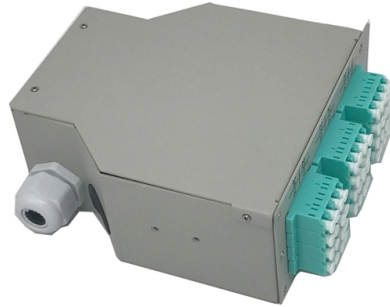


How to use an AI network storage server



AI Overview

An AI network storage server allows multiple GPU or compute nodes to access shared datasets simultaneously, ensuring high throughput and low latency for AI/ML workloads.

Understanding AI Network Storage

AI workloads require fast, concurrent access to large datasets. Network storage servers provide a shared file system accessible by all compute nodes, eliminating the need to copy data to each GPU node individually, which keeps expensive GPUs fully utilized and reduces idle time (DigitalOcean) . Common storage types include:

- Network-Attached Storage (NAS): Uses RAID arrays and delivers files over TCP/IP via protocols like NFS or SMB, suitable for shared access and moderate latency requirements (The New Stack) .
- Storage Area Networks (SAN): High-performance block-level storage connected via dedicated networks, ideal for large-scale AI clusters (Netgear) .
- Object Storage (e.g., MinIO): S3-compatible, software-defined storage optimized for multicloud and Kubernetes-native environments, useful for AI/ML pipelines and model storage (The New Stack) .

Setting Up and Connecting

- Network Configuration: Ensure your GPU/compute nodes have dedicated storage network ports to connect directly to the storage server, minimizing latency and avoiding network congestion (Juniper Networks) .
- Mounting Storage: Use standard protocols like NFS or SMB to mount the network s...

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While Figure 1 shows the entire cluster as one contiguous network segment, these are three separate network segments, each of

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The Architect's Guide to Storage for AI

With a SAN, you can put storage traffic on a dedicated fiber channel using the Fiber Channel Protocol (FCP). A request

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