
Strawman Specification
FADGI Application Specification
AS-AP MXF Archive and Preservation
October 20, 2010 (rev 1d_cf)

Document Status

This document-in-progress has been drafted for the Audio-Visual Working Group of the Federal Agencies Digitization Guidelines Initiative (FADGI). The intention is for a subsequent and refined iteration of this document to provide a starting point for finalization as an MXF Application Specification within the Advanced Media Workflow Association (AMWA).

Note that sections 5 and 6 have not yet been drafted. In order to give readers a sense of the types of information that will be presented in sections 5 and 6 as the document is completed, however, a set of section headings and subheadings is provided. Readers should also note that the single example of a shim presented in annex A is very provisional.

This document is being posted on the Federal Agencies Web site on October 20, 2010, in order to provide progress information to archivist-attendees at a special technical meeting scheduled for November 1, 2010. The Audio-Visual Working Group anticipates that a further revision (filling in some of the uncompleted sections) will be posted prior to the meeting. Readers and meeting attendees are encouraged to check project Web page to determine if a new version is available: http://www.digitizationguidelines.gov/audio-visual/documents/MXF_app_spec.html

Executive Summary

This document-in-progress describes a vendor-neutral subset of the MXF file format to use for long-term archiving and preservation of moving image content and associated materials including audio, captions and metadata. Archive and Preservation and files (AS-AP files) may contain a single item, or an entire series of items. Various configurations of sets of AS-AP files are discussed in the Overview.

AS-AP files are intended to be used in combination with external finding aids or catalog records. At the same time, AS-AP files may stand alone, and thus also contain baseline catalog records that could be used to regenerate external finding aids when needed.

Contents

Executive Summary 1
Contents 1
1 Scope 3
2 Conformance Language 3
3 Reference Documents 4
4 Overview 4
 4.1 Summary of File Format Configurations 4
 4.2 General AS-AP and Shims 5
 4.3 Use-cases for Shims 5
 4.4 Derivation of Shims 5
 4.5 Combinations of Shims 5
5 Parameters and Constraints 6
 5.1 Essence Track Parameters and Constraints 6
 5.1.1 General 6

AS-AP MXF Archive and Preservation

- 5.1.2 Interleaving..... 6
- 5.1.3 Partitions 6
- 5.1.4 Index Tables 6
- 5.1.5 Video..... 6
- 5.1.6 Audio..... 6
- 5.1.7 Closed Captioning 6
- 5.1.8 Other VBI..... 6
- 5.2 Operational Pattern Parameters and Constraints 6
 - 5.2.1 Baseline Operational Patterns 6
 - 5.2.2 Interleaving..... 6
 - 5.2.3 Partitions 7
 - 5.2.4 Index Tables 7
 - 5.2.5 Container..... 7
 - 5.2.6 System Item 7
 - 5.2.7 Timecode Track..... 7
 - 5.2.8 Random Index Pack..... 7
 - 5.2.9 KAG Size..... 7
- 5.3 Header Metadata Parameters and Constraints..... 7
 - 5.3.1 Material Packages 7
 - 5.3.2 File Packages 7
 - 5.3.3 Lower Level Source Packages 7
 - 5.3.4 MXF Tracks 7
 - 5.3.5 Descriptors..... 7
 - 5.3.6 Timecode..... 7
 - 5.3.7 Package Labelling 7
- 5.4 Descriptive Metadata Track Parameters and Constraints 7
 - 5.4.1 General..... 7
 - 5.4.2 DMS-AS-03 Tracks 7
 - 5.4.3 SOM and EOM Pairs 8
 - 5.4.4 Other Descriptive Metadata Schemes..... 8
 - 5.4.5 Content Integrity Tracks..... 8
- 5.5 Other Parameters and Constraints 8
 - 5.5.1 File Names 8
 - 5.5.2 Directory Structure 8
 - 5.5.3 Content Integrity 8
- 6 Test Material 9
- 7 Tabulation of AS-AP General Parameters and Constraints 9
 - 7.1 Picture 9
 - 7.1.1 Picture – Compressed at Ingest 9
 - 7.1.2 Picture – Uncompressed..... 9
 - 7.1.3 Picture – Compressed at Accession.....10
 - 7.1.4 Picture – Ancillary Still.....10
 - 7.2 Sound11
 - 7.3 Captions.....11
 - 7.4 Operational Pattern11
 - 7.4.1 Operational Pattern – Item11
 - 7.4.2 Operational Pattern - Bundle.....11
 - 7.5 Header Metadata12
 - 7.6 Descriptive Metadata12
- Annex A AS-AP Shim for Single Items derived from Video13
 - A.1 Picture13
 - A.1.1 Picture – Compressed at Ingest13
 - A.1.2 Picture – Uncompressed.....13
 - A.1.3 Picture – Compressed at Accession.....13

