Taking the last steps up to IPTC's
Video Metadata solution

IPTC Photo Metadata Conference

26 May 2016

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The Starting Point

Video is an area of rich diversity:

- Many formats of a frame
- Many technologies for how video data and audio data are compressed
- Many formats defining how files containing video are designed/built
- Different schemas for metadata associated with a video
- Different ways to embed metadata into video files
- Different ways to express rights and restrictions

… resulted in user experience like that …

See table at www.guildmaster.com

The Initiative aimed at …

… applying metadata - used by many parties – should become more easy.

… moving technical details of metadata in the 2nd row.

… which makes now the
IPTC
Video Metadata Hub

means:

- A collection of widely used metadata properties, each one with
  - a name
  - a definition of the semantics
  - a basic data type
  - a cardinality
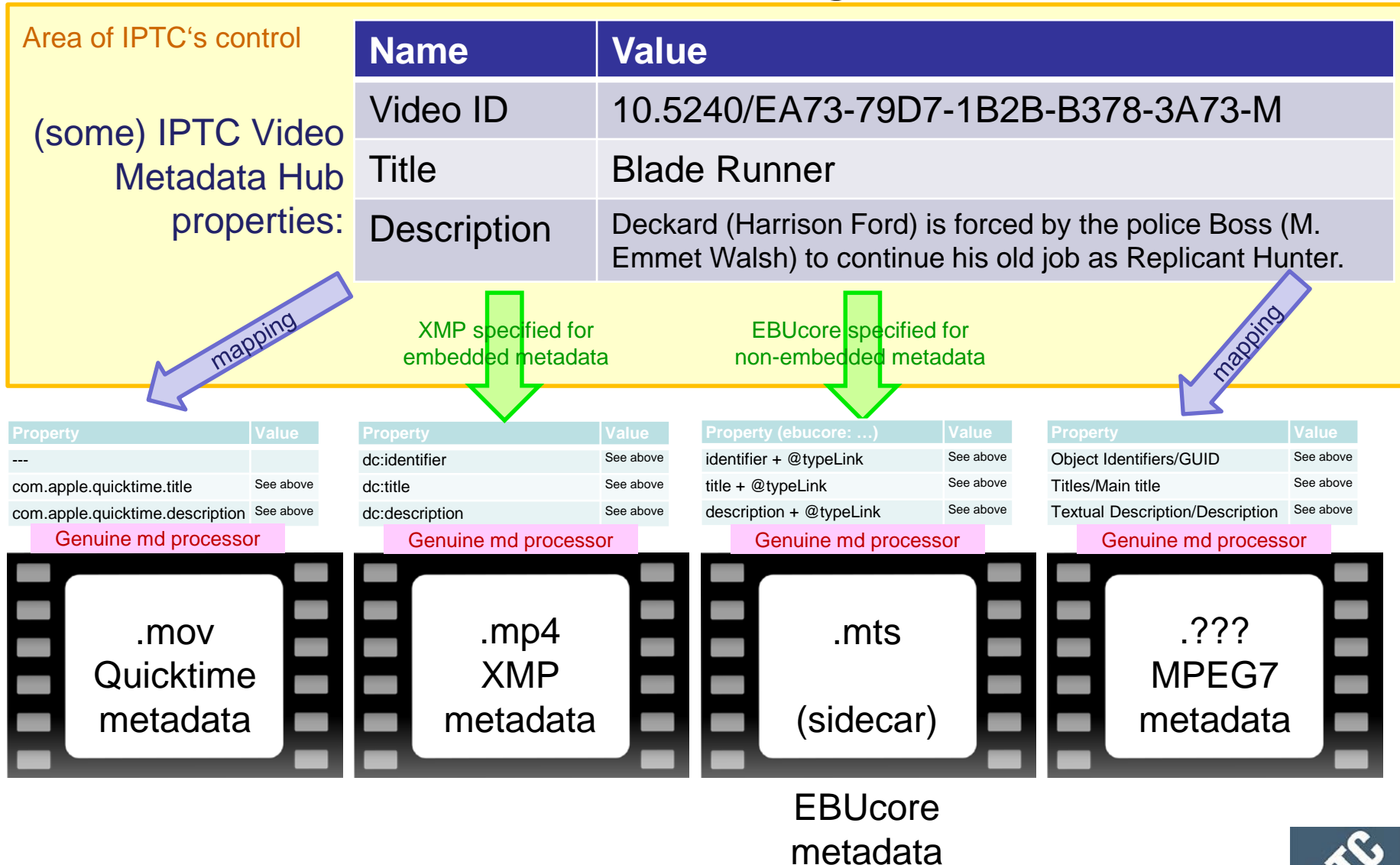
IPTC Video Metadata Hub means:

- A default technical implementation for
  - embedding metadata (using XMP)
  - saving metadata in a stand-alone document (using EBUcore)
  - metadata via API (IPTC JSON format)

  … if no other format/standard should be used.

means:

- A recommended mapping
  of the IPTC VMD-Hub properties
  to semantically equivalent properties of
 other (video) metadata schemas.

