**Asset Ordering, Delivery and Tracking**

**Contents**

1 Introduction 1

1.1 Overview 1

1.2 Document Organization 3

1.3 Document Notation and Conventions 3

1.3.1 XML Conventions 4

1.3.2 General Notes 5

1.4 Normative References 5

1.5 Informative References 6

1.6 Best Practices for Maximum Compatibility 6

2 General Types Encoding 7

2.1 DeliverySource-type 7

2.2 DeliveryHandling-type 7

2.3 DeliveryInstructions-type 8

2.4 Terms 8

2.5 DeliveryParams-type 9

2.6 Types that reference objects directly 10

2.6.1 DeliveryObjectReference-type 10

2.6.2 DeliveryFileReference-type 12

2.7 Types that reference objects through description 12

2.7.1 DeliverObjectDescription-type 12

3 Profiles 14

3.1 Administrative Profile 14

3.2 Language Profiles 14

3.3 Technical Profiles 15

3.3.1 DeliveryAudio-type 16

3.3.2 DeliverySubtitle-type 16

3.3.3 DeliveryMetadata-type 16

3.3.4 DeliveryPromotional-type 16

3.3.5 DeliverySupplemental-type 17

4 Content Delivery Requirements 18

4.1 GeneralRules-type 18

4.2 TerritoryRules-type 19

4.2.1 CategoryRules-type 20

5 Asset Order 20

5.1 DeliveryRequest-type 20

6 Asset Status Manifest (ASM) 21

7 QC Report 21

7.1 QCReport-type 21

7.2 Error types 22

7.2.1 QCError-type 22

7.2.2 QCErrorDescription-type 22

7.2.3 QCCategoryError-type 23

8 Asset Status Manifest (ASM) 26

9 Asset Status 26

10 Avail Confirmation 27

11 NOTES 28


This work is licensed under a [Creative Commons Attribution 3.0 Unported License](http://creativecommons.org/licenses/by/3.0/).

**NOTE**: No effort is being made by the Motion Picture Laboratories to in any way obligate any market participant to adhere to Common Metadata. Whether to adopt the Common Metadata in whole or in part is left entirely to the individual discretion of individual market participants, using their own independent business judgment. Moreover, Motion Picture Laboratories disclaims any warranty or representation as to the suitability of the Common Metadata for any purpose, and any liability for any damages or other harm you may incur as a result of subscribing to this Common Metadata. **Revision History**

|  |  |  |
| --- | --- | --- |
| **Version** | **Date** | **Description** |
| 1.0 |  | Original Version |

# Introduction

This document defined data used in the delivery of assets, within the MovieLabs Digital Distribution Framework (MDDF). The following illustration shows the MDDF flow, with Asset Ordering and Delivery data shown in purple.



This specification is designed to work with other MDDF specifications or with proprietary/legacy specifications.

## Overview

The Asset Ordering and Delivery Process is addressed in three parts

* Rights Management – Generation and delivery of Avails or Title List
* Asset Planning – All processes associated with determining which assets (audio, video, subtitles, artwork, metadata, etc.) will be delivered
* Asset Delivery – Processes associated with the delivery of assets

These are illustrated in Figure 1 below.

The Rights Management process is covered by Avails and is not further discussed in this document. See [www.movielabs.com/md/avails](http://www.movielabs.com/md/avails) for more information.

Asset Planning is further divided into asset policies that span Avails, and Avail-specific or titles-specific asset selection. Asset policies are captured in “Content Delivery Requirements”. Avail or title-specific requests are included in Avail Confirmations, Asset Orders, and Asset Status Manifests.

Asset Delivery has several parts including a Media Manifest Core (MMC) delivery spec, the assets themselves, QC failure reports that document issues, and Asset Status information. MMC is documented elsewhere ([www.movielabs.com/md/mmc](http://www.movielabs.com/md/mmc)), and this specification is neutral to assets delivered—we attempt to support almost any format. This specification documents the QC failure reports and Asset Status data.