AS-AP MXF Archive and Preservation

A.2	Sound	14
A.3	Captions	14
A.4	Operational Pattern	14
A.1.4	Operational Pattern – Item	14
A.5	Header Metadata	15
A.6	Descriptive Metadata	15
Annex B	AS-AP Shim for Single Items derived from Film [forthcoming].....	16
Annex C	AS-AP Shim for Single Items “Born Digital” [forthcoming]	16
Annex D	AS-AP Shim for Single Items Film Strip [forthcoming].....	16
Annex E	AS-AP Shim for Collections [forthcoming]	16
	Summary Information.....	17
	Change History	17

1 Scope

This document describes a vendor-neutral subset of the MXF file format to use for long-term archiving and preservation of moving image content and associated materials including audio, captions and metadata.

Archive and Preservation and files (AS-AP files) may contain a single item, or an entire series of items.

AS-AP files are not intended for direct online access, however they may include renditions intended for viewing without further processing.

AS-AP files are intended to be used in combination with external finding aids or catalog records. The external finding aids are used for day to day access to the archive collection. At the same time, AS-AP files must stand alone, so they would retain their value even if they were the only extant copy of an item.

2 Conformance Language

Normative text is text that describes elements of the design that are indispensable or contains the conformance language keywords: "shall", "should", or "may". Informative text is text that is potentially helpful to the user, but not indispensable, and can be removed, changed, or added editorially without affecting interoperability. Informative text does not contain any conformance keywords.

All text in this document is, by default, normative, except: the Introduction, any section explicitly labeled as "Informative" or individual paragraphs that start with "Note:"

The keywords "shall" and "shall not" indicate requirements strictly to be followed in order to conform to the document and from which no deviation is permitted.

The keywords, "should" and "should not" indicate that, among several possibilities, one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain possibility or course of action is deprecated but not prohibited.

The keywords "may" and "need not" indicate courses of action permissible within the limits of the document.

The keyword “reserved” indicates a provision that is not defined at this time, shall not be used, and may be defined in the future. The keyword “forbidden” indicates “reserved” and in addition indicates that the provision will never be defined in the future.

A conformant implementation according to this document is one that includes all mandatory provisions ("shall") and, if implemented, all recommended provisions ("should") as described. A conformant implementation need not implement optional provisions ("may") and need not implement them as described.

Unless otherwise specified, the order of precedence of the types of normative information in this document shall be as follows: Normative prose shall be the authoritative definition; Tables shall be next; followed by formal languages; then figures; and then any other language forms.

3 Reference Documents

The following standards contain provisions which, through reference in this text, constitute provisions of this recommended practice. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this recommended practice are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

AMWA AS-04 Language Tagging
AMWA AS-xx Content Integrity

SMPTE 337-2008 through 340-2008 Format for Non-PCM Audio
SMPTE 334-1- and -2-2007 – Vertical Ancillary Data Mapping for Bit-Serial Interface
SMPTE 377-1:2009 – Material Exchange Format (MXF) File Format Specification
SMPTE 378M-2004 – MXF Operational Pattern OP1a
SMPTE 379-1:2010 and -2:2010 – MXF Generic Container
SMPTE 381M-2005 – Mapping MPEG streams into the MXF Generic Container
SMPTE 382M-2007 – Mapping AES3 and Broadcast Wave Audio into the MXF Generic Container
SMPTE 384M-2005 – Mapping of Uncompressed Pictures into the MXF Generic Container
SMPTE 392M-2004 – MXF Operational Pattern OP2a
SMPTE EG42-2004 – MXF Descriptive Metadata
SMPTE 410-2008 – MXF Generic Stream Partition
SMPTE 422M-2006 – Mapping of JPEG 200 Codestreams into the MXF Generic Container
SMPTE 429-6-2006 – D-Cinema Packaging – MXF Track File Essence Encryption
SMPTE 436M-2006 – MXF Mappings for VBI, and Ancillary Data Packets
SMPTE 2016-2007 – Active Format Description (AFD)

