DELL Technologies

AMD

Discover the Six Superpowers of Dell PowerEdge Servers

Heroes Wanted

For years, enterprises have measured their data centers in terms of processing power, but tomorrow's data center will be judged by the superpowers it enables.

It could be the power to create and innovate using artificial intelligence (AI). Or the power to deliver virtual reality experiences to customers wherever they are. It could even be the power to reduce power consumption on the path to net-zero operations.

Whatever your superpower, Dell PowerEdge servers with AMD EPYC™ processors are designed to unleash your business' inner hero.

They're not just faster than previous generations of servers—they're more than two times faster. They don't simply support AI—they're designed to deliver record-breaking AI performance. And they do all this while saving you money with up to 48% lower processor costs through 5:1 server consolidation.

This isn't about saving a few dollars and squeezing out slightly better performance from your servers. This is about transforming your data center into a generator for hero-sized innovations and ideas.
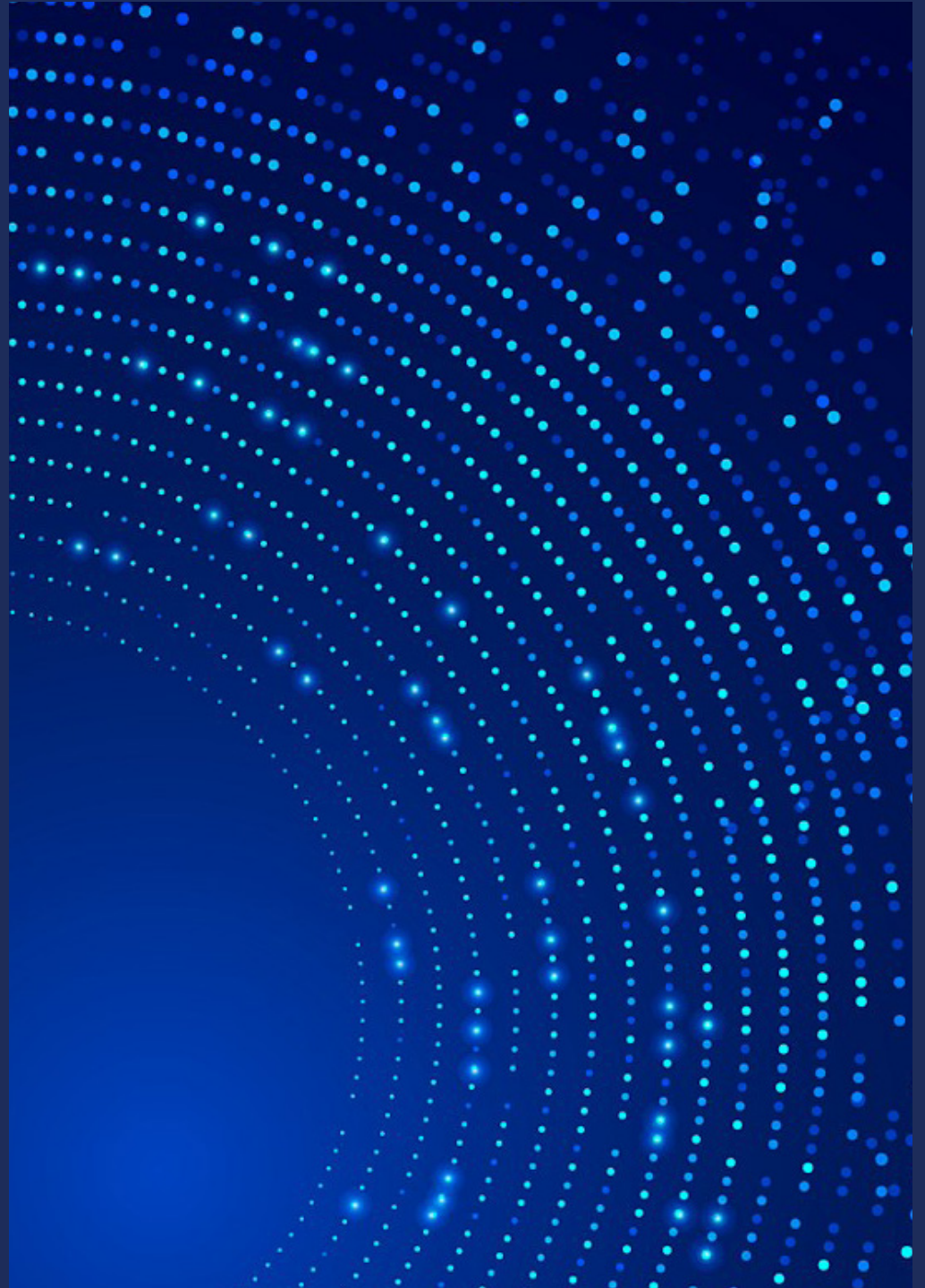Are you ready? Then let's get started!

