

PRISM Transcoder

Transcode digital media content for compatibility with any device, anywhere



VITEC PRISM is a high-performance, real-time IP video transcoding system that enables content to be adapted to an optimal format for efficient delivery to any device within your ecosystem.

High Performance Transcoding System

The PRISM high-efficiency transcoding engine harnesses a wide range of advanced video codecs and streaming protocols for exceptional broadcast-quality output, all integrated into a 1-RU physical server that can be deployed in IT rooms, data centres or portable server racks.

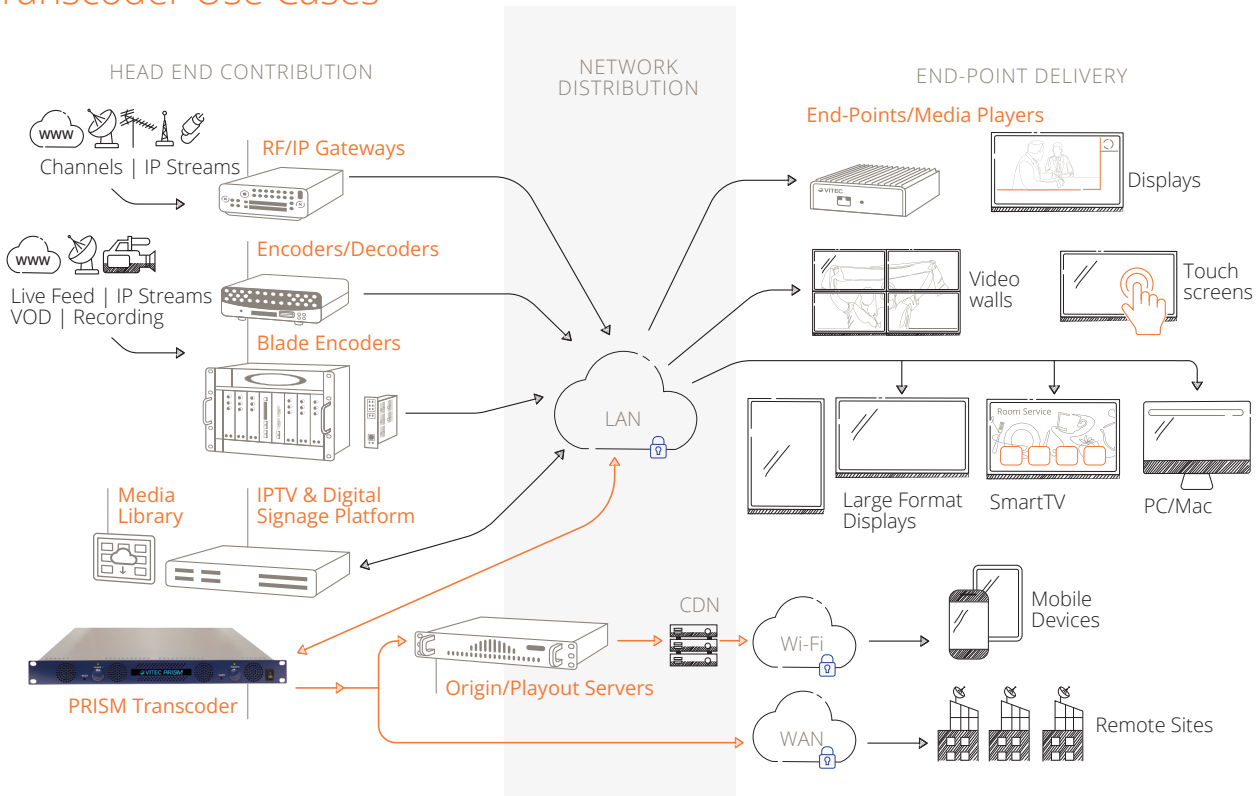
A wide range of pre-processing tools — including adaptive de-interlacing, video resizing, frame rate conversion and bit rate reduction — enables efficient delivery over LAN, WAN, Wi-Fi, CDN or the Internet to any fixed end-point or mobile device.

PRISM also passes through KLV (Key-Length-Value) STANAG metadata, enabling government and military facilities to re-purpose incoming ISR (Intelligence, Surveillance, Reconnaissance) and FMV (Full Motion Video) content with additional compression, while maintaining CoT (Cursor-on-Target) data on the output stream.

Features & Benefits

- Enable real-time delivery of high-quality video and audio content to any device, keeping end users up-to-date and entertained, wherever they are.
- Use file-to-file transcoding to convert video files, or live transcoding to convert IP video streams.
- Transcode high bit rate MPEG-2 content to efficient H.264/HEVC streams, and convert newly HEVC-formatted streams to existing H.264 streams.
- Save 50% bandwidth whilst maintaining quality using the HEVC (H.265) codec, which is especially important for 4K content.
- Easily distribute production-quality video from NDI®-enabled live production environments to your IPTV system and vice versa.
- Save time and simplify video conversion by placing content in a watch folder for automatic transcoding.
- Support mission-critical operations with KLV/STANAG metadata PID pass-through and the ability to uplink critical video content to airborne platforms.
- Stream video to multiple screens via Over-the-Top (OTT) Web Streaming IPTV services.
- Securely stream live events to Facebook Live and reach a broader audience with RTMPS support.
- Ensure video traceability and brand your video content with customisable text, image and time watermarking.

