

# MediaInfo

metadata extractions tool  
& software integration



Jérôme Martinez  
MediaArea.net SARL

# What is MediaInfo?

MediaInfo is a convenient unified display of the most relevant technical and tag data for video and audio files.

MediaInfo  
is **versatile.**

# Containers/wrappers

- SMPTE containers (MXF/DCP/IMF)
- GXF, LXF
- P2, XDCAM
- MPEG streaming containers (ts/m2ts/mpg/vob)
- MPEG file container (mp4)
- Quicktime (qt/mov)
- Matroska (mkv/mka/mks)
- RIFF (avi/wav/w64)
- Apple/SGI (aiff/aifc)
- Windows Media (asf/wma/wmv)
- ...

# Video/image formats

- HEVC/H.265
- AVC/H.264
- MPEG-1/2 Video (mpgv/mpv/m1v/m2v)
- VC-1, VC-3/DNxHD
- DPX, EXR
- PNG, TIFF
- JPEG, JPEG 2000
- FFv1
- ...

# Audio formats

- PCM
- Dolby E
- AC-3, E-AC-3
- DTS
- AAC/HE-AAC/HE-AACv2
- FLAC
- MPEG-1/2 Audio (mp1/mp2/mp3)

# Captions/Subtitles

- CEA-606/708
- DVB subtitles
- ARIB captions
- N19/STL
- Teletext
- CDP
- WST
- TTML
- ...

# Metadata

- Container-specific
- Ancillary data
- Time codes (MXF, GXF, QuickTime...)
- Bar data
- AFD
- AS-11/DPP
- Checksums presence
- ...



# Examples of Metadata

- Writing library
- Channel assignment (left, right, rear...)
- Audio/caption language
- Law rating
- Broadcast service name

# Input formats

- Files (local/network)
- FTP/FTPS/SFTP
- HTTP/HTTPS
- Direct memory access

# Export formats

- Flat text
- XML
- EBUCore (1.5/1.6)
- PBCore (1.2/2.0)
- MPEG-7
- FIMS (Work in progress, 1.1/1.2)

MediaInfo  
works everywhere.

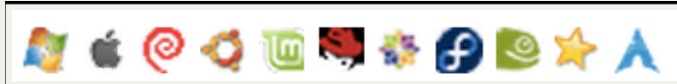
# Interfaces

- API (library)
- Command Line Interface
- Graphical User Interface

# Bindings

- C, C++
- C#/Mono
- VB.net
- Python
- Java
- node.js (unofficial)
- ...

# Platforms



- 
- Windows
- Mac
- Linux: Ubuntu, Mint, RHEL/CentOS, Fedora, SuSE, Solaris...
- BSD: FreeBSD...

# Architectures

- Intel/AMD 32-bit
- Intel/AMD 64-bit
- IA64
- PowerPC
- ARM
- ...



MediaInfo  
**is open source.**

# License

- BSD-2-Clause license
- Code source available for everyone
- Contacting developer not mandatory
- Not tied to a company

# Business model

- Free: Software & developed features
- Not free: Closed source versions
- Not free: Bug correction
- Not free: New features
- Not free: Support/forensics

# Examples of sponsored features (0)

- MPEG-7 export
- EBUCore
- AS-11 (UK DPP)
- IMF
- DTS Neural Audio

# Examples of sponsored features (1)

## MPEG-7 export

- Sponsored by Bibliothèque Nationale de France (National Library of France)

# Examples of sponsored features (2)

## EBUCore

- National Library of Wales sponsored EBUCore 1.5 output
- EBU sponsored EBUCore 1.6 update
- Features can be sponsored step by step

# Examples of sponsored features (3)

## AS-11 (UK DPP)

- Title, track layout, audio languages, open/closed caption presence, segments, copyright, FPA...
- Initial version sponsored by Digimetrics (now part of Tektronix)
- AS-11 to EBUCore mapping sponsored by EBU

# Examples of sponsored features (4)

## IMF

- SMPTE ST-2067 support
- Participation to IMF plugfests
- Sponsored by Digimetrics (now part of Tektronix)
- (Work in progress)



