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English Version

## Curriculum Exchange Format (CEF) - Data model

Format d'échange de curriculum (CEF) - Modèle de données

Curriculum-Austauschformat (CEF) - Datenmodell

This European Standard was approved by CEN on 3 March 2011.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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## Foreword

This document (EN 15943:2011) has been prepared by Technical Committee CEN/TC 353 “Information and Communication Technologies for Learning, Education and Training”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This European Standard for a Curriculum Exchange Format (CEF) specifies a data model in a thesaural based format for exchanging vocabularies relating to curriculum information. It is based partially on an extended application profile of Zthes version 1.0 [<http://zthes.z3950.org>] but is not restricted to Zthes as an exchange format. It has been produced in the light of implementation experience and the CEF requirements agreed in the CEN Workshop Agreement - Curriculum Exchange Format (CWA 16078, CEN/WS LTS N 576, January 2010).

There are three main sets of information in the CEF:

- information about the whole CEF instance. This is provided using properties from Dublin Core plus some extensions. Information includes date, title, description and identifier;
- CEF terms. Information including the term name, identifier and type. Though “term” is used throughout as the name for an item in a CEF instance, the model can equally well be used to describe a conceptual approach;
- relationships between terms as a sub-record of a term.

Further information about the background and guidelines on usage can be found in CWA 16078.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## EN 15943:2011 (E)

## 1 Scope

This European Standard is applicable to the digital exchange of information about terms or concepts relating to curriculum information. This includes values to be used in metadata to describe learning resources and learner profiles.

The main uses of CEF instances and related services are expected to be the provision of:

- controlled vocabularies;
- navigation structures;
- additional curriculum information;
- mappings.

## 2 Data model

### 2.1 Table headings

**Label** = the preferred name of an element to be used in bindings such as XML. These may vary depending on the binding used.

**Occ** = number of occurrences and obligation. The figure in brackets is the smallest permitted maximum – that is the minimum number of values (for repeatable elements) a conforming **application** shall support. It is assumed that when an upper limit is given that is the smallest permitted maximum.

**Name** = the recommended English name that can be presented to users. Some names may not be needed, as they can be implicit in the way that information is presented. A CEF schema could provide alternative names in other languages.

### 2.2 CEF Information

This data model explains the use of various elements (or properties). It does not indicate the order of elements.

The following elements are used to describe a Curriculum Exchange Format instance.

**Table 1 — Elements to describe a Curriculum Exchange Format instance**

Label	Occ	Name	Value space	Description
dc:title	1	CEF Title	stringOrLangstring	The name of the CEF instance.
dc:creator	0..*	Creator	stringOrLangstring	The name of the creator of the CEF instance.
dc:subject	0..*	Subject	stringOrLangstring	The topic areas covered by the CEF instance.

Table 1 (continued)

Label	Occ	Name	Value space	Description
dc:description	0..*	Description	stringOrLangstring	A description of the CEF instance.
dc:publisher	0..*	Publisher	stringOrLangstring	The name of the publisher of the CEF instance.
dc:contributor	0..*	Contributor	stringOrLangstring	The names of contributors to the CEF instance.
dc:date	0..1	Publication Date	date	The publication date.
dc:type	0..*	Type	string	The type of CEF instance.
dc:format	0..*	Format	string	The format of the CEF instance.
dc:identifier	1	CEF Identifier	string	The main identifier for the CEF instance allocated by the authority. If other identifiers are required they can be added using a thesNote with label altId.
dc:source	0..1	CEF Source	string	The source for the CEF instance.
dc:language	0..* (25)	Language	string	The language of the CEF instance (from ISO 639). The primary language first.  From a standard controlled vocabulary (two or three letter with extensions). To be specified by the scheme attribute.
dc:relation	0..*	Relation	string	Items related to the CEF instance.
dc:coverage	0..*	Coverage	stringOrLangstring	The coverage of the CEF instance.
dc:rights	0..*	Rights	stringOrLangstring	Rights statement governing the usage of the CEF instance.

Table 1 (continued)

resolver	0..*	Resolver	url	The resolution service. A url prefix that provides a resolution url when combined with an identification of a term or vocabulary according to specified rule.
thesNote	0..* (10)	Extension	extension	This is used for CEF extensions.