Figure 1: Asset Distribution Workflow



## Document Organization

This document is organized as follows:

1. Introduction—Provides background, scope and conventions
2. Asset Planning and Delivery
3. General Types Encoding
4. Content Delivery Requirements
5. Asset Order
6. Asset Status Manifest (ASM)
7. QC Fail Report
8. Asset Status
9. Avail Confirmation [CHS: this belongs in Avail]

## Document Notation and Conventions

As a general guideline, the key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119]. That is:

* “MUST”, “REQUIRED” or “SHALL”, mean that the definition is an absolute requirement of the specification.
* “MUST NOT” or “SHALL NOT” means that the definition is an absolute prohibition of the specification.
* “SHOULD” or “RECOMMENDED” mean that there may be valid reasons to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
* “SHOULD NOT” or “NOT RECOMMENDED” mean that there may be valid reasons when the particular behavior is acceptable, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
* “MAY” or “OPTIONAL” mean the item is truly optional, however a preferred implementation may be specified for OPTIONAL features to improve interoperability.

Terms defined to have a specific meaning within this specification will be capitalized, e.g. “Track”, and should be interpreted with their general meaning if not capitalized.

Normative key words are written in all caps, e.g. “SHALL”.

Normative requirements need not use the formal language above.

### XML Conventions

XML is used extensively in this document to describe data. It does not necessarily imply that actual data exchanged will be in XML. For example, JSON may be used equivalently.

This document uses tables to define XML structure. These tables may combine multiple elements and attributes in a single table. Although this does not align with schema structure, it is much more readable and hence easier to review and to implement.

Although the tables are less exact than XSD, the tables should not conflict with the schema. Such contradictions should be noted as errors and corrected.

#### Naming Conventions

This section describes naming conventions for Common Metadata XML attributes, element and other named entities. The conventions are as follows:

* Names use initial caps, as in InitialCaps.
* Elements begin with a capital letter, as in InitialCapitalElement.
* Attributes begin with a lowercase letter, as in initiaLowercaseAttribute.
* XML structures are formatted as Courier New, such as md:id-type
* Names of both simple and complex types are followed with “-type”

#### Structure of Element Table

Each section begins with an information introduction. For example, “The Bin Element describes the unique case information assigned to the notice.”

This is followed by a table with the following structure.

The headings are

* Element—the name of the element.
* Attribute—the name of the attribute
* Definition—a descriptive definition. The definition may define conditions of usage or other constraints.
* Value—the format of the attribute or element. Value may be an XML type (e.g., “string”) or a reference to another element description (e.g., “See Bar Element”). Annotations for limits or enumerations may be included (e.g.,” int [0..100]” to indicate an XML xs:int type with an accepted range from 1 to 100 inclusively)
* Card—cardinality of the element. If blank, then it is 1. Other typical values are 0..1 (optional), 1..n and 0..n.

The first row of the table after the header is the element being defined. This is immediately followed by attributes of this element, if any. Subsequent rows are child elements and their attributes. All child elements (i.e., those that are direct descendants) are included in the table. Simple child elements may be fully defined here (e.g., “Title”, “ ”, “Title of work”, “xs:string”), or described fully elsewhere (“POC”, “ ”, “Person to contact in case there is a problem”, “md:ContactInfo-type”). In this example, if POC was to be defined by a complex type defined as md:ContactInfo-type. Attributes immediately follow the containing element.

Accompanying the table is as much normative explanation as appropriate to fully define the element, and potentially examples for clarity. Examples and other informative descriptive text may follow. XML examples are included toward the end of the document and the referenced web sites.

### General Notes

All required elements and attributes must be included.

When enumerations are provided in the form ‘enumeration’, the quotation marks (‘’) should not be included.

UTF-8 [RFC3629] encoding shall be used when ISO/IEC 10646 (Universal Character Set) encoding is required.

## Normative References

[Avails] Content Availability Metadata, TR-META-AVAIL, <http://www.movielabs.com/md/avails>

[CM] Common Metadata, TR-META-CM, <http://www.movielabs.com/md/md>

[CMM] Common Media Manifest Metadata, TR-META-MMM, <http://www.movielabs.com/md/manifest>

[MEC] Media Entertainment Core, TR-META-MEC, , <http://www.movielabs.com/md/mec/>

[EIDR] Entertainment Identifier Registry (EIDR), <http://eidr.org/resources/>

[TR-META-CR] *Common Metadata Content Ratings*. [www.movielabs.com/md/ratings](http://www.movielabs.com/md/ratings). Note that a specific version is not referenced as it is intended that the latest version will be used. Referencing specifications may selection a specific version of the referenced document.