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An Anatomy of a Superhero

The latest generation of Dell PowerEdge servers is designed to do great things. They're not simply faster, but an order of magnitude faster. They're built to leverage AI through more cores or expandable slots that can accommodate a small army of GPUs. They're more secure with a silicon-based root of trust at the processing core and ever vigilant against attack. They're packed with enough processing power to replace five servers with a single server to make room in your data center (and your budget) for AI investments. And they feature Dell's advanced Smart Cooling technology to reduce power consumption and extend the life of the server.

Inside the Revolutionary Design of Dell PowerEdge Servers with AMD Technology

• **AMD EPYC processors** can be scaled up to 128 cores per CPU and deliver a remarkable 121% performance boost over previous generations to fit more VMs per server and tackle high-performance computing workloads with ease.
• **DDR5 Memory boosts RAM** density and bandwidth to deliver exceptional performance on big data and analytics workloads with lower energy consumption.
• **PCIe Gen5** drives double the read/write speeds and bring out the best in GPU performance for AI and machine learning workloads.
• **Dell's PowerEdge RAID Controller (PERC12)** turbocharges data processing workloads with up to 99.7% less latency and 6X the IOPS compared to the previous generation, PERC11.
• **Dell PowerEdge Boot Optimized Storage Solution (BOSS-N1)** includes front/rear-facing drives and hot-plug support to provide flexibility and higher availability for telecommunications data centers and other dense configurations.
• **Dell Smart Data Processing Units (DPUs)** enable enterprises to control data flows and CPU utilization for peak performance of data center applications to virtualized desktops.
• **Smart Flow chassis design and Smart Cooling** technology optimize the airflow in the server and provide optional direct liquid cooling for more energy efficiency in crowded data center configurations such as cloud hosting.
• **Advanced Security Features include TLS 1.3 encryption (FIPS compliant)**, Dell's Secure Enterprise Key Manager (SEKM) 2.0, hardened root of security, and end-to-end threat management to protect the sensitive data that drives AI and analytics.

Meet the Super Team

PowerEdge R6615

Powerful performance per investment dollar

⊕ **Spec Sheet**

PowerEdge R6625

Breakthrough performance with ample flexibility

⊕ **Spec Sheet**

PowerEdge R7615

Exceptional value and performance

⊕ **Spec Sheet**

PowerEdge R7625

Breakthrough performance that scales

⊕ **Spec Sheet**

Superpower Number One:
Artificial Intelligence/
Machine Learning

Featured Hero: R7625

The transformative power of AI and machine learning (ML) has captured our collective imagination. Healthcare companies may soon use it to detect pneumonia in x-ray images, retailers may use it to manage inventory on their store shelves, and new use cases are being discovered every day. But AI places new demands on server performance that require more cores and more graphical processing units (GPUs) to handle large language models (LLMs) and other data-intensive workloads. To meet those demands, Dell PowerEdge servers have been re-designed to meet the AI/ML challenges of the future.

