Dell Technologies Unveils Infrastructure Innovations Built to Power Modern AI-Ready Data Centers

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- Dell introduces innovations across its industry-leading infrastructure portfolio to help customers accelerate their data center modernization journeys
- Server, storage and data protection advancements help customers easily meet the needs of traditional and modern workloads with improved performance, efficiency and scalability

ROUND ROCK, Texas--(BUSINESS WIRE)--Apr. 8, 2025-- Dell Technologies (NYSE: DELL) introduces advancements across its industry-leading server, storage and data protection portfolios designed to help organizations achieve data center modernization.

Why It Matters:

Organizations are rethinking their IT strategies to respond to the rise of AI, the need to support both traditional and modern workloads and increased cyber threats. IT teams are moving toward disaggregated infrastructure that abstracts compute, storage and networking into shared resource pools to deliver improved scalability, efficiency and adaptability.

Dell Technologies server, storage and data protection innovations are designed to help customers rethink their IT infrastructure approach to better meet the needs of traditional and modern workloads.

Dell PowerEdge servers deliver advanced performance, energy efficiency and scalability

Dell PowerEdge R470, R570, R670 and R770 servers with Intel Xeon 6 Processors with P-cores are single and double-socket servers in 1U and 2U form factors that easily handle demanding traditional and emerging workloads like HPC, virtualization, analytics and AI inferencing:

- **Improves Workload Consolidation:** Consolidate legacy platforms, freeing up power and up to 80% of space per 42U rack with the Dell PowerEdge R770. These systems save up to half of the energy costs and greenhouse gas emissions, and support up to 50% more cores per processors[1] and 67% increased performance.[2] This reduces data center footprints to help achieve sustainability goals and lower overall total cost of ownership without sacrificing performance.
- **Delivers Extreme Power with Efficiency:** The powerful and efficient Dell PowerEdge R570 achieves record-breaking Intel performance per watt, helping enterprises save on energy costs while maintaining high performance workloads.[3]
- **Future-Ready Designs:** Simplify and future-proof operations with the Data Center – Modular Hardware System (DC-MHS) architecture, as part of the Open Compute Project (OCP). DC-MHS standardizes server design, supporting easier integration into existing infrastructure, improving customer choice.
- **Streamlined management:** PowerEdge servers deliver streamlined management and robust protection through Dell OpenManage enhancements and Integrated Dell Remote Access Controller (IDRAC 10) updates, including real-time monitoring. When paired with PERC13 PCIe Gen 5 HW Raid controller, customers can see up to a 33X reduction in write latency.[4]

Dell PowerStore boosts performance and security while simplifying data management

Dell PowerStore's intelligent software design delivers an automated, highly programmable platform with advanced data reduction and independently scalable storage services suited to the needs of modern disaggregated architectures. PowerStore's latest software release delivers:

- **AI-Powered Analytics:** Reduce cost and eliminate manual effort with Smart Support alerts and remediation, performance headroom analytics and carbon footprint forecasting using Dell AIOps (formerly CloudIQ) software.
- **Enhanced Zero-Trust Security:** Control access and boost availability with DoD smart card authentication support, automated certificate renewal and enhanced Storage Direct Protection integrations that deliver up to 4X faster backup restores[5] plus support for the latest Dell PowerProtect systems.
- **Advanced File System Support:** Enhance system performance with advanced file management capabilities, robust data protection with secure file snapshots, capacity insights for smarter storage planning and streamlined migration from Dell Unity systems.