CEA 608E – Closed Captioning Data on line 21
CEA 708E – DTV Closed Captioning
ISO 13818 – MPEG-2
ISO 15444-1 – JPEG 2000
ISO 15444-1 and 4:2010 – Broadcast Profiles
ITU H.264 – Advanced Video Coding (a.k.a. ISO 14496-10 MPEG-4 part 10)
SCTE 35 – Splice Point Markers

4 Overview

4.1 Summary of File Format Configurations

Archive and Preservation and files (AS-AP files) may contain a single item, or an entire series of items.

AS-AP files may include one or several renditions of the items. Different renditions may arise from different original sources of the item; different renditions may also be created from multiple encodings of the original source using different image compression or encoding schemes. AS-AP files are not intended for direct online access, however they may include renditions intended for viewing without further processing.

AS-AP files may be grouped together into “bundles” in which individual files contain single items, and the bundle represents an entire series or a collection of items. File bundles may also include metadata-only files for preservation of metadata records pertaining to the series or collection.

AS-AP MXF Archive and Preservation

AS-AP files are intended to be used in combination with external finding aids or catalog records. The external finding aids are used for day to day access to the archive collection.

At the same time, AS-AP files must stand alone, so they would retain their value even if they were the only extant copy of an item.

The metadata in AS-AP files is a representation of the metadata records as they existed at the time of ingest or subsequent refresh of the item, including a reference to the source of the metadata and an audit trail of modifications to the metadata. This could be used to regenerate external finding aids when needed.

4.2 General AS-AP and Shims

To maximize commonality across applications, this specification is divided into general provisions that apply to all applications and specific constraint sets (called "shims") that apply to defined applications.

General provisions apply to all AS-AP files and thus represent the maximum required capability of the Archive and Preservation format.

Each shim provides a further set of constraints that reduce the range of variability that may be needed in well-defined categories of applications. These categories may address particular types of sources (such as films, analog videotapes, born-digital media), or they may address requirements of particular archive collections and uses (which may, for instance, dictate specific encoding formats or specific metadata).

4.3 Use-cases for Shims

The purpose of a Shim is to describe the content that may be present in a particular variant of AS-AP files. This knowledge has several practical applications in archival systems, for example:

- To guide encoding equipment as to how to convert and condition original sources as they are prepared for submission
- To guide quality assurance equipment that is used to verify input submissions
- To guide cataloguers (both archivists and automated scanners) as to what metadata to expect in examining an input submission.

4.4 Derivation of Shims

Shims do not add new required capability to the general provisions. They are limitations on the general provisions. Thus, the general provisions are intentionally non-restrictive in some areas.

Shims may directly constrain the general provisions, or they may add further constraints to other less specialized shims.

For example, within the general AS-AP there might be a Shim that describes preservation of analog videotape. This might dictate the use of J2K lossless compression and the provision of metadata for signal quality metrics.

There might be a second Shim for preservation of analog videotape of US broadcast television; in addition to the same parameters as the first Shim, this might describe the required carriage of US broadcast captions.

For ease of use, Shims list the less-specialized Shim from which they are derived. Shims can only add constraints to or remove choices from the Shims from which they are derived; they can not relax constraints or provide alternative parameters.

4.5 Combinations of Shims

In some cases an application needs to permit several different kinds of content, each with their own sets of constraints. Shims may express this by declaring an explicit choice between different, less-specialized Shims.

For example, within the general AS-AP there might be a Shim that describes preservation of film sources. This might dictate the use of uncompressed image sampling and the provision of metadata for spatial parameters, illumination and color grading. A second Shim might be declared for an archive that could contain items derived from videotape and items derived from film.

5 Parameters and Constraints

Each provision within the general specification and within each individual shim is categorized as one of the following:

- Unconstrained - everything permitted by SMPTE 377 MXF
- Gently constrained - a range of values (for example, bit rates) or choices (for example, DMS or Essence types) is stated by the general AS-03, that individual shims may further restrict
- Strongly constrained - a set of values or choices is listed that individual shims must choose between
- Most constrained - a single choice or parameter value that all AS-AP applications will use identically

Shims always express stronger constraints than the general specifications from which they are derived.