Harness your superpower with:
- Record-breaking performance for real-world AI/ML workloads
- Dense GPU configuration to turbocharge AI applications
- Flexible deployment design that supports AI in the data center, at the edge, or in the cloud
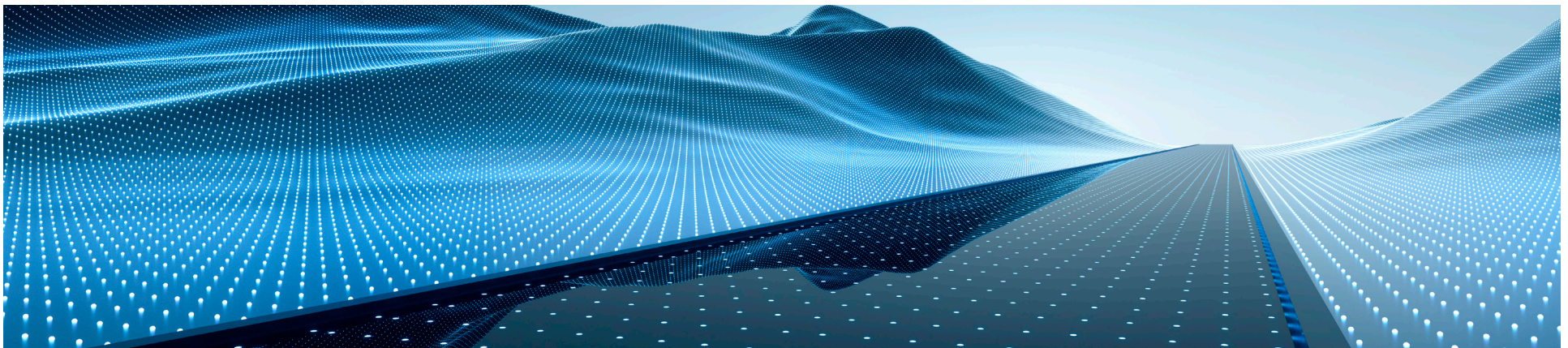
Superpower Number Two:
Data Processing

Featured Hero: R7615

Data has been called everything from the lifeblood of an enterprise to the new oil of the digital economy. And, yes, being able to tap into your data to drive real-time decisioning and improve operations is a superpower. But today's data centers are at risk of being tapped out because of space constraints and higher energy costs at a time when businesses should be saving money to reinvest in new technologies like AI. Dell PowerEdge servers can turn the tide on rising data center costs with next-generation technology that delivers record-breaking database performance in a smaller footprint while reducing software licensing and energy fees.

Harness your superpower with:
- Record-breaking performance on SAP database workloads
- 40% lower software licensing costs through 5:1 server consolidation
- Increased workload capacity without increasing costs or footprint

Superpower Number Three:
Virtualization/Virtualized Desktop Infrastructure (VDI)

Featured Hero: R7615

Virtualization is at the heart of the modern data center, allowing enterprises to move workloads and applications seamlessly in their data center, in the cloud, and around the globe. A sharp rise in virtualization licensing costs is looming over many organizations, however, causing them to seek out new efficiencies in their virtual machine (VM) infrastructure. Dell PowerEdge servers with AMD processors provide a flexible, scalable foundation for virtualized environments and VDI applications that helps reduce software licensing costs by as much as 40 percent while delivering up to 4X higher performance for virtualization servers than previous generations.

Harness your superpower with:
- More cores and memory to accommodate more VMs per server
- Lightning-fast load times for VDI applications
- A lower total cost of ownership (TCO) to reduce data center costs
- More data storage per server to free up space in your data center

Superpower Number Four:
High-Performance Computing

Featured Hero: R6625

Dell PowerEdge servers with AMD EPYC processors redefine high performance. Data centers can now do the unthinkable: scale up to meet the most demanding high-performance workloads while simultaneously scaling down their footprint, energy consumption, and costs.

Harness your superpower with:
- 232% more performance per watt
- Up to 60% more E3.S NVMe drives for increased storage
- Improved thermal design and advanced cooling options to reduce energy usage

Superpower Number Five:
Big Data and Analytics

Featured Hero: R7625

AI isn't the only application that relies on large data samples to drive innovation. Big data applications and analytics tools continue to play a vital role in helping organizations harness vast amounts of data to make new discoveries. Dell PowerEdge servers are designed to accelerate analytics across a wide variety of use cases, from environmental models to optimizing automobile traffic in smart cities.