Transcoder Use Cases



Technical Specification

Input Video Codec

- MPEG-2 SD and HD
- H.264 (MPEG-4 AVC) Up to 4K UHD (4096 x 2304)
- HEVC (H.265) Up to 4K UHD (4096 x 2304)
- Additional supported codecs Google (VP9), H.263, MPEG-4 Part 2, WMV7/9, raw video (YUV4MPEG2), NDI®
- Chroma: Hardware decoding for 4:2:0, Software decoding for non-4:2:0 content

Input Audio Codec

- MPEG-1 Layer II, AAC-LC, HE-AAC, AC-3, E-AC-3

Input Encapsulation & Streaming Protocols

- MPEG-2 transport stream, MPEG Program Streams (.m2p, .ps), MP4, FLASH Video (F4V, FLV), Quicktime (.mov, .qt), WMA, WMV, NDI®
- UDP, RTP, SRT, RTSP, RTMP, RTMPS, HLS, HTTP, NDI®, NDI-HX

Video Pre-Processing

- De-interlacing
- Video resizing
- Aspect-ratio conversion or pass-through
- Frame rate down-conversion / doubling: 1080i to 720p

Overlays

- Up to 15 overlay elements per stream
- Images: JPG, GIF (static) and PNG images burned into output stream (transparency supported on PNG alpha channel)
- Text: Single line text strings using any uploaded TrueType font (TTF) burned into output stream with configurable size, colour and transparency
- Clock: Single line day/date/time text string defined by <strftime> variables, display configuration same as text

Ancillary Data Pass-through

- Teletext & DVB Subtitles PIDs (configurable in UI)
- KLV/STANAG PIDs
- Closed captioning (CEA-608/708)

Video Encoding

- MPEG-2 MP@ML/HL, up to HD
- H.264 (MPEG-4 AVC), MP/HP, up to level 5.1, up to 4K/ UHD (4096 x 2304)
- HEVC (H.265), MP, up to 4K/UHD (4096 x 2304)
- NDI®

Audio Encoding

- AAC-LC

Output Streaming Formats

- UDP, RTP, RTMP, RTMPS
- MPEG-2 Transport Stream (TS) or Flash Video (FLV)
- NDI®
- SRT (Caller & Listener modes)

Transcoding Functions

- Live streams and files: scale, transcode, transrate, transpose, transcast
- Configure: output resolution, bit rate, interlacing, aspect ratio, frame rate, GOP length and structure
- Change audio sample rate
- Pass through video or audio
- Output only video or audio from a stream containing both
- Preserve or drop subtitles, closed captions or data streams
- Watch folder support with configurable email alert and dedicated log on failed transcode

Video Processing Capacity (1RU Server)

- 4K/UHD transcoding to 4K/UHD, up to 2 channels
- HD transcoding to HD, up to 16 channels
- HD/SD transcoding to SD, up to 40 channels

Management (per node)

- HTTP/HTTPS device interface: recommended browser: Chrome®
- 4 x 100/1000BaseT network interfaces with teaming and redundancy options
- Flexible network port configuration enables streaming and administration interfaces to be on separate networks
- DisplayPort, 2 x USB
- SSDP device discovery
- RESTful API
- Event logging via Syslog (local and remote)
- Firmware upgrade & configuration backup/restore
- Activity Monitor enables more efficient transcode setup and monitoring and prevents overloading

Physical

- Enclosure includes two nodes
- Enclosure: Rack Mountable server, 1U high (includes mounting kit)
- Dimensions (WxHxD) 455 x 45 x 485 mm (18 x 1.8 x 19 in)
- Gross Weight 7.85 kg (17 lb)

Power

- 400W high-efficiency (94+%) power supply
- Dual AC inlets
- AC Input: 100-240VAC, 50/60 Hz, 4.2A-2.1A

Environment

- Operating Temperature 5°C ~ 35°C (41°F ~ 95°F)
- Non-Operating Temperature -40°C ~ 60°C (-40°F ~ 140°F)
- Operating Relative Humidity 8% ~ 90% (non-condensing)
- Non-Operating Relative Humidity 5% - 95% (non-condensing)

Regulatory

TAA\NDAA compliant

CE:

- IEC 62368-1: 2014
- EN 62368-1:2014+A11:2017
- EN55032:2012 + corrigenda Aug 2012 & Dec 2012
- EN55024:2010 + A1:2015
- EN 61000-3-2:2014
- EN 61000-3-3:2013

UL/CSA:

- UL62368-1:2014
- CSA C22.2 No. 62368-1, Rev. February 17, 2012

FCC:

- FCC Part 15 Subpart B Class A

Ordering Information

- 18506 – PRISM
- 18507 – PRISM Lite