EBU – TECH 3293

EBU Core Metadata Set (EBUCore)

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Introduction

'The EBUCore is a metadata specification designed for users with different needs'.

This is version 1.3 of the “EBUCore” metadata set.

EBUCore has been purposefully designed as a minimum and flexible list of attributes to describe audio and video resources for a wide range of broadcasting applications including archives, exchange and production in the context of a Service Oriented Architecture. It is also a metadata schema with well defined syntax and semantics for easier implementation.

EBUCore is based on the Dublin Core to maximise interoperability with the community of Dublin Core users such as the European Digial Library 'Europeana'. EBUCore expands the list of elements originally defined in EBU Tech 3293-2001 for radio archives, also based on Dublin Core.

EBUCore 1.3 takes into account latest developments in the Semantic Web and Linked Data community. EBUCore 1.3 is available as a RDF ontology entirely compatible with the W3C Media Annotation Working Group ontology, which model is common and based on the EBU Class Conceptual Data Model. The RDF/OWL schema is introduced in Annex B.

More information on EBU metadata activities is provided on the EBU TECHNICAL website (http://tech.ebu.ch/metadata).

Contents

EBU Core Metadata Set
(EBU Core)

EBU Committee	*First Issued*	*Revised*	*Re-issued*
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Keywords: EBUCore, Metadata, Schema, Dublin Core, P-META, Tech 3293, Radio, Television, Archive

1. Scope

Metadata is essential to broadcasting.

The "EBUCore" set of metadata defined in this specification has been identified as being the minimum information needed to describe radio and television content.

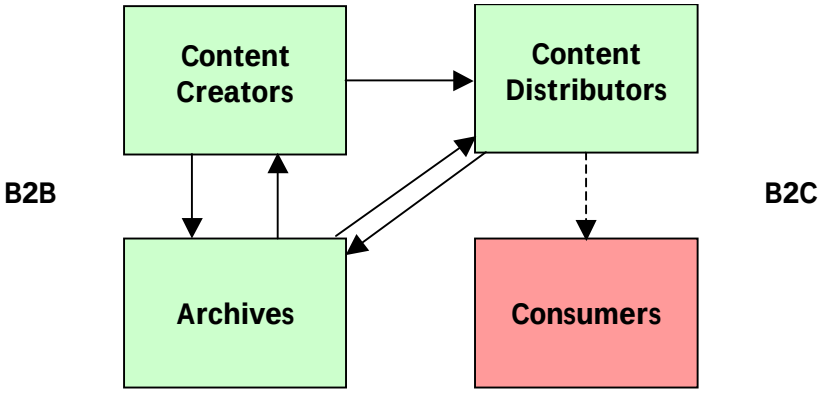


Figure 1: Archiving - a core process to define metadata

"If you can't find it, you don't have it!". This should not happen in modern IT-based production environments. Metadata is the glue between production operations in particular moving towards Service Oriented Architecture and file-based production. Documenting audiovisual resources with EBUCore information is a minimum requirement corresponding to fundamental investment with guaranteed return.

This specification addresses the creation, management and preservation of material that can be used as originally produced, or contribute to the generation of new programmes. The specification also facilitates programme exchanges between broadcasters or between production facilities in a distributed environment. Beyond production, EBUCore can be used to describe content for distribution (broadcast, Internet, mobile or hybrid delivery). EBUCore Metadata is usedfor the definition of media services in Service Oriented Architectures.

The core set of metadata presented in EBUCore is an extension to the Dublin Core. It is a minimum list of attributes characterising a media resource. The Dublin Core is being used as a core metadata set by librarians and museums in cultural heritage projects. The EBUCore is recommended when describing and providing access to audiovisual content.

The EBUCore allows simple description of business objects / classes as defined in the EBU Class Conceptual Data Model (EBU CCDM). This model is the common basis for the EBUCore and the W3C Media Annotation Working Group RDF ontology (see Figure 2).

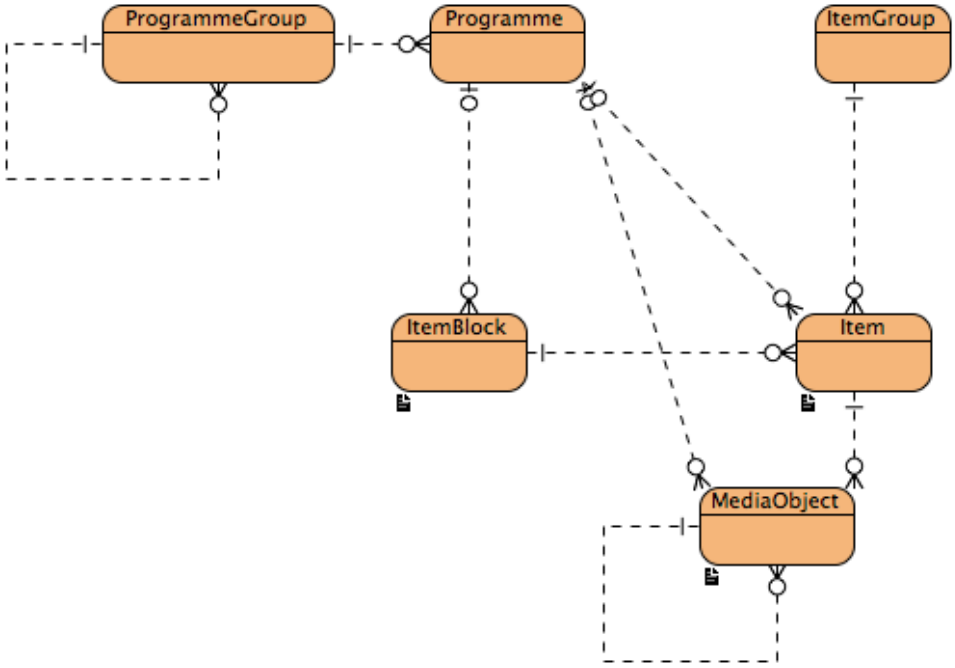


Figure 2: Example of a media business object class model based on the EBU CCDM

NOTE: EBUCore has been designed to adapt the names of the business objects / classes shown in Figure 2 according to each implementer's needs. The names used in Figure 2 are only illustrative.

2. Core Metadata Set

2.1 Introduction

EBUCore is a collection of basic descriptive and technical/strutural metadata elements used to describe audiovisual content including in Dublin Core centric environments. It is directly compatible with the EBU Class Conceptual Data Model leading to compliant use in Semantic Web and Service Oriented Architecture environment.

The characterisation and semantics of each element is organised through the following structure:

a) Name: this is the name of the element

b) Cardinality: this is the number of times an elements can be used when describing a piece of content

c) Requirement: this states whether is element is required or optional

d) Definition: this provides a short unambiguous description of the element and its scope of use

e) Format: defines the type or format of the element e.g. a complex type or text or URI

f) Schema: give a syntactic view of the element representation in the EBUCore schema

g) UML representation

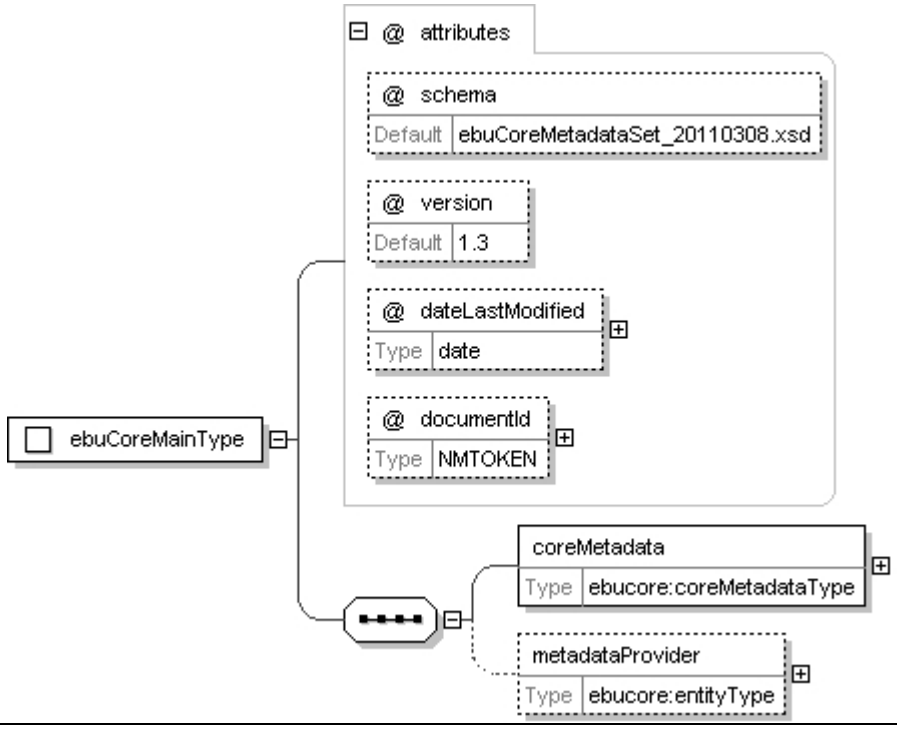
h) Semantic for each element and attribute with reference data and examples

A mapping to similar relevant metadata sets is provided in Annex B.

2.2 EBUCore schema root element

ebuCoreMain

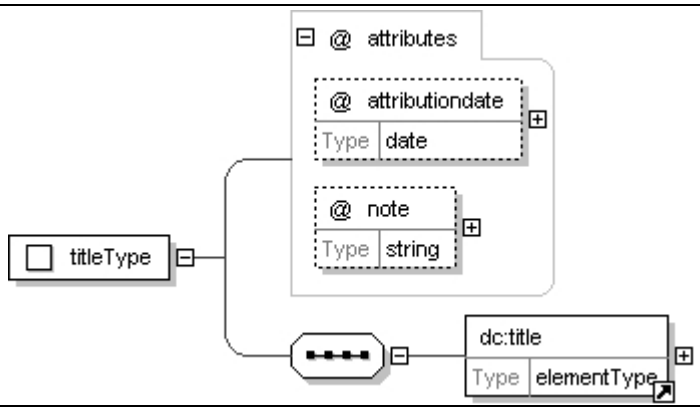
Name	**ebuCoreMain**
Cardinality	Unique occurrence per instance.
Requirement	Mandatory
Definition	ebuCoreMain is the root element of the EBUCore schema and associated instances.
Format	ebuCoreMainType
Schema	Root



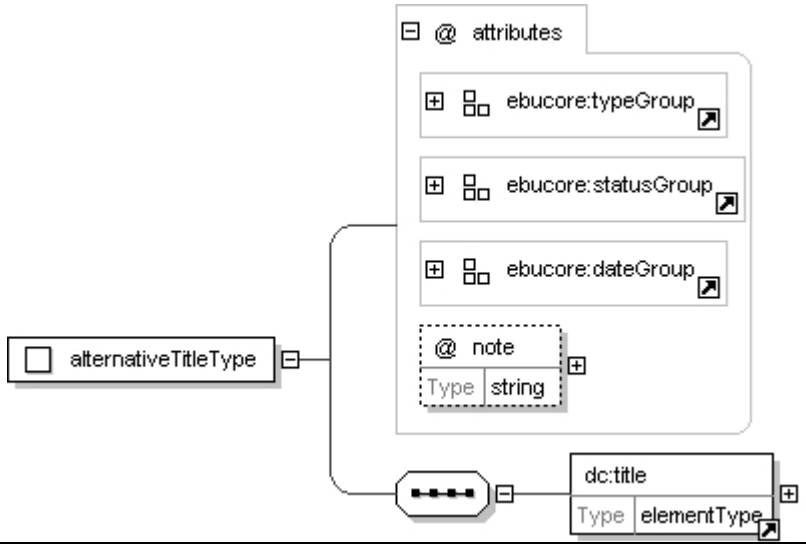
@schema	An attribute to identify the schema.
@version	An attribute to identify the version of the schema in use.
@dateLastModified	The data when the schema was last modified to become the current version.
@documentId	A document identifier for instances.
coreMetadata	The core element of the EBUCore schema containing the minimum core set of elements.
metadataProvider	An element to provide information on the person or organisation creating and publishing EBUCore metadata instances. See ebucore:entityType

2.3 Core Metadata Set Elements and Semantics

Title

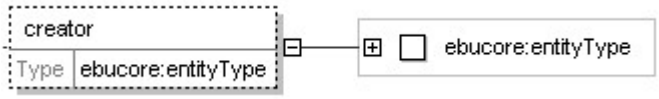
Name	**Title**
Cardinality	Multiple occurrences of the same Title are possible in different languages.
Requirement	Mandatory
Definition	A Title is the 'main' name given to a resource e.g. a media item, a media object, or a sequence as specified by the associated title type. It corresponds for a series to the series title, for a programme to the programme title, for an item to the item title, etc. Titles are recorded as they appear. The Title is the name by which a resource is formally known and that everyone should use to refer to or search for that particular resource. The Title may be provided in several languages. If present, the attributionDate attribute indicates when the Title was attributed.
Format	ebucore:titleType
Schema	/ebucore:coreMetadataType/ebucore:title
	
dc:title	Free-text to provide the main title by which the resource is known. The title can be provided in different languages. The language in which the title is provided can be provided using elementType's lang attribute. Example: 'the fifth element'
@ attributionDate	The date at which the title was attributed
@ note	A note element to provide additional contextual information.

Name	**Alternative Title**
Cardinality	Multiple
Requirement	Optional
Definition	An Alternative Title is the name other than the 'main' Title given to a resource. The type of title is defined by the typeGroup of attributes. The status of the title is defined by the statusGroup of attributes. Alternative Titles are recorded as they appear. An Alternative Title may be attributed to a resource for several reasons described using the status (e.g. working title) and type (e.g. series title) attributes. The alternativeTitle may be provided in several languages. It is sometimes common practice to put dates into the alternativeTitle. If present, the attributionDate (indicating when the alternativeTitle was attributed) in the date attribute should be consistent.
Format	ebucore:alternativeTitleType

Schema	/ebucore:coreMetadataType/ebucore:alternativeTitle
	
dc:title	Free-text to provide alternative titles by which the resource is known. The l title is provided can be provided using elementType's lang attribute. Example: 'the fifth element'
@ typeGroup	The Alternative Title Type descriptor indicates the type of resource to whic applies e.g. a programme or a series.
@ typeLabel	Free text to define the type of resource. Example: 'series'
@ typeLink	A link to a term or only identify n a classification scheme Reference data: ebu_ObjectTypeCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_ObjectTypeCodeCS.xml#5
@ typeDefinition	An optional definition. Example: the 'title' of the series that the resource is an episode of
@ statusGroup	The statusGroup is used to define the status of the Title such as short, long, full, abridged, working, transmission, published, international, subtitle, original, secondary, alternative, pledged, etc. The name of the format can be provided in the form of a text label, or a link to a code of a classification scheme, optionally accompanied by a definition. the status 'main' shall not be used for alternativeTitle as this applies to the Title only.
@ statusLabel	Free text to define the status of the title of the resource. Example: statusLabel: working (for 'working title')
@ statusLink	A link to a term or only identify a classification scheme Reference data: ebu_TitleStatusCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_TitleStatusCodeCS.xml#6
@ statusDefinition	An optional definition. Example: a temporary title, which is different from the formal title under v been published
@ dateGroup	See ebucore:dateGroup
@ note	A note element to provide additional contextual information on the title

Creator

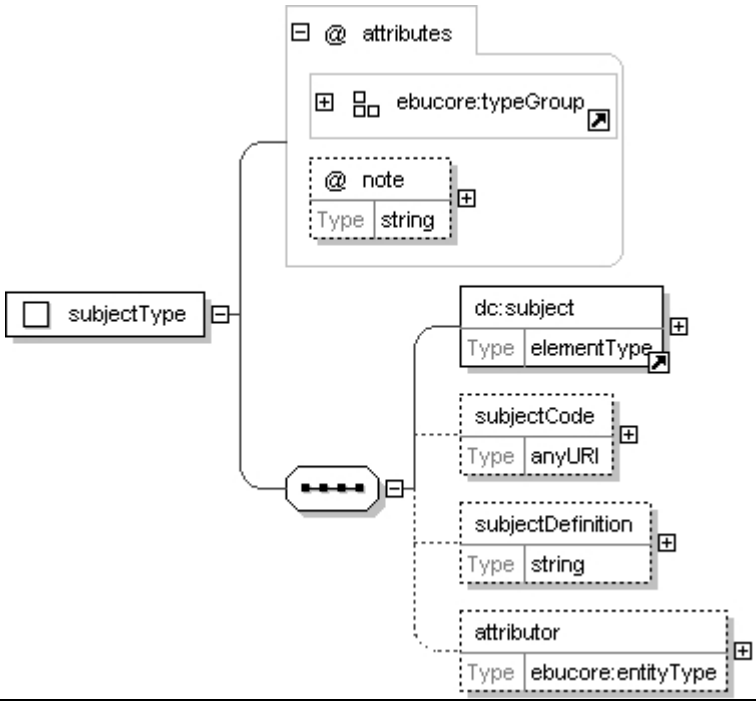
Name	**Creator**
Cardinality	Multiple
Requirement	Optional
Definition	The descriptor creator identifies an 'entity' (a person, group of persons or organisation) primarily responsible for creating the content of the resource - behind the camera. Different roles may be considered as representing a creator, e.g. a producer, an author, etc. Creator is a sub-class of Contributor.
Format	ebucore:entityType
Schema	/ebucore:coreMetadataType/ebucore:creator



For semantics, see 'entityType'

Subject

Name	**Subject**
Cardinality	Multiple
Requirement	Optional
Definition	The generalised topic that represents the intellectual content of the resource. Typically, a subject is expressed by keywords, key phrases. Free text, controlled vocabularies, authorities, or formal classification schemes (codes) may be employed when selecting descriptive subject terms. Persons as subjects are also placed here. Genre of the content is defined under element "ebucore:type/ebucore:genre".
Format	ebucore:subjectType
Schema	/ebucore:coreMetadataType/ebucore:subject

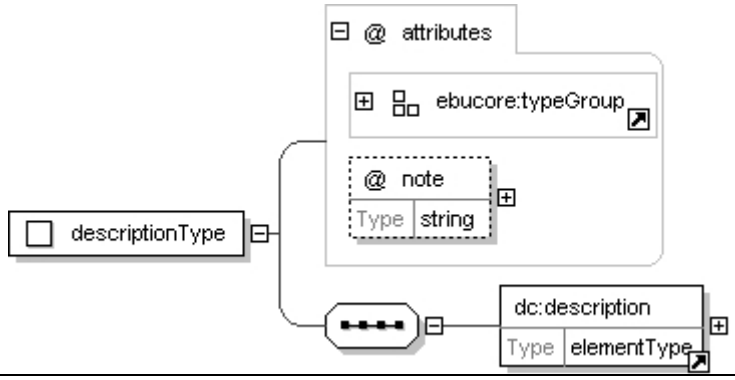


dc:subject	Free text to provide subjects Example: 'Tennis'

subjectCode	A link or code to / within a classification scheme. Reference data: - Library of Congress Subject Heading (LCSH), Library of Congress Classification (LCC), Medical Subject Headings (MeSH), Dewey Decimal Classification (DDC), Dansk decimalklassedeling 5.utgave (DK5), Klassifikasjonssystem för svenska bibliotek (SAB), Universal Decimal Classification (UDC), Norske emneord - http://cv.iptc.org/newscodes/subjectcode/ Example: http://cv.iptc.org/newscodes/subjectcode/#15065000
subjectDefinition	An optional definition. Example: 'the subject is about tennis (sport, game)'
attributor	A person or organisation having defined /attributed the subject (e.g. a user tag)
@ typeGroup	To define the source of reference for subject such as a reference document or classification scheme.
@ typeLabel	Free text to define the type. Example: 'IPTC Subject Code Classification Scheme' (EBU subset)
@ typeLink	A link to a term or only identify a classification scheme Example: http://cv.iptc.org/newscodes/subjectcode/
@ typeDefinition	An optional definition. Example: the IPTC subject codes formatted using the EBU classification Scheme schema.
@ note	A note element to provide additional contextual information

Description

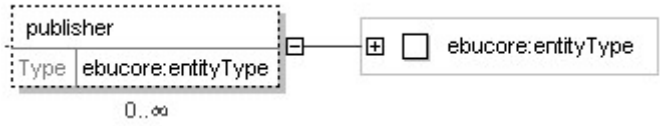
Name	**Description**
Cardinality	Multiple
Requirement	Optional
Definition	Free-form text or a narrative to report general notes, abstracts, or summaries about the intellectual content of a resource. The information may be in the form of a paragraph giving an individual program description, anecdotal interpretations, or brief content reviews. The description may also consist of outlines, lists, bullet points, edit decision lists, indexes, or tables of content, a reference to a graphical representation of content or even a pointer (URI, URL) to an external resource. A running order can also be provided as a description. For a Radio or television programme a running order can be used as description. A description can be provided in different languages.
Format	ebucore:descriptionType
Schema	/ebucore:coreMetadataType/ebucore:description/dc:description



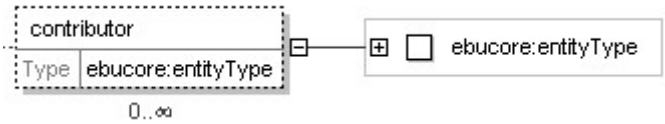
dc:description	Free text to provide a description of the resource. The description can be repeated in different languages as specified by the entityType's lang attribute. The type of description is defined in the type group of attributes.

