January, 28th 2012

CERIF – 1.3 Semantics: Research Vocabulary

Editors:

Brigitte Jörg	DFKI GmbH, Berlin, Germany
Keith Jeffery	Science and Technology Facilities Council, Didcot, UK
Nikos Houssos	National Documentation Center, Athens, Greece
Jan Dvořák	InfoScience, Praha, Czech Republic
Valérie Brasse	European Science Foundation, Strasbourg, France
Thorsten Höllrigl	avedas, Karlsruhe, Germany
Anne Asserson	University of Bergen, Bergen, Norway
Henrik Rasmussen	atira, Aalborg, Denmark
Danica Zendulova	SC STI, Bratislava, Slovakia
Adrian Price	University of Copenhagen, Denmark
MiguelAngel Sicilia	UAH, Alcala, Spain
Iván Ruiz-Rube	UCA, Madrid, Spain
Geert van Grootel	Flemish Government, Brussels, Belgium
David Baker	CASRAI, Ottawa, Canada
Ken Evans	ORM Foundation, United Kingdom
Manfred Zielinski	School of Management, Rotterdam, Netherlands
Thomas Vestdam	atira, Aalborg, Denmark
Luc Strijbosch	avedas, Karlsruhe, Germany
Mark Cox	King's , London, United Kingdom
Mikael Karstensen Elbæk	Technical University, Lyngby, Denmark
Rita Voigt	University of Technology Library, Helsinki, Finland
E. J. Simons	Radbound University Nijmegen, the Netherlands

Abstract: The CERIF Semantics is one component of the CERIF – 1.3 Full Data Model (FDM), aiming at 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 relevant entities and their relationships. The semantic component in this version presents the current CERIF 1.3 vocabulary; that is, the current types and roles relevant in a research context between the involved entities. Compared to its preceding version, this release provides a anothe upgrade with respect to the quantity of relevant terms. Furthermore, each term has its own uuid, and is assigned to at least one contextual classification scheme.

CERIF is considered 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 2000 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 (Current Research Information Systems).

Status:
CERIF model improvements are based on discussions among euroCRIS CERIF task group members.
This document will be updated alongside major model updates.

Location:
CERIF – 1.3 Semantics: Research Vocabulary Specification
http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Specifications/CERIF1.3_Semantics.pdf

CERIF – 1.3 Vocabulary Collection (Excel)
http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Semantics/CERIF1.3_Vocabulary.xls

Table of Contents

1. Introduction

The presented CERIF Semantics of types and roles is another step towards formalising general relationship and type terms for the research domain. The current version has matured from its preceding version CERIF 2008 – 1.2 Semantics in that it provides additional terms, each assigned at least to one classification scheme, where each term and each classification scheme are additionally and uniquely identified through a uuid.

Updates resulted from feedback at Tutorial presentations, Membership Meetings, from discussions on the CERIF TG mailinglist, and substantially, from extensive discussions at physical CERIF TG meetings. More and more, feedback is additionally collected from ongoing projects. With this release, input has been received from Information Scientists, Librarians, Computer Scientists, Researchers, Managers, Practitioners and Engineers have presented and contributed their views summarized with this document. The CERIF Semantics (vocabulary) aims at recommending a formal semantics to be applied in the wider context of the Research domain as such, including the domain of scholarly publications, funding, teaching, etc., with CERIF as the underlying data model to supply the involved entities and their relationships. The CERIF Semantics is one component of the CERIF – 1.3 Full Data Model (FDM).

Alongside this release, an Excel Sheet has been produced, which formalizes and collects all the current terms and their scheme assignments, including definitions, examples and descriptions, as well as role expressions, where available.

2. CERIF 1.3 Components[1]

The current CERIF 1.3 release comprises the following components:

- CERIF – 1.3 FDM: Model Introduction and Specification
  separate document available from the website [1]

- CERIF 1.3 FDM: SQL scripts for most common databases
  available for members only

- CERIF – 1.3 XML: Data Exchange Format Specification
  separate document available from the website [2]
  Note: Towards the Next Release

- CERIF 2008 – 1.3 XML Examples
  available for members only

- CERIF – 1.3 XML Schema Files
  CERIF XML validation files available from the website
  http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/XML-SCHEMAS/

- CERIF – 1.3 Semantics: Research Vocabulary
  this document

- CERIF 1.3 Vocabulary
  available as Excel file from the website
  http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Semantics/CERIF1.3_Vocabulary.xls
  and (embedded) CERIF XML (currently for Members only)

Additional CERIF–1.3 related files and more documents or background information about CERIF and CRISs are available for downloaded from the euroCRIS website: http://www.eurocris.org/.

