

Media Manifest Delivery Core

CONTENTS

1	Introduction	1
1.1	Document Organization	1
1.2	Document Notation and Conventions	1
1.3	Normative References	1
1.4	Informative References.....	2
1.5	XML Namespaces	2
1.6	Identifiers	2
1.7	Status	2
2	Media Manifest Delivery Core	3
2.1	Media Manifest derived types	3
2.1.1	Simplified Delivery Models	4
2.1.2	Manifest Usage	6
2.2	Optional Extensions to Core	8
2.2.1	Optional Pre- and Post-roll material, Dub Cards	8
2.2.2	Optional Bonus Material	9
2.3	Identifiers	9
2.3.1	Avails ProductID and ALID	10
3	Common Use Cases - Manifest	11
3.1	Simple Movie with Trailer.....	11
3.1.1	Inventory, Presentation and PictureGroup.....	11
3.1.2	Experience Structure	12
3.2	Languages.....	13
3.2.1	Multi-language movie, no dub cards.....	13
3.2.2	Multi-language movie with forced subtitles	14
3.2.3	Multi-language with multiple trailers.....	15
3.2.4	Multi-language movie with dub cards	16
3.2.5	Multi-language movie with ratings pre-roll and dub card post-roll.....	17
3.3	Pre-order	19
4	Common Use Cases: Metadata	20
4.1	Basic Metadata	20
4.1.1	Feature and Bonus Metadata	20
4.1.2	Trailer Metadata	21
4.2	Packaging Metadata	21
4.2.1	Metadata in standalone file.....	21
4.2.2	Metadata in Manifest	22

NOTE: No effort is being made by EMA, the EMA Digital Council or Motion Picture Laboratories to in any way obligate any market participant to adhere to the Common Metadata, Common Media Manifest Metadata or Media Entertainment Core, or other specifications. Whether to adopt the specifications in whole or in part is left entirely to the individual discretion of individual market participants, using their own independent business judgment. Moreover, the EMA, the EMA Digital Council, and Motion Picture Laboratories each disclaim any warranty or representation as to the suitability of the these specifications for any purpose, and any liability for any damages or other harm you may incur as a result of subscribing to these specification.

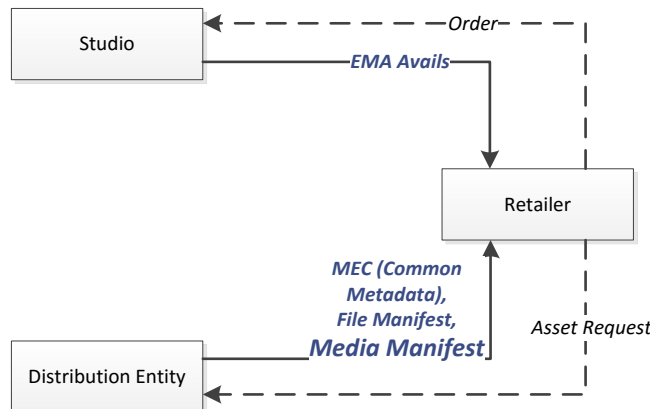
REVISION HISTORY

Version	Date	Description
1.0	January 4, 2016	First Release

1 INTRODUCTION

The Entertainment Merchant's Association (EMA), the Digital Entertainment Group (DEG) and MovieLabs have defined a subset of MovieLabs' Media Manifest for use in Delivery. This core subset is designed for simple application of the Manifest.

The Media Manifest is part of an overall delivery workflow that is supported by complementary specifications that can optionally be used in conjunction with this specification.



Also relevant to this specification is the Media Entertainment Core (MEC) definition that defines metadata structure.

The specification and best practices for the Media Manifest can be found at www.movelabs.com/md/manifest. The full specification supports more complex delivery use cases, interactivity and other applications.

1.1 Document Organization

This document is organized as follows:

1. Introduction—Background, scope and conventions
2. Media Manifest Core –Definition of MMC
3. Manifest Use Cases – MMC Manifest use cases with examples
4. Metadata Use Casts – Metadata use cases with examples

1.2 Document Notation and Conventions

The document uses the conventions of Common Metadata [CM].

1.3 Normative References

- [Manifest] TR-META-MMM MovieLabs Media Manifest Metadata, v1.5,
<http://www.movelabs.com/md/manifest>

- [CM] TR-META-CM MovieLabs Common Metadata, v2.3,
<http://www.movielabs.com/md/md>
- [EIDR-TO] *EIDR Technical Overview*, November 2010. <http://eidr.org/technology/#docs>
- [MEC] *Media Entertainment Core (MEC) Metadata, version 2.4.*
www.movielabs.com/md/mec and <http://entmerch.org/programsinitiatives/ema-metadata-structure>.
- [AVAILS] *Entertainment Merchant's Association (EMA) Avails.*
www.movielabs.com/md/avails

All Common Metadata and Media Manifest references are included by reference.

1.4 Informative References

- [MMDelivery] BP-META-MMMD, Using Media Manifest, File Manifest and Avails for file Delivery (Best Practice), v1.1, www.movielabs.com/md/manifest
- [GoogleHelp] Google Play help site.
<https://support.google.com/moviestvpartners/answer/6154374>

1.5 XML Namespaces

This document defines specific use of the 'manifest' namespace.

'manifest' builds on the 'md' Common Metadata corresponding with Common Metadata [CM].

1.6 Identifiers

Identifiers must be universally unique. Recommended identifier schemes may be found in Common Metadata [CM] and in DECE Content Metadata [DECEMD].

The use of Entertainment Identifier Registry identifiers (www.eidr.org) is strongly encouraged. Please see [EIDR-TO].

Best practices for identifiers can be found in Best Practices for Delivery [MMDelivery].

