



Dell EMC PowerEdge Servers for Artificial Intelligence

How to choose the right server to power your AI journey

Select the right server for every phase of your AI journey.

- Getting started
- Adopting AI across the enterprise
- Scaling to a cluster
- Adding GPU nodes

Where will AI take you?

Locked within your enterprise data is the idea for your next groundbreaking product, the secret to customer acquisition and retention, and the roadmap for operational efficiency and productivity — and a lot more. So, how do you unlock this competitive advantage?

Today, affordable servers combined with breakthroughs in artificial intelligence (AI) are giving organizations like yours the ability to unlock your data's amazing potential.

Once you've decided to adopt AI, the possibilities are nearly limitless. Whether you're just getting started with AI, or are ready to deploy a deep learning cluster, Dell Technologies has a complete portfolio of solutions that can help you recognize and take advantage of untapped market opportunities.

Servers to power your AI projects

Dell EMC PowerEdge servers provide the AI performance, density and efficiency required for you to get started with AI and grow as needed. Choose Dell EMC PowerEdge servers for AI when you need:

- **Performance:** Dell EMC PowerEdge servers come with a variety of processors that can deliver fast results for workloads like inferencing and machine learning (ML). Some are available with direct contact liquid cooling (DCLC) to counteract the heat generated by high-bin processors.
- **Server accelerators:** GPUs, FPGAs and IPUs can speed some deep learning (DL) and image recognition workloads. Dell EMC PowerEdge servers are available with support for up to 16 accelerators/chassis.
- **Memory:** Certain AI workloads require more memory for faster processing. Dell EMC PowerEdge servers support up to 48 DDR4 DIMMs/chassis with a variety of speed, capacity and persistence options.
- **Storage:** Fast direct-attached storage can provide faster access to data for AI workloads like ML. Dell EMC PowerEdge servers feature NVMe storage and expansive disk configuration options to help you strike the right price/performance ratio.

AI for every phase

The right Dell EMC PowerEdge server for your workloads and phase of AI adoption depends on a number of factors, as outlined in the following chart:

Use case	Getting started	Adopting AI across the enterprise	Scaling to a cluster	Adding GPU nodes
Description	Enterprise lines of business, startups and any other organization exploring the possibilities of AI.	Production AI requires servers that can handle data-intensive workloads — from data preparation to refined model training.	Once AI becomes core to your business and more users are eager to explore new use cases, scaling to an AI cluster can provide the capacity and scalability required.	While CPUs are optimal for AI algorithms that involve logic or have intensive memory requirements, GPUs can help speed massively parallel workloads such as deep learning and image recognition.
Key considerations	Workstations and towers can provide the processing power, memory and GPU options for application development and proofs of concept.	Many enterprise AI workloads can be run on a single server. Future-proof the investment by selecting a server that can scale.	When building a cluster, optimize for CPU density with servers that provide the option to add GPUs for certain workloads.	GPU density is the primary concern, so look for servers that support multiple GPUs.
Recommended Dell EMC PowerEdge servers	Dell Data Science Workstations and PowerEdge T640 servers offer multiple options for AI.	PowerEdge R750 can be used for a variety of enterprise use cases, and supports adding GPUs as use cases expand.	PowerEdge XE8545, R940xa and R840 combine high core counts with support for multiple GPUs.	PowerEdge XE8545, R750xa and R940xa provide the most space for GPUs. Dell EMC Ready Solutions for AI are a good option for GPU-enabled workloads.

Learn more

Visit us online at delltechnologies.com/readyforai
delltechnologies.com/servers

Dell Technologies is at the forefront of AI, providing the technology that makes tomorrow possible, today. You can rely on our extensive portfolio of technologies — spanning workstations, servers, networking, storage, software and services — along with the Dell Technologies team of experts to help you adapt as AI, ML and DL evolve over time.