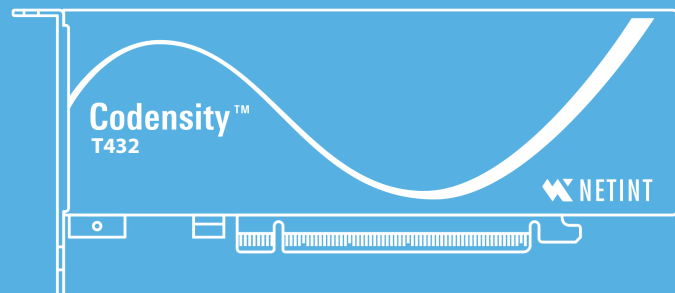


T432 Video Processing Unit.

High Density Video Encoding for x86 and Arm Servers.

The NETINT T432 is a PCIe video processing unit with four Codensity G4 ASICs. Operating in x86 and Arm-based servers, the T432 enables video operators to move from software to hardware-based encoding and benefit from a 10x TCO reduction, 10x increase in encoding density and 20x carbon footprint reduction compared to CPU-based software video encoding.

Applications



OTT / IPTV



Video Conferencing



Cloud Gaming



AR / VR



Home Monitoring



Social
Live Streaming



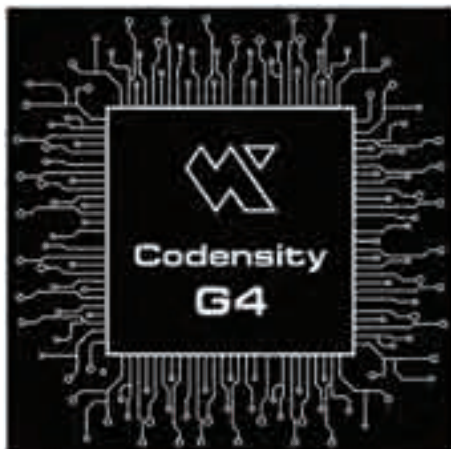
Live Streaming



Surveillance



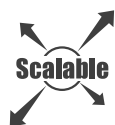
AI Acceleration



Codensity™ G4

The core of NETINT's Codensity technology is an in-house built ASIC to increase encoding density compared to CPU based software encoding solutions. 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.

FEATURES and BENEFITS



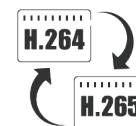
Scalable U.2 form Factor

Simple upgrade for existing server infrastructures.



Reduces bandwidth up to 50%

Reduced bandwidth costs and increased network capacity.



H.264/H.265 Real-Time Encoding

Can be used in a wide variety of encoding applications:

- OTT/IPTV
- Video Conferencing
- Cloud Gaming
- AR/VR
- Home Monitoring
- Social Live Streaming
- Live Streaming
- Surveillance
- AI Acceleration



Ultra-High Density

Up to 16x 1080p60 streams per T432. Higher encoding density per server with reduced server rack footprint.



Compatible with FFMPEG

Simplified system integration.



Ultra-Low Latency Performance

Ideal for applications requiring ultra-low latency including cloud gaming and AR/VR.

DESIGNED FOR THE CLOUD

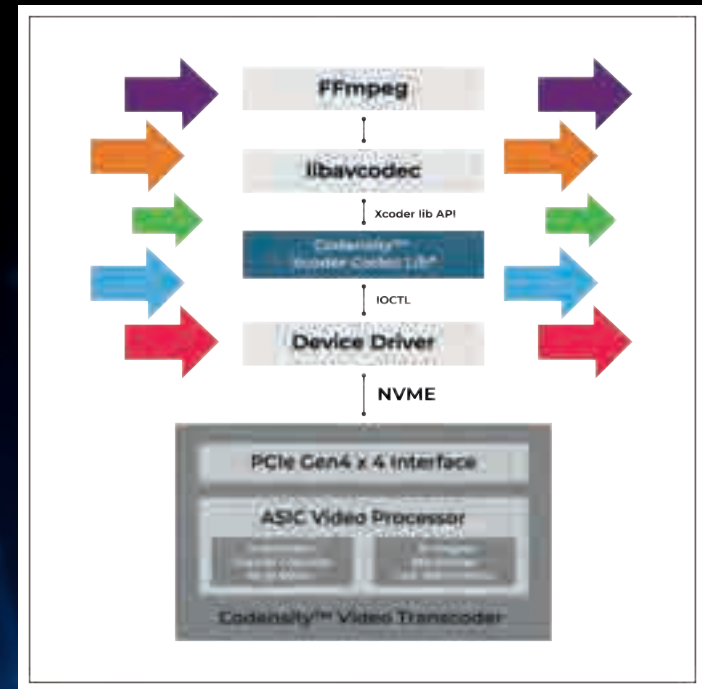


High Density, Low Power Transcoding

T432 is packaged as a PCIe add-in-card that can be installed into any server and is equipped with an ultra-high capacity HEVC, H.264 encoder and decoder. A single T432 module can process up to 4x 4Kp60 streams. In addition, each T432 module consumes only 27 watts of power. The high-density transcoding architecture and ultra-low power consumption of T432 enables service providers to effectively address the growing demand for internet based streaming video while minimizing overall operational expenditures.

High Power Efficiency

Each T432 PCIe add in card consumes only 27W of power at full load. A server fully populated with T432s is able to offer ultra dense encoding capabilities in a space efficient form factor.