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[1] CERIF–1.3 was modeled with Toad Data Modeler by Quest Software[1], 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 1.3 Semantics

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 – 1.3 Introduction and Specification document [2]. The CERIF Semantics may be best viewed as a filler; stuffing the CERIF Semantic Layer with contextually relevant terms. The following list of terms is a small extract of the corresponding Excel file, which is available at the euroCRIS website: http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Semantics/CERIF1.3_Vocabulary.xls

The complete Excel sheet contains additional examples, source information and definitions, descriptions, and assigns each classification term at least to one classification scheme. For a thorough investigation of the Vocabulary, we recommend to have a look at the Excel sheet.

Extract of the CERIF 1.3 Vocabulary Terms

cfClassfication ID	cfClassification Term
cf7799e0-3477-11e1-b86c-0800200c9a66	Person
cf7799e1-3477-11e1-b86c-0800200c9a66	Project
cf7799e2-3477-11e1-b86c-0800200c9a66	Organisation
cf7799e3-3477-11e1-b86c-0800200c9a66	Patent
cf7799e4-3477-11e1-b86c-0800200c9a66	Product
cf7799e5-3477-11e1-b86c-0800200c9a66	Publication
cf7799e6-3477-11e1-b86c-0800200c9a66	Funding
cf7799e7-3477-11e1-b86c-0800200c9a66	Facility
cf7799e8-3477-11e1-b86c-0800200c9a66	Equipment
cf7799e9-3477-11e1-b86c-0800200c9a66	Service
68aa07f0-34c9-11e1-b86c-0800200c9a66	Citation
68aa07f1-34c9-11e1-b86c-0800200c9a66	Curriculum Vitae
68aa07f2-34c9-11e1-b86c-0800200c9a66	Electronic Address
68aa07f3-34c9-11e1-b86c-0800200c9a66	Post Address
d41830c0-354b-11e1-b86c-0800200c9a66	GeographicBouningBox
68aa07f4-34c9-11e1-b86c-0800200c9a66	Event
c0106020-3550-11e1-b86c-0800200c9a66	Indicator
c0106021-3550-11e1-b86c-0800200c9a66	Measurement
68aa07f5-34c9-11e1-b86c-0800200c9a66	Qualification
071fb190-3557-11e1-b86c-0800200c9a66	Prize
8f1ab900-3acf-11e1-b86c-0800200c9a66	Result
8f1ab901-3acf-11e1-b86c-0800200c9a66	Class
95f861f0-3acf-11e1-b86c-0800200c9a66	Classification Scheme
cf7799ea-3477-11e1-b86c-0800200c9a66	European Research Infrastructure
980965b0-1cd5-11e1-8bc2-0800200c9a66	Affiliation
081e85f0-1cd7-11e1-8bc2-0800200c9a66	Subaffiliation
6125f750-1cd7-11e1-8bc2-0800200c9a66	Head
c302c2f0-1cd7-11e1-8bc2-0800200c9a66	Employee
cb3e0010-1cd7-11e1-8bc2-0800200c9a66	Member
68971130-1cd8-11e1-8bc2-0800200c9a66	Director
885eeb00-1cf6-11e1-8bc2-0800200c9a66	Deputy Director
57f7a7d0-1cfc-11e1-8bc2-0800200c9a66	Dean
612163a0-1cfc-11e1-8bc2-0800200c9a66	Principle
68cdce40-1cfc-11e1-8bc2-0800200c9a66	Head of Department

