Qantas.com Video encoding and delivery

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1. Purpose

This document outlines the recommended approach for creating video's to be delivered on Qantas.com in a manner that will work across most our customer's browsers/devices including **Android**, **iOS, Windows 7 Phone OS, Flash**, **HTML 5** and, potentially, **Microsoft Silverlight** based devices. Feel to share this document with any 3rd parties who plan to create any video asset for Qantas.com.

Few key things to point out:

- There is no single approach solution and this is unlikely to change in the short term.
- To make your video watchable across most devices and platforms, you are going to need to encode your video more than once.
- h.264 and AAC are patent encumbered therefore policies may change, but is necessary for delivering on Apple based products.

2. Codec's and File Containers

For maximum cross platform/device compatibility you should encode in the following:

1. **WebM** file container
    - **VP8** video codec
    - **Vorbis** audio codec

2. **MP4** file container
    - **H.264** video codec
    - **AAC** audio codec

3. **OGG** file container
    - **Theora** video codec
    - **Vorbis** audio codec

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3. Recommended Settings/Profiles

3.1 High Definition

- Resolution: **1280x720**
- Video Bitrates: **2.0-2.9mbits***
- Audio Bitrates: **152.kbits**
- Estimated average size per minute: **15mb**

3.2 Standard Definition

- Resolution: **854x480**
- Video Bitrates: **0.8-1.0mbits***
- Audio Bitrates: **128kbits**
- Estimated average size per minute: **6mb**

Fallback

  - Resolution: **640x360**
  - Video Bitrates: **0.4-0.6mbits***
  - Audio Bitrates: **128kbits**
  - Estimated average size per minute: **4mb**

3.3 Baseline

- Resolution: **640x360**
- Video Bitrates: **0.3-0.5mbits***
- Audio Bitrates: **96kbits**
- Estimated average size per minute: **4mb**

Fallback

  - Resolution: **400x224**
  - Video Bitrates: **0.15-0.25mbits***
  - Audio Bitrates: **64kbits**
  - Estimated average size per minute: **2mb**

*** These values can be reduced further if file size is a problem.**

4. Video Integration and Delivery

The best approach for video integration and delivery on Qantas.com that will support most common browsers and its devices is through the following 3 part approach:

1. Using HTML 5 **<video>** element to deliver to most modern browsers.
2. Falling back onto **Flash** based delivery
3. Falling back onto downloading the video file or as a zipped video file onto the device.

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4.1 HTML 5 Integration and Delivery

Delivery via HTML 5 will cover most modern browsers including those on iOS, Android and Windows 7 Phone devices. The HTML 5 markup is as follows:

```
<video width="640" height="360" controls>
  <source src="video.mp4"  type='video/mp4; codecs="avc1.42E01E, mp4a.40.2"'>
  <source src="video.webm" type='video/webm; codecs="vp8, vorbis"'>
  <source src="video.ogv"  type='video/ogg; codecs="theora, vorbis"'>
</video>
```

For the above to work you need to ensure the video is served with the proper mime type from the server. The mime types are:

File Type	Mime Type
.ogv	video/ogg
.mp4	video/mp4
.webm	video/webm

4.2 Flash Integration and Delivery

Delivery via flash is the most common scenario. It will cover up most scenarios except iOS devices and Windows 7 Phone devices.

Refer to section 1.9 in http://www.qantas.com.au/styleguide_redesign/rd_flash_guidelines.html

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If you have any queries regarding this document then feel free to contact Paul Tea pte21@qantas.com.au