Some parameters may define the allowed presence of content elements. This is expressed using narrative conformance terms ("shall", "shall not", "may") and numerical parameters "minOccurs" and "maxOccurs" (as in XML Schema).

5.1 Essence Track Parameters and Constraints

[NOTE: this section is not yet drafted; see section 7 for higher-level essence information]

5.1.1 General

[to be drafted]

5.1.2 Interleaving

[to be drafted]

5.1.3 Partitions

[to be drafted]

5.1.4 Index Tables

[to be drafted]

5.1.5 Video

[to be drafted]

5.1.6 Audio

[to be drafted]

5.1.7 Closed Captioning

[To be drafted; pertains to CEA 608 line 21 (CC and XDS) data and CEA 708B DTV captioning data]

5.1.8 Other VBI

[to be drafted]

5.2 Operational Pattern Parameters and Constraints

5.2.1 Baseline Operational Patterns

[to be drafted]

5.2.2 Interleaving

[to be drafted]

5.2.3 Partitions

[to be drafted]

5.2.4 Index Tables

[to be drafted]

5.2.5 Container

[to be drafted; pertains to the required use of the MXF Generic Container SMPTE 379M-2004]

5.2.6 System Item

[to be drafted]

5.2.7 Timecode Track

[to be drafted]

5.2.8 Random Index Pack

[to be drafted]

5.2.9 KAG Size

[to be drafted]

5.3 Header Metadata Parameters and Constraints

[to be drafted]

5.3.1 Material Packages

[to be drafted]

5.3.2 File Packages

[to be drafted]

5.3.3 Lower Level Source Packages

[to be drafted]

5.3.4 MXF Tracks

[to be drafted; pertains to the required number of MXF Tracks to describe the Video, Audio, Ancillary and Descriptive Metadata Tracks (including any AS-xx Content Integrity Tracks) contained in the file.]

5.3.5 Descriptors

[to be drafted; pertains to Descriptors in the File Package that are compliant with SMPTE 377M-2004.]

5.3.6 Timecode

[to be drafted]

5.3.7 Package Labelling

[to be drafted; pertains to PackageIDs and compliance with SMPTE 330M.]

5.4 Descriptive Metadata Track Parameters and Constraints

[to be drafted; may include the following sections]

5.4.1 General

5.4.2 DMS Tracks

[to be drafted; will include a table that lists SMPTE Universal Labels that relate to DMS tracks]

Symbol	Type	Use	UL	Description
DMS_AS-AP	DM_Scheme		tbd	Metadata for AS-AP Format
[other elements]			tbd	

5.4.3 SOM and EOM Pairs

[wording may be along the following lines:

Files may include Descriptive Metadata Sets within a timeline Descriptive Metadata Track of the MXF Material Package, that indicate specific Start Of Material (SOM) and End Of Material (EOM) pairs within the file.

The Descriptive Metadata Scheme shall be labeled as DMS-Segmentation (UL to be published in the SMPTE Labels Registry).

The timeline track shall be constructed of a sequence of DMSegments (or subclasses thereof) or Fillers, following the MXF timing model as described in SMPTE 377-1-2009. SOM is inferred from the start position of each DMSegment, and EOM from SOM plus Duration.

SOM and EOM of source material may be described using DMS-Segmentation in lower level source packages within the file.]

5.4.4 Other Descriptive Metadata Schemes

[wording may be along the following lines:

Files may contain other Descriptive Metadata Schemes as permitted or required by the specific shim.

Each added metadata scheme shall be carried in a separate Descriptive Metadata Track, and the scheme shall be listed in the MXF Preface::DMSchemes property.

Added metadata schemes should not repeat metadata elements that are already carried in MXF structural metadata or in DMS-AS-AP. In the event of disagreement between metadata items repetition, decoders shall accord highest priority to MXF structural metadata and second priority to DMS-AS-AP.]

5.4.5 Content Integrity Tracks

[wording may be along the following lines:

AS-AP files may include one Content Integrity Track for each Essence Track in the file. Content Integrity Tracks are constructed as Descriptive Metadata Tracks that include the DMS-Crypto DM Scheme, Cryptographic Frameworks and Cryptographic Contexts per SMPTE 429-6-2006, using AMWA AS-xx Content Integrity]

5.5 Other Parameters and Constraints

5.5.1 File Names

[wording may be along the following lines:

The general provisions of the AS-AP specification do not constrain the choice of filenames. Individual shims may constrain file names.]