Harness your superpower with:

- 121% performance gain for big data and analytics workloads
- Cyber-resilient architecture featuring a silicon-based root of trust
- 50% more memory bandwidth than previous generations

Superpower Number Six:
Cloud Hosting and Telecommunications

Featured Hero: R6615

As cloud-native networks move from the enterprise world into the telecommunications world, they require high-performance, energy-efficient servers that can be deployed in a wide variety of configurations and locations. Dell PowerEdge servers are available in both traditional data center and ruggedized versions for a broad range of deployment options, from clean rooms to 5G cell towers. In addition, advanced cooling solutions such as direct liquid cooling make PowerEdge an ideal choice for co-location facilities that want to offer the latest in energy-efficient technologies.

Harness your superpower with:

- Low-latency storage for real-time applications
- Smart cooling design with optimized air flow for 5X cooling capacity
- Greater storage density per server frees up space in your data center
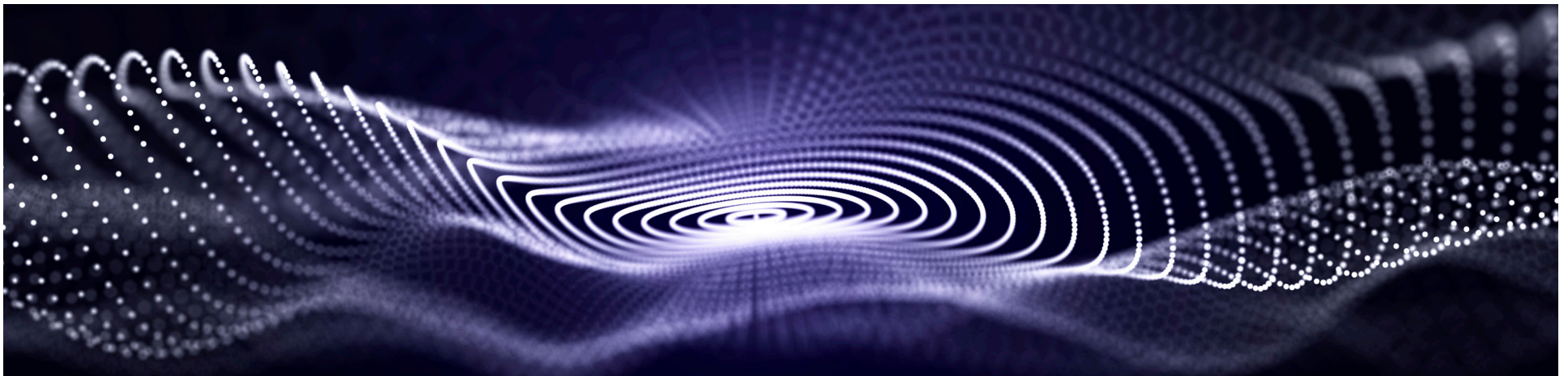
Now Is the Time to Modernize Your Data Center

Dell PowerEdge servers with AMD EPYC processors aren't simply another hardware refresh. They're a hardware revolution—designed from the ground up to be exponentially more powerful, more energy-efficient, more cost-effective, and built to leverage AI like nothing before them. Yes, they feature the fastest generation of processors ever developed. But there's a lot more to PowerEdge than faster processors, including remarkable improvements in I/O, data storage, memory capacity, GPU expansion, smart cooling technology, and advanced security. Together, Dell and AMD have created the perfect foundation for the modern data center, designed to help you get more value and drive more innovation from your data center than was possible before.

What does this new modernized data center look like? It's smaller, thanks to its advanced server and workload consolidation. It's much cheaper to operate, saving you up to 48% in reduced processor costs and 40% in reduced software licensing costs. It's more than 2X faster and delivers up to 6X faster IOPS.

