



Using EIDR with IMF

Technical Note

1 Scope

This Technical Note specifies best practices for using EIDR Content Identifiers to identify the audiovisual content of an Interoperable Master Format (IMF) Composition using EIDR Abstraction, Edit, and Manifestation IDs. This practice accounts for the fact that there may be multiple versions of the same work or more than one unique IMF representation of a work active at the same time.

2 Overview

The audiovisual content of an IMF Composition is associated with a single Distribution Master, which consists of a Main Image virtual track of a single complete work (movie, TV Episode, advertisement, etc.) plus some number of synchronized essence tracks.¹

Each Distribution Master can always be described safely by an EIDR Generic Manifestation Record, while, in certain circumstances, an EIDR Edit Record may suffice.²

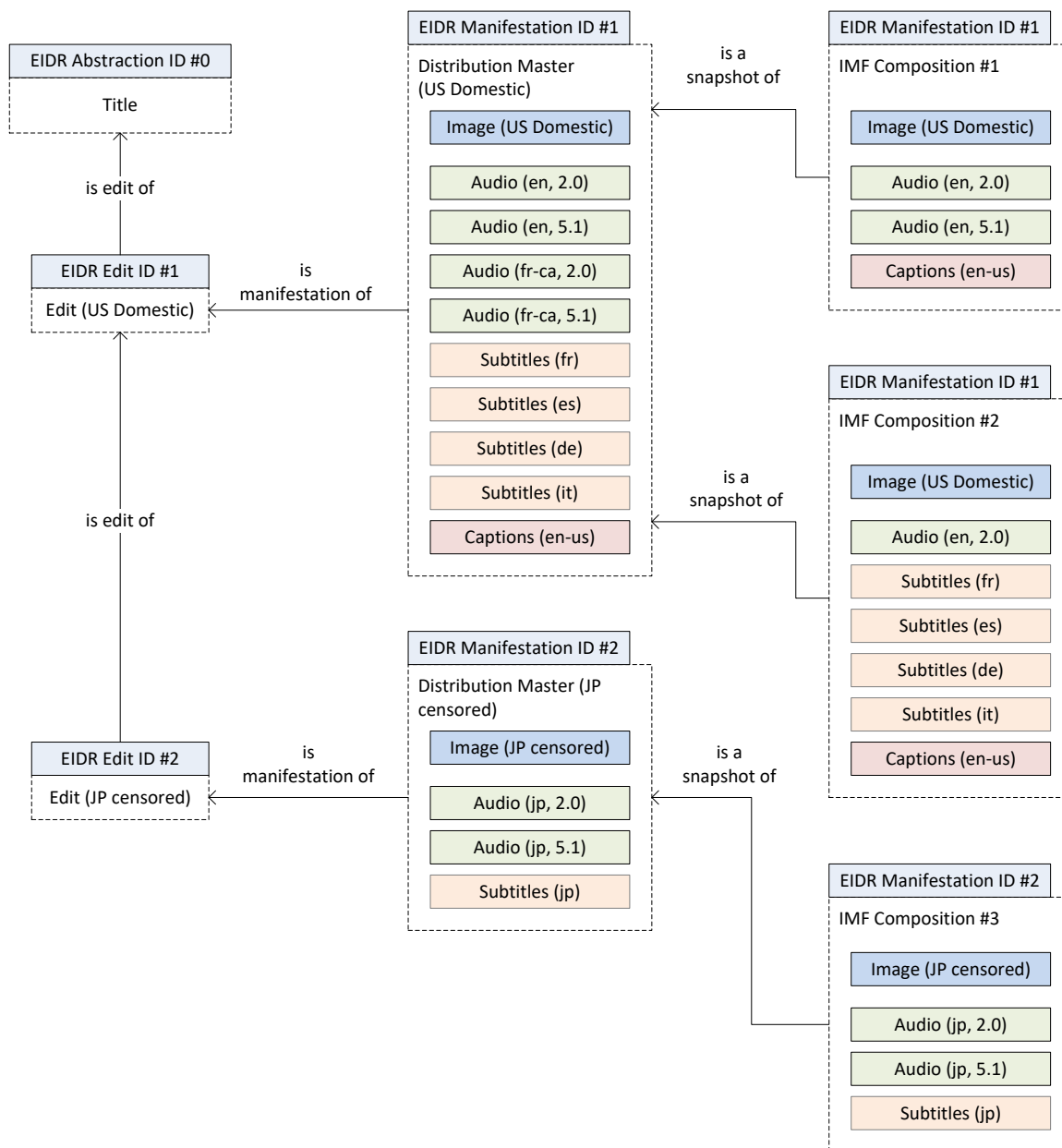
Changes to the Main Image virtual track (change to policy cards, burn-ins, etc.) typically result in a new Distribution Master, but the addition (or removal) of synchronized essence tracks (subs and dubs) does not result in a new Distribution Master. For example, all of the following represent the same Distribution Master because the Main Image is the same, while only the synchronized tracks differ.