7210b760-1cfc-11e1-8bc2-0800200c9a66	Group Leader
79a2e340-1cfc-11e1-8bc2-0800200c9a66	Manager
8418a710-1cfc-11e1-8bc2-0800200c9a66	Spokesperson
8cfad290-1cfc-11e1-8bc2-0800200c9a66	Associate
94d55210-1cfc-11e1-8bc2-0800200c9a66	Fellow
9ef1ab40-1cfc-11e1-8bc2-0800200c9a66	Reviewer
abf21190-1cfc-11e1-8bc2-0800200c9a66	Contractor
b272a660-1cfc-11e1-8bc2-0800200c9a66	Subcontractor
057a7d50-1cfe-11e1-8bc2-0800200c9a66	Engineer
b9bd41f0-1cfc-11e1-8bc2-0800200c9a66	Administrator
8adcdf20-1cfd-11e1-8bc2-0800200c9a66	Technician
c6e02460-1cfc-11e1-8bc2-0800200c9a66	Secretary
ebd55ab0-1cfc-11e1-8bc2-0800200c9a66	Researcher
f401a3b0-1cfc-11e1-8bc2-0800200c9a66	Junior Researcher
faf322c0-1cfc-11e1-8bc2-0800200c9a66	Senior Researcher
04c3f400-1cfd-11e1-8bc2-0800200c9a66	Consultant
0bb17b70-1cfd-11e1-8bc2-0800200c9a66	Junior Consultant
13633d40-1cfd-11e1-8bc2-0800200c9a66	Senior Consultant
1a3c5250-1cfd-11e1-8bc2-0800200c9a66	Lecturer
23b16f00-1cfd-11e1-8bc2-0800200c9a66	Junior Lecturer
2b20d0a0-1cfd-11e1-8bc2-0800200c9a66	Senior Lecturer
33661fe0-1cfd-11e1-8bc2-0800200c9a66	Guest Lecturer
3bb53320-1cfd-11e1-8bc2-0800200c9a66	Professor
45aec210-1cfd-11e1-8bc2-0800200c9a66	Assistant Professor
4dfbb270-1cfd-11e1-8bc2-0800200c9a66	Honorary Professor
55ddd310-1cfd-11e1-8bc2-0800200c9a66	Visiting Professor
5d1534c0-1cfd-11e1-8bc2-0800200c9a66	Doctor (med)
64af4fe0-1cfd-11e1-8bc2-0800200c9a66	Research Fellow
6c68b2d0-1cfd-11e1-8bc2-0800200c9a66	Postdoc
727f6240-1cfd-11e1-8bc2-0800200c9a66	PhD Student
7a510820-1cfd-11e1-8bc2-0800200c9a66	Research Assistant
80cae630-1cfd-11e1-8bc2-0800200c9a66	Reader
91784ef0-1cfd-11e1-8bc2-0800200c9a66	Teaching Fellow
99c34380-1cfd-11e1-8bc2-0800200c9a66	Teaching Assistant
a3bf6a80-1cfd-11e1-8bc2-0800200c9a66	Casual
a9fc3f90-1cfd-11e1-8bc2-0800200c9a66	Expert
9931ac43-3864-11e1-b86c-0800200c9a66	Function
b0e11470-1cfd-11e1-8bc2-0800200c9a66	Principal Investigator
bc34dc30-1cfd-11e1-8bc2-0800200c9a66	Co-Investigator
c31d3380-1cfd-11e1-8bc2-0800200c9a66	Coordinator
ddc3dd10-1cfd-11e1-8bc2-0800200c9a66	Participant
e4d7b130-1cfd-11e1-8bc2-0800200c9a66	Contributor
254cb300-1cfe-11e1-8bc2-0800200c9a66	Project Officer
2af3d7c0-1cfe-11e1-8bc2-0800200c9a66	Contact
33551370-1cfe-11e1-8bc2-0800200c9a66	Applicant
49815870-1cfe-11e1-8bc2-0800200c9a66	Author
505eb340-1cfe-11e1-8bc2-0800200c9a66	Author (numbered)
5a4c3440-1cfe-11e1-8bc2-0800200c9a66	Author (percentage)
60f2a090-1cfe-11e1-8bc2-0800200c9a66	Creator

