EMA Metadata

CONTENTS

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1 INTRODUCTION

The Entertainment Merchant's Association has defined metadata for the description of information delivered from Publishers to Retailers. This document was developed by the EMA Digital Council with the objective of standardizing the metadata communication from content providers to digital retailers.

Additional objectives of EMA's Digital Council outside the scope of this project include the following:

- Metadata Standardization – B2B communication from content providers to digital retailers
- Transaction Data Standardization – B2B communication from digital retailers to content providers
- Metadata Repository / Exchange
- Standardized (or translatable) Item Identification

EMA Metadata builds upon Common Metadata developed by Motion Picture Laboratories, EMA and others. Common Metadata includes elements that cover typical definitions of media, particularly movies and television. Common Metadata has two parts: Basic Metadata and Digital Asset Metadata. Basic Metadata includes descriptions such as title and artists. It describes information about the work independent of encoding. Digital Asset metadata describes information about individual encoded audio, video and subtitle streams, and other media included. Package and File Metadata describes a single possible packaging scenario and ties in other metadata types. Ratings and Parental Control information is described.

Common Metadata is designed to provide definitions to be inserted into other metadata systems. A given metadata scheme, for example, the Entertainment Merchant's Association (EMA) may select elements of the Common Metadata to be used within its definitions. EMA would then define additional metadata to cover areas not included in Common Metadata.

1.1 Document Organization

This document is organized as follows:

1. Introduction—Provides background, scope and conventions
2. Identifiers—Specification of identifiers used to reference metadata.
3. General Types Encoding—Specific of encoding methods (e.g., language, region).
4. EMA Top-level Definitions—Definitions of the elements that tie all EMA data together.
5. Common Metadata Derived Types—EMA elements that refer directly to Common Metadata elements
6. Package and File Metadata—Metadata associated with packages and files

7. Transaction Information—Metadata associated with transactions.
8. Basic Metadata—Content descriptive metadata definition
9. Digital Asset Metadata—Encoded media metadata definition
10. Content Rating—Methods for encoding content ratings
11. Content Rating Encoding—Encoding for content rating information for various rating systems

Sections 2-3 and 8-11 are drawn directly from Common Metadata specifications and correspond with Common Metadata Version 1.0. They are repeated in this document. This document is the normative reference for these definitions when used as part of EMA metadata.

1.2 Document Notation and Conventions

1.2.1 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.

1.2.1.1 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:rightstoken`
- Names of both simple and complex types are followed with "-type"

1.2.1.2 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 descendents) 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.

1.2.2 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.

1.3 Normative References

[RFC4646] Philips, A, et al, *RFC 4646, Tags for Identifying Languages*, IETF, September, 2006. http://www.ietf.org/rfc/rfc4646.txt

[ISO639] ISO 639-2 Registration Authority, Library of Congress. http://www.loc.gov/standards/iso639-2/

[ISO3166-1] Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes, 2007.

[ISO3166-2] ISO 3166-2:2007Codes for the representation of names of countries and their subdivisions -- Part 2: Country subdivision code

[ISO4217] Currency shall be encoded using ISO 4217 Alphabetic Code. http://www.iso.org/iso/currency_codes_list-1

[ISO8601] ISO 8601:2000 Second Edition, *Representation of dates and times, second edition*, 2000-12-15.

1.4 Informative References

Common Metadata, 'md' Namespace, Motion Picture Laboratories, Technical Report, TR-META-CM, version 1.0. www.movielabs.com/md/md.html

European Broadcast Union, Tech 3295 – P_META Metadata Library, http://www.ebu.ch/en/technical/metadata/specifications/notes_on_tech3295.php

The following includes a few organizations or activities where complementary metadata development exists.

- AMPAS – Academy of Motion Picture Arts and Sciences
- SMPTE Metadata Dictionary: http://www.smpte-ra.org/mdd/
- MPEG – Motion Pictures Experts Group
- MHP – DVB Multimedia Home Platform
- CableLabs VOD Metadata 2.0 http://www.cablelabs.com/specifications/md20.html
- Dublin Core Metadata Initiative: http://dublincore.org/.
- TV Anytime (ETSI) http://www.etsi.eu/WebSite/Technologies/TVAnytime.aspx
- PBCore: www.pbcore.org
- Vocabulary Mapping Framework: http://cdlr.strath.ac.uk/VMF/index.htm

2 SCOPE

This document specifies certain information that is delivered from a Publisher to a Retailer as part of offering digital media.

2.1 Information specified

There are four types of Files:

- Manifest—The top-level construct is a Package that is described with a Manifest. The Manifest is uniquely identified with a PackageID and contains a description of the Package itself (date, Publisher, etc.) and the Files within the Package.
- Metadata—Descriptive information about an asset in the package. Details may include a description of the work (e.g., a movie, television episode, music video, song, etc.) or description of its encoding.
- Media—Playable media; the asset to be offered. In addition to traditional audio and video files, this may also include games, ringtones or software that might be associated with a product.
- Transaction—Information about the transaction, in particular parameters relating to offering the asset. Transactions, by definition, have region and time scope.
- Ancillary—Any other file used to support the offering, such as cover art image files.

This specification defines the content of the Manifest, Metadata and Transaction Files. The delivery mechanism is outside the scope of this specification. Although specification speaks in terms of files, actually delivery could be through any data delivery mechanism.

2.2 XML Namespaces

This document includes two XML namespaces:

- md: Common Metadata corresponding with Common Metadata, Version 1.0.
- ema: includes EMA-specific data

2.3 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.

3 IDENTIFIERS

Identifiers and metadata are closely linked. In essence, all identifiers have corresponding metadata that describes the object being identified. Just as it is useful to distinguish between different kinds of objects with different kinds of identifiers, it is useful to distinguish the metadata in terms of those same objects.

The primary objects being identified and described in metadata is the Content Identifier (ContentID).

3.1 Identifier Structure

Common Metadata identifiers use the general structure of the "urn:" URI scheme as discussed in RFC 3986 (URN) and RFC 3305 with a "md" namespace identifier (NID). However, for Common Metadata, rather than the fully articulated "urn:md" we abbreviate to "md:". The basic structure for a Common Metadata ID is

<MDID> ::= "md:"<type> ":"<scheme>":"<SSID>

- <type> is the type of identifier. These are defined in sections throughout the document defining specific identifiers.
- <scheme> is either a Common Metadata recognized naming scheme (e.g., "ISAN") or "org:" non-standard naming. These are specific to ID type and are therefore discussed in sections addressing IDs of each type.
- <SSID> (scheme specific ID) is a string that corresponds with IDs in scheme <scheme>. For example, if the scheme is "ISAN" then the <SSID> would be an ISAN number.

There is a special case where <scheme> is "org". This means that the ID is assigned by a recognized organization within their own naming conventions. If <scheme> is "org" then

<SSID> ::= <organization><UID>

- <organization> is a unique name assigned to an organization, in particular a domain name used by that organization. For example, movielabs.com becomes `md:org:movielabs.com:...` and bbc.co.uk becomes `md:org:bbc.co.uk:...`
- <UID> is a unique identifier assigned by the organization identified in <organization>. Organizations may use any naming convention as long as it complies with RFC 3986 syntax.

Some sample identifiers are

- Content ID: `md:cid:ISAN: 0000-3BAB-9352-0000-G-0000-0000-Q`
- Content ID: `md:cid:org:MYSTUDIO:12345ABCDEF`

3.1.1 id-type Simple Type

The simple type md:id-type is the basic type for all IDs. It is XML type xs:anyURI.
All identifiers are case sensitive.

3.2 Content Identifier

Content Identifiers are assigned by the content owner or its designee. The following scheme provides flexibility in naming while maintaining uniqueness. Common Metadata defines a Content Identifier (ContentID) for an abstract representation of a content item.

Syntax: "md:cid:"<scheme>":"<SSID>

A ContentID points to Basic metadata. ContentIDs may refer to abstract items such as shows or seasons, even if there is no separate asset for that entity. A ContentID must be globally unique.

The following restrictions apply to the <scheme> and <SSID> part of a ContentID:

- A ContentID scheme may not contain the colon character.
- Where display formats exists (i.e., human readable versus computer-readable) use display format.
- ContentID < scheme> and ContentID <SSID> shall be in accordance with Table 3-1. Additional schemes may be added in the future.

Table 3-1: Content Identifier Scheme and Value

Scheme	Expected value for <SSID>
ISAN	An <ISAN> element, as specified in ISO15706-2 Annex D.
TVG	TV Guide
AMG	AMG
IMDB	IMDB
MUZE	Muze
TRIB	Tribune
UUID	A UUID in the form 8-4-4-4-12
URI	A URI; this allows compatibility with TVAnytime and MPEG-21

Grid	A Global Release identifier for a music video; exactly 18 alphanumeric characters
ISBN	An ISBN, ISO 2108, http://www.isbn-international.org
ISSN	Serials. ISO 3297:1998.
ISTC	Textual works. ISO 21047
ISMN	Printed music, ISO 10957, http://ismn-international.org/
ISRC	Master recordings, ISO 3901, http://www.ifpi.org/content/section_resources/isrc.html
ISWC	Musical Works, http://www.cisac.org
DOI	Digital Object Identifier http://www.doi.org
file	Indicates that the identifier that follows is a local file name.
org	<SSID> begins with the Organization ID of the assigning organization and follows with a string of characters that provides a unique identifier. The <ssid> must conform to RFC 3986 with respect to valid characters.

3.3 Organization ID

Common Metadata assumes one additional type be provided. That is an Organization ID (OrgID). md:orgID-type is a simple type of type md:id-type.

Currently, there is not an adequate global identification scheme, so this element should be used only if both the sending and receiving parties have an a priori agreement regarding the contents of this ID.

4 GENERAL TYPES ENCODING

4.1 Language Encoding

Language shall be encoded in accordance with RFC 4646, *Tags for Identifying Languages* [RFC4646]. Matching shall be in accordance with RFC 4647, *Matching Language Tags*, [RFC4647]. Language codes may be found at the ISO 639-2 registration authority at the US Library of Congress [ISO639].

The xs:language type shall be used for languages.

4.2 Region encoding

Region coding shall use the ISO 3166-1 two-letter alpha-2 codes [ISO3166-1]. Informally described here: http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2.

When subdivisions are required, ISO3166-2 shall be used [ISO3166-2]. Informally described here: http://en.wikipedia.org/wiki/ISO_3166-2.

Common Metadata shall use the following type for region:

Element	Attribute	Definition	Value	Card.
Region-type				
country		ISO 3166-1 Alpha 2 code	xs:string Pattern: "[A-Z][A-Z]"	(choice)
countryRegion		ISO 3166-2 Code	xs:string Pattern: "[A-Z][A-Z]-[0-9A-Z]+"	(choice)

4.3 Date and Time encoding

Date and time encoding shall use the XML rules. That is, where ISO 8601 [ISO8601] deviates from XML encoding, XML encoding shall apply.

4.3.1 Duration

Durations are represented using xs:duration. xs:time should not be used for duration.

4.3.2 Time

xs:time is used for a recurring time.

4.3.3 Dates and times

XML is fairly rigid in its date and time encoding rules. Specifically, it is difficult to have a single element where resolution may range from 'year' to 'date' to 'time'. In some instances such as air dates/time, resolution might be year (movie released in 1939), date (movie released on December 25, 2009), or date and time (episode aired November 6, 2001, or November 6, 2001 EST).

- Year encoding uses xs:gYear (Gregorian year)
- Date encoding (year, month and day) uses xs:date
- Date encoding that includes both date and time shall uses xs:dateTime

Time zone should be included with xs:dateTime elements to avoid ambiguity. If representing a single point in time with no relevant time zone, Coordinated Universal Time (UTC) should be used.

In some cases, there are options for including year, date and date-time. Optional elements should be included if known and relevant.

4.3.4 Date and time ranges

Date Ranges may be encoded using the DateTimeRange-type:

Element	Attribute	Definition	Value	Card.
DateTimeRange				
Start		Start of time period	xs:dateTime	
End		End of time period	xs:dateTime	

4.4 String encoding

String lengths are specified in characters (rather than bytes) unless otherwise stated. A string using double-byte Unicode characters can result in string elements whose actual size in bytes is larger than the stated length.

4.5 Organization Naming

Organization names shall include both a user-friendly display name and a sortable name. If the display name and the sort name are the same, the SortName element may be excluded.

Element	Attribute	Definition	Value	Card.
OrgName-type				
	organizationID	Organization's unique ID	md:orgID-type	0..1
DisplayName		General display format. Safest to use as it accommodates various permutation on the name	xs:string	
SortName		Sortable version of name. This will often be last name first. This may be displayed.	xs:string	0..1

4.6 People Naming and Identification

This section describes the internationalized naming approach used for encoding metadata. This section also defines person identification for the purposes of metadata.

4.6.1 PersonName-type

Element	Attribute	Definition	Value	Card.
PersonName-type				
DisplayName		Person's name for display purposes	xs:string	
SortName		Name used to sort. May be excluded if identical to DisplayName.	xs:string	0..1
FirstGivenName		First name	xs:string	0..1
SecondGivenName		Second name	xs:string	0..1
FamilyName		Family name	xs:string	0..1
Suffix		Suffix	xs:string	0..1
Moniker		Alternative name, usually of the form <FirstGivenName> "<Monikor>" <FamilyName> (e.g., *Scatman* in *Benjamin Sherman "Scatman" Crothers*).	xs:string	0..1

4.6.2 PersonIdentifier-type

Assuming there is an identifier associated with the person, this structure holds information about that identifier.

Element	Attribute	Definition	Value	Card.
PersonIdentifier-type				
Identifier		Identifier associated with this individual within the Namespace	xs:string	
Namespace		Namespace for identifier	xs:string	
ReferenceLocation		Location associated for the identifier within the namespace. This is expected to be an online reference to information about the individual.	xs:anyURI	

4.7 Currency

Currency shall be encoded using ISO 4217 Alphabetic Code [ISO4217].

http://www.iso.org/iso/currency_codes_list-1

4.8 Role Encoding, Role-type

Roles shall be encoded in accordance with 'Term' column of EBU Role codes found here: http://www.ebu.ch/en/technical/metadata/specifications/role_codes.php, plus "Other Group" and "Other" (referring to an unclassified individual).

Roles are defined in the simple type md:Role-type.

The JobFunction element allows for alternate schemes, however the scheme attribute is not supported at this time. At a future release, alternate schemes may be defined.

4.9 Keywords Encoding

Keywords are often culturally specific, so different keywords may exist for different regions. At this time, no keywords are defined.

4.9.1 Name/Value Pairs, NVPair-type

Use of Name/Value pairs provides considerable flexibility for growth. The NVPair-type complex type allows for any additional business data to be included in tuple format.

Element	Attribute	Definition	Value	Card.
NVPair-type				
Name		Identification of the parameter being specified	xs:string	
Value		Value specified for Name	xs:string	

4.10 Personal/Corporate Contact Information, ContactInfo-type

Element	Attribute	Definition	Value	Card.
ContactInfo-type				
Name		Person or point of contact	xs:string	
PrimaryEmail		Primary email address for user	xs:string	
AlternateEmail		Alternate email addresses, if any	xs:string	0..n
Address		Mail address	xs:string	0..n
Phone		Phone number. Use international (i.e., +1 …) format.	xs:string	0..n

5 EMA TOP-LEVEL DEFINITIONS

The top-level element for EMA data is the EMAFile element. EMAFile's contents include elements for each EMA file. EMAFile is a collection of elements defined by EMA-File-type, where each instance is a 'choice' of Metadata, Transaction or Manifest. EMA also has ancillary files such as cover art images, but ancillary files do not have EMA-defined metadata.

The EMAFile element is defined as a sequence of EMAFile-type which is defined as follows:

Element	Attribute	Definition	Value	Card.
EMAFile-type				
Metadata		Basic and Physical metadata associated with the Assets	ema:Metadata-type	(choice)
TransactionData		Transaction data	ema:TransactionData-type	(choice)
ManifestData		Manifest data	ema:ManifestFile-type	(choice)

5.1 Metadata-type

This defines the EMA metadata, including both the descriptive information (Basic Metadata) and the encoding information (Physical metadata). It is as follows:

Element	Attribute	Definition	Value	Card.
EMATransFile-type				
Basic		Basic Metadata	md:BasicMetadata-type	
Physical		Physical Metadata: encoding information for the assets	md:DigitalAssetMetadata-type	0..n

5.2 TransactionData-type

This defines the EMA Transaction. The definition is as follows:

Element	Attribute	Definition	Value	Card.
TransFile-type				
Transaction		Information about each transaction. There may be multiple transactions in a EMATransFile-type definition.	ema:EMATransInfoList-type	1..n

5.3 ManifestData-type

This defines the EMA Manifest. The manifest includes the definition of a Package and defines the contents of the Package. This includes a listing of all files included together along with identifying information about each file.

Element	Attribute	Definition	Value	Card.
ManifestData-type		Manifest description	ema:EMAManifestInfo-type (by extension)	

6 COMMON METADATA DERIVED TYPES

Common Metadata [CM09] includes elements that cover typical definitions of media, particularly movies and television. Basic Metadata includes descriptions such as title and artists. It describes information about the work independent of encoding. Digital Asset metadata describes information about individual encoded audio, video and subtitle streams, and other media included. Package and File Metadata describes one possible packaging scenario and ties in other metadata types. Ratings and Parental Control information is described.

Common Metadata is designed to provide definitions to be inserted into other metadata systems, such as EMA's. Although EMA uses some element from Common Metadata, it also defines additional metadata to cover areas specific to EMA's requirements.

The following EMA types are derived directly from Common Metadata:

EMA Type	Common Metadata Type
ema:BasicMetadata-type	md:BasicMetadata-type
ema:DigitalAssetMetadata-type	md:DigitalAssetMetadata-type

There are no specific requirements to adapt md:BasicMetadata-type and md:DigitalAssetMetadata-type to EMA. All required elements and attributes must be included; and any optional element or attributes may be included.

7 PACKAGE AND FILE METADATA

Content is delivered as packages which may contain multiple files. These sections describe the metadata associated with pages and files.

This structure assumes the following files:

- Manifest
- Metadata
- Media
- Transaction
- Ancillary files

To group files, there is the concept of a Package. A Package is all the files contained within the manifest, including the manifest itself. A Package is identified with a unique PackageID.

File formats are not addressed here, but these types represent the expression of information in files.

7.1 ManifestInfo-type

Element	Attribute	Definition	Value	Card.
ManifestInfo-type				
PackageID		Unique identifier for package	xs:string	
PackageDate		Date and time package generated	xs:dateTime	
Publisher		Studio to whom the package is associated. This is the entity to be contacted with any inquiries associated with the Manifest.	md:Publisher-type	
AudienceRegion		Intended audience for package contents	md:Region-type	
TotalFilesInPakcage		Count of files	xs:int	
FileInfo		Information about each file in manifest	md:FileInfo-type	1..n

7.1.1 Publisher-type

Element	Attribute	Definition	Value	Card.
Publisher-type			md:OrgName-type (by extension)	
	organizationID	Organization Identifier for the publisher. This is an ID use by the Publisher to refer to itself.		0..1
	retailerSpecificID	Identifier by which the Retailer knows the Publisher	xs:string	0..1
DisplayName		Name of Publisher in a displayable form. This is the name intended to be presented to a consumer.	xs:string	
SortName		Name of Publisher intended for sorting purposes. It is not necessary to include SortName if it is identical to DisplayName.		0..1
ContactInfo		Contact information for the publisher	md:ContactInfo-type	

SortName is typically used when a Publisher has variations on its name that may not sort properly (e.g., some instances have a prefix).

7.2 FileInfo-type

FileInfo-type is used to describe a file in the Manifest. The data in this element should correspond with physical attributes of the file. For example, a file's name corresponds with Location, its file extension or type embedded in the file correspond with Type, and Hash can be generated from its contents.

The FileInfo-type information ensures that a file is correctly identified. As the Manifest may be delivered separately from other files, the FileInfo-type ensures the correct files are identified.

It is envisioned that Location will be used to facilitate network downloading of assets. The metadata is delivered without the file, and the filed is retrieved from Location.