[TR-META-RS] Common Metadata Ratings Schema Definition, TR-META-RS, January 3, 2014, <http://www.movielabs.com/md/ratings/doc.html>

 [XML] “XML Schema Part 1: Structures”, Henry S. Thompson, David Beech, Murray Maloney, Noah Mendelsohn, W3C Recommendation 28 October 2004, <http://www.w3.org/TR/xmlschema-1/> and “XML Schema Part 2: Datatypes”, Paul Biron and Ashok Malhotra, W3C Recommendation 28 October 2004, http://www.w3.org/TR/xmlschema-2/

## Informative References

## Best Practices for Maximum Compatibility

Metadata typically evolves with the addition of new elements, attributes and vocabularies. Existing applications should be capable of accepting metadata, even though there might be more data than expected. Strict XML validation precludes an orderly evolution and can be counterproductive to the flexibility needed in real implementations.

Metadata specifications and schema updates are designed to support backwards compatibility. For example, element and attributes can be added, but required elements are not removed; or more generally ordinality of elements and attributes can be widened but not narrowed. Values are not changed in either syntax or semantics. Therefore, we strongly encourage implementations to either be diligent in tracking to the latest version, or follow the backwards compatibility rules provided here.

An XML document is considered compatible if its structure does not preclude the extraction of data from the document. For example, a document with additional elements and attributes do not preclude schema parsing and data extraction.

* Do not reject compatible XML documents, unless they fail schema validation against the definition for an exact version/namespace match.
* Extract data from compatible XML documents whenever possible
* It is allowable to ignore elements and attributes whose presence is not allowed in the specification and schema versions against which the implementation was built. For example, if the original schema allows one instance and three instances are found, the 2nd and 3rd instance may be ignored.

We will try to update metadata definitions such that following these rules work consistently over time. Sometimes, changes must be made that are not always backwards compatible, so we will do our best to note these.

# General Types Encoding

## DeliverySource-type

DeliverySource-type provides information about who provided the request. This can include both the Service Provider who generated the document as well as the retailer(s) for whom the document was prepared. This construct is useful to avoid ambiguity when requests come from service providers.

If requests are made on behalf of multiple retailers or storefronts, multiple Retail instances can be included.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliverySource-type** |  |  |  |  |
| ServiceProvider |  | Service Provider delivering document | md:OrgName-type | 0..1 |
| Retailer |  | Retailer for whom the document was created | md:OrgName-type | 0..n |
| DeliveryContact |  | Contact information for this document, typically from a Service Provider. | md:ContactInfo-type | 0..1 |

## DeliveryHandling-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryHandling-type** |  |  |  |  |
| Comments |  | Any comments. Should be included if ExceptionFlag=’true’ | xs:string | 0..1 |
| ExceptionFlag |  | Indicates message requires human attention | xs:boolean | 0..1 |
| Priority |  | Priority of request | TBD | 0..1 |
| ResponseDate |  | Expected response date | xs:date | 0..1 |
|  | dateIsTarget | If ‘true’ indicates ResponseDate is not a hard deadline. Details determined bilaterally. | xs:boolean | 0..1 |

## DeliveryInstructions-type

[CHS: I don’t particularly like this. Rename DeliveryHandling to DeliveryInstructions, fix links, and put OrderID where it’s needed.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryInstructions-type** |  |  | delivery:DeliveryHandling-type |  |
| OrderID |  | Order identifier | md:id-type | 0.1 |

## Terms

Terms allows arbitrary terms to be specified.

The precise interpretation is subject to the mutual agreement of parties involved, although guidance is provided within.

