Tachyon™ LIVE

TRANSFORMATION IN TRANSIT

The Gold Standard for frame rate/resolution/color conversions is now available for live, IP streaming.

Tachyon LIVE

Frame rate, resolution, scan type, and color conversions:are a critical requirements for international distribution of live video signals. The quality of these conversions is paramount, particularly for coverage of high-profile sporting events. Until recently, high quality, live conversions required dedicated hardware connected to specialized video transmission infrastructure.

Tachyon LIVE is a disruptive technology that resides within our IPx live transcoder. Tachyon LIVE enables high-quality frame rate, resolution, and color space conversions to take place in nearly any compute configuration. Providing the same best-in-class motion-compensated frame rate adjustments, de-interlacing, and color space conversions found in our file-based Tachyon, Tachyon-LIVE has instantly set the standard for live standards conversion.

IPx

IPx is Cinnafim's live-stream transcoding solution that provides a flexible platform for Tachyon LIVE to operate on.

IPx is a CPU-based, real-time IP transcoder that is quickly spun up in virtual environments and is incorporated into solutions like swXtch.io's cloudSwXtch and NVIDIA's Holoscan.

Flexibility is in IPx's DNA. Broadcasters can deploy on-premises as a robust, reliable engine or in the cloud for the ultimate in scalability and convenience. All that is needed is a fast network connection and IPx can be leveraged to unify multi-format feeds into a single standard - from anywhere on the globe.

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Tachyon™ LIVE

Tachyon LIVE Features

- Frame rate conversion: phase correlation-based motion compensation render engine, 6th gen
- Frame synthesis: ability to synthesize unlimited, new and clean temporal frames to preserve natural motion
- Advanced deinterlacing: two-stage conversion that eliminates nearly 100% of aliasing in SD content and extracts every possible detail from interlaced HD sources
- Scaling: interlace-aware advanced unlimited resolution interchange between SD and 8K.
- Scene-by-scene optimization: fully automated conversion for best quality playout end-to-end
- Intelligent sharpening
- Output speeds of real-time or faster (UHD 50/60) with a single Nvidia GPU

IP-X Features

- Software (Linux) only implementation. No specialized hardware required.
- NMOS Session Control (SMPTE 2110)
- Live IP Protocol Conversion
  - 2110 (JPEG XS, Uncompressed)
  - SRT (H.264, HEVC, not switchable)
  - NDI (Switchable)
  - Transport Stream (H.264/HEVC)
  - TR07 (JPEG XS, not very switchable)
- Implementable on any on-premises or cloud-base (AWS, Azure, Google, Oracle, Alibaba, etc.) infrastructure.

Specifications

Supported conversions

- Frame Rate: convert any frame rates between 23.976 and 60 FPS
- Resolution: SD to UHD/4K
- Scan Type: Interlaced to progressive, progressive to interlaced
- Color Space: 601/709/2020
- Transfer Functions: 501/709/2020/PQ, HLG, User specified LUT

Compute Requirements & Interfaces

- CPU: 16+ cores (depending on workflow)
- GPU: NVIDIA Pascal series or newer
- OS: Windows or Linux
- REST & JASON RPC configuration and monitoring APIs