@ typeGroup	To define the form of presentation for the information: Annotation, abstract, summary, review, table of content, synopsis, shot list, edit decision list, promotional information, purpose, script, outline, rundown, selection/excerpt, transcript, bookmarks, theme, highlights, running order, etc.
@ typeLabel	Free text to define the type. Example: 'summary', 'table of content'
@ typeLink	A link to a term or only identify a classification scheme Reference data: ebu_DescriptionTypeCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_DescriptionTypeCodeCS.xml#4 (summary)
@ typeDefinition	An optional definition. Example: 'A short description of the resource'
@ note	A note element to provide additional contextual information

Publisher

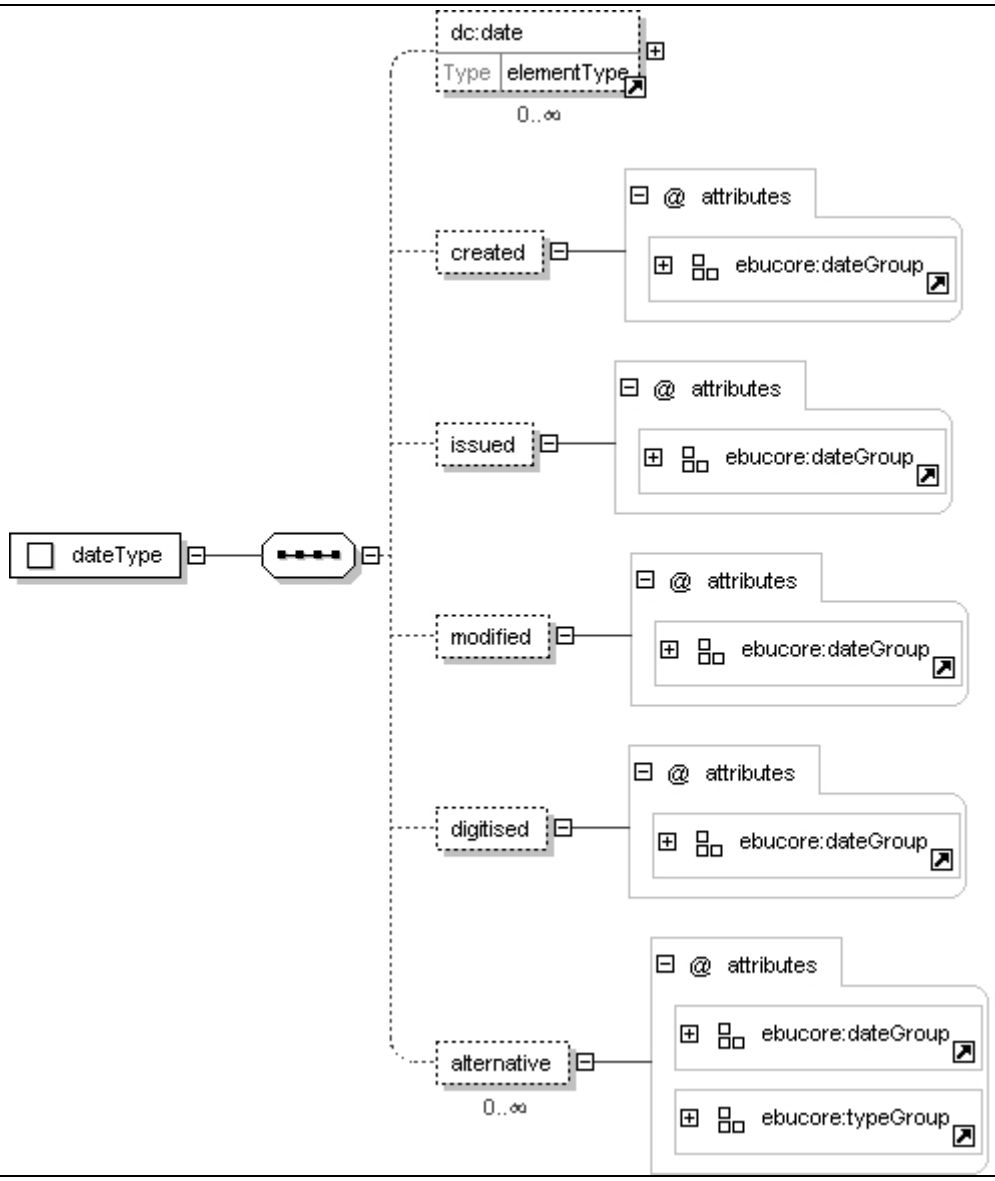
Name	**Publisher**
Cardinality	Multiple
Requirement	Optional
Definition	A publisher is a person, an organization, or a service. Typically, the name of a Publisher should be used to indicate the entity primarily responsible for distributing or making a resource available to others e.g. by broadcasting, selling, leasing, renting and other modes of distribution.
Format	ebucore:entityType
Schema	/ebucore:coreMetadataType/ebucore:publisher
	
For semantics, see 'entityType'	

Contributor

Name	**Contributor**
Cardinality	Multiple
Requirement	Optional
Definition	The descriptor contributor identifies a person or organization that has made substantial creative contributions to the content of a resource. Refers particularly (but not only) to participation in front of the camera. If in doubt whether an entity is a creator or contributor use the element contributor.
Format	ebucore:entityType
Schema	/ebucore:coreMetadataType/ebucore:contributor
	
For semantics, see 'entityType'	

Date

Name	**Date**
Cardinality	Multiple
Requirement	Optional
Definition	Dates associated with events occurring during the life of the resource. Typically, Date will be associated with the creation, modification or availability of the resource.
Format	ebucore:dateType
Schema	/ebucore:coreMetadataType/ebucore:date

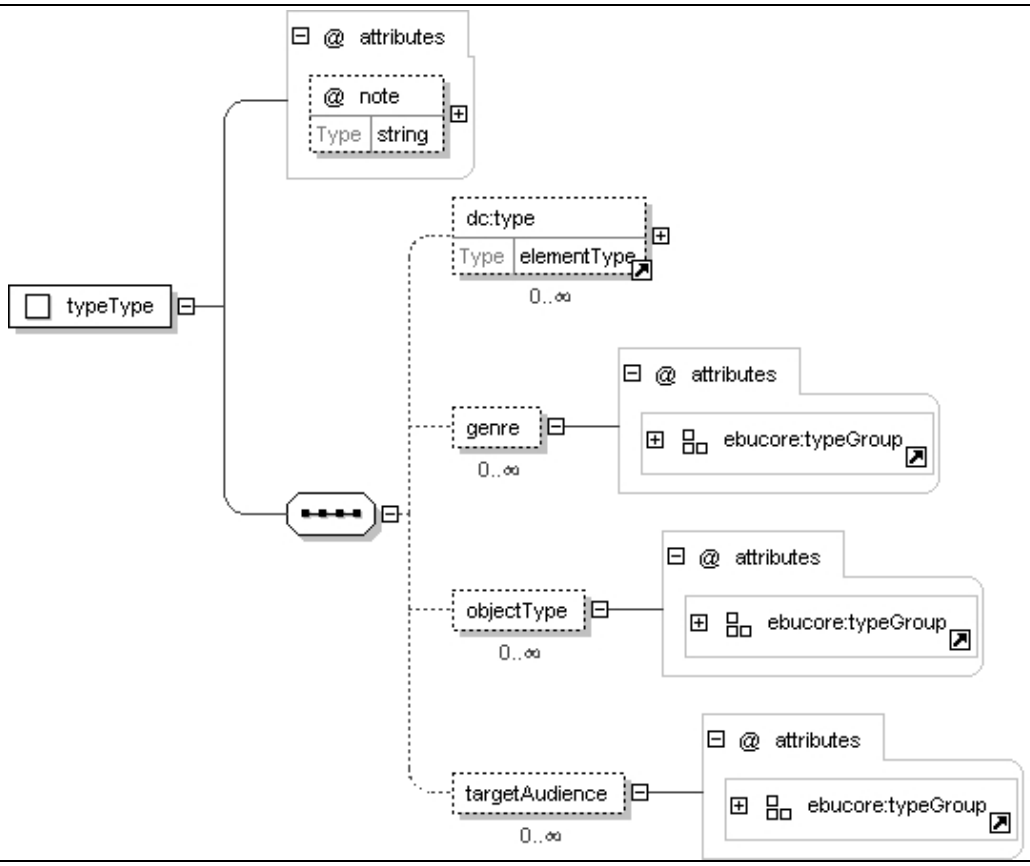


dc:date	An element to provide a date in the xml:date format (NOTE: for Dublin Core compatibility purpose, dc:date is of elementType extending a string).
created	An element to specify the creation date for a particular version or rendition of a resource across its life cycle. It is the moment in time that the media item was finalized during its production process and is forwarded to other divisions or agencies to make it ready for publication or distribution.
@dateGroup	See ebucore:dateGroup

issued	Date of formal issuance (e.g. publication) of the resource. Specifies the formal date for a particular version or rendition of a resource has been made ready or officially released for distribution, publication or consumption, e.g. the broadcasting date of a radio programme. A specific time may also be associated with the date.
@dateGroup	See ebucore:dateGroup
modified	Date on which the resource was last changed.
@dateGroup	See ebucore:dateGroup
digitised	Date on which the resource was digitised.
@dateGroup	See ebucore:dateGroup
alternative	To define an alternative date important to qualify the resource.
@dateGroup	See ebucore:dateGroup
@typeGroup	To define the type of alternative date being instantiated (using a label, or a link to a classification scheme, with an optional definition) Example: typeLabel="ingested"; typeDefinition="the date and time at which content was ingested"

Type

Name	**Type**
Cardinality	Multiple
Requirement	Optional
Definition	The nature or genre or target audience of the resource. Type includes terms describing general categories, functions, genres, or aggregation levels for content. Recommended best practice is to select a value from a controlled vocabulary or classification scheme. To describe the physical or digital manifestation of the resource, use the FORMAT element.
Format	ebucore:typeType
Schema	/ebucore:coreMetadataType/ebucore:type

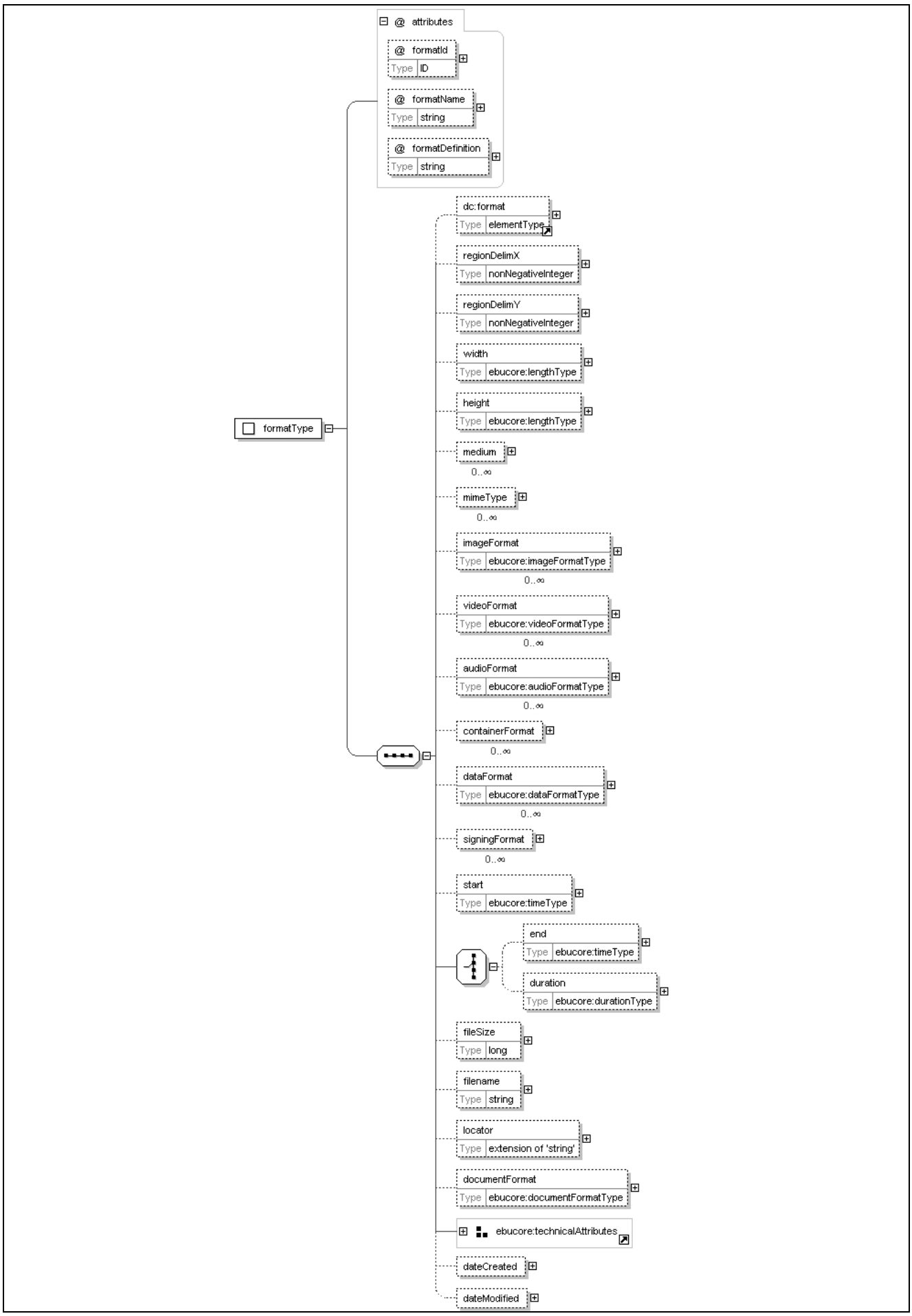


dc:type	Free text to provide 'type' information other than 'genre' or 'objectType', possibly in different languages defined by the elementType's lang attribute
genre	To define the 'genre' categorising the resource. Content genre is often described through more than one single term.
@ typeGroup	A group of attributes to describe the genre.
@ typeLabel	Free text field. This can be used to repeat the term name of the classification scheme term identified by a typeLink. Example: 'non-fiction/information'
@ typeLink	A link to a term or only identify a classification scheme Reference data: ebu_ContentAlertSchemeCodeCS ebu_ContentGenreCS ebu_EditorialFormatCodeCS ebu_IntentionCodeCS tva_ContentCommercialCS tva_ContentAlertCS Example: http://www.ebu.ch/metadata/cs/ebu_ContentGenreCS.xml#3.1
@ typeDefinition	An optional definition.
objectType	To define the type of real of abstract media object that the resource consists of or relates to (e.g. a programme, an item, shot, clip, scene). See Figure 2 for an example of business objects class model using EBU's CCDM).
@ typeGroup	A group of attribute to describe the objectType.
@ typeLabel	Free text field. This can also repeat the term name of the classification scheme term identified by a typeLink.
@ typeLink	A link to a term or only identify a classification scheme Reference data: ebu_ObjectTypeCS Example: http://www.ebu.ch/metadata/cs/ebu_ObjectTypeCS.xml#8 (scene)
@ typeDefinition	An optional definition. Example: 'A short description of the resource'
targetAudience	To define the 'target audience' categorising the resource.
@ typeGroup	A group of attributes to describe the target audience (parental guidance, geographical or occupantional groups, etc.).
@ typeLabel	Free text field. This can be used to repeat the term name of the classification scheme term identified by a typeLink. Example: 'General'
@ typeLink	A link to a term or only identify a classification scheme Reference data: ebu_IntendedAudienceCodeCS ebu_ParentalGuidanceCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_ParentalGuidanceCodeCS.xml#48.1
@ typeDefinition	An optional definition. Example: code for MPAA 'general' rating

IMPORTANT NOTE: A key EBUCore extension to the DublinCore 'Type' element is the objectType. An EBUCore instance description applies to a variety of media resources (also business objects / classes). EBUCore doesn't enforce any particular naming for the different business objects used in production. As an example the choice is left to use 'segment', 'item', 'shot', 'clip', 'scene' or else. Implementers can define their own names for business object using the objectType, although they may prefer to simply use the default concept of 'media business object'. Object specific descriptive and/or technical simple metadata is what the EBUCore is addressing. This approach is compatible in SOA and semantic environments.

Format

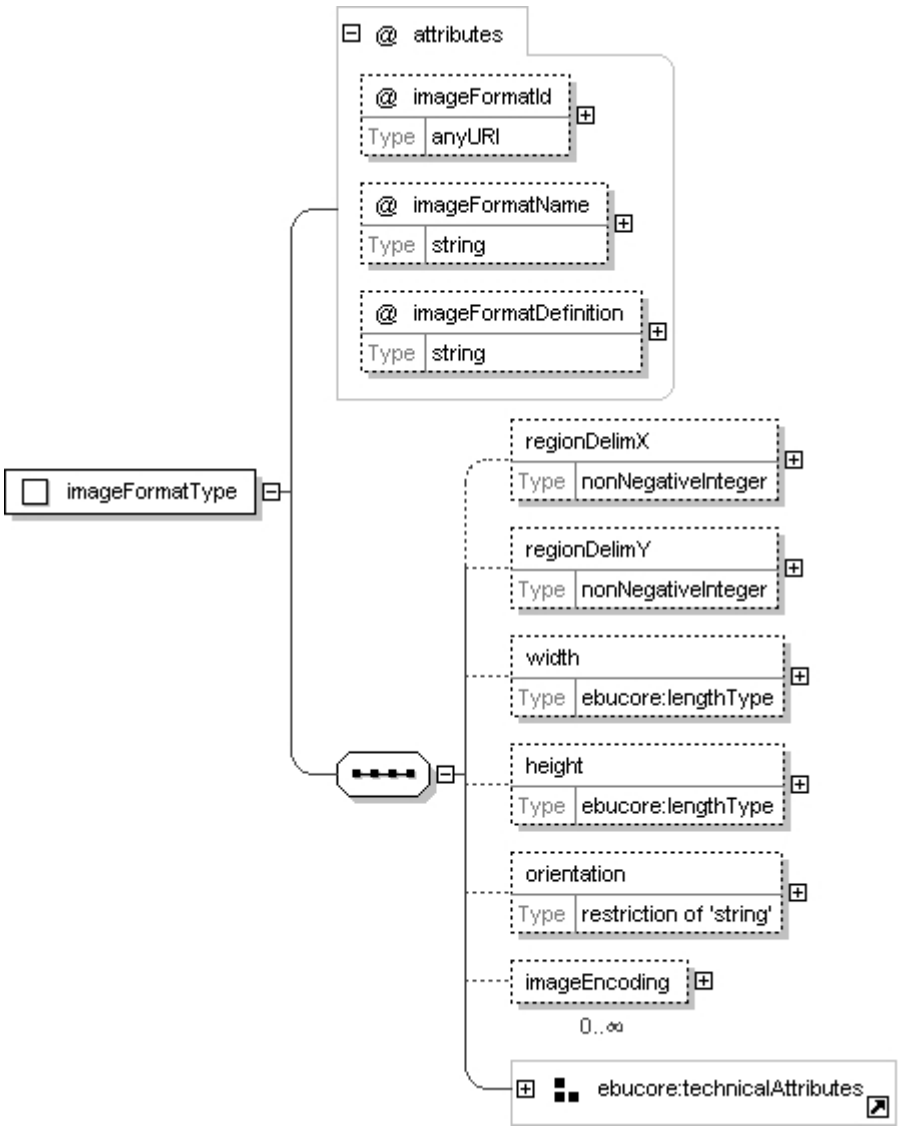
Name	Format
Cardinality	Unique per manifestation of a resource
Requirement	Optional
Definition	Technical metadata information on the physical or digital manifestation / instance of the resource. Use the descriptor Format to identify the format of a particular resource as it exists in its physical or digital form. Physical form = an actual physical form that occupies physical space, e.g. a tape. Digital form = a digital file residing on a server or hard drive. Format may be used to determine the software, hardware or other equipment needed to display or operate the resource. Format gathers all technical metadata about a content instance on video, audio, data, etc. It can be flexibility augmented at will by users using the technicalAttribute constructs. Combining the flexibility of the 'Format' and 'Part' elements allows describing a large range of technical metadata optionally associated to timelines! The 'format' element is optional, which means a valid EBUCore description may only contains descriptive information.
Format	ebucore:formatType
Schema	/ebucore:coreMetadataType/ebucore:format


