

MainConcept AV1 Encoder SDK

Next generation encoding for OTT workflows

AV1 is ideally suited for OTT content delivery to web browsers and mobile devices.

MainConcept seamlessly combines AV1 encoding with proven both MPEG-DASH or HLS multiplexing and formatting technology to greatly enhance streaming quality. It leverages MainConcept's common API and adds useful features unavailable elsewhere.

STAY FUTURE READY WITH AV1

When the AV1 specification was introduced in 2018 by the Alliance for Open Media (AOM), the intention was to develop a royalty free codec mainly focusing on OTT or video delivery over the internet in general, because it is more complex and computationally intensive than HEVC/H.265 or even AVC/H.264. For that reason, these official MPEG standards are more suitable for live TV broadcasting than AV1. However, more and more content providers use AV1 these days, such as Netflix, YouTube, Facebook, etc. to optimize the streaming experience and save bandwidth as well as costs. MainConcept is at the cutting edge of encoding technology by keeping their AV1 encoding libraries up-to-date to the latest version of SVT-AV1 for improved processing speed.

NEXT GEN CODEC FOR ADAPTIVE BITRATE STREAMING

In combination with the MainConcept OTT Content Creation SDK, the AV1 Encoder allows MPEG-DASH and HLS content creation, including multiplexing, packaging as well as MPD and playlist generation. Introducing full HLS support makes MainConcept's AV1 encoded streams compliant with the latest generation of Apple's iPhone 15 series for seamless playback on the device without the need to convert into another format.

FLEXIBLE ENCODING VIA MAINCONCEPT EASY VIDEO API (EVA)

Our latest innovation combines the MainConcept AV1 Encoder with the high performance of today's GPU hardware processing powered by AMD, Intel and NVIDIA. Using one API instead of four, MainConcept EVA can significantly reduce implementation time and costs by 75%. Make use of ultra-fast hardware encoding when speed is key for your workflow and you don't want to rely on a single GPU vendor. And, if performance is not your focus, enjoy the unprecedented quality and unsupported GPU features with the MainConcept AV1 software encoder.

OPERATING SYSTEM

- Microsoft Windows 10, Windows 11 (64-bit)
- Apple macOS 10.15 and newer (64-bit)
- Linux Ubuntu 20.04 LTS, Rocky 8.9, CentOS 7.9 glibc 2.28 (64-bit)

30% GREATER EFFICIENCY*

SAVE TIME

Pre-configured, ready-to-use libraries and a common API make for simple integration

EASY TO USE

Seamlessly combines AV1 encoding with our proven MPEG-DASH and HLS multiplexing and formatting technology

INDUSTRY MOMENTUM

SVT framework integration for efficiency across multiple Intel processors, plus backing by some of the biggest players in streaming

KEY FEATURES

- Improved efficiency, scalability & performance
- Pre-configured, ready-to-use libraries for creating VOD content
- Direct access to hardware-based encoding powered by NVIDIA NVENC and Intel Quick Sync Video via MainConcept EVA on Windows and Linux
- SVT-AV1 integration better leverages increased compression capacity
- Scaling and color space or color gamut conversion

OPTIMIZE WITH MAINCONCEPT PROFESSIONAL SERVICES

1 Industry estimated compared to HEVC

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SPECIFICATIONS

- AV1 hardware encoding on dedicated GPUs via NVIDIA NVENC and Intel Quick Sync Video
- 4:2:0 8-bit (Main) and 4:2:0 10-bit profile support for 8K, 4K, 1080p and 720p
- VBR and constant QP encoding
- Scene change detection
- Ability to force Key Frames
- Automatic performance adjustment balances between speed and quality
- Scaling and color space or color gamut conversion
- IVF and OBU output formats
- MPEG-DASH as well as HLS compliant fMP4 and manifests/playlists
- SVT-AV1 sample configuration file support
- Parallel processing for video analysis, partitioning, encoding, and entropy coding
- Picture-based parallel processing for mini-GOPs organized into a hierarchical prediction structure
- Simultaneous segmented processing for different parts of the picture
- Human Visual System (HVS)-optimized classification
- Resource-adaptive scalability for smooth transition of imposed constraints

STREAM TYPES & FORMATS

Elementary Stream: Generic AV1 ES in IVF and OBU formats

MP4: MPEG-DASH or HLS compliant fMP4 and manifest AAC Audio stream

PACKAGES

AV1 Encoder SDK

MainConcept AV1 encoding (including MainConcept EVA) combined with packaging for MPEG-DASH and HLS delivery

ABOUT MAINCONCEPT

MainConcept provides audio and video codec solutions that fuel creativity and business across the globe—from professional video production, multimedia, broadcast, digital signage, and gaming to the medical and security verticals. Our software development kits, transcoding applications and plugins deliver the simplicity you need with the customer experience you deserve. Since 1993, MainConcept codecs have been used by hundreds of organizations including Adobe, Autodesk, Corel, Dalet, Encoding.com, Endeavor Streaming, Grass Valley, Intel, MAGIX, Nikon, PlayBox Neo and Soliton. For more information, visit www.mainconcept.com.

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