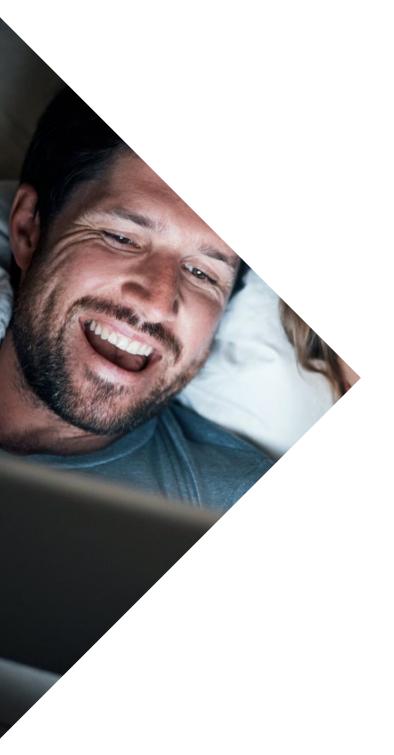![MediaKind logo](everyone. everywhere.)

MediaKind Encoding Live

High-Quality Encoding for Any Screen

MediaKind Encoding Live brings together 25 years of video compression experience to deliver the highest quality, any screen software applications for live video encoding and transcoding. MediaKind's continued investment and focus on the latest compression technologies ensures that the Encoding Live capabilities will efficiently deliver the best picture quality over bandwidth in all encoding environments and networks.

End-to-end software solution with centralized configuration

MediaKind's solution provides an end-to-end system designed to address key industry challenges. It allows operators to get the best from their IT infrastructure by providing a highly scalable and future-proof video processing solution.

- **Push your quality "Up!"** leveraging Encoding Live's highest video quality and guaranteed performance across all codecs (MPEG-2, H.264 & HEVC).

- Faster time to market by leveraging **one solution to address all networks** and the software microservices-based architecture.

- **Reduce operational complexity** using the MediaKind Controller as a single point of entry for all processing types.

- **Optimize OPEX and CAPEX** when migrating to full IP, and leverage the latest IT technologies (Containers & Orchestration) to reduce infrastructure costs.

MediaKind empowers operators all over the world to provide the most unique and immersive ways to distribute and consume video content.

PUSH Your Video Quality 'Up' with Encoding Live™

Encoding Live is an any-screen software solution for **high-quality, live video encoding/transcoding** to any device. With its 'Up!' compression mode, Encoding Live **improves video quality, saves bandwidth,** and ensures **future-proof operations**.

Encoding Live offers an IP-centric and IT-oriented approach to video transcoding to all standards (MPEG-2, H.264 and HEVC), across all networks and devices, such as any real-time broadcast applications including: IPTV, cable, Satellite Direct To Home (DTH) and Internet TV.

Simplified operations

Access your headend from a **single, unified point**. MediaKind Controller is integrated with Encoding Live to provide a centralized GUI.

Oversee your whole headend through this **service-driven centralized GUI**: you can **configure**, **control and monitor** all your channels across all networks (DTH, cable, iTV). A REST API is also available for mass configuration.

Addressing all networks with a single software solution significantly improves efficiency and operations compared to architectures that call for separate headends.

Encoding Live is designed to run 24/7 with embedded **redundancy features** (either **N+M failover** or **1+1 active/active mode**). The fully automated deployment workflow will help you shorten your time to market and envision more complex solutions like automated disaster recovery.

Reclaim the full potential of your infrastructure

Thanks to our **microservices-based architecture**, Encoding Live is **container and orchestration ready**.

The MediaKind solution is **designed for cloud use** (private or public) and for **future-proof operations**. Service configuration and hardware are completely decoupled to provide all the flexibility you can expect from your video headend.

The flexible software architecture of Encoding Live allows for simple software upgrades to guarantee continuous quality and functionality improvements.
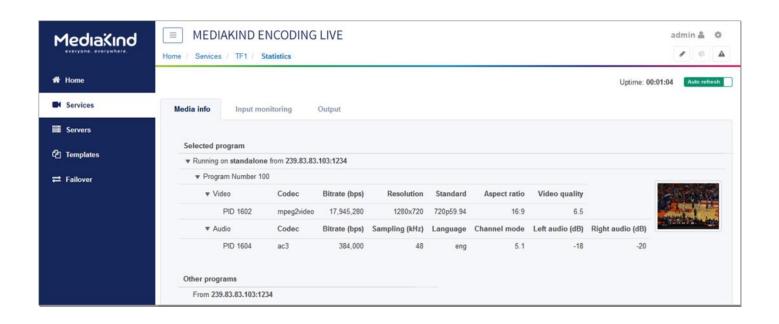
Leveraging these cutting edge IT technologies ensures safe software roll out and improves management with simplified upgrades for your whole headend. This IT-centric approach is designed to significantly reduce operational costs.

