DELLTechnologies

Dell Technologies Powers AI and Edge Computing with Next Generation PowerEdge Servers

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New Dell EMC PowerEdge portfolio delivers optimized systems for businesses' demanding workloads and accelerates the path to autonomous computing

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News summary

- Dell Technologies refreshes Dell EMC PowerEdge portfolio with 17 next-generation servers, enabling companies to analyze and take action on data wherever it resides
- New Dell EMC PowerEdge XE8545 and R750xa deliver accelerator-optimized performance to help businesses tackle their most data-intensive workloads
- From manufacturing to end of life, enhanced security and cyber-resilient innovations protect servers through their full lifecycle
- Energy efficiency improved by up to 60% compared to previous server generation[1]
- As-a-Service options offer consumption flexibility to consume and as-a-Service payment options for compute solutions

Full story
Dell Technologies (NYSE:DELL) ushers in the next generation of computing with its most powerful and secure Dell EMC PowerEdge server portfolio. With the new servers, Dell Technologies is charting the path toward autonomous infrastructure to offer greater IT efficiency, embrace AI and address the demands of IT at the edge.

The world's best-selling server portfolio[2] provides the power needed to gain and act on real-time insights from data wherever it may reside—from core data centers to public clouds and edge locations. Reimagined with 17 new PowerEdge servers and bolstered by 1,100 Dell-owned or filed U.S. patents, the new servers deliver their highest performance to date.

"Data is being created and used in more places than ever before, and organizations are challenged to act on it as quickly as possible," said Jeff Boudreau, president and general manager, Infrastructure Solutions Group at Dell Technologies. "As we innovate for the future of IT, advanced automation is a must, no matter where infrastructure resides. Our new PowerEdge servers offer next-level performance to help customers accelerate data insights and the move toward autonomous compute."

Autonomous compute helps customers fully realize self-deployed, self-provisioned and self-managed infrastructure in the future. Today, through Dell EMC OpenManage Enterprise, PowerEdge servers and systems management can deliver up to 85% time savings on average and eliminate dozens of steps with automation.[3]

Highest performance to date helps businesses reach goals faster
Optimizing the latest technologies from AMD and Intel, new PowerEdge servers deliver the compute power needed for customers' most critical workloads and applications. Example advancements include:

- **PowerEdge R6515**, featuring 3rd Generation AMD EPYC™ processors, accelerates data processing capabilities by up to 60% in big data Hadoop databases[4], speeding time to insights.
- **PowerEdge R750**, with the upcoming 3rd Generation Intel® Xeon® Scalable processors, deliver up to 43% greater performance in solving massively parallel linear equations[5], supporting most computational-heavy workloads.

"With the virtualized environment we've deployed on PowerEdge servers, we have the agility to shift workloads as needed," said Joel Weight, chief technology officer at Overstock.com. "Whether it's an email, an increase in customer traffic or a machine learning workload that needs to be completed quickly, we're able to adjust with the business' needs with PowerEdge's flexibility and performance."

AI-optimized to tackle the most data-intensive workloads
PowerEdge servers now feature PCIe Gen 4.0 – doubling throughput performance over the previous generation – and up to six accelerators per server to support the most challenging, data-intensive workloads. These technologies, coupled with PowerEdge's autonomous intelligence, make this the most AI-enabled PowerEdge portfolio to date, enabling organizations to anticipate and more quickly respond to their needs.

This latest portfolio features two all-new, accelerator-optimized servers:

- **PowerEdge XE8545**, a powerhouse for AI workloads, powers the latest HPC Ready Solution for AI and Data Analytics, making it easier to run AI, analytics and advanced computing workloads on one system. The [PowerEdge XE8545](#) combines up to 128 cores of 3rd Generation AMD EPYC processors, four NVIDIA A100 GPUs, and optimized performance of NVIDIA's vGPU software in a dual socket, 4U rack server.
- **PowerEdge R750xa**, purpose-built to boost acceleration performance, delivers GPU-dense performance for machine learning training, inferencing and AI with support for the [NVIDIA AI Enterprise](#) software suite exclusively available for VMware vSphere 7 Update 2. The dual socket, 2U server is powered by the 3rd Generation Intel® Xeon® Scalable processors and supports up to four double-wide GPUs and six single-wide GPUs.

Ruggedized and short-depth servers take IT to the edge
Built to thrive in remote and harsh environments, the portfolio now includes the new PowerEdge XR11 and XR12 ruggedized servers that bring enterprise performance and security to a durable form factor. With a hardened chassis, minimal footprint and support for multiple accelerators, the Intel-based XR11 and XR12 short-depth servers are built for the growing demands of edge-based workloads.

"Infrastructure has long been evolving beyond the data center, and workloads at the edge are only becoming more complex," said Patrick Moorhead, founder and president, Moor Insights & Strategy. "Dell's servers and intelligent management solutions give organizations the compute options and tools to run even the most complex workloads from the data center to the edge or wherever they need to be."

Security that's built-in, not bolted on, for end-to-end protection
Organizations around the world report their top concern on the path to digital transformation is data privacy and cybersecurity.[6] Built with [cyber-resilient architecture](#) and a well-established silicon [Root of Trust](#), the new portfolio's comprehensive approach ensures PowerEdge servers are secure at throughout their lifecycle, from manufacturing, deployment and beyond.