Each term is a name/value pair with the name expressed as termName and the value expressed as one of Money, Event, Duration or text depending on the data contained within the term. If data cannot be otherwise expressed, the any##other element can be used.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **AvailTerms-type** |  |  |  |  |
|  | termName | Identifies the term. Enumeration is below. termName is case insensitive (i.e., case shall be ignored). | xs:string |  |
| Money |  | Used when termName refers to a term expressed in terms of money. | md:Money-type | (choice) |
| Event |  | Used when termName refers to a term expressed in terms of a date, or date and time. See Section **Error! Reference source not found.**. | xs:union(xs:date, xs:dateTime) |
| Duration |  | Used when termName refers to a term expressed in terms of a time duration. | xs:duration |
| Text |  | Used when a term can be expressed in text and it is not one of the other term types. | xs:string |
| Boolean |  | Used when term can be expressed as True or False | xs:boolean |
| URI |  | Used for URIs, including identifiers. | xs:anyURI |
| Language |  | Used for language. | xs:language |
| ID |  | Any identifier | md:id-type |
| YearDateTime |  | Year, date or date+time. For time-only use Time. | md:YearDateOrTime |
| Time |  | Time. May include time zone. | xs:time |
| Region |  | Geographic area | md:Region-type |
| <any> |  | Any other element. Used when a term cannot practically be expressed with one of the other element choices. | any ##other |

The Term specified is indicated by termName with the following conditions. Only one instance of each term may be included unless otherwise specified.

Following is a terms template.

|  |  |  |
| --- | --- | --- |
| termName | Interpretation | Element used |
|  |  | Text |
|  |  | Language |

## DeliveryParams-type

DeliveryParams-type includes delivery parameters that are common across media types, metadata, promotional, supplemental and other materials.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryParams-type** |  |  |  |  |
| LeadTime |  | Lead time for deliverables relative to window start date. Negative values represent time before window. | xs:duration | 0..1 |
|  | durationIsTarget | If ‘true’ LeadTime is a target; that is, not a fixed duration | xs:boolean | 0..1 |
| Priority |  | Priority of delivery relative to other deliverables. | x:integer | 0..1 |
| AdditionalInstructions |  | Any additional instructions | xs:string | 0..1 |
| Terms |  | Any additional terms | delivery:Terms-type | 0..n |

LeadTime is expressed as a negative duration for deliverables that occur prior to the window (the typical case).

durationIsTarget indicate that LeadTime are aspirational. The degree to which this must be honored is subject to bilateral service level agreements.

[CHS: How do we encode Priority???]

## Types that reference objects directly

[CHS: Not relevant to CDR.]

### DeliveryObjectReference-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryObjectReference-type** |  |  |  | 0..1 |
| TrackReference |  | TrackReference per [Manifest], Section 2.2.3 | xs:string | 0..n |
| TrackIdentifier |  | TrackIdentifier per [Manifest], Section 2.2.3 | md:ContentIdentifier-type | 0..n |
| EIDRURN |  | EIDR identifier along with structural type | delivery:EIDRURN | 0..n |
| TrackID |  | Reference track identifiers as per [Manifest] | delivery:DeliveryTrackID | 0..n |
| IMFRef |  | Reference to information in an Interoperable Master Format (IMF) file. | Delivery:DeliveryIMF-type | 0..n |

#### DeliveryTrackID-type

Allows tracks to be referenced

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryTrackID-type** |  |  |  |  |
| AudioTrackID |  | Audio track ID | manifest:AudioTrackID-type | (choice) |
| VideoTrackID |  | Video track ID | manifest:VideoTrackID-type |
| SubtitleTrackID |  | SubtitleTrack ID | manifest:SubtitleTrackID-type |
| ImageID |  | Image ID | manifest:ImageTrackID-type |
| InteractiveTrackID |  | Interactive object (e.g., app) ID | manifest:InteractiveTrackID-type |
| ContentID |  | Content ID | md:ContentIID-type |
| AncillaryTrackID |  | Ancillary track ID | manifest:AncillaryTrackID-type |
| TextObjectID |  | Text object ID | manifest:TextObjectTrackID-type |

#### DeliveryIMFRef-type

References UUIDs for IMF CPLs, OPLs and virtual tracks.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryIMFRef-type** |  |  | Extension of manifest:PresentationIMFRef-type |  |
| <TBD> |  |  |  |  |

