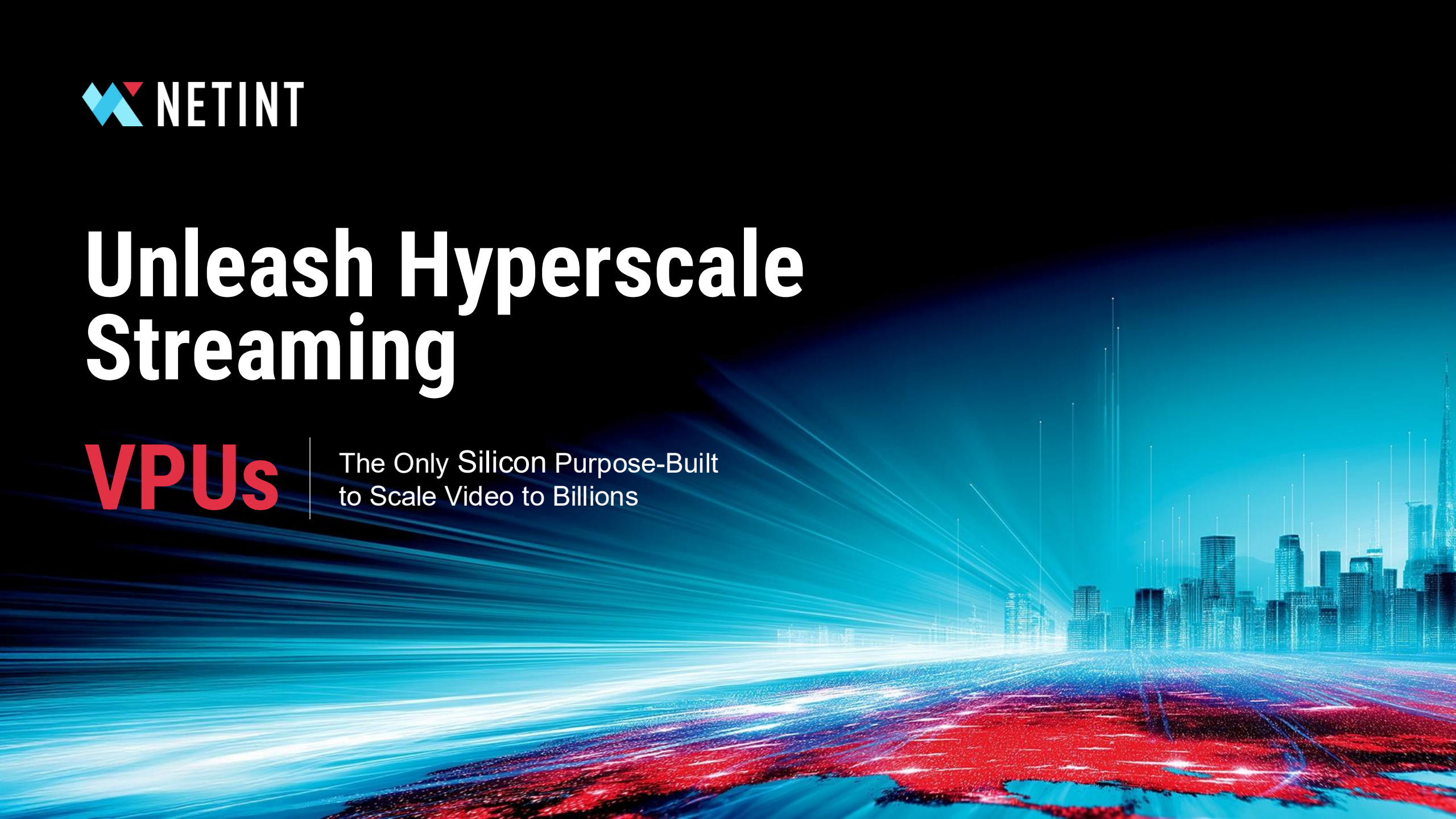




Unleash Hyperscale Streaming

VPUs

The Only Silicon Purpose-Built
to Scale Video to Billions

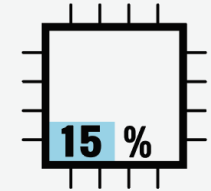


Streaming is broken because it's built with general-purpose hardware.

GPUs dabble in video. CPUs choke on it.

