Supermicro 8K VIDEO TRANSCODING SERVER

LOW LATENCY, HIGH DENSITY, REAL-TIME VIDEO TRANSCODER

Introduction

With the birth of the metaverse and interactive streaming video applications such as cloud gaming and video conferencing, streaming video platforms are facing operational pressure to improve both encoding performance and power efficiency while minimizing their environmental footprint.

The Supermicro Video Transcoding Server future proofs hyper-scale real-time streaming video platforms with higher levels of performance compared to CPU based software-encoding systems, while simultaneously reducing TCO by as much as 40x and carbon emissions 80x.

192 Broadcast Quality 1080p60 Live Streams in 1RU
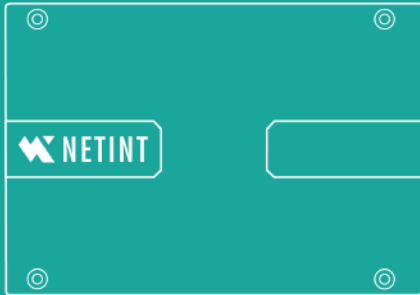
**12 NETINT Quadra T1 2.5"
U.2 Video Processing Units**
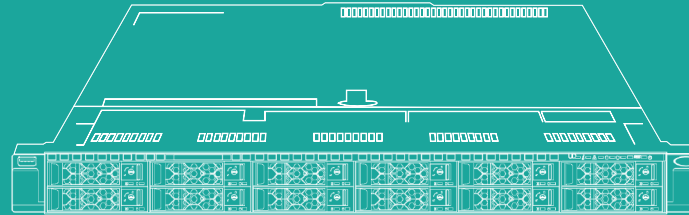
Supermicro SYS-120U-TNR Server

- High throughput, low latency, multi-stream transcoding server.

- Simple setup using industry standard hardware and open source software tools.

- Typical workloads include live streaming, real-time interactive video applications, cloud gaming, and more.

The Supermicro Video Transcoding Server is built on the Supermicro Ultra series and features advanced encoding capability enabled by twelve NETINT Quadra T1 Video Processing Units. The Quadra T1 VPU is powered by the Codensity G5 ASIC video transcoder with built-in AI and ML computational blocks. Quadra T1 supports AV1, HEVC and H.264 video encoding at up to 8K resolution and with 10-bit HDR.

The high throughput of the Supermicro Video Transcoding Server enables ultra low latency encoding of 192 broadcast quality 1080p60 streams in a compact 1RU form factor.

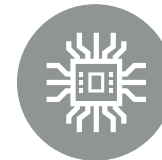|				
Cloud Gaming	AR / VR	Security	OTT / IPTV	Conferencing
Home Monitoring	AI Acceleration	Live Streaming	Social Mobile Video	Virtual Desktop

Benefits

Ultra High Density
Forty times increase in video encoding density as compared to software.

8K/4K/UHDTV/HDTV
Supports a wide variety of streaming applications.

Low Latency
Enables Interactive video applications including Cloud Mobile Gaming, AR and VR.

AI Deep Neural Network Engines
Enables advanced processing including object detection, classification, segmentation and ROI for image quality improvement and content adaptive rate control.

AV1, HEVC, H.264
Multi-format Transcoding, Encoding, and Decoding.

Real-Time Encoding
Optimized for live streaming and interactive video applications.

Scalable
High capacity encoding throughput for rapid deployment of additional channels.

Video 2D Processing Engines
Video Cropping, Padding and Scaling for Encoding Ladder Generation and Image Composition. Video Overlay, YUV and RGB Conversion.
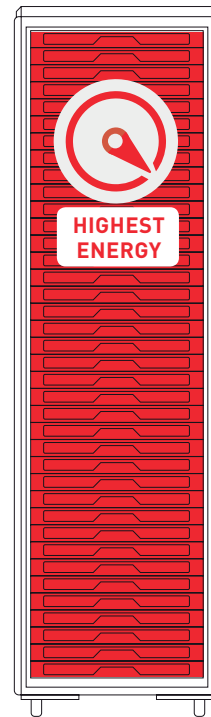
Total Cost of Ownership

The Supermicro Video Transcoding Server enables a reduction in TCO for hyperscale cloud platforms and video service providers.

Using Codensity ASIC-powered video processing units, video services and platforms can reduce their TCO and server footprint by 40x while reducing carbon emissions 80x as compared to CPU-powered software video transcoders. This increase in encoding density expands the number of channels that can be encoded without increasing the rack footprint. Reduced power and HVAC cost means a lower TCO and higher density can be achieved without sacrificing video quality or latency.