5.5.2 Directory Structure

[wording may be along the following lines:

The general provisions of the AS-AP specification do not constrain the choice of directory names or structures for storage of AS-AP files.]

5.5.3 Content Integrity

[wording may be along the following lines:

When permitted by individual shims, AS-AP files may include Content Integrity Tracks, and systems may also store the metadata from Content Integrity Tracks separate from the AS-AP files.

When permitted by individual shims, systems may also calculate overall Content Integrity metadata that form a signature for the whole AS-AP file including Header Metadata (and thus also the Identification data within the Header).]

6 Test Material

[to be drafted]

7 Tabulation of AS-AP General Parameters and Constraints

This section contains tables listing the general parameters and constraints that apply to all AS-AP files. Any of these parameters and constraints may be tightened by a specific shim. Shims are specified in annexes following this section.

7.1 Picture

Different variants of this component may be selected by different Shims.

7.1.1 Picture – Compressed at Ingest (i.e, compressed by the archiving organization)

This parameter is typically selected by an archive that prefers to store a reduced-data file, and that is formatting or reformatting content as a part of its own pre-ingest or ingest activity, e.g., transferring content from a videotape carrier, or scanning film.

Dimension	Description	AS-AP Constraint	AS-AP Values
Program bitrate	how many bits per second at real time	Gentle	Up to 200 Mbps
Picture format	Picture raster and aspect ratio	Moderate	480i 4:3, 576i 4:3, 576i 16:9, 720p 16:9, 1080i 16:9, 1080p 16:9 2K 4K
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	JPEG 2000 broadcast profile Level 5 through level 7 [Other JPEG 2000 profile tbd] X'Y'Z' 10 – 16 bpp

7.1.2 Picture – Uncompressed (i.e., when produced by the archiving organization)

This parameter is typically selected by an archive that prefers to store an uncompressed file, and that is formatting or reformatting content as a part of its own pre-ingest or ingest activity, e.g., transferring content from a videotape carrier, or scanning film.

Dimension	Description	AS-AP Constraint	AS-AP Values
Program bitrate	how many bits per second at real time	Gentle	Up to 2 Gbps
Picture format	Picture raster and aspect ratio	Moderate	480i 4:3, 576i 4:3, 576i 16:9, 720p 16:9, 1080i 16:9, 1080p 16:9 2K 4K
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	Uncompressed per S384M X'Y'Z' 10 – 16 bpp

7.1.3 Picture – Retain Source Encoding (i.e., archiving organization retains native encoding)

This parameter is typically selected by an archive that judges the native encoding to be reasonably stable, or that has other reasons to retain content in the form in which has been received, and wishes to wrap and store that encoded "native" bitstream in a standardized manner.

Dimension	Description	AS-AP Constraint	AS-AP Values
Program bitrate	how many bits per second at real time	Gentle	Up to 200 Mbps
Picture format	Picture raster and aspect ratio	Moderate	Per input format
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	[Depends upon SMPTE Generic Container mapping specification] MPEG-2 MP or HP H.264 DV Others TBD

7.1.4 Picture – Ancillary Still

This parameter is intended to permit the inclusion of image-based corollary materials associated with content that an archive is reformatting, e.g., documents or pictorial items stored with a source videotape. [The refined development of this specification will include other sections that address ancillary materials other than those that can be imaged.]

Dimension	Description	AS-AP Constraint	AS-AP Values
Program bitrate	how many bits per second at real time	Gentle	N/A
Picture format	Picture raster and aspect ratio	Moderate	Per input format

Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	TIFF Others TBD
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7.2 Sound

Dimension	Description	AS-AP Constraint	AS-AP Values
Sound Essence Schemes	what sound signal schemes	Moderate	PCM 96 kHz 24 bit
Sound Language repertoire	what primary sound languages may be present	None	N/A
Track Listings	what combinations of picture sound and data tracks are encountered in programs	Strong	Main Sound (1,2 or 6 channels) SAP (0 1 or 2 ch) DVS (0 1 or 2 ch) PCM pairs shall be used for Stereo programming

7.3 Captions

Dimension	Description	AS-AP Constraint	AS-AP Values
Caption Essence Schemes	what captions signals schemes	Strong	CEA-608 in S436M CEA-708 in S436M
Caption Languages	what captions languages	None	N/A

7.4 Operational Pattern

Different variants of this component may be selected by different Shims.