The diagram below demonstrates the relationship between EIDR Abstraction, Edit, and Manifestation IDs; Distribution Masters; and IMF Compositions. In this example, the master work has two different Edits (US Domestic and JP Censored), each with a different set of synchronized audio and timed text

¹ Within the context of IMF, a Distribution Master combines a set of conformed tracks with a unique sequence of images frames. From a particular Edit, one could derive more than one Distribution Master, but a Distribution Master is only ever associated with one Edit. A Composition Playlist (CPL) can be thought of as a snapshot of a Distribution Master. From a particular Distribution Master, one could derive more than one CPL, but a CPL is only ever associated with only one Distribution Master. The Interoperable Master Package (IMP) does not apply to content identification, since it is only used during transmission, akin to a packing list or shipping manifest used to verify correct delivery.

² See Section 3.2, Selecting EIDR Identifiers.

language tracks. Two different IMF Compositions are derived from the US Domestic Edit, while a single IMF Composition is derived from the JP Censored Edit.



3 Identifying a Distribution Master

3.1 Overview

The Distribution Master associated with a Composition is typically associated with up to three types of EIDR records:

- An EIDR Abstraction record³ that identifies the content in the abstract, e.g. the movie or TV episode;
- One or more EIDR Edit record that identifies a specific edit of the content;
- An EIDR Generic Manifestation record that identifies a specific sequence of images associated with the content.

Best practices for the creation and selection of EIDR Abstraction, Edit, and Manifestation records are documented in *Best Practices for Creating EIDR Abstraction Records*, *Best Practices and Use Cases for EIDR Edits*, and *How to Use EIDR to Identify Versions for Distribution Purposes*. The sections that follow provide additional guidance on selecting Edit and Generic Manifestation records that match the audiovisual content of a Composition.

3.2 Selecting EIDR Identifiers

Distribution Masters are, by EIDR definition, Manifestations and SHOULD be identified by an EIDR Generic Manifestation ID.

However, if there is only ever one Distribution Master per EIDR Edit ID, then the Edit ID is sufficiently differentiating and the Distribution Master MAY be identified by Abstraction and Edit IDs⁴ alone.

3.3 Storing EIDR Identifiers

The majority of Distribution Masters have a single Edit ancestor in the EIDR registration tree. For these, the CPL `ContentVersionList` element:

- SHALL include exactly one `ContentVersion` element containing the EIDR Abstraction ID of the Distribution Master;⁵
- SHALL include exactly one `ContentVersion` element containing the EIDR Edit ID of the Distribution Master; and
- SHOULD include exactly one `ContentVersion` element containing the EIDR Generic Manifestation ID of the Distribution Master.⁶

A `ContentVersion` element of the CPL that contains an EIDR Identifier SHOULD conform to the following:

- The `ContentVersion/Id` element SHALL be equal to the URN representation of the EIDR Identifier as specified in RFC 7972; and
- The `ContentVersion/Label` element SHOULD be set according to Table 1.