VMD-Hub's Basic Design – illustrated

(some) IPTC Video Metadata Hub properties:

Name	Value
Video ID	10.5240/EA73-79D7-1B2B-B378-3A73-M
Title	Blade Runner
Description	Deckard (Harrison Ford) is forced by the police Boss (M. Emmet Walsh) to continue his old job as Replicant Hunter.

mapping

XMP specified for embedded metadata

EBUcore specified for non-embedded metadata

mapping

Property	Value
---	
com.apple.quicktime.title	See above
com.apple.quicktime.description	See above

Genuine md processor

Property	Value
dc:identifier	See above
dc:title	See above
dc:description	See above

Genuine md processor

Property (ebucore: …)	Value
identifier + @typeLink	See above
title + @typeLink	See above
description + @typeLink	See above

Genuine md processor

Property	Value
Object Identifiers/GUID	See above
Titles/Main title	See above
Textual Description/Description	See above

Genuine md processor

.mov Quicktime metadata	.mp4 XMP metadata	.mts (sidecar)	.??? MPEG7 metadata

EBUcore metadata

Action as Semantic Hub

(some) IPTC Video Metadata Hub properties:

Name	Value
Director	Ridley Scott
Title	Blade Runner
Description	Deckard (Harrison Ford) is forced by the police Boss (M. Emmet Walsh) to continue his old job as Replicant Hunter.

Read data

Trans ferred

Trans ferred

Trans ferred
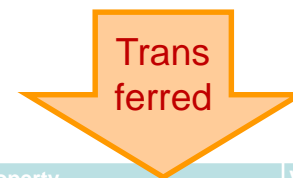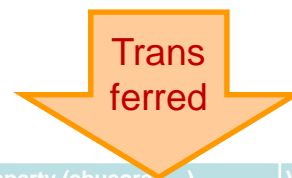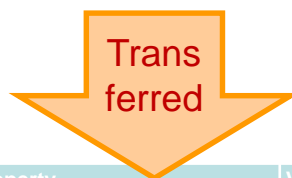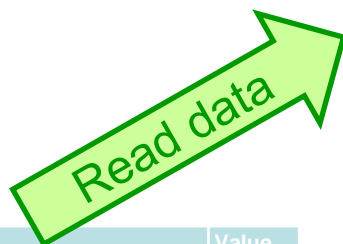
Property	Value
com.apple.quicktime.director	Ridley Sch
com.apple.quicktime.title	Blade Run
com.apple.quicktime.description	Deckhard

Genuine md processor

.mov
Quicktime
metadata

Property	Value
dc:creator + role=„director"	See above
dc:title	See above
dc:description	See above

Genuine md processor

.mp4
XMP
metadata

Property (ebucore: …)	Value
creator + @typeLink	See above
title + @typeLink	See above
description + @typeLink	See above

