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.”

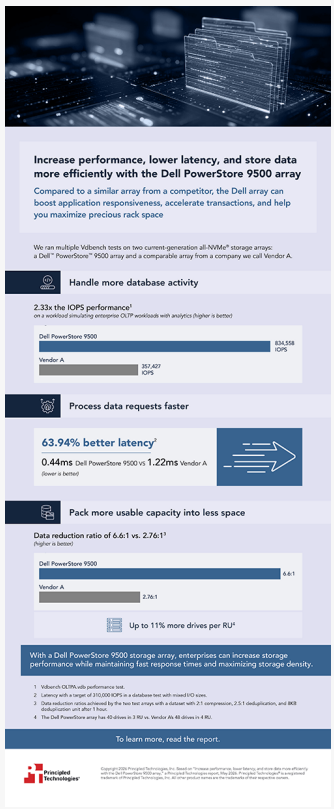
Increase performance, lower latency, and store data more efficiently with the Dell PowerStore 9500 array

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

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.



Infographic

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

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.

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