³ The first ancestor of an Edit record that is not an Edit record. In the case of an episodic work where there is a Series-Season-Episode tree structure, this will return the Episode's ID but not the IDs of the ancestor Series or Season (known as "Collection" records in EIDR parlance).

⁴ This Edit record is the first non-Manifestation ancestor of the Distribution Master's specific Manifestation ID.

⁵ The Distribution Master can be unambiguously identified with just the Edit ID, but including the Abstraction ID supports identification workflows without requiring Internet connectivity to resolve the Edit ID to retrieve the Abstraction ID.

⁶ See Section 5: 1 Selecting an EIDR Generic Manifestation (Level 3) ID.

Table 1. ContentVersion/Label Format.

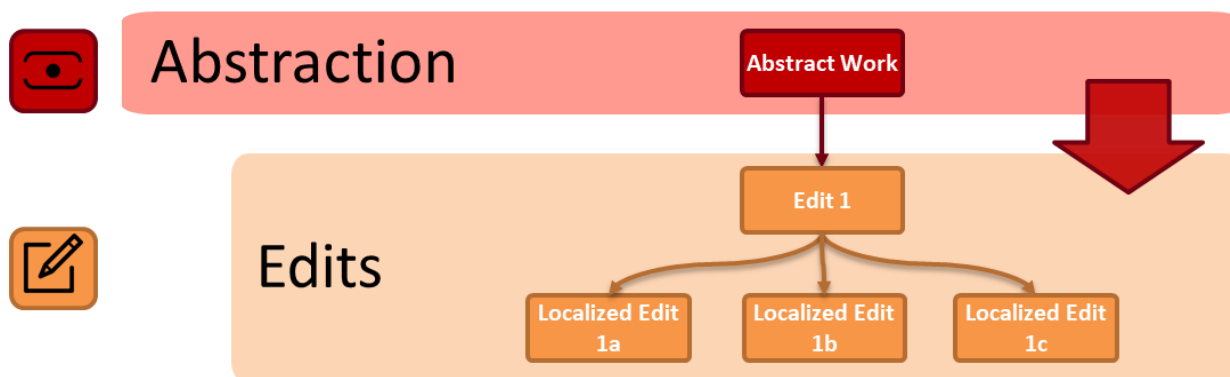
EIDR Record Type	ContentVersion/Label
Abstraction	"EIDR Abstraction"
Edit	"EIDR Edit"
Generic Manifestation	"EIDR Generic Manifestation"

EXAMPLE 1: `<ContentVersion>`
`<Id>urn:eidr:10.5240:0CEC-3E15-7A54-6893-A8D9-6</Id>`
`<LabelText>EIDR Abstraction</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:ECA3-005E-C21B-B02D-34C0-Z</Id>`
`<LabelText>EIDR Edit</LabelText>`
`</ContentVersion>`

EXAMPLE 2: `<ContentVersion>`
`<Id>urn:eidr:10.5240:0CEC-3E15-7A54-6893-A8D9-6</Id>`
`<LabelText>EIDR Abstraction</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:ECA3-005E-C21B-B02D-34C0-Z</Id>`
`<LabelText>EIDR Edit</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:4764-ED1B-685F-A54B-1445-X</Id>`
`<LabelText>EIDR Generic Manifestation</LabelText>`
`</ContentVersion>`

3.4 Storing EIDR Identifiers for Derived Versions

Occasionally, one version of a work is derived from another. For example, a local territory censorship cut may be derived from the original release version, while all of the local music versions (each with their own music cue sheet) may be derived from one common edit master. In EIDR, this relationship between source and derived versions may be represented using a hierarchical parent-child Edit relationship.



In these cases, the CPL `ContentVersionList` EIDR Abstraction ID and element:

- SHALL contain an EIDR Abstraction ID as described in the Section above; and
- SHALL include at least two `ContentVersion` elements containing the EIDR Edit IDs of the parent and child Edit, respectively.
 - The `ContentVersion/Label` element for the Edit IDs SHOULD be set according to Table 2.