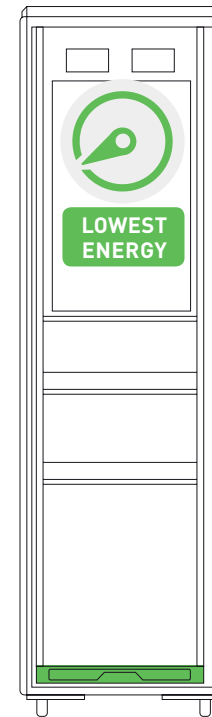## Video Encoding with Lowest TCO and Highest Density

58W Total Server Power Per Stream

1W Total Server Power Per Stream

HIGHEST ENERGY

LOWEST ENERGY

$5,669,000 operational cost savings per year based on 10,000 live streams.

The Supermicro Video Transcoding Server utilizes one-fortieth the rack space for the same number of streams as compared with CPU-based video encoders.

NETINT Codensity video transcoders use 80X less energy than CPU powered video transcoding systems.

$5,800,000
Software on CPU*

$131,000
Supermicro Video Transcoding Server

*Total Annual Operating Cost Per 10,000 Streams

SUPERMICRO®

Simple Integration

Leveraging FFmpeg, the Supermicro Video Transcoding Server provides an open-source suite of video processing tools. Video operators can easily and quickly integrate the Supermicro Video Transcoding Server into their existing encoding infrastructure.

INPUT CODECS
H.264/HEVC/VP9

OUTPUT CODECS
H.264/HEVC/AV1
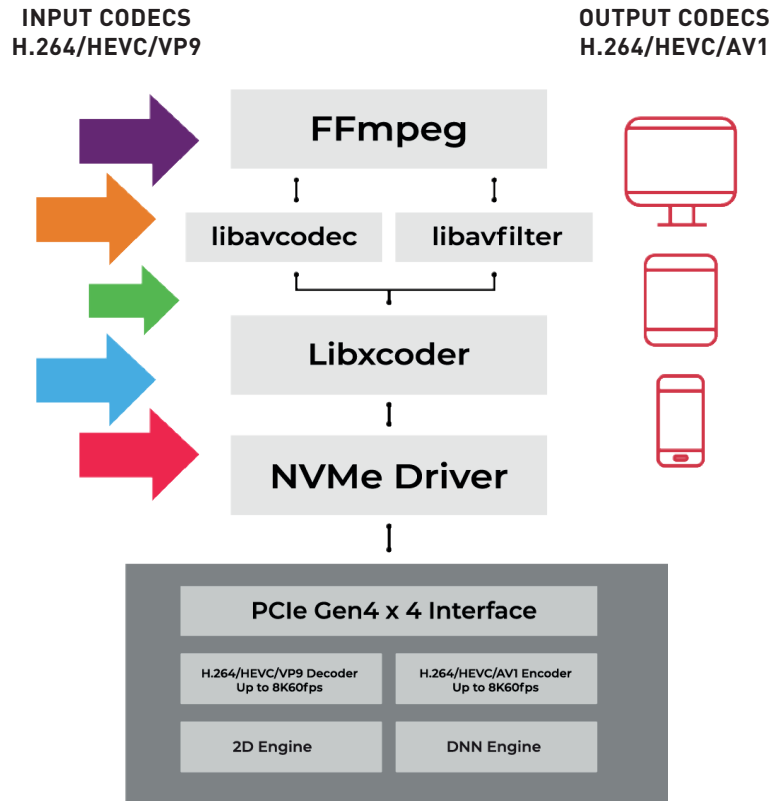
Supermicro Video Transcoding Server Specifications

Compute	Intel Xeon Class Processor
Memory	Up to 12TB (32 DIMMs)
NVMe support	12x
PCIe Expansion	Up to 4x PCIe slots
Network Options	1 Ultra Riser NIC
Maximum Power	1200W
Transcoders	12x NETINT Quadra T1
Transcoding Capacity	192 simultaneous 1080p60 Streams
Codec Support	H.264, HEVC - Encode/Decode AV1 – Encode only VP9 - Decode only
AI Engine	216 TOPS per server

For more information about the Supermicro Video Transcoding Server, contact us at:

✉ Marketing@Supermicro.com

🌐 www.supermicro.com

For more information on NETINT VPU solutions, contact us at:

✉ go@netint.ca

🌐 www.netint.ca