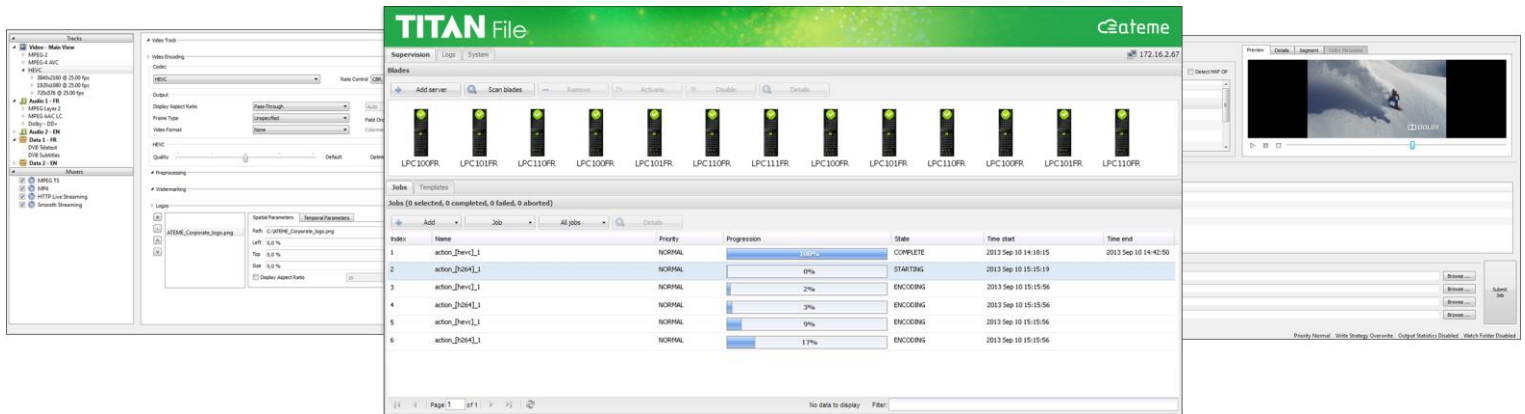


TITAN File



Video Transcoding Software High Video Quality – Faster Than Real Time – Any CODEC

TITAN[®] File is a multi-codec/format video transcoding software, for mezzanine, STB and ABR VOD, Post-Production, Payout and Archive applications.

TITAN[®] File is based on ATEME 5th Generation STREAM[®] compression engine and delivers the highest video quality at minimum bitrates with accelerated parallel processing.

TITAN[®] File is easy to install, configure and integrate into any existing workflow, including integration with Conditional Access, Digital Rights Management, Digital Ad Insertion and Forensic Watermarking.

TITAN[®] File includes 24/7 automation and workflow capabilities: Intelligent watch folder for file aggregation, API for integration with Media Asset Management systems and networked supervision of multiple servers forming a transcoding farm, deployed on-premises and/or in the cloud.

TITAN[®] File innovation: first 10-bit 4:2:2, first 4K UHD, first High Dynamic Range (HDR) solution.

Key Features

- Decode: AnyCODEC[®]
- Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG 2000 and Apple[®] ProRes
- Resolution: Mobile to UHD, 4K HDR
- Premium audio with loudness correction
- Closed captioning, DVB subtitle, teletext
- Watermarking and DRM
- Standalone server to enterprise farm and cloud
- Easy to use web user interface and REST API

Benefits

- Customer retention: high video quality delivers premium viewing experience
- Distribution bandwidth OPEX and Storage CAPEX savings: high video quality at low bitrate
- Datacenter CAPEX savings: High throughput, faster than real-time capabilities, simultaneous processing of all formats

Supported Inputs Formats

Media containers

.ts, .mpg, .avi, .mp4, .mov, .mxf (all OP, incl. IMF CPL), .gxf, .lxf, .dpx, .tif, .j2c, .j2k, .m2v, .wav, .w64, .aif, .ac3, .ec3, .dde, .srt, .stl, .mcc, .scc

Video codecs

MPEG-1, MPEG-2, MPEG-4 ASP, MPEG-4 AVC / H.264, DV, DVCPRO 25/50, DVCPRO HD, AVC Intra 50/100, Cineform® AVI, Sony® XDCAM50 / IMX 30/40/50 / XAVC, Avid® DNxHD/DNxHR, Apple® ProRes up to 4444 XQ, JPEG2000, RAW RGB/YUV

Audio codecs

PCM, MPEG audio, AAC, DD / DD+, Dolby® E

Preprocessing

Audio preprocessing/editing

Resampling
7.1/5.1 to stereo downmix
Wav files aggregation
Audio renormalization (EBU R128, A/85)

Video preprocessing/editing

High performance de-interlacing, dithering and denoising filters
Logo insertions with fade-in/out
Image cropping/resizing
3:2 pulldown/inverse telecine
Frame rate conversion/decimation, chapter points
Files concatenation and frame trimming
BT.601/BT.709/P3/BT.2020 color space conversion
Full/Head range conversion
HDR management with any EOTF including ST 2084/PQ and HLG, or custom 3D LUT, ST 2086 metadata and native Dolby® Vision¹ plug-in

Video Compression

Standard

HEVC main and main 10 profiles up to level 5.2
HEVC RExt main 12, main 4:2:2 10 and main 4:2:2 12 profiles
H.264 baseline, main, high, high 10 and high 4:2:2 up to level 5.2
MPEG-2 simple, main and 4:2:2 profiles up to high level
Apple® ProRes 422 Proxy, 422 LT, 422, 422 HQ, 4444, 4444 XQ
JPEG 2000 4:2:2 10-bit, JPEG thumbnails

Encoding mode

Resolution up to UHD TV/4K
CBR, VBR, VBR 2-pass, VBR Capped, Turbo VBR
From 20 kbps to 100 Mbps
Fixed/variable GOP size
Automatic scene cut detection
IDR-frame strategy control
Progressive, Field, PAFF, MBAFF, PAFF+MBAFF modes

Audio Compression

Compression formats

MPEG-1 Layer II
AAC-LC, AAC-HEv1, AAC-HEv2 (ADTS/LATM format)
Dolby® Digital/Dolby® Digital Plus (up to 7.1), including ATMOS
Dolby® AC-4¹
PCM (16/24/32 bits)

Rate control mode

CBR (from 32 kbps to 3024kbps)

Data Processing

Closed Captioning

SCTE-20, ATSC, NA DBS Line 21, Divicom® Line 21

Subtitles

DVB Teletext, DVB Subtitles, WebVTT, DFXP/TTML, burn-in

Ad insertion

SCTE-35 and EBP signals insertion
Nielsen ID3 tags insertion
ESAM¹ API

File Output

Built-in M-Wrap™ packager for any combination of:

MPEG-2 TS, MP4, MOV, Elementary Stream, Apple® HLS (up to v7), Microsoft® Smooth Streaming, MPEG-DASH (ISO BMFF Live and On Demand profiles), MXF (IMX/D10, XDCAM HD and AS-10 High_HD_2014 shim), IMF Application #2 Extended

DRM

Apple® HLS content protection, Microsoft® PlayReady
Common Encryption (CENC) with PlayReady and Widevine

Configuration and management

Load balancing with queue/priority and pause management
Logs and alarms events, e-mail notifications, web GUI
Watch folder drop-in directory
Open REST/XML API

Platform Minimum Requirement

Intel® hexa-core processor/4GB RAM, Windows 7/2008 Server

Product Packages

		OTT	TV	PRO
Resolution	SD and sub-SD	●	●	●
	HD 720p/1080p	●	●	●
	HD 1080i		●	●
	UHD/4K			●
Video Processing	H.264 encoder	●	●	●
	MPEG-2 encoder		●	●
	HEVC encoder			●
	JPEG 2000 encoder	●	●	●
	Apple® ProRes encoder	●	●	●
	HEVC RExt encoder			○
Audio Processing	HDR processing			○
	Progressive encoding	●	●	●
	Interlaced encoding		●	●
	MP2/AAC encoding	●	●	●
	AC-3/E-AC-3 pass-through	●	●	●
	DTS pass-through	●	●	●
	PCM output	●	●	●
Subtitling/CC	DD/DD+ encoding	○	○	○
	Loudness correction	○	○	○
	Multi-audio/SAP		●	●
	Subtitles/CC support	○	●	●
Processing Mode	CBR/VBR 1-pass/VBR 2-pass	●	●	●
	Turbo VBR (fast 2-pass)			●
	Advanced pre-processing			●
Output	HTTP Live Streaming	●		●
	Smooth Streaming	●		●
	MPEG-DASH	●		●
	MP4	●		●
	MPEG-2 TS		●	●
	MXF		○	○
	IMF			○

● Included ○ Optional

Product Optional Upgrades

Native Avid® DNxHD/DNxHR decoder
Dolby® Digital/Dolby® Digital Plus decoders and encoders
Native Dolby® E decoder
Dolby® Pro Loudness Correction
DTS® Neural processing
Native MXF/IMF decoder and encoder
Civolution® NexGuard Pre-Release and Streaming watermarking
Interface with Verimatrix® and Conax® DRM servers
REST/XML API SDK, Multi encoder management
Server licence, M-Wrap™

¹ committed Roadmap item available via software upgrade