Table 2. ContentVersion/Label Format for Derived Versions.

EIDR Record Type	ContentVersion/Label
Parent Edit	"EIDR Edit"
Localized Edit ⁷	"EIDR Localized Edit"
Music Cue Sheet Edit ⁸	"EIDR Music Edit"
Three-D Edit ⁹	"EIDR 3D Edit"
Unrated Edit ¹⁰	"EIDR Unrated Edit"
Other/Unspecified Edit ¹¹	"EIDR Child Edit"

- Edit trees with more than two layers are possible (Edit of an Edit of an Edit, etc.), but unlikely. In those rare cases, all Edit ancestors up to the first non-Edit ancestor SHALL be included in descending tree order.
- SHOULD include an EIDR Manifestation ID as described in the Section above.

EXAMPLE 3: `<ContentVersion>`
`<Id>urn:eidr:10.5240:D57C-FA36-A578-FDE7-F1A7-A</Id>`
`<LabelText>EIDR Abstraction</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:E2E7-2E41-A062-1808-7287-C</Id>`
`<LabelText>EIDR Edit</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:AEF3-1045-2890-3716-EF1C-P</Id>`
`<LabelText>EIDR Localized Edit</LabelText>`
`</ContentVersion>`

EXAMPLE 4: `<ContentVersion>`
`<Id>urn:eidr:10.5240:87F8-9047-BE93-A2FA-C6F0-O </Id>`
`<LabelText>EIDR Abstraction</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:5E55-1491-4B1D-B5E1-4104-T</Id>`
`<LabelText>EIDR Edit</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:8CB6-9955-7CDE-77DC-465C-J</Id>`
`<LabelText>EIDR Child Edit</LabelText>`
`</ContentVersion>`
`<ContentVersion>`
`<Id>urn:eidr:10.5240:4EE5-FA88-020E-AA57-AD3E-A</Id>`
`<LabelText>EIDR Generic Manifestation</LabelText>`
`</ContentVersion>`

⁷ Includes EIDR Censored, Dialog, Regionalized, Sanitized, Sanitized Audio, Sanitized Picture, and Substitutions Edits.

⁸ Includes EIDR Music Edits.

⁹ Includes EIDR Three-D Edits.

¹⁰ Includes EIDR Unrated Edits.

¹¹ Includes EIDR Alternate Ending, Anniversary, Colorized, Content Break, Creative, Credits, Director's Cut, Exit, Extended, Interactive Platform, Intermission, Logos, Overture, Product Placement, Promotional, Recap, Rereleased, Restored, Restored Audio, Restored Picture, Shortened, Sound Effects, Split, Syndication, Other, or otherwise undifferentiated Edits.

4 Selecting an EIDR Edit ID

4.1 General

An EIDR Edit represents any creative change made to the contents of an audiovisual object. Such creative changes include, for example, modifications to the timeline, such as with a Director's cut, sanitizing audio or blurring video to accommodate the mores of a region, or changing music to accommodate rights clearance.

The EIDR Edit associated with a Distribution Master SHOULD therefore:

- Identify the audiovisual content of the Distribution Master absent any translated audio or subtitle track; and
- Reflect any creative change, including changes made for censorship purposes, e.g. blurring of image, and changes to the timeline, e.g. Director's cut.

4.2 ContentTitle

The CPL ContentTitle element SHOULD be equal to the Resource Name field of the Edit.¹²

4.3 ContentKind

While there is no one-to-one mapping between EIDR Referent Types and values of the CPL ContentKind element, specific combinations of EIDR Record characteristics correspond to common ContentKind values, as detailed in Table 3. Characteristics of EIDR records associated with IMF CPLs with selected Content Kind value.

To provide a one-to-one relationship between an Edit and an IMF ContentKind value, the ContentKind value should be stored in the EIDR Edit record's Registrant Extra field using the pattern, "IMF:[ContentKind];".¹³

Table 3. Characteristics of EIDR records associated with IMF CPLs with selected Content Kind value.

