

Dell PowerStore 9500 outperformed competition in storage performance and density

In Principled Technologies testing, a Dell PowerStore 9500 achieved better IOPS, latency, and storage efficiency than a comparable all-NVMe competitor

ROUND ROCK, TX, UNITED STATES, May 19, 2026 /EINPresswire.com/ -- As AI, analytics, IoT, and IT transformation accelerate the rates of enterprise data growth, many IT leaders are prioritizing scalable, high-performance storage platforms that can keep pace. A new independent study from Principled Technologies (PT) compares two current-generation, all-NVMe enterprise storage arrays. In the study, the Dell PowerStore 9500 delivered clear advantages in performance, latency, storage density, and efficiency over a competing array the report refers to as "Vendor A."

The study evaluated storage performance and capacity efficiency using identical benchmark configurations to help organizations assess modern, modular storage architectures designed for data-intensive workloads.

Key findings from Principled Technologies

Based on Vdbench block tests and data reduction testing with a controlled dataset, Principled



Principled Technologies®

A Principled Technologies report: Hands-on testing. Real-world results.

- Handle more database activity**
Up to 2.33x the IOPS performance on a workload simulating enterprise OLTP workloads with analytics¹
- Process data requests faster**
Up to 63.94% lower latency²
- Maximize storage efficiency by packing more usable capacity into less space**
2.39x the data reduction ratio: 6.6:1 vs. 2.76:1³
Up to 11% more drives per RU⁴

Increase performance, lower latency, and store data more efficiently with the Dell PowerStore 9500 array

Compared to a similar array from a competitor, the Dell array can boost application responsiveness, accelerate transactions, and help you maximize precious rack space

Executive summary

Recent industry summaries based on International Data Corporation findings indicate that enterprise data volumes are doubling roughly every two years on average, driven by AI, IoT, and digital transformation initiatives.¹ A core reality for IT leaders is that data growth is exponential and accelerating. This rapid data expansion is a primary driver behind increased investment in scalable, high-performance storage.

Principled Technologies compared a Dell™ PowerStore™ 9500 array and a current-generation all NVMe® array from Vendor A using Vdbench workloads that simulate enterprise online transaction processing (OLTP) with analytics and database activity. In our hands-on testing, the PowerStore 9500 delivered higher input/output operations per second (IOPS), lower latency, and more efficient data reduction than the Vendor A array.

With a Dell PowerStore 9500 storage array, enterprises can increase storage performance while maintaining fast response times and maximizing storage density.

Increase performance, lower latency, and store data more efficiently with the Dell PowerStore 9500 array May 2026

Increase performance, lower latency, and store data more efficiently with the Dell PowerStore 9500 array

Technologies found that the PowerStore 9500 solution:

1. Handled more input/output operations per second (IOPS) on six I/O profiles simulating the I/O of typical online transaction processing (OLTP) workloads with analytics.
2. Delivered shorter response times than the Vendor A solution on the same OLTP I/O profile.
3. Needed less rack space.
4. Used less storage capacity to store the same amount of data.

These results highlight the PowerStore 9500 array's ability to support higher consolidation ratios while reducing physical footprint and operational overhead.

Independent analysis confirms enterprise benefits

According to the PT report, [SV1.1]“The Dell PowerStore 9500 delivers a compelling combination of strong performance, low latency, and high data density that addresses the demands of modern, data-intensive enterprises. Based on the Vdbench comparisons in this report, the Dell PowerStore array consistently outperformed Vendor A across OLTP with analytics workload profiles, while also reducing response times and requiring less physical capacity to store equivalent data.”

The report notes that these advantages translate into tangible outcomes for IT organizations, including faster transaction processing, improved user experience, higher VM and database density, reduced rack footprint, and greater flexibility to support emerging workloads such as analytics and AI.

Meeting the challenge of accelerating data growth

To stay ahead of growing enterprise data volumes, organizations must adopt storage platforms that combine performance, efficiency, and scalability without increasing infrastructure complexity. The Dell PowerStore 9500 is designed to help enterprises meet these demands with always-on data reduction, non-disruptive upgrades, and high-density NVMe storage in a compact footprint.

Frequently asked questions

What tests did Principled Technologies run?

PT ran identical Vdbench block tests on both arrays, measuring:

- IOPS on an OLTP with analytics workload profile (OLTPA.vdb)
- Latency at matched target IOPS
- Data reduction using a controlled dataset

Increase performance, lower latency, and store data more efficiently with the Dell PowerStore 9500 array
Compared to a similar array from a competitor, the Dell array can boost application responsiveness, accelerate transactions, and help you maximize precious rack space.

We ran multiple Vdbench tests on two current-generation all-NVMe storage arrays: a Dell PowerStore 9500 array and a comparable array from a company we call Vendor A.

Handle more database activity

2.33x the IOPS performance¹
on a workload simulating enterprise OLTP workloads with analytics (higher is better)

Dell PowerStore 9500	838,158 IOPS
Vendor A	359,437 IOPS

Process data requests faster

63.94% better latency²
0.44ms Dell PowerStore 9500 vs 1.22ms Vendor A
(lower is better)

Pack more usable capacity into less space

Data reduction ratio of 6.6:1 vs. 2.26:1³
(higher is better)

Dell PowerStore 9500	6.6:1
Vendor A	2.26:1

Up to 11% more drives per RU⁴

With a Dell PowerStore 9500 storage array, enterprises can increase storage performance while maintaining fast response times and maximizing storage density.

1. Vdbench OLTP with analytics performance test.
2. Latency with a range of 10000 IOPS in a workload with mixed I/O rates.
3. Data reduction ratio measured by the test setup with a dataset with 2:1 compression, 2:5:1 deduplication, and 80% deduplication with 4MB files.
4. The Dell PowerStore array has 40 drives in 3 RUs. Vendor A has 48 drives in 4 RUs.

To learn more, read the report.

Principled Technologies

Copyright © 2024 Principled Technologies, Inc. Based on Vdbench performance tests. Dell, Dell logo, and other trademarks are the property of Dell Technologies Corporation. All other trademarks are the property of their respective owners.

Infographic

Do these results apply to other workloads?

Strong I/O performance on an OLTP benchmark can suggest a system is well-optimized for handling high-throughput, latency-sensitive operations, which may translate to solid performance on other workloads. However, this is not guaranteed, as different workloads can stress entirely different subsystems, access patterns, and resource bottlenecks.

What are the key hardware and density differences?

The Dell PowerStore 9500 has a compact 3U chassis that fits 40 E3 drives (E3.S NVMe SSDs), supports up to 5 PB per appliance at 5:1 DRR, and offers always-on data reduction and modular, non-disruptive upgrades.

The Vendor A appliance PT tested in this study includes 32 x 3.49TiB drives (~90 TiB available), 16 x 64GB Fibre Channel ports, and PCIe Gen 5 slots.

Learn more

For an overview of the benchmark results, [check out the Principled Technologies infographic](#).

To explore the full benchmark results and learn how the Dell PowerStore 9500 all-NVMe storage array can help reduce total cost of ownership while supporting modern enterprise workloads, [read the complete Principled Technologies report](#).

About Principled Technologies

Principled Technologies, Inc. is the leading provider of technology marketing and learning & development services.

Principled Technologies, Inc. is located in Durham, North Carolina, USA. For more information, please visit www.principledtechnologies.com.

Sharon Horton

Principled Technologies, Inc.

press@principledtechnologies.com

This press release can be viewed online at: <https://www.einpresswire.com/article/913498100>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.