Material eXchange Format (MXF)

Programme

8-9 June 2010
EBU, Geneva, Switzerland

EBU·UER EBU TECHNICAL MEDIA TECHNOLOGY & INNOVATION

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Master class

Overall outcome of the course:

- Understand what MXF is, where it comes from, how it works, what problems it addresses.
- Get up to speed with MXF technology, including its physical structure, metadata, essence and operational patterns.
- Understand how MXF can be applied, identify crucial interoperability issues and map the information to your experience.

Trainer:

Pedro Ferreira
MOG Solutions, Portugal

Tuesday 8 June

09:00 – 09:30 Introduction

- Presentation of trainer, trainees and MOG
- Agenda

09:30 – 10:30 Introduction to MXF

Explain what led to the development of MXF, its requirements, how it became a standard and how it is organised.

- What is MXF?
- MXF history
- User requirements
- MXF document organisation
- MXF, AAF and XML
- Install theScribe and view some example MXF files

10:30 – 11:00 **Coffee break**

11:00 – 12:30 MXF logical model

Introduce the logical model of MXF.

- Essence containers, index tables
- Structural metadata
- UMID: what and how in MXF?
- Operational patterns: generalised OPs, specialised OPs, use cases
- MXF and XML: S434M, use theScribe to export XML files

12:30 – 14:00 **Lunch**

14:00 – 16:45 MXF applications and MXF physical structure

Present well-known applications and introduce the underlying physical layout of MXF files.

- MXF building blocks: KLV, ULs, BER, group coding
- Plain simple OP1a file
- Clip-wrapped OPAtom files
- Long-GOP multi-partition OP1a file
- Subtitles, closed captions, VBI and ANC
- Archives and Partial Restore
- Higher level OPs
- File layout Recap

Including coffee break

16:45 – 17:30 **Wrap-up**

- Consolidate what has been discussed so far
- Feedback on how your perception of MXF has changed
- Open discussion: lessons learned, myths and facts, etc.

Wednesday 9 June

09:00 – 09:10 Introduction

– Review of day 1 and agenda of day 2

09:10 – 10:00 Descriptive metadata and DMS-1

Descriptive metadata overview.

– SMPTE registries: labels, groups, metadata elements
– Descriptive metadata in MXF: DM tracks, DM plug-ins
– Descriptive metadata scheme 1: motivation, frameworks, interoperability
– Custom metadata schemes: creation, promoting interoperability, application examples

10:00 – 10:30 Roundtable: metadata in the real world

Discuss how metadata is used today, what are the prospects for the future, strategies for successful deployment.

10:30 – **11:00** **Coffee break**

11:00 – 11:20 MXF standardization currently underway

Present the work currently underway at SMPTE that has a direct or indirect effect on MXF.

– Rationale, impact on interoperability

11:20 – 12:00 Advanced MXF applications

Present a set of applications that take advantage of MXF features in order to provide advanced workflows.

– mxfSPEEDRAIL S1000 & Avid Media Composer/Interplay
– mxfSPEEDRAIL F1000 & Avid Media Composer/Interplay

12:00 – 12:30 New trends

Discuss new trends and technologies, with a focus on how MXF can leverage these.

– SOA and MXF: mxfSPEEDRAIL, Interplay Web services
– Optimizing workflows: planning metadata (XDCAM, F1000, Interplay)

12:30 – 14:00 **Lunch**

14:00 – 15:00 Roundtable: MXF interoperability

Introduce the main aspects that can impair MXF interoperability and give guidance on how to avoid them.

– Discussion, with a focus on the trainees' experience on the subject: why is it not so easy? State of the art & known issues; tips for tenders.

15:00 – 15:30 Roundtable: MXF-based systems and workflows

Participants present their projects, followed by a discussion on each project.
The goal is to share ideas and experience, and to open-up the debate on good practices, known issues.

15:30 – 16:00 **Coffee break**

16:00 – 17:00 Roundtable: MXF-based systems and workflows (continued)

17:00 – 17:30 **Wrap up, summary and feedback**

17:30 **End of Master class**

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