NETINT

QUADRA T2   NETINT

GPU
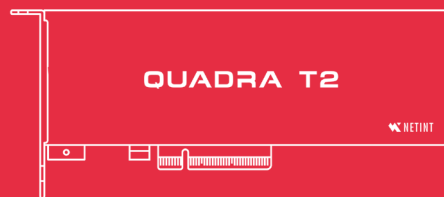
Integrated Game Streaming Platform

LOW LATENCY, HIGH DENSITY, REAL-TIME GAME STREAMING FROM THE CLOUD

Introduction

With the growth of interactive streaming video applications including cloud gaming, Hyper-Scale video platforms are facing operational pressure to improve both video processing and encoding performance while maximizing power efficiency and simultaneously minimizing their environmental footprint.

The Integrated Game Streaming Platform, powered by NETINT ASIC encoding technology gives hyper-scale cloud gaming platforms increased levels of performance compared to CPU based software-encoding systems, while simultaneously reducing TCO by as much as 40x and carbon emissions 80x.

200 Live Game Video Streams in 1RU

**NETINT Quadra T2
Video Processing Units**
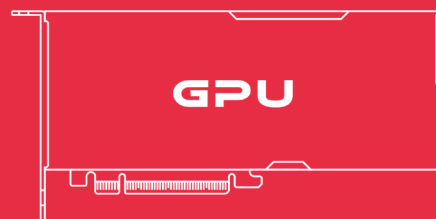
Graphics Processing Unit (GPU)

1RU x86 or Arm Server

The Integrated Game Streaming Platform's class leading performance is the result of harnessing the advanced encoding capabilities of NETINT's T2 Video Processing Unit (VPU) with a Graphics Processing Unit (GPU) to create a totally integrated high-density game streaming solution.

The **Quadra T2** is a next generation low-latency, real time Video Processing Unit featuring AV1, HEVC and H.264 video encoding at up to 8K resolution with 10-bit HDR.

The addition of a GPU to the Integrated Game Streaming Platform enables high-performance rendering of graphics intensive 3D gaming workloads needed to deliver immersive cloud gaming experiences.

The combination of the Quadra T2 and a GPU enable the ultra low-latency, high throughput of the **Integrated Game Streaming Platform** with capacity of up to 200 live game video streams in a compact 1RU form factor.

Benefits

Ultra High Density
Fifty times increase in game streaming density compared to software

8K/4K/UHDTV/HDTV
Supports a wide variety of cloud gaming formats.

Ultra Low Latency
Optimized for metaverse video and cloud gaming applications. 8ms latency.

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 support for operational flexibility.

Real-Time Encoding
High-performance GPU acceleration for immersive cloud gaming experiences

Scalable
High capacity throughput for rapid deployment of additional gaming streams.

Video 2D Processing Engines
Video Cropping, Padding and Scaling for Encoding Ladder Generation and Image Composition. Video Overlay, YUV and RGB Conversion.
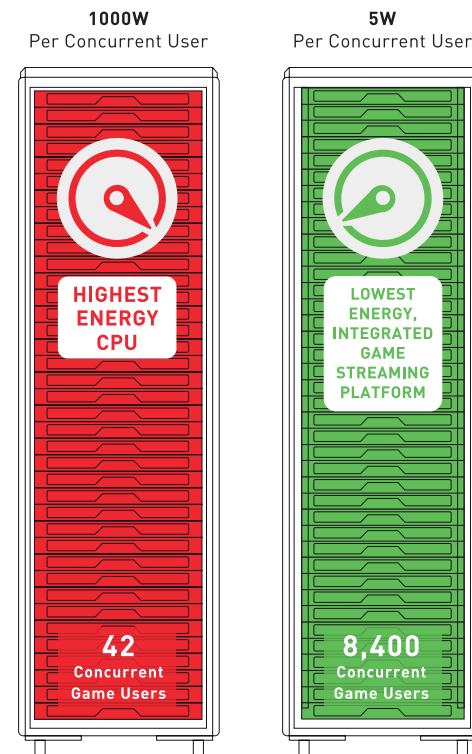
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Scalability and Operational Efficiency