### 2.3 Extensions that are part of CEF

The following are reserved labels for a CEF `thesNote`.

Table 2 — Reserved labels for a CEF `thesNote`

Label	Occ	Name	Value space	Description
authority	0..1	Authority	extension	An approved authority that created and 'owns' the CEF instance. Can be used by systems to allocate user permissions.
version	0..1	Version	extension	The version of the CEF instance.
purpose	0..*	Purpose	extension	The purpose of the CEF instance taken from a controlled vocabulary that could include:  navigation, mapping, metadata
category	0..*	Category	extension	The category or topic that is covered by the CEF instance, for example education or spatial coverage.
altId	0..*	Alternative identifier	extension	An alternative identifier if required in addition to the main identifier.



## 2.4 CEF Terms

The following elements are used to describe a Curriculum Exchange Format term.

**Table 3 — Elements to describe a CEF Term**

Label	Occ	Name	Value space	Description
termId	1	Identifier	string	An opaque string of characters which uniquely identifies the term within a CEF instance. This could be a URI or a local identifier.
termName	1	Name	stringOrLangstring	The name of the term in a form that may be displayed to a user or used as a search term in a target database.
relation	0..* (100)		sub-record	A sub-record briefly describing one or more terms related to this one.
termCategory	0..* (10)	Micro-thesaurus	controlled	Identifies a term as belonging to a particular topical subset (microthesaurus).
termLanguage	0..1	Language	controlled	The primary language of the term.  This should be from a standard controlled vocabulary (ISO 639 two or three letter with or without extensions).
termQualifier	0..1	Qualifier	controlledOrFreeText	An additional string which, if supplied, qualifies the termName. Usually the combination of termName and termQualifier is unique within a thesaurus and the termQualifier is displayed in brackets. Allows for controlled or uncontrolled extensions.
termStatus	0..1	Status	controlled	The status of the term, which may be active, deactivated or deleted. In general, only active terms should be used to guide searching. A deactivated term (which may have history notes explaining why it was withdrawn) can be reinstated. Adding a term that is identical to a deactivated term is not recommended. deleted terms can be ignored for all purposes except reconstructing history.

Table 3 (continued)

Label	Occ	Name	Value space	Description
termApproval	0..1	Approval	controlled	The approval status of the term, which may be candidate, approved or rejected.
termType	0..1	Type	controlled	An indication of the basic type of the term, chosen from a controlled vocabulary that includes PT, ND, NL.  PT = preferred term;  ND = non-descriptor (non-preferred term);  NL = node label.
definition	0..1	Definition	stringOrLangstring	A definition of the concept represented by the <code>termName</code> . It is expected that only one definition will be provided with any given language code.
scopeNote	0..1	Scope	stringOrLangstring	The scope of the use of the term in this CEF instance
historyNote	0..* (10)	History	stringOrLangstring	Information about changes made to the term over time.
editorsNote	0..*	Editor note	stringOrLangstring	Information about changes made to the term by an editor.
termVocabulary	0..1	Vocabulary	string	The identifier of the vocabulary the term originates from.
sortKey	0..1	Sort key	string	An explicit sort key for the term based on application-specific sorting rules to produce order not attainable through a strict alphanumeric sort. The <code>sortKey</code> associated with a term rather than a relation sub-record applies to its sort order throughout the CEF instance.
browseRoot	0..1	Top term	controlled	Indicates if a term should be displayed as a top term or not, with value <code>true</code> or <code>false</code> . For example a related term from another vocabulary may not necessarily be wanted as a top term.

Table 3 (continued)

Label	Occ	Name	Value space	Description
termNote	0..* (10)		extension	A note about the term clarifying the meaning or scope of the term. Multiple notes may be included.  Each note may also carry an indication of a constraint on the vocabulary of its content, e.g. indicating that the content of a specific note have to be drawn from an identified vocabulary.
termUpdate	0..1	Update	controlled	The update action required for the record, which may be add or delete.
termCreatedDate	0..1	Created date	date	The date on which the record defining the term was created.
termCreatedBy	0..1	Creator	string	The name of the person who created the record defining the term.
termModifiedDate	0..1	Modified date	date	The date on which the record defining the term was last modified.
termModifiedBy	0..1	Modifier	string	The name of the person who last modified the record defining the term.