Recommended Servers for Deploying AI in Dawning



Overview

Purpose-built full-stack data center systems for AI and enterprise workloads. Optimize performance, security, and operations while managing costs.

Key Takeaways

For high-performance AI deployment on Dawning servers, NVIDIA RTX PRO Blackwell GPUs, high single-thread CPUs, 128–512 GB RAM, NVMe SSDs, and low-latency networking are recommended, paired with optimized AI model servers like Triton or vLLM.

GPU Recommendations

For A

I workloads, NVIDIA RTX PRO Blackwell GPUs are ideal, offering 96 GB VRAM and 5th-generation Tensor Cores, capable of handling large models, multi-agent workflows, and memory-intensive inference tasks without bottlenecks. For large-scale or MoE models, NVIDIA A100 or H100 GPUs remain highly effective, providing essential acceleration for both training and inference. Multi-GPU setups are supported in 2U–4U rack servers, with robust power and cooling solutions.

CP

U, RAM, and StorageCPU: Prioritize high single-thread performance for low-latency inference, while multi-core processors support parallel model instances and local fine-tuning.

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Intel T-series or AMD Ryzen A

I 400/PRO 400 series CPUs are recommended for efficient AI compute.

RA

M: 128–512 GB is suggested to accommodate large model weights, extended context windows, and CPU–GPU zero-copy pipelines. Storage: NVMe SSDs for OS, active models, and cache; SATA SSDs or HDDs for long-term storage and datasets. High endurance NVMe drives are preferred for AI workloads.

Networking and Deployment

Networking: 10–100 GbE or GPU-direct storage ensures low-latency access and smooth scaling. Deployment Options: On-site, colocation, or hybrid clusters are suitable. Dawning servers can be configured for scalable nodes to support micro-AI workloads or larger production inference systems.

Model Server Software

Triton Inference Server: Unified platform for serving any model type on any hardware, ideal for production-grade AI deployments.vLLM: Optimized for large language model inference, particularly transformers.

TG

I (Text Generation Inference): Integrates Hugging Face ecosystem for production-ready inference. Ollama: Provides local Docker-like management for AI models, useful for smaller or on-prem deployments.

Additional Considerations

Power & Cooling: Ensure PSUs have sufficient overhead for peak GPU draw; consider air or liquid cooling for multi-GPU setups. Software Stack: Use NVIDIA AI Enterprise Infra with Triton or ROCm for AMD alternatives, and Ubuntu Server 22. 04 LTS for compatibility and low-latency performance.

Scalability: Dawning servers can be clustered for distributed training or inference, allowing flexible scaling as AI workloads grow. By combining high-end GPUs, optimized CPUs, ample RAM, NVMe storage, and robust networking, along with production-ready model servers, Dawning systems can efficiently handle AI training and inference workloads, providing low-latency, secure, and scalable AI infrastructure.

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