Some A/V Formats

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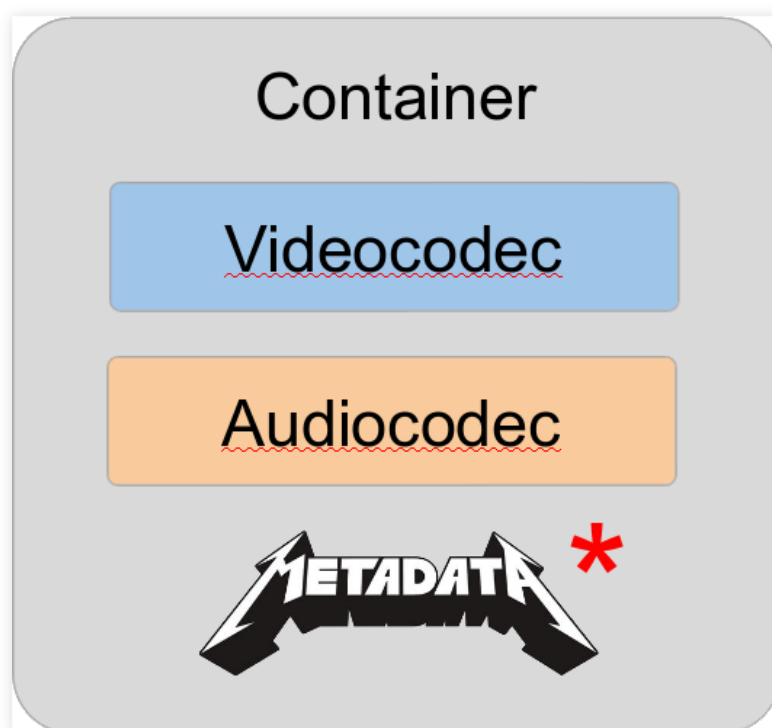
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Formats

- Which file formats do you know?
- Which image formats do you know?
- Which audiovisual formats do you know?

Speaker notes

Let's take a look at pros/cons of some popular (=significantly present in the wild).
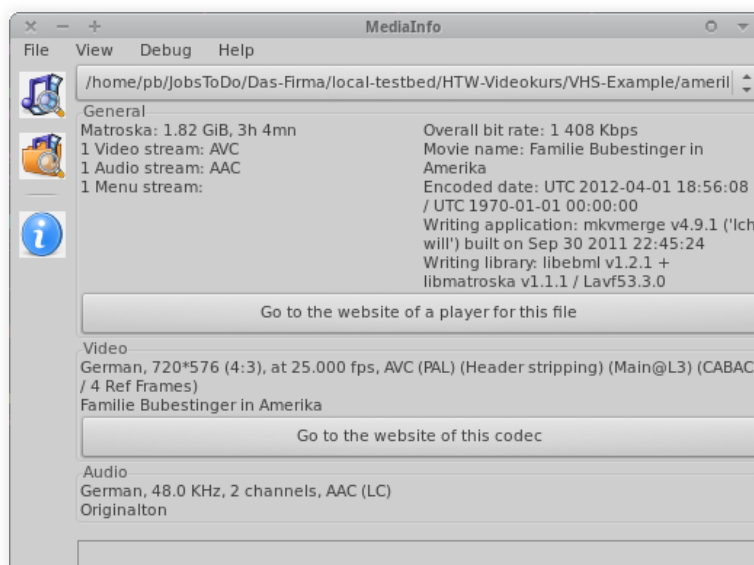
Digital Video Trinity

Format Naming

Clearer would be to declare a triplet:

- **H.264** / **AAC** in **MP4**
- **FFV1** / **PCM** in **Matroska** (MKV)
- **ProRes** / **PCM** in **MOV**
- **DPX** / **WAV**(PCM) in **a folder**

A Quick Peek

Speaker notes

You need a tool to look inside A/V files properly. One of the best (and most widely used) tools for the job is "MediaInfo"

Containers

- AVI: Audio Video Interleave
- MOV: Quicktime
- MKV: Matroska Video
- MXF: Material eXchange Format
- WAV / RIFF
- MPG, MTS: MPEG Transport Stream
- ...

Video Codecs

- H.264 ^(lossy, lossless, uncompressed)
- H.265 ^(lossy, lossless)
- MPEG-2 ^(IMX, XDCAM, DVD, HDV)
- ProRes
- JPEG2000 (J2K) ^(lossy, lossless)
- FFV1 ^(lossless)
- Uncompressed ^(v210, RGB, DPX, …)
- WMV
- …

Audio

- AAC
- MP3
- Opus
- PCM
- FLAC
- WMA
- …

Default Formats: Video

- **Image:** Default = lossy encoding
- **Audio:** production = PCM, consumer = AAC
- **Metadata:** Often embedded. Sometimes sidecar.

Speaker notes

As you can see, I didn't mention which image codec for video, because there is currently still no format option that satisfies the needs of different communities like: archive vs consumer vs production vs broadcast vs cinema.

Default Formats: Film

- **Image:** DPX / TIFF files
- **Audio:** PCM in WAV
- **Metadata:** Mostly sidecar, some MD in image files.

Speaker notes

Film is currently stored as still image sequence (1 frame = 1 file) in a folder, along with the audio as one ore more WAV (PCM) files and optionally metadata sidecar files (XML, etc).

Reels are stored in individual subfolders.

A/V Formats: Good practices for DLTP

- Capture digital tape in its native format without generation loss (MiniDV, DAT, etc.)

- Store born-digital files "as original" as possible.

- Audio preservation format: uncompressed WAV (PCM) for analog originals.

- For video container formats, consider using MKV or MOV. MXF *only* if necessary (e.g. broadcast)

- Capture analog video uncompressed (v210) or lossless (FFV1, J2K).

- Or: At the highest quality (data rate) you can store and manage well over time.

Comments?

Questions?

Links

- Primer on Codecs for Moving Image and Sound Archives
- Comparing Video Codecs and Containers for Archives