Transcoding Best Practice

Date: 2013.11.12

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Encoding Formats - Uploading to Qbrick OVP

Who is this document intended for?

This document is intended for customers who want to upload and encode media in Qbrick OVP. Its main purpose is to recommend media formats and codecs to get to best end result for delivering high quality Web TV experiences.
This document also lists the standard output formats and bitrates for Video/Audio content that is encoded using Qbrick's encoding platform**.**

Basic abbreviations

Format:
Often referring to the container format of the video file. The container format acts as a wrapper format of the video, audio and metadata content.
Codec:
The software algorithm that compresses and/or decompresses the video and audio file.
Distribution protocols:
The way that the content is distributed, the available distribution protocol often depends on the source file container format and codec. Examples of protocols are RTMP, HTTP, HLS, RTSP.

Input Formats

General Information

The standard SD and HD encoding profiles available at Qbrick are all optimized for progressive source material at 25 fps. For best result please use the resolutions 576p or 720p as stated below in Recommended Input Formats.

Important:

- Source files MUST contain an audio track. Video only files are not supported.
- 32-bit audio is NOT supported.
- Encoding can take up to 3-5 times the length of the video

Recommended Input Formats

The following formats are recommendations for input formats. The specifications are to achieve the best end result for Web TV experiences. Additional supported formats are listed under 2.2.3

SD Video Specifications (Standard Definition)

Format	MP4	MPEG 2	Windows Media
Video Codec	H.264	MPEG 2	WMV 9
Audio Codec	AAC	MPEG 1 layer 2	VMA 9
Bitrate	3 Mbps	5 Mbps	3 Mbps
Frame rate (constant)	25 fps	25 fps	25 fps
Resolution	720 x 576 pxl	720 x 576 pxl	720 x 576 pxl
Key frames	Natural	Natural	Natural

HD Video Specifications (High Definition)

Format	MP4/MOV	MPEG 2	Windows Media
Video Codec	H.264	MPEG 2	WMV 9
Audio Codec	AAC	MPEG 1 layer 2	VMA 9
Bitrate	5 Mbps	8 Mbps	5 Mbps
Frame rate (constant)	25 fps	25 fps	25 fps
Resolution	1280 x 720 pxl	1280 x 720 pxl	1280 x 720 pxl
Key frames	Natural	Natural	Natural

Trusted Input Formats

Qbrick's transcoding service supports various kinds of input formats and codecs. The following formats are supported and have been well tested.
NOTE: If the encoding job fails please contact support with information regarding source format and codecs.

Format	Description
MPG	*MPEG-2 Video and audio*
MP3	*MPEG audio layer 3*
MP4	*MPEG 4*
WMV	*Windows Media Video Format*

Untrusted Input Formats *

Below is a list of untrusted formats, this means that some codecs may not be supported. To be sure your encoding reaches the best result the recommended input formats are preferred.
NOTE: All formats in this list have not been fully tested and may not support all codecs, if the encoding job fails please contact support with information regarding format and codecs.

Format	Description
Apple ProRes	*Apple ProRes 422, Apple ProRes (LT), Apple ProRes (Proxy) and Apple ProRes 422 (HQ) are supported.*
AVI	*AVI Format*
DV	*DV Video Format*
Image sequences	-
MPEG 1	*MPEG 1*
QuickTime/MOV	Quicktime formats
RealVideo	*RealVideo formats*
VC1	*Raw vc1*
WAV	*Wav Format (Audio only format)*
3GP	*Quicktime/MPEG-4*
FLV	*flv format*
AIFF/AIF	*Audio Interchange File Format (Audio only format)*

*All codecs are **NOT** supported

Unsupported Input Formats & Codecs and more

Below is a list of known unsupported formats and codecs and more. This list will be updated continuously.

Type	Video Codec	Audio Codec	Other
F4V	*	*	
SWF	*	*	
Audio bit depth			32-bit Audio

Standard Output Formats

Standard Encoding Profiles

The encoding profile is the configuration of the output formats for the encoding job. An encoding profile can generate several different formats and codecs from one source file. Below is a list of the standard encoding profiles. The encoding profiles can be customized as a premium service, see Custom Encoding Profile below.

Standard Video HD 16:9

The "Standard Video HD 16:9" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	1280x720	2400
				864x486	1800
				704x396	1200
				640x360	800
				480x270	430

Standard video SD 16:9

The "Standard video SD 16:9" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	704x396	1200
				640x360	800
				480x270	430

Standard Video SD 4:3

The "Standard Video SD 4:3" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	720x540	1200
				640x480	800
				480x360	430

Standard Video HD 16:9 Mobile

The "Standard Video HD 16:9 Mobile" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	1280x720	2400
				864x486	1800
				704x396	1200
				640x360	800
				480x270	430
iPad	MPEG-TS	H.264	AAC	960x540	1300
iPhone				480x270	646
				320x180	232
				320x180	124
				(No image)	48 (Audio only)
Android Windows Phone	MP4	H.264	AAC	480x270	450

Standard Video SD 16:9 Mobile

The "Standard Video SD 16:9 Mobile" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	704x396	1200
				640x360	800
				480x270	430
iPhone/iPad	MPEG-TS	H.264	AAC	480x270	646
				320x180	232
				320x180	124
				(No image)	32 (Audio only)
Android Windows Phone	MP4	H.264	AAC	400x224	328

Standard Video SD 4:3 Mobile

The "Standard Video SD 4:3 Mobile" encoding profile includes:

Target Platform	Format	Video Codec	Audio Codec	Size (pxl)	Bitrate(s) (Kbps)
Web (Flash)	MP4	H.264	AAC	720x540	1200
				640x480	800
				480x360	430
iPhone/iPad	MPEG-TS	H.264	AAC	480x360	646
				320x240	232
				320x240	124
				(No image)	32 (Audio only)
Android Windows Phone	MP4	H.264	AAC	400x300	328

Standard Audio Only

The "Standard Audio Only" encoding profile includes:

Target Platform	Format		Audio Codec	Bitrate(s) (Kbps)
Web (Flash)	MP4		AAC	128
				64

HbbTV

Qbrick currently supports the following output formats for delivering On Demand video to both CE Apps and HbbTV Apps:

Target Terminals	Format	Video Codec	Audio Codec
Philips 2012 Philips BluRay Player Samsung LG	MP4AVC HD MP4AVC SD TSAVC HD	H.264	AAC

The delivery is done through the standard HTTP or HTTP Chunked Transfer.

Custom Encoding Profile

To order a custom encoding profile, please contact your Qbrick sales representative. Make sure you have a specification at least containing:

- Container format
- Video Codec
- Audio Codec
- Bitrate
- Frame size
- Frame rate

Qbrick support will then verify if the requested custom encoding profile is possible.

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