### DeliveryFileReference-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryFileReference-type** |  |  |  |  |
| FileInfo |  | Reference to a file. This file might be in a container. | manifest:FileInfo-type | 0..n |
| Container |  | Reference to container. | manifest:ContainerReference-type | 0..n |

## Types that reference objects through description

### DeliverObjectDescription-type

[CHS: This is very complete in that it can describe any instance. However, it’s not very good at describing ranges or options. More work is needed here.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryObjectDescription-type** |  |  |  |  |
| Audio |  |  | manifest:InventoryAudio-type | 0..n |
| Video |  |  | manifest:InventoryVideo-type | 0..n |
| Subtitle |  |  | manifest:InventorySubtitle-type | 0..n |
| Image |  |  | manifest:InventoryImage-type | 0..n |
| Interactive |  |  | manifest:InventoryInteractive-type | 0..n |
| Ancillary |  |  | manifest:InventoryAncillary-type | 0..n |
| Metadata |  |  | manifest:InventoryMetadata-type | 0..n |
| TextObject |  |  | manifest:InventoryTextObject-type | 0..n |
| ExternalManifest |  |  | manifest:InventoryManifest-type | 0..n |

# Profiles

A Profile is a collection of requirements. Currently, we refer to

* Administrative Profile – Lead times, priorities, and special instructions
* Language Profiles – Sets of timed text and audio (i.e., subs and dubs) rules by language
* Technical Profiles – Technical requirements about tracks

Once defined, a Profile is used as shorthand for these requirements. For example, one might have a “Benelux” profile for language requirements for Benelux countries, and an “HDR” profile for minimum HDR requirements.

Profiles can be referenced both as requirements and as part of deliveries. That is, a Content Delivery Requirements (CDR) document might define an “HDR” profile, an MMC delivery might refer to the assets as fulfilling part of the “HDR” Profile; and, an Asset Status Manifest might indicate the “HDR” Profile has not yet been delivered.

## Administrative Profile

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryAdminProfile-type** |  |  |  |  |
| AdminProfileID |  | ID for this profile | xs:string |  |
| LeadTime |  | Lead time for deliverables relative to window start date. Negative values represent time before window. | xs:duration | 0..1 |
|  | durationIsTarget | If ‘true’ LeadTime is a target; that is, not a fixed duration | xs:boolean | 0..1 |
| Priority |  | Priority of delivery relative to other deliverables. | x:integer | 0..1 |
| AdditionalInstructions |  | Any additional instructions | xs:string | 0..1 |
| Terms |  | Any additional terms | delivery:Terms-type | 0..n |

## Language Profiles

**[CHS: Should this be able to say more about combinations of tracks?]**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryLanguageProfile-type** |  |  |  |  |
| LangProfileID |  | ID for this profile | xs:string |  |
| Language |  | Language for which this Profile was not defined | xs:language | 0..n |
| ExcludedLanguage |  | Excluded Languages for which this Profile was not defined | xs:language | 0..n |
| LocalizationType |  | Localization Type, using encoding from [Avails] | xs:string | 0..1 |
| Term |  | Additional terms that apply to this Profile | delivery:Terms-type | 0..n |

For Language and ExcludedLanguage, use semantics as defined in Media Manifest [Manifest].

## Technical Profiles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryTechnicalProfile-type** |  |  |  |  |
| TechProfileID |  | ID for this profile | xs:string |  |
| Audio |  | Parameters than define acceptable audio media delivery. | delivery:DeliveryAudio-type | 0..1 |
| Video |  | Parameters than define acceptable video media delivery. | delivery:DeliveryVideo-type | 0..1 |
| Subtitle |  | Parameters than define acceptable timed text media delivery. | delivery:DeliverySubtitle-type | 0..1 |
| Metadata |  | Parameters than define acceptable metadata delivery. | delivery:DeliveryMetadata-type | 0..1 |
| Promotional |  | Parameters than define acceptable promitional material delivery. | delivery:DeliverySupplemental-type | 0..1 |
| Supplemental |  | Parameters than define acceptable supplemental material delivery. | delivery:DeliverySupplemental-type | 0..1 |
| Term |  | Additional terms that apply to this Profile  | delivery:Terms-type | 0..n |