1.7 Status

This specification is completed and ready for implementation. Although tested, we anticipate that additional implementation experience will yield recommendation for changes. Implementers should anticipate one or more revisions. Reasonable measures will be taken to ensure changes are backwards compatible. See Backwards Compatibility Best Practices in [CM]

2 MEDIA MANIFEST DELIVERY CORE

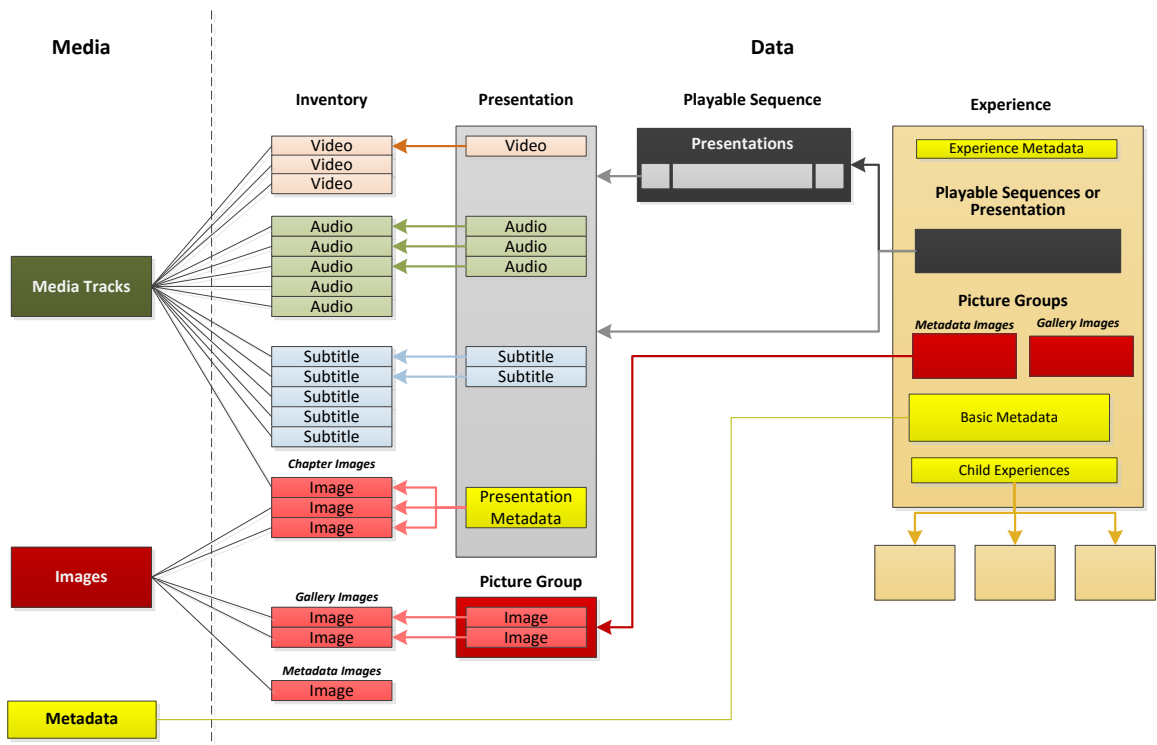
The section defines the Media Manifest Core (MMC) subset of the Media Manifest. It constrains the Media Manifest to a manageable ‘core’ subset for implementation.

The rules for what must be included and how it is encoded is in this section and its references. Metadata is based on the Media Entertainment Core (MEC) as defined in [MEC].

The use of the Core does not preclude the use of additional Manifest features, although implementations need not support them. Additional data in the Manifest not needed in a given implementation can simply be ignored.

2.1 Media Manifest derived types

Media Manifest [Manifest] includes elements provides a layered model of information that abstracts various portions of content delivery. The following illustrates the subset of the Media Manifest used in the Media Manifest Core.



This specification uses the following abstractions:

- **Media** – Video, audio, subtitles, images, applications, etc. This specification defines neither the media nor its delivery. These processes should not be impacted by the use of the Manifest

- **Inventory** – The inventory describes (metadata) and points to media. It references down to individual tracks, images, etc. This provides the necessary abstraction to the media which, as mentioned above, can be in any format.
- **Grouping** – The manifest groups content that is related at playback. Presentation and Picture support are required; while Applications and Text are optional.
 - Presentation – Tracks that play together
 - Picture – Images that are related. This includes both metadata images (i.e., cover/key art). In other applications, this includes image galleries.
- **Experience** – Connects related content (e.g., trailers to a movie)

All mandatory elements and attributes must be included. Any optional elements may be included. The following elements and attributes are required for MMDC usage, regardless of whether they are optional, except as noted.

The following table uses the following conventions:

- Structure is given by table indentation. Parent level elements to the left.
- Attributes begin with '@'. For example, @ContentID refers to the ContentID attribute

2.1.1 Simplified Delivery Models

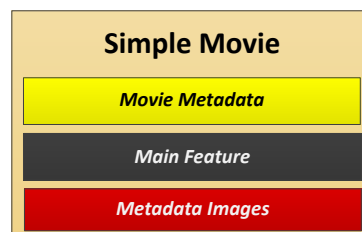
MMC is designed to make simple delivery simple. Consequently, the Core uses a constrained Experience model. This simplification comes at the expense of more complex content delivery.

While the general Manifest can support complex structure, the MMC supports the most common content models: Movie (single title) and Episodic. They are described in the following sections.