@ attributes
@ formatId
Type ID
@ formatName
Type string
@ formatDefinition
Type string
formatType
dc:format
Type elementType
regionDelimX
Type nonNegativeInteger
regionDelimY
Type nonNegativeInteger
width
Type ebucore:lengthType
height
Type ebucore:lengthType
medium
0..∞
mimeType
0..∞
imageFormat
Type ebucore:imageFormatType
0..∞
videoFormat
Type ebucore:videoFormatType
0..∞
audioFormat
Type ebucore:audioFormatType
0..∞
containerFormat
0..∞
dataFormat
Type ebucore:dataFormatType
0..∞
signingFormat
0..∞
start
Type ebucore:timeType
end
Type ebucore:timeType
duration
Type ebucore:durationType
fileSize
Type long
filename
Type string
locator
Type extension of 'string'
documentFormat
Type ebucore:documentFormatType
ebucore:technicalAttributes
dateCreated
dateModified

dc:format	Free text to provide information on the format
regionDelimX	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimX is the coordinate on the horizontal axis and uses the same unit as the width attribute.
regionDelimY	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimY is the coordinate on the vertical axis uses the same unit as the height attribute.
width	The width of the image or picture. Used as numerator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the width is expressed.
height	The height of the image or picture. Used as denominator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the heigth is expressed.
medium	The material or physical carrier of the resource. If a file, it should be the carrier format.
@ typeGroup	To define the type of medium in which the resource is available.
@ typeLabel	Free text field. Example: D5 format HDTV digital television tape
@ typeLink	A link to a term or only identify a classification scheme Reference data: ebu_StorageMediaTypeCode (extension to IBTN, EBU Tech Doc 3279 - http://tech.ebu.ch/docs/tech/tech3279.pdf) Example: http://www.ebu.ch/metadata/cs/ebu_StorageMediaTypeCodeCS.xml#D5H
@ typeDefinition	An optional definition.
mimeType	
@ typeGroup	To define the type of medium in which the resource is available.
@ typeLabel	Free text field. Example: video only
@ typeLink	A link to a term or only identify a classification scheme Reference data: MIME Type (http://www.iana.org/assignments/media-types/) ebu_MediaTypeCS Example: http://www.ebu.ch/metadata/cs/ebu_MediaTypeCS.xml#7.1.2
@ typeDefinition	An optional definition. Example: 'the resource contains only video footage'
imageFormat	To provide information on the image format. See Image Format below.
videoFormat	To provide information on the video format. See Video Format below.
audioFormat	To provide information on the audio format. See Audio Format below.
containerFormat	To provide information on the Container Format in complement to stream encoding information
@ formatGroup	To define the file format of the resource.
@ formatLabel	Free text field. Example: mpeg TS
@ formatLink	A link to a term or only identify a classification scheme Reference data: ebu_FileFormatCS Example: http://www.ebu.ch/metadata/cs/ebu_FileFormatCS.xml#7.2.2

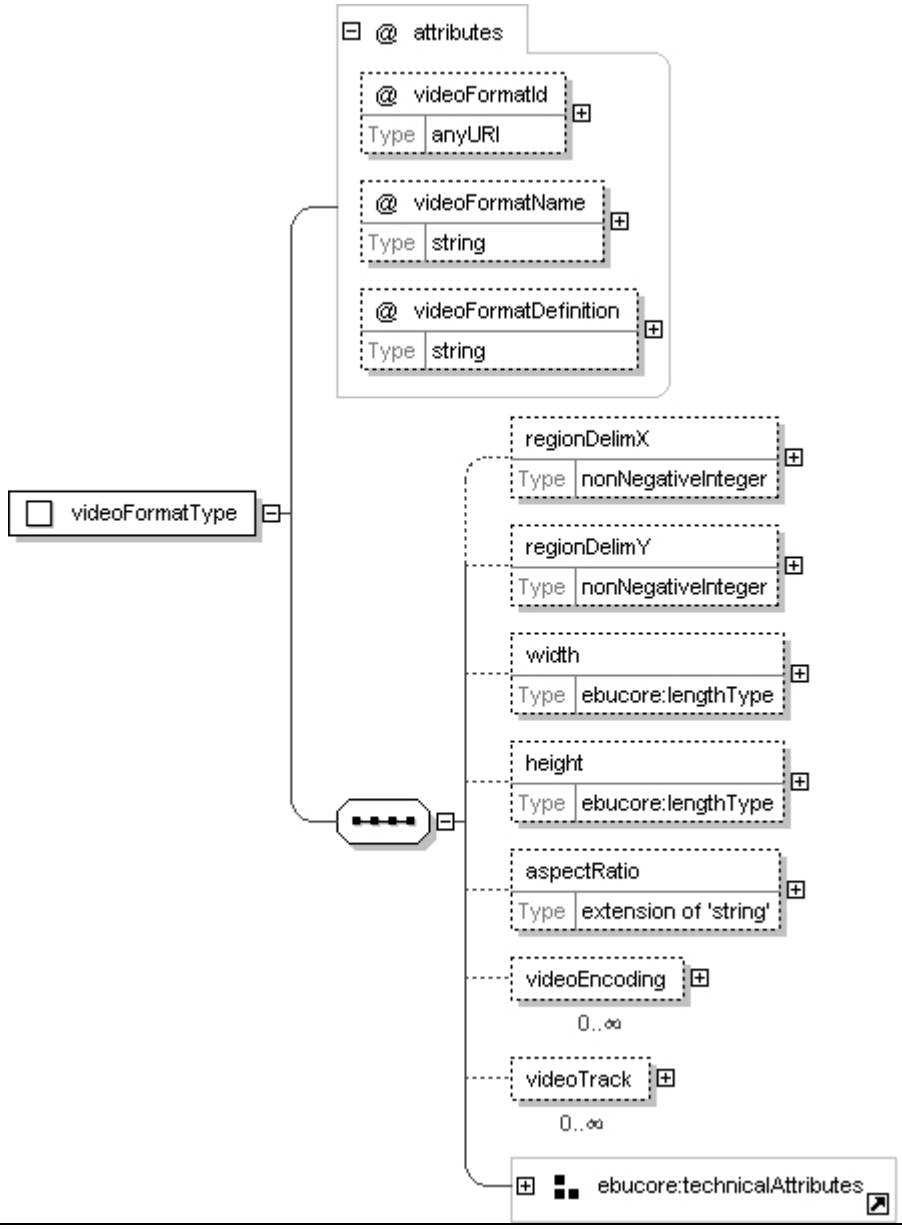
@ formatDefinition	An optional definition. Example: 'The file format or wrapper defined by ISO/IEC (so called MPEG Transport Stream)'
dataFormat	To provide information on the captioning and ancillary data formats. See Data Format below.
signingFormat	To provide information on the signing format, if used. See Signing Format below
start	The beginning point for playback of a time-based media item, such as digital video or audio. Use in combination with Duration to identify a sequence or segment of a media item that has a fixed start time and end time. See Start & Duration below
end	The ending point for playback of a time-based media item, such as digital video or audio. Use in combination with Start to identify a sequence or segment of a media item. See End below
duration	The time duration/extent of the resource. Duration is an alternative to End for identifying the extent of a sequence or segment. See Start, End & Duration below
filesize	To indicate the storage requirements or file size of a digital resource. The file size is expressed in bytes.
filename	To indicate the name of the file containing the resource.
Locator	An "address for a resource". For an organisation or producer acting as caretaker for a media resource, Format Location may contain information about a specific e.g. tape name, shelf location for an asset, including an organisation's name, departmental name, shelf id. And contact information. The Format Location for a data file or web page may include a complete URI with a domain, path, filename or html URL. See http://tools.ietf.org/html/rfc3986. Example: Archives Building A, Row J, Shelf 2", "d://playout/server/content.mpg", "http://www.ebu.ch/CorporateVideo.avi"
documentFormat	To provide information on the document format. See Document Format below.
technicalAttributes	An extension element to allow users and implementers define their own technical attributes. See Technical Attributes below.
@dateCreated	A date to indicate when the content instance was created / generated in this format.
@dateModified	A date to indicate when the content instance format was modified.
@formatId	An Identifier to identify a specific format in which the resource is available or has been published. (See the 'guidelines and Q&A' section to learn how to make best use of this attribute)
@formatName	A name attributed to a particular format. (See the 'guidelines and Q&A' section to learn how to make best use of this attribute)
@formatDefinition	A definition of the format information being provided either technical or editorial in nature.

Name	**Format Image Format**
Cardinality	unique per Format
Requirement	Optional
Definition	A description of image characteristics of the resource to provide technical information such as width, height, orientation, encoding.
Format	ebucore:imageFormatType
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:imageFormat



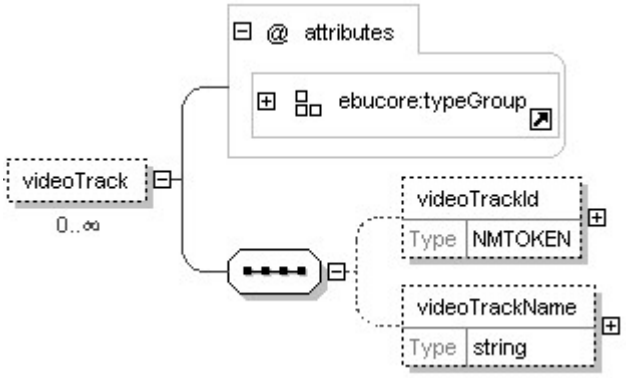
regionDelimX	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimX is the coordinate on the horizontal axis and uses the same unit as the width attribute.
regionDelimY	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimY is the coordinate on the vertical axis uses the same unit as the height attribute.
width	The width of the image or picture. Used as numerator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the width is expressed.

height	The height of the image or picture. Used as denominator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the heigth is expressed.
orientation	To express the orientation of the image, i.e. 'portrait' or 'landscape'.
imageEncoding	Used to express the encoding parameters of the resource e.g. jpeg, tiff, H264 frame.
@ typeGroup	The type group attributes provide the information on the encoding format
@ typeLabel	Free text. Example: ‘JPEG'
@ typeLink	Link to a classification scheme. Reference data: ebu_ImageCompressionCodeCS, Example: http://www.ebu.ch/metadata/cs/ebu_ImageCompressionCodeCS.xml#1
@ typeDefinition	Free text for an optional definition. Example: ‘standard file format for compressing pictures so they can be stored or sent by e-mail more easily. **JPEG** is an abbreviation for `Joint Photographic Experts Group'
technicalAttributes	An extension element to allowusers and implementers defining their own technical attributes. See Technical Attributes below.
@imageFormatId	An Identifier to identify a specific format in which the resource is available or has been published.
@imageFormatName	A name attributed to a particular format.
@imageFormatDefinition	A definition of the format information being provided either technical or editorial in nature.

Name	**Format Video Format**
Cardinality	unique per Format
Requirement	Optional
Definition	A description of video characteristics of the resource to provide technical information such as colour, greyscale or black and white colour schemes, frame rate, sampling rate, scanning format, encoding, track configuration.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:videoFormat
	
regionDelimX	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimX is the coordinate on the horizontal axis and uses the same unit as the width attribute.
regionDelimY	The identification of a region in a document, an image or a video is done by defining the coordinates of the bottom left corner of the region. The region is defined from this point of reference using the width and height properties. regionDelimY is the coordinate on the vertical axis uses the same unit as the height attribute.

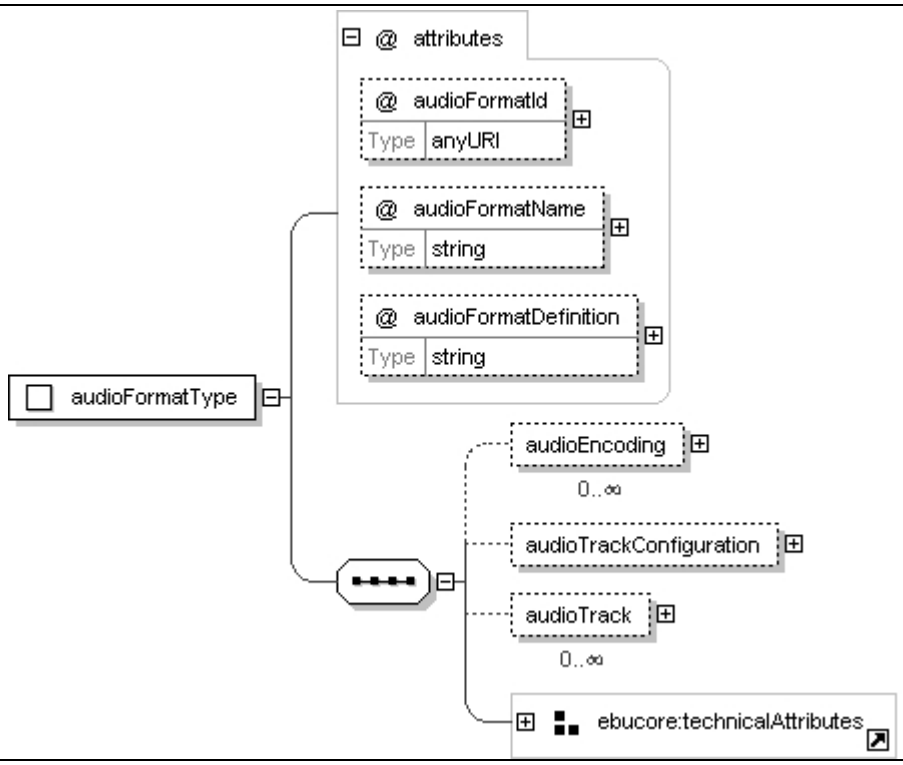
width	The width of the image or picture. Used as numerator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the width is expressed.
height	The height of the image or picture. Used as denominator to define the aspect ratio for video content.
@unit	An attribute to specify the unit in which the heigth is expressed.
aspectRatio	The value of the ratio of the width by the height of the video expressed in the format defined by the formatGroup attributes
@ formatGroup	To define the type of format used to represent the aspect ratio and an example in the definition e.g. formatLabel='rational' and formatDefinition='e.g. 16 9 (number, space, number)'
@ formatLabel	Free text Example: 16:9
@ formatLink	Link to a classification scheme. Reference data: ebu_VisualAspectRatioCS Example: http://www.ebu.ch/metadata/cs/ebu_VisualAspectRatioCS.xml#3
@ formatDefinition	Free text for an optional definition. Example: 'the so-called "widescreen" picture format'
@ note	A note to add contextual additional information.
videoEncoding	Used to express the encoding parameters of the resource e.g. H264 for a video channel.
@ typeGroup	The type attribute group provides information on the encoding format.
@ typeLabel	Free text. Example: 'H264 Main Profile @ Level 1'
@ typeLink	Link to a classification scheme. Reference data: ebu_VideoCompressionCodeCS, Example: http://www.ebu.ch/metadata/cs/ebu_VideoCompressionCodeCS.xml#9.2.1
@ typeDefinition	Free text for an optional definition. Example: 'the video compression scheme H264, main profile, level1 as specified by ISO/IEC'
videoTrack	To describe the main features of video tracks such as in mutliview systems See VideoTrack below.
technicalAttributes	An extension element to allow users and implementers defining their own technical attributes. See Technical Attributes below.
@videoFormatId	An Identifier to identify a specific format in which the resource is available or has been published.
@videoFormatName	A name attributed to a particular format.
@videoFormatDefinition	A definition of the format information being provided either technical or editorial in nature.

Name	**Format Video Format Video Track**
Cardinality	Multiple per Video Format per Channel.
Requirement	Optional
Definition	Used to describe the different video tracks of the resource by identifying their type, ID and name.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:videoFormat/ebucore:videoTrack



videoTrackId	An optional identifier applied to each track
videoTrackName	An optional name given to each track
@ typeGroup	To define the purpose of the track e.g. the viewing angle
@ typeLabel	Free text. Example: 'main'
@ typeLink	Link to a classification scheme.
@ typeDefinition	Free text for an optional definition.

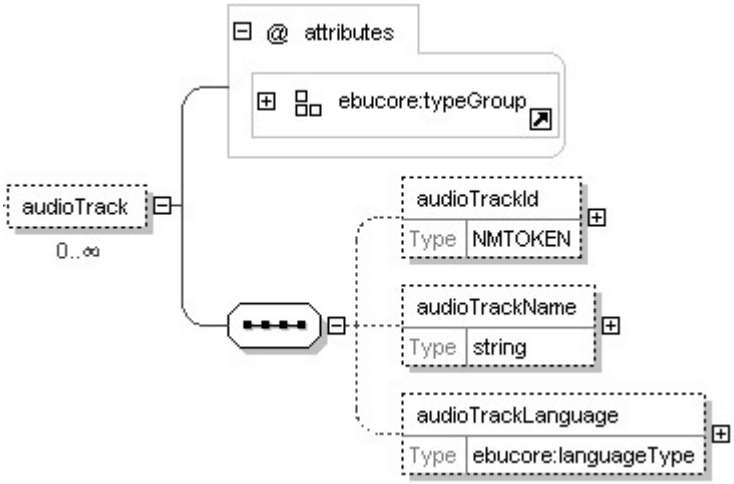
Name	**Format Audio Format**
Cardinality	Unique per Encoding
Requirement	Optional
Definition	To provide information on the Audio Format
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:audioFormat



audioEncoding	To define the audio compression format of the resource e.g. AAC for an audio channel.
@ typeGroup	A group of attributes to describe the audio compression format.
@ typeLabel	Free text. Example: 'MPEG-4 AAC Profile @ Level 1'
@ typeLink	Link to a classification scheme. Reference data: ebu_AudioCompressionCodeCS, Example: http://www.ebu.ch/metadata/cs/ebu_AudioCompressionCodeCS.xml#10.9.1
@ typeDefinition	Free text for an optional definition. Example: 'the audio compression scheme MPEG4, AAC profile, level1 as specified by ISO/IEC'
audioTrackConfiguration	To describe the audio track configuration. Used to express the arrangement or audio tracks e.g. 'stereo', '2+1', 'surround', 'surround (7+1)'
@ typeGroup	A group of attributes to describe the audio track configuration.
@ typeLabel	Free text. Example: 'surround'
@ typeLink	Link to a classification scheme. Reference data: ebu_AudioFormatCodeCS
@ typeDefinition	Free text for an optional definition.
audioTrack	To describe the track allocation e.g. in conformance with EBU R123 See Audio Track below
technicalAttributes	An extension element to allow users and implementers defining their own technical attributes. See Technical Attributes below.

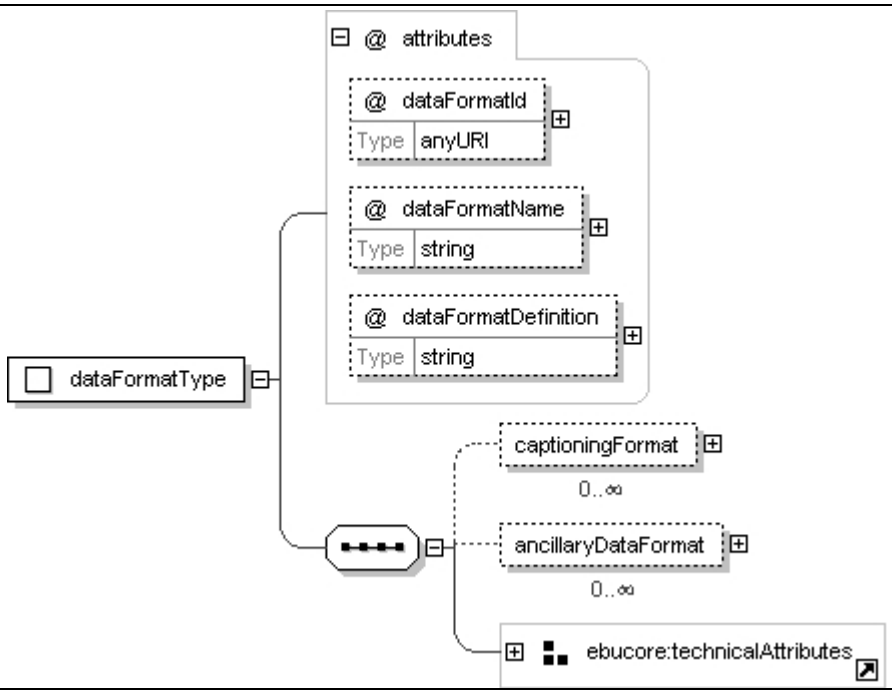
@audioFormatId	An Identifier to identify a specific format in which the resource is available or has been published.
@audioFormatName	A name attributed to a particular format.
@audioFormatDefinition	A definition of the format information being provided either technical or editorial in nature.