Software Integration with FFmpeg Library Support

Many video processing and transcoding applications developers are familiar with FFmpeg, an open-source software library with a vast suite of video processing functions. The T432 solution includes a highly-efficient FFmpeg compatible SDK, requiring operators to simply apply a FFmpeg/libavcodec patch to complete the integration. The libavcodec patch on the host server functions between the T432 PCIe interface and the FFmpeg software layer, allowing existing video transcoding applications already using FFmpeg to achieve quick and significant performance and capacity upgrades with T432 Massif Transcoders.

Total Cost of Ownership

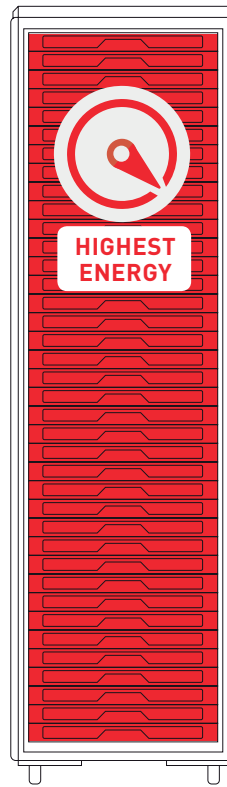
The NETINT T432 enables a reduction in TCO for hyperscale cloud platforms and video service providers.

NETINT's Codensity technology uses a purpose built ASIC to increase encoding density compared to software-based solutions. 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

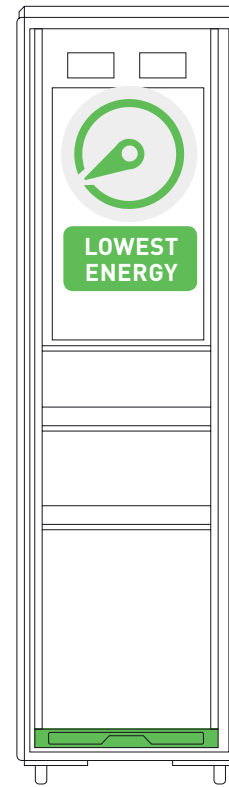
58W Total Server Power Per Stream

3W Total Server Power Per Stream



\$580,535

Software on CPU*



\$52,403

NETINT Video Processing Units*

*Total Annual Operating Cost Per 1,000 Streams

\$525,000 operational cost savings per year based on 1,000 live streams.

NETINT T432s use one-tenth the rack space for the same number of streams as compared with CPU-based video encoders.

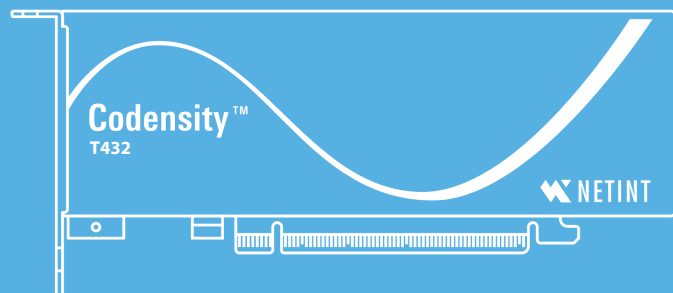
NETINT video processing units use 20X less energy than CPU powered video transcoding systems.

TECHNICAL SPECIFICATIONS



T432 Video Processing Unit

Form Factor	AIC (HHHL)
Interface	PCI-Express 3.0x16 bifurcated to 4x4
Protocol	NVMe
Power Consumption (Typical)	27W
Usage	24/7 Operation
Operation Temperature	0 degrees C to 70 degrees C
RoHS Compliance	Meets requirements of European Union (EU) ROHS Compliance Directives
Product Health Monitoring	Self-Monitoring, Analysis, and Reporting Technology (SMART) commands; Temperature Monitoring and Logging
Hardware Interface	Available PCIe slot



VIDEO ENCODE/DECODE

Profile	H.264 AVC	CBP / BP / XP / MP / HiP / HiP10
	H.265 HEVC	Main / Main10
Level	H.264 AVC	1 to 6.2
	H.265 HEVC	1 to 6.2 Main-Tier
Max Resolution		8192 x 5120
Min Resolution		32 x 32
Scan Type		Progressive
Bitrate		64kbit/s to 700Mbit/s
Software Integration		FFmpeg SDK, Direct Integration with LibXcoder API
Capacity		Up to 4x 4K @ 60 fps 4x 1080p @ 240 fps

ADVANCED FEATURES

Region of Interest (ROI)	ROI permits the quality of some regions to be improved at the expense of other regions
Closed Captioning	T432 supports EIA CEA-708 closed captions for H.264 and H.265 encode and decode
High Dynamic Range (HDR)	T432 supports HLG, HDR10 and HDR10+ for H.264 and H.265 encode and decode
Low Latency	T432 supports sub-frame latency
IDR Insert	Forced IDR frame inserts at any location
Flexible GOP Structure	8 presets plus customizable GOP structure

ABOUT

NETINT Technologies is an innovator of ASIC-based video processing solutions for low-latency video transcoding that operates on x86 and ARM-based servers. Users of NETINT solutions realize a 40X increase in encoding density and a 80X reduction in carbon emissions compared to CPU-based software encoding solutions.

For more information, please visit our official website at: www.netint.ca or contact us by E-mail: info@netint.ca

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