The next generation of Dell ObjectScale drives improved performance and scale

Dell introduces the next generation of Dell ObjectScale, the industry's highest-performing object platform. [6] Dell ObjectScale delivers massive scalability, performance and efficiency for AI workloads. Dell is modernizing the enterprise-grade architecture of ObjectScale and introducing new all-flash and HDD appliance options to provide:

- **Fast Object for AI:** Innovate faster with the industry-leading AI workload performance of ObjectScale XF960, delivering up to 2X greater throughput per node than the closest competitor[7] and up to 8X greater density than previous-generation all-flash systems.[8]

- **Accelerate Modern Workloads:** HDD-based Dell ObjectScale X560 accelerates key workloads like media ingest, backups and AI model training with 83% faster read throughput.[9]
- **Extreme Efficiency and Resiliency:** Easily operate and secure AI data lakes with multi-site federation, copy-to-cloud, geo-replication, global namespace and data governance capabilities, backed by a new hybrid cloud solution powered by ObjectScale, developed in collaboration with Wasabi.

Dell PowerScale innovations unlock the power of AI data

Dell PowerScale's scale-out architecture makes it ideal to use as the backbone for modern AI-driven operations. Advancements improve performance-per-terabyte, enhance data center floorspace utilization and balance affordability with performance to optimize TCO.

- **High Density All-Flash Storage:** 122TB SSDs maximize GPU utilization with up to 6 PBs[10] of high-speed data access in a single 2U node configuration and deliver leading performance density to meet massive AI throughput requirements.
- **Hybrid and Archive Nodes:** PowerScale A & H series nodes (H710, H7100, A310, A3100) deliver reduced latency and improved performance with a refreshed compute module for HDD-based platforms. Customers can future proof their data centers and retain AI training data longer with a flexible, TCO-optimized portfolio mix to improve accuracy and efficiency.

Dell PowerProtect improves cyber resilience with greater performance and efficiency

Dell, the industry leader in purpose-built backup appliances[11], introduces data protection updates designed to help customers strengthen their cyber resilience while controlling costs with enhanced performance, security and efficiency:

- **Scalable and Efficient Data Protection for All:** Dell PowerProtect DD6410, with a capacity of 12 TB to 256 TB, is ideal for commercial, small business and remote site environments. It delivers up to 91% faster restores and scalability for traditional and modern workloads plus efficient operations with industry-leading up to 65X deduplication.[12]
- **All-Flash Performance and Efficiency:** Dell PowerProtect All-Flash Ready Node, the first step in Dell's all-flash data protection journey, delivers more secure and efficient data protection with a 220 TB capacity system that offers over 61% faster restore speeds, uses up to 36% less power, and features a 5X smaller footprint.[13]
- **Strengthened Enterprise Resiliency:** PowerProtect Data Manager updates help customers quickly identify security risks with Anomaly Detection, manage Microsoft Hyper-V and Red Hat OpenShift Virtualization virtual machine backups and easily archive data to Dell ObjectScale for long-term retention.

Perspectives:

"Modern applications require a new breed of infrastructure that will help customers keep pace with everchanging data center demands," said Arthur Lewis, president, Infrastructure Solutions Group, Dell Technologies. "From storage to servers to networking to data protection, only Dell Technologies provides an end-to-end disaggregated infrastructure portfolio that helps customers reduce complexity, increase IT agility and accelerate data center modernization."

"Organizations are refocusing their IT strategies to take a disaggregated approach to infrastructure that improves resource management and simplifies management complexity," said Simon Robinson, principal analyst, Enterprise Strategy Group, now part of Omdia. "Dell Technologies is delivering updates across its infrastructure portfolio designed to help customers easily overcome these challenges so that they're ready to manage any workload."

Availability

- Dell PowerEdge R470, R570, R670 and R770 servers featuring Intel Xeon 6 Processors with P-cores and E-cores are available now.
- Dell PowerStore software updates are available now.
- Dell ObjectScale is available now as a software update for current Dell ECS environments.
- HDD-based ObjectScale X560 will be available in April 2025.
- All-Flash ObjectScale appliances will be available beginning in Q3 CY2025.
- Dell PowerScale HDD-based nodes will be available in June 2025.
- Dell PowerScale with 122TB drives will be available in May 2025.
- Dell PowerProtect DD6410 and All-Flash Ready Node will be available in April 2025.
- Dell PowerProtect Data Manager updates are available now.