Utilizing the Integrated Game Streaming Server, mobile gaming platforms can reduce their server footprint by 50x compared to CPU-powered software game processing and encoding.
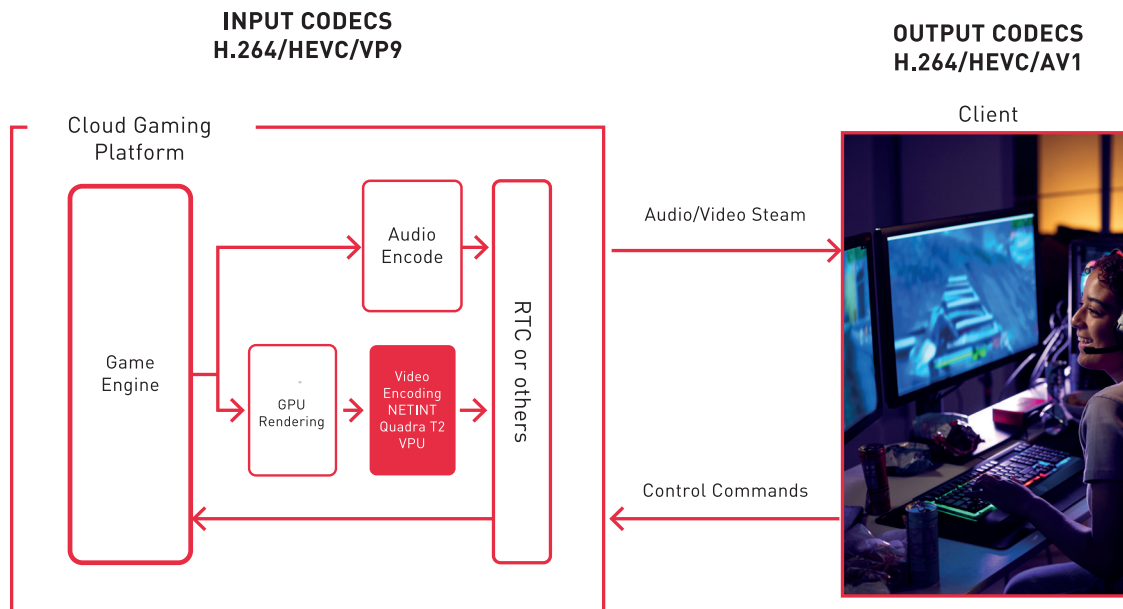
This increase in game rendering and encoding density expands the number of channels that can be encoded without increasing the rack footprint. Higher density can be achieved with reduced power and without sacrificing video quality or latency.

High Density, Lowest Power Game Processing and Encoding

42RU Rack Comparison

1000W
Per Concurrent User

5W
Per Concurrent User

HIGHEST ENERGY CPU

LOWEST ENERGY, INTEGRATED GAME STREAMING PLATFORM

42
Concurrent Game Users

8,400
Concurrent Game Users

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Architecture

The advanced architecture of the Integrated Game Streaming Platform leverages a high-performance GPU for real-time rendering of complex game graphics which are then encoded in real-time by the Quadra T2 VPU. The combined capacity of this architecture enables 200 game streams to be processed and encoded concurrently.

**INPUT CODECS
H.264/HEVC/VP9**

**OUTPUT CODECS
H.264/HEVC/AV1**

Client

Cloud Gaming Platform

Audio/Video Steam

Game Engine

Audio Encode

RTC or others

GPU Rendering

Video Encoding NETINT Quadra T2 VPU

Control Commands

Integrated Game Streaming Platform Specifications

Compute	x86 or Arm based server
Memory	Up to 12TB (32 DIMMs)
NVMe support	12x
PCIe Expansion	Up to 4x PCIe slots
Network Options	1 Ultra Riser NIC
Maximum Power	1000 Watts
Transcoders	12x NETINT Quadra T1
Rendering Engine	GPU
Game Processing Capacity	200 Simultaneous Game Streams
Codec Support	Encode: AV1, HEVC, H.264 Decode: VP9, HEVC, H.264
AI Engine	216 TOPS per server

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

✉ go@netint.ca

🌐 www.netint.ca