With the extra savings and extra space, you can begin building the AI Factory of tomorrow, today.
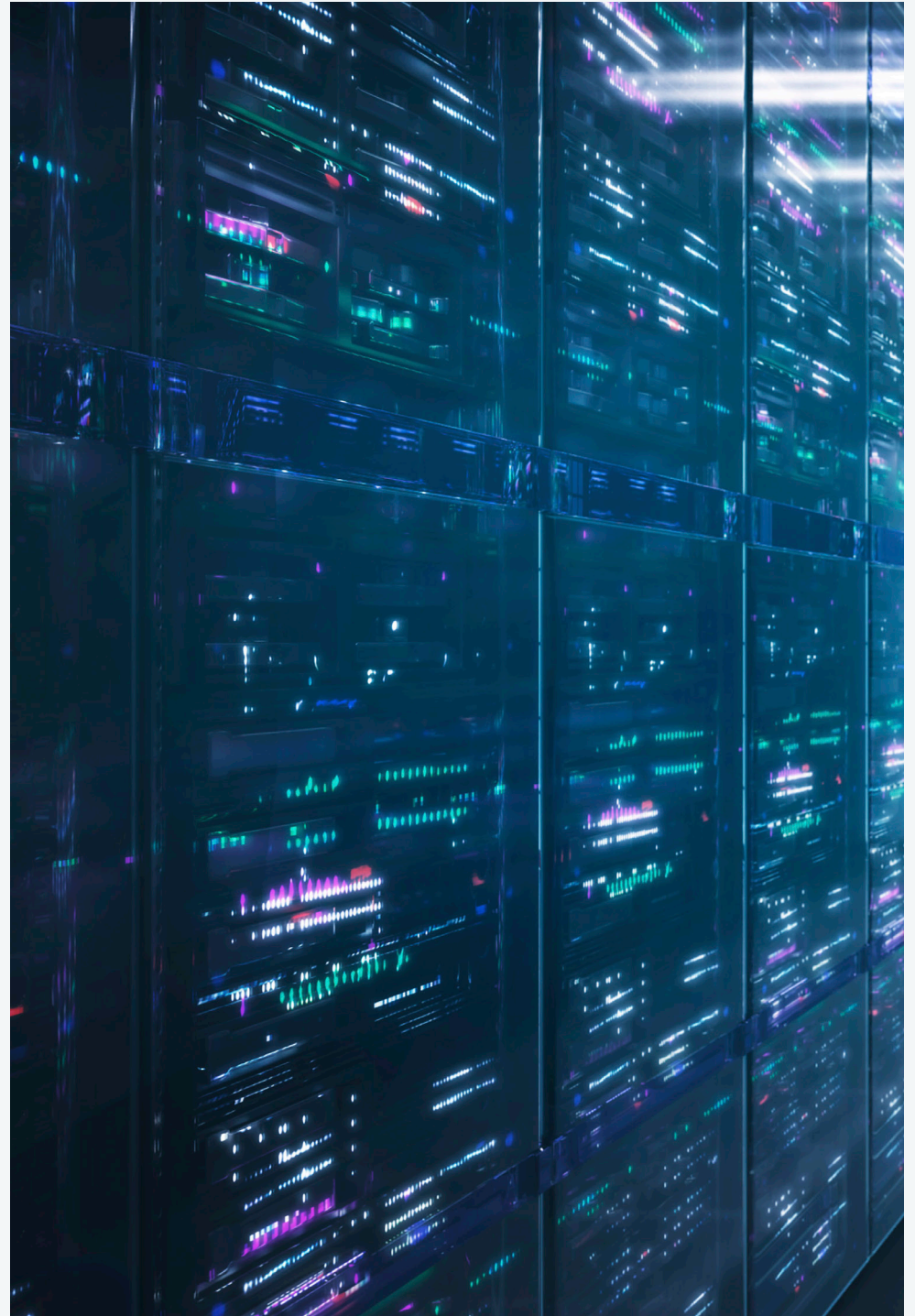
Tap Into Your Superpower with Dell PowerEdge

AI is one of the most exciting technologies of our lifetime, but it's not the only reason we're excited about the future. Now, more than ever before, businesses are leveraging data technology in new ways that improve everything from healthcare to customer care, even as they look to reduce the impact that this technology has on the environment around us. Dell and AMD are proud to be a part of this new world and to help usher it in with the world's most advanced generation of server technology with PowerEdge. The rest is up to you.

Tap into your superpowers with Dell PowerEdge technology. To learn more, visit us at www.dell.com/servers/amd or contact your Dell sales representative today.