Additional resources

- Connect with Dell on X and LinkedIn
- Blog: Rapidly Evolve Business Operations with PowerEdge Rack Servers
- Blog: The Future of IT Runs on Smarter Storage
- Blog: ObjectScale.Next: Redefining Performance and Scale for the AI Era
- Blog: Futureproof Your Data Center with PowerScale Innovations
- Blog: The Cyber Resilient Data Center in the Age of AI

About Dell Technologies

Dell Technologies (NYSE: DELL) helps organizations and individuals build their digital future and transform how they work, live and play. The company provides customers with the industry's broadest and most innovative technology and services portfolio for the AI era.

1. Based on Dell analysis comparing the SPECint and SPECFP scores of the Dell PowerEdge R770 with Intel 6th Gen Xeon SP 6787P (1550 and 1560) with the same scores for an Intel Xeon 8280 in a Dell PowerEdge R740XD (375 and 296). The ratio of the scores shows that 5 of the R740xd servers would give a total score similar to that for the single R770 as configured above. The Energy costs and green house gases are calculated from EIPT tool- https://dell-ui-eipt.azurewebsites.net/#/. Actual performance will vary. Spec Results submitted on March 10, 2025, done in Dell Perf labs.
2. Based on Dell testing with Servers at Dell Performance Labs on March 10 2025 for Dell PowerEdge R770 with Intel 6th Gen Xeon SP 6787P (86 cores) with CPU INT Rate Base of 1550 as compared to R760 with 5th gen 8592+ (64 cores) score 1070 and compared to R760 with 4th gen Intel xeon SP 8480+ (56 cores) score of 976.
3. Based on Dell testing with Servers at Dell Performance Labs and publicly available performance results submitted on https://www.spec.org/power_ssj2008/results/ on March 10 2025 for Dell PowerEdge R570 with Intel 6th Gen Xeon SP 6787P (86 cores) which achieved average Perf/watt 21,089 as compared to all submissions on 2U, 1 Socket with 6787P CPU.
4. Based on Dell and Broadcom testing on PowerEdge R770 with Intel Xeon 6th Gen CPU, for System Responsiveness, the Write latency has been reduced from over 200 microseconds to just 6 microseconds, a 33x improvement that directly impacts application performance. Actual results may vary.
5. Based on internal testing of restore performance using Storage Direct Protection between PowerStore 5200T and DD6900.
6. Based on Dell internal analysis of publicly available data as of Mar. 2025. Dell performance is based on large object read throughput per node and cluster configurations configured with ObjectScale XF960 and Ethernet networking. Actual results may vary.
7. Based on Dell internal analysis of publicly available data as of Mar. 2025. Dell performance is based on large object read throughput per node and cluster configurations configured with ObjectScale XF960 and Ethernet networking. Actual results may vary.
8. Based on Dell analysis comparing highest planned drive capacity options on ObjectScale XF960 compared to available drive capacity options on ECS EXF900, Mar. 2025.
9. Based on Dell analysis comparing ObjectScale X560 with 4.0 to ECS EX500 with 3.8 for small-object reads, Mar. 2025. Actual results may vary.
10. Based on effective capacity analysis considering data reduction on an appropriately configured cluster with 122TB SSDs (Releasing May 28th, 2025). PowerScale also guarantees a 2:1 Data reduction ratio, See terms and conditions for details at: dr-guarantee-tc-powerscale.pdf (delltechnologies.com)
11. Based on revenue from the IDC 4Q24 Purpose-Built Backup Appliance (PBBA) Tracker.
12. Based on Dell internal testing comparing a PowerProtect DD6410 appliance vs. a PowerProtect DD6400 appliance.
13. Based on Dell internal testing comparing a PowerProtect Data Domain All-Flash Ready Node vs. a PowerProtect DD6410 appliance, February 2025. Actual results may vary.

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