Element	Attribute	Definition	Value	Card.
FileInfo-type				
Location		File location information. As a URI, name can be either a local file name or a web address.	xs:anyURI	
Type		Type of file	xs:string “manifest” “metadata” “media” “transaction” “ancillary”	
Hash		File hash of the entire file		0..1
	Method	Hash method	xs:string “MD5” “SHA1”	
WrapperFormat		Description of how file is packaged. This is typically a file extension less the dot (.). For example, zip or tar	xs:string	0..1
ContainerMetadata		If file is a media container, ContainerMetadata includes information about how to decode the file.	md:ContainerMetadata-type	0..1
Replaces		Optional list of files replaced by this version. This should grow with each replacement of a given file.	md:FileInfo-type	0..n

8 TRANSACTION INFORMATION

8.1 Description

Transactional Data describe the information specific to a given transaction, typically business-related arrangements between the content publisher (or its agent) and a someone authorized to handle the content. As transactions may be complex, general extensible mechanisms are provided.

8.2 Rules

Transaction Data are subject to agreements between the parties in question.

8.3 Definitions

8.3.1 TransInfoList-type

This type covers an entire business rule. There may be multiple rules ('Rule' elements) per Asset.

Element	Attribute	Definition	Value	Card.
TransInfoList-type				
Assets		Asset for which the rules apply	ema:TransAssetList-type	
TransInfo		Transaction-related information	md:TransInfo-type	1..n

8.3.2 TransAssetList-type

Element	Attribute	Definition	Value	Card.
TransAssetList-type				
ContentID		Asset for which the rules apply	md:ContentID-type	
AssetStructure		Composite Object describing structure of content, including optional additional metadata. The Composite Object must contain the Content IDs included in CID.	md:CompObj-type	0..1

8.3.3 TransInfo-type

Element	Attribute	Definition	Value	Card.
TransInfo-type				
Type		Type of transaction. Values are currently undefined.		
Description		Text description of the rule	xs:string	
Start		Start time of applicability of Info. If not present, then start time is undefined.	xs:dateTime	0..1
CondStart		Conditional Start		0..1
End		End time of applicability. If not present, then end time is undefined.	xs:dateTime	0..1
CondStart		Condition End		0..1
Locale		Region to which info applies, if applicable	md:Region-type	0..1
Parameters		Generalized mechanism for carrying specifics of the rule such as pricing.	md:NVPair-type	
OtherInstructions		Free text field for inclusion of any other information	xs:string	0..1

8.3.4 TransCondDate-type

Element	Attribute	Definition	Value	Card.
TransInfo-type				
Event		The event to which this condition is tied	xs:string	0..1
Condition		Indication of before, after, etc.	xs:string	
Locale		Locale of the condition	md:Region-type	0..1
Lag		Indication of how much before or after the event. This shall always be positive and the direction is assumed from the Condition.	xs:duration	0..1

Event may have any value as listed under Release Information Encoding as described in the Common Metadata Specification.

The following are accepted values for Condition

- 'before' – indicates Lag before Event
- 'after' – indicates Lag after Event
- 'simultaneous' – indicates it happens at the same time. Lag should not be included, but ignored if it is.

8.3.5 Parameters

TransInfo-type contains Parameters in Name/Value pairs. These are designed to be extensible. In the future, specific parameters may be defined. At this time, the parameters are to be defined by the parties exchanging information.

9 BASIC METADATA

Basic Metadata is a set of data that are essentially ubiquitous in content systems. They may be used throughout.

9.1 BasicMetadata-type

Element	Attribute	Definition	Value	Card.
BasicMetadata-type				
	ContentID	Content ID in Section 2.	md:ContentID-type	
UpdateNum		Version. Initial release should be 1. This is a value assigned by the metadata creator that should only be incremented if a new version of metadata is released. If absent, 1 is to be assumed. This is assigned by the metadata originator.	xs:int	0..1
LocalizedInfo		Instances of localized metadata	md:BasicMetadataInfo-type	1..n
RunLength		Runlenght of the work. Resolution SHALL be at least minutes. Resolution should be seconds or better.	xs:duration	
ReleaseYear		The year of original release. This applies to the version that is being released.	xs:gYear	
ReleaseDate		Date of release or original air date. Adds month and day information to ReleaseYear. May not be included if ReleaseDateTime is included.	xs:date	0..1 (choice with below)
ReleaseDateTime		Date and time of release or original air date. Adds date and time information to ReleaseYear. Time should indicate the time zone of release locale. May not be included if ReleaseDate is included.	xs:dateTime	0..1 (choice with above)
ReleaseHistory		Information about other release	md:ReleaseHistory-type	0..n

Element	Attribute	Definition	Value	Card.
WorkType		Type of the work. See Work Type Encoding.	xs:string	
PictureColorType		Color type of asset. This SHALL not be included for audio-only assets.	md:ColorType-type	0..1
PictureFormat		A textual description of the aspect ratio format type, as defined below. This field does not contain the actual aspect ratio.	xs:string	0..1
ThreeD		Indicates whether work is in 3D. 'true' means 3D, 'false' or absent means not 3D.	xs:boolean	0..1
AspectRatio		Aspect ratio of active pixels, the form m:n (e.g., 4:3,16:9, 2:35:1)	xs:string	
FitToActivePixels		The content has been edited to fit the active pixels in the image. This may be cropped, pan-and-scan or other modification.	xs:boolean	0..1
AltIdentifier		Other identifiers for the same content	md:ContentIdentifier-type	0..n
RatingSet		All ratings associated with this content	md:ContentRating-type	0..n
People		People involved in production, with the exception of alternate language-specific roles (e.g., voice talent for language dubbing)	md:BasicMetadataPeople-type	0.. n
CountryOf Origin		The country from where the title originates, ISO3166-1 e.g., "US" for United States. A derived would should refer to the country of the original work.	md:Region-type	
AssociatedOrg		Organization associated with the asset in terms of production, distribution, broadcast or in another capacity (see below for roles).	md:OrgName-type	0,,n
	role	Role of the associated organization	xs:string	0..1
SequenceInfo		Indicates how asset fits into sequence	md:ContentSequenceInfo-type	0..1

Element	Attribute	Definition	Value	Card.
Parent		Metadata for parent items. Note that this is recursive.	Md:BasicMetadataParent-type	0..n

9.1.1.1 WorkType Enumerations

Work Type shall be enumerated to one of the following (categories are to support the definition, but are not included in the enumeration).

Music related:

- 'Album' – A collection of songs
- 'Song'
- 'Music Video' – Music Video, not 'Performance'
- 'Ring Tone'
- 'Other Music'

Film related:

- 'Feature Film' – A full length movie.
- 'Short' – a film of length shorter than would be considered a feature film.
- 'Long-Form Non-Feature' – other works, for example, a documentary.

TV, web and mobile related:

- 'Series' – a show that might span one or more seasons or might be a miniseries.
- 'Season' – a season of a Series. It will contain one more episodes.
- 'Episode' – an episodes of a season or miniseries. A pilot is also an episode. If episode is a 'webisode', 'mobisode' or other specialized sequence, it should be noted in Keywords.
- 'Non-episodic Show' – TV or other show that is non-episodic; for example, TV Movies, sports and news.
- 'Promotion' – promotional material associated with media. This includes teasers, trailers, electronic press kits and other materials.
- 'Ad' – any form of advertisement including TV commercials, informercials, public service announcements and promotions not covered by 'Promotion'. This does not include movie trailers and teasers even though they might be aired as a TV commercial. Promotion is a special case of 'Ad'.

Other:

- 'Excerpt' – An asset that consists primarily of portion or portions of another work or works; for example, something having the 'isclipof' or 'iscompositeof' relationship.

- 'Supplemental' – Material designed to supplement another work. For example, and extra associated with a Movie for a DVD.
- 'Collection' – A collection of assets not falling into another category. For example, a collection of movies.
- 'Franchise' – A collection or combination of other types, for example, a franchise might include multiple TV shows, or TV shows and movies.

Although there is some overlap with Genre, Work Type is not language or culturally specific. Although terms may overlap, the usage does not. For example, the Work Type of 'Sport' refers to the capture of a sporting event, where a documentary on sport would have the 'Non-episodic Show" work type.

9.1.1.2 ColorType-type

md:ColorType-type enumerates the picture color types. The enumerations are as follows:

- 'color' for color. If the work contains color, but is not clearly classified into one of the other categories, is should use the 'color' type.
- 'bandw' for black and white
- 'colorized' for colorized video (i.e., different from the original that is typically black and white)
- 'composite' for color composite (e.g., "Sin City")

9.1.1.3 Picture Format Encoding

PictureFormat may be one of the following:

- 'Letterbox' – horizontal bars or other background appear above and/or below the picture's active pixels
- 'Pillarbox' – vertical bars or other background appear to the left and/or right of the picture's active pixels
- 'Full' – The active pixels fit the full area of the picture (within a few pixels). The entire original image is substantially included. This should not be confused with *fullscreen*, a term that may also refer to Pan and Scan.
- 'Stretch' – The active pixels fit the full area of the picture (within a few pixels). The entire original image is substantially included. The image has been visibly stretched in one dimension to fit (e.g., a 4:3 image stretched to 16:9 frame).
- 'Pan and Scan' – The active pixels the fit full area of the picture (within a few pixels). Part of the original image is not included. This includes fixed cropping, pan-and-scan and other cropping methods.
- 'Other' – A picture format encoding other than the above applies. For example, 'Smilebox'.

9.1.1.4 UpdateNum

UpdateNum is an integer rather than a string (e.g., "2.3.1") to simplify ordering. The Content Provide SHALL issue updates with increasing numbers.

9.1.1.5 AssociatedOrg

The AssociatedOrg element provides information about organizational entities involved in the production, distribution, broadcast or other function relating to the asset. Often organizations provide different functions, so multiple organizations can be listed. The role attribute to AssociatedOrg may have one of the following values:

- 'production' – involved in the production of the asset
- 'network' – network associated with asset's broadcast
- 'distribution' – entity involved with distribution
- 'other' – any organization that does not fall into the previous categories

9.1.1.6 Release Information Encoding, ReleaseHistory-type

ReleaseType may include the following values:

- 'original' – first worldwide
- 'local' – local airing
- 'DVD'
- 'Hospitality'
- 'PayTV'
- 'Internet' – can cover any combination of other Internet release types
- 'InternetBuy'
- 'InternetRent'
- 'InternetStream'

This list may be expanded.

Element	Attribute	Definition	Value	Card.
ReleaseHistory-type				
ReleaseType		Release type as described above	xs:string	
DistrTerritory		Where it was released to	md:Region-type	0..1
Date		When was released.	xs:date	

	scheduled	Date is assumed to be an actual date unless scheduled is included and holds the value 'true'	xs:boolean	0..1
DateTime		When was released. Time is expressed in local time (i.e., encode time zone).	xs:dateTime	0..1
	scheduled	Date and time are assumed to be an actual date/time unless scheduled is included and holds the value 'true'	xs:boolean	0..1
Description		Description of the release,	xs:string	0..1
ReleaseOrg		Organization involved with this release.	md:OrgName-type	0..1

9.1.2 Basic MetadataInfo-type

This contains language-specific descriptive information.

Element	Attribute	Definition	Value	Card.
BasicMetadataInfo -type				
	language	Language for this set of metadata as defined in Section 3.1.	xs:language	
	default	Indicates whether this is a language to use if no other available language is meaningful within the usage context (e.g., the native langue for the user). 'true' indicates yes. 'false' or absence indicates no.	xs:boolean	0..1
TitleDisplay19		A brief version of the feature title (for display) that is up to a maximum length of 19 chars. All UIs SHOULD be able to support display of this field.	xs:string	
TitleDisplay60		An alternate display version from TitleBrief for those UIs that can support longer fields than 19 Characters. This title may be up to 60 characters.	xs:string	0..1
TitleSort		A sortable version of the feature title, e.g., "Incredibles, The" separated by commas.	xs:string	
ArtReference		Reference to art image	xs:anyURI	0..n
	resolution	String in the form *colxrow* (e.g., 800x600 would mean an image 800 pixels wide and 600 pixels tall).	xs:string	

Summary190		The title description – sentence. (max 190 char)	xs:string	
	cast	Flag to indicate if cast is or is not included in summary description. Missing assumes 'false'.	xs:boolean	0..1
Summary400		The title description -one paragraph, could be used as description in EPG. (max 400 char)	xs:string	0..1
	cast	Flag to indicate if cast is or is not included in summary description. Missing assumes 'false'.	xs:boolean	0..1
Summary4000		The title description – multi-paragraph. (max 4000 char)	xs:string	0..1
	cast	Flag to indicate if cast is or is not included in summary description. Missing assumes 'false'.	xs:boolean	0..1
Display Indicators		Indicators that MAY affect UI display. See Display Indictor Encoding below.	xs:string	0..n
Genre		Subject-matter classification of the show. See Genre Encoding below.	xs:string	0..n
Keyword		Keyword	xs:string	0..n
VersionNotes		A descriptive statement about the reason why this cut was created or what its content represents with reference to other versions of this work. Do not include information about the language of the title in this field. If the cut is for a censor in a particular linguistic region, the region associated with the censor or censor name should be used, i.e., German censor version.	xs:string	0..1
Region		The ISO 3166-1 code used to represent the name of the region(s) where the work is intended to be broadcast or shown. The code should be sent in lowercase letters. Note: Do not use the code "ww" to represent a worldwide region.	md:Region-type	
OriginalTitle		Original title (no size limits).	xs:string	
CopyrightLine		Displayable copyright line.	xs:string	0..1
PeopleLocal		People involved in the localized production, typically local voice actors.	md:BasicMetadataPeople-type	0..n

9.1.2.1 Display Indicator Encoding

The values used for Display Indicator are at the discretion of the Publisher and the Retailer. Examples of values conceived for this element include, "CC", "DVS", "P" (season premiere) and "F" (finale).

9.1.2.2 Genre Encoding

Genre is culturally and contextually specific, so different genre classifications may exist for different regions. This section presents a few alternatives for genre enumeration. Others will apply. Any genre list may be used.

The following is a suggested genre list for US and Canada, English:

- 'Action'
- 'Adult'
- 'Adventure'
- 'Anime'
- 'Animation'
- "Children's"
- 'Comedy'
- 'Documentary'
- 'Drama'
- 'Family'
- 'Horror'
- 'Independent'
- 'Instructional'
- 'Music Performance'
- 'Musical'
- 'Mystery'
- 'Romance'
- 'Science Fiction'
- 'Sports'
- 'Television'
- 'Western'
- 'Miscellaneous'

Alternatively, the following genres apply:

Region (Language)	Source	Link
United States, Canada (English)	Library of Congress, Motion Picture and Television Reading Room	http://www.loc.gov/rr/mopic/miggen.html
Europe	European Broadcast Union (EBU) Tech 3295 – P_META Metadata Library, v 2.0, EBUContentGenre	http://www.ebu.ch/metadata/cs/web/ebu_ContentGenreCS_p.xml.htm

Other Genre lists may be applied.

9.1.3 ContentID-type

This is designed to provide a cross reference to all other identifiers associated with this content. ContentIdentifier-type is a simple type based on md:id-type.

Namespace will be any namespace as listed in Table 3-1.

Element	Attribute	Definition	Value	Card.
ContentIdentifier-type				
Namespace		Namespace of identifier from Content ID table in the Identifiers section.	xs:string	
Identifier		Value of identifier.	xs:string	
Location		Reference location for item in the referenced namespace.	xs:anyURI	0..1

9.1.4 BasicMetadataPeople-type

Element	Attribute	Definition	Value	Card.
BasicMetadataPeople-type				
Job		Description of job function and, if applicable, character(s)	md:BasicMetadataJob-type	1..n
Name		Person or entity's name	md:PersonName-type	
Identifier		Formal identifier for this individual.	md:PersonIdentifier-type	0..n
Gender		Female, Male, Neutral, plural (name for group)	xs:string: "male", "female", "neutral" "plural"	0..1

9.1.4.1 BasicMetadataJob-type

Element	Attribute	Definition	Value	Card.
BasicMetadataJob-type				
JobFunction		Role in production of media. Role is encoded in accordance with "Role Encoding" above. This version is displayable, but JobDisplay is preferred if present.	md:Role-type	
	scheme	The Role Scheme if alternate role systems are used.	xs:string	0..1
JobDisplay		Displayable version of Role. This allows metadata encoder to be more specific. For example, while JobFunction allows encoding of "Assistant Cameraman", JobDisplay could be "1st Assistant Cameraman".	xs:string	0..1
BillingBlockOrder		Order of listing, starting with 1. If missing, implies infinity and may be listed in any order. This need not be contiguous.	xs:int, [1..maxint]	0..1
Character		For actors, what role(s) they are playing. May be more than one.	xs:string	0..n
Guest		Whether this is a guest role (e.g., guest actor).. If 'true', Job is as a guest. 'false' or absent is not guest.	xs:boolean	0..1

9.1.4.2 BasicMetadataParent-type

This allows parent metadata to be included either by inclusion or reference. Usage rules will define if and when ParentContentID may be used in lieu of Parent. This is an optimization to avoid repeating full metadata sets when multiple objects have the same parent.

Element	Attribute	Definition	Value	Card.
BasicMetadataParent-type				
	relationshipType	The relationship between this asset and its parent as defined below.	xs:string	0..1
Parent		The parent metadata object.	md:BasicMetadata-type	(choice)
ParentContentID		Same as Parent, although included by reference instead of inclusion.	md:ContentID-type	(choice)

The relationshipType attribute may have the following enumerations:

- ' isclipof' – The asset is a subset of the larger body that is a contiguous subset of the parent. It may include unique small amounts of pre- and post-material such as new titles and credits. A typical example is a clip extracted from a larger video.
- 'isepisodeof' – The asset is an instance of an ordered sequence (i.e., an episode)
- "isseasonof' – The asset is a season and the parent is a show
- 'ispartof' – The asset is one complete segment of a larger body not covered by other definitions here. This may include a movie that is part of a series of movies. A song will be part of an album.
- 'isderivedfrom'—The asset is a modification of the parent work. Some examples include a colorized version derived from a B&W version, and an edit such as a "Director's Cut" or "Unrated Edition".
- 'iscompositeof' – Asset includes a subset of the parent, such as may be found in a mashup. This contrasts a clip which is a proper subset otherwise unmodified.
- 'issupplementto' – is supplemental material. For example, outtakes and makings-of would be supplements.
- 'ispromotionfor' – is promotional material, such as a trailer. This is used when the child object has a work type of 'Promotion' and it is a promotion for the parent object.

9.1.4.3 ContentSequenceInfo-type

Describes Sequence, if part of sequence (episode, season, etc.). The actual sequence type is defined by the WorkType element.

Either Number or HouseSequence must be included. An element with HouseSequence but no number indicates the asset is non-sequenced and the HouseSequence is included for reference. This might be the case for a documentary whose airing sequence is irrelevant but the HouseSequence is still usable for management of the asset.

If neither Number nor HouseSequence is included, the ContentSequenceInfo-type based element should not be included.

Element	Attribute	Definition	Value	Card.
ContentSequenceInfo-type				
Number		Where it fits in sequence (e.g., episode 1 is "1"). Start with 1. If it is the only one in the sequence, it is numbered 1.	xs:int	0..1
HouseSequence		Identifier used internally for the asset. This may not be ordered the same as Number. The original may use this value however seen fit.	xs:string	0..1

9.2 Composite Object

A Composite Object is a grouping outside of the structure of Basic Metadata (i.e., Parent definitions). Composite Objects may include metadata, either by inclusion or reference. The md:CompObj-type is designed as a simple list of entries. It is intended for inclusion within other structures. The md:CompObjData-type is a more standalone structure that has an ID and a DisplayName field at the top level, and then the entries. Lists of entries are ordered. For example, if the entries are season premieres of a given show, they can be ordered in season order; and that ordering should be preserved.

9.2.1 CompObj-type

Element	Attribute	Definition	Value	Card.
CompObj-type				
Entry		An individual entry in the compound object. The list is ordered.	md:CompObjEntry-type	1..n

9.2.2 CompObjID-type

This is a simple type of type md:id-type that can be used to assign a unique identifier.

9.2.3 CompObjData-type

Element	Attribute	Definition	Value	Card.
CompObjData-type			md:CompObj-type	(extension)
	CompObjID	Identifier for this compound object	md:CompObjID-type	0..1
DisplayName		A description of the Compound Object. There may be one entry per language.		0..n
	language	Language of the DisplayName in accordance with encoding described in Section 3.1.	xs:language	0..1

9.2.4 Comp-ObjEntry-type

Element	Attribute	Definition	Value	Card.
CompObjEntry-type				
DisplayName		A description of the Composite Object. There may be one entry per language.		0..n
	language	Language of the DisplayName in accordance with encoding described in Section 3.1.	xs:language	0..1
Entry		An individual entry in the compound object. The list is ordered.	md:CompObjEntry-type	0..n
ContentID		Content ID for item in the Composite Object. It is assumed the metadata associated with this ContentID is available, and this field is used as an optimization to avoid repeating metadata.	md:ContentID-type	(choice)
BasicMetadata		Basic Metadata for the entry.	md:BasicMetadata-type	(choice)

Metadata is included either by inclusion (use of BasicMetadata element) or by reference (use of ContentID element). Use of ContentID is an optimization for situations where the metadata for that ContentID is already provided.

10 DIGITAL ASSET METADATA

Digital Asset Metadata describes includes relating to the Physical Asset that is distinct from the Logical Asset.

10.1 Digital Asset Metadata Description

A Digital Asset has certain properties that are not general to the Logical Asset and are therefore distinct from Basic Metadata. Digital Asset Metadata describes these properties. These data are distinct from Basic Metadata. The set of Digital Asset Metadata does not attempt to include all possible data about the Asset, only a subset of those most useful.

Metadata includes:

- Audio/video Encoding information
- Resolution, codec, frame rate, max bitrate

10.2 Definitions

10.2.1 DigitalAssetMetadata-type

Element	Attribute	Definition	Value	Card.
DigitalAssetMetadata-type				
Audio		Metadata for an audio asset	md:DigitalAssetAudioData-type	(choice)
Video		Metadata for a video asset	md:DigitalAssetVideoData-type	(choice)
Subtitle		Metadata for subtitles	md:DigitalAssetSubtitleData-type	(choice)
Image		Metadata for Images	md:DigitalAssetImageData-type	(choice)

10.2.2 DigitalAssetAudioData-type

Element	Attribute	Definition	Value	Card.
DigitalAssetAudio Data-type				
Description		Description of the track. Description should be in the language given by the “Language” element below.	xs:string	0..1
Type		The type of track. See Audio Track Encoding. If not present, track is assumed to be ‘primary’.	xs:string	0..1

Language		Language for the audio track as defined in Section 3.1.	xs:language	
	dubbed	If present and true, indicates Language is dubbed audio.	xs:boolean	0..1
Encoding		Audio encoding information. If CODEC is not known, this should not be included.	md:DigitalAsset Encodying-type	
Channels		Number of audio channels, either as an integer (e.g., 2) or of the form x.y where x is full channels, and y is limited channels (e.g. "5.1")	xs:string	
TrackReference		Track cross-reference to be used in conjunction with container-specific metadata (md:ContainerSpecific-type).	xs:string	0..1

10.2.2.1 Type Encoding

If Type is present, it should have one of the following values:

- 'primary' – primary audio track. There may be multiple primary tracks, with one for each language
- 'descriptive' – Descriptive Audio for the visually impaired (e.g., DVS).
- 'commentary' – Commentary on the video. May be paired with a PIP.
- 'other' – not one of the above

10.2.3 DigitalAssetAudioEncoding-type

Element	Attribute	Definition	Value	Card.
DigitalAssetAudioData-type				
Codec		Name of supported codec. See Codec encoding below.	xs:string	
BitrateMax		Bitrate (bits/second)	xs:integer	0..1
SampleRate		Sample Rate (samples/second)	xs:integer	0..1
SampleBitDepth		Number of bits per audio sample	xs:integer	0..1

10.2.3.1 Audio CODEC Encoding

The following values should be used for elementary stream CODECs listed. "Other" should be used if the CODEC is not on the list. This list may be expanded over time.

- 'AAC' – Advanced audio CODEC
- 'AAC-LC'
- 'AAC-LC+MPS'
- 'AAC-SLS'
- 'AC-3' – Dolby Digital, AC-3
- 'AIFF' – Audio Interchange File Format (when specific CODEC is not known)
- 'ALAC' – Apple Lossless Audio Codec
- 'AMR' – Adaptive MultiRate
- 'DOLBY-TRUEHD'
- 'DSD' – Direct Stream Digital
- 'DST' – Direct Stream Transfer
- 'DTS' – DTS CODEC
- 'DTS-ES' – DTS ES (Extended Surround)
- 'DTS-HRA' – DTS-HD High Resolution Audio
- 'DTS-96/24' – DTS 96/24
- 'DTS-MA' – DTS-HD Master Audio
- 'E-AC-3' – Enhanced AC3, Dolby Digital Plus (DD+)
- 'FLAC' – Free Lossless Audio Codec
- 'HE-AACv2' – High Efficiency AAC v2
- 'LPAC' – Lossless Predictive Audio Compression
- 'LTAC' – Lossless Transform Audio Compression
- 'MP3' – MPEG 1 Layer 3
- 'MPEG1' – MPEG1 Layer 2
- 'MPEG-4-ALS'
- 'MLP' – Meridian Lossless Package
- 'PCM' – Pulse Code Modulation, or Linear PCM
- 'QCELP' - Qualcomm Code Excited Linear Prediction
- 'RealAudio-Lossless' – Real Networks' lossless format
- 'Vorbis' – Ogg Vorbis
- 'WAV' – used when specific CODEC (e.g., PCM) is unknown or not listed
- 'WMA' – Windows Media Audio
- 'WM9-lossless'

It has been noted that there are standard references for CODECs including MPEG-4 Registration Authority (http://www.mp4ra.org/codecs.html) and IANA (http://www.iana.org/assignments/media-types/index.html). These should be considered as alternatives, if not primary.

10.2.4 DigitalAssetVideoData-type

Element	Attribute	Definition	Value	Card.
DigitalAssetVideoData-type				
Description		Description of this video track	xs:string	0..1
Type		Type of video track. If Type is missing, 'primary' is assumed. See Video Track Type encoding below.	xs:string	0..1
Encoding		Details on Video Encoding. If CODEC is unknown, this element should not be included.	md:DigitalAssetVideoEncoding-type	0..1
Picture		Picture description	md:DigitalAssetVideoPicture-type	
ColorType		Color type of video. Note that Color Type is also included in descriptive metadata, however, this provides information down to the individual stream.	md:ColorType-type	
SubtitleLanguage		Indicates the presence of subtitles embedded in the video stream, either closed (e.g., EIA-608B) or rendered into the video. This is distinguished from subtitles handled via separate tracks. Subtitles in separate tracks should be included in DigitalAssetMetadata-type's Subtitle element. Language encoding is defined in Section 3.1.	xs:language	0..1
	closed	Indicates whether captions are closed.	xs:boolean	0..1
TrackReference		Track cross-reference to be used in conjunction with container-specific metadata (md:ContainerSpecific-type).	xs:string	0..1

10.2.4.1 Video Type Encoding

Type, if present, should have one of the following values:

- 'primary' – primary video track. Whether or not this has burned-in subtitled is determined by the presence of the SubtitleLanguage element
- 'overlay' – PIP or other overlay track, intended for use with a 'primary' track
- 'angle' – alternate angle track
- 'other' - not one of the above

10.2.5 DigitalAssetVideoEncoding-type

Element	Attribute	Definition	Value	Card.
DigitalAssetVideoEncoding-type				
Codec		CODEC used. See Video CODEC Encoding below.	xs:string	
MPEGProfile		MPEG Profile	xs:string	0..1
MPEGLevel		MPEG Level (e.g., "3", "4", "1.3")	xs:string	0..1
BitrateMax		Bitrate (bits/second)	xs:integer	0..1

10.2.5.1 Video CODEC Encoding

The following values should be used for elementary stream CODECs listed. 'Other' should be used if the CODEC is not on the list. This list may be expanded over time.

- 'CineForm HD'
- 'DIVX'
- 'DV' – DV, including variants such as DVCPRO, DVCAM, etc.
- 'H.264' – H.264, MPEG-4 Part 10
- 'JPEG2000' – JPEG 2000, ISO/IEC 15444
- 'MOBICLIP' – Actimagine's Mobiclip CODEC
- 'MPEG1' – MPEG 1 Part 2
- 'MPEG2' – MPEG 2 Part 2
- 'On2' – On2 CODEC when not VP6, VP7 or VP8, or exact CODED is unknown
- 'PHOTOJPEG'

- 'PRORESHQ' – Apple ProRes HQ
- 'REAL' – RealNetworks' RealVideo
- 'SVQ' – Sorenson Video Quantizer
- 'WMV' – Windows Media Video when not WMV7, WVM8 or WMV9 or exact CODEC is unknown
- 'WMV7' – Windows Media Video 7
- 'WMV8' - Windows Media Video 8
- 'WMV9' – Windows Media Video 9
- 'VC1' – Microsoft VC-1
- 'VP6' – On2 VP6
- 'VP7' – On2 VP7
- 'XVID' – Xvid
- 'OTHER' – not one of the above.

It has been noted that there are standard references for CODECs including MPEG-4 Registration Authority http://www.mp4ra.org/codecs.html and IANA http://www.iana.org/assignments/media-types/index.html. These should be considered as alternatives, if not primary.

10.2.6 DigitalAssetVideoPicture-type

Element	Attribute	Definition	Value	Card.
DigitalAssetVideoPicture-type				
AspectRatio		Aspect ratio of picture. Note that this is not necessarily the original aspect ratio. These will be of the form n:m, for example, "16:9". The following should be used for the respective standard encoding: "16:9" "4:3", "1.85:1". "2.35:1", "1:1".	xs:string	
PixelAspect		Pixel aspect ratio	xs:string "square" "NTSC": "PAL" "other"	0..1
WidthPixels		Number of columns of pixels encoded (e.g., 1920)	xs:int	0..1

HeightPixels		Number of rows of pixels encoded (e.g., 1080)	xs:int	0..1
ActiveWidthPixels		Number of active pixels. Must be less than or equal to WidthPixels.	xs:int	0..1
ActiveHeightPixels		Number of active pixels. Must be less than or equal to HeightPixels.	xs:int	0..1
FrameRate		Frames/second. If interlaced, use the frame rate (e.g., NTSC is 30).	xs:int	0..1
Progressive		Whether image is progressive. "true"=progressive, "false"=interlaced	xs:boolean	0..1
Type3D		Type of 3D picture. Encoding currently undefined, although it is intended for types such as "Anaglyph"	xs:string	0..1

10.2.7 DigitalAssetSubtitleData-type

Element	Attribute	Definition	Value	Card.
DigitalAssetSubtitleData-type				
Format		Format of subtitle. See Subtitle Format Encoding below.	xs:string	
Langauge		Language. See Language Encoding in Section 3.1.	xs:language	
TrackReference		Track cross-reference to be used in conjunction with container-specific metadata (md:ContainerSpecific-type).	xs:string	0..1

10.2.7.1 Subtitle Format Encoding

It is anticipated that IANA or others will provide a registry for subtitle encoding schemes. At that time, this section will be revised to reflect a more standard means of describing the subtitle. In the meantime, the following values may be used for Subtitle /Format:

- 'Text'
- 'Image'

10.2.8 DigitalAssetImageData-type

Element	Attribute	Definition	Value	Card.
DigitalAssetImageData-type				
WidthPixels		Number of columns of pixels (e.g., 1920)	xs:int	
HeightPixels		Number of rows of pixels (e.g., 1080)	xs:int	
Encoding		MIME type indicating encoding method	xs:string	
TrackReference		Track cross-reference to be used in conjunction with container-specific metadata (md:ContainerSpecific-type).	xs:string	0..1

10.2.9 DigitalAssetInteractiveData-type

Element	Attribute	Definition	Value	Card.
DigitalAssetInteractiveData-type				
Type		Type of interactive track (TBD).	xs:string	
Langauge		Language. See Language Encoding in Section 3.1.	xs:language	
TrackReference		Track cross-reference to be used in conjunction with container-specific metadata (md:ContainerSpecific-type).	xs:string	0..1

11 CONTAINER METADATA

The Container Metadata describes the container that includes the various media pieces and the glue that holds them together.

11.1 Container Metadata Description

Logically speaking, the container holds a collection of tracks as described using md:DigitalAssetMetadata-type. The container packages these data in accordance with the rules for that container type, defined with the md:ContainerType element.

Often, the container type definition alone is not enough information to access the media in the container. md:ContainerSpecificMetadata may be included to provide any additional necessary information. Container-specific metadata definitions are not included in this version of the specification, so the xs:any type is used.

If ContainerSpecificInformation is provided, the md:TrackRef elements in the Digital Asset Metadata types may be used to cross reference. For example, container-specific metadata may map an MPEG-2 transport stream PID to a given Track.

11.2 Definitions

11.2.1 ContainerMetadata-type

This type describes a container that in turn contains one or more audio, video, subtitle or image tracks.

Element	Attribute	Definition	Value	Card.
ContainerMetadata-type				
ContainerType		Identification of container type	md:DigitalAssetContainterType-type	0..1
Track		Track metadata.	md:DigitalAssetMetadata-type	1..n
ContainerSpecificMetadata		Additional information about the content and structure of the container. In the future, container-specific information will be provided.	xs:any	0..1

11.2.1.1 Container Type encoding, ContainerType-type

Container type is of simple type ContainerType-type that is xs:string.

It may contain one of the following values:

- '3GP' – Third Generation Partnership Project (3GPP) file format
- '3GP2' – 3GPP2 file format
- 'AIFF' – Audio Interchange File Format
- 'ASF' – Microsoft Advanced Streaming Format
- 'AVI' – Microsoft Audio Video Interleave, also includes AVI 2.0
- 'DIVX' – DivX movie file
- 'FLV' – Flash Video File
- 'HCT" – Hectavision file.
- 'ISO' – ISO Container ISO/IEC 14496-12, when not specified in a more specific fashion (e..g, MP4)
- 'JPEG' – JPEG image file
- 'M4V' – Apple M4V
- 'MJ2' – JPEG 2000 file format; 'ISO' containing JPEG 2000
- 'MP4' – MPEG-4 Part 14, ISO/IEC 14496-14:2003
- 'MKV' – Matroska multimedia container
- 'MPEG-2 (TS)' – MPEG-2 Transport stream
- 'MPEG-2 (PS)' – MPEG-2 Program Stream
- 'Ogg' – Xiph.Org file format for Vorbis and Theora
- 'Quicktime (MOV)' – Apple QuickTime movie file
- 'PNG' – Portable Network Graphics (PNG) file
- 'RM' – RealNetwork's RealMedida file format
- 'RIFF – Resource Interchange File Format
- 'SWF' – Adobe Shockwave Flash
- 'TIFF' – tagged image file format
- 'WMV' – Microsoft WMV file
- 'VOB' – DVD Video OBject file
- 'XMF'
- 'other'

If the format is not in this list, it is acceptable to include the Windows file extension. When using this form, precede with 'EXT:'. For example, 'EXT:DXR' for Macromedia Director Movie File (.dxr file extension).

Standard encoding is preferred and will be investigated.

12 CONTENT RATINGS

Common Metadata supports content advisory based on formal ratings systems along with an "Adult only" flag for non-rated adult material and to allow limited cross-system blocking of content.

12.1 Description

Ratings are of the form: Region/System/Rating/Reason. There is also type (e.g., Film, TV and Music) but this is generally subsumed by the System and implicit in the content (exceptions are handled).

12.2 Rules

There is no implied cross-mapping between advisory systems.

12.2.1 "Unrated"

'Unrated' literally means that this particular media instance has not been rated. This frequently means that a work has never been self-rated or submitted to a ratings body, either because of the nature of the work (e.g., a sporting event) or for budgetary reasons.

'Unrated' is also used as a marketing term to reflect a work that contains additional material, generally implied as material that would change the rating, often represented something like, "*The Unrated Edition"*.

The rating system does not distinguish between the two. However, as a best practice, if the unrated work is derived from a rated work, the parent work should be included in the Parent element of the BasicMetadata-type with a relationshipType attribute of 'isderivedfrom'. Although the content is still unrated, the recipient will have additional information on how they may wish to classify the work.

12.3 Definition

This section specifies the structure that can include a complete content rating set for a title.

12.3.1 ContentRating-type

This element describes content-specific parental control information as provided by the content owner or rating agency.

NotRated and RatingsMatrix are an XSD 'choice'. If NotRated is chosen, it must be 'true'.

Element	Attribute	Definition	Value	Card.
ContentRating-type				
NotRated		Has the content never been rated? 'true'=not rated. Must be 'true' if included.	xs:boolean	(choice)
Rating		Rating information	md:ContentRatingDetail-type	(choice) 1..n
AdultContent		Should content be blocked for all non-adult viewers? 'true'= yes. 'false' or absent means no. There is no formal definition of 'adult' content, and this represents the judgment of the originator.	xs:boolean	0..1

NotRated is distinguished from "unrated". As mentioned above, the term "unrated" is often used as a marketing term. "unrated" may be used as a keyword to indicate this type of version.

12.3.2 ContentRatingDetail-type

This element describes content-specific parental control information as provided by the content owner or rating agency.

Values come from Section 8, "Content Rating Encoding".

Element	Attribute	Definition	Value	Card.
ContentRatingDetail-type				
Region		Country/Region. Uses region encoding	md:Region-type	
System		Rating System	xs:string	
Value		Rating Value	xs:string	
Reason		Rating Reason	xs:string	0...n
LinkToLogo		If there is an image associated with this rating, the link may be provided	xs:anyURI	0..1

13 CONTENT RATING ENCODING

Region	Type	System	Ratings	Reason	Reference
Argentina	Film	INCAA	ATP 13 16 18 X	A S	www.incaa.gov.ar
Australia	TV	ACMA	P C G PG M MA15+ AV15+	A V L S H D N SN M W B	www.acma.gov.au
Australia	Film	OFLC	E G G8+ PG M MA15+ R18+ X18+		Classification Review Board www.classification.gov.au
Austria	Film	BMUKK	Altersstufen 6 10 12 14 16 E		www.bmukk.gv.at
Belgium	Film DVD	CICF/IvF	KT KNT E		www.terramedia.co.uk/law/film_classification_schemes.htm
Brazil	Film & TV	DJCTQ	ER L 10 12 14 16 18 E	A L S V N D	www.mj.gov.br

Region	Type	System	Ratings	Reason	Reference
Bulgaria	Film	NFRC	A B C D X E	Children, educational A	National Film Rating Committee www.absoluteastronomy.com/topics/Motion_picture_rating_system
Canada	TV	CBSC	C C8 G PG 14+ 18+ E		www.cbsc.ca
Canada British Columbia Saskatchewan Yukon	Film	BCFCO	G PG 14A 18A R A		British Columbia Film Classification Office www.bcfilmclass.com/
Canada Alberta Northwest Territories Nunavut	Film	Alberta	G PG 14A 18A R A		Alberta Film Ratings www.albertafilmratings.ca/
Canada Manitoba	Film	MFCB	G PG 14A 18A R		Manitoba Film Classification Board www.gov.mb.ca/chc/mfcb/
Canada Ontario	Film	OFRB	G PG 14A 18A R		Ontario Film Review Board www.ofrb.gov.on.ca/english/default.htm
Canada Quebec	Film	Quebec	G 13+ 16 + 18 +		Regie du cinema du Quebec www.rcq.qc.ca/mult/home.asp?lng=en

Region	Type	System	Ratings	Reason	Reference
Canada Nova Scotia New Brunswick Prince Edward Island	Film	Maritime	G PG 14 14A 18 18A R A E NA XXX		Maritime Film Classification Board www.gov.ns.ca/lwd/agd/film/ratingguidelines.asp
Canada	Game	ESRB	C E E10 M A T RP		Entertainment Software Ratings Board www.esrb.org
Chile	TV	ANATEL	I 17 I12 F R A		www.anatel.cl
Chile	Film	CCC	TE 14 18 18S 18V	 S S V	Council of Cinematographic Classification www.filmnacional.cl
Columbia	Film	MoC	T 7 12 16 18 X Banned E	 P	www.mincultura.gov.co
Czech Republic	Film	Film	U 12 15 18		
Denmark	TV	TV	Green Yellow Red		
Denmark	Film	MCCYP	A 7 11 15		Medieradet www.medieraadet.dk/html/gb/classification_gb.htm

Region	Type	System	Ratings	Reason	Reference
Egypt	Film	Film	G A E		
Estonia	Film	Film	Pere L MS-6 MS12 K12 K14 K16 K6		
European Union	Games	PEGI	3 7 12 16 18		www.pegi.info/en/index/id/33/
FinlanSd	Film	FBFC	K3 K7 K11 K13 K15 K18 KE		Finnish Board of Film Classification www.vet.fi
Finland		VET	3 7 11 15 18		www.vet.fi
Finland		PEGI	3+ 7+ 11+ 15+ 18+		www.vet.fi
France	TV	CSA	10 12 16 18		www.csa.fr
France	Film	MoC	U 10 12 16 18	 P V	Ministry of Culture www.culture.gouv.fr

Region	Type	System	Ratings	Reason	Reference
Germany	Film	FSK	FSK 0 FSK 6 FSK 12 FSK 16 FSK 18 Keine Jugendfreigabe SPIO/JK		www.spio.de
Germany	Games	USK	ALL AGES 6+ 12+ 16+ 18+		www.usk.de
Greece	Film	Flim	K K13 K17 E	 V D P	
Hong Kong	Film	TELA	I IIA IIB III	PG	Television and Entertainment Licensing Authority www.tela.gov.hk
Hungary	Film	Film	KN 12 16 18		National Film Office www.nemzetifilmiroda.hu/start_en.html
Iceland	Film	Smais	L 7 12 14 16 18		www.smais.is/template25024.asp?PageID=4636
India	Film	CBFC	U U/A A S		www.cbfcindia.tn.nic.in
Indonesia	Film	LSF	SU A BO R D		Lembaga Sensor Film www.lsf.go.id
Ireland	TV	RTE	GA CH YA PS MA		www.rte.ie

Region	Type	System	Ratings	Reason	Reference
Ireland	Film	IFCO	G PG 12A 15A 16 18	 V S A	www.ifco.ie
Ireland	DVD	IFCO	G PG 18		www.Ifco.ie
Israel	Film	Film	16 18 PG X		
Italy	Film	Film	T VM14 VM18 X		Commissione di Revisione Cinematografica
Italy	TV	TV	Green Yellow Red Red+VM14		
Japan	Film	EIRIN	G PG-12 R-15 R-18		www.eirin.jp
Japan	Games	CERO	A B C D Z		www.cero.gr.jp
Latvia	Film	NFC	V VP-10 VP-12 N-12 N-14 N-16 N-18		www.nfc.lv
Malaysia	Film & TV	Film	U PG-13 18SG 18SX 18PA 18PL		Film Censorship Board

Region	Type	System	Ratings	Reason	Reference
Maldives	Film & TV	NBC	G PG 12+ 15+ 18+ 18+R PU		www.nbc.gov.mv
Malta	Film	KRS	U PG 12 14 16 18		Board of Film & Stage Classification www.doi.gov.mt/EN/bodies/boards/film.asp
Mexico	Film & TV	RTC	AA A B B-15 C D		www.rtc.gob.mx
Netherlands	Film & TV	Kijwijzer	AL 6 9 12 16	Vi S S D D L	www.kijkwijzer.nl
New Zealand	Film & TV	OFLC	G PG M R13 R15 R16 R18 RP13 RP16 R		Office of Film & Literature Classification Māori: Te Tari Whakaropu Tukuata ,www.censorship.govt.nz
Nigeria	Film	NFVCB	G PG 12 12A 15 18 RE		www.nfvcb.gov.ng
Norway	Film	Medietilsynet	A 7 11 15 18		film.medietilsynet.no/Film/Om_aldersgrenser

Region	Type	System	Ratings	Reason	Reference
Peru	TV & Film	Film	PT PG 14 18		
Philippines	TV	MTRCB	General Patronage Parental Guidance		http://www.op.gov.ph/
Philippines	Film	MTRCB	G(P) PG-13 R R-13 R-18 X		http://www.op.gov.ph/
Poland	TV	KRRiT	Green Circle Yellow Circle Red Circle Yellow 7 Yellow 12 Yellow 16		http://www.krrit.gov.pl/bip/ National Council of Radio Broadcasting and Television
Poland	Film	KRRiT	BO 6 12 15 18 21 Green Circle Yellow 7 Yellow 12 Yellow 16 Red Circle		http://www.krrit.gov.pl/bip/ National Council of Radio Broadcasting and Television
Portugal	Film	CCE	4 6 12 16 18 P Q	 P1 P2	Comissão de Classificação de Espectáculos of the Ministry of Culture. www.cce.org.pt/
Romania	Film	CNA	AG AP12 N15 IM18 IM18XXX IC		National Audiovisual Council of Romania www.cna.ro
Korea, Republic of	Film	KMRB	All 12+ 15+ 18+ Limited		Korea Media Rating Board www.kmrb.or.kr/

Region	Type	System	Ratings	Reason	Reference
Serbia	TV	RBA	12 14 16 18		Serbian Republic Broadcasting Agency www.rra.org.yu
Singapore	Film	MDA	G PG NC16 M18 R18 R21		Media Development Authority www.mda.gov.sg
Spain	Film	Film	TP 7 13 15 16 18 X		Instituto de la Cinematografía y de las Artes Audiovisuales
South Africa	TV	FPB_TV	Family PG 13 16 18 R18	V N S L P D	Film and Publication Board www.fpb.gov.za
South Africa	Film Video DVD Games	FPB	A PG 10M 10 13 16 18	V N S L P B	Film and Publication Board www.fpb.gov.za
Sweden	Film	SBB	Btl 7 11 15 Prohibited		National Board of Film Censors www.statensbiografbyra.se
Switzerland	Film	Film	0 7 10 12 14 16 18		Vaud and Geneva
Taiwan	Film	GIO	General audiences Protected Parental guidance Restricted		Government Information Office www.gio.gov.tw

Region	Type	System	Ratings	Reason	Reference
Thailand	Film	MFA	P G Under 13 Under 15 Under 18		National Film Board www.mfa.go.th/web/2632.php
Turks and Caicos Islands	Film	Film	U U – w/c 7 11 13 16 16 w/P 18 Banned		British Overseas Territory Rating system
United Kingdom	Film & TV	BBFC	U PG 12A 12 15 18 R18		British Board of Film Classification www.bbfc.co.uk
United Kingdom	Games	ELSPA	3-10 11-14 15-17 18+		www.elspa.com
United States	TV	TVPG	TV-Y TV-Y7 TV-Y7-FV TV-PG TV-14 TV-MA	V S L D FV	TV Guidelines www.tvguidelines.org
United States	Film	MPAA	G PG PG-13 R NC-17 NR M GP SMA X		www.mpaa.org

Region	Type	System	Ratings	Reason	Reference
United States / Film Advisory Board	Film	FAB	C F PD PD-M EM AO	violence frightening sexual mildlang stronglang substance intense bnudity fnudity explicit erotica	www.filmadvisoryboard.org
United States	Music	RIAA	Explicit Lyrics		www.riaa.com
United States	Games	ESRB	EC E E10+ T M AO RP		www.esrb.org
Venezuela	TV		A B C D E		www.leyresorte.gob.ve

14 SELECTED EXAMPLES

Following are selected examples. These and other examples will appear on the web site.

14.1 People Name Examples

The following example was based on this test schema

```
 <xs:element name="Person-name" type="md:PersonName-type"/>
 <xs:element name="People">
    <xs:complexType>
       <xs:sequence>
          <xs:element name="Person" type="md:BasicMetadataPeople-type"
maxOccurs="unbounded"/>
       </xs:sequence>
    </xs:complexType>
 </xs:element>
```

The following example covers the following people: Gorillaz, Kid n' Play, Cher, 50 Cent, MC Hammer, Dita von Teese, Marilyn Manson, Teenage Mutant Ninja Turtles, James van der Beek, Max von Sydow, Kat von D, Benjamin “Scatman” Crothers, and Peter Sellers. Note that Teenage Mutant Ninja Turtles is not a real entity and therefore will not be encoded, but it was included to test completeness.

```
<mdtest:People xsi:schemaLocation="http://www.movielabs.com/md/mdtest
mdtest.xsd" xmlns:md="http://www.movielabs.com/md"
xmlns:mdtest="http://www.movielabs.com/md/mdtest"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
 <mdtest:Person>
    <md:Job>
       <md:JobFunction>Music Group</md:JobFunction>
       <md:JobDisplay>Band</md:JobDisplay>
    </md:Job>
    <md:Name>
       <md:DisplayName>Gorillaz</md:DisplayName>
       <md:SortName>Gorillaz</md:SortName>
    </md:Name>
    <md:Gender>neutral</md:Gender>
 </mdtest:Person>
 <mdtest:Person>
    <md:Job>
       <md:JobFunction>Other Group</md:JobFunction>
       <md:JobDisplay>Comedy Duo</md:JobDisplay>
    </md:Job>
    <md:Name>
       <md:DisplayName>Kid 'n Play</md:DisplayName>
       <md:SortName>Kid 'n Play</md:SortName>
    </md:Name>
    <md:Gender>male</md:Gender>
 </mdtest:Person>
```

```
<mdtest:Person>
   <md:Job>
      <md:JobFunction>Singer</md:JobFunction>
      <md:JobDisplay>Singer</md:JobDisplay>
   </md:Job>
   <md:Name>
      <md:DisplayName>Cher</md:DisplayName>
      <md:SortName>Cher</md:SortName>
   </md:Name>
   <md:Gender>female</md:Gender>
</mdtest:Person>
<mdtest:Person>
   <md:Job>
      <md:JobFunction>Singer</md:JobFunction>
      <md:JobDisplay>Rapper</md:JobDisplay>
   </md:Job>
   <md:Name>
      <md:DisplayName>50 Cent</md:DisplayName>
      <md:SortName>50 Cent</md:SortName>
      <md:FirstGivenName>Curtis</md:FirstGivenName>
      <md:SecondGivenName>James</md:SecondGivenName>
      <md:FamilyName>Jackson</md:FamilyName>
      <md:Suffix>III</md:Suffix>
   </md:Name>
   <md:Gender>male</md:Gender>
</mdtest:Person>
<mdtest:Person>
   <md:Job>
      <md:JobFunction>Singer</md:JobFunction>
      <md:JobDisplay>Rapper</md:JobDisplay>
   </md:Job>
   <md:Name>
      <md:DisplayName>MC Hammer</md:DisplayName>
      <md:SortName>MC Hammer</md:SortName>
   </md:Name>
   <md:Gender>male</md:Gender>
</mdtest:Person>
<mdtest:Person>
   <md:Job>
      <md:JobFunction>Dancer</md:JobFunction>
      <md:JobDisplay>Burlesque Dancer</md:JobDisplay>
   </md:Job>
   <md:Name>
      <md:DisplayName>Dita von Teese</md:DisplayName>
      <md:SortName>Von Teese, Dita</md:SortName>
      <md:FirstGivenName>Dita</md:FirstGivenName>
      <md:FamilyName>Von Teese</md:FamilyName>
   </md:Name>
   <md:Gender>female</md:Gender>
</mdtest:Person>
<mdtest:Person>
   <md:Job>
      <md:JobFunction>Singer</md:JobFunction>
      <md:JobDisplay>Singer</md:JobDisplay>
```

```
    </md:Job>
    <md:Name>
      <md:DisplayName>Marilyn Manson</md:DisplayName>
      <md:SortName>Mason, Marilyn</md:SortName>
      <md:FirstGivenName>Marilyn</md:FirstGivenName>
      <md:FamilyName>Manson</md:FamilyName>
    </md:Name>
    <md:Gender>male</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Other Group</md:JobFunction>
      <md:JobDisplay>Superhero Turtles</md:JobDisplay>
    </md:Job>
    <md:Name>
      <md:DisplayName>Teenage Mutant Ninja Turtles</md:DisplayName>
      <md:SortName>Teenage Mutant Ninja Turtles</md:SortName>
    </md:Name>
    <md:Gender>neutral</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Actor</md:JobFunction>
      <md:JobDisplay>Actor</md:JobDisplay>
      <md:BillingBlockOrder>1</md:BillingBlockOrder>
      <md:Character>Dawson Leery</md:Character>
    </md:Job>
    <md:Name>
      <md:DisplayName>James Van Der Beek</md:DisplayName>
      <md:SortName>Van Der Beek</md:SortName>
      <md:FirstGivenName>James</md:FirstGivenName>
      <md:SecondGivenName>William</md:SecondGivenName>
      <md:FamilyName>Van Der Beek</md:FamilyName>
      <md:Suffix>Jr.</md:Suffix>
    </md:Name>
    <md:Gender>male</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Actor</md:JobFunction>
      <md:JobDisplay>Actor</md:JobDisplay>
      <md:Character>Otto Frank</md:Character>
    </md:Job>
    <md:Name>
      <md:DisplayName>Max von Sydow</md:DisplayName>
      <md:SortName>von Sydow</md:SortName>
      <md:FirstGivenName>Max</md:FirstGivenName>
      <md:FamilyName>von Sydow</md:FamilyName>
    </md:Name>
    <md:Gender>male</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Artist/Performer</md:JobFunction>
```

```
      <md:JobDisplay>Tatoo Artist</md:JobDisplay>
    </md:Job>
    <md:Name>
      <md:DisplayName>Kat von D</md:DisplayName>
      <md:SortName>String</md:SortName>
      <md:FirstGivenName>Kat</md:FirstGivenName>
      <md:FamilyName>von D</md:FamilyName>
    </md:Name>
    <md:Gender>female</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Singer</md:JobFunction>
      <md:JobDisplay>Scat Singer</md:JobDisplay>
    </md:Job>
    <md:Name>
      <md:DisplayName>Scatman Crothers</md:DisplayName>
      <md:SortName>Scatman Crothers</md:SortName>
      <md:FirstGivenName>Benjamin</md:FirstGivenName>
      <md:SecondGivenName>Sherman</md:SecondGivenName>
      <md:FamilyName>Crothers</md:FamilyName>
      <md:Moniker>Scatman</md:Moniker>
    </md:Name>
    <md:Gender>male</md:Gender>
  </mdtest:Person>
  <mdtest:Person>
    <md:Job>
      <md:JobFunction>Actor</md:JobFunction>
      <md:JobDisplay>Actor</md:JobDisplay>
      <md:BillingBlockOrder>1</md:BillingBlockOrder>
      <md:Character>Group Captain Lionel Mandrake</md:Character>
      <md:Character>President Merkin Muffley</md:Character>
      <md:Character>Dr. Strangelove</md:Character>
    </md:Job>
    <md:Name>
      <md:DisplayName>Peter Sellers</md:DisplayName>
      <md:SortName>Selers</md:SortName>
      <md:FirstGivenName>Peter</md:FirstGivenName>
      <md:FamilyName>Selers</md:FamilyName>
    </md:Name>
    <md:Gender>male</md:Gender>
  </mdtest:Person>
</mdtest:People>
```

14.2 Release History Example

The following example is based on this test schema:

```
  <xs:element name="ReleaseHistorySet">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="ReleaseHistory" type="md:ReleaseHistory-type"
maxOccurs="unbounded"/>
```

```
      </xs:sequence>
    </xs:complexType>
  </xs:element>
```

The following history is included:

- US Theatrical: 2008-02-08
- US Fullscreen DVD: 2008-06-17
- US Widescreen DVD: 2008-06-17
- UK Theatrical: 2008-05-30
- UK DVD: 2008-09-22

```
<mdtest:ReleaseHistorySet
xsi:schemaLocation="http://www.movielabs.com/md/mdtest mdtest.xsd"
xmlns:md="http://www.movielabs.com/md"
xmlns:mdtest="http://www.movielabs.com/md/mdtest"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
 <mdtest:ReleaseHistory>
    <md:ReleaseType>original</md:ReleaseType>
    <md:DistrTerritory>
       <md:country>US</md:country>
    </md:DistrTerritory>
    <md:Date>2008-02-08</md:Date>
    <md:Description>US Theatrical Release</md:Description>
 </mdtest:ReleaseHistory>
 <mdtest:ReleaseHistory>
    <md:ReleaseType>DVD</md:ReleaseType>
    <md:DistrTerritory>
       <md:country>US</md:country>
    </md:DistrTerritory>
    <md:Date>2008-06-17</md:Date>
    <md:Description>US Fullscreen Edition</md:Description>
 </mdtest:ReleaseHistory>
 <mdtest:ReleaseHistory>
    <md:ReleaseType>DVD</md:ReleaseType>
    <md:DistrTerritory>
       <md:country>US</md:country>
    </md:DistrTerritory>
    <md:Date>2008-06-17</md:Date>
    <md:Description>US Widescreen Edition</md:Description>
 </mdtest:ReleaseHistory>
 <mdtest:ReleaseHistory>
    <md:ReleaseType>original</md:ReleaseType>
    <md:DistrTerritory>
       <md:country>UK</md:country>
    </md:DistrTerritory>
    <md:Date>2008-05-30</md:Date>
    <md:Description>UK Theatrical Release</md:Description>
 </mdtest:ReleaseHistory>
 <mdtest:ReleaseHistory>
```

```
    <md:ReleaseType>DVD</md:ReleaseType>
    <md:DistrTerritory>
      <md:country>UK</md:country>
    </md:DistrTerritory>
    <md:Date>2008-09-22</md:Date>
    <md:Description>UK Release</md:Description>
  </mdtest:ReleaseHistory>
</mdtest:ReleaseHistorySet>
```

14.3 Content Rating Examples

The following example was based on this test schema:

```
  <xs:element name="RatingSet" type="md:ContentRating-type"/>
```

The following ratings are given:

- US, MPAA, PG-13
- UK, BBFC, 12
- US, TV Parental Guidelines, TV14, course or crude language, sexual situations and violence
- Canada/Ontario, OFRB, 14A

```
<mdtest:RatingSet
xsi:schemaLocation="http://www.movielabs.com/md/mdtest mdtest.xsd"
xmlns:md="http://www.movielabs.com/md"
xmlns:mdtest="http://www.movielabs.com/md/mdtest"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <md:Rating>
          <md:Region>
            <md:country>US</md:country>
          </md:Region>
          <md:System>MPAA</md:System>
          <md:Value>PG-13</md:Value>
          <md:LinkToLogo>http://www.mpaa.org/_images/parental-
strongly.gif</md:LinkToLogo>
        </md:Rating>
        <md:Rating>
          <md:Region>
            <md:country>UK</md:country>
          </md:Region>
          <md:System>BBFC</md:System>
          <md:Value>12</md:Value>
          <md:LinkToLogo>http://www.bbfc.co.uk/images/classification/c-
12.gif</md:LinkToLogo>
        </md:Rating>
        <md:Rating>
          <md:Region>
            <md:country>US</md:country>
```

```
          </md:Region>
          <md:System>TVPG</md:System>
          <md:Value>TV14</md:Value>
          <md:Reason>LSV</md:Reason>

<md:LinkToLogo>http://www.tvguidelines.org/images/tv14.jpg</md:LinkToLo
go>
       </md:Rating>
       <md:Rating>
          <md:Region>
            <md:countryRegion>CA-ON</md:countryRegion>
          </md:Region>
          <md:System>OFRB</md:System>
          <md:Value>14A</md:Value>

<md:LinkToLogo>http://www.ofrb.gov.on.ca/english/images/14a_high.gif</m
d:LinkToLogo>
       </md:Rating>
</mdtest:RatingSet>
```