SPC BENCHMARK 1™

EXECUTIVE SUMMARY

LENOVO
THINKSYSTEM DS4200

SPC-1 IOPS™	100,021
SPC-1 Price-Performance™	**$0.14/SPC-1 IOPS™**
SPC-1 IOPS™ Response Time	0.485 ms
SPC-1 Overall Response Time	0.325 ms
SPC-1 ASU Capacity	2,267 GB
SPC-1 ASU Price	$6.00/GB
SPC-1 Total System Price	$13,580.85
Data Protection Level	Protected 1 (RAID-10)
Physical Storage Capacity	4,800 GB
Pricing Currency / Target Country	U.S. Dollars / USA

SPC-1 V3.4.0

SUBMISSION IDENTIFIER: A32002

SUBMITTED FOR REVIEW: JULY 19, 2017

Benchmark Configuration Diagram

Lenovo x3550 M5 server
2x E5-2650 v3 (2.30 GHz, 10-Core, 25 MB)
16 GB Memory
Windows 2008 R2

Lenovo N2225 8-port
12Gb SAS HBA

Lenovo ThinkSystem DS4200
2x Controllers, each with:
- **8 GB**
- **4x 12 Gb SAS Port (SFF-8644) (front end)**
- **1x 12 Gb SAS Port (SFF-8644) (back end)**

12x 400 GB SSD

Two 12Gb SAS Cables

Tested Storage Product Description

The Lenovo ThinkSystem DS4200 SAN array is performance optimized for primary storage, remote/branch offices, virtualization and backup. Offering 2x the performance of its predecessor, the DS4200 is powered by a Rapid Data Placement Engine and provides industry-leading price/performance and scalability.

With extreme flexibility and impressive performance and capacity, the DS4200 helps you tame the storage monster. Using 3.5-inch (LFF) or 2.5-inch (SFF) HDDs and SSDs, the DS4200 supports up to 240 drives (using 9 expansion units), as well as mixing LFF and SFF enclosures in the same array. The DS4200 offers connectivity options for 12G SAS, 8/16 Gb FC and 1/10 Gb iSCSI.

The ThinkSystem DS4200 is ideal for workloads such as primary storage, virtualized resources, consolidated backup, automated disaster recovery, and other similar-sized workloads. With performance and value in mind, and equipped with enterprise-class features, the DS4200 is designed to fit your needs now and into the future.

For additional information, please visit: http://www3.lenovo.com/us/en/data-center/storage/storage-area-network/lenovo-thinksystem-ds-series/c/lenovo-thinksystem-ds-series

Priced Storage Configuration Components

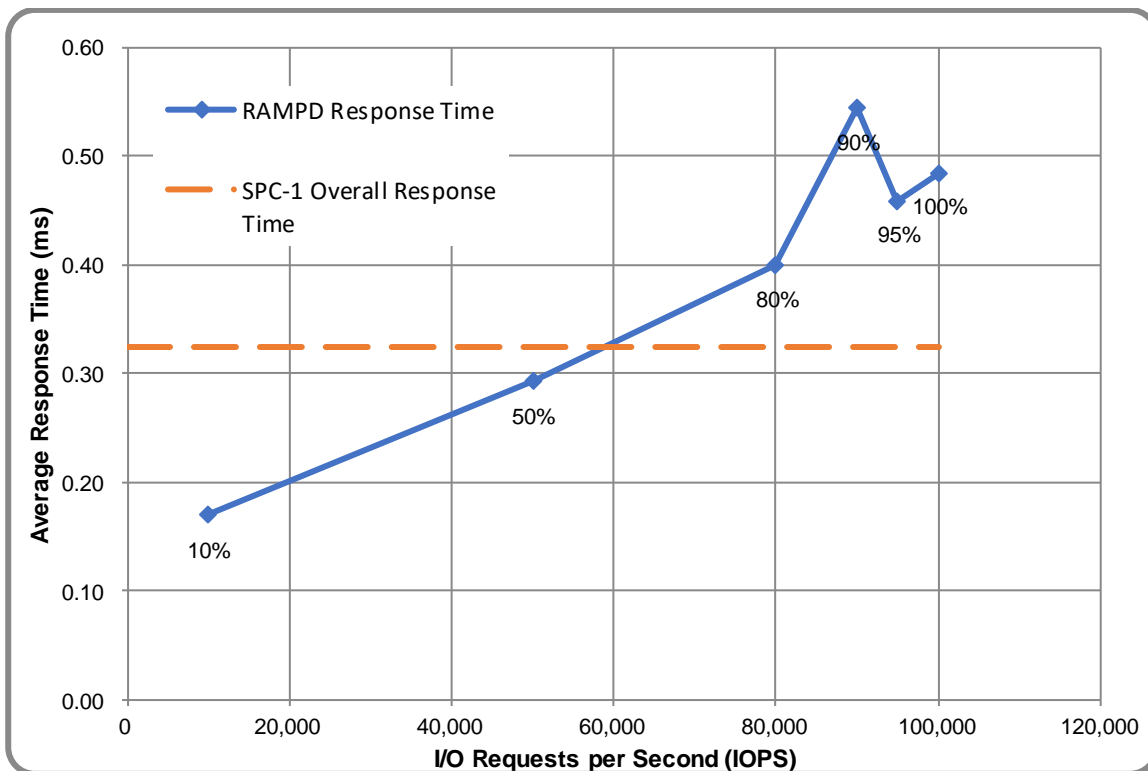| |
|---|
| **1 x N2225 SAS/SATA HBA** |
| **1 x ThinkSystem DS4200, with:**
        2 x Storage Controllers
                8GB cache (16 GB total)
                4 x 12 Gb SAS Front End Ports
                1 x 12 Gb SAS Back End Connection
        12 x 400 GB SSD |

Storage Configuration Pricing

Part No.	Description	Qty	Unit Price	Ext. Price	Disc.	Disc. Price
Hardware						
4617A21	Lenovo ThinkSystem DS4200 SFF SAS Dual Cont	1	8,279	8,279	45%	4,553.45
01DC482	400GB 3DWD 2.5" SAS SSD	12	1,499	17,988	55%	8,094.60
00YL847	0.5M External MiniSAS HD 8644/MiniSAS HD 8	2	49	98	45%	53.90
00AE912	N2225 12Gb SAS/SATA HBA	1	299	299	45%	164.45
					Hardware Subtotal	12,866.40
Support & Maintenance						
01JR528	3YR Technician Installed Parts 24x7 4 Hour Re	1	1,299	1,299	45%	714.45
					Support & Maintenance Subtotal	714.45
		SPC-1 Total System Price				13,580.85

Discount Details: The discounts shown are based on the storage capacity purchased and are generally available.

Availability Date: July 20, 2017.

Response Time and Throughput Graph

Contact Information	
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Revision Information	
SPC Benchmark 1™ Revision	V3.4.0
SPC-1 Workload Generator Revision	v 3.0.2
Publication Revision History	Initial Publication