708b3df0-1cfe-11e1-8bc2-0800200c9a66	Editor
7ef398b1-1cfe-11e1-8bc2-0800200c9a66	Translator
7ef398b2-1cfe-11e1-8bc2-0800200c9a66	Publisher
7ef398b3-1cfe-11e1-8bc2-0800200c9a66	Commissioner
7ef398b4-1cfe-11e1-8bc2-0800200c9a66	Group Authors
6b2b7d22-3491-11e1-b86c-0800200c9a66	Mentor
6b2b7d23-3491-11e1-b86c-0800200c9a66	Supervisor
95f861f1-3acf-11e1-b86c-0800200c9a66	Previous Name
af6468a0-3acf-11e1-b86c-0800200c9a66	Spelling Variant
af648fb0-3acf-11e1-b86c-0800200c9a66	Artistic Name
eda28bc1-34c5-11e1-b86c-0800200c9a66	Funder
eda28bc2-34c5-11e1-b86c-0800200c9a66	Part
eda28bc3-34c5-11e1-b86c-0800200c9a66	Relation
eda28bc4-34c5-11e1-b86c-0800200c9a66	Acquisition
eda28bc5-34c5-11e1-b86c-0800200c9a66	Takeover
eda28bc6-34c5-11e1-b86c-0800200c9a66	Supporter
eda28bc7-34c5-11e1-b86c-0800200c9a66	Stakeholder
eda28bc8-34c5-11e1-b86c-0800200c9a66	Merger
eda28bc9-34c5-11e1-b86c-0800200c9a66	Derivation
eda28bca-34c5-11e1-b86c-0800200c9a66	Built on
eda28bcb-34c5-11e1-b86c-0800200c9a66	Successor
eda28bcc-34c5-11e1-b86c-0800200c9a66	Predecessor
eda2b2d0-34c5-11e1-b86c-0800200c9a66	Spin-Off
eda2b2d2-34c5-11e1-b86c-0800200c9a66	IPR Claim
eda2b2d3-34c5-11e1-b86c-0800200c9a66	Curator
eda2b2d4-34c5-11e1-b86c-0800200c9a66	Author Institution
eda2b2d5-34c5-11e1-b86c-0800200c9a66	Publisher Institution
eda2b2d6-34c5-11e1-b86c-0800200c9a66	Reviewer Institution
eda2b2d7-34c5-11e1-b86c-0800200c9a66	External Organisation
eda2b2d8-34c5-11e1-b86c-0800200c9a66	Cooperation
eda2b2d9-34c5-11e1-b86c-0800200c9a66	Originator
eda2b2dd-34c5-11e1-b86c-0800200c9a66	Document
eda2b2de-34c5-11e1-b86c-0800200c9a66	Equipment Access Policy Document
eda2b2df-34c5-11e1-b86c-0800200c9a66	Equipment Usage Document
eda2b2e0-34c5-11e1-b86c-0800200c9a66	Pending
eda2b2e1-34c5-11e1-b86c-0800200c9a66	Awarded
eda2b2e2-34c5-11e1-b86c-0800200c9a66	Refused
eda2b2e3-34c5-11e1-b86c-0800200c9a66	Issuer
eda2b2e4-34c5-11e1-b86c-0800200c9a66	Responsible
eda2b2e5-34c5-11e1-b86c-0800200c9a66	Financier
eda2b2e6-34c5-11e1-b86c-0800200c9a66	Cost Center
eda2b2e7-34c5-11e1-b86c-0800200c9a66	Funding Programme
eda2b2e8-34c5-11e1-b86c-0800200c9a66	Call
eda2b2e9-34c5-11e1-b86c-0800200c9a66	Tender
eda2b2ea-34c5-11e1-b86c-0800200c9a66	Gift
f53c0b50-3aff-11e1-b86c-0800200c9a66	Specific Targeted Research Projects
f53c0b51-3aff-11e1-b86c-0800200c9a66	Integrated Project
f53c0b52-3aff-11e1-b86c-0800200c9a66	Network of Excellence
f53c0b53-3aff-11e1-b86c-0800200c9a66	Specific Support Action

