

Advancement in Compute Power

Adaptive compute powers your innovation engine

Dell Technologies understands that the opportunities of the digital era are counterbalanced by the demands on IT resources. Digital transformation isn't optional — but it isn't always straightforward, either. We believe that the best way forward is to turn IT into an innovation engine, powered by PowerEdge servers. Our latest generation of servers will enhance both your business agility and time to market, with the ability to support transformational workloads such as databases and analytics, virtualization, software-defined storage, virtual desktop infrastructure (VDI), containerization, HPC, AI, and ML.

At Dell Technologies, we help you build a competitive edge by integrating these technologies to create connected experiences with your customers and across your organizations to increase profitability and accelerate innovation.

The value of adaptive compute

PowerEdge servers deliver adaptive compute, with purpose-built systems and software optimized for the latest technology advancements across processor, memory, networking, storage and acceleration. With a range of innovations to meet your unique business needs, you no longer have to apply a one-size-fits-all approach to infrastructure, helping you better address evolving business demands.

Adaptive compute capabilities

The new PowerEdge portfolio delivers the latest advancements, with platforms built to enable your unique use cases and requirements. PowerEdge servers help you drive innovation with a portfolio of solutions that deliver value across three critical points: innovate, adapt and grow.

Innovate: lead with technology

As applications and workplaces become more complex, it becomes more important than ever to have end-to-end solutions that work together seamlessly. PowerEdge is the engine that drives innovation across the Dell Technologies solution portfolio. PowerEdge servers establish an agile, reliable, future-ready server infrastructure with an array of innovations that enhance performance.

For example, Dell VxRail Hyperconverged Infrastructure (HCI) is powered by PowerEdge server platforms and VxRail HCI System Software. It features next generation technology to future proof your infrastructure and enable deep integration across the VMware® ecosystem. Advanced VMware hybrid cloud integration and automation simplifies deployment of a secure VxRail cloud infrastructure. As another example, Dell EMC Solutions for Microsoft Azure Stack HCI encompass a wide range of hyperconverged infrastructure configurations. They're built on PowerEdge servers that are configured with certified components and validated building blocks to simplify ordering and reduce deployment risks while providing a superb customer support experience.

Adapt: respond to a quickly changing environment

To help you adapt to the digital era, PowerEdge servers provide high performance for a diverse set of applications from the edge to the cloud to the core. The newly launched PowerEdge xs line of servers, including PowerEdge R750xs and R650xs, provide configurations that enable extreme scale for virtualization and cloud, AI inferencing and analytics workloads. The PowerEdge XR line of servers deliver ruggedized compute for any location and operation with workload acceleration and faster memory that is specifically designed to thrive in space constrained, rugged, and harsh environments at the edge. The PowerEdge XE servers are built for complex compute- and storage-intensive workloads, delivering rapid enablement for emerging technologies and use cases such as edge and AI. All of the new PowerEdge servers will feature the latest generation processors along with multiple advancements that help you adapt. These include Dell OpenManage Enterprise, our next-generation systems management console that enables centralized management of your PowerEdge infrastructure.

Grow: scale and evolve

Reaching today's goals is critical, but the rapid pace of change means you need to be ready to keep up with demands and stay successful. PowerEdge servers are designed to enable you to add new technologies without disruption. With PowerEdge, you can accelerate the implementation of complex, data centric workloads with faster development, testing and deployment to hybrid cloud infrastructure, integrating many processes into one system to help you grow. For example, AI and HPC are becoming more mainstream. These are compute-intensive workloads, driving the need for multi-GPU systems. In these high-performance systems, PCIe can create a bottleneck.

The next-generation PowerEdge servers support GPUs with high-speed GPU-to-GPU interconnect that provides higher bandwidth, more links, and improved scalability for multi-GPU system configurations.

As workloads grow in complexity, CPU-hungry networking, security and storage workloads can slow processor performance. PowerEdge servers support Intel® SmartNICs, which offload these functions, freeing up cores to accelerate key workloads, improve performance and agility, and enable new use cases from the data center to the edge. PowerEdge server performance is further accelerated via support for PCIe Gen4 and NVMe™ RAID, with a new board design that improves signal integrity for PCIe Gen4. PowerEdge servers now have 100% more processing cores and faster data transfer speeds with PCIe Gen4, plus 20% faster memory speed to reduce latency and deliver faster response along with 2X PCIe performance with Gen4 at 16GT/s to overcome bottlenecks.* The new PowerEdge servers also take advantage of drive and memory technology advancements in DRAM and persistent memory to further speed performance and help you be ready for anything that comes your way.

PowerEdge servers give you adaptive compute with the latest advances in a platform specifically built to enable your workloads and business requirements — both now and in the future.

Learn more about [Dell Technologies' sustainability goals and achievements](#) and our [PowerEdge servers](#).

*Based on Dell Technologies internal analysis, <https://www.delltechnologies.com/asset/en-sg/products/servers/industry-market/dell-technologies-adaptive-compute-pov.pdf>