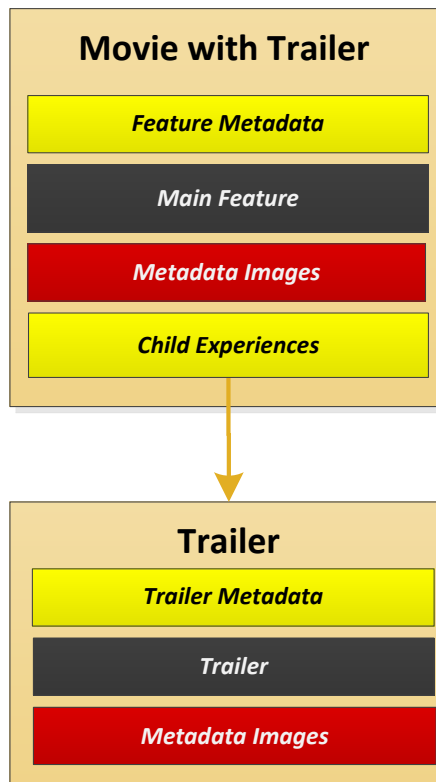
2.1.1.1 Movie Delivery Model

The movie delivery model allows the delivery of a movie, trailers and limited extras. All content is in a single Experience.

The following example shows a simple movie Experience with references to metadata, metadata images and a main feature. Note that Metadata images will be in any Experience, but are not always shown in these illustrations.

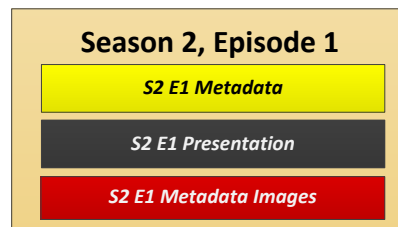


Following is more complex Experience with references to metadata, metadata images, the main feature, a trailer, a featurette (making-of), a production gallery and a couple of apps.

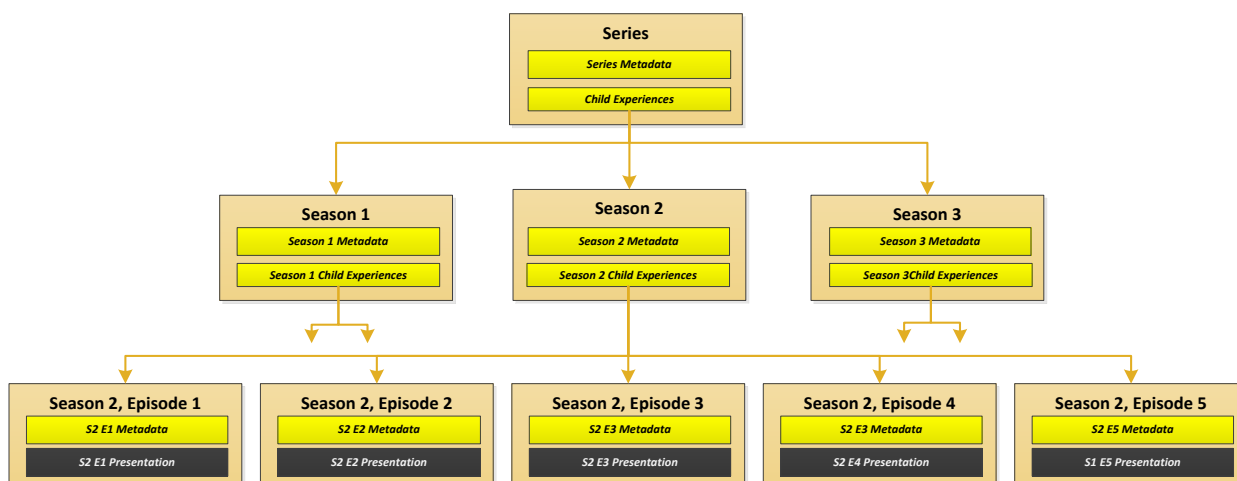


2.1.1.2 Episodic Delivery Model

Episodic content (e.g., television) handles episodes like movies. The following shows a simple episode.



Episodes are grouped into seasons then series (or miniseries or collections) by making them children of the grouping object. The following shows a multi-season TV series. Note that metadata image references are included in each Experience, but not shown in the illustration:



2.1.2 Manifest Usage

Note that required child elements are not listed individually as they are assumed to be included.

This practice does not preclude the use of additional elements and attributes. However, this occurs by agreement between parties and is not covered by the Core.

Element or Attribute		Usage Rules
MediaManifest-type		Required
	@ManifestID	Required
	updateNum	Shall be included if the record is an update (i.e., not the first record distributed)
	Compatibility	Required. Compatibility/Profile="MMC-1"
	Inventory	Required For subordinate objects, sufficient information is required to identify the referenced media. This depends on how media is delivered. For example, if a file is delivered then ContainerReference is required. If track within a container is ambiguous, then TrackReference or TrackIdentifier must be provided.
	Audio	Required for each track of this type
	Video	Required for each track of this type

		Subtitle	Required for each track of this type
		Image	Required for each image
		Interactive	Required for each application
		Ancillary	Required for each ancillary track (e.g., Dolby Vision)
		Metadata	Required
		TextObject	Required if text objects are included
		Presentations/Presentation	One Presentation instance is required for each set of conformed tracks.
		TrackMetadata	Required.
		TrackSelectionNumber	Required
		Video Audio Subtitle Ancillary TrackReference	One instance required for each track in Presentation
		PlayableSequence	Optional, specifically intended in the Core for Dub cards.
		PictureGroups/PictureGroup	At least one PictureGroup is required for metadata images. Additional PictureGroups are optional.
		AppGroups/AppGroup	Optional
		TextGroups/TextGroup	Optional
		Experiences/Experience	First Experience instance is top-level Experience. All other Experience instance must be referenced as descendants of this Experience. See Delivery Model in Section 2.1.1.
		@ExperienceID	Required
		@updateNum	Required of Experience has been updated.
		Language, ExcludedLanguage, Region and ExcludedRegion	Optional. Typically handled by Avails.
		ContentID	Required. Most reference metadata in Inventory. Note that BasicMetadata is not allowed.
		Audiovisual	Included if this Experience references this object. At least one must be present in an Experience object.
		App	Included if this Experience references this object

