HIGH QUALITY ENCODING FOR ANY SCREEN

MediaFirst Video Processing 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. Ericsson'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

MediaFirst Video Processing solution provides an end-to-end system designed to address key industry challenges. Ericsson 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 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 Management 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.

Ericsson 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. The Management Controller is integrated with Encoding live to provide a centralized GUI.

Oversee your whole headend through this service-driven centralized UI: 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 and integrated N+M failover. MediaFirst Video Processing facilitates its integration in IT datacenter with its switchless failover.

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.

MediaFirst Video Processing 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:
- Ericsson 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.
# MediaFirst Video Processing Encoding Live

## Use Case

<table>
<thead>
<tr>
<th><strong>Multiscreen Server Platform</strong></th>
<th><strong>IPTV, Cable TV, DTH/DTT Server Platform</strong></th>
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</table>

### 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
- **Protocol**: MPEG-2 TS (MPTS & SPTS) over IP input
- **Codec**: MPEG-2, H.264, HEVC – MPEG-1 LII, Dolby Digital (AC-3), Dolby Digital Plus (E-AC3), AAC, HEAAC v1 and v2

### 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
- **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(3), Denoising filter(3), Cross Talk filter(3), Smart Sharpening(3), Diamond filter(3)
- **Audio**: Automatic loudness control (A/85), Audio gain adjustment, Mute

### Image Overlay
- **Image Insertion on Input Loss**

### Video Encoding
- **Encoding service synchronization**
- **Video Codec**: HEVC Main 10, HEVC Main Profile, H.264 Baseline/Main/High profile, H.263 profile 0; MPEG-4 Part 2 Simple profile, VC 1 Simple/Main/Adv.
- **Rate Control**: CBR, Capped VBR
- **Data Rate**: From 10 kbps to 30 Mbps(2)
- **Resolutions**: Progressive: from QCIF to 1080p, up to 60 fps
- **Interlaced**: 480i, 576i, 720i and 1080i
- **Multi-stream Output**: Common encoding and Adaptive Bit Rate (ABR)

### Audio Encoding
- **Audio Channels per Service**: Up to 8 stereo pairs
- **Audio Encoding**: MPEG-4/MPEG-2 AAC, HE-AAC v1 and v2, AMR-NB, AMR-WB, Windows Media Audio/Audio Pro, Transcode to Dolby Digital Plus (DD+)
- **Pass-Through**: MPEG 1 LII, AC-3, Dolby Digital Plus (E-AC3) 5.1-ch or stereo(5)
- **Data Rate**: From 4.75 kbps to 320 kbps (from 64 to 1024 kbps for DD+)

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(1) Option (2) Depends on codec and resolution (3) TS outputs only (4) For more details contact Ericsson
MediaFirst Video Processing Encoding Live

Use Case

Multiscreen
Server Platform

IPTV, Cable TV, DTH/DTT
Server Platform

Monitoring & Control

Control Interface
Up to 2 IP ports, monitoring and control ports (primary and spare)

Control and Systems Protocols
REST, HTTP, NTP, FTP, IGMP v2/v3, SNMP v2

Scalability
Automated node redundancy with MediaFirst Video Processing Management

Post Processing

Metadata

Subtitles
pass-through and translation: EIA 608/708 Closed Caption, SCTE-20, DVB Teletext, DVB Subtitles, SCTE-27

Ad insertion
EBIF pass-through, SCTE-35 pass-through, insertion, validation using ESAM-based interface and conversion

VITC Timecode: available in all formats

Nielsen: Watermark extraction for multi-screen devices

Output

Output Type
Redundant IP outputs

Output Format
Adaptive TS (ALD, EBP, IDR or RAP-based signalling), SDT generation

Compatible Deployment Models

Software Only
Guaranteed performance on HP BladeSystem and Cisco UPS blades(1)

Standard Servers
MediaFirst Video Processing G7, G8 and T1

(1) Option (2) Depends on codec and resolution (3) TS outputs only (4) For more details contact Ericsson

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