### DeliveryAudio-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **AudioDelivery-type** |  | Base type for this element is standard delivery parameters defined in DeliveryParams-type. | delivery:DeliveryParams-type (by extension) |  |
| AudioDescription |  | Detailed description of audio parameters. | Manifest:InventoryAudio-type | 0..1 |

### DeliverySubtitle-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **Delivery-type** |  | Base type for this element is standard delivery parameters defined in DeliveryParams-type. | delivery:DeliveryParams-type (by extension) |  |
| xDescription |  | Detailed description of xxx parameters. | manifest:Inventoryx-type | 0..1 |

### DeliveryMetadata-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **MetadataDelivery-type** |  | Base type for this element is standard delivery parameters defined in DeliveryParams-type. | delivery:DeliveryParams-type (by extension) |  |
| Localized |  | Indicates whether localized metadata is expected. ‘true’ means localized metadata is expected. | xs:boolean | 0..1 |

### DeliveryPromotional-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **PromotionalDelivery-type** |  | Base type for this element is standard delivery parameters defined in DeliveryParams-type. | delivery:DeliveryParams-type (by extension) |  |
| IncludesTrailer |  | Indicates whether trailer is expected. ‘true’ means trailer is expected. | xs:boolean | 0..1 |

### DeliverySupplemental-type

Supplementary material is any audiovisual, gallery, game, app, or other content that supplements the feature. Also referred to as Bonus and VAM (value added material).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **SupplementalDelivery-type** |  | Base type for this element is standard delivery parameters defined in DeliveryParams-type. | delivery:DeliveryParams-type (by extension) |  |
| Localized |  | Indicates whether supplemental material is expected to be localized to the territory. ‘true’ means supplemental material should be localized. | xs:boolean | 0..1 |
| IncludesBonus |  | Indicates whether supplemental material is expected. ‘true’ means supplemental material is expected.. | xs:boolean | 0..1 |

# Content Delivery Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryRequirements-type** |  |  |  |  |
|  | udpateNum, workflow, updateDeliveryType, versionDescription | Common set of workflow attributes (defined in Common Metadata) | md:Workflow-attr |  |
| Compatibility |  | Spec compatibility | manifest:Compatibility-type |  |
| Source |  | Source of CRD | delivery:DeliverySource-type | 0..1 |
| CDRID |  | Identifier for set of content delivery rules | md:id-type | 0..1 |
| Description |  | Description of content delivery rules set. | xs:string | 0..1 |
| Publisher |  | Content provider who will fulfill content in accordance with these content delivery rules | md:OrgName-type | 0..1 |
| GeneralRules |  | General and worldwide instructions | delivery:GeneralRules-type | 0..1 |
| TerritoryRules |  | Territory-specific rules | delivery:TerritoryRules-type | 0..1 |
| GeneralTerm |  | Additional terms, not covered by GeneralRules | delivery:Terms-type | 0..1 |
| Instructions |  | Handling instructions. Includes exception flag.  | delivery:Instructions-type | 0..1 |

## GeneralRules-type

General rules apply across all territories, except when covered in territory rules—territory rules, including Category rules, take precedence. For example, if there is general rule about delivery times in GeneralRules, that applies everywhere, except where there are rules in specific TerritoryRules elements that cover the same delivery time parameters.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryGeneralRules-type** |  |  |  |  |
| AdminProfileID |  | Reference to applicable Administrative Profile | md:id-type | 0..1 |
| LangProfileID |  | Reference to applicable Language Profile | md:id-type | 0..1 |
| TechProfileID |  | Reference to applicable Technical Profile | md:id-type | 0..1 |
| Terms |  | Additional terms | delivery:Terms-type | 0..1 |