	Gallery	Included if this Experience references this object
	PictureGroupID	Must be included if the ContentID references metadata with images. Additional instances are to be Included if this Experience references this object.
	TextGroupID	Included if this Experience references this object
	TimedSequenceID	Included if this Experience references this object
	ExperienceChild	Included if Experience has child Experiences.
	TimedEventSequences	Optional
	ALIDExperienceMaps/ ALIDExperienceMap	Required. Only one Experience (top-level Experience) can be referenced.

2.2 Optional Extensions to Core

Optional elements and attribute usage not specifically stated above are still allowed in a Core manifest. However, they should only be if both the sending and receiving parties agree to use these features.

This section describes some relatively simple extensions. Additional cases are provided in the best practices for delivery [Delivery]

2.2.1 Optional Pre- and Post-roll material, Dub Cards

Media Manifest offers a mechanism to allow antipiracy, rating and dub cards to be separately authored and played in sequence with the main title.

In some cases it is desirable to have material that plays before or after the primary video. Typically, antipiracy notices and ratings play before, and dub cards play after. There are two ways to implement this pre- and post-roll content. This first is to construct a video that includes everything. There are two disadvantages to this approach: a distinct asset must be created for each region and possibly language, and a player cannot dynamically select dub cards based on language being played.

When playing content in sequence, the PlayableSequence mechanism is used. A PlayableSequence is constructed with sequenced Presentation references (negative sequence numbers for content to play before the main title and positive sequence numbers for content that follows). When items, particularly dub cards, have the same sequence number, the player chooses one of them based on the selected audio track being played.

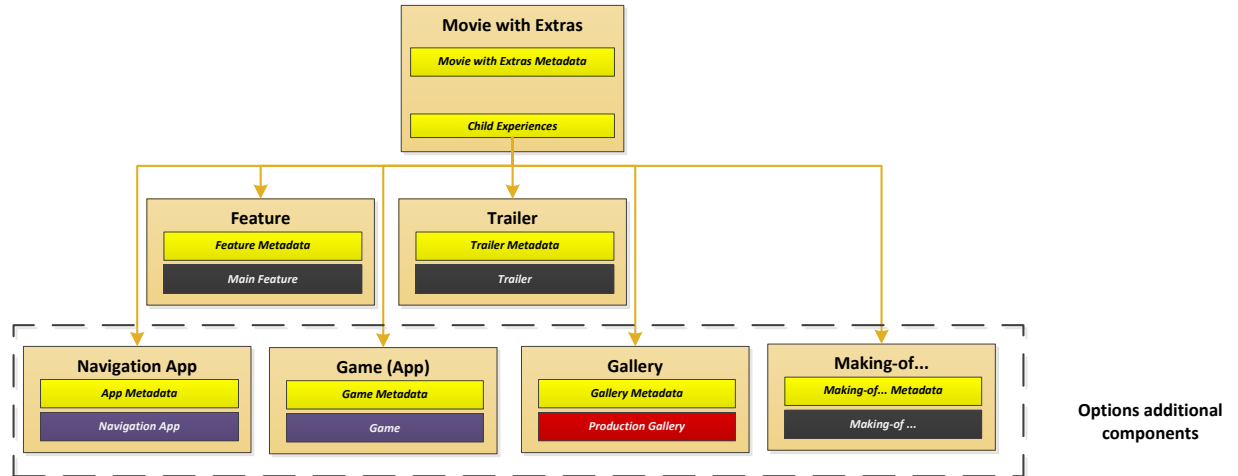
For example, an antipiracy card would have a sequence -2, a ratings card would be -1, the main feature would be 0, and all the dub cards would be 1. The player would play in sequence order the antipiracy card, the ratings card, the main feature and the card with Clip/@audioLanguage matching the selected audio language.

2.2.2 Optional Bonus Material

This section is included as an optional extension to MMC, illustrating how bonus material would be handled in a MMC Manifest.

The Manifest structure supports the inclusion of additional media assets referenced by the Manifest. Following is an example of Manifest usage with bonus material.

When adding bonus material to the Core Manifest, continue to use the constraints of the Core specified above.



2.3 Identifiers

The identifier mechanism is very flexible, but understanding a few principles and following a few rules keeps things simple. First a reminder, IDs are formatted as follows:

“md:”<type> “:”<scheme>“:”<SSID>. For example, md:experienceid:eidr-s:5EE7-A973-819A-DC1A-CDD8-H

- Opaqueness – IDs work as a string that you don’t need to examine for the Manifest to work correctly. Note that IDs are case insensitive (case should be ignored when matching)
- Uniqueness – Two IDs cannot have the same value (string). The use of <type> with values like ‘experienceid’, ‘cid’ and ‘audtrackid’ ensures that different types of IDs are not confused. The combination <scheme> and <SSID> ensured ID values are unique.
- Base ID extraction – An ID of a given <scheme> can be extracted from the Manifest ID. For example, if the scheme is “eidr-s”, the EIDR ID follows the colon.
md:experienceid:eidr-s:5EE7-A973-819A-DC1A-CDD8-H. If eidr-x is used, the EIDR is between that colon and the next colon; for example, md:experienceid:eidr-s:5EE7-A973-819A-DC1A-CDD8-H:trailer.1. Other ID types can be similarly extracted.

