



# Lenovo ThinkSystem DS Series Storage: #1 Price/Performance SPC-1 v3 Benchmark Performance Benchmark Result (withdrawn product)

Lenovo recently announced the new ThinkSystem DS Series SAN storage and immediately changed the storage economics in the industry. Lenovo has now delivered the #1 world-wide price/performance benchmark from the Storage Performance Council (SPC) which builds on Lenovo's number one position in customer satisfaction and server reliability for x86 servers, as well as the recently achieved forty-two #1 server benchmarks.



Figure 1. ThinkSystem DS4200

The new Lenovo ThinkSystem DS Series is #1 in price/performance, measured in \$/IOP, and is #8 in overall performance. Both results are measured using the widely recognized SPC-1 v3 benchmark. This performance benchmark is an essential proof point of the value of Lenovo Storage to support entry to mid-range customers who need maximum IOPS and high availability with outstanding value.

The #1 price/performance result is documented on the [Storage Performance Council's web site](#).

## Benchmark configuration

The following table shows the all-flash array configuration used to obtain the #1 benchmark result.

Table 1. Benchmark configuration

| Description  | Part number | Quantity |
|--|-------------|----------|
| Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit | 4617A21     | 1        |
| 400GB 3DWD 2.5" SAS SSD                                | 01DC482     | 12       |
| External MiniSAS HD 8644/MiniSAS HD 8644 0.5M Cable    | 00YL847     | 2        |
| N2225 SAS HBA  | 00AE912     | 1        |
| 3YR Technician Installed Parts 24x7 4 Hour Response    | 01JR528     | 1        |

## Industry leading innovation

This benchmark result confirms that ThinkSystem DS Series is the #1 Price/Performance offering for Storage in the industry. For customers who are looking to get the most performance for every dollar they spend, the ThinkSystem DS Series storage arrays deliver the best return on investment.

The benefits of All Flash Arrays do not have to cost more. Lenovo's leadership price performance using rigorous standardized benchmark testing demonstrates that performance can be affordable.

## About ThinkSystem DS Series

The ThinkSystem DS Series SAN products are most suited to Small-to-medium businesses (SMB) and to Enterprise customers, and are ideal for databases, backup & archive, media streaming and departmental high-performance computing (HPC) and OpenStack.

The DS Series comes in 3 performance levels, the DS2200, DS4200, and DS6200 and is ideal for large enterprises, remote/branch office, and small/medium business.

Each system features Rapid Technology which includes:

- Rapid Deployment, which lets you set the storage array up in less than 15 minutes
- Rapid Tier, which allows automatically moving data every 5 seconds
- Rapid RAID Rebuild
- Rapid Data Placement Engine, which optimizes performance

To learn more about the ThinkSystem DS Series products, visit the [Lenovo ThinkSystem DS Series product web page](#).

## About Storage Performance Council

Storage Performance Council (SPC) is a non-profit corporation founded to define, standardize and promote storage benchmarks and to disseminate objective, verifiable storage performance data to the computer industry and its customers.

The SPC-1 benchmark is a true appraisal of enterprise storage performance and measures total IOPS, price-performance (cost per IOPS), and total cost of ownership (which includes three years of warranty support).

SPC-1 consists of a single workload designed to demonstrate the performance of a storage subsystem while performing the typical functions of business critical applications. Those applications are characterized by predominately random I/O operations and require both queries as well as update operations. Examples of those types of applications include OLTP, database operations, and mail server implementations.

SPC-1 version 3 retains the core capabilities and requirements of SPC-1 version 1, but includes support for data deduplication, and data compression, in addition to refining some of the workload attributes to bring the benchmark more in-line with modern storage system workloads.

## Learn more

To learn more about the benchmark result:

- [SPC-1 Results - Top 10 by Price-Performance](#)
- Lenovo result:
  - [Executive summary](#)
  - [Full Disclosure Report](#)

To learn more about the DS Series storage arrays:

- [DS Series product web page](#)
- [Lenovo Press product guide for the DS2200](#)
- [Lenovo Press product guide for the DS4200](#)
- [Lenovo Press product guide for the DS6200](#)

## Related product families

Product families related to this document are the following:

- [DS Series Storage](#)
- [Lenovo SAN Storage](#)
- [SPC-1 Benchmark Results](#)
- [Storage Benchmarks](#)

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