PTC

Infrastructure Solutions to Support AI Workloads

Considerations for Power, Cooling, and ICT Infrastructure

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As a world leader in electrical, communications and utility distribution and supply chain services, we're ready and able to help you navigate business complexities.

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Digital Investments
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Fortune 500® Corporation
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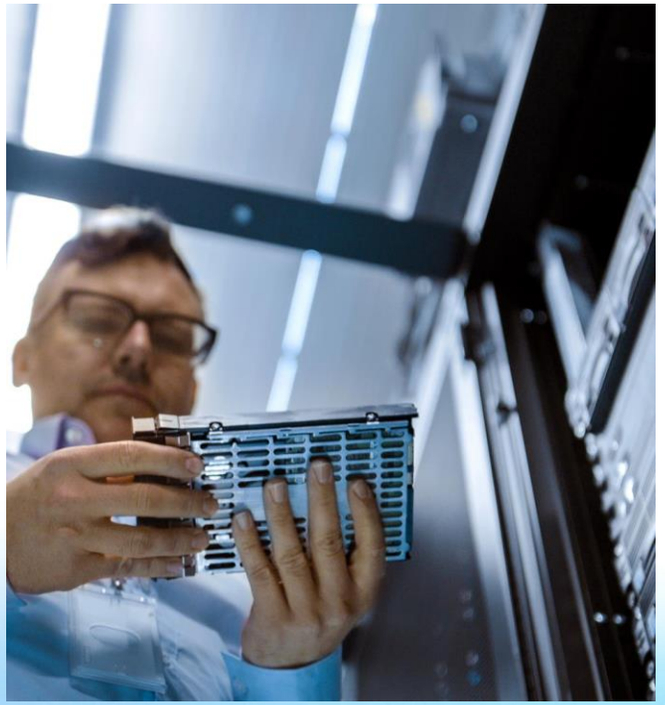
Artificial Intelligence is Transforming Data Center Design

Traditional Workloads Use CPUs	Artificial Intelligence (AI) Uses GPUs
A powerful execution engine, the central processing unit (CPU) focuses its fewer cores on individual tasks and getting things done quickly	The graphics processing unit (GPU) has many smaller, more specialized cores.
Uniquely well-equipped for jobs ranging from serial computing, where only one task is executed at a time on a single processor, to running databases.	These cores deliver massive performance by working together and dividing processing tasks across many cores simultaneously (or in parallel).
Suited for various tasks, especially those for which latency or per-core performance is important.	Excels at highly parallel tasks like rendering visuals during gameplay, manipulating video data during content creation, and computing results in intensive AI workloads.
< 200 watts	< 700 watts



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NVIDIA H200 Tensor Core GPU Server

- Utilize multiples of 8 GPU's Per Server
  - **8x700W = 5600W**
  - **Total Server Load = 10 kW**
- 4-5x fiber connections than traditional CPU server
  - 6 to 8 ports 400G Ethernet or InfiniBand for GPU network (non-blocking)
  - 2 ports 400G Ethernet or InfiniBand for storage network may be non-blocking or over-subscribed
  - 2 ports 100G for in-band management typically over-subscribed
  - • 1 port 1 Gbps Ethernet out-of-band (OOB) management (e.g., IPMI, iDRAC, ILO) over-subscribed

High-Density Power and Cooling Solutions

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Power	Cooling	Infrastructure	Services
• Busway & accessories • Distribution boards • Power strips • UPS + batteries • Power monitoring • Transfer switching	• Containment • Perimeter Cooling • In Row Cooling • Rear Door Heat Exchangers • Direct Liquid to Chip • Immersion • Hybrid Solutions	• Design Engineering • Conduit • Modular build • Offsite Integration • Valve, actuator, junction boxes	• Installation • Start up • Warranty • Supply Chain Management • Inventory Management • Vendor Management • Project Management

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Digital Management Solutions

Software	Hardware	Services
DCIM and Out-of-Band Management	Power Distribution Units (PDUs)	Professional
Asset Management	Uninterruptible Power Supply (UPS)	Managed
Camera-to-Cloud Video Surveillance	Sensors	Supply Chain
Automated Infrastructure Management (AIM)	IP Cameras	IoT Advisory
Thermal Management	Gateway	
Platform	Intelligent Patch Panels	
	Out-of-Band Management Console	

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In Summary

- Plan for higher density power, cooling, and ICT infrastructure
- Have a digital management strategy
- Create deployment efficiencies through partners

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