

Power Your AI Transformation with Dell PowerEdge Servers and Intel® Xeon® 6 Processors

Tackle growing AI demand by deploying systems that can meet your performance and efficiency needs.

Enterprises are integrating AI into more business processes and customer experiences, including recommender systems for e-commerce, natural language processing (NLP) to enhance customer service, and visual search for online shopping.

Together, Intel and Dell are developing servers that can meet the data center's AI demands, today and tomorrow. These Dell servers, powered by Intel® Xeon® 6 processors with P-cores, deliver exceptional compute power to support a wide variety of AI workloads without compromising efficiency. These workloads include small to medium LLMs, generative AI, fine-tuning, and retrieval-augmented generation (RAG) use cases.

Beyond delivering powerful AI capabilities, these servers also prioritize efficiency – an essential factor for modern data centers. Data center efficiency is vital because it enables more performance with less power, cost, and space. Intel Xeon 6 processors with P-cores deliver up to 2x higher BERT-large training performance vs the prior generation.¹ This helps lower power consumption and TCO while advancing your sustainability goals.

Significantly accelerate AI capabilities on the CPU with **Intel® Advanced Matrix Extensions (Intel® AMX)**. This built-in accelerator helps improve the performance of deep learning training and inference on Intel Xeon 6 processors with P-cores.

Innovative **Multiplexed Rank DIMMs (MRDIMMs)** deliver breakthrough memory performance for next-generation data centers. By increasing bandwidth and reducing latency, they can accelerate the performance of AI workloads with lower power consumption, simplified upgrades and broad ecosystem support. MRDIMMs help organizations achieve enhanced speed, efficiency, and scalability—all without compromising compatibility.

With zero-trust mandates, confidential computing, and sovereign AI on the rise, infrastructure must be secure by design, not bolted-on. Intel Xeon 6 processors offer the industry's most comprehensive hardware-based security stack and confidential compute options. Intel Xeon 6 processor with P-cores features **Intel® Software Guard Extensions (Intel® SGX)**, which helps protect data while it is being processed in secure enclaves and **Intel® Trust Domain Extensions (Intel® TDX)** that provides hardware isolation, encryption, and isolation of VMs, designed for migration with no code changes.

Intel Xeon processors have been the backbone of enterprise, cloud, AI, and telco workloads for decades, with widespread deployment scale and ecosystem support. They also have the largest ecosystem of ISVs, OEM platforms, and tuning and performance libraries. Backwards compatibility, consistent instruction sets (x86_64), and close collaboration with OS vendors, make them a low-friction choice for customers and help speed time-to-value.

By prioritizing openness, efficiency, and security, Dell and Intel enable data centers to support the next wave of AI innovation and accelerate AI ROI. Whatever your AI workload needs, Dell and Intel deliver platforms optimized for performance, energy efficiency, and cost.

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Model	Dell PowerEdge R470	Dell PowerEdge R570	Dell PowerEdge R670	Dell PowerEdge R770
Configuration	1U, 1 socket	2U, 1 socket	1U, 2 socket	2U, 2 socket
Intel Xeon 6 Processors	With up to 86 P-Cores processor with RIS option	With up to 86 P-Cores processor with RIS option	With up to 86 P-Cores processors	With up to 86 P-Cores processors
Memory Capacity	16 DDR5 DIMM slot, supports RDIMM 4TB max, speeds up to 6400 MT/s; with RIS option - supports 4 TB max	16 DDR5 DIMM slot, supports RDIMM 4TB max, speeds up to 6400 MT/s; with RIS option - supports 4 TB max	32 DDR5 DIMM slots, supports RDIMM 8 TB max, speeds up to 6400 MT/s	32 DDR5 DIMM slots, supports RDIMM 8 TB max, speeds up to 6400 MT/s
Front disk bay options (maximum)	10x2.5", 4x3.5", or 16x E3.5	24x2.5", 12x3.5", or 32x E3.5	10 2.5", or 20xE3.5	24 2.5", or 40x E3.5
Read disk bay options (maximum)	2x E3.5	4x E3.5	2x E3.5	4x E3.5



Up to **3x**

higher AI summarization performance vs prior gen²



Up to **2x**

higher BERT-large training performance vs prior gen¹



Up to **1.9x**

higher perf-per-watt at 40% utilization vs prior gen³



Up to **20%**

lower TCO than prior gen running ResNet50 workload⁴

Learn more about how the combination of Dell PowerEdge servers and Intel Xeon 6 processors can help accelerate your AI workloads:

[Intel Xeon 6 processors overview](#)

[Intel and Dell partnership overview](#)

[Dell data center servers overview](#)



Performance varies by use, configuration and other factors. See [1, 2, 3, 4] intel.com/processorclaims: Intel Xeon 6. Results may vary.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

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