

---

## DELL POWERSTORE PRIME + POWERSTORE 3200Q

---

STEVE MCDOWELL, CHIEF ANALYST  
MAY 20, 2024

### CONTEXT

---

Dell Technologies announced its [new PowerStore Prime](#) solutions at the 2024 Dell Technologies World. PowerStore Prime combines cutting-edge all-flash storage technology with strategic business enhancements designed to address the rapidly evolving needs of modern enterprises.

Let's take a look at what Dell announced.

### BACKGROUND: WHAT'S POWERSTORE?

---

Dell PowerStore, part of Dell Technologies' storage solutions, is the over-arching experience brand for its all-flash enterprise storage environment, including the operating system for PowerStore storage appliances, the associated long-term support programs, and multi-cloud capabilities.

At a high level, PowerStore includes:

1. **All-Flash Storage Architecture:** PowerStore uses all-flash storage, which ensures high-speed data access, lower latency, and improved performance compared to traditional disk-based storage systems.
2. **Container-Based Architecture:** PowerStore is built on a container-based architecture, allowing greater flexibility and scalability. This design also supports deploying applications directly on the device, enhancing efficiency and reducing latency.
3. **Data-Centric Design:** It provides enterprise-level data services, extensive protocol support, and the ability to host business applications directly on the appliance for optimal data processing speed.
4. **Adaptive Scaling:** PowerStore can scale up by adding capacity within an appliance or scale out by adding more appliances.
5. **Advanced Data Reduction Technologies:** PowerStore incorporates built-in deduplication and compression.

6. **Anytime Upgrade Program:** Dell offers a flexible upgrade model where customers can upgrade their PowerStore appliances to newer models or enhanced configurations without major hardware replacements or downtime.
7. **Automation and Machine Learning:** The system uses built-in machine learning capabilities to automate complex tasks, optimize system performance, and predict future storage needs.
8. **Multicloud Support:** PowerStore supports integration with various cloud environments, facilitating hybrid cloud configurations and seamless data mobility across on-premises and cloud platforms.

---

## POWERSTORE PRIME

---

At the 2024 Dell Technologies World, Dell added new attributes and features to PowerStore, while also renaming it PowerStore Prime.

Here's what PowerStore Prime delivers:

1. **Enhanced Performance:** PowerStore Prime's latest version, PowerStore 4.0, introduces significant performance improvements. Dell promises to include up to 30% more input/output operations per second (IOPS), 20% lower latency, and support for twice as many volumes as previous models. These enhancements are available through no-cost software upgrades, and existing PowerStore models can also see a performance boost of up to 66% with a data-in-place controller upgrade.
2. **Advanced Data Protection:** PowerStore Prime includes comprehensive data protection features such as synchronous and asynchronous replication, local and remote backup options, and a native Metro Volume that supports active/active configurations.
3. **Multicloud Integration:** The platform enhances its multicloud capabilities, allowing seamless data mobility between on-premises environments and the cloud. It integrates with Dell's APEX Block Storage and supports the migration of workloads to and from the cloud, including multi-hop OS conversions for workload modernization.
4. **Financial Flexibility:** PowerStore Prime offers flexible financial options such as the APEX subscription model, which allows organizations to pay for storage capacity every month, tailoring expenses to actual usage. Dell's 5:1 Data Reduction Guarantee also assures effective management and reduction of data storage costs.
5. **Smart System Management:** PowerStore Prime introduces a new AIOps Assistant and Universal Import to facilitate easier management and integration of PowerStore systems into existing IT landscapes. These tools help streamline

operations and accelerate results by leveraging artificial intelligence for operational tasks.

---

## QLC-BASED POWERSTORE 3200Q

---

Dell introduced its first QLC-based PowerStore with the PowerStore 3200Q.

Key Features of the PowerStore 3200Q include:

1. **High Storage Density:** Utilizes 15.36TB NVMe drives based on QLC (quad-level cell) technology, which allows for storing more data per cell and offers higher storage density.
2. **Scalability:** The system can expand from 11 to 93 drives in single-drive increments, enabling scalable storage solutions that grow with the organization's data requirements.
3. **High Effective Capacity:** Capable of achieving more than 24PB of effective capacity in a 4-way cluster configuration, suitable for large-scale data storage needs.
4. **Performance:** Although it uses QLC SSDs, which are typically slower than TLC SSDs, the 3200Q still delivers robust performance suitable for various workloads, supported by NVMe technology to enhance speed and reduce latency.
5. **Cost Efficiency:** The adoption of QLC SSDs significantly reduces the cost per terabyte, making it an economical option for extensive storage requirements without compromising performance.
6. **Operating System:** Runs on PowerStore OS v4.0, which offers improvements in NVMe performance and scalability, advanced data reduction technologies, and an intuitive management interface.
7. **Multi-Protocol:** Supports block, file, and vVol storage protocols, making it versatile for different enterprise storage needs.
8. **Ideal Use Cases:** Best suited for applications that require large data capacity and cost-effective storage solutions, such as media and entertainment, surveillance, or big data analytics.

---

## ANALYSIS

---

Dell has been lacking a QLC-based solution, allowing nearly every one of its direct competitors to bring such a solution to market. The introduction of the new PowerStore 3200Q closes a significant gap in Dell's portfolio.

Likewise, the rest of the announcements around PowerScale Prime address shortcomings in Dell's offerings, bringing an increased level of competitiveness to the

storage giant. If not ground-breaking, Dell delivers a solid set of offerings that will please its customers and serve to keep Dell atop the storage mountain.



© Copyright 2024 NAND Research.

NAND Research is a registered trademark of NAND Research LLC, All Rights Reserved.

This document may not be reproduced, distributed, or modified, in physical or electronic form, without the express written consent of NAND Research. Questions about licensing or use of this document should be directed to [info@nand-research.com](mailto:info@nand-research.com).

The information contained within this document was believed by NAND Research to be reliable and is provided for informational purposes only. The content may contain technical inaccuracies, omissions, or typographical errors. This document reflects the opinions of NAND Research, which is subject to change. NAND Research does not warranty or otherwise guarantee the accuracy of the information contained within.

NAND Research is a technology-focused industry analyst firm providing research, customer content, market and competitive intelligence, and custom deliverables to technology vendors, investors, and end-customer IT organizations.

Contact NAND Research via email at [info@nand-research.com](mailto:info@nand-research.com) or visit our website at [nand-research.com](http://nand-research.com).