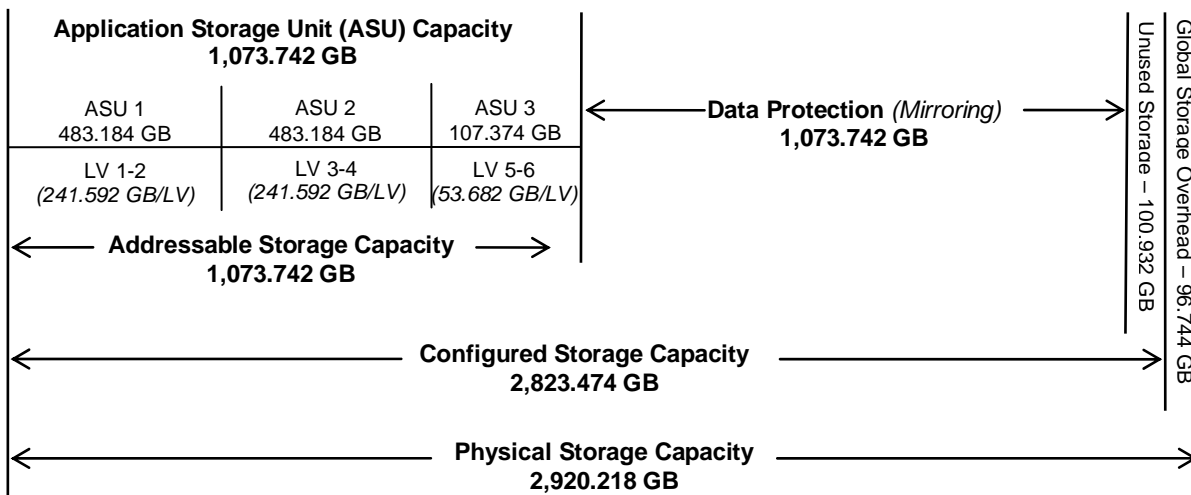
**SPC-1 IOPS™** represents the maximum I/O Request Throughput at the 100% load point.

**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

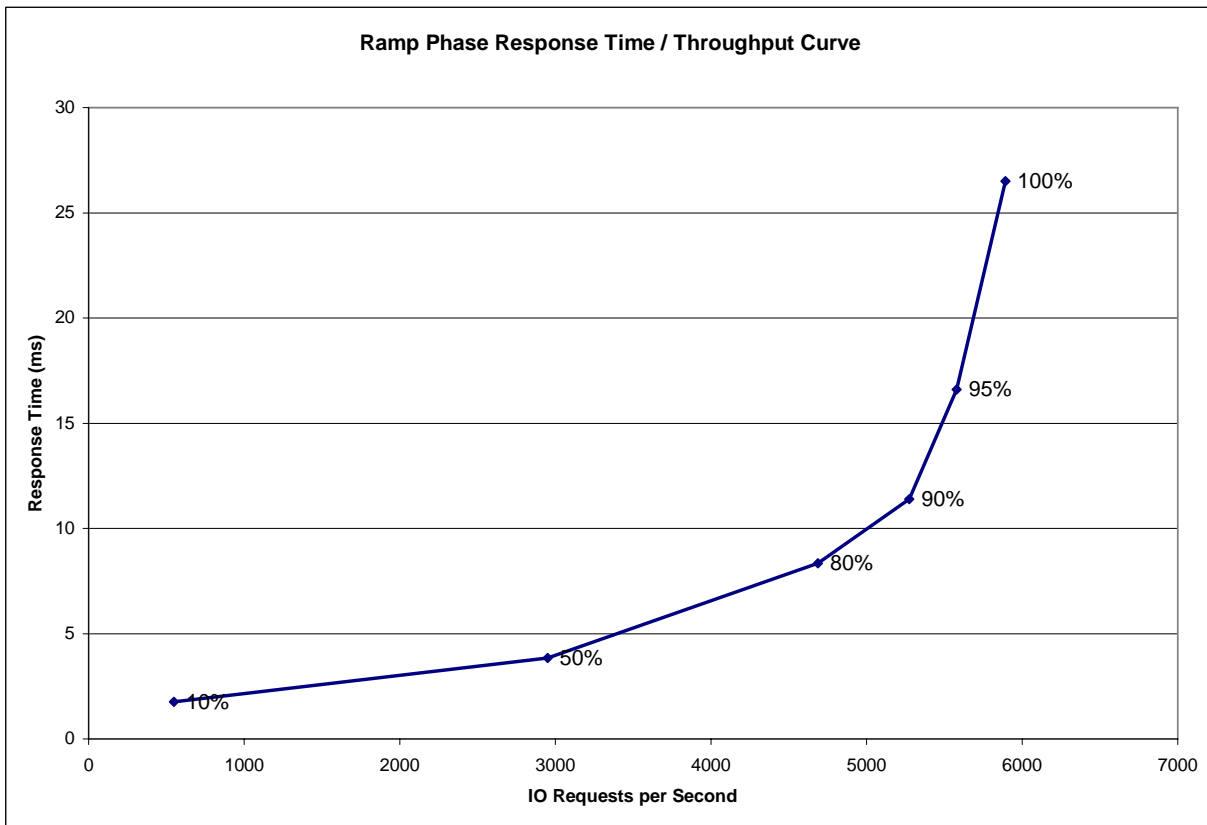
The following diagram documents the various storage capacities, used in this benchmark, and their relationships.