<i>IMF CPL ContentKind</i>	<i>Description</i>	<i>Characteristics of the nearest ancestor EIDR Abstract record</i>
feature	A theatrical feature.	ReferentType=Movie and has no parent
short	Non advertising/promotional content (3 to 15 minutes) typically before a theatrical feature.	ReferentType=Short and has no parent
teaser	Very short (typically less than 1 minute) content promoting an upcoming theatrical feature.	Has isPromotionOf LWR and Promotion Class=Teaser
trailer	Short (2 to 3 minutes) content promoting an upcoming theatrical feature.	Has isPromotionOf LWR and Promotion Class= Theatrical Trailer or

¹² In many cases, the EIDR Edit's Resource Name is inherited from the parent Abstraction record, so they are the same. This means that ContentTitle is not a uniquely identifying field – the EIDR ID serves this function.

¹³ In cases where more than one Edit ID is recorded in the ContentVersion/Label element (per Section 3.4), record ContentKind in the lowest-level (the most specific) EIDR Edit record.

		DVD Trailer or Trailer
episode	Part of a dramatic work such as a serial television program.	Has isEpisodeOf relationship
supplemental	Content created as extra material for a feature or episode such as behind the scenes material or deleted scenes.	Has isSupplementOf LWR

5 Selecting an EIDR Generic Manifestation ID

An EIDR Generic Manifestation is used to capture the unique characteristics of the image track underlying the Distribution Master.

A Distribution Master SHOULD be associated with an EIDR Generic Manifestation, whose parent SHOULD be an EIDR Edit selected as noted above. As noted in Section 3.2, if there is only ever one Distribution Master per EIDR Edit ID, then the Edit ID is sufficiently differentiating and the Distribution Master MAY be identified by Abstraction and Edit IDs alone.

The EIDR Generic Manifestation SHOULD conform to those specified in EIDR **Data Fields Reference**, unless specified otherwise by Table 4.

Table 4. EIDR Manifestation Fields.

EIDR Field	Provisions
StructuralType	"performance"
ReleaseDate	The Generic Manifestation's creation year (or full date), if known. Inherited, if not.
ApproximateLength	Equal to the duration of the Composition as calculated per Section 7.1 of SMPTE ST 2067-3
Description	Human-readable description of the audiovisual content, e.g. "French (1.85 picture, 16.1 sound, dubbed) "
ManifestationClass	Include "Master"
MadeForRegion	List the country(ies) or territory(ies) for which the Generic Manifestation was originally produced. ¹⁴
ManifestationDetails	Include a value equal to "IMF Distribution Master" with the domain attribute set to "eidr.org". Other values <u>MAY</u> be present
Digital/Track/Video	When present, it indicates the differentiating technical characteristics of the Distribution Master, differentiating it from other Distribution Masters associated with the same Edit. See EIDR Data Fields Reference for more information on EIDR Manifestations.

¹⁴ If the Generic Manifestation is later used in different regions, the MadeForRegion field of the Generic Manifestation record is not modified. This field captures the original intent for which the Generic Manifestation was created. It is not an exhaustive inventory of all territories where it is eventually used.

6 References

SMPTE ST 2067-3, Interoperable Master Format — Composition Playlist
(<http://ieeexplore.ieee.org/document/7560854/>)

EIDR Data Fields Reference (http://eidr.org/documents/EIDR_2.0_Data_Fields.pdf)

EIDR Best Practices Guide (http://eidr.org/documents/EIDR_2.0_Best_Practices.pdf)

EIDR Best Practice – Ratings Registrations (http://eidr.org/documents/EIDR_BP_Ratings.pdf)

IETF RFC 7972, Entertainment Identifier Registry (EIDR) URN Namespace Definition
(<https://tools.ietf.org/html/rfc7972>)

EIDR How to Use EIDR to Identify Versions for Distribution Purposes
(http://eidr.org/documents/FAQ_How_to_Use_EIDR_to_Identify_Versions_for_Distribution_Purposes_DRAFT_2014-06.pdf)