Identifiers should use the “md:” form, preferably using EIDR. Note that in almost all cases the Edit-level EIDR is used. When there is only one offering for a given title, use the

EIDR-S form. For example, md:cid:eidr-s:<edit-level EIDR>. If you can't use EIDR, use the 'org:' form; for example, md:cid:org:craigsmovies.com:12345ABCDEF.

2.3.1 Avails ProductID and ALID

This section addresses specifically how to populate ALIDExperienceMap/ALID when using EMA Avails [AVAILS].

If the XML version of EMA Avails is used, the /Avail/ALID is used in this field. In this case, a match is a case-insensitive string match.

If the Excel version of Avails is used, the answer is more complicated as the 'md:' identifier form is not typically used in the spreadsheet. The following table defines

ID Source	Spreadsheet Column (example)	Manifest – per spec (example)	Manifest – acceptable (example)
Cut/Edit level EIDR	ProductID (1489-49A2-3956-4B2D-FE16-5)	EIDR-S form (md:alid:eidr-s:1489-49A2-3956-4B2D-FE16-5)	EIDR (1489-49A2-3956-4B2D-FE16-5)
Studio-proprietary alt cut ID	AltID (VIEW_MT_2006)	ORG form (md:alid:org:craigsmovies.com:VIEW_MT_2006)	craigsmovies.com:VIEW_MT_2006

3 COMMON USE CASES - MANIFEST

This section provides specific instructions on how to construct a Manifest given common use cases. Metadata is discussed in Section 4.

Each of these use cases builds on the previous use case. Associated with each use case is an example Manifest file that corresponds with that use case. The use cases and their associated example files are as follows

Use Case	Example File
Simple Movie with Trailer	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_simple.xml
+ Multi-language	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_multilang.xml
+ Forced subtitles	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_forcedsub.xml
+ Multiple trailers	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_trailers.xml
+ Dub cards	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_dubcards.xml
+ Pre-roll	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_preroll.xml
+ Pre-order	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_preorder.xml

Additional examples can be found on Google's help site [GoogleHelp].

3.1 Simple Movie with Trailer

This use case defines the basic structure that is used across all MMC Manifests.

3.1.1 Inventory, Presentation and PictureGroup

The Inventory contains the following (English only)

- Audio track for feature
- Audio track for trailer
- Video track for feature
- Video track for trailer
- Subtitle track for feature
- Subtitle track for trailer (although many trailers do not have subtitle tracks)
- Image references for feature metadata
- Image references for trailer metadata
- Reference to Metadata – this could be separate in some workflows. At a minimum, metadata complies with Media Entertainment Core [MEC].
 - Reference to Feature metadata

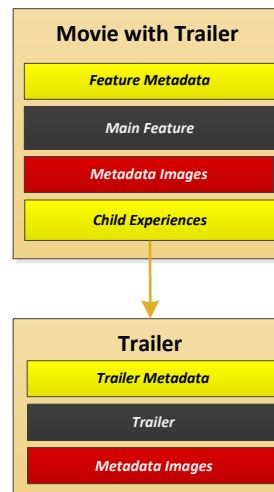
- Reference to Trailer metadata

A Presentation element is created for each set of video, audio and subtitle tracks that play together (conform). Typically, there is a Presentation for the feature and a Presentation for the trailer. Note: all tracks that are designed to be played together should be in the same Presentation (i.e., all language tracks that conform to the video).

One PictureGroup is created for feature metadata images. A second PictureGroup is created for trailer metadata images.

3.1.2 Experience Structure

A simple movie with a trailer has two Experience elements as illustrated here:



The root Experience is constructed as follows

- A unique ExperienceID in the md: format, preferably using the eidr-s or eidr-x format.
- ContentID references metadata for the feature (i.e., matches the ContentID in the Inventory)
- PictureGroupID for metadata images
- An Audivisual instance that references the Presentation for the feature
- An ExperienceChild element referencing the Trailer Experience (ExperienceID is the ID of the trailer Experience). Relationship is 'ispromotionfor'.

The trailer Experience is similar to the root Experience, except that references are to the trailer metadata, Presentation and PictureGroups. Also, the trailer Experience has no ExperienceChild.

3.2 Languages

These use cases cover the addition of languages.

3.2.1 Multi-language movie, no dub cards

Additional languages require the following

- Additional audio and subtitle tracks in Inventory
- Reference to those tracks in Presentation
- Optionally, add LocalizedInfo instances to metadata for new languages (not covered here)

The following illustrates the modifications to Inventory. The additional audio track (shown in ***italics bold***) is added below the other audio track. Audio tracks can be added to the feature video or to the trailer in this manner. Note that `dubbed='true'` to indicate this track has dubbed audio. Subtitle tracks are added in a similar manner. Note that whether a subtitle track is a 'caption' (Type="SDH") or a 'subtitle' (Type="normal") is determined by the Type field, not the file type.

```
<!-- audio of the main movie -->
<Audio AudioTrackID="md:audtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.audio.en">
  <md:Type>primary</md:Type>
  <md:Language>en</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
      _feature_video_ENG.mpg</ContainerLocation>
  </ContainerReference>
</Audio>
<!-- addition of French audio track -->
<Audio AudioTrackID="md:audtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.audio.fr">
  <md:Type>primary</md:Type>
  <md:Language dubbed='true'>fr</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
      G_feature_video_FR.mpg</ContainerLocation>
  </ContainerReference>
</Audio>
```

Subtitle tracks are also added. Note that if subtitles are just for language use (as opposed to accessibility), they are typed as 'normal'

```
<Subtitle SubtitleTrackID="md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.caption.fr"
  <md:Type>normal</md:Type>
  <md:Language>fr</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
      G_closed_caption_FR.scc</ContainerLocation>
  </ContainerReference>
</Subtitle>
```