# Examples of sponsored features (5)

## DTS Neural Audio

- Presence detection (by metadata) of 5.1 transported in a 2.0 stream
- Sponsored by Numericable

# Examples of sponsored features (6)

## MediaConch

- Media CONformance CHecker
- Based on MediaInfo
- 3-year project, sponsored by European Union
- Includes implementation checker, policy checker, reporter, and fixer
- Initial focus: archival Matroska/FFV1/PCM
- Future focus: format sponsorship opportunities

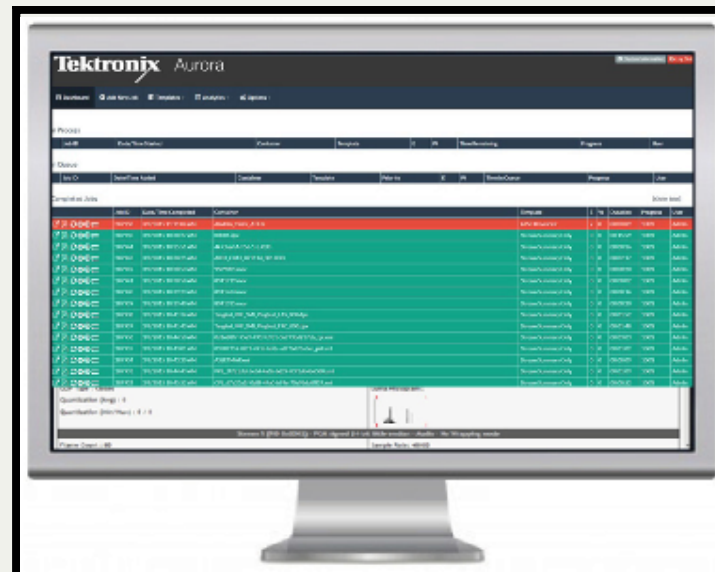


# Example of closed source (0)

- When open source does not fit the sponsor
- Closed source development is available
- Option to pay back for open source later

# Example of closed source (1)

- Digimetrics (now part of Tektronix) Aurora
- Automated File-based QC Software
- More detailed container analysis
- latest developed feature: ARD/ZDF broadcast profiles



# Example of closed source (2)

- Digimetrics (now part of Tektronix) Hydra
- File-based Player Software
- Demuxer feature addition

