MEDIA EXCEL • MEDIAMELON
SOLUTION OVERVIEW

OPTIMIZING ENCODING EFFICIENCY & VIDEO QUALITY

Advancing the State the Art of IP Video Delivery with New Qubit Technology

Available bandwidth is a key limiting factor in streaming video over IP networks. Current HTTP adaptive bitrate (ABR) schemes deployed for video streaming track the available bandwidth and switch to higher or lower bitrates, ensuring continuous playback, but ignoring the quality variations within a given bitrate, often resulting in visual artifacts, video stalling or compromised video quality.

MediaMelon offers a new and advanced software-based approach called Qubit bitrate optimization technology that significantly enhances end-user quality of experience (QoE) and enables large streaming/OTT cost reductions for the content owner or service provider. This innovative technology intelligently goes beyond traditional adaptive bitrate to improve video performance (shorter start times, higher and more consistent throughput) and provide better perceptual quality with less quality variance by pre-analyzing scene complexity.

The integration of Qubit with Media Excel's HERO encoder/transcoder product line leverages Media Excel's global footprint in the multiscreen transcoding market to further enhance the value for operators and content providers. Across the head-end, cloud, or edge, Media Excel's solutions power the most demanding and high-profile multiscreen services worldwide.

SOLUTION BENEFITS

- Saves bandwidth and paves the way for HD and 4K: Video requires 40% less bits than typically used for equivalent quality in traditional ABR streaming.
- Improves quality and reduces video artifacts: Analysis allows for allocation of higher bitrates to higher complexity scenes, increasing perceptual video quality typically over 200%.
- Simple integration with existing video workflows and media players.
- Improves video performance: Shorter start times, less video stalling, and higher and more consistent streaming throughput.
- Backed by substantial innovation: Qubit is developed by MediaMelon and leading operator BT, including 24+ patents.
- Compatible with all streaming formats: HTTP Live Streaming (HLS), MPEG-DASH, HTTP Smooth Streaming (HSS) and HTTP Dynamic Streaming (HDS).

ENHANCED STREAMING

The integration of Qubit technology and the Media Excel HERO family of transcoding solutions is a powerful combination that optimizes quality and bandwidth efficiency. In addition, the joint solution allows operators to benefit from superior scalability, density, development flexibility and power efficiency.

- **CBR Streaming:** Video content analysis helps improve video quality by utilizing more bits for scenes of high complexity content and saving bits on lower complexity content. Users get a a better viewing experience while the service provider saves on bandwidth, transmission and storage costs.
- **Live Streaming:** Qubit can intelligently reduce the bits required to stream live content from the HERO transcoders, by analyzing the stream complexity and saving bits for lower complexity scenes. Qubit enables this with only ingest side modifications to content packaging and can be used with any client/player. This enables a significant saving in bandwidth for live streaming.
- **VBR Streaming:** HERO transcoders can be configured to encode content in constant quality VBR mode or in a constant rate factor mode. These modes deliver the highest quality per bit of video encoded. Furthermore, the quality delivered does not vary with scene complexity, ensuring high QoE.

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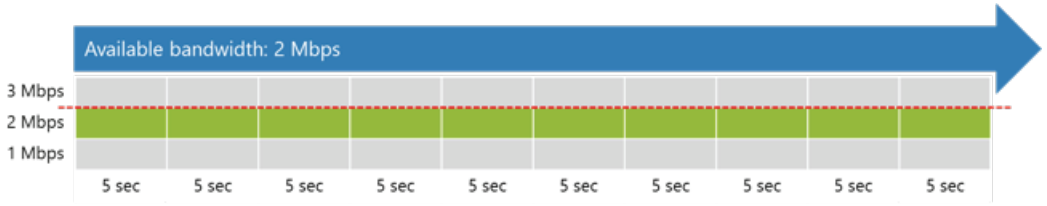
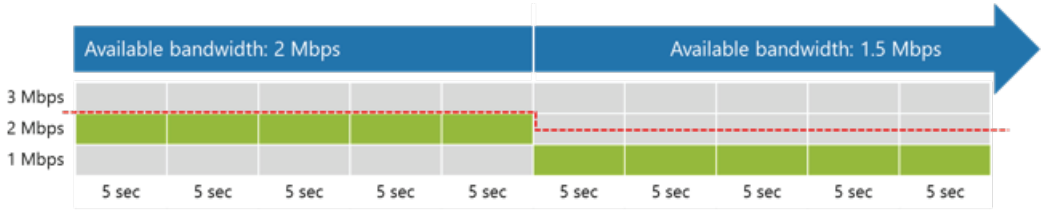
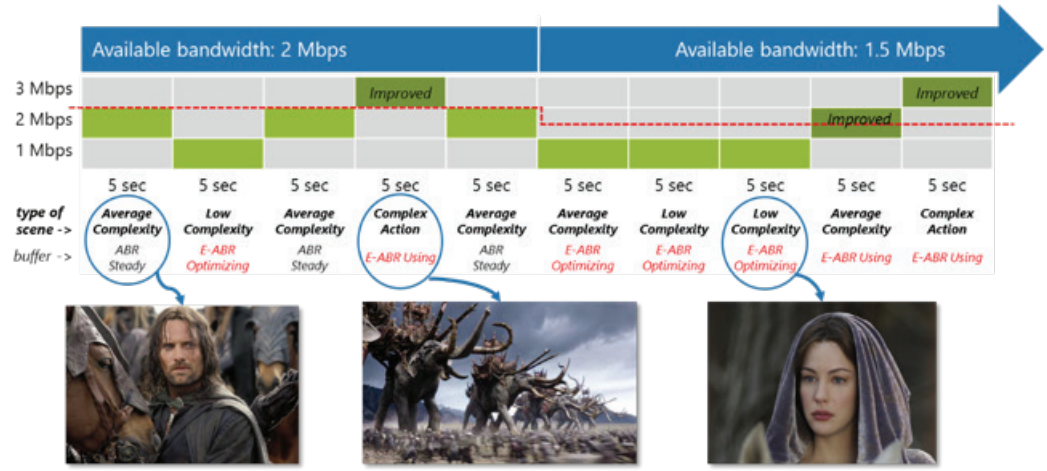
Traditional ABR





Optimized Quality & Bit-rate

Qubit Technology and HERO Transcoders



THE MEDIA EXCEL ADVANTAGE

The Media Excel HERO family of transcoding solutions is highly flexible and scalable, and can process a single input into multiple outputs, each with completely different parameters. This enables delivery of not only traditional multi-screen IPTV services but also the ability to output the multiple profiles that are required for OTT and streaming services. HERO minimizes video processing by simply repackaging one transcode into multiple packages, increasing density and saving on processing costs.

Media Excel has been in the forefront of real-time and on-demand encoding/transcoding solutions for over a decade, and continues to lead in HEVC. A hybrid approach of combining software and hardware best-of-breed architectures and market-oriented mindset drive the company's innovation and product development strategy.

ABOUT MEDIAMELON

Qubit video optimization technology delivers 55% reduction in content quality variance, while also reducing bitrate requirements by 30-45%. Using this software-based solution, operators can deliver improved, consistent video quality and save valuable bandwidth.

MediaMelon smart streaming solutions optimize Internet video quality and resource utilization, enabling content and service providers to dramatically improve performance, increase revenues and enhance quality of experience. MediaMelon solutions include patented video quality enhancement technology, intelligent content routing and analytics that create a global software fabric for efficient video streaming.

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