Name	**Format Audio Format Audio Track**
Cardinality	Multiple per Audio Format
Requirement	Optional
Definition	A description of some or all of the audio tracks part of the audio track configuration: track type, track ID, track name and language (for what purpose) used if relevant
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:audioFormat/ebucore:audioTrack



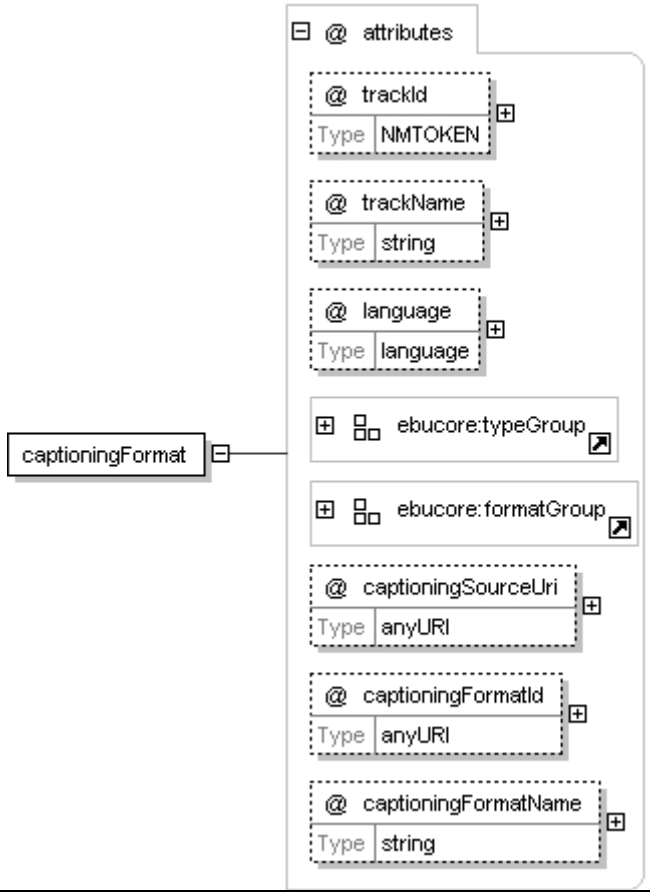
audioTrackId	An optional identifier applied to each track.
audioTrackName	An optional name given to each track.
audioTrackLanguage	The language used in the audio track and possible purpose refinement using languageType's typeGroup attributes.
@ typeGroup	To define the purpose of the track.
@ typeLabel	Free text. Reference data: ebu_AudioChannelPurposeCodeCS Example: 'dubbing'
@ typeLink	Link to a classification scheme.
@ typeDefinition	Free text for an optional definition.

Name	**Format Data Format**
Cardinality	Multiple per format
Requirement	Optional
Definition	To provide information on captioning and ancillary data formats optionally used in the resource
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:dataFormat



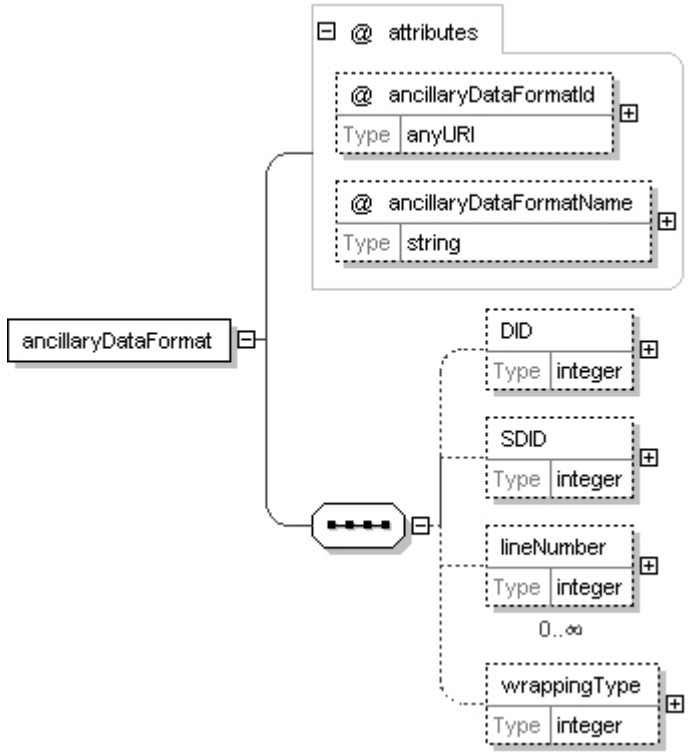
captioningFormat	Information on the captioning format used in the media resource.
ancillaryDataFormat	Information on ancillary data available in the media resource.
technicalAttributes	An extension element to allow users and implementers defining their own technical attributes. See Technical Attributes below.
@dataFormatId	An Identifier to identify a specific format in which the resource is available or has been published.
@dataFormatName	A name attributed to a particular format.
@dataFormatDefinition	A definition of the format information being provided either technical or editorial in nature.

Name	Format Captioning Format
Cardinality	Multiple per data format
Requirement	Optional
Definition	To provide information on the language, purpose and format of captoning if used in the resource.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:dataFormat/ ebucore:captioningFormat



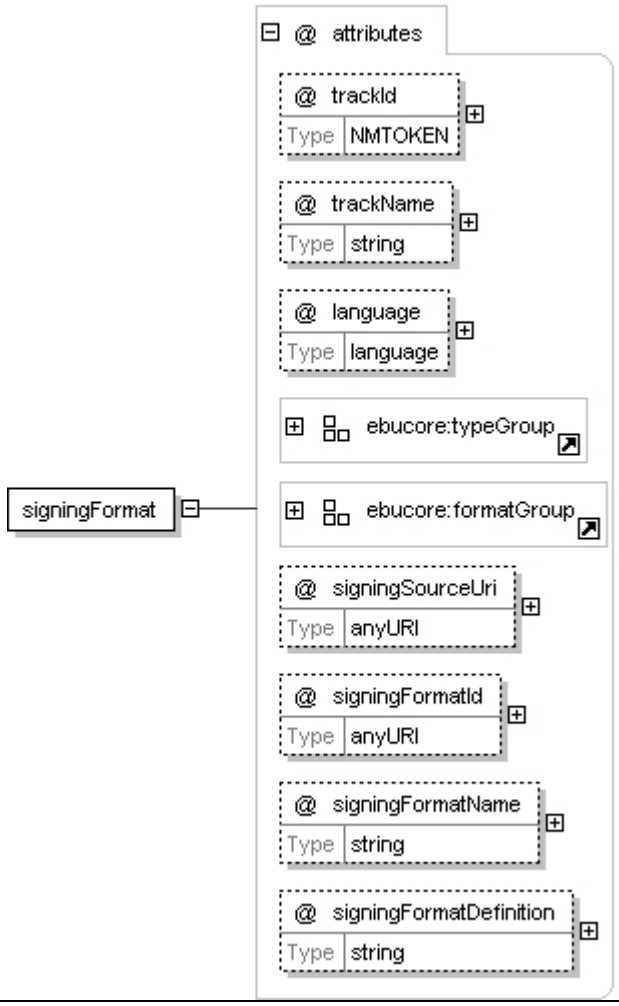
@trackId	An identifier associated to the captioning track
@trackName	An name associated to the captioning track
@language	The language in which the caption is delivered. Example: en-UK
@ typeGroup	To define the purpose of the captioning information
@ typeLabel	Free text. Example: dubbing
@ typeLink	Link to a classification scheme.
@ typeDefinition	Free text for an optional definition.
@ formatGroup	To define the format of captioning use
@ formatLabel	Example: close caption
@ formatLink	Link to a classification scheme.
@ formatDefinition	Free text for an optional definition.
@captioningSourceUri	An optional URI from which the captioning material can be accessed
@captioningFormatId	An identifier associated to the captioning format
@captioningFormatName	An name associated to the captioning format

Name	**Format Ancillary Data Format**
Cardinality	Multiple per data format
Requirement	Optional
Definition	Used to provide information on ancillary data format and purpose. This type provides inforamtion on the Ancillary Data packet type. See SMPTE 291M, SMPTE 436M.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:formatebucore:dataFormat/ ebucore:ancillaryDataFormat



DID	ANC DID value
SDID	ANC SDID value
lineNumber	Video line number containing the ANC packets of this type
wrappingType	Indicates HANC or VANC, and what field in which packets should be stored. See SMPTE 436M for legal values.
@ancillaryDataFormatId	An identifier associated to the ancillary data format
@ancillaryDataFormatName	An name associated to the ancillary data format

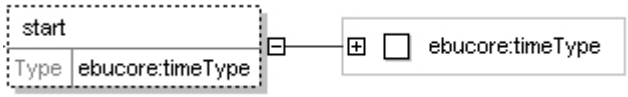
Name	Format Signing Format
Cardinality	Multiple per format
Requirement	Optional
Definition	To provide information on the language, purpose and format of signing if used in the resource.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:signingFormat



@trackId	An identifier associated to the signing track
@trackName	An name associated to the signing track
@language	The language in which the signing is delivered.
@ typeGroup	To define the purpose of the signing
@ typeLabel	Free text. Example: transcription
@ typeLink	Link to a classification scheme.
@ typeDefinition	Free text for an optional definition.
@ formatGroup	To define the format of captioning use
@ formatLabel	Free text Example: English sign language
@ formatLink	Link to a classification scheme. Reference data: ebu_SignLanguageCodeCS Example: ebu_SignLanguageCodeCS#sgn-en-GB

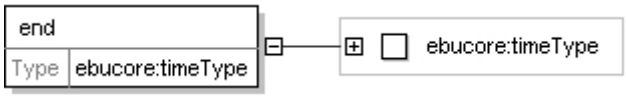
@ formatDefinition	Free text for an optional definition.
signingSourceUri	The address at which a signing resource can be found or accessed from
signingFormatId	An identifier associated to the signing format
signingFormatName	An name associated to the signing format
signingFormatDefinition	A definition associated to the signing format

Name	**Format Start**
Cardinality	Unique per Medium
Requirement	Optional
Definition	The beginning point for playback of a time-based resource, such as within a digital video or audio track. Used in combination with Duration to identify a sequence or segment of a resource that has a fixed start time and end time. The start time can be expressed in different time forms inc. a timecode, normal play time, a number of edit units or user custom time references.
Format	Ebucore:timeType
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:start



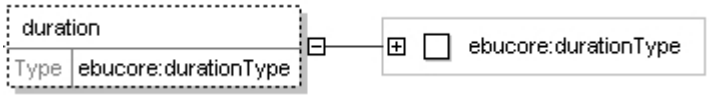
For semantics, see timeType

Name	**Format End**
Cardinality	Unique per Medium
Requirement	Optional
Definition	The end point for playback of a time-based resource, such as within a digital video or audio track. Used in combination with Start to identify a sequence or segment of a resource that has a fixed start time and end time. The end time can be expressed in different time forms inc. a timecode, normal play time, a number of edit units or user custom time references. The use of the End time is exclusive to the use of Duration.
Format	Ebucore:timeType
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:end



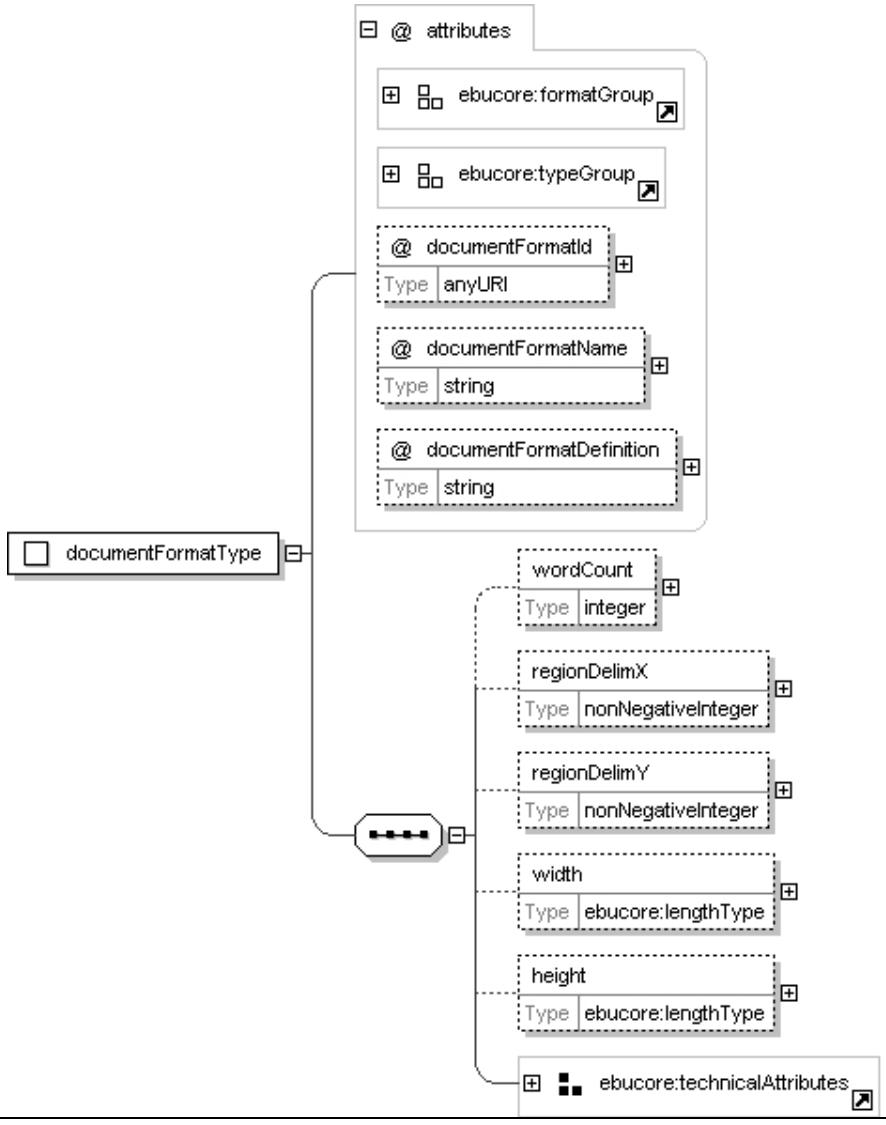
For semantics, see timeType

Name	**Format Duration**
Cardinality	Unique per physical realisation of an item
Requirement	Optional
Definition	Time-based duration (extent) of the resource. The duration can be expressed in different time forms inc. a timecode, normal play time, a number of edit units or user defined time references. The use of Duration is exclusive to the use of End time.
Format	Ebucore:durationType
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:duration



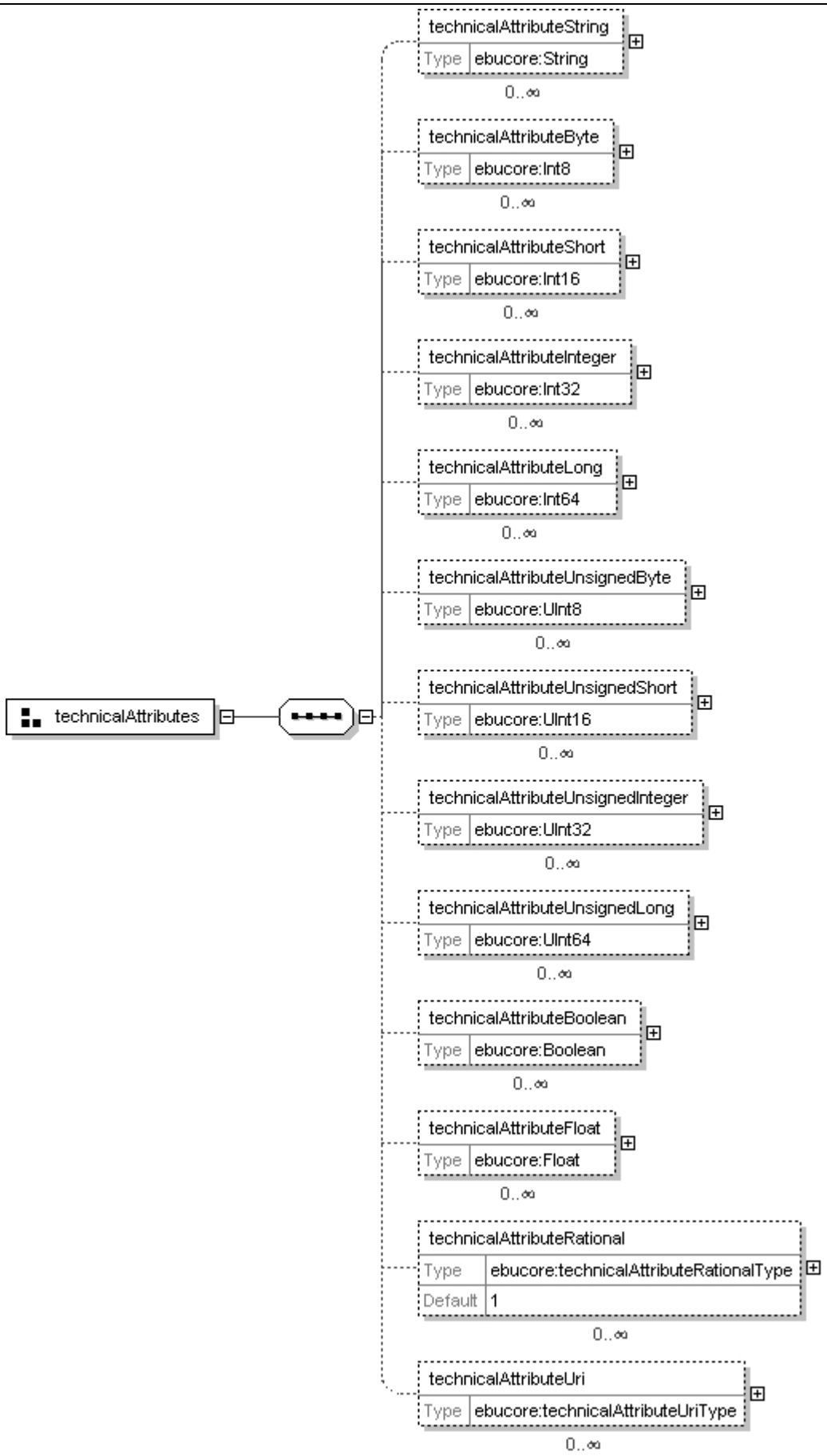
For semantics, see durationType

Name	**Format Document Format**
Cardinality	unique per Format
Requirement	Optional
Definition	A description of characteristics of the resource if a document.
Format	ebucore:documentFormatType
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:documentFormat



@ formatGroup	To define the type of format of the document'
@ formatLabel	Free text.
@ formatLink	Link to a classification scheme.
@ formatDefinition	Free text for an optional definition.
@ typeGroup	To define the type of document.
@ typeLabel	Free text.
@ typeLink	Link to a Classification Scheme,
@ typeDefinition	Free text.
wordCount	The number of words cointained in the document.
technical Attributes	To provide a user defined technical attribute. See Technical Attributes below.
signingFormatId	An identifier associated to the signing format
signingFormatName	An name associated to the signing format
signingFormatDefinition	A definition associated to the signing format

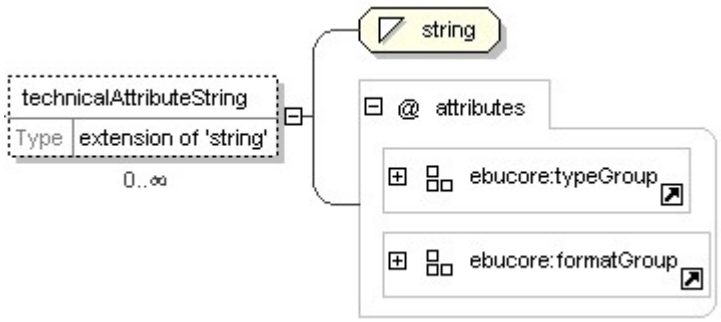
Name	**Technical Attributes**
Cardinality	Multiple
Requirement	Optional
Definition	Allows users / implementers to define their own technical parameters.
Format	Complex type
Schema	/ebucore:coreMetadataType/ebucore:format/ebucore:TechnicalAttributes /ebucore:coreMetadataType/ebucore:format/ebucore:imageFormat/ ebucore:imageTechnicalAttributes /ebucore:coreMetadataType/ebucore:format/ebucore:videoFormat/ ebucore:videoTechnicalAttributes /ebucore:coreMetadataType/ebucore:format/ebucore:audioFormat/ ebucore:audioTechnicalAttributes /ebucore:coreMetadataType/ebucore:format/ebucore:documentFormat/ ebucore:documentTechnicalAttributes



TechnicalAttributeString	A technical attribute of type string.
TechnicalAttributeByte	A technical attribute of type 'byte' also called int8.