7.4.1 Operational Pattern – Item

Dimension	Description	AS-AP Constraint	AS-AP Values
MXF Structure	MXF-specific Operational Pattern	Strong	OP1A internal
MXF Structure (continued)	MXF-specific Index Tables	Strong	Full Index Tables
MXF Structure (continued)	MXF-specific Partitioning	None	N/A

7.4.2 Operational Pattern - Bundle

Dimension	Description	AS-AP Constraint	AS-AP Values
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AS-AP MXF Archive and Preservation

MXF Structure	MXF-specific Operational Pattern	Strong	OP3c external
MXF Structure (continued)	MXF-specific Index Tables	Strong	No Index Tables
MXF Structure (continued)	MXF-specific Partitioning	None	N/A

7.5 Header Metadata

Dimension	Description	AS-AP Constraint	AS-AP Values
Program identification	what identifiers are required	Gentle	One of: ISAN UUID archive-specific
Timecode	What program timecode is supplied	Strong	One timecode track in the Material Package, synthetic and continuous
Intimate metadata	what metadata must be carried with the program item	Moderate	All of: Program Ident Track Ident Language Code other per shim
	Signal condition metadata	Moderate	Standardized measured signal parameters

7.6 Descriptive Metadata

Dimension	Description	AS-AP Constraint	AS-AP Values
Descriptive Schemes	what schemes are required	Gentle	DMS-AS-AP
Optional Descriptive Schemes	What optional schemes are permitted	Gentle	DMS-Crypto DMS-Segmentation DMS-PBCore Other per shim
Shim Name	The value of the Shim Name property	None	N/A

Annex A AS-AP Shim for Single Items derived from Video

AS-AP files for single items derived from Video are intended to be used to contain a single rendition of a single source item.

A.1 Picture

A.1.1 Picture – Compressed at Ingest

AS-AP Single Item files derived from Video may contain zero or one of these components, constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Program bitrate	how many bits per second at real time	Gentle	Up to 200 Mbps	TBD	TBD
Picture format	Picture raster and aspect ratio	Moderate	480i 4:3, 576i 4:3, 576i 16:9, 720p 16:9, 1080i 16:9, 1080p 16:9	TBD	TBD
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	JPEG 2000 broadcast profile Level 5 through level 7	TBD	TBD

A.1.2 Picture – Uncompressed

AS-AP Single Item files derived from Video may contain zero or one of these components, constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Program bitrate	how many bits per second at real time	Gentle	Up to 2 Gbps	TBD	TBD
Picture format	Picture raster and aspect ratio	Moderate	480i 4:3, 576i 4:3, 576i 16:9, 720p 16:9, 1080i 16:9, 1080p 16:9	TBD	TBD
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	Uncompressed per S384M	TBD	TBD

A.1.3 Picture – Retain Source Encoding

AS-AP Single Item files derived from Video may contain zero or one of these components, constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Program bitrate	how many bits per second at real time	Gentle	Up to 200 Mbps	TBD	TBD

Picture format	Picture raster and aspect ratio	Moderate	Per input format	TBD	TBD
Picture Essence Schemes	what picture signal schemes (compression or sampling or other) are encountered in programs	Gentle	[Depends upon SMPTE Generic Container mapping specification] MPEG-2 MP or HP H.264 DV Others TBD	TBD	TBD

A.2 Sound

AS-AP Single Item files derived from Video may contain zero or one of these components, constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Sound Essence Schemes	what sound signal schemes	Moderate	PCM 96 kHz 24 bit	TBD	TBD
Sound Language repertoire	what primary sound languages may be present	None	N/A	TBD	TBD
Track Listings	what combinations of picture sound and data tracks are encountered in programs	Strong	Main Sound (1,2 or 6 channels) SAP (0 1 or 2 ch) DVS (0 1 or 2 ch) PCM pairs shall be used for Stereo programming	TBD	TBD

