

HLS

HTTP Live Streaming

Largest video codec libraries on earth, supporting nearly every major format in use today in both consumer and professional markets.



HLS is an adaptive bitrate streaming format introduced by Apple and widely used in today's OTT deployments. At WWDC 2017 Apple announced that HLS is being extended to support HEVC in addition to AVC Video. Native playback of the new codec will be added to Macs and iOS devices with iOS 11 and macOS High Sierra. MainConcept's Video Encoders and HLS SDK allow creating content for both AVC in MPEG-2 Transport Stream, and AVC or HEVC in fMP4, or any combination of the two video codecs. Get your content ready for consumption on a broad basis of devices, or augment existing content with the addition of HEVC Layers and benefit from the bandwidth savings of HEVC in HLS.

The different parts of HLS

The HLS standard covers a number of specific aspects of the streaming value chain, from playlist creation, multiplexing and packaging, HTTP server playlist/manifest file, and playback client. MainConcept SDKs can enable 3rd parties to integrate any part of the complete Apple HLS ecosystem into their applications, services or environments:

- File and Playlist Creation - AVC/H.264 encoded Video in MPEG-2 TS or ISO BMFF container, or HEVC/H.265 Video in ISO BMFF container, AAC Audio, accompanying media playlists and master playlists to tie all layers together.
- HLS Playback Client - Available for PC and mobile platforms, Apple HLS playback clients enable consumer devices to select the optimal bitrate file for the best playback experience.

MAINCONCEPT HLS SDK PACKAGES

HLS MULTIPLEXING & PACKAGING SDK

Multiplexing and Playlist generation components for generating ISO BMFF or MPEG-2 TS compliant stream segments and HLS Media and Master Playlist files. This SDK can be used in combination with the MainConcept AVC/H.264 or the MainConcept HEVC/H.265 Video Encoding SDK.

DASH / HLS DEMULTIPLEXING & CLIENT SDK

Network and Demultiplexing modules for receiving MPEG-DASH and Apple HLS streams from a network, network condition monitoring and intelligent bitrate and quality level switching. Can be combined with MainConcept AVC/H.264 or HEVC/H.265 Video Decoder SDKs or use hardware video and audio decoders available on the system.

FEATURES

HEVC and AVC Support

Benefit from bitrate savings while maintaining the best possible image quality by using HEVC Video in your HLS adaptive streaming set and address the broad basis of iOS11 or macOS High Sierra devices now. Maintain backwards compatibility by adding AVC Video layers for legacy devices.

MP2 and fMP4 support

Using MainConcept's HLS SDK it is possible to create content using the widely deployed segmented MPEG-2 Transport Stream format or the recently introduced fMP4 format. The packaging SDK will ensure that file naming and folder structure conventions are being met and the files created are fully compliant with the specification.

Media and Master Playlist generation

Using the same module developers are able to create Media Playlists, which cover one quality level, and at the same time combine multiple Media Playlists into one Master Playlist (also known as M3U8 file) which is being delivered to the client. While Media Playlists contain detailed information about the media segments of one quality level Master Playlist describe the content of the media playlists and help the playback client determine available quality levels and bit rates.

Intelligent Network Monitoring

Network conditions can vary per user and over time. MainConcept's Network Source module constantly monitors network quality and performance to enable seamless and intelligent adaptation between quality layers. In addition the user is able to override the automated selection and manually choose different quality levels for audio and video streams.

COMPONENTS

HLS MULTIPLEXING & PACKAGING SDK

MP4 Multiplexer Broadcast
MPEG-2 Multiplexer
HLS Playlist Generator

DASH / HLS DEMULTIPLEXING & CLIENT SDK

Network Source Broadcast
SDP Parser
Stream Pump
MP4 Demultiplexer (Push & Pull)
MPEG-2 Demultiplexer (Push & Pull)

TECH SPECS

- **Microsoft® Windows® 7, Windows 8, Windows 10 (32-bit/64-bit)**
- **Apple Mac OS X 10.6 or higher (Mac/Intel), (32-bit/64-bit)**
- **Linux Ubuntu 10.04 LTS (32-bit/64-bit)**

For Windows, Mac OS X and Linux, the codec package consists of a Low Level API (in the C programming language). On Windows, the DASH / HLS Demultiplexing & Client SDK also includes DirectShow filters for playback.

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