Security starts before deployment with [Dell Technologies Secured Component Verification](#), a first-of-its-kind offering for servers[7] and an extension to Dell's Secure Supply Chain assurance process. With unique features, such as [PowerEdge UEFI Secure Boot Customization](#),[8] boot security can be more closely managed to better thwart attacks.

Energy-efficient cooling, designed with sustainability in mind
Energy-efficient products are important to the environment and to our customers and [our commitment to sustainability](#) is embedded into everything we do. With a uniquely designed chassis, the new servers feature ducted fans and adaptive cooling for more efficient power consumption that improves energy efficiency by up to 60% over previous generation.[1] Coupled with multi-vector cooling, PowerEdge automatically directs airflow to the hottest part of the server for optimized cooling. Direct Liquid Cooling, available on select servers, features a proprietary leak-sensing technology to find and resolve issues faster.

Flexible ways to consume compute
With Project APEX, Dell Technologies is reinventing how customers acquire and consume IT. The Dell Technologies Cloud Console will provide the foundation for Project APEX, delivering a single, seamless experience for businesses to manage their cloud and as-a-Service journey.

Through the Dell Tech Cloud Console, customers today can subscribe and configure compute instances in private or hybrid cloud environments to finetune infrastructure capabilities to match their workloads. In the future, companies will be able to provision instances for virtual machines and container-based workloads, have them delivered to data center or at the edge, all with pay-as-you-go pricing.

Additionally, the new lineup of PowerEdge servers are available with [Flex On Demand](#) that allows customers to acquire the technology they need with payments that scale to match actual usage.[**]

Availability

- Dell EMC PowerEdge C6525, R7525, R6525, R7515 and R6515 servers with 3rd Generation AMD EPYC[TM] processors are available globally now.
- Dell EMC PowerEdge XE8545 servers with 3rd Generation AMD EPYC processors and NVIDIA A100 GPUs have planned global availability on March 29.
- Dell EMC PowerEdge C6520, MX750c, R750, R750xa, R650 servers with 3rd Generation Intel® Xeon® Scalable processors have planned global availability in May 2021.
- Dell EMC PowerEdge R750xs, R650xs, R550, R450, and the ruggedized PowerEdge XR11 and XR12 have planned availability in the second quarter of 2021.

Additional resources

- Blog: [Where will your innovation engine take you?](#)
- Blog: [The uncompromised power of Dell's AI infrastructure](#)

Supporting Quotes
Forrest Norrod, senior vice president and general manager, AMD Data Center and Embedded Systems Group
"The relationship with AMD and Dell Technologies in the data center keeps getting stronger with the launch of the 3rd Gen AMD EPYC server CPUs, available today in the latest lineup of the Dell EMC PowerEdge server portfolio. Together, we are helping not only to deliver some of the world's highest performing servers for enterprise customers but are also pushing the boundaries on AI with the PowerEdge XE8545."

Lisa Spelman, vice president and general manager, Intel Xeon Products

"Dell Technologies and Intel are committed to solving customers' greatest challenges, and we believe that Dell's new PowerEdge servers, powered by Intel's upcoming 3rd Generation Xeon scalable platform, will provide the foundation for customers to achieve leaps in data center performance, scalability, security, and AI."

Matt Huff, president, Redapt
"Workloads are becoming more complex and critical to businesses, and customers need advanced, secure solutions to tackle them. With Dell Technologies' new PowerEdge servers, we can empower customers to take advantage of a full portfolio of optimized server and systems management technologies to drive innovation, no matter their needs."

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 data era.

About Dell Technologies World
Join us May 5-6 for the Dell Technologies World Experience, the company's flagship event that brings together latest emerging trends, technology and gurus. During the event, we will demonstrate to customers and partners the connected ecosystem of IT infrastructure, applications, devices and security. Learn more about the Dell Technologies Project APEX as-a-Service portfolio that gives customers greater flexibility to scale IT to meet business needs and budgets. Register here.

[1] Based on internal testing in March 2021 comparing a PowerEdge 14G with Intel® Xeon® Gold 6230 CPU at 2.10GHz and Intel® Xeon® Platinum 8280 CPU at 2.70GHz vs PowerEdge 15G with Intel® Xeon® Gold 6330 CPU at 2.00GHz and Intel® Xeon® Platinum 8380 CPU @ 2.30GHz, respectively. PowerEdge energy efficiency (compute per power) for various workloads have increased by 20%-60% as a result of Dell Technologies focus on power and thermal innovations, in addition to processor improvements.

[2] IDC WW Quarterly Server Tracker, Q4 2020, Mar 2020, Server Unit Shipments

[3] Based on a Principled Technologies Report commissioned by Dell Technologies, "Performing Common Systems Management Tasks with Dell EMC OpenManage Enterprise 3.5 vs Manual approaches", March 2021. Actual results may vary.

[4] Based on Dell analysis of the best TPCx-HS benchmark result for 17-node 3TB configurations of 21.52HSph on the TPCx-HS page as of 3/3/2021 and the score submitted by Dell to TPC of 34.52HSph approved for publication on March 15, 2021.

[5] Based on Dell internal testing comparing max configuration benchmarks with max configuration R750 compared to max perf R740, March 2021.

[6] Dell Technologies Digital Transformation Index 2020

[7] Dell EMC is the first server vendor with a cross portfolio solution for cryptographically verified hardware integrity, based on Dell analysis of publicly available data, October 2020. Available on the latest PowerEdge servers, except for XE7100, XE7420, XE7220, C6420 and C6525.

[8] Feature available on PowerEdge 14th Generation and newer. Requires customer certificate(s).

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