eda2b2eb-34c5-11e1-b86c-0800200c9a66	Discipline Codes
eda2b2ec-34c5-11e1-b86c-0800200c9a66	Application Codes
eda2b2ed-34c5-11e1-b86c-0800200c9a66	Academic Institute
eda2b2ee-34c5-11e1-b86c-0800200c9a66	University
eda2b2ef-34c5-11e1-b86c-0800200c9a66	University College
eda2b2f0-34c5-11e1-b86c-0800200c9a66	Research Institute
eda2b2f1-34c5-11e1-b86c-0800200c9a66	Strategic Research Insitute
eda2b2f2-34c5-11e1-b86c-0800200c9a66	Company
eda2b2f3-34c5-11e1-b86c-0800200c9a66	SME
eda2b2f4-34c5-11e1-b86c-0800200c9a66	Government
eda2b2f5-34c5-11e1-b86c-0800200c9a66	Higher Education
eda2b2f6-34c5-11e1-b86c-0800200c9a66	Private non-profit
eda2b2f7-34c5-11e1-b86c-0800200c9a66	Book
eda2b2f8-34c5-11e1-b86c-0800200c9a66	Book Review
eda2b2f9-34c5-11e1-b86c-0800200c9a66	Book Chapter Abstract
eda2d9e0-34c5-11e1-b86c-0800200c9a66	Book Chapter Review
eda2d9e1-34c5-11e1-b86c-0800200c9a66	Inbook
eda2d9e2-34c5-11e1-b86c-0800200c9a66	Anthology
eda2d9e3-34c5-11e1-b86c-0800200c9a66	Monograph
eda2d9e4-34c5-11e1-b86c-0800200c9a66	Referencebook
eda2d9e5-34c5-11e1-b86c-0800200c9a66	Textbook
eda2d9e6-34c5-11e1-b86c-0800200c9a66	Encyclopedia
eda2d9e7-34c5-11e1-b86c-0800200c9a66	Manual
eda2d9e8-34c5-11e1-b86c-0800200c9a66	Otherbook
eda2d9e9-34c5-11e1-b86c-0800200c9a66	Journal
eda2d9ea-34c5-11e1-b86c-0800200c9a66	Journal Article
eda2d9eb-34c5-11e1-b86c-0800200c9a66	Journal Article Abstract
eda2d9ec-34c5-11e1-b86c-0800200c9a66	Journal Article Review
eda2d9ed-34c5-11e1-b86c-0800200c9a66	Conference Proceedings
eda2d9ee-34c5-11e1-b86c-0800200c9a66	Conference Proceedings Article
eda2d9ef-34c5-11e1-b86c-0800200c9a66	Letter
eda2d9f0-34c5-11e1-b86c-0800200c9a66	Letter to Editor
eda2d9f1-34c5-11e1-b86c-0800200c9a66	PhD Thesis
eda2d9f2-34c5-11e1-b86c-0800200c9a66	Doctoral Thesis
eda2d9f3-34c5-11e1-b86c-0800200c9a66	Report
eda2d9f4-34c5-11e1-b86c-0800200c9a66	Short Communication
eda2d9f5-34c5-11e1-b86c-0800200c9a66	Poster
eda2d9f6-34c5-11e1-b86c-0800200c9a66	Presentation
eda2d9f7-34c5-11e1-b86c-0800200c9a66	Newsclipping
eda2d9f8-34c5-11e1-b86c-0800200c9a66	Commentary
9931ac40-3864-11e1-b86c-0800200c9a66	Annotation
9931ac41-3864-11e1-b86c-0800200c9a66	Fax
9931ac42-3864-11e1-b86c-0800200c9a66	Email
9931ac44-3864-11e1-b86c-0800200c9a66	Phone
9931ac45-3864-11e1-b86c-0800200c9a66	Public Access
9931ac46-3864-11e1-b86c-0800200c9a66	Corporate Access
9931ac47-3864-11e1-b86c-0800200c9a66	Logo
eda2d9fa-34c5-11e1-b86c-0800200c9a66	Distributed
eda2d9fb-34c5-11e1-b86c-0800200c9a66	Network

eda2d9fc-34c5-11e1-b86c-0800200c9a66	Virtual
eda2d9fd-34c5-11e1-b86c-0800200c9a66	Cluster
eda2d9fe-34c5-11e1-b86c-0800200c9a66	Single location
eda2d9ff-34c5-11e1-b86c-0800200c9a66	Owner
eda2da00-34c5-11e1-b86c-0800200c9a66	Host
eda2da01-34c5-11e1-b86c-0800200c9a66	User
eda2da02-34c5-11e1-b86c-0800200c9a66	Staff
eda2da03-34c5-11e1-b86c-0800200c9a66	Construction
69ce2c31-3864-11e1-b86c-0800200c9a66	Deposition
eda2da04-34c5-11e1-b86c-0800200c9a66	Development
eda2da05-34c5-11e1-b86c-0800200c9a66	Under Construction
eda2da06-34c5-11e1-b86c-0800200c9a66	Being Upgraded
eda2da07-34c5-11e1-b86c-0800200c9a66	In Operation
eda2da08-34c5-11e1-b86c-0800200c9a66	Provision
eda2da09-34c5-11e1-b86c-0800200c9a66	Construction Costs
eda2da0a-34c5-11e1-b86c-0800200c9a66	Design Costs
c2a2b570-3acf-11e1-b86c-0800200c9a66	Operating Costs

4. Acknowledgements

5. Next Steps

The CERIF Semantics and thus, vocabulary will be continuously improved. The CERIF Taskgroup aims at a continued integration with CASRAI[2] / VIVO[3] towards improvement of the CERIF Semantics. Furthermore, there will be collaboration with the Linkded Open Data, Best Practises, Architecture and CRIS IR Taskgroups.

6. References

[1] Jörg B, Jeffery KG, Dvorak J, Houssos N, Asserson A, van Grootel G, Gartner R, Cox M, Rasmussen H, Vