

Vindral Live CDN

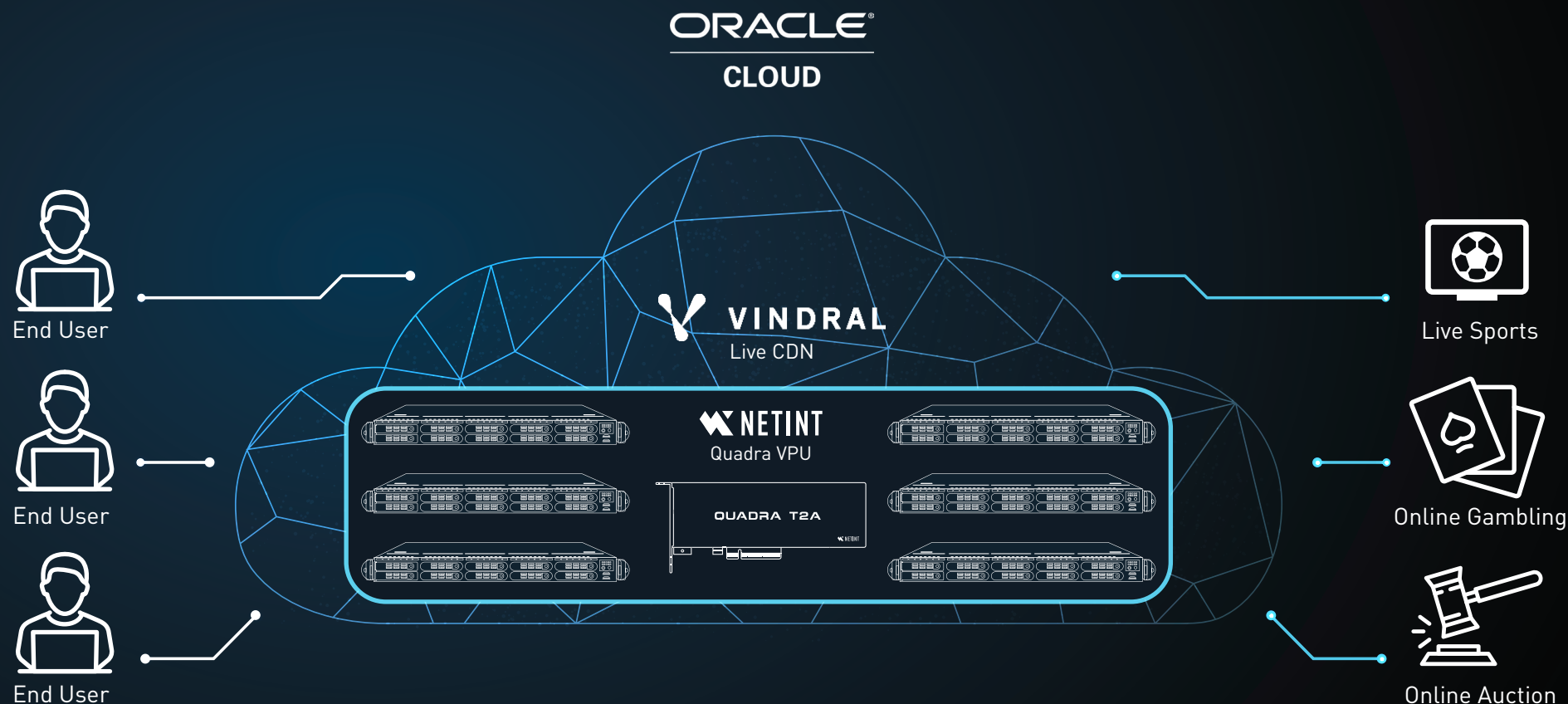
NEXT GENERATION, LOW LATENCY AV1 LIVE STREAMING PLATFORM

Introduction

The growth of interactive video services including live auctions, live sports, and game shows requires all participant interactions to be fully synchronized and delivered with ultra-low latency in order to secure compliance and to enable an interactive user experience.

To meet these demanding requirements, RealSprint developed the Vindral Live CDN (Content Delivery Network) Platform. Vindral's AV1 capabilities are powered by NETINT's Quadra VPU (Video Processing Unit) and with its ultra-low-latency performances ensures a significant advantage compared to real-time solutions, in retaining high-quality playout when scaled.

Vindral Live CDN



Welcome to the first hyperscale 4K, 10-bit HDR AV1 Video encoding platform. Vindral Live CDN's ultra-low-latency, synchronized performance is powered with NETINT's Quadra VPU and runs on the Oracle Cloud ensuring robust performance and reliability with scalability for every workload. AV1 live streams encoded on the Vindral platform are playable in Google's Chrome web browser, ensuring wide device and platform compatibility.

Vindral Live CDN delivers next-generation live streaming with sub-second latency, synchronized playout, and 4K video quality at a global scale, ensuring an immersive user experience in every application.



4K VIDEO QUALITY

From live sports to remote inspections, audiovisual quality is more important than ever. Vindral live CDN enables crystal clear experiences with unmatched stability, even for viewers on congested networks. Maintaining image quality, especially at 4K, marks a significant advantage over other low-latency solutions such as WebRTC.



ULTRA-LOW LATENCY

Vindral live CDN keeps viewers on a known latency of your choice. Whether you need 700ms glass-to-glass or prefer around a second, the decision is yours. The configurable buffer ensures that your viewers get the experience that you choose. The most common configurations are set at sub-second glass-to-glass.



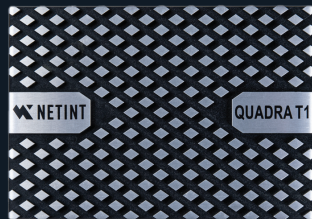
ADAPTIVE BITRATE

Vindral Live CDN features multi-ABR transcoding, which provides a viewer experience that adapts to the internet connection for each viewer. Using ABR, streams ranging from 4K 20Mbit/s down to 360p 0.5Mbit/s can be provided.



SYNCHRONIZED PLAYOUT

No viewers are left behind. With Vindral's synchronized functionality, the content reaches all devices at the same time, creating a coherent experience at a guaranteed latency.



The groundbreaking AV1 low-latency synchronized performance of the Vindral Live CDN is produced by the advanced capabilities of NETINT's Quadra Video Processing Unit (VPU). The Quadra VPU features ultra-low-latency, real time AV1, HEVC and H.264 video encoding at up to 8k resolution with 10-bit HDR.

The Quadra VPU is available in both U.2 and AIC (HH HL) form-factors for an easy drop-in upgrade on any existing server. Operating in x86 and Arm-based servers, Quadra VPUs enable video operators to move from software to hardware-based encoding to power real-time video applications at a TCO that is 40x less than CPU-based solutions while enabling an 80x reduction in carbon emissions.

The high throughput of the Quadra VPU enables ultra-low latency encoding of 192 broadcast quality 1080p60 streams using AV1, HEVC, or H.264 in a 1RU server.

Quadra's high performance is complimented with its ultra-low-power consumption which is as low as 20 watts per module, reducing TCO by 40x and carbon emissions by as much as 80x compared to software based encoding.

NETINT VPU Benefits

Ultra High Density

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

8K/4K/UHDTV

Supports a wide variety of streaming applications.

Ultra-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.

Ultra-Low Power

Power consumption as low as 20 watts per Quadra module enabling a 40x reduction in TCO and a 80x reduction in carbon emissions compared to software encoding.

Video 2D Processing Engines

Video cropping, padding and scaling for encoding ladder generation and image composition, video overlay, YUV and RGB conversion.



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

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For more information on **Vindral Live CDN**:

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