Similarly, the tracks must be added to the Presentation as follows. This example shows the addition of French audio and subtitle.

```
<Presentation PresentationID="md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-
  G:feature.presentation">
  <TrackMetadata>
    <TrackSelectionNumber>0</TrackSelectionNumber>
```



```
<VideoTrackReference>
  <VideoTrackID>md:vidtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.video</VideoTrackID>
</VideoTrackReference>
<AudioTrackReference>
  <AudioTrackID>md:audtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.audio.en</AudioTrackID>
</AudioTrackReference>
<AudioTrackReference>
  <AudioTrackID>md:audtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.audio.fr</AudioTrackID>
</AudioTrackReference>
<SubtitleTrackReference>
  <SubtitleTrackID>md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.caption.en</SubtitleTrackID>
</SubtitleTrackReference>
<SubtitleTrackReference>
  <SubtitleTrackID>md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.caption.fr</SubtitleTrackID>
</SubtitleTrackReference>
</TrackMetadata>
</Presentation>
```

3.2.2 Multi-language movie with forced subtitles

Forced subtitles are includes in addition to ‘normal’ (language) or ‘SDH’ subtitles. These subtitles are played when other subtitles are not being played.

Forced subtitles are included in

- Inventory. Note that Type=‘forced’.

```
<!-- subtitle and caption components for the feature -->
<Subtitle SubtitleTrackID="md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.caption.en">
  <md:Type>SDH</md:Type>
  <md:Language>en</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
G_closed_caption_ENG.scc</ContainerLocation>
  </ContainerReference>
</Subtitle>
<!-- Forced Subtitle -->
<Subtitle SubtitleTrackID="md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.forced.en">
  <md:Type>forced</md:Type>
  <md:Language>en</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
G_closed_forced_ENG.scc</ContainerLocation>
  </ContainerReference>
</Subtitle>
```

- Presentation

```
<SubtitleTrackReference>
  <SubtitleTrackID>md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.caption.en</SubtitleTrackID>
</SubtitleTrackReference>
<!-- Forced Subtitle -->
<SubtitleTrackReference>
  <SubtitleTrackID>md:subtrackid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.forced.en</SubtitleTrackID>
</SubtitleTrackReference>
```

3.2.3 Multi-language with multiple trailers

Trailers are added to the Manifest by addition the Inventory, Presentation and Experience elements (just like any other audiovisual).

It is important to set certain metadata objects correctly to ensure the correct trailer will be used. Trailer selection is generally performed based on trailer's metadata (BasicMetadata), as follows:

- Select the trailer for correct country based on BasicMetadata/ReleaseHistory
- Inventory/Audio/Language indicates which audio tracks are available. Generally, the player looks for a trailer with a matching audio track. Inventory/Video/Language can also be encoded if the video is language-specific. Note that locale part of the language tag can be used as part of the logic to select the appropriate trailer.
- If there are no matches, look for trailer with Experience/Audiovisual/SubType="Default Trailer"

Following are examples of these metadata objects being set

- ReleaseHistory – only needed for county-specific trailers. A DistrTerritory/country or DistrTerritory/region element specifies where trailer should be played.

```
<md:ReleaseHistory>
  <md:ReleaseType>Theatrical</md:ReleaseType>
  <md:DistrTerritory>
    <md:country>US</md:country>
  </md:DistrTerritory>
  <Date>2013</Date>
</md:ReleaseHistory>
```

- Audio/Language

```
<Audio AudioTrackID="md:audtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.2.audio.fr">
  <md:Type>primary</md:Type>
  <md:Language>fr</md:Language>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
G_trailer_video_FR.mpg</ContainerLocation>
  </ContainerReference>
</Audio>
```

- Audiovisual/SubType (first one is default and second one is not)

```
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.1.experience"
version="1.0">
  <ContentID>md:cid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.1</ContentID>
  <Audiovisual ContentID="md:cid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.1">
    <Type>Promotion</Type>
    <SubType>Default Trailer</SubType>
    <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-
G:trailer.1.presentation</PresentationID>
  </Audiovisual>
</Experience>
<!--Alternate Trailer -->
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.2.experience"
version="1.0">
  <ContentID>md:cid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.2</ContentID>
  <Audiovisual ContentID="md:cid:eidr-x:AD07-310C-C59D-6785-C63A-G:trailer.2">
    <Type>Promotion</Type>
    <SubType>Trailer</SubType>
```

```
<PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-
G:trailer.2.presentation</PresentationID>
</Audiovisual>
</Experience>
```

3.2.4 Multi-language movie with dub cards

Dub cards are unique segments of video that are associated with an audio dub, typically containing dubbing credits. The method described here provides information that allows a player to select the dub card based on which language is being played. For example, if the user is playing a French audio dub, the French dub card will show after the feature.

Dub cards are facilitated by the PlayableSequence structure. For dub cards, the Playable Sequence consists of the primary Presentation as above followed by a set of dub cards. Note that the Presentation defined in the previous example is unmodified.