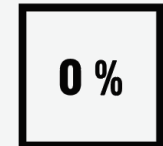
Neither was built for the demands of hyperscale streaming. They're slow, inefficient, and expensive.

GPU



15% Video Encoding
85% AI Inference

CPU



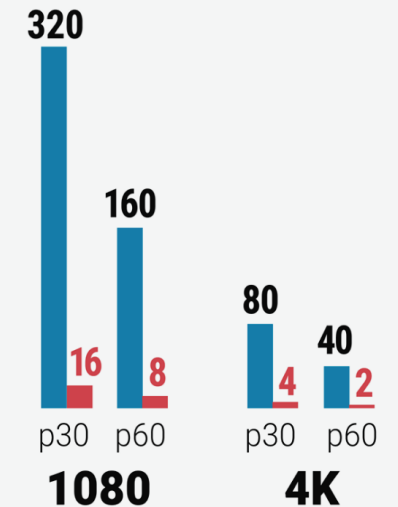
0% Video Encoding
100% General Compute

VPUs are the Only Game in Town.

VPUs don't dabble in video.
They dominate it.

100% video-dedicated, delivering the scale, speed, and efficiency that CPUs and GPUs can't touch.

NETINT VPUs are the only commercially-available silicon built for hyperscale streaming.



VPU vs CPU

Video streams
encoded per resolution

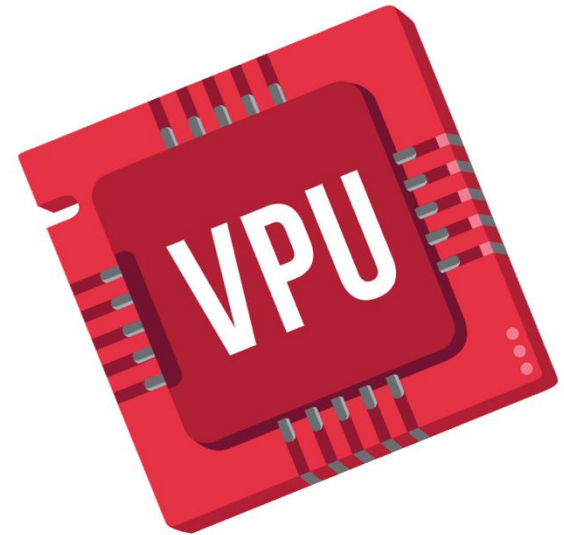
MORE INFORMATION: netint.com/go



VPUs aren't an upgrade. They're a revolution.

**The only silicon purpose-built
to scale streaming to billions.**

More than 150,000 VPUs have encoded
over 1 Trillion minutes of video to date.



We are the VPU Category Creators.

			
1st Gen ASIC	2018	2019	2021
2nd Gen ASIC	2021	2022	-
ASIC with AV1	2021	-	-
ASIC with AI	2021	-	-



Award Winner 2024
*Design & Deployment of Efficient
Hardware Video Accelerator for Cloud*

160+

Engineers from leading
silicon companies

3rd Gen VPU

Taping out in 2026



Founded in 2015
Vancouver, HQ + R&D
Toronto, R&D



MORE INFORMATION: netint.com/go

A professional video camera on a tripod is shown in silhouette against a vibrant, blurred background of red and blue light. A small monitor is attached to the side of the camera, displaying a video feed. The overall scene suggests a high-tech or cinematic environment.

VPU Use Cases



Infrastructure-as-a-Service (IaaS)

- Significant and impressive cost reductions in monthly subscription costs and egress fees in a VPU infrastructure
- Enable high-density decoding and encoding in the cloud

VPU Plan	\$/mo	\$/hr	T1U VPUs	CPU's	RAM	Storage
Small	\$280	\$0.42	x1	8	16 GB	200 GB
Medium	\$352	\$0.53	x1	12	24 GB	300 GB
Accelerated	\$488	\$0.73	x2	12	24 GB	300 GB

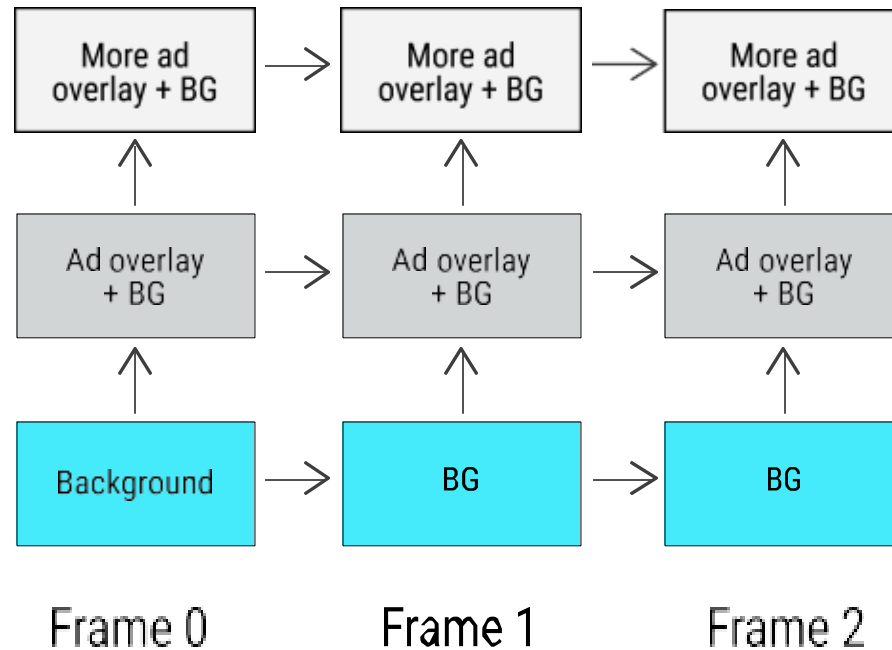
VPUs delivered:

- Mature and proven high-density video transcoding solution in cloud with a large customer base
- Virtualization with PCIe VF/PF to separate management from transcoding service

VPU Use Case

Multilayer AV1 Encoding

Multiple layers for creative variations of ads and effects



VPUs delivered:

- Up to 4 layers (BL, EL1-3)
- Customizable reference structure
- Realtime 1080p60 performance

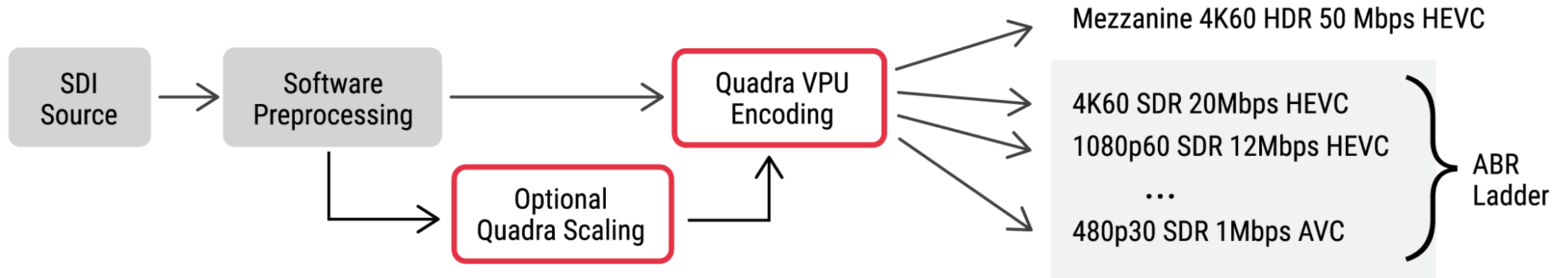
VPU Use Case

Live Contribution Encoding

- SDI Source Capture, high-quality, high-density
- Generates mezzanine stream and ABR ladder simultaneously
- Reduced latency and better quality-control compared with cloud ABR ladder generation

VPU delivered:

- Encoding (e.g. 4K60 10-bit HEVC)
- ABR ladder generation (e.g. 4K/1080p/720p/480p with various codecs and bitrates)



MORE INFORMATION: netint.com/go

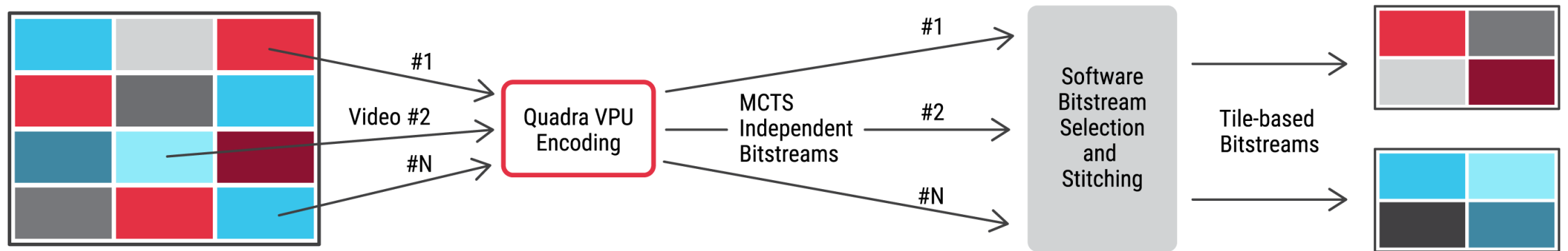
VPU Use Case

Multiview Encoding

- For live streaming multiple games simultaneously in user-defined quad split screen
- YouTube, NBA etc have this feature, ideal for fantasy sports, watching and betting

VPUs delivered:

- Stitching 4 independent bitstreams into one tile-based bitstream
- MCTS encoding to prevent motion vectors from crossing tile boundaries
- Encode only once for each stream, not for each combination





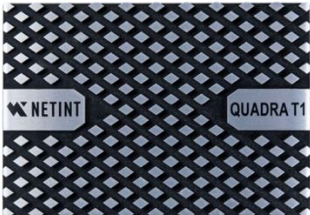
VPU Products

Quadra VPU Family.

- Encodes 32 x1080p30 per chip: AV1, HEVC, H.264
- Decodes 48 x1080p30 per chip: VP9, HEVC, H.264
- 4K & 8K HDR with scaling and graphics engine
- 18 TOPS AI engine per chip

T1U

U.2 x 1 chip



T1M

M.2 x 1 chip



T1A

AIC x 1 chip



T2A

AIC x 2 chips



Quadra Video Server.

Offload video processing functions like deinterlacing and MPEG-2 decoding to the CPU while VPUs supercharge your encoding operations.

320

simultaneous live 1080p30 encoding
sessions at ultra-low latency
in a compact 1RU server



MORE INFORMATION: netint.com/go

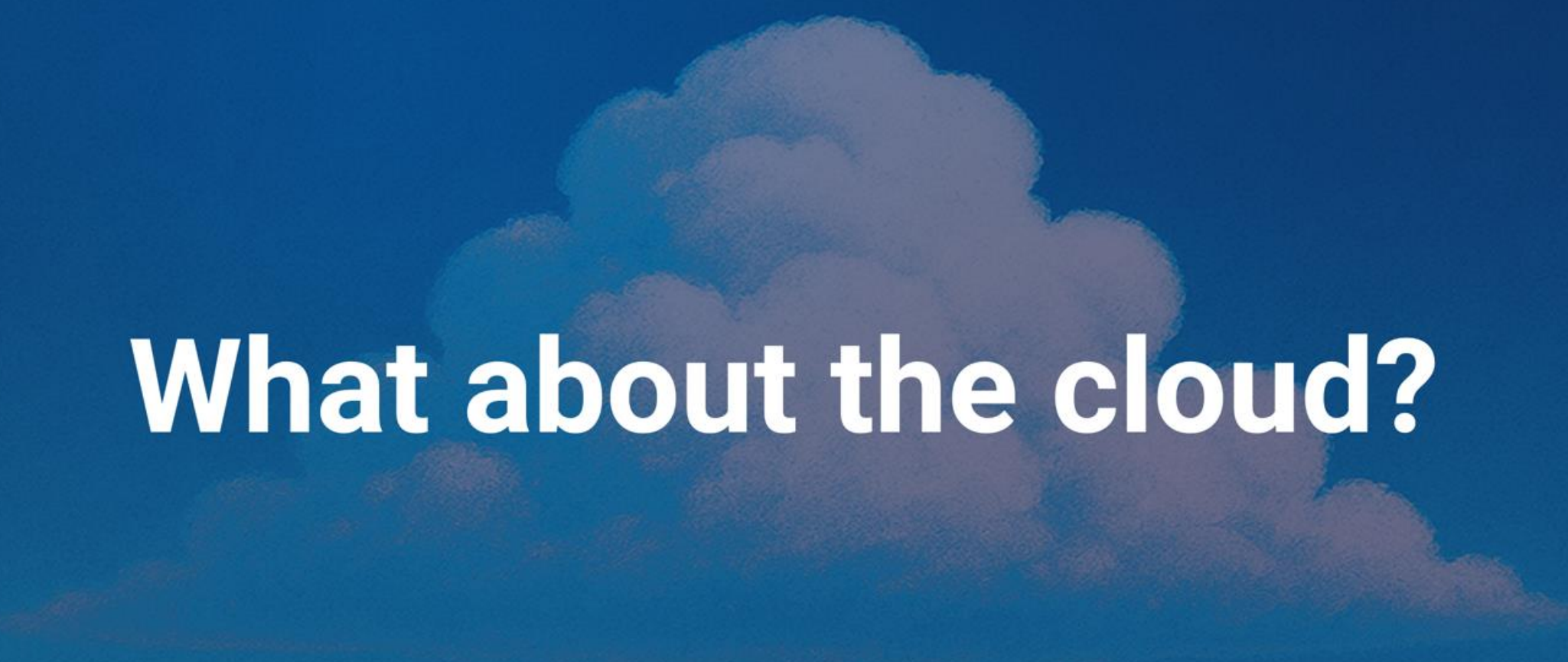
Quadra Mini Server.

- **Ideal for mobile broadcast** on-site event recording and distribution of single stream with edge processing.
- **Push multiple simultaneous streams** to social sites.     
- **Includes T1M Smart VPU**
- **Includes SDI capture card inside**

Blackmagicdesign 



MORE INFORMATION: netint.com/go



What about the cloud?

Cloud Premium CPU vs. Accelerated VPU

G & L
SYSTEMHAUS

Akamai Cloud Premium 32 GB
32 GB RAM, 16 CPU cores

\$0.52/h

1 ladder 4 x HEVC

1080p30

Akamai Cloud with VPUs
Quadra T1U VPU x1 Medium
24 GB RAM, 12 CPU cores

\$0.53/h

6 ladders 4 x HEVC

1080p30

Here's what you get with VPUs:

Compared to our existing CPU Plan:

- About 75% less cost
- 9X more stream throughput
- Lowest egress costs in the industry

	Plan	# Channels	Per stream \$/mo	Egress Costs
	CPU 16 GB RAM - 8 CPU Dedicated CPU Plan	2	\$72	\$5 per TB (\$0.005 / GB)
	VPU 2x Quadra T1U Accelerated VPU Plan	18	\$15.55	
	VT1 1x Xilinx U30 Media Accelerator Plan	8	\$62.72	\$90 per TB (\$0.09 / GB)

Same Data Egress Charges in the Public Cloud
Gartner, September 2023

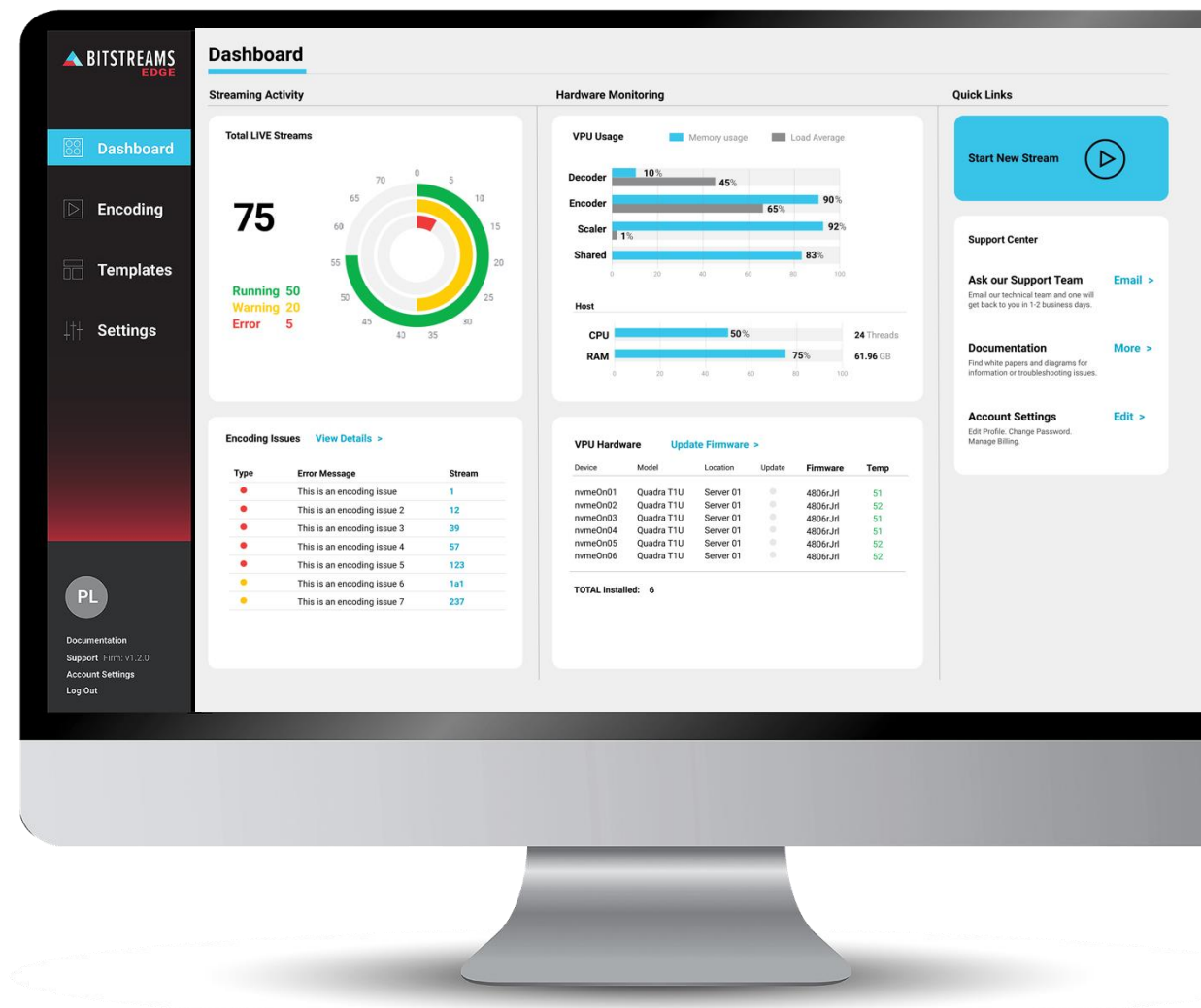
Up to 15%
average annual cloud
spend on egress fees.



FFmpeg power without the pain.

NETINT's Bitstreams™ replaces command lines with a friendly dashboard, ready-made templates, and always-on VPU optimization.

Manage, monitor, and scale without coding.



MORE INFORMATION: netint.com/go

Encoding

Create a new stream to set up encoding configurations. Or, republish streams already encoded by selecting from the list below.

[+ New Stream](#)

Configured Streams

[Clear Filters](#)

Status	Name	Input URL	Output URL	Date Created
Failed	Live Stream xcgyui7865mewpg6...	udp://239.31.1.1:8000	/live/streamname.mpd	02/03/2024
Error	Sunday Worship - February 3, 2024	udp://239.31.1.1:8000	/live/streamname.hls	01/28/2024
Running	Sunday Worship - January 28, 2024	udp://239.31.1.1:8000	/live/streamname.mpd	01/21/2024
Stopped	Sunday Worship - January 21, 2024	udp://239.31.1.1:8000	/live/streamname.hls	01/14/2024
Running	Sunday Worship - January 14, 2024	udp://239.31.1.1:8000	/live/streamname.mpd	01/07/2024
Running	TSN channel	udp://239.31.1.1:8000	/live/streamname.hls	01/01/2024
Running	NBC channel	udp://239.31.1.1:8000	/live/streamname.mpd	12/25/2023
Stopped	ABC channel	udp://239.31.1.1:8000	/live/streamname.hls	12/24/2023



Name
Detail
Output Format
Template

ABC Channel
General content
HLS / DASH
Template used

Stopped ☐

[Go to Stream Details](#)

Running	Live Stream xcgyui7865mewpg6...	udp://239.31.1.1:8000	/live/streamname.mpd	02/03/2024
Running	Sunday Worship - February 3, 2024	udp://239.31.1.1:8000	/live/streamname.hls	01/28/2024
Running	Sunday Worship - January 28, 2024	udp://239.31.1.1:8000	/live/streamname.mpd	01/21/2024
Running	Sunday Worship - January 21, 2024	udp://239.31.1.1:8000	/live/streamname.hls	01/14/2024
Running	Sunday Worship - January 14, 2024	udp://239.31.1.1:8000	/live/streamname.mpd	01/07/2024
Running	TSN channel	udp://239.31.1.1:8000	/live/streamname.hls	01/01/2024
Running	NBC channel	udp://239.31.1.1:8000	/live/streamname.mpd	12/25/2023
Running	ABC channel	udp://239.31.1.1:8000	/live/streamname.hls	12/24/2023

1 2 3 4 5 >

Encoding Stream Details

Title
TSN Channel

Description
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam quis tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Connectivity
Strong

Duration
00h 4m 36s

Stop Encoding



LIVE

Stream URLs

Copy and paste these pertinent URLs for posting and sharing stream.

Input URL

Backup Input URL

DVR Enabled ☒

Encoding Template

Cover Graphic

Playback URLs

For Multicast output, copy these URLs and paste where...

1920 x 1080

1280 x 720

960 x 540

640 x 360

480 x 270

Encoding Stream Details

Title
TSN Channel

Description
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam quis tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Connectivity
Strong

Duration
00h 00m 00s

Start Encoding



NOT LIVE

Stream URLs

Copy and paste these pertinent URLs for posting and sharing stream.

Input URL

Backup Input URL

DVR Enabled ☒

Encoding Template

Cover Graphic

Playback URLs

For Multicast output, copy these URLs and paste where...

Templates Edit Existing

Edit existing encoding template configuration.

Template Title
h264 multicast ☒ Set as default

Configurations

Encoding Parameters

- ☐ Normal Quality (default)
Best suited for this reason
- ☐ High Quality
Best suited for this purpose
- ☒ Custom

Look Ahead

RDO Level

RDO Quantity

Outputs

Video Parameters		Audio Parameters		Formats	
Name	Codec	Bitrate (kpbs)	FPS (frame rate)	Resolution	
Output 1	H264	4.5	auto detect	1280 x 720	 
Output 2	H264	2	auto detect	960 x 540	 
Output 3	H264	1.1	auto detect	854 X 480	 
Output 4	H264	365	auto detect	640 x 360	 
Output 5	H264	> 145	auto detect >	480 x 270	 

+ Add new

Optional

Real-Time Captioning (AI)

Graphic Overlay

Off ☒ On

Language

Encoding New Stream

Title

Description

Input Type

Select your desired input type below:

- ☒ Bitstreams Provided URL
Bitstreams will provide an RTMP and SRT URL, address that and pasted in the encoder. The encoder will send the stream
- ☐ User Provided URL
You will provide a DASH/HLS or UDP (multicast address) to video stream to Bitstreams.

Encoding New Stream

☒ Redundancy Increases stream resilience by creating backup paths in event of failure.

Select Region(s)

+ Add Region Reconnect Interval: 60s

Output Name	Template	Visibility	Signing Key	Play Protocol
Output 1	>	>	>	HLS / DASH >

+ Add Output

Account Settings

Manage Profile

Notifications

Manage Billing

Billing Cycle

May 1-30, 2024



Streaming Plan

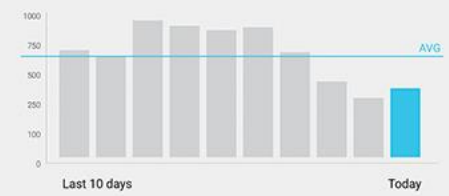
Bitstreams Cloud

Pay-as-you-go

Billing Cycle: Calendar Month

Bitstream Usage

For this billing cycle



Payment Activity

Next Invoice	May 31, 2024	
Payment Received	September 15, 2024	\$27.26
Past Invoices		
April, 2024	\$27.26	PDF
March, 2024	\$59.34	PDF
February, 2024	\$106.26	PDF
January, 2024	\$27.26	PDF
Export All Invoices	PDF	

Billing Information

Person in charge
Company Name
Street Address
City, ST Zip



Thank you.

We want to hear what you're building.
Allow us to share our industry insights
to improve your outcome.

sales@netint.com
netint.com

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