Supermicro Edge AI
Edge Video Transcoding, Edge Inference, Edge Training

Across industries, businesses whose employees and customers engage at edge locations - in cities, factories, retail stores, hospitals, and many more - are increasingly investing in deploying AI at the edge. By processing data and utilizing AI and ML algorithms at the edge, businesses overcome bandwidth and latency limitations, enabling real-time analytics for timely decision making, predictive care and personalized services, and streamlined business operations.

Purpose-built, environment-optimized Supermicro Edge AI servers with various compact form factors deliver the performance needed for low-latency, open architecture with pre-integrated components, diverse hardware and software stack compatibility, and privacy and security feature set required for complex edge deployments out of the box.

Systems

Short-Depth 5G/Edge & Hyper E
Compute and AI Performance at the Edge

Extra Large Workload:
2U Hyper-E
- 3 NVIDIA H100 PCIe
- 6 NVMe drives
- 32 DIMMs DDR5-4800

SYS-221HE-FTNR / SYS-221HE-FTNRD

Medium Workload:
Short-Depth Multi-GPU Edge Server
- 1U Compact Edge/5G Server
- 2 NVIDIA L4
- 2 Internal drive bays
- 8 DIMMs DDR5-4800

SYS-111E-FWTR

Recommended NVIDIA GPUs

L4
- HHHL SW
- PCIe 4.0 x16
- 72W
- 24GB GDDR6

L40S
- FHFL DW
- PCIe 4.0 x16
- 350W
- 48GB GDDR6

L40
- FHFL DW
- PCIe 4.0 x16
- 300W
- 48GB GDDR6

RTX 6000 Ada
- FHFL DW
- PCIe 4.0 x16
- 300W
- 48GB GDDR3

Large Workload:
Compact System
- Powerful expandable server for the Edge
- 1 NVIDIA L40S or 2 L4
- 8 DIMMs DDR5-4800
- 4 NVMe Drives

SYS-E403-13E

Medium Workload:
Short-Depth Multi-GPU Edge Server
- Compact Mini-1U Server
- NVIDIA A2 or T1000
- Up to 64GB DDR4
- M.2 M/E-Key

SYS-E300-13AD

Small Workload:
Embedded System
- Ultra-compact fanless edge server
- CPU (or ASIC) based Inference
- Up to 64GB DDR5
- M.2 M/B/E-Key with Nano SIM card slot

SYS-E100-13AD

Small Workload:
Fanless System
- CPU (or ASIC) based Inference
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Accelerate Edge AI Workloads
Edge Video Transcoding, Edge Inference, Edge Training

Opportunities and Challenges:
- Space and weight limitation, power constraints
- Balancing data throughput for video and audio requirements with cost of storage and bandwidth constraints
- Latency impacting response time and service quality
- Data privacy and security, regulatory compliance
- Resiliency in face of network outages
- Long product lifecycle requirements

Key Technologies:
- CPU or GPU-based Edge AI Inferencing, GPU-based Edge AI training, and video transcoding/encoding/decoding
- NVIDIA L4, L40S, L40, A30, A40, T4, A2 GPUs
- Short-depth chassis design for edge locations with AC or DC power supply options
- Front I/O with broad range of expansion and I/O port for flexibility and serviceability
- Ruggedized systems designed to be placed outside of the data center

Solution Stack:
- NVIDIA® TensorRT™ and Triton Inference Server
- NVIDIA DeepStream, Clara, Merlin, Metropolis, Morpheus, Omniverse, and Riva
- NVIDIA Fleet Command
- Intel® OpenVINO

Use Cases:
- Video processing: decode, encode, and transcode
- Edge inference: vision, speech, anomaly detection, etc.
- Markets: security and surveillance, retail, manufacturing, healthcare, and medical devices

GPU Acceleration for Complete Range of Workloads

Go to www.supermicro.com/ai or scan the QR code to download the AI Workload Solution Brochure: