



SPC BENCHMARK 2™
EXECUTIVE SUMMARY

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

SPC-2™ V1.2.1

Submitted for Review: April 8, 2008
Submission Identifier: B00031

EXECUTIVE SUMMARY

Test Sponsor and Contact Information

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Revision Information and Key Dates

Revision Information and Key Dates	
SPC-2 Specification revision number	V1.2.1
SPC-2 Workload Generator revision number	V1.0
Date Results were first used publicly	April 8, 2008
Date FDR was submitted to the SPC	April 8, 2008
Date the TSC will be 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.

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				
Xitech Enterprise™ 5000 (146 GB disk drives)				
SPC-2 MBPS™	SPC-2 Price-Performance	ASU Capacity (GB)	Total Price	Data Protection Level
645.60	\$32.25	1,073.742	\$20,820	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	600.82			\$34.65
Write Only:				
1024 KiB Transfer	516.76	32	16.15	
256 KiB Transfer	514.90	32	16.09	
Read-Write:				
1024 KiB Transfer	711.24	32	22.23	
256 KiB Transfer	578.43	32	18.08	
Read Only:				
1024 KiB Transfer	755.91	32	23.62	
256 KiB Transfer	527.69	32	16.49	
<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	726.49			\$28.66
1024 KiB Transfer Size				
4 I/Os Outstanding	808.09	32	25.25	
1 I/O Outstanding	750.16	32	23.44	
64 KiB Transfer Size				
4 I/Os Outstanding	712.15	32	22.25	
1 I/O Outstanding	635.58	32	19.86	
<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
	609.49	775	0.79	\$34.16

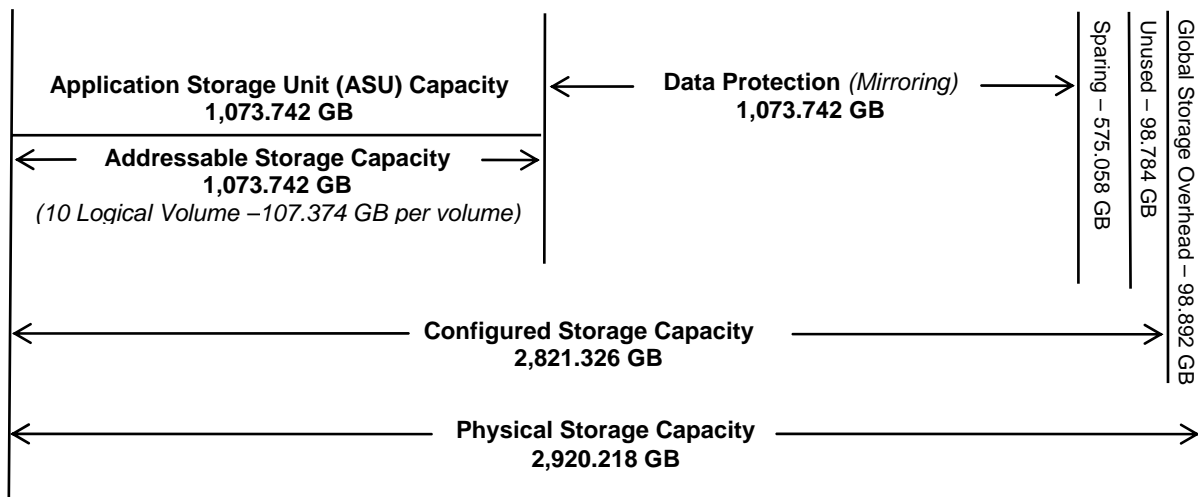
SPC-2 MBPS™ represents the aggregate data rate, in megabytes per second, of all three SPC-2 workloads: Large File Processing (LFP), Large Database Query (LDQ), and Video on Demand (VOD).

ASU (Application Storage Unit) Capacity represents the total storage capacity read and written in the course of executing the SPC-2 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.



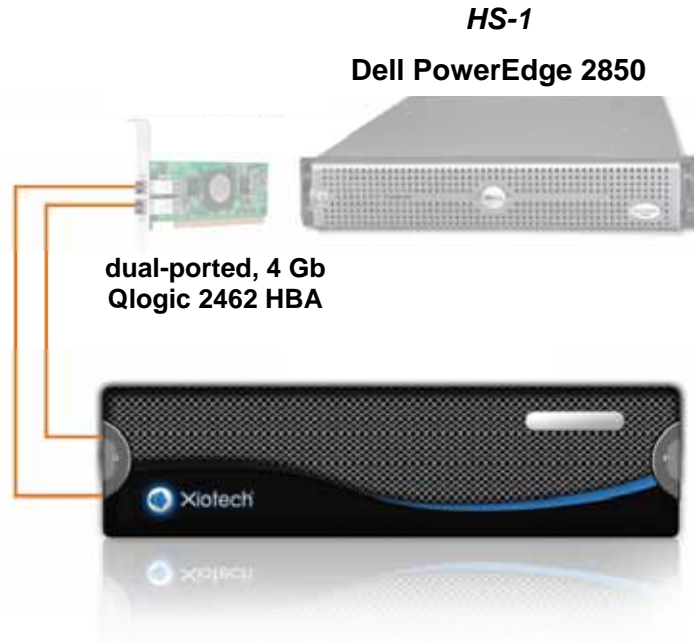
Tested Storage Configuration Pricing (*Priced Storage Configuration*)

P/N	Description	US List	Qty	Extended List Discount	Total
800862-000	Xiotech Emprise Performance Bundle, including: <ul style="list-style-type: none"> • 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



SC-1/SC-2

Xiotech Emprise 5000
(dual-active controllers)

2 – DataPacs each with 10 disk drives
(20 – 146 GB 15K RPM disk drives)

Host System(s) and 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: Xiotech 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	
Xiotech MPIO driver, Build 280	
PCI-X	
WG	2 – DataPacs each with 10 disk drives
	20 – 146 GB 15K RPM disk drives