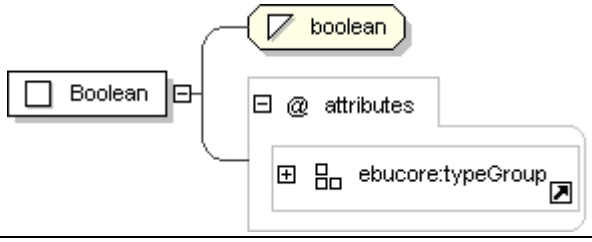
TechnicalAttributeShort	A technical attribute of type 'short' also called int16.
TechnicalAttributeInteger	A technical attribute of type 'integer' also called int32.
TechnicalAttributeLong	A technical attribute of type 'long' also called int64.
TechnicalAttributeUnisgnedByte	A technical attribute of type 'byte' also called UInt8.
TechnicalAttributeUnisgnedShort	A technical attribute of type 'short' also called UInt16.
TechnicalAttributeUnisgnedInteger	A technical attribute of type 'integer' also called UInt32.
TechnicalAttributeUnsignedLong	A technical attribute of type 'long' also called UInt64.
TechnicalAttributeBoolean	A technical attribute of type 'boolean'.
TechnicalAttributeFloat	A technical attribute of type 'float' or 'double'.
TechnicalAttributeRational	A technical attribute of type 'rational'.
TechnicalAttributeUri	A technical attribute of type 'URI'.

Name	**Technical AttributeString**
Cardinality	Multiple
Requirement	Optional
Definition	Allows users / implementers to define their own technical parameters as 'string' for which a format can be defined to restrict the string format.
Format	Complex type
Schema	See TechnicalAttributes

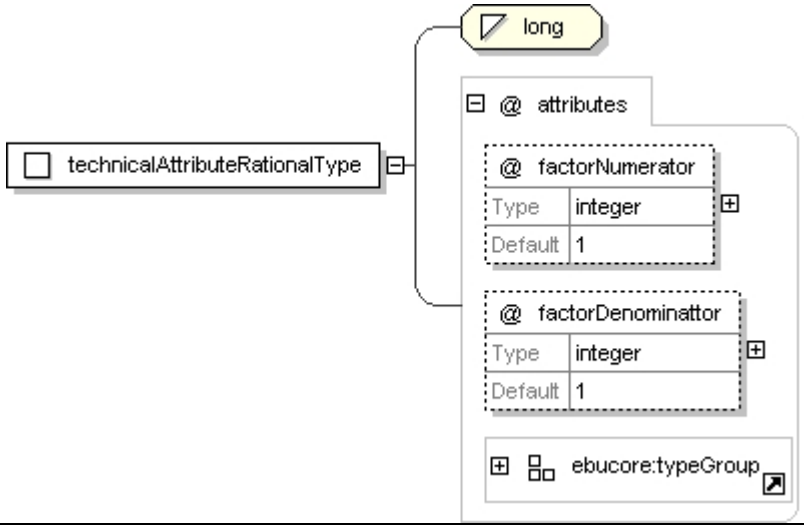


TechnicalAttribute String	A string containing the value of the string technical attribute, which format may be further specified using the formatGroup attributes. This applies to all technicalAttributeString inc. audio and video Example: 'B&W' or '50'
@ typeGroup	To define the attribute
@ typeLabel	Free text Example: 'colour mode' or 'frame rate'
@ typeLink	A link to a classification scheme Reference Data: ebu_ColourCodeCS; ebu_VideoFrameRateCS Examples: http://www.ebu.ch/metadata/cs/ebu_ColourCodeCS.xml#4 http://www.ebu.ch/metadata/cs/ebu_VideoFrameRateCS.xml#3
@ typeDefinition	An optional definition
@ formatGroup	To define a structure for use in the string field, if required
@ formatLabel	Free text Example: 'free text'
@ formatLink	A link to a classification scheme
@ formatDefinition	An optional definition

Name	Technical Attribute Byte - Short - Integer - Long - UnsignedByte - UnsignedShort - UnsignedInteger - UnsignedLong - Boolean - Float - URI
Cardinality	Multiple
Requirement	Optional
Definition	Allows users / implementers to define their own technical parameters using the type attribute of their need.
Format	Complex type
Schema	See TechnicalAttributes
Technical Attribute structure common to Byte - Short - Integer - Long - UnsignedByte - UnsignedShort - UnsignedInteger - UnsignedLong - Boolean - Float - URI extending the corresponding xml datatype accordingly	
TechnicalAttributeboolean, byte, short, integer, long, unsigned, float, URIS	The value of the technical attribute
@ typeGroup	To define the attribute
@ typeLabel	Free text Example: averageBitrateFlag, bitrate
@ typeLink	A link to a classification scheme
@ typeDefinition	Free text Example: 'a flag indicating that the video bitrate corresponds to an average bitrate'

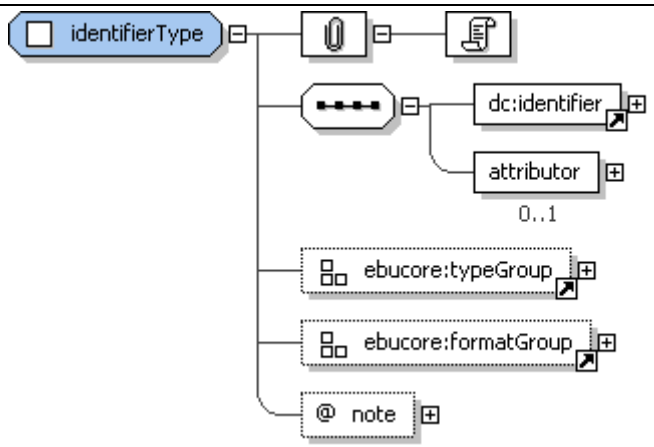


Name	Technical Attribute Rational
Cardinality	Multiple
Requirement	Optional
Definition	Allows users / implementers to define their own technical parameters as 'rational'.
Format	Complex type
Schema	See TechnicalAttributes



TechnicalAttributeRational	A rational expressed by it numerator and denominator
@ typeGroup	To define the attribute
@ typeLabel	Free text
@ typeLink	A link to a classification scheme
@ typeDefinition	Free text
factorNumerator	The rational numerator
factorDenominator	The rational denominator

Identifier

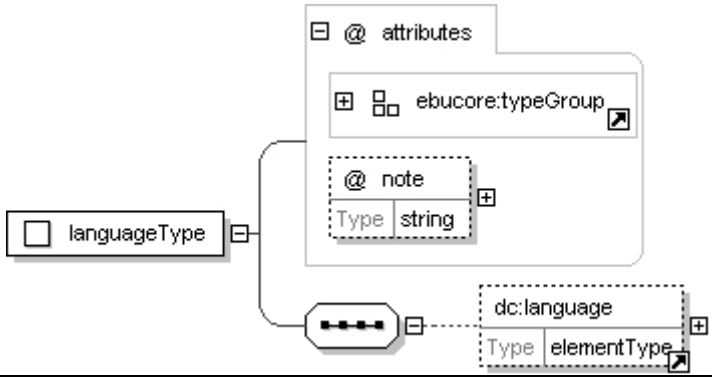
Name	**Identifier**
Cardinality	Multiple
Requirement	Mandatory
Definition	A unique, unambiguous reference or identifier for a resource within a given context. Best practice is to identify the resource (whether analogue or digital) by means of a string or number corresponding to an established or formal identification system if one exists. Otherwise, use an identification method that is in use within your agency, station, production company, office, or institution. It is also possible to enter more than one, different but still unique, identifier for the same resource.
Format	ebucore:identifierType
Schema	/ebucore:coreMetadataType/ebucore:identifier/dc:identifier
	
dc:identifier	Free text to provide an identifier. Example: 06.0A.2B.34.01.01.01.01
attributor	To identify the source of attribution of the identifier, attributor is of entityType
@ typeGroup	Used to define the type of Identifier used e.g. ‘main’ or ‘secondary’.
@ typeLabel	Free text Example: ‘main’
@ typeLink	A link to a classification scheme
@ typeDefinition	Free text Example: ‘main identifier attributed to the resource’
@ formatGroup	Use to define the format and possibly syntax of the identifier. Used in combination with the resource Identifier. It can denote the agency or institution which specified or assigned it.
@formatLabel	Free text Example: SMPTE Unique Material Identifier (UMID)

@ formatLink	A link to a classification scheme Reference data: ebu_IdentifierTypeCodeCS, URI - Unique Resource Identifier: http://tools.ietf.org/html/rfc3986 Example: http://www.ebu.ch/metadata/cs/ebu_IdentifierTypeCodeCS.xml#1.1
@ formatDefinition	Free text Example: 'a unique identifier as defined by SMPTE 330M'

Source

Name	**Source**
Cardinality	Multiple
Requirement	Optional
Definition	Reference to the resource (s) from which the current resource is derived in whole or in part. If no label or number is available, the title and/or the statement of responsibility etc. of the digitized recording is recorded here. For a digitized radio programme the production number is normally given here. The Recommended best practice is to use a unique identifier to identify the physical source that has been used to create the digital resource. In the case of a digitized analogue recording, it is the recording used for digitization which is the source. For commercial recordings the label and number is normally given here. Example: Eurovision feed 2007-07-16T19:20:30.45+01:00
Format	elementType
Schema	/ebucore:coreMetadataType/dc:source

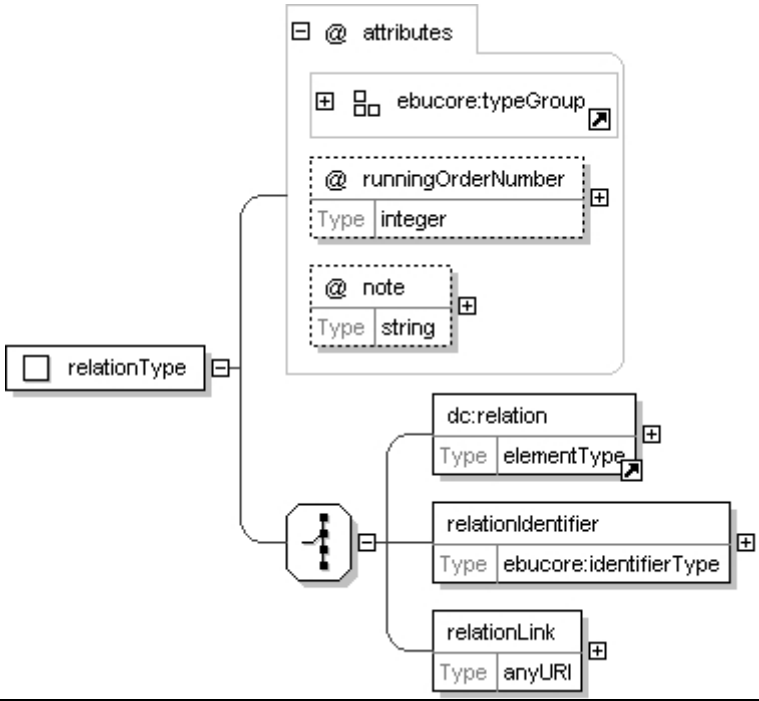
Language

Name	**Language**
Cardinality	Multiple
Requirement	Optional
Definition	Identifies languages and their use in the intellectual content of the resource. Recommended best practice for the values of the Language element is defined by RFC 1766, which includes a two-letter Language Code (taken from the ISO Standard 639), followed optionally, by a two-letter Country Code (taken from the ISO Standard 3166). For example, 'en' for English, 'fr' for French, or 'en-uk' for English used in the United Kingdom. More contextual information can be provided using the "note" attribute.
Format	languageType
Schema	/ebucore:coreMetadataType/ebucore:language
	
dc:language	Use to identify the language. Reference data: ebu_Iso639_1LanguageCodeCS, ebu_Iso639_2LanguageCodeCS, ebu_Iso3166CountryCodeCS
@ typeGroup	Used to identify the purpose of use of the language.

@ typeLabel	Free text Example: 'main original language'
@ typeLink	A link to a classification scheme Reference data: ebu_LanguagePurposeCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_LanguagePurposeCodeCS.xml#1.1
@ typeDefinition	Free text Example: 'the main language as originally created/captured for the resource'
@note	A note for additional contextual information.

Relation

Name	**Relation**
Cardinality	Multiple per relation
Requirement	Optional
Definition	Recommended best practice is to reference the resource (to which the current resource under description is related) by means of a string or number conforming to a formal identification system. Relation is used to show the relation in content to another resource. For example, "IsPartOf" is used to show the relation between a part of a radio programme and the whole programme or between a track and a record album. A resource can be identified by its title, or an identifier (possibly a URI). The related item has its own separate metadata record. Relation is used to provide a name, an identification number or ID, or a locator where the related item can be found.
Format	relationType
Schema	/ebucore:coreMetadataType/ebucore:relation

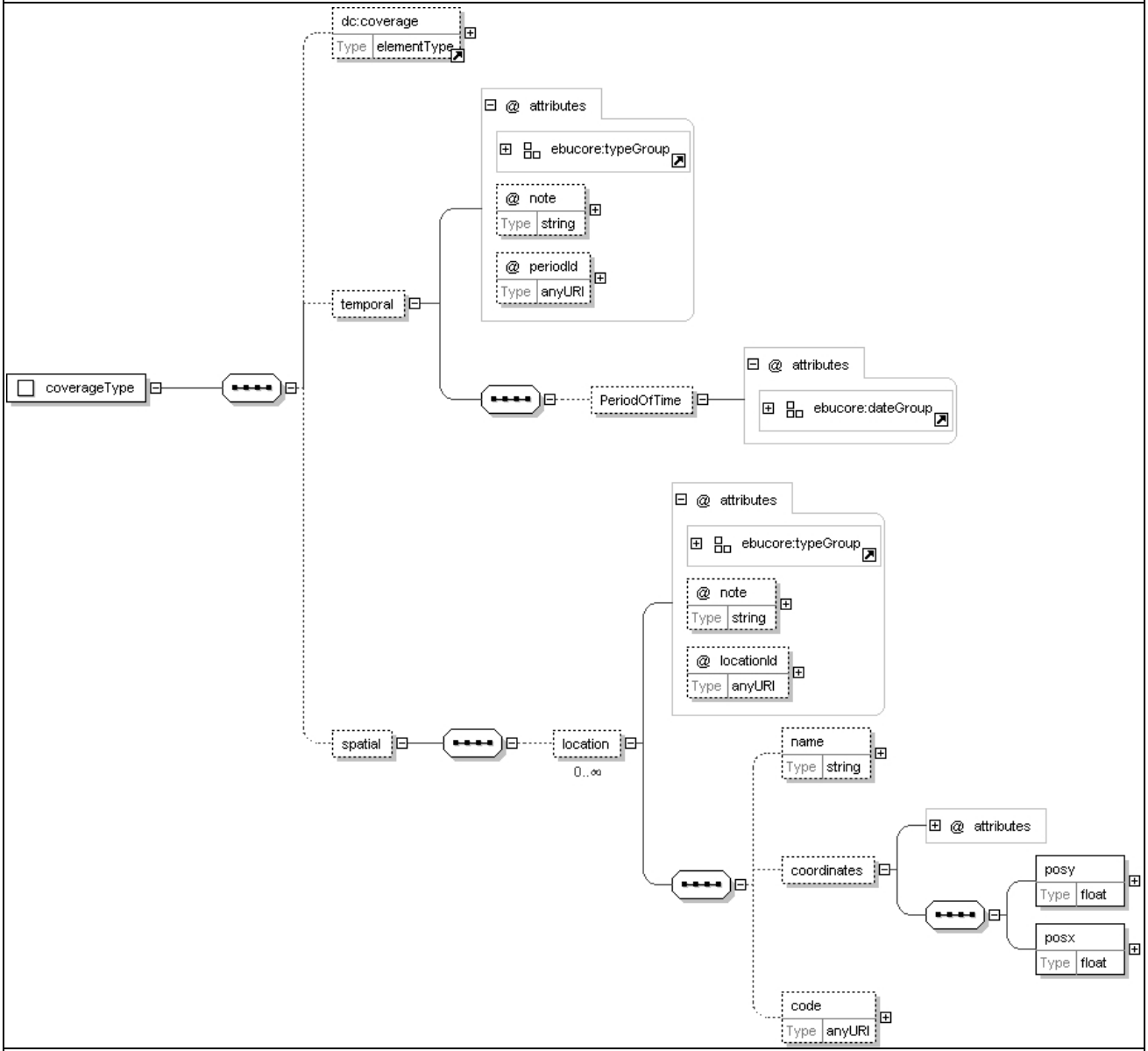


dc:relation	Free text to provide the identification of the resource linked by the relation
relationIdentifier	See identifierType Example : 06.0A.2B.34.01.01.01.01,
relationLink	A URI to identify a link to a resource Example: http://www.etf.zk/EbuCoreVideo.mpg

@ typeGroup	Used to identify the nature of the relationship to another resource, e.g. identifies ways in which the resource is related by intellectual content to some other resource. The relation type shall be used if none of the following predefined relations can be used: isVersionOf / hasVersion isReplacedBy / replaces isRequiredBy / requires isPartOf / hasPart isReferencedBy / references isFormatOf / hasFormat
@ typeLabel	Free text Example: 'IsTrailerOf'
@ typeLink	A link to a classification scheme Reference data: tva_HowRelatedCS, ebu_HowrelatedCS Example: http://www.ebu.ch/metadata/cs/tva_HowRelatedCS.xml#1.2
@ typeDefinition	Free text Example: 'the current resource is a trailer of the resource identified by one of the relation elements: dc:relation or relationidentifier or relationLink'
@runningOrder	If set (true), optional field to indicate that the relation is hierarchical and that there is an order in which content is chronologically related, which would be described in a Description element.
@note	A note for additional contextual information

Coverage

Name	**Coverage**
Cardinality	Unique
Requirement	Optional
Definition	Coverage is used to show various time and place aspects of the subject of the content. Coverage will typically include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity). Recommended best practice is to select a value from a controlled vocabulary (for example, the Thesaurus of Geographic Names) and that, where appropriate, named places or time periods be used in preference to numeric identifiers such as sets of coordinates or date ranges.
Format	coverageType
Schema	/ebucore:coreMetadataType/ebucore:coverage

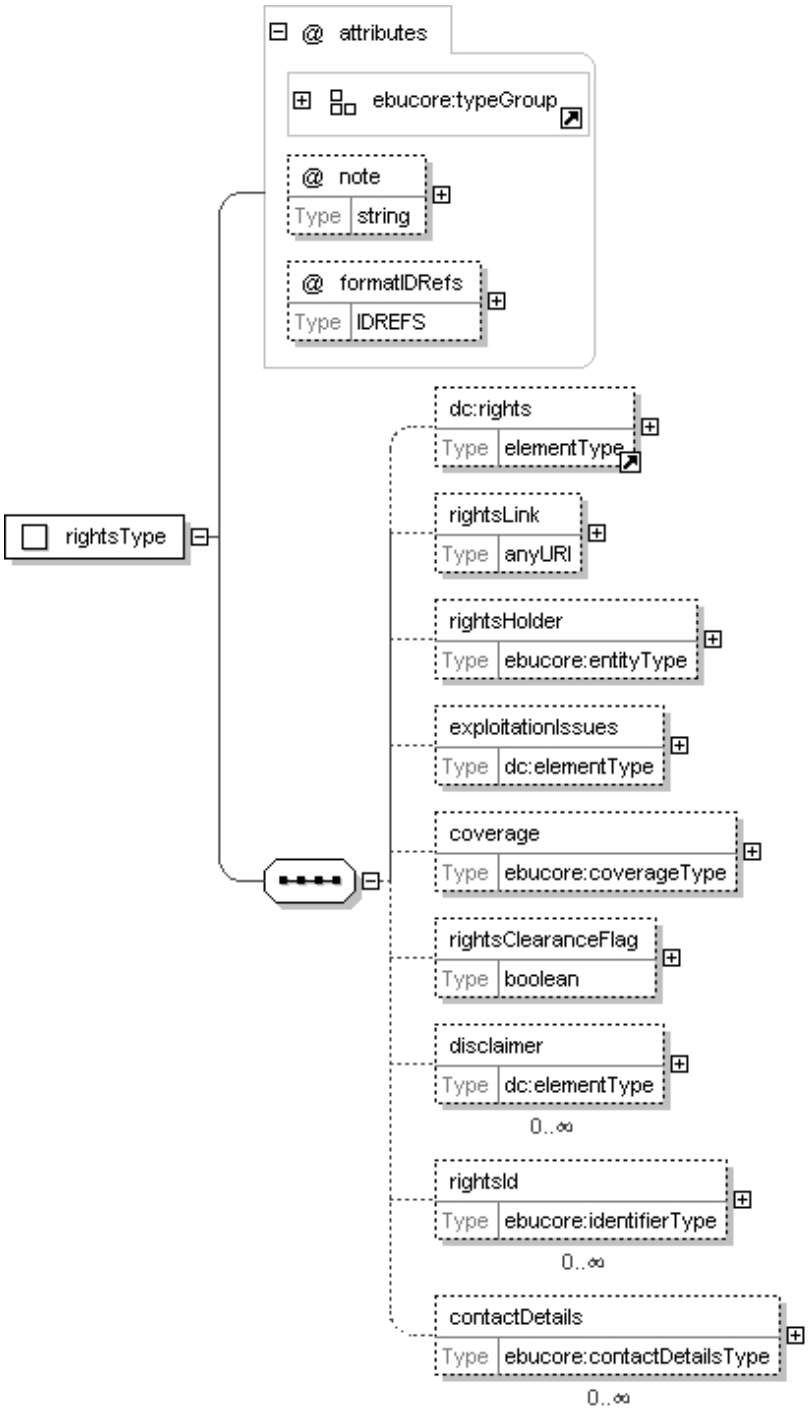


dc:coverage	Free text to provide temporal or spatial / geographical information about what is shown in the resource
temporal	Temporal characteristics of the content of the resource. To indicate e.g. dates, times or periods specific to the resource in complement to Description.
periodOfTime	The period of time depicted in the resource.

