CERIF 2008 – 1.0 Semantics

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Abstract:

The CERIF Semantics is one of several components of the CERIF 2008 – 1.0 Full Data Model (FDM) release. It aims at recommending a standardised formal semantics to be applied in the wider context of Current Research Information Systems (CRISs) with CERIF as the underlying data model to supply the involved entities and their relationships. The new semantic component in its first version presents the CERIF publication semantics; that is, the types of documents published in the research context, and the roles for a linkage between the involved entities.

CERIF (the **C**ommon **E**uropean **R**esearch **I**nformation **F**ormat) is a formal model to support the management of Research Information and to enable interoperation between Research Information Systems. The CERIF model is considered as a standard; recommended by the European Union to its Member States. It has been developed with support by the European Commission in two major phases: 1987-1990 and 1997-1999. In 2002 the European Commission handed over care and custody of CERIF to euroCRIS (http://www.eurocris.org) a not-for-profit organisation dedicated to the promotion of CRISs (**C**urrent **R**esearch **I**nformation **S**ystems).

Status:
This document will be updated alongside major updates of the CERIF Semantics.

Location:
http://www.eurocris.org/fileadmin/Upload/CERIF/CERIF2008_1.0_Semantics.pdf

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1. Introduction

The presented publication semantics of types and roles is only a first step, where in the near future we intend to concentrate on the semantics in the context of research funding. The current version of a CERIF Semantics for publications has been developed from feedback at Tutorial presentations, Membership Meetings, and from discussions on the CERIF TG mailinglist. Information Scientists, Librarians, Computer Scientists, Researchers, Managers, Practitioners and Engineers have presented and contributed their views as consolidated with this document. During communication, from research, and in meetings, it became clear that currently many different but in parts overlapping metadata schemes or terminologies exist for publications. [1] provides a comprehensive overview of existing metadata descriptions for digital libraries, among them – the two most established ones: Dublin Core[1] and MODS[2] – and identifies a need for their standardisation. The CERIF Semantics aims at recommending a standardised formal semantics to be applied in the wider context of Current Research Information Systems (CRISs), including the domain of scholarly publications or digital libraries, with CERIF as the underlying data model to supply the involved entities and their relationships. The CERIF Semantics is one of several components of the CERIF 2008 – 1.0 Full Data Model (FDM) release.

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[1] Dublin Core (DC): http://dublincore.org/

[2] Metadata Object Description Schema (MODS): http://www.loc.gov/standards/mods/

2. CERIF Components

The current CERIF 2008 – 1.0 release comprises the following components:

- CERIF 2008 – 1.0 FDM: Model Introduction and Specification
  separate document available from the euroCRIS website [1]

- CERIF 2008 – 1.0 XML: Data Exchange Format Specification
  separate document available from the euroCRIS website [2]

- CERIF 2008 – 1.0 Semantics
  this document

- CERIF 2008 – 1.0 FDM: SQL scripts for most common databases
  available from the euroCRIS website for members only

- CERIF 2008 – XML Examples
  available from the euroCRIS website for members only

- CERIF 2008 – XML Schema Files
  CERIF XML validation files available from the euroCRIS website

CERIF 2008 – 1.0 related files and more documents and background information about CERIF and CRISs can be downloaded from the public euroCRIS website: http://www.eurocris.org/cerif/cerif-releases/cerif-2008/. The physical SQL scripts and XML examples files are available for members only[*].

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[*] The CERIF 2008 – 1.0 release was modeled with Toad Data Modeler[3] by Quest Software[3] which allows to draw ERM diagrams, to generate SQL scripts for most common databases (Oracle, Microsoft, IBM, etc.), to reverse engineer from databases, to create screenshots of the model and model parts, and to model at physical and logical level. The resulting CERIF SQL scripts are generated automatically from the physical level.

3. CERIF Semantics 2008 – 1.0

The CERIF Semantics is maintained within the so called Semantic Layer that has been thoroughly introduced as a concept – enhanced with examples, as part of the CERIF 2008 – 1.0 Introduction and Specification document [2]. The CERIF Semantics may be best viewed as a filler; stuffing the CERIF Semantic Layer with contextually relevant semantics. We present the current CERIF Semantics for the publication entity; that is: types of publication documents, and roles for the linkage between the entities involved.

3.1 CERIF Publication Types

cfPublicationTypes	
	Book
	Book Review
	Book Chapter Abstract
	Book Chapter Review
	Inbook
	Anthology
	Monograph
	Referencebook
	Textbook
	Encyclopedia
	Manual
	Otherbook
	Journal
	Journal Article
	Journal Article Abstract
	Journal Article Review
	Conference Proceedings
	Conference Proceedings Article
	Letter
	Letter to Editor
	PhD Thesis
	Doctoral Thesis
	Report
	Short Communication
	Poster
	Presentation
	Newsclipping
	Commentary
	Annotation

3.2 CERIF Person-Publication Roles

cfPerson-ResultPublicationRoles	
	is author of
	is author (numbered) of
	is author (percentage) of
	is editor (numbered) of
	is editor of
	is subject of
	is reviewer of
	is translator of
	is publisher of
	has commissioned

3.3 CERIF OrgUnit-Publication Roles

cfOrgUnit-ResultPublicationRoles
claims IPR of
is publisher of
is curator of
provides reviewer for
is author of
has commissioned
is funded by
is author institution of
is publishing institution of
is external organisation of

3.4 CERIF Project-Publication Roles

cfProject-ResultPublicationRoles
is originator of

3.5 CERIF Publication-FundingProgramme Roles

cfResultPublication-FundingProgrammeRoles
is funded by

3.6 CERIF Publication-Equipment Roles

cfResultPublication-EquipmentRoles
is produced with
describes use of

3.7 CERIF Publication-Facility Roles

cfResultPublication-FacilityRoles
is produced at
describes use of

3.8 Publication-Event Roles

cfResultPublication-EventRoles
is input to
is output from
is presented at

3.9 CERIF Publication-ResultPatent Roles

cfResultPublication-ResultPatentRoles	
	is description of
	describes use of

3.10 CERIF Publication-ResultProduct Roles

cfResultPublication-ResultProductRoles	
	is description of
	describes use of

4. Next Steps

The extension of the CERIF Semantics is a major focus alongside upcoming CERIF releases. This current version of a publication-related semantics has only been a first step into this direction, where in the near future we will concentrate on the semantics in the context of research funding.

5. References

[1] Gartner, R. (2008): Metadata for the digital libraries: state of the art and future directions (1.0). Peer reviewed report from the JISC Technology and Standards Watch. April 2008, Bristol, UK

[2] Jörg, B.; Jeffery, K.G.; Asserson, A.; van Grootel, G (2009): CERIF 2008 – 1.0 Full Data Model (FDM): Introduction and Specification. euroCRIS, January 2009.

[3] Jörg, B.; Krast, O.; Jeffery, K.G.; van Grootel, G (2009): CERIF 2008 – 1.0 XML: Data Exchange Format Specification. euroCRIS, January 2009.