Virtualized and Standard Server Deployments

Encoding Live can adapt to multiple deployment contexts such as:

- **MediaKind optimized** appliance-based **platforms**
- Software on **COTS or blade servers**
- Virtual instances in the **cloud**

This versatility gives your team more flexibility to manage operations and media processing deployment.

Input

Baseband Input	Support for 3G/HD/SD-SDI
Compressed Input	Type: IP (IGMPv3-based redundancy and dual multicast redundancy), Dual source redundancy (active/active & active/passive modes), Pro-MPEG FEC support Monitoring: ETR 290, Packet loss statistics Protocols: MPEG-2 TS (MPTS & SPTS), RTMP Codec: MPEG-2, H.264, HEVC – MPEG-1 LII, Dolby Digital (AC-3), Dolby Digital Plus (E-AC3), AAC, HEAAC v1 and v2, Dolby E

Pre-Processing

Aspect Ratio	WSS, AFD, Video index
Metadata and VBI	SCTE 104[1], SCTE-35, IA 608/708 Closed Caption, SCTE-20, DVB Teletext, DVB-VBI, SCTE 27[1], OP47, SMPTE 2031, VITC
Out-of-Band	ID3, Cross-stream Prevention ESAM/SCTE35
Image Settings	Brightness, Contrast, Saturation, Hue, Gamma, Temperature
Enhancement Filters	Video: De-interlacing, Cropping, Letter boxing, Stretching, SD and HD Cross-scaling, 3:2 Pull down, MCTF[1], Deblocking filter[1], Spatial Denoising filter[1], Cross Talk filter[1], Sharpening[1], Diamond filter[1] Audio: Automatic loudness control (A/85), Audio gain adjustment, Mute
Image Overlay	Image insertion on input loss
Watermarking	Linear and RTVOD C3/C7 watermarking

Video Encoding

Video Codec	HEVC Main 10, HEVC Main Profile, H.264 Baseline/Main/High profile, MPEG-2 Main HDR: HDR10, HLG10, PQ10. Dolby Vision 8.1 pass-through, Tone and Inverse Tone mapping
Rate Control	CBR, VBR, Constant Video Quality, Statmux
Data Rate	From 10 kbps to 60 Mbps[2]
Resolutions	Progressive: from QCIF to 4K, up to 60 fps Interlaced: 480i, 576i, 720i and 1080i
Multi-stream Output	Shared and Split encoding for ABR outputs

Audio Encoding

Audio Channels per Service	Up to 8 stereo pairs. Radio Channels for IPTV
Audio Encoding	MPEG-4/MPEG-2 AAC, HE-AAC v1 and v2, AMR-NB, AMR-WB, Windows Media Audio/Audio Pro,
Pass-Through	MPEG 1 LII, AC-3, Dolby Digital Plus (E-AC3) 5.1-ch or stereo
Data Rate	From 4.75 kbps to 320 kbps (from 64 to 1024 kbps for DD+)

(1) Option (2) Depends on codec and resolution (3) For more details contact MediaKind

Post Processing

Metadata	Thumbnail generation for Adaptive TS output Subtitles pass-through and translation: EIA 608/708 Closed Caption, SCTE-20, DVB Teletext, DVB Subtitles, SCTE-27 Ad insertion: EBIF/EISS/AIT for Hbb TV/SCTE-35 pass-through, SCTE-104, ESAM VITC Timecode: Available in all formats Nielsen: Watermark extraction for multi-screen devices Stream conditioning: SCTE-35, POIS Interface Logo insertion, Blackout management

Output

Output Type	Redundant IP outputs
Output Format	Adaptive TS (ALD, EBP, IDR or RAP-based signaling), SDT generation

Monitoring & Control

Control Interface	Up to 2 IP ports, monitoring and control ports (primary and spare)
Control and Systems Protocols	REST, HTTP(s), NTP, FTP, IGMP v2/v3, SNMP v2/3c
High Availability	N+M failover or active/active encoding

Compatible Deployment Models

Software only	Guaranteed performance on HP BladeSystem, Dell and Cisco UCS Blades[3] Hardware requirements are listed in product installation documentation.
Standard Servers	MediaKind G8 and T1 (QSV acceleration)

(1) Option (2) Depends on codec and resolution (3) For more details contact MediaKind