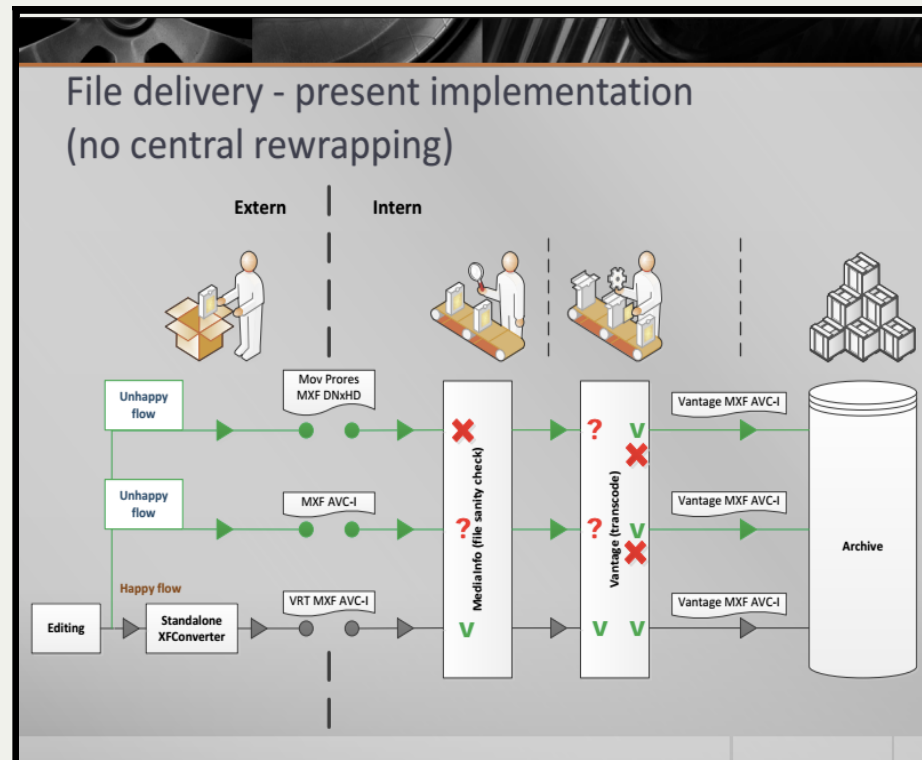
MediaInfo  
can be **automated.**

# Automation (0)

- Command line batch process
- DLL can be used for direct inclusion in your workflow
- MediaInfo can be adapted to any workflow
- Consultation available

# Automation (1)

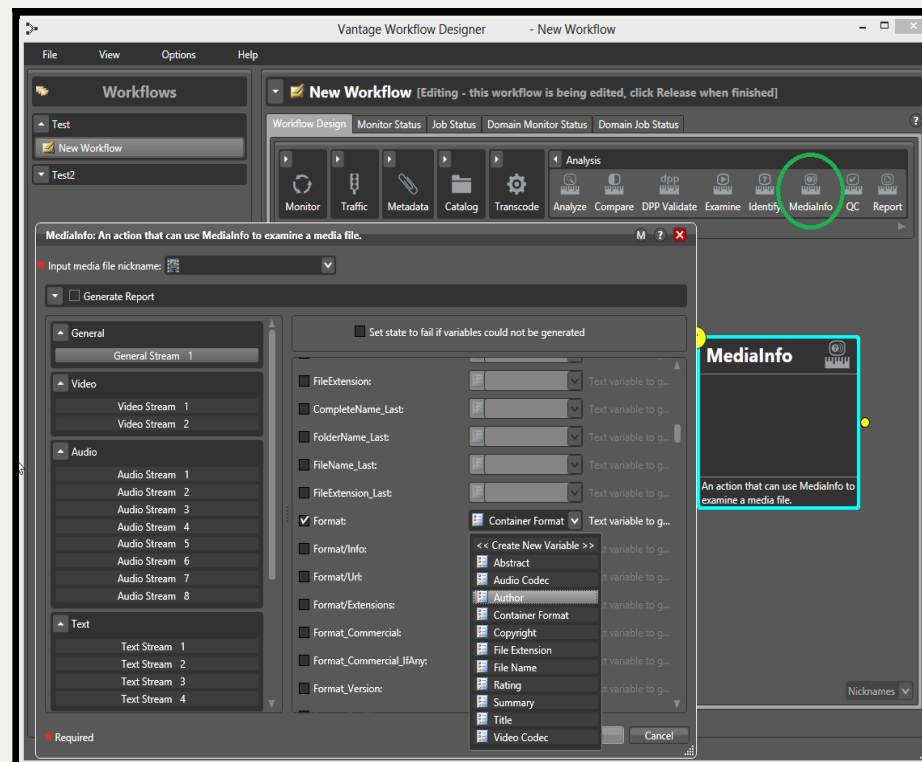
## VRT example





# Automation (2)

## Telestream Vantage example



# Automation (3)

## File Information Tool Set (FITS)

- Developed by Harvard University Library Digital Repository Service
- Identifies and validates file formats, extracts metadata embedded within files, and outputs the metadata in various formats (including EBUCore)
- Manages the output from several other open source tools
- Will include MediaInfo as one of the inputs



# What's next?

- Better IMF support
- MediaTrace
- Sony's camera metadata
- MediaConch
- Amazon S3 and Microsoft Azure input
- Your feature?



# Stay in touch

MediaArea: <https://mediaarea.net>, @MediaArea\_net

MediaInfo: <https://mediaarea.net/MediaInfo>

MediaConch: <https://mediaarea.net/MediaConch>

Jérôme Martinez: [jerome@mediaarea.net](mailto:jerome@mediaarea.net)

Slides: <https://mediaarea.net/Events>

License (except images): CC BY