## TerritoryRules-type

Territory rules apply across all categories within the territory, except when covered in category rules—category rules take precedence.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryTerritoryRules-type** |  |  |  |  |
| Region |  | Region and Excluded Region define the territories where rues apply. They are encoded in accordance with Media Manifest [Manifest] Region and ExcludedRegion. | md:Region-type | (choice) |
| ExcludedRegion |  | md:Region-type |
| CategoryRules |  | Category-specific rules | Delivery:CategoryRules-type | 0..1 |
| AdminProfileID |  | Reference to applicable Administrative Profile | md:id-type | 0..1 |
| LangProfileID |  | Reference to applicable Language Profile | md:id-type | 0..1 |
| TechProfileID |  | Reference to applicable Technical Profile | md:id-type | 0..1 |
| Terms |  | Additional terms | delivery:Terms-type | 0..1 |

### CategoryRules-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryCategoryRules-type** |  |  |  |  |
| ContentyCategory |  | Content Category for rules defined in this object. | xs:string |  |
| ContentSubCategory |  | Additional specificity of Content Category for rules defined in this object. | xs:string | 0..1 |
| AdminProfileID |  | Reference to applicable Administrative Profile | md:id-type | 0..1 |
| LangProfileID |  | Reference to applicable Language Profile | md:id-type | 0..1 |
| TechProfileID |  | Reference to applicable Technical Profile | md:id-type | 0..1 |
| Term |  | Additional terms that apply to this category and sub-category. | delivery:Terms-type | 0..n |

ContentCategory and ContentSubCategory define the scope of the CategoryRules object. When ContentDeliveryRequirements are used in conjunction with EMA Avails, ContentCategory values should correspond with Avails WorkType values. That allows an unambiguous linkage to Avails. ContentSubCategory can include values of WorkTypeDetail, values of EMA Avails LicenseTypeDescription (e.g., “Next Day TV” or “POD”), or other values that define handling (e.g., “Priority” and “Library”).

# Asset Order

## DeliveryRequest-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryRequest-type** |  |  |  |  |
|  | updateNum, workflow, updateDeliveryType, versionDescription | Workflow attributes | md:Worflow-attr | 0..1 |
| DeliveryID |  |  | md:id-type | 0..1 |
| Description |  | Description of request | xs:string | 0..1 |
| Source |  | Source of this request | delivery:DeliverySource-type |  |
| Publisher |  | Publisher that originated content (i.e., generated the Avail) | md:orgName-type | 0..1 |
| ALID |  | ALID of content | md:id-type | 0..1 |
| FileReference |  | Reference to files requested | delivery:DeliveryFileReference-type | 0..n |
| ObjectReference |  | Reference to objects, such as specific tracks, requested  | delivery:DeliveryObjectReference-type | 0..n |
| ObjectDescription |  | Reference to objects, such as tracks, by description (e.g., *French dub*). | delivery:DeliveryObjectDesription-type | 0..n |
| Instructions |  | Any other instructions | xs:string | 0..1 |

# Asset Status Manifest (ASM)

TBD

# QC Report

## QCReport-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCError-type** |  |  |  |  |
| ErrorDescription |  | Description of the issue with the media and/or file | delivery:ErrorDescription-type | 1..n |
| MediaAsset |  | Media Asset that is the subject of the error | delivery:ObjectReference-type | 0..n |
| FileReference |  | File that is the subject of the error | delivery:FileReference-type | 0..n |

## Error types

### QCError-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCError-type** |  |  |  |  |
|  | updateNum, workflow, updateDeliveryType, versionDescription | Workflow attributes | md:Worflow-attr | 0..1 |
| ErrorDescription |  | Description of the issue with the media and/or file | delivery:QCErrorDescription-type | 1..n |
| MediaReference |  | Media Asset that is the subject of the error | delivery:DeliveyrObjectReference-type | 0..n |
| FileReference |  | File that is the subject of the error | delivery:DeliveryFileReference-type | 0..n |

### QCErrorDescription-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorDescription-type-type** |  |  |  |  |
| ErrorCategory |  | Error Category, in accordance with QC Nomenclature [ref] | xs:string |  |
| ErrorTerm |  | Error Term in accordance with QC Nomenclature [ref] | xs:string |  |
| CategorySpecific |  | Additonal data associated with error, based on Error Category. | delivery:QCCategoryError-type | 0..n |
| Comments |  | Any additional comments | xs:string | 0..1 |
| FullOrPartialQC |  | Indicates whether assets was fully evaluated or if evaluation stopped at first error(s) | xs:string | 0..1 |

FullOrPartialQC is encoded as follows [CHS: Is this just a boolean?]

