VisualOn Case Study

Intigral Optimizes Streaming Efficiency With Content-Adaptive Encoding

VisualOn Optimizer reduces bitrates by up to 70% without replacing existing encoder
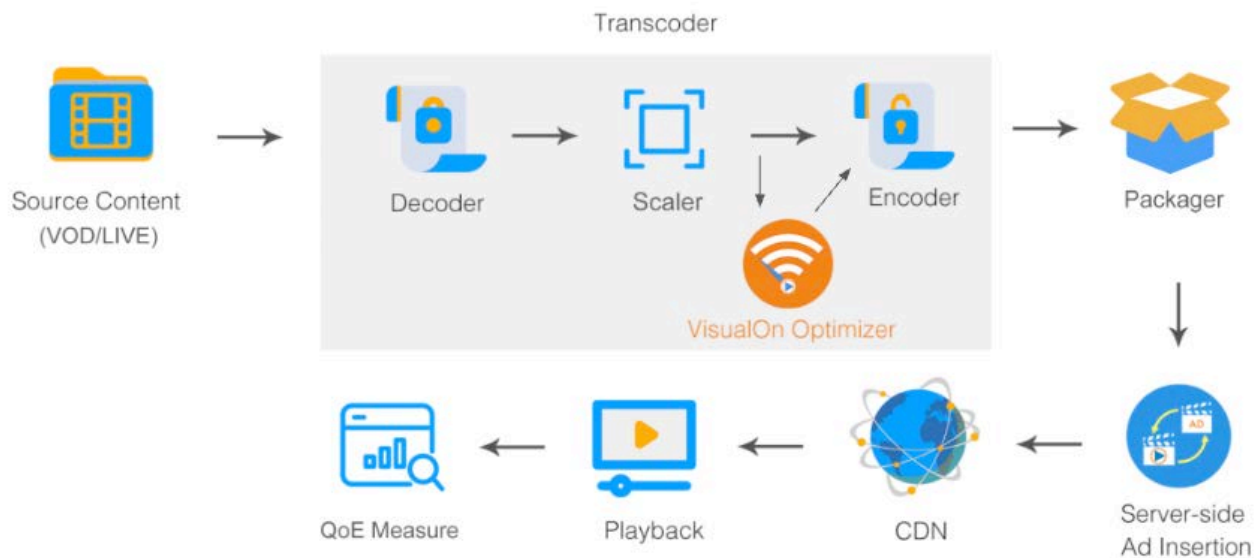
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IMPROVING OPERATIONAL EFFICIENCY AND USER EXPERIENCE IS A PRIORITY FOR INTIGRAL

As a leading provider of cloud-based video products and quality digital entertainment in the MENA region, serving a massive audience of subscribers, Intigral is committed to delivering exceptional video quality and an enhanced user experience, while reducing operational costs. To sustain continued growth and profitability, Intigral needed a transcoding solution that would reduce OPEX while improving service quality.

After extensive research and a thorough competitive evaluation, Intigral selected VisualOn's Optimizer to enhance its VOD workflow. This workflow includes a library of existing assets as well as a monthly addition of new content, covering AVC and HEVC for SD, HD, and UHD content.

VisualOn's Optimizer is the ideal solution to address Intigral's challenges. It substantially reduces video bitrates without reducing visual quality, as measured by VMAF score as well as subjective double-blind viewing tests, leading to significant savings in bandwidth and storage costs. It's a straightforward integration through simple FFmpeg APIs into the existing workflow without changing any existing components. Furthermore, no additional hardware was required, as Optimizer's single-pass transcoding saves compute and energy compared with the dual-pass transcoding previously used. The output streams are fully compliant with standards, allowing for seamless enjoyment of OTT content across multiple platforms, including STBs, browsers, Android, and iOS devices, without any modifications.

"Video streaming can be extremely bandwidth-intensive, and saving bandwidth costs is critical to ensuring profitability. VisualOn optimizes the bitrate of VOD content, without reducing video quality. The solution provides us with an average savings of 40%, up to 70% at peak on bandwidth and CDN storage, while maintaining exceptional video quality," - Eyad Al Dwaik, Director of Engineering Operations at Intigral.

	Before Optimizer	After Optimizer
Average bitrate	3.00Mbps	1.36Mbps
Startup time	1.84s	1.51s
Buffering ratio	0.195%	0.185%

HOW VISUALON OPTIMIZER IMPROVES PERFORMANCE

Optimizer continuously analyzes the content in real time and determines optimal encoder settings for the target video quality on the frame level. Furthermore, it enhances the result through AI models for different categories of content. Since it is encoding for constant quality, there is no need for costly multi-pass encoding. Optimizer is computationally efficient and typically requires 5% to 10% overhead of a single-pass software encoder. Because Optimizer can be run in parallel with the encoder, it doesn't introduce any additional latency for live streaming.

Optimizer is a universal CAE technology that is not tied to any particular encoder or compression format. It instead integrates with the existing encoder to optimize its settings for the best result without disturbing the workflow. It consistently produces superior results through extensive benchmarking with other solutions on customers' production data, as demonstrated in the table below.

	Resolution	Bitrate	FPS	VMAF	Reduction
Bumblebee					
Original	1920x1080	11168	23.98		
Optimizer	1920x1080	3287	23.98	93.81	
QVBR (quality8)	1920x1080	5441	23.98	91.08	39.59%
QVBR (quality7)	1920x1080	4384	23.98	89.05	25.02%
Dying To Survive					
Original	1920x1042	13771	24		
Optimizer	1920x1042	1163	24	92.43	
QVBR (quality8)	1920x1042	1859	24	90.36	37.44%
QVBR (quality7)	1920x1042	1555	24	89.49	25.21%

OPTIMIZE VIDEO ENCODING FOR COST SAVINGS AND ENHANCED QOE

Intigral chose VisualOn Optimizer for its transcoding workflow based on several key factors:
• Optimizer reduces video bitrates by over 40% on average while maintaining or improving visual quality, enhancing the user experience.
• As a single-pass transcoding technology, Optimizer supports VOD and live services without added latency.
• With Optimizer, there is no need to change the encoder or add hardware.
• Optimizer seamlessly integrates as a FFmpeg plug-in, making it easy to incorporate into the workflow.
• The Optimizer solution is compression format and codec agnostic, adapting effortlessly to Intigral's specific requirements.
• The solution is backed by patent-pending technology and world-renowned expert support.

Significant Bitrate Reduction   AI-Enhanced CAE Solution   Better Video Quality   Easy Integration   Support Live and VOD   Flexible Configuration

About Intigral

Intigral is the Media and Advertising arm of stc Group, and MENA's leading provider of digital entertainment, sports, and media services via its market-leading solutions, stc tv, Jawwy TV and Dawri Plus. For more information, please visit Intigral.net

About VisualOn

VisualOn is a streaming solutions provider that empowers profitable and differentiated streaming media services for leading customers worldwide with its universal content-adaptive encoding solution and advanced media player. To learn more visit, www.visualon.com

Press Release: *Intigral Selects VisualOn to Optimize Bandwidth Cost and Video Quality for VOD Network*

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