The changes required are

- Add Dub cards
- Add PlayableSequence that includes the dub cards
- In Experience, change reference to a Presentation to a PlayableSequence

Dub cards are video clips. Other options exist, but not in the Core definition. They must be included in the Inventory.

```
<!-- video files for the dub cards -->
<Video VideoTrackID="md:vidtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.fr">
  <md:Type>primary</md:Type>
  <md:Picture/>
  <md:CardsetList>
    <md:Cardset>
      <md:Type>DubbingCredit</md:Type>
      <md:Language>fr</md:Language>
    </md:Cardset>
  </md:CardsetList>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
G_dubcard_CFR.mpg</ContainerLocation>
  </ContainerReference>
</Video>
<Video VideoTrackID="md:vidtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.pt-br">
  <md:Type>primary</md:Type>
  <md:Picture/>
  <md:CardsetList>
    <md:Cardset>
      <md:Type>DubbingCredite</md:Type>
      <md:Language>pt-BR</md:Language>
    </md:Cardset>
  </md:CardsetList>
  <ContainerReference>
    <ContainerLocation>file://resources/CounselorThe_AD07-310C-C59D-6785-C63A-
G_dubcard_BPO.mpg</ContainerLocation>
  </ContainerReference>
</Video>
```

Dub Cards are Presentations, with only video. For example:

```
<!--Presentations for the dub cards -->
<Presentation PresentationID="md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.pt-
br.presentation">
  <TrackMetadata>
    <TrackSelectionNumber>0</TrackSelectionNumber>
    <!-- only the video track is referenced since it doesn't have an audio track -->
    <VideoTrackReference>
      <VideoTrackID>md:vidtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.pt-
br</VideoTrackID>
    </VideoTrackReference>
  </TrackMetadata>
</Presentation>
<Presentation PresentationID="md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.fr-
ca.presentation">
  <TrackMetadata>
    <TrackSelectionNumber>0</TrackSelectionNumber>
    <VideoTrackReference>
      <VideoTrackID>md:vidtrackid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.fr-
ca</VideoTrackID>
    </VideoTrackReference>
  </TrackMetadata>
</Presentation>
```

Note that in this Core definition, only video clips are support (i.e., image clips are not supported).

A Playable Sequence is a mechanism for playing two or more videos in sequence. In this context, we are using a Playable Sequence to play a main video followed by dub cards. It can also be used to play anti-piracy and ratings cards before a main feature.

The Playable Sequence has two sequences, '0' for the main. Note that the main Presentation is always sequence='0'. The select the dub card based on the audio being played, set sequence='1' for all dub cards. If a player is not that smart, it can play them all. Following is an example of a Playable Sequence with a main video and two dub cards.

```
<!--Playable Sequences define an order of the feature and dub cards if delivering dub cards -->
<PlayableSequences>
  <PlayableSequence PlayableSequenceID="md:playablesequenceid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature">
    <Clip sequence="0">
      <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-
G:feature.presentation</PresentationID>
    </Clip>
    <Clip sequence="1">
      <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-
G:dubcard.fr.presentation</PresentationID>
    </Clip>
    <Clip sequence="1">
      <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.pt-
br.presentation</PresentationID>
    </Clip>
  </PlayableSequence>
</PlayableSequences>
```

3.2.5 Multi-language movie with ratings pre-roll and dub card post-roll

This is included as a forward-looking feature.

Pre-roll (plays before feature) is like post-roll (plays after feature) except that the sequence numbers in PlayableSequence are negative.

This example shows a PlayableSequence that includes a pre-roll of Canadian (CHVRS) ratings.

```
<PlayableSequence PlayableSequenceID="md:playablesequenceid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.ca">
  <!-- Preroll -->
  <Clip sequence="-1">
    <PresentationID>md:presentationid:URI:http://www.movelabs.com/md/ratings/CA/CHVRS/1/14A</PresentationID>
  </Clip>
  <Clip sequence="0">
    <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:feature.presentation</PresentationID>
  </Clip>
  <!-- Dubcards -->
  <Clip sequence="1">
    <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.fr.presentation</PresentationID>
  </Clip>
  <!-- Dubcards -->
  <Clip sequence="1">
    <PresentationID>md:presentationid:eidr-x:AD07-310C-C59D-6785-C63A-G:dubcard.pt-br.presentation</PresentationID>
  </Clip>
</PlayableSequence>
```

The sample file has additional changes to illustrate the use of pre-roll across multiple regions in the example, there are Experience instances localized to Canada and not-Canada (i.e., everywhere else).

```
<!-- Root Experience: Everywhere except Canada -->
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.us"
version="1.0">
  <!--Note the use of "Excluded" Region -->
  <ExcludedRegion>
    <md:country>CA</md:country>
  </ExcludedRegion>
  ...
</Experience>
<!-- Root Experience: Canada -->
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.ca"
version="1.0">
  <Region>
    <md:country>CA</md:country>
  </Region>
  ...
</Experience>
```

These Experiences are referenced in the ALIDExperienceMap:

```
<ALIDExperienceMap>
<ALID>md:alid:eidr-s:AD07-310C-C59D-6785-C63A-G</ALID>
<!-- Preroll (options) -->
<ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.us</ExperienceID>
<ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.ca</ExperienceID>
</ALIDExperienceMap>
```

3.3 Pre-order

The MMC includes an *optional* feature to address pre-order conditions. In pre-order windows, the trailers will be available but not the main feature. To address this, create distinct Experience elements for each state. Then use the @condition attribute in ALIDExperienceMap to reference the appropriate Experience. From [Manifest], conditions are as follows:

- ‘Pre-order’ – Asset can be sold, but not fulfilled. A pre-order condition might have a different trailer than the for-sale experience (e.g., ending with “Available on December 15”)
- ‘For-sale’ – (default) Asset can be sold and fulfilled. This is the default and is assumed if @condition is absent.

When an asset, particularly the main feature, is not available in pre-order, PresentationID or PlayableSequenceID is excluded in the main Audiovisual. Metadata should be provided.