Genuine md processor

.mts

(sidecar)
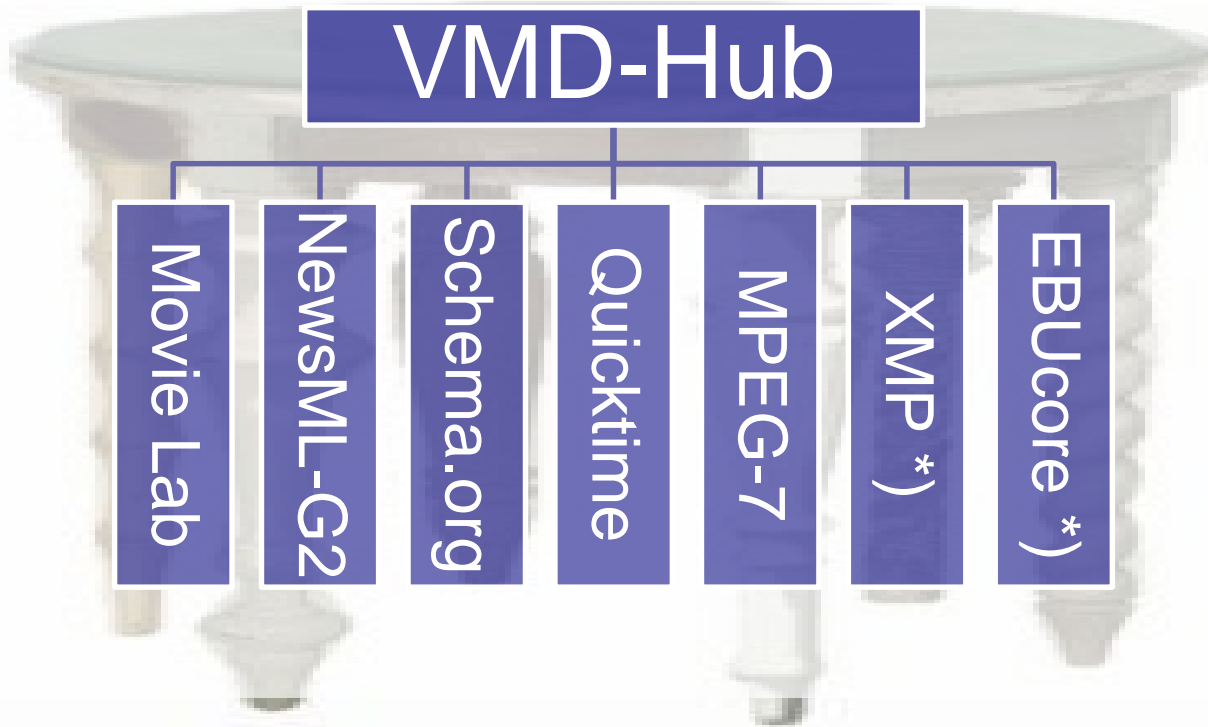
EBUcore
metadata

Property	Value
Prod Key People/Director	See above
Titles/Main title	See above
Textual Description/Description	See above

Genuine md processor
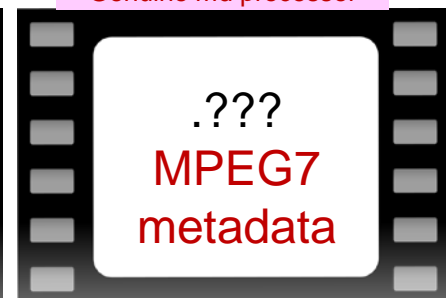
.???
MPEG7
metadata

Planned mappings

VMD-Hub

Movie Lab · NewsML-G2 · Schema.org · Quicktime · MPEG-7 · XMP *) · EBUcore *)

*) specified default technical implementation

Hub Benefits

- Guidelines for organising metadata of videos from different sources in a common way
- Support of workflows with videos of different standards
- Support of switching from an "old" to a "new" standard
- Support of searching across videos of different standards

Some details …

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VMD-Hub Members[*] – describing A/V

- Title
- Headline
- Description
- Keywords
- CV Terms About the Content
- Dopesheet
- Transcript
- Data Displayed on Screen
- Language Version

- Location Shot
- Location Shown
- Depicted Event
- Person Shown
- Person Heard
- Featured Organization
- Object Shown
- Product Shown
- Genre
- Shot Type

[*] VMD Hub Draft #4, June 2016

VMD-Hub Members – rights relevant

- Creator
- Contributor
- Supplier
- Licensor
- Rights Owner
- Copyright Notice
- Copyright Year
- Credit Line
- Licensing Terms

- Model Release Status
- Model Release Document
- Property Release Status
- Property Release Document
- Source

VMD-Hub Members - administrative

- Date Created + Modified + Circa Date + Style Period
- Date Released
- Ready for Release
- Rating (supports different sources)
- Video Identifier
- Video Version
- Video Rendition
- Registry Entry
- Feed Identifier
- Storyline Identifier
- External Metadata URL

VMD-Hub Members - technical

- Stream-ready
- Orientation
- Media Type
- File Format
- File Duration
- Editorial Duration Start
- Editorial Duration End
- Editorial Duration
- Frame Size
- Signal Format
- Signal Aspect Ratio
- Display Aspect Ratio
- Stream Count

- Video Coding
- Video Profile
- Video Frame Rate
- Video Bitrate Type
- Video Bitrate
- Audio Coding
- Audio channels
- Audio channel layout
- Audio Sample Rate
- Audio Bitrate Type
- Audio Bitrate
- File Bitrate

About Mapping

IPTC VMD-Hub property:

- name: **Date Created**

- definition: Date and optionally time when the video was created

- Basic data type: Date/opt. Time, single occurrence

- Mapping = pointing at different corresponding technical expressions as defined by a specific standard

  - EBUcore: date/created

  - XMP: photoshop:DateCreated

  - QuickTime: com.apple.quicktime.creationdate

  - MPEG-7: CreationInformation/Creation/Date

  - Schema.org: http://schema.org/dateCreated

Current Targets of Mappings

- EBU Core: metadata specification for broadcasting, global use

- XMP: ISO metadata syntax specification primarily used for embedding into binary files (photo, video, audio)

- Quicktime: metadata specification by Apple for its Quicktime (*.mov) format

- MPEG-7: ISO specification for multimedia metadata

- Schema.org: metadata specification to be used in web pages, support of the Semantic Web

Fragments and the Whole

Metadata of the video, including

Name	Value
Video ID	UUID:4567
Title	IPTC endorses new standard
Description	IPTC has endorsed its new set of video metadata.

Name	Value
Video ID	UUID:7890
Title	Sun shines in all videos
Description	Exciting phonomenon: it looks like the sun shines in all videos.

The Message: VMD-Hub supports metadata for the video as a whole and for fragments of it.

Name	Value
Video ID	UUID:….
Title	News At Noon
Description	All relevant news at today's noontime.

Next Steps

- Draft #4: to be released in late June 2016
  → invitation to submit feedback
  Watch http://dev.iptc.org/Video-Metadata
- Final draft Recommendation document in early October
- Voting at the IPTC Autumn Meeting (24-26 Oct 2016)
- Publishing and marketing

More about IPTC: www.iptc.org – Twitter @IPTC

The End

The Video Metadata Hub will help getting out of running in loops