

# VVC/H.266

Improved compression and visual quality for broadcast and OTT

## THE NEXT BIG CODEC: VERSATILE VIDEO CODEC (VVC/H.266)

As the delivery of digital video continues to evolve, so do its underlying technologies. VVC (Versatile Video Codec) is the next big codec to support this evolution. With maximized visual quality and the advent of higher resolution, the VVC standard produces a codec adapted to the changing ways video is and will be created and consumed, helping to future-proof your digital video infrastructure.

The MainConcept VVC/H.266 Encoder & Decoder SDKs allow industry professionals access to the cutting edge of video processing. With compression improvements up to 40%<sup>1</sup>, VVC enables a wide variety of use cases and opens a path to cost-efficient and effective production workflows.

## CLOUD-ENABLED VVC LIVE

From day 1 of implementation, MainConcept VVC supports real-time 8K60 streaming.<sup>2</sup> Cloud-enabled live streaming is just one of the many use cases made better with VVC. With it, you get greatly improved immersive visual quality in more live channels, enabling countless use cases for broadcasting and streaming.

## READY FOR TODAY, BUILT FOR TOMORROW

The MainConcept VVC codec was engineered with 8K in mind but is flexible enough to efficiently handle 4K and lower resolutions. Although the move to full 8K may be a few years away, numerous applications for 8K have already been tested and are being implemented and others are quickly evolving. MainConcept VVC enables you to easily process across the resolution ladders.

## USE CASES FOR VVC: VERSATILE BARELY BEGINS TO COVER IT!

There is a reason the name of this powerful codec standard starts with the word “versatile.” The advanced compression capability that results in smaller file sizes extends its functionality—taking it from typical media and entertainment use cases (broadcasting, OTT streaming and production) to a wide swath of traditional verticals (medical, digital signage) to the new and quickly evolving areas such as ad tech, gaming, virtual and extended reality. And in every use case, the MainConcept VVC/H.266 SDK is poised to bring you the quality, performance and reliability we have delivered for the past three decades.

## OPERATING SYSTEM

- Microsoft Windows 10, Windows 11 (64-bit)
- Apple Intel macOS 10.15 or newer (64-bit)
- Linux Ubuntu 20.04 LTS – 22.04 LTS, Rocky Linux 8.9 (64-bit, x86)

## THE NEXT BIG CODEC

### UP TO 40% IMPROVEMENT IN COMPRESSION<sup>1</sup>

VVC brings you cost-efficient production workflows

### IMMERSIVE VISUAL QUALITY

OTT, Broadcast, Internet or mobile—crisp images immerse your viewer in the experience

### UP TO 8K STREAMING

Stream across resolutions without worry as VVC future-proofs your platform

### KEY FEATURES

- Real-time 8K60 live streaming
- Cloud-enabled VVC live
- State-of-the-art compression capability

### OPTIMIZE WITH MAINCONCEPT PROFESSIONAL SERVICES

<sup>1</sup>) Attribute of the VVC/H.266 standard in comparison to the HEVC/H.265 standard.

<sup>2</sup>) 8K60 streaming capability is also reliant on having appropriately performant hardware infrastructure.

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## PACKAGES

- **VVC/H.266 Encoder SDK**  
VVC/H.266 Video Encoder package supporting up to 4:2:0 10-bit, including audio, multiplexing and packaging components for MPEG-2 TS and MP4.
- **Multi-Layer Support for VVC Encoder:** Optional add-on feature enabling multi-layer coding in the VVC/H.266 encoder.
- **VVC/H.266 Decoder SDK**  
VVC/H.266 Video Decoder package supporting up to 4:2:0 10-bit realtime playback, including audio and demultiplexing components for MPEG-2 TS and MP4.
- **VVC/H.266 Encoder Plugin for FFmpeg**  
MainConcept is bringing the power of VVC to FFmpeg. See our [FFmpeg Plugin page](#) for more information.

## FEATURES

### Encoder

- Live & VOD 4:2:0 8- or 10-bit in up to 8K
- HDR signaling
- New coding tools for up to 8K resolution
- MPEG-2 TS & MP4 multiplexing
- MPEG-DASH output & MPD generation
- Temporal filtering, adaptive quantization and RDOQ support
- Featuring CQT, CBR and VBR rate control modes
- Support for quarter pixel motion compensation, deblocking, SAO, etc.
- Additional features like deinterlacing, Scene Change Detection, Pyramid B-Frames, etc.

- SABET: Efficient multi-layer encoding for OTT streaming
- Multi-layer coding for ad tech and sign-language\*
- WPP (WaveFront Parallel Processing) encoding

### Decoder

- 4:2:0 10-bit real-time playback up to 8K
- I, P, B picture type decoding
- Slices & tiles stream decoding
- Support for various In-loop filters, such as SAO, ALF and deblocking
- Intra prediction with multiple reference lines (MRL), subpartitions (ISP) or matrix-based.
- Wavefront Parallel Processing (WPP) decoding
- Cross-component linear model intra prediction (CCLM)
- Block-based delta pulse code modulation (BDPCM)
- Joint coding of chroma residuals (Joint Cb Cr)
- Multiple transform selection (MTS)
- Transform skip
- Dependent quantization
- Low frequency non-separable transform (LFNST)
- Temporal motion vector predictors (TMVP)
- Merge mode with motion vector difference (MMVD)
- Adaptive motion vector difference resolution (AMVR)
- Subblock transform for inter-predicted (SBT)
- Delta QP (DQP)
- Luma Mapping with Chroma Scaling (LMCS) & Bi-Directional Optical Flow (BDOF)

\* Optional features

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## MORE INFORMATION

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