### 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
<b>I/O Request Throughput</b>	548.03	2,948.98	4,687.78	5,274.18	5,579.48	5,892.60
<b>Average Response Time (ms):</b>						
All ASUs	1.77	3.84	8.34	11.40	16.61	26.49
ASU-1	2.54	5.42	11.62	15.95	23.50	38.46
ASU-2	1.57	4.22	10.59	14.42	20.17	28.13
ASU-3	0.20	0.32	0.40	0.44	0.44	0.44
Reads	4.19	9.28	20.41	27.91	39.83	60.96
Writes	0.19	0.30	0.48	0.65	1.49	4.10

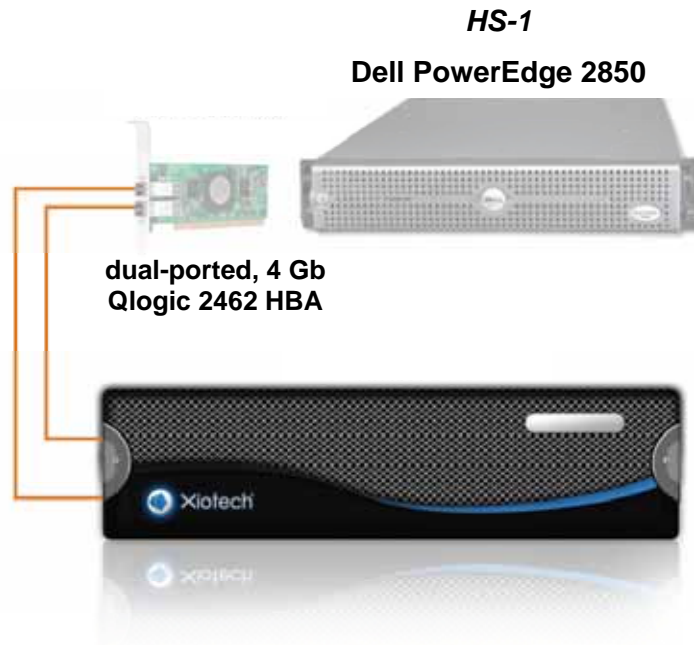
### Tested Storage Configuration Pricing (*Priced Storage Configuration*)

P/N	Description	US List	Qty	Extended List	Discount	Total
800862-000	Xiotech Emprise Performance Bundle, including: • 1 800820-000: ISE 1403 array controller • 2 800823-000: 10 DataPac mounted 146 GB 15K FC 3.5" 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.	\$34,700	1	\$34,700	40%	\$20,820

### 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**



**Benchmark Configuration/Tested Storage Configuration Components**

Host System:	Tested Storage Configuration (TSC):
<b>HS-1: Dell PowerEdge 2850</b>	1 – dual-ported, 4Gb Qlogic 2462 HBA
2 – 3.6 GHz Xeon CPUs with 2 MB L2 cache per CPU	<b>SC-1/SC-2: XioTech Emprise 5000</b> <b>2 – dual-active controllers each with:</b> 512 MB cache 1 – 4 Gb Fibre Channel host connections <i>(2 total, 2 used)</i> 2 – 4 Gb Fibre Channel initiators <i>(4 total, 4 used)</i>
2 GB main memory	
Windows Server 2003 Standard Edition with SP2	
XioTech MPIO driver, Build 280	
PCI-X	
WG	2 – DataPacs each with 10 disk drives
	20 – 146 GB 15K RPM disk drives