



SOLUTION BRIEF

High Density 4K 10-bit HDR HEVC Encoding Solution

Performance Highlights

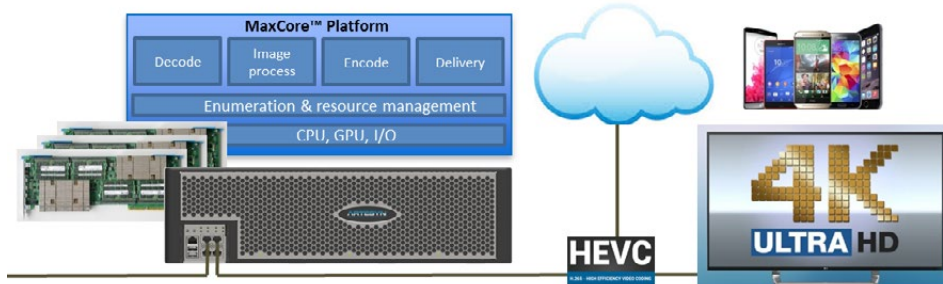
- Encode up to 27 4Kp30 10-bit HDR live video streams per 3U MaxCore™ platform
- Supports HDR10 and Dolby Vision
- GPU accelerated software encoder operates on Intel® Iris™ Pro graphics P580 GPU
- Supports on-the-fly configuration of all encoding parameters

UHD is now a standard feature of almost all TVs and many high-end second screen devices. However, the cost of encoding UHD HDR combined with the high delivery bandwidth that is needed inhibits the mass availability of HDR and UHD content for OTT and broadcast TV. The Beamr 5 Intel® Iris™ Pro GPU accelerated HEVC software encoder running on the Artesyn SharpStreamer™ Pro PCIE-7210 card overcomes these obstacles by enabling content distributors to implement cost-effective architectures for transcoding, storage, and delivery of UHD HDR video content.

With the Beamr 5 HEVC software encoder, and Artesyn's virtualizable, open-standard MaxCore™ platform that features x86 Intel® E3 processors with the Intel Iris Pro P580 GPU, this powerful system can achieve 4Kp30 real-time (live) video encoding with 10-bit HDR on a single E3-1585L processor – density never before possible in

today's video encoding workflows. Beamr's codec SDK and FFmpeg plugin integrate easily with any video processing environment or architecture, creating a flexible and cost-effective, high-density software encoding solution.

Beamr 5 operating on the Artesyn SharpStreamer Pro PCIE-7210 card is an ideal solution for edge encoding and JIT architectures where a single format file is distributed across the network and transcoded to individual profiles just prior to last mile delivery. This has the distinct advantage of reducing network egress and storage, while enabling the optimum profile to be created for each device. Instead of transcoding a large, predetermined set of file formats, the video distributor can transcode to the ideal format for the end-users viewing device. Whether the device supports full UHD with 10-bit HDR, UHD only, or just HD, user experience will be guaranteed.



Beamr HEVC Encoding Solutions

Beamr offers flexible software video encoding solutions for HEVC. When paired with the Artesyn platform, the results are the highest density per RU in the industry, which translates into a highly affordable broadcast quality solution for live streaming of UHD 4K HDR content. Applications beyond OTT and broadcast include user-generated distribution services where high density and operational cost efficiency are needed. Features and value overview:

- On a single fully loaded MaxCore™ platform, encode up to 27 concurrent live UHD streams with support for 10-bit HDR including HDR10 and Dolby Vision. This equals 21,600 real-time 10-bit UHD hours every month on a single 3RU chassis.
- Software-based HEVC codec SDK provides unparalleled flexibility to scale encoding operations dynamically based on the ingest actual requirements versus pre-planned capacity.
- On-the-fly control of all major software encoder parameters enables real-time command and adjustment of your entire encoding operation. Video engineers can change resolution, bitrate, and more with the robust API that is supplied.
- Beamr 5 is 80% faster than the the second-best HEVC software solution for the same encoding profile, and encodes using 20-30% less bits compared to x264.
- Beamr 5 is in use with some of the world's largest consumer OTT streaming services and is being used to deliver their highest value 4K HDR content.
- Beamr 5 is supported with two to three software updates and commercial releases per year.



The Artesyn MaxCore™ Platform

Artesyn brings the densest and highest performance platforms in the industry. Built on the open PCIE standard, the MaxCore™ platform enables flexibility, cost-effective scaling, and multi-party sourcing.

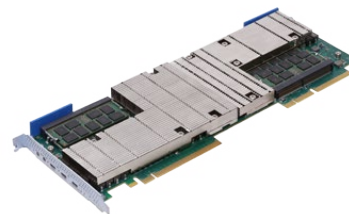
For video applications, the MaxCore platform offers the highest density of Intel® and 3rd party GPUs in the industry, making it ideal for video encode, transcode and delivery applications. Scalability is achieved through add-in cards or by combining additional chassis.

The high bandwidth and x86 core density create a cloud at the Edge, optimizing cost per stream and network bandwidth. The use of low power processors results in significant OpEx savings for operators when compared to pure software encoding on standard RMS.

- Highest Intel® Xeon® core density – Up to 360 Intel Xeon cores in 3U chassis
- Highest flexibility – 15 slots for dual Intel Xeon D, dual Intel E3, I/O or any PCIe cards
- Up to 400Gbps I/O shared by all processors
- Switching and load balancing in platform
- Open Stack integration available
- Edge 3U and Cloud CG OpenRack 19 & Hyperscale form factors available



MaxCore™ Platform



SharpStreamer™ Pro PCIe-7210 PCI Express Card

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