A.3 Captions

AS-AP Single Item files derived from Video may contain zero or one of these components, constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Caption Essence Schemes	what captions signals schemes	Strong	CEA-608 in S436M CEA-708 in S436M	TBD	TBD
Caption Languages	what captions languages	None	N/A	TBD	TBD

A.4 Operational Pattern

AS-AP Single Item files derived from Video shall be constrained as follows:

A.1.4 Operational Pattern – Item

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
MXF Structure	MXF-specific Operational Pattern	Strong	OP1A internal	TBD	TBD

MXF Structure (continued)	MXF-specific Index Tables	Strong	Full Index Tables	TBD	TBD
MXF Structure (continued)	MXF-specific Partitioning	None	N/A	TBD	TBD

A.5 Header Metadata

AS-AP Single Item files derived from Video shall be constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Program identification	what identifiers are required	Gentle	One of: ISAN UUID archive-specific	TBD	TBD
Timecode	What program timecode is supplied	Strong	One timecode track in the Material Package, synthetic and continuous	TBD	TBD
Intimate metadata	what metadata must be carried with the program item	Moderate	All of: Program Ident Track Ident Language Code other per shim	TBD	TBD
	Signal condition metadata	Moderate	Standardized measured signal parameters	TBD	TBD

A.6 Descriptive Metadata

AS-AP Single Item files derived from Video shall be constrained as follows:

Dimension	Description	AS-AP Constraint	AS-AP Values	Shim-specific Constraint	Shim-specific Values
Descriptive Schemes	what schemes are required	Gentle	DMS-AS-AP	TBD	TBD
Optional Descriptive Schemes	What optional schemes are permitted	Gentle	DMS-Crypto DMS-Segmentation DMS-PBCore Other per shim	TBD	TBD
Shim Name	The value of the Shim Name property	None	N/A	TBD	TBD

Annex B AS-AP Shim for Single Items derived from Film

AS-AP files for single items derived from Film are intended to be used to contain a single rendition of a single source item.

[to be drafted]

Annex C AS-AP Shim for Single Items "Born Digital"

AS-AP files for single items are intended to be used to contain a single rendition of a single source item.

[to be drafted]

Annex D AS-AP Shim for Single Items "Film Strip"

TBD

Annex E AS-AP Shim for Collections

TBD, using forthcoming AMWA Manifest Spec. This will be at least as capable as BagIt

Summary Information

Title: AS-AP MXF Archive and Preservation
 Abstract: This document describes a vendor-neutral subset of the MXF file format to use for long-term archiving and preservation of moving image content and associated materials including audio, captions and metadata
 Author: Oliver Morgan
 Project: Toward an AMWA Application Specification
 Revision: 1d_cf
 Status: DRAFT
 Comments:

Filename: FADGI_MXF_ASAP_Arch_Pres-1d_cf_20101020.doc
 Save Date: October 20, 2010
 Saved By: Carl Fleischhauer
 Contact:

Change History

Rev	Date	By	Sect	Description
1a	Aug 11, 2010	Oliver Morgan	All	Initial thoughts, derived from AS-03 and WG discussions
1b	Aug 24, 2010	Oliver Morgan	7 A 4.4, 4.5	Add sub-headings; remove blank shim columns Reinstate to show one explicit Shim, with cardinality Describe derivation and combination of shims, do not explain this in terms of hierarchy or sub-shims.
1c	Sept 9, 2010	Oliver Morgan	7 7.1 A B C	Revise audio to 24 bit 96kHz, Film to 10-16 bit Add Picture Born Digital Change to "derived from video" Add from Film Add born digital
1d	Sept 26, 2010	Oliver Morgan	7.1 7.1.4 D E	Change to Compressed at Ingest, Uncompressed, Compressed at Accession Add Ancillary Picture (Still) Add TBD for Film Strip Add TBD for Collections (Manifest, BagIt)
				Preceding examples had the file-naming pattern: AMWA-AS-AP-Archive&Preservation-Spec-1n-2010mmdd.doc. This example (next row) has the file-naming pattern FADGI_MXF_ASAP_Arch_Pres-1n_xx_2010mmdd.doc
1d_cf	Oct 20, 2010	Carl Fleischhauer	General	Explanatory adjustments and some temporary deletions to prepare version 1d for dissemination prior to the AMIA/IASA-related meeting in Philadelphia, Nov 1, 2010.