The following shows an example of a pre-order Experience. The Audiovisual does not reference a Presentation or Playable Sequence. Trailers are referenced as usual because they are part of what is shown to the consumer in a pre-order offer.

```
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.preorder"
version="1.0">
  <ContentID>md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G</ContentID>
  <Audiovisual ContentID="md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G">
    <Type>Main</Type>
    <SubType>Feature</SubType>
    <!-- No Presentation or PlayableSequence is present. This indicates this asset is to be
shown, but not played. -->
  </Audiovisual>
  <ExperienceChild>
    <Relationship>ispromotionfor</Relationship>
    <ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-
G:trailer.1.experience</ExperienceID>
  </ExperienceChild>
  <!-- MultiLanguage -->
  <ExperienceChild>
    <Relationship>ispromotionfor</Relationship>
    <ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-
G:trailer.2.experience</ExperienceID>
  </ExperienceChild>
</Experience>
```

The “Pre-order” conditions refers the pre-order Experience:

```
<ALIDExperienceMaps>
  <ALIDExperienceMap>
    <ALID>md:alid:eidr-s:AD07-310C-C59D-6785-C63A-G</ALID>
    <ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.us</ExperienceID>
    <!-- Locale -->
    <ExperienceID>md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.ca</ExperienceID>
    <!-- Preorder -->
    <ExperienceID condition="Pre-order">md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-
G:experience.preorder</ExperienceID>
  </ALIDExperienceMap>
</ALIDExperienceMaps>
```

Note that this should not affect other elements (Inventory, Presentation, etc.) unless there are assets that are only available prior to acquisition.

4 COMMON USE CASES: METADATA

This section provides specific instructions on how to construct Basic Metadata given common use cases. Manifest structure is discussed in Section 3.

Examples are provided for use cases

Use Case	Example File
Basic Metadata – Movie (simplified)	http://www.movelabs.com/md/mmc/examples/ManifestCore-Example1_MEC-movie-simple.xml
Basic Metadata - Movie	http://www.movelabs.com/md/mmc/examples/ManifestCore-Example1_MEC-movie.xml
Basic Metadata - Trailer	http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_MEC-Trailer1.xml http://www.movelabs.com/md/mmc/examples/ManifestCore_Example1_MEC-Trailer2.xml

Metadata may be included in the Manifest or delivered in separate files.

4.1 Basic Metadata

A recommended set of Basic metadata can be found in Media Entertainment Core [MEC] Section, 2.2.1. Following is the subset of MEC that is required for the Media Manifest Core.

4.1.1 Feature and Bonus Metadata

Element or Attribute		Usage Rules
BasicMetadata-type		Required
	@ContentID	Required
	UpdateNum	Shall be included if the record is an update (i.e., not the first record distributed)
	LocalizedInfo	At least one instance required
	@language	Required
	default*	must be included for one instance of LocalizedInfo for the language of original production
	TitleDisplayUnlimited	Required
	OriginalTitle	Required
	Summary4000	Required. (2000 preferred)

	Genre	Exactly one primary genre shall be included. It will be from http://www.movelabs.com/md/mec/mec_primary_genre.html @source='http://www.movelabs.com/md/mec/mec_primary_genre.html'. @level='0'. Any additional genres may be included.
	ArtReference	At least one instance is mandatory, additional instances are optional
	ReleaseYear	Required
	<i>ReleaseHistory</i>	Only required for Trailers when DistrTerritory is needed to specify locale of trailer.
	WorkType	Required
	RatingSet	SHALL be included for all available ratings in the regions where Retailers are authorized to sell this content. All elements and attributes should be included if applicable to the rating. The condition attribute should be used if the primary purpose of the edit is a derivation from a parent for the purposes of ratings change (e.g., airline edit or 'unrated edition').

4.1.2 Trailer Metadata

Trailer metadata is generally the same as metadata for any other object. Following is some additional guidance:

- If there is no trailer artwork, ArtReference can reference the feature's artwork
- If the trailer is specific to one or more specific countries ReleaseHistory/DistrTerritory is included for each country.
- Trailers should be rated in accordance with the rating rules for trailers in given regions. Note that in some countries, that rating is the same as the movie. In others, there are special ratings (e.g., MPAA "Green Band" and "Red Band").
- The Parent should be included with @relationshipType='ispromotionfor' and ParentContentID set to the ContentID of the main feature.

4.2 Packaging Metadata

4.2.1 Metadata in standalone file

Metadata can be in its own file. This file is constructed in accordance with the Media Entertainment Core [MEC]. The constraints defined in Section 4.1 can be used, although a full MEC implementation is preferred.

The external metadata file is referenced by BasicMetadata@ContentID. That is, BasicMetadata@ContentID matches a ContentID from the Media Manifest. For example, the following from a Media Manifest

```
<Experience ExperienceID="md:experienceid:eidr-x:AD07-310C-C59D-6785-C63A-G:experience.ca"
version="1.0">
  <ContentID>md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G</ContentID>
  <Audiovisual ContentID="md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G">
    <Type>Main</Type>
    <SubType>Feature</SubType>
  ...
```

Matches this from the metadata file

```
<mdmec:Basic ContentID="md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G">
```

The Media Manifest has the mechanism for referencing images. Therefore, image references within BasicMetadata (i.e., LocalizedInfo/ArtReference) must contain an Image ID. For example,

```
<ArtReference resolution="1789x2560">imageid:eidr-x:AD07-310C-C59D-6785-C63A-
G:art.en</ArtReference>
```

4.2.2 Metadata in Manifest

The Manifest should indicate where the metadata file can be located. This is done by including Inventory/Metadata/ContainerReference. The contents of ContainerReference depends on how the metadata file will be delivered. Following is an example:

```
<Metadata ContentID="md:cid:eidr-s:AD07-310C-C59D-6785-C63A-G">
  <ContainerReference type="common">
    <ContainerLocation>file://resources/ManifestCore-Example1-MEC-movie.xml</ContainerLocation>
  </ContainerReference>
</Metadata>
```