* ‘Full’ – QC was completed
* ‘Partial’ – QC was aborted once error(s) were found. Additional errors may be present.

### QCCategoryError-type

This section contains additional information for errors. Value depends on the QC Nomenclature Category of the error.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **DeliveryCategoryError-type** |  |  |  |  |
| Audio |  | Audio Category error specifics | delivery:QCErrorAudio-type | (choice) |
| Video |  | Video Category error specifics | delivery:QCErrorVideo-type |
| TimedText |  | TimedText Category error specifics | delivery:QCErrorSubtitle-type |
| Metadata |  | Metadata Category error specifics | delivery:QCErrorMetadata-type |
| Artwork |  | Artwork Category error specifics | delivery:QCErrorArtwork-type |
| Package |  | Package Category error specifics | delivery:QCErrorPackage-type |

[CHS: Everything following is very preliminary.]

#### QCErrorAudio-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorAudio-type** |  |  |  |  |
| StartTimecode |  | Track timeline where issue starts. Omit if issue exists for entire period or if start is unknown | manifest:Timecode-type | 0..1 |
| EndTimecode |  | Track timeline where issue ends. Omit, if problem persists to end of timeline or if end is unknown | manifest:Timecode-type | 0..1 |
| TimeOffset |  | For errors with alignment issues (e.g., AV Sync), the duration of offset. Negative means audio is ahead of video. | xs:duration | 0..1 |

#### QCErrorVideo-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorVideo-type** |  |  |  |  |
| StartTimecode |  | Track timeline where issue starts. Omit if issue exists for entire period or if start is unknown | manifest:Timecode-type | 0..1 |
| EndTimecode |  | Track timeline where issue ends. Omit, if problem persists to end of timeline or if end is unknown | manifest:Timecode-type | 0..1 |
| XOffset |  | In pixels, x-value of lower left corner of issue. Omit if issue covers entire picture. | xs:decimal | 0..1 |
| YOffset |  | In pixels, y-value of lower left corner of issue. Omit if issue covers entire picture. | xs:decimal | 0..1 |

#### QCErrorSubtitle-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
|  |  |  |  |  |
| **QCErrorSubtitle-type** |  |  |  |  |
| StartTimecode |  | Track timeline where issue starts. Omit if issue exists for entire period or if start is unknown | manifest:Timecode-type | 0..1 |
| EndTimecode |  | Track timeline where issue ends. Omit, if problem persists to end of timeline or if end is unknown | manifest:Timecode-type | 0..1 |
| TimeOffset |  | For errors with alignment issues (e.g., subtitle Sync), the duration of offset. Negative means subtitle is ahead of video. | xs:duration | 0..1 |

#### QCErrorMetadata-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorMetadata-type** |  |  |  |  |
| XPath |  | XPath reference to object with issue(s) | xs:anyURI | 0..1 |
| LineNumber |  | Line number in file of issue | xs:positiveInteger | 0..1 |

#### QCErrorArtwork-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorArtwork-type** |  |  |  |  |
| XOffset |  |  |  | 0..1 |
| YOffset |  |  |  |  |
| XLength |  |  |  |  |
| YLength |  |  |  |  |

#### QCErrorPackage-type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **QCErrorPackage-type** |  |  |  |  |
|  |  |  |  | 0..1 |

# Asset Status Manifest (ASM)

TBD

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Attribute** | **Definition** | **Value** | **Card.** |
| **-type** |  |  |  |  |
|  |  |  |  |  |

# Asset Status

TBD

# Avail Confirmation

This belongs in Avails, not here. All types are there, not here. Also, if it evolves, it will evolve with Avails.

# NOTES

Special cases

* Indication that delivered content isn’t to spec (kind of a waiver).
* Need an indication of what is missing. For example, is forced dubs required for video.
* Ordering things
	+ That exist (advertised to exist, or promised in a deal)
	+ That don’t exist or might not exist, but are ‘standard’
	+ Something special (e.g., special trailers or artwork)
* Capacity planning and delivery timing?
* Flows
	+ Standard delivery flow
	+ Exception flows