@ dateGroup	See ebucore:dateGroup.
@ typeGroup	To precise the type of temporal information provided.
@ typeLabel	Free text Example: 'Fictional action date'
@ typeLink	A link to a classification scheme
@ typeDefinition	Free text Example: 'the date at which the event presented is supposed to take place'
@note	A note to provide additional contextual information
@periodId	An attribute to identify the time period.
spatial	Spatial characteristics of the content of the resource.
location	To indicate e.g. specific place and location aspects of the resource in complement to Description.
name	The name of the place or location Reference data: Thesaurus of Geographic Names, ebu:cityCodeCS Example: 'London'
coordinates	The spatial coordinates
posx	The longitude of the place or location Example:-015
posy	The latitude of the place or location Example: 51.49
code	The code under the which the place or location may be known / referenced Reference data: ebu:UNTerritoryCodeCS, ebu:Iso3166CountryCodeCS. Example: 'W1AA 4WW'
@ typeGroup	To precise the type of place and location information provided.
@ typeLabel	Free text Example: 'city'
@ typeLink	A link to a classification scheme
@ typeDefinition	Free text Example: 'to provide a name of a city'
@note	A note to provide additional contextual information
@locationId	An attribute to identify the place or location.

Rights

Name	**Rights**
Cardinality	Multiple
Requirement	Optional
Definition	An all-purpose field to identify information (rights management statement or reference to a service providing such information e.g. via a URL) about copyright, intellectual property rights or other property rights held in and over a resource, stating whether access is open or restricted in some way. If dates, times, territories and availability periods are associated with a right, they should be included. If the Rights element is absent, no assumptions can be made about the status of these and other rights with respect to the resource.
Format	ebucore:rightstype
Schema	/ebucore:coreMetadataType/ebucore:rights



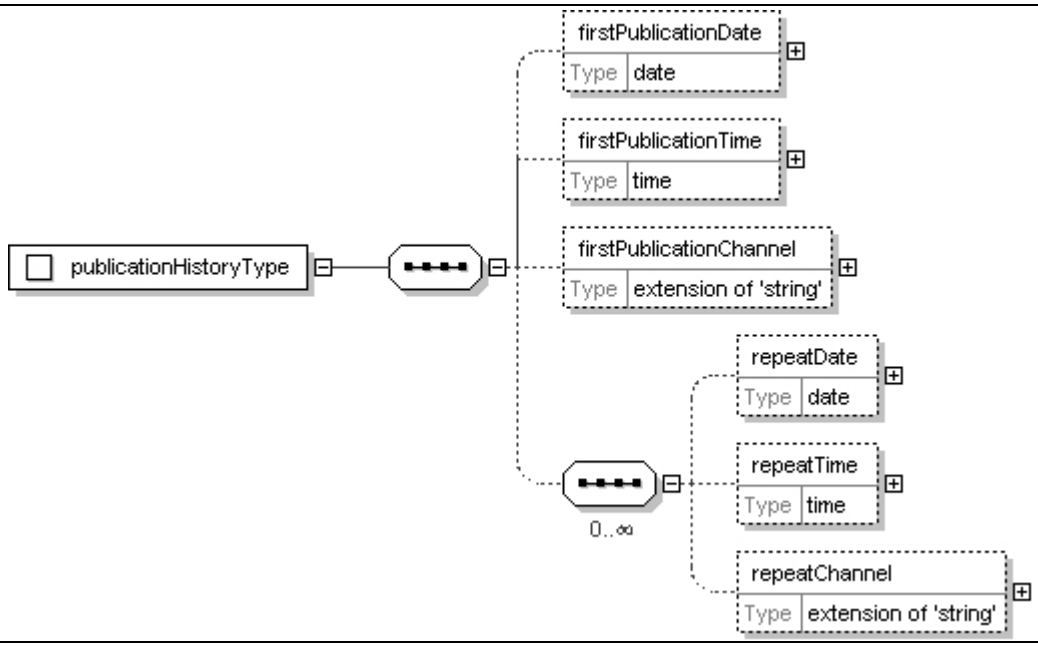
dc:rights	An element to express any form of rights related matters.
@typeGroup	Used to define the type of rights expressed.
@typeLabel	Free text definition of the type or rights expressed in dc:rights. Example: 'Licence'
@typeLink	A link to a term or only identify a classification scheme. Reference data: ebu_RightsTypeCodeCS
@typeDefinition	An optional definition of the type. Example: 'the terms and conditions under which the resource can be used'
@note	A note for additional contextual information.
@formatIDRefs	An attribute to identify content manifestations / instances to which the rights apply in the form of a list of formatIDs. Note: EBUCore also allows defining a description 'Part' using the 'Part' element with only a 'Rights' and associated 'Format' elements.
rightsHolder	To identify the person or organisation holding or managing the rights related to the resource. See ebucore:entityType
exploitationIssues	Use to state any other restrictions, such as non-rights ones, e.g. legal. State by media, territory, scope (restriction on whole item or extracts) and possibly language. The presence of this information can be used by asset management system implementing traffic lights like mechanism to signal that content may be subject to particular restrictions to be clarified before exploitation.
coverage	To express temporal and spatial domains of application of the rights. Specifies e.g. a specific start date, end date or period for the availability of the item or the date from which the rights or exploitation issues apply. It may refer to start dates for the availability of an item that is used within a particular geographical area e.g. broadcast locally, regionally, nationally or internationally, or for web-based distribution. A specific time may also be associated with the date. See ebucore:coverageType
rightsClearanceFlag	A flag ('true' or 'false') to signal is rights have been cleared and the resource can be exploited or not.
disclaimer	An element to express a disclaimer on liabilities.
rightsId	An identifier attributed by a third party authority such as after exploitation clearance. see ebucore:identifierType
contactDetails	The contact details of the manager of the righta of the resource in the organisation

Version

Name	**Version**
Cardinality	Unique
Requirement	Optional
Definition	Expresses the version type of the resource. Example: 'UK version', 'home video version'
Format	Free text possibly in different languages identified by elementType's 'lang' attribute.
Schema	/ebucore:coreMetadataType/ebucore:version

Publication History

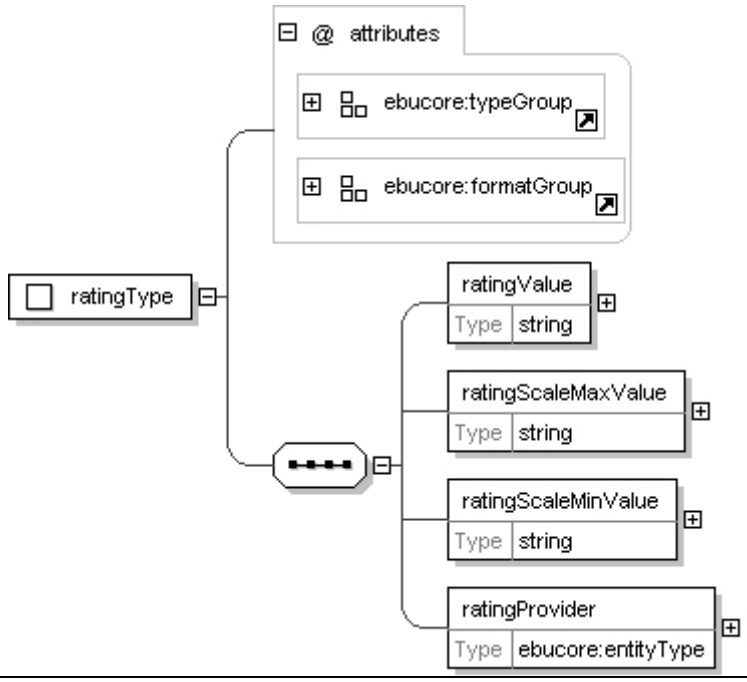
Name	**Publication History**
Cardinality	Unique
Requirement	Optional
Definition	To provide information about the publication history.
Schema	/ebucore:coreMetadataType/ebucore:publicationHistory



firstPublicationDate	The first publication date (xsd:date type)
firstPublicationTime	The first publication time (xsd:time type)
firstPublicationChannel	The channel on which the title was first transmitted
@formatIDRef	A reference to a formatId
repeatDate	The repeat publication date (xsd:date type)
repeatTime	The repeat publication time (xsd:time type)
repeatChannel	The channel on which the title was re-transmitted
@formatIDRef	A reference to a formatId

Rating

Name	**Rating**
Cardinality	Multiple
Requirement	Optional
Definition	To provide rating values of the resource.
Format	Ebucore:ratingType
Schema	/ebucore:coreMetadataType/ebucore:rating



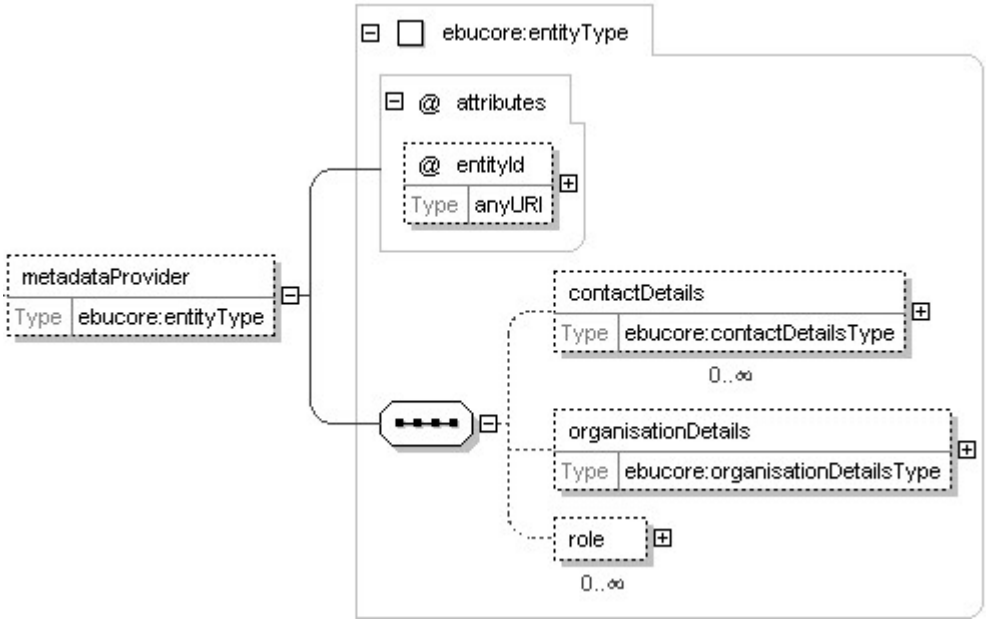
@ formatGroup	To define the type of format of the rating used'
@ formatLabel	Free text.
@ formatLink	Link to a classification scheme.
@ formatDefinition	Free text for an optional definition.
@ typeGroup	To define the type of rating used.
@ typeLabel	Free text.
@ typeLink	Link to a Classification Scheme,
@ typeDefinition	Free text.
ratingValue	The value given to the rating e.g. a number or else
ratingScaleMaxValue	Provides the maximum value of the rating scale
ratingScaleMinValue	Provides the minimum value of the rating scale
ratingProvider	To identify the provider, a person or organisation, of the rating value

Part

Name	**Part**
Cardinality	Multiple
Requirement	Optional
Definition	To identify parts/segments/fragments within the resource and provide a wide range of descriptive or technical information optionally associated to timelines.
Format	ebucore:coreMetadataType
Schema	/ebucore:coreMetadataType/ebucore:part

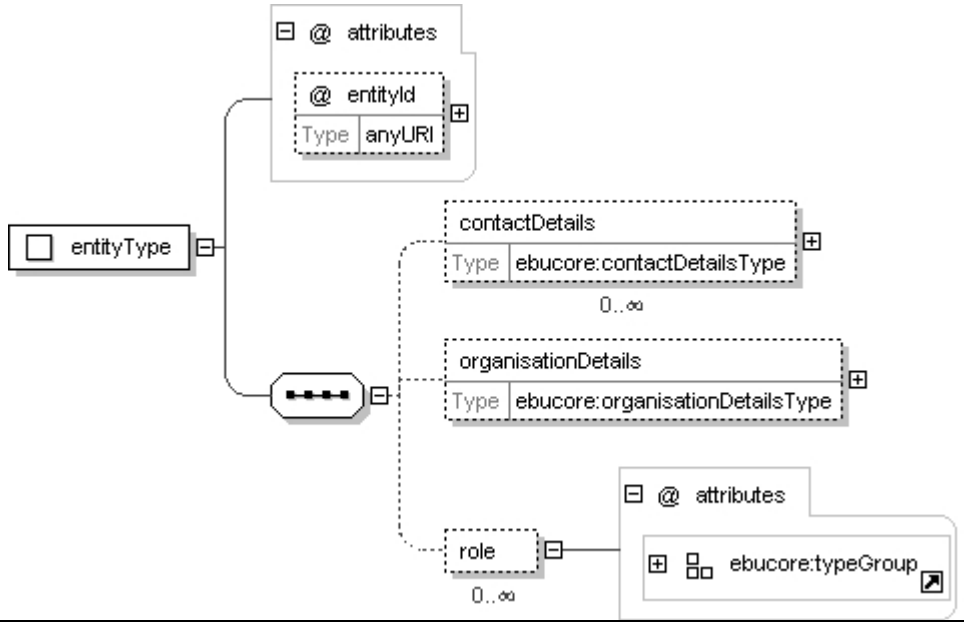
The "guidelines and Q&A" section of this specification proposes different uses of the 'Part' element.

Metadata Provider

Name	**Metadata Provider**
Cardinality	Unique per metadata instance
Requirement	Required
Definition	Identifies the metadata provider,i.e. a person or organisation. The organisation Id or name would provide the archive ID or name required for OAI metadata harvesting operation.
Format	ebucore:entityType
Schema	/ebucore:coreMetadataType/ebucore:metadataProvider
	
@entityId	An identifier to uniquely identify a metadata provider
contactDetails	An element to provide contact details. See ebucore:entityType
organisationDetails	An element to provide organisation details. See ebucore:entityType
Role	An element to refine the role of the metadata provider

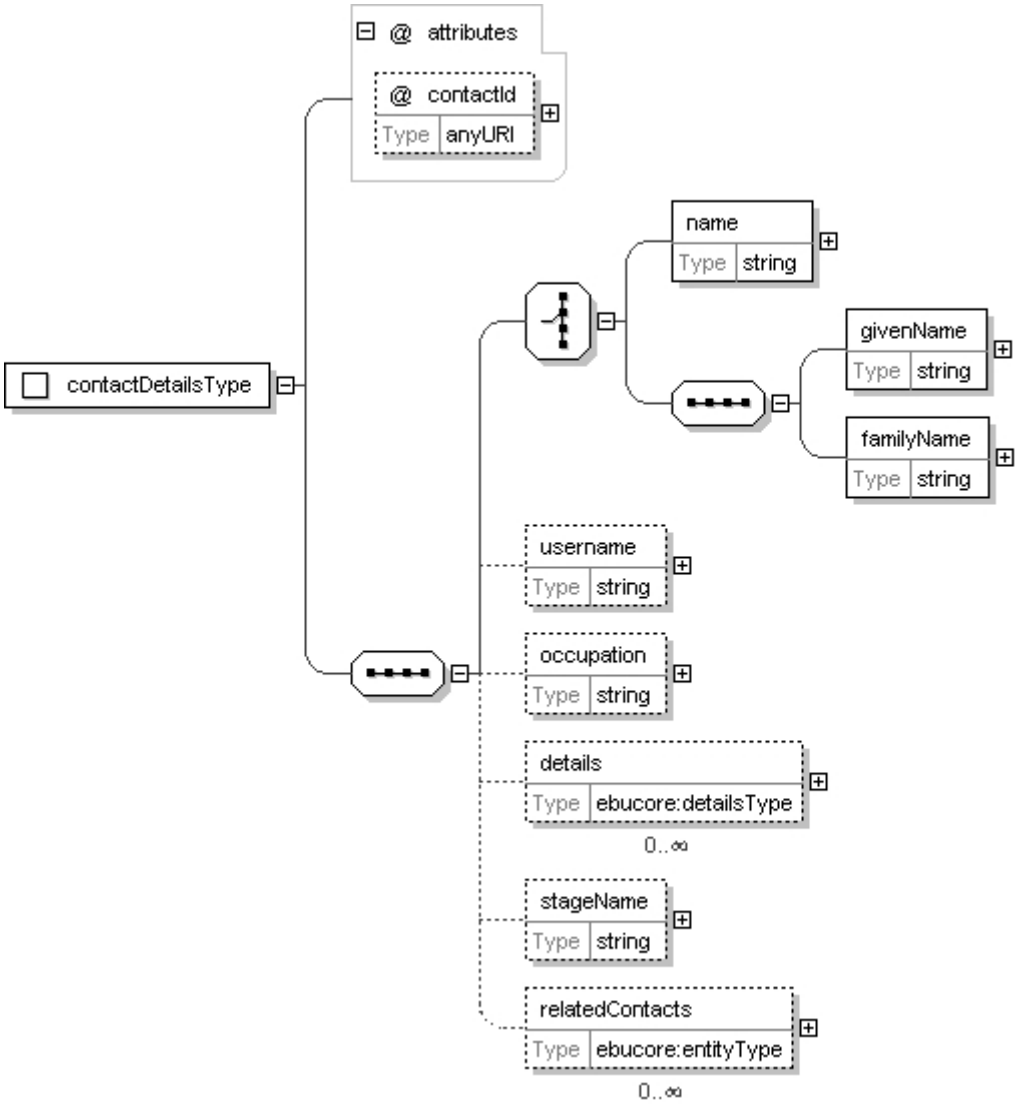
Entity (Contact Details, Organisation Details, Role), Note

Name	Entity
Cardinality	Unique
Requirement	Optional
Definition	Provides details information about a person, a group of persons, or organisation
Format	ebucore:entityType
Schema	/ebucore:coreMetadataType/ebucore:creator/ebucore:entity /ebucore:coreMetadataType/ebucore:contributor/ebucore:entity /ebucore:coreMetadataType/ebucore:publisher/ebucore:entity /ebucore:coreMetadataType/ebucore:rights//ebucore:rightsOwner/ebucore:entity /ebucore:coreMetadataType/ebucore:rights//ebucore:metadataProvider/ebucore:entity



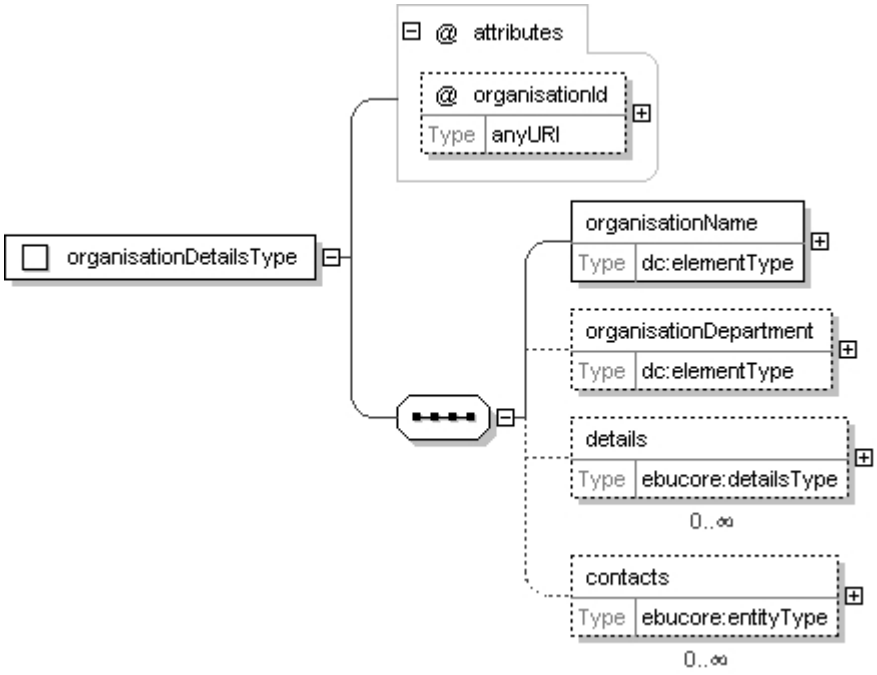
@entityId	An attribute to uniquely identify the person or organisation.
contactDetails	See contactDetailsType
organisationDetails	See organisationDetailsType
role	To define or refine the role of the entity, person or organisation
@typeGroup	Used to define the type of role.
@typeLabel	Free text definition of the type or rights expressed in dc:rights. Example: 'Director'
@typeLink	A link to a term or only identify a classification scheme. Reference data: ebu_RoleCodeCS Example: http://www.ebu.ch/metadata/cs/ebu_RoleCodeCS.xml#20.16
@typeDefinition	An optional definition of the type. Example: 'the terms and conditions under which the resource can be used'

Name	**Contact Details**
Cardinality	Multiple per Entity
Requirement	Optional
Definition	Minimum information providing means to further identify and contact a person.
Format	ebucore:contactDetailsType
Schema	../ebucore:entity/contactDetails



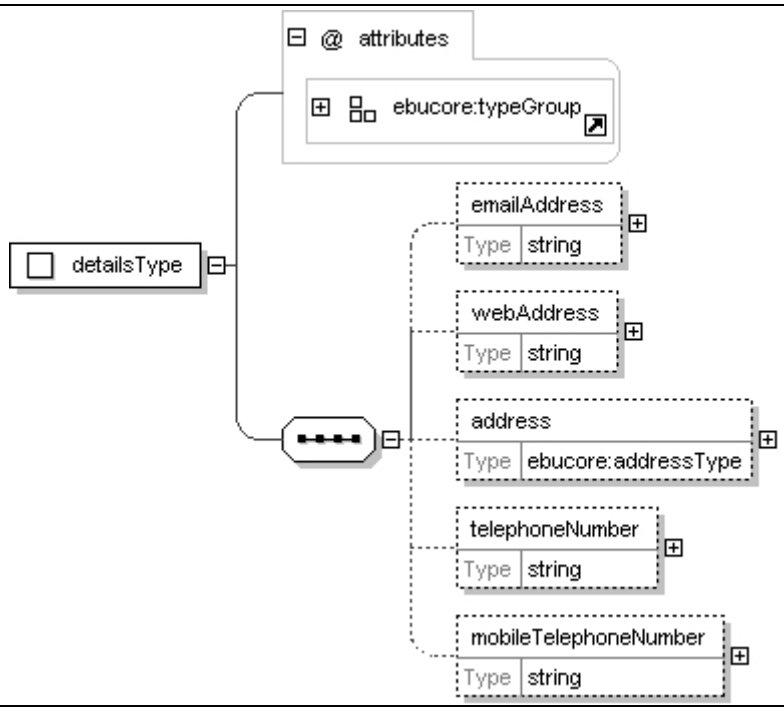
name	To provide the name of a person.
givenName	Alternatively to provide the given name of a person.
FamilyName	To provide the additionally the family name of a person to complement the givenName.
username	To provide a username to alternatively identify tag and rating providers
occupation	To provide information on the contact/person job and position.
details	To provide the contact details of a contact / person. See detailsType
stageName	To record the name that the person has been attributed on stage Examples: 'character name' or 'interviewer'
relatedContacts	To provide a list of contacts through which the person can alternatively be contacted. See ebucore:entityType.
@contactId	An attribute to uniquely identify a contact.

Name	**Organisation Details**
Cardinality	Unique per Entity
Requirement	Optional
Definition	Minimum information providing means to further identify and contact an organisation.
Format	ebucore:organisationDetailsType
Schema	../ebucore:entity/organisationDetails

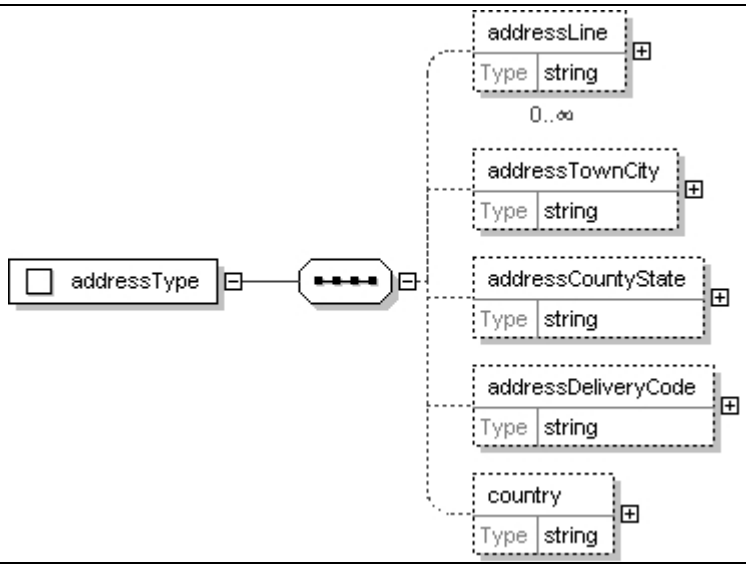


organisationName	To provide the name of an organisation.
organisationDepartment	To identify a specific department within an organisation
details	To provide the details of an organisation. See detailsType
contacts	To provide a list of contacts/persons through which the organisation can be contacted. See ebucore:entityType.
@organisationId	An attribute to uniquely identify an organisation.

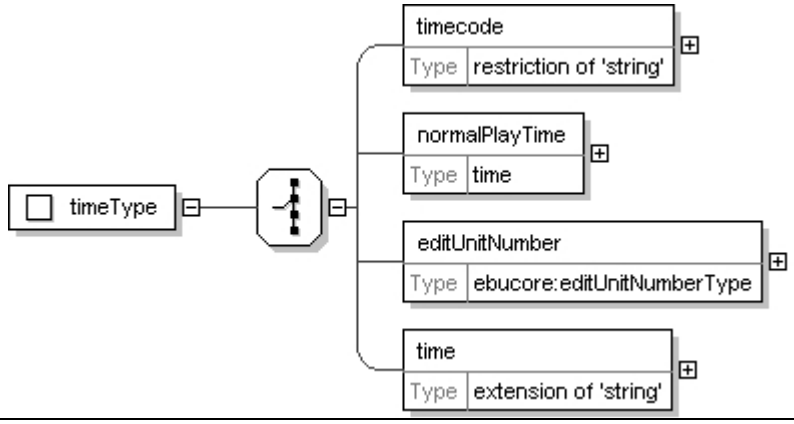
Name	**Details**
Cardinality	Unique per organisation or contact
Requirement	Optional
Definition	The contact details of a contact/person or organisation
Format	ebucore:detailsType
Schema	../ebucore:entity/ebucore:personDetails/ebucore:details ../ebucore:entity/ebucore:organisationDetails/ebucore:details



@typeGroup	Used to define the type of details e.g. office or private.
@typeLabel	Free text.
@typeLink	A link to a term or only identify a classification scheme.
@typeDefinition	An optional definition of the type.
emailAddress	The email address of a contact or organisation
webAddress	The web address of a contact or organisation
address	The address of a contact or organisation, See addressType.
telephoneNumber	The telephone number of a contact or organisation.
mobileTelephoneNumber	The mobile telephone number of a contact or organisation.

Name	Address
Cardinality	Unique per Entity
Requirement	Optional
Definition	The address of a contact/person or organisation
Format	ebucore:nameType
Schema	../ebucore:entity/ebucore:personDetails/ebucore:name
	
adressLine	One or more address lines.
adressTownCity	The name of the city/town of the address.
addressCountyState	The optional name of the county / state of the address.
adressDeliveryCode	The delivery code of the address.
Country	The country of residence.

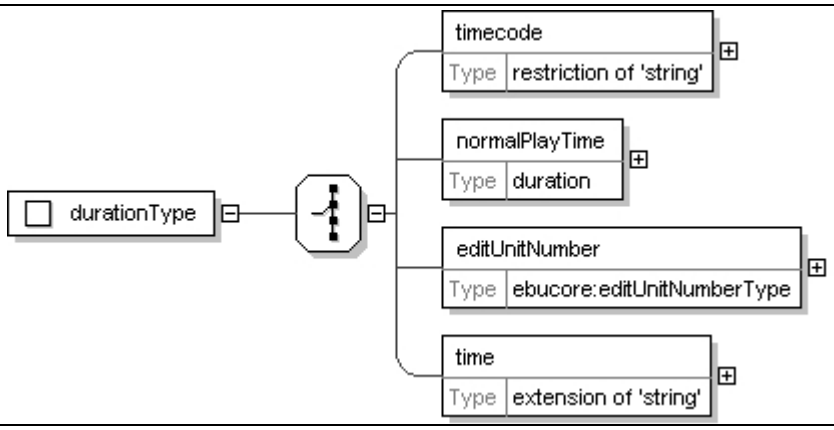
timeType

Name	timeType
Cardinality	Unique per EditUnitElement element
Requirement	
Definition	To express a time reference
Format	ebucore:timeType
Schema	Applies to several elements in the schema
	
timecode	A time reference expressed in timecode using the ST 12-1:2008 (Timecode) format. Example: 00:00:10:24
normalPlayTime	A time reference expressed using usual time representation: RFC 2326, ISO 8601. Example: PT1H31M25S

editUnitNumber	A time reference expressed in a number of edit units from the start time. See editUnitNumberType below.
time	A time reference expressed as a value of time, which format can be defined using the formatGroup attributes.
@formatGroup	To define the format, possibly custom, in which the time will be expressed.

durationType

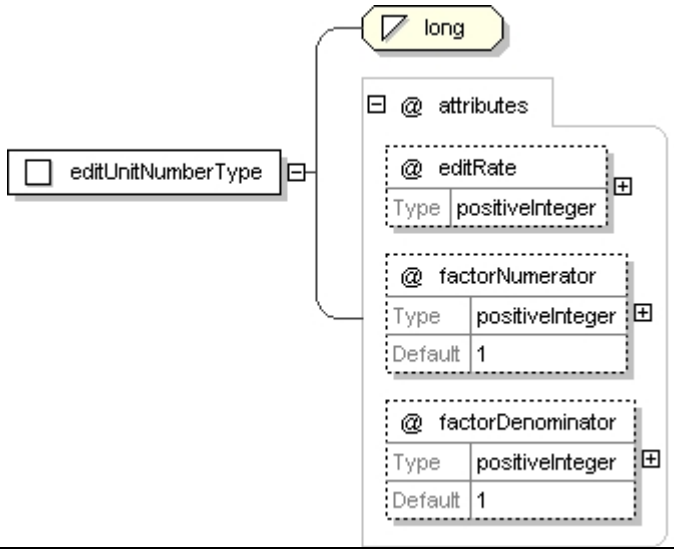
Name	**durationType**
Cardinality	Unique per EditUnitElement element
Requirement	
Definition	To express a duration
Format	ebucore:durationType
Schema	Applies to several elements in the schema



timecode	A duration expressed in timecode using the ST 12-1:2008 (Timecode) format. Example: 00:00:10:24
normalPlayTime	A duration expressed using usual time representation: RFC 2326, ISO 8601. Example: PT1H31M25S
editUnitNumber	The number of edit units from the the start time to the end of the resource. See editUnitNumberType below.
time	A duration expressed as a value of time, which format can be defined using the formatGroup attributes.
@formatGroup	To define the format, possibly custom, in which the time will be expressed.

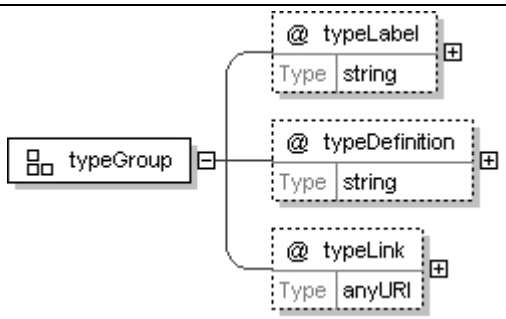
editUnitNumberType

Name	**EditUnitNumberType**
Cardinality	Unique per EditUnitElement element
Requirement	
Definition	To express a number of edit unit. The Edit Unit is either the fraction of a second (frame period for video or sample period for audio) calculated as the inverse of the editRate (video frame rate or audio sample rate) of the resource, possibly corrected by a factor provided in the denominator and numerator attributes, or the smallest amount of time per unit (e.g. a second or millisecond). editUnit =1/(editRate*(factorNumerator/factorDenominator)) The start time is in this case an integer indicating a number of Edit Units, i.e. the corresponding editUnitNumber.
Format	ebucore:editUnitNumberType
Schema	Applies to several elements in the schema
Example	frame 3300 in a video at a frame rate of 29.97 fps will be expressed as: <editUnitNumber editRate="30" factorNumerator="1000" factorDenominator="1001">3300</editUnitNumber> In this case the edit unit is editUnit = 1/ (30*(1000/1001))



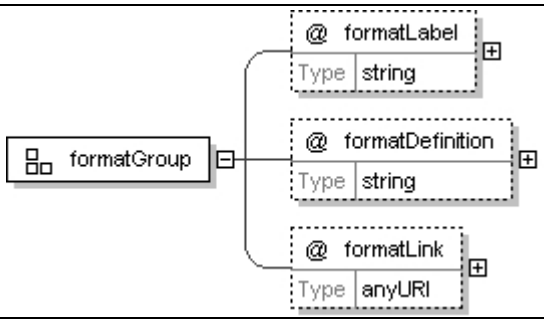
@editRate	The base reference for the material, i.e. the frame rate for video or sample rate for audio
@factorNumerator	The numerator of the correction factor if applicable, Value is '1' by default.
@factorDenominator	The denominator of the correction factor if applicable Value is '1' by default.

Type, Status, Format and Date attribute groups**Name**	**Type Group**
Cardinality	Unique per element
Requirement	Optional
Definition	To define a contextual type
Format	ebucore:typeGroup (xsd:attributeGroup)
Schema	Applies to several elements in the schema



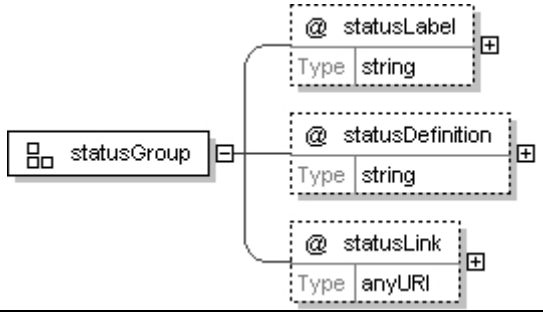
typeLabel	Free text.
typeDefinition	An optional definition.
typeLink	A URI to e.g. a classification scheme term.

Name	**Format Group**
Cardinality	Unique per element
Requirement	Optional
Definition	To define a format
Format	ebucore:formatGroup (xsd:attributeGroup)
Schema	Applies to several elements in the schema

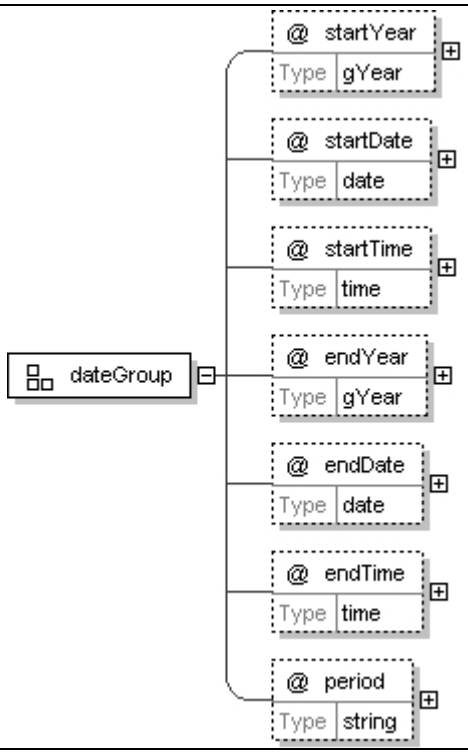


formatLabel	Free text.
formatDefinition	An optional definition.
formatLink	A URI to e.g. a classification scheme term.

Name	**Status Group**
Cardinality	Unique per element
Requirement	Optional
Definition	To define a status
Format	ebucore:statusGroup (xsd:attributeGroup)
Schema	Applies to several elements in the schema



statusLabel	Free text.
statusDefinition	An optional definition.
statusLink	A URI to e.g. a classification scheme term.

Name	**date Group**
Cardinality	Unique per element
Requirement	Optional
Definition	To define a date and or time
Format	ebucore:dateGroup (xsd:attributeGroup)
Schema	Applies to several elements in the schema
	
startYear	To express a start year
startDate	To express a start date
startTime	To express a start time
endYear	To express an end year
endDate	To express an end date
endTime	To express an end time

3. Implementation Guidelines / Questions & Answers

3.1 General remarks

Several aspects of the specification are left to the appreciation of the implementer (e.g. regarding the mapping to pre-existing in-house metadata schemas).

Reference data and controlled vocabularies identified in the specification are proposed by default but can be extended or replaced. In order to maximise interoperability in case of e.g. exchange, it is recommended that extensions or alternative reference data be duly documented, maintained and made available to other users e.g. as open permanent resources on the Internet.

The schema is built as an extension to the Simple Dublin Core to facilitate transformation to the Simple Dublin Core representation as required by certain applications such as the European Digital Library. For the same reason, it is recommended to use predefined 'relation' properties.

EBUcore can be used to develop similar descriptions using different approaches. The implementers are left the choice of the method within their respective domains of application and interoperability.

3.2 Reference data

Controlled vocabularies are mainly provided in the form of lists of terms organised as Classification Schemes (CS). These CSs are structured to allow access to terms within a predefined hierarchical vocabulary list (thesaurus). Each list is uniquely identified by its namespace (URI[1], in the form of a URN[2] or URL[3]) and 'Alias'. EBU namespaces are expressed in accordance to RFC5174[4]. A Classification Term is defined by a unique key (termID) or a name as follows:

Example:

```
<ClassificationScheme uri="urn:ebu:metadata-cs:ContentGenreCS:2008">
  <Alias>GenreCS</Alias>
   <Term termID="3.1">
      <Name xml:lang="en">NON-FICTION / INFORMATION</mpeg7:Name>
                <Term key="3.1.1">
                          <Name xml:lang="en">News</mpeg7:Name>
                </Term>
                <!–etc.-->
</ClassificationScheme>
```

It is an important implementation requirement to ensure that these resources are accessible by the metadata recipient. Classification schemes shall preferably be available as resources on the open Internet via maintained URLs. In this case URIs shall respect the following syntax:

URL#termID e.g. http://www.ebu.ch/metadata/cs/ebu_ContentGenreCS.xml#3.1

A conforming parser uses that URI to resolve the termID reference to a resource, whether physical or logical. Once the termID has been resolved, the term name can be accessed (e.g. 'News' in the above example). The resolution method is left to the appreciation of each recipient.

URIs (URLs) can be replaced by aliases to provide a more concise, application-specific way of referring to classification terms as long as a look-up table is provided describing the relationship between Aliases and URIs.

If 'GenreCS' is the alias for "http://www.ebu.ch/metadata/cs/ebu_ContentGenreCS.xml".In the above example, 'News' could be identified through "GenreCS#3.1".

EBU Classification Schemes are also published in the SKOS (Simple Knowledge Organisation System) format using RDF/OWL for use as linked data.

3.3 Video and Audio time point references

EBUCore uses three methods to identify video and audio time point references:

- a time duration according to ISO 8601 or IETF RFC 3339
- timecodes as defined by SMPTE in specification ST 12-1:2008
- a number of edit units, which are the fraction of time calculated as the inverse of the framerate for video, or the inverse of the sample rate for audio.

Audiovisual entities generally embed the property of having a "Timeline", which comes from the fact that the AV work is conceived to be played for a defined "Duration", and all the events characteristic of the AV work itself are located on the Timeline.

1 Unique Resource Identifier - http://tools.ietf.org/html/rfc3986

[2] Unique Resource Namespace - http://tools.ietf.org/html/rfc3986

[3] Unique Resource Locator - http://tools.ietf.org/html/rfc3986

[4] EBU Namespace - http://tools.ietf.org/html/rfc5174

The Timeline concept applies to AV ‘editorial entities’ as well as to the ‘physical entities’ inc. their 'technical parameters', which are the sources providing the AV material for actual realisations.

A typical application of the timeline mechanism is for identifying the location of a given AV-entity A which is a part (in time) of another AV-entity B.

As B has got its own duration D(B), we can say that A, with its own duration D(A), is located at point S of the Timeline of B.

This means that if A is located on the Timeline of B, from S to E, then E=S+D(A).

In EBUCore there are two mechanisms for expressing a position on a Timeline:

- the “Elapsed Time”, which gives the time elapsed on the Timeline of the reference entity (B in the example above) from its beginning.
  - the data type for that is a ISO 8601 duration(e.g. PT1M5.0S) or IETF RFC 3339;
  - the reference point for the elapsed time is always the beginning of the reference entity.
- the “Elapsed Units” which give the same information in terms of the number of Edit Units (which are countable)
  - this is to be preferred because it ensures that Timeline markers fall on the boundary of the Edit Unit;
  - duration of the EditUnit must be known unambiguously and indicated, otherwise it is better to use the “Elapsed Time”.

The two mechanisms mentioned above can also be used to locate the position of an AV-entity on the Timeline of a material source.

However there are contexts, in terms of the type of source, where the information in those terms is not available or it’s possibly ambiguous. For instance, identifying the position on a clip within a video-tape in terms of “Elapsed Time” or “Elapsed Units” from the “BOT (Beginning of Tape) is very difficult in practice. The BOT position itself may be not precise enough. In those cases, typically, the position on material source (e.g. the tape) is indicated by the “TimeCode”, which is a label recorded together with the EditUnit.

Although the “TimeCode” mechanism doesn’t provide any certainty about the uniqueness of the point on the Timeline (the same TimeCode might be repeated) and neither it provides reliable information on Duration (“TimeCode” is not constrained to be continuous), this is the way on which legacy production systems rely for editing and for saving EDLs (Editing Decision Lists).

This is the reason why EBUCore also supports the indication of TimeCodes for all the cases where the Timeline positioning deals with material sources.

However it is recommended to also provide, if available, the information in terms of elapsed time or edit units.

3.4 Using the extended 'part' element

3.4.1 Defining editorial 'parts' of a media resource

Since its introduction in a previous version of EBUCore, as described in the preceding section, the 'Part' element was introduced to identify editorial segments of content within a media resource.

There are many different editorial reasons why 'parts' (or e.g. segments, sequences, scenes) could be identified within a timeline. For example, content can be split into a set of purposefully constructed sequences designed to facilitate user navigation (like DVD chapters). 'Parts' can also be identified when a particular actors appears (e.g. as the result of face recognition processing or using user labelling). It can also be used to identify for example news items (internal, affairs, news report, weather report…) within a news programme.

Two mechanisms allow such 'parts' to be identified and described in EBUCore.

The first solution consists of using the 'part' element, which provides a description of 'parts' (and parts of parts) within one metadata instance.

The second solution consists of using the 'hasPart' or 'hasTrackPart' relations pointing to objects being described on their own with separate EBUCore metadata instances for each 'part'.

3.4.2 Using the 'part' element beyond editorial segmentation

Following work done within the EBU on acquisition metadata, the definition of the 'part' element has been extended to allow any form of partitioned description, editorial or technical, optionally bound to a specific timeline.

How can technical parameters be traced individually along a specific timeline?

In order to describe the evolution of a technical attribute over time, all that is needed is to identify that the 'Part' element is used for this purpose through an appropriate 'formatId' or 'formatName'. Time segments are defined by sub-parts. The 'format' element contains the value of the technical attribute associated to a 'start' and 'end' or 'duration' time points.

```
<ebucore:part partId="CameraMetadata">
  <ebucore:part partId="part_CameraMetadata_1">
  <!-- FIRST TIME SEGMENT WITH A PARTICULAR SET OF CAMERA SETTINGS -->
     <ebucore:format>
        <ebucore:start>
           <ebucore:editUnitNumber editRate="60" factorDenominator="1001"
           factorNumerator="1000">200</ebucore:editUnitNumber>
        </ebucore:start>
        <ebucore:duration>
           <ebucore:editUnitNumber editRate="60" factorDenominator="1001"
           factorNumerator="1000">800</ebucore:editUnitNumber>
        </ebucore:duration>
        <ebucore:technicalAttributeString typeLabel="AutoExposureMode"
        typeDefinition="a value from RP224" formatLabel="Universal Label">

        06.0E.2B.34.04.01.01.0B.05.10.01.01.01.02.00.00
        </ebucore:technicalAttributeString>
        <ebucore:technicalAttributeUInt16 typeLabel="ISOSpeed" typeDefinition="ISO12232">
        800</ebucore:technicalAttributeUInt16>
    </ebucore:format>
  </ebucore:part>
  <ebucore:part  partId="part_CameraMetadata_2">
  <!-- SECOND TIME SEGMENT WITH A DIFFERENT SET OF CAMERA SETTINGS -->
    <ebucore:format>
          <ebucore:start>
            <ebucore:editUnitNumber editRate="60" factorDenominator="1001"
            factorNumerator="1000">1000</ebucore:editUnitNumber>
          </ebucore:start>
          <ebucore:duration>
            <ebucore:editUnitNumber editRate="60" factorDenominator="1001"
            factorNumerator="1000">630</ebucore:editUnitNumber>
          </ebucore:duration>
          <ebucore:technicalAttributeString typeLabel="AutoExposureMode"
          typeDefinition="a value from RP224" formatLabel="Universal Label">
          06.0E.2B.34.04.01.01.0B.05.10.01.01.01.02.00.00
          </ebucore:technicalAttributeString>
          <ebucore:technicalAttributeUInt16 typeLabel="ISOSpeed" typeDefinition="ISO12232">
          1600</ebucore:technicalAttributeUInt16>
      </ebucore:format>
   </ebucore:part>
</ebucore:part>
```

Example - Camera parameter evolution associated to a timeline

3.5 Definition of (programme) groups using EBUCore

EBUCore fully support the description of groups and collections using the appriopriate relations such as isMemberOf or isEpisodeOf.

Similar mechanisms can be used to identify different parts composing a media resource using e.g. hasPart.

3.6 Definition of versions of programmes

There can be many reasons why a programme is declared to be a version of a particular source (e.g. a shorter version, a different language, with or without captioning, but also available on different mediums such as a file, a tape, a disk).

The best approach to identify versions is to use relations such as hasVersion. The relation links two instances and their respective descriptions highlighting differences such as given above as examples.

3.7 Examples using technicalAttribute

The following example illustrates how to use the technical attribute patterns within EBUCore. The average bitrate can be expressed as:

a. a technicalAttributeString

```
<ebucore:technicalAttributeString typeLabel="averageBitrate"
typeDefinition="the average bitrate"
formatLabel="integer">123456789</ebucore:technicalAttributeString>
```

b. a technicalAttributeLong

```
<ebucore:technicalAttributeLong typeLabel="typeLabel26">123456789
</ebucore:technicalAttributeLong>
```

The choice is left to the implementer within his domain of interoperability. Some implementations use only the technicalAttributeString, which allows defining/replacing all simple datatypes with only one structure. It can also be used for more complex datatypes such as the technicalAttributeRational structure by defining a template in the format attribute, etc.

3.8 Expression of Loudness parameters using open technical attributes

Document EBU Tech 3343 and EBU R 128 establish a predictable and well-defined method to measure the loudness level for news, sports, advertisements, drama, music, promotions, film etc. throughout the broadcast chain and thereby helps professionals to create robust specifications for ingest, production, play-out and distribution to a multitude of platforms. EBU R 128 is based entirely on open standards and aims to harmonise the way we produce and measure audio internationally.

EBUCore allows the EBU R 128 loudness technical parameters to be specified, namely:

- the Programme Loudness, using an audioFormat/technicalAttributeFloat of type Loudness, and definition of the unit as 'LUFS: Loudness Unit referenced to digital Full Scale' - recommended value = -23.0 LUFS.
- the Loudness Range (LRA), using an audioFormat/technicalAttributeFloat of type Loudness Range or LRA, and definition of the unit as 'LU: Loudness Unit' -1 LU = 1 dB.
- the TruePeak Level (TPL), using an audioFormat/technicalAttributeFloat of type True Peak Level or TPL, and definition of the unit as 'dBTP: decibel True Peak' - recommended value = -1 dBTP.

3.9 Defining user tags using EBUCore's Subject

It is now common to 'tag' content. Tags can be issued by professionals like content creators or content providers, or by users.

In EBUCore, tags are defined as 'subjects' of typeLabel="tag" issued by 'attributors' (persons or organisations).

3.10 Examples of use of locator type

The locator attribute in format now has a type attribute to specify what the locator is being used for. A locator can point to an object of typeLabel "resource", "thumbnail", "landing page", etc.

Relations can also be used to point to related external objects.

3.11 Linking formats to publication instances

The format attribute now has an associated formatId attribute, which can be referenced to through the publication channel's formatRef attribute. This allows specifying which format as being used for a particular publication.

3.12 Linking formats to expressions of rights

The format attribute now has an associated formatId attribute, which can be referenced by the rights' formatIDRefs attribute. This allows specifying which formats (content instances) are covered by the associated rights.

3.13 Best practices for labels and links

Several EBUCore elements and attributes propose to define their value through a "label" and/ or a "link".Links can be used to define a relationship in the sense of linked data. A typical case of linked data consists of pointing to classification scheme term via its identifier.

However, when available, the corresponding term of similar value should also be provided as a 'label' to facilitate mapping.

3.14 Original format of a transcoded media resource

How can I use EBUCore to provide information on the current and original format of a resource?

This can simply be made by describing two videoFormat elements, one with the videoFormatName="original" and for example another one with the videoFormatName="current".

The same approach can be extended using format name (audio, video…) such as 'first generation', 'second generation', etc.

3.15 Published when, where and in which format?

The publicationHistory defines the "channel(s)" (broadcast or else) on which a media resource has been published. Each channel has an associated optional formatIdRef attribute that allows linking the publication instance to a particular media resource instance in a specific format identified by its formatId.

3.16 Distributed storage of media resources: where and in which format?

Each media resource instance defined by its format can be associated to a locator where it is stored. The attribute typeGroup can be used to provide additional information on the nature and usage of the storage.

3.17 More questions?

The guidelines and questions presented in this specification address queries received from a variety of EBUCore implementers. EBUCore can sustain more scenraios.

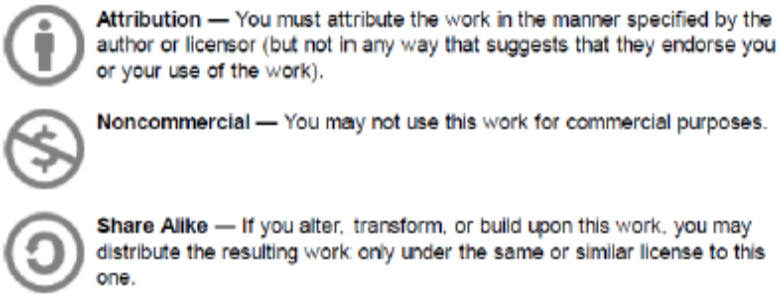
If you have additional questions on how to use EBUCore, please forward your queries to metadata@ebu.ch. You will receive personalised advice and answers will enrich this section of the EBUCore specification, with your permission.

4. Compliance

EBUCore doesn't pretend to cover everyone needs in details. EBUCore is an open framework allowing each user to adapt it to his own needs!

EBUCore is governed by Creative Commons' Attribution-NonCommercial-ShareAlike3.0 Unported(CC BY-NC-SA 3.0)

You are free:*to Share*—to copy, distribute and transmit the work*to Remix*—to adapt the work inc. under your own namespace under the following conditions:



EBUCore is flexible and adpatable in nature. For example, thanks to the extended nature of the 'Part' element, description can be implemented in different ways. Each implementer will define best practice, inc. additional compliance rules specific to its implementation and own domain of interoperability.

5. Maintenance

The EBU Core Metadata Set is maintained by the EBU and suggestions for corrections or additions can be made by mailing to (metadata@ebu.ch). EBU members can also provide feedback via the EBU Technical Department's website:

(http://tech.ebu.ch/MetadataMaintenanceSpecifications).

Contributions will be subject to peer review by the metadata experts participating in EC-M MAG (http://tech.ebu.ch/groups/pmag), a specialised Project Group of the EBU Expert Community on Metadata EC-M (http://tech.ebu.ch/groups/ecm).

6. Download Zone

Filename	Doc. description	Contents
http://www.ebu.ch/metadata/schemas/EBUCore/20110915/EBU_CORE_20110915.zip	XML Schema	EBU_CORE_20110915.xsd, xml.xsd, simpledc20021212.xsd
http://www.ebu.ch/metadata/cs/EBU_cs_p.zip	EBU Classification Schemes	periodically updated list of EBU Classification Schemes
http://www.ebu.ch/metadata/ontologies/ebucore/ebu_core_20110915.zip	RDF/OWL Schema	ebu_core_20110915.owl
http://www.ebu.ch/metadata/ontologies/skos/EBU_cs_skos_p.zip	EBU SKOS Classification Schemes	periodically updated list of EBU Classification Schemes in RDF

7. Useful links

AES (http://www.aes.org)
Dublin Core (http://dublincore.org)
EBU Metadata (http://tech.ebu.ch/metadata/)
EBU Loudness (http://tech.ebu.ch/docs/tech/tech3343.pdf)
EUScreen (www.euscreen.eu)
IOC – International Olympic Committee (http://www.olympic.org/uk/sports/)
W3C SKOS (http://www.w3.org/2004/02/skos/)

ISO (http://www.iso.org)

ISO 4217 – Currency codes:
http://www.iso.org/iso/en/prods-services/popstds/currencycodeslist.html
ISO 3166-1 – Country codes (English):
http://www.iso.ch/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html
ISO 3166-1 – Country codes (French):
http://www.iso.ch/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-fr1.html
ISO 639 – Language codes : http://www.loc.gov/standards/iso639-2/

IETF

RFC 3339 (Date and time on the Internet): http://tools.ietf.org/html/rfc3339
RFC5174 (EBU namespace): http://tools.ietf.org/html/rfc5174

IANA MIME Type: http://www.iana.org/assignments/media-types/
Thesaurus of Geographic Names: http://www.getty.edu/research/tools/vocabulary/tgn/index.html

8. Bibliography

- EBU Technical Information I36-2003 – Metadata Implementation considerations for Broadcasters
- EBU Tech 3293-2001 – Core Metadata Set for Radio Archives
- EBU Tech 3295 – P-META Metadata Library
- EBU Tech 3343 - Practical guidelinesfor Production and Implementation of EBU R 128

Annex A: EBUCore Metadata Set Schema

The EBUCore Metadata schema is used to generate EBUCore Metadata instances formed of an ebuCoreMain document.

The ebuCoreMain document contains several attributes required to contribute to OAI (Open Archive Initiative) for metadata harvesting. These attributes include the name of the schema (in case the schema location urn would not be present), the version of the schema used to generate the document, the date of last modification of the document and a unique identifier associated to the document. The name of the contributing archive is given by the metadata provider's organisation name or ID.

Resource related information is provided by the coreMetadata element.

The reference schema is available from the download links in § 5 (Download Zone) of this document.

Annex B: EBUCore and Semantic Web

The EBUCore RDF/OWL schema implements another example of the EBU Class Conceptual Data Model. The business obejct names have been selected to offer maximum harmonisation with other audiovisual ontologies. The hierarchy of the EBUCore RDF class model reflects accurately the structure of the EBUCore XML schema.

The EBUCore RDF/OWL schema also reflects by nature the flexibility proposed in the XML schema. Where technicalAttributes can be defined in XML, the implementer can simply add new dataProperties to the RDF-OWL schema, etc. Similarly, new classes can be added with names corresponding better to the implementer's needs, declaring equivalences. However, the hierarchy should be respected.

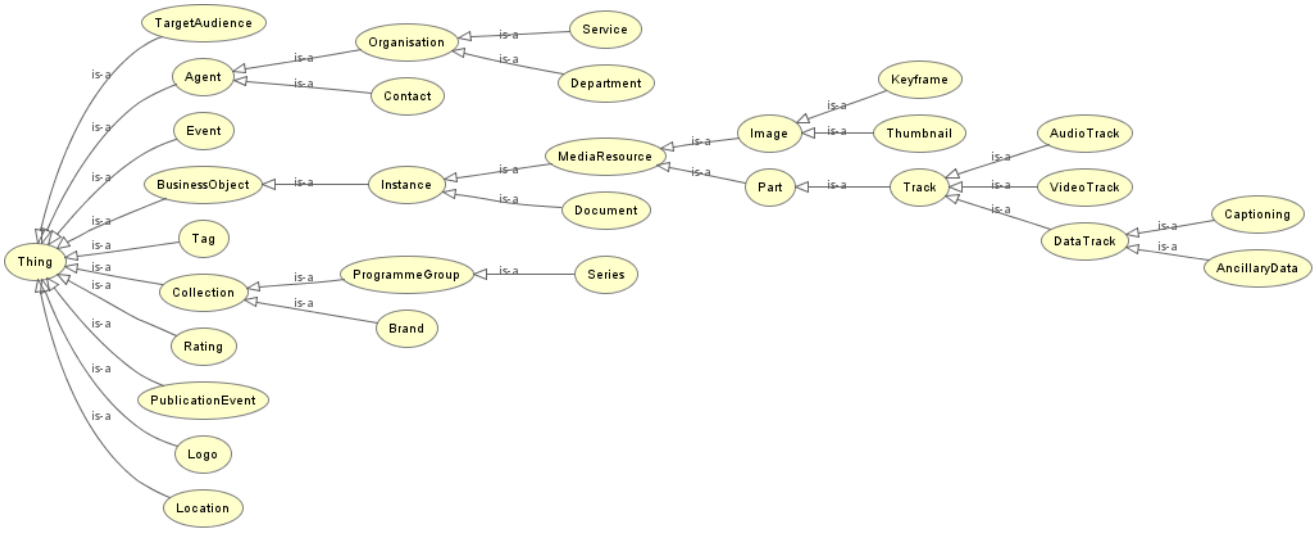


Figure 3: EBUCore RDF/OWL class conceptual data model

The EBUCore RDF/OWL schema and EBU Classification Schemes in SKOS/RDF are available from the 'download zone' of the specification.