DELLTechnologies

Dell Technologies Advances High Performance Computing and AI with Dell PowerEdge Servers and Dell APEX Innovation

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News summary

- Dell PowerEdge server portfolio additions accelerate high performance computing and artificial intelligence outcomes
- Dell APEX High Performance Computing helps organizations run resource-intensive HPC workloads through an as-a-Service experience
- Dell Quantum Computing Solution integrates hybrid quantum computing into existing classical computational ecosystems
- Dell Validated Design for HPC – Risk Assessment analyzes large datasets, helping financial institutions speed matching of credit offers to risk levels

Full story

Dell Technologies (NYSE:DELL) expands its high performance computing (HPC) portfolio, offering powerful solutions to help organizations quickly innovate with confidence. With a range of new offers, Dell delivers technologies and services to help customers power demanding applications while making HPC capabilities more accessible to businesses.

"As compute innovation accelerates to keep pace with demand, customers are looking to upgrade their IT environments and harness advanced computing capabilities to speed discovery and insights," said Rajesh Pohani, vice president of portfolio and product management for PowerEdge, HPC and Core Compute at Dell Technologies. "New Dell Technologies servers and solutions give businesses of all sizes access to technologies once only accessible for the world's largest research institutions and government agencies, allowing them to tackle HPC, ease AI adoption and propel their businesses forward."

Dell PowerEdge servers champion advanced modeling and datasets

New Dell PowerEdge servers help organizations embrace AI and HPC initiatives to generate faster, smarter outcomes. Designed in collaboration with Intel and NVIDIA, the new systems use [Smart Cooling](#) technology and enable organizations to harness AI for model training, HPC modeling and simulation, core-to-edge inferencing and data visualization.

- **PowerEdge XE9680** – Dell's first high performance 8x GPU server leverages eight NVIDIA H100 Tensor Core GPUs or NVIDIA A100 Tensor Core GPUs, resulting in optimal performance, in an air-cooled design. The server combines two upcoming 4th Gen Intel Xeon Scalable processors and eight NVIDIA GPUs, to help deliver maximum performance for AI workloads.
- **PowerEdge XE9640** – Next-generation 2U performance optimized 4x GPU PowerEdge server, combining Intel Xeon processors and Intel Data Center GPU Max Series. With fully direct liquid cooling, the system is designed to reduce energy costs with greater rack density.
- **PowerEdge XE8640** – Air-cooled 4U performance optimized 4x GPU server featuring four NVIDIA H100 Tensor Core GPUs and NVIDIA NVLink technology, along with two upcoming 4th Gen Intel Xeon Scalable processors. Designed to help businesses develop, train and deploy machine learning models to accelerate and automate analysis.

"As the world's largest privately-held cloud computing company, with 27 cloud data center locations globally, it's essential that we deploy technology to support the most demanding AI, machine learning, and high-performance computing workloads," said J.J. Kardwell, CEO of Constant, the creator of Vultr. "Dell PowerEdge XE9680 servers with the NVIDIA H100 Tensor Core GPU and A100 Tensor Core GPU will provide the capabilities needed to deliver maximum performance and value."

Dell APEX High Performance Computing Speeds Innovation and Discovery

HPC is driving growth and new insights across industries; however, organizations are often faced with time, budget and skills restraints.

[Dell APEX High Performance Computing](#) empowers organizations to run large scale, compute-intensive HPC workloads delivered as-a-Service with a fully managed, subscription-based experience. Customers can choose between solutions for life sciences and manufacturing workloads.

Dell APEX High Performance Computing provides customers with everything needed to run HPC workloads, including an HPC cluster manager, a container orchestrator, a workload manager and underlying HPC-optimized hardware configurations. The service offers the flexible capacity and security required to meet changing workload requirements and realize faster results while getting the most from their HPC investments, all in one,

three or five-year subscriptions.

Adopt quantum technologies more easily into existing infrastructure

With the [Dell Quantum Computing Solution](), organizations can begin to take advantage of accelerated compute through quantum technology. This solution helps customers quickly develop algorithmic approaches to complex use cases and accelerate chemistry and materials simulation, natural language processing, and machine learning.

This scalable, hybrid classical-quantum platform uses the Dell classic quantum simulator built on PowerEdge servers. Together with [IonQ]() quantum technology, the solution integrates quantum computing into existing classical computational infrastructure. Fully integrated [Qiskit Dell Runtime]() and IonQ Aria software allow quantum workloads to run with on-premises or cloud-based quantum acceleration.

Implement HPC for faster, more efficient risk assessment

The fast-paced global financial industry needs access to technologies that can provide measurable returns on investments. New Dell Validated Design for HPC – Risk Assessment runs data-intensive simulations on HPC systems, including GPU-accelerated Dell PowerEdge servers, Red Hat® Enterprise Linux® and NVIDIA Bright Cluster Manager® software, to look at large volumes of historical and real-time data to analyze risk and return faster.

The validated design offers financial services institutions optimal configurations for system performance and efficiency. These configurations are designed, validated and tuned for this specific use case by Dell HPC engineers and workload experts. The result is modular IT building blocks that offer simplified design, configuration and ordering more quickly with a single point of contact for services.

Additional quotes

Peter Rutten, research vice president, Worldwide Infrastructure practice, IDC

"Accelerated compute technology helps business get all the value they can from the massive amounts of data they generate on a daily basis. Dell Technologies is seizing the opportunity with new accelerated Dell PowerEdge servers and solutions that can help customers tackle demanding performance intensive computing workloads."

Jeff McVeigh, corporate vice president, and general manager, Super Compute Group, Intel

"Dell Technologies and Intel are collaborating on innovative solutions in the HPC and AI space, bringing our various solutions including the Max Series GPU and 4th Gen Intel Xeon Scalable processors to Dell PowerEdge servers. Together we're working to build a more sustainable path to powering the most challenging workloads on the planet."

Ian Buck, vice president, Hyperscale and HPC, NVIDIA

"As companies look for opportunities to drive revenue and bring down costs, NVIDIA's accelerated computing platform is helping organizations around the world innovate in meaningful ways. Dell Technologies' new 4x and 8x PowerEdge servers – supercharged with NVIDIA H100 GPUs – will enable enterprises everywhere to tackle the diverse demands of data-intensive HPC and AI workloads, with an infrastructure that drives topline and bottom-line results."

Availability

- Dell PowerEdge XE9680, XE8640 and XE9640 have planned global availability in the first half of 2023.
- Dell APEX High Performance Computing is available today in the US.
- Dell Quantum Computing Solution is available today in the US and Canada.
- Dell Validated Design for HPC – Risk Assessment is available globally now.

Additional resources

- [Learn more]() about Dell PowerEdge
- [See more]() about Dell APEX High Performance Computing
- [Read more]() details about the Dell Quantum Computing Solution
- [Find out more]() about Dell Validated Design for HPC – Risk Assessment
- Connect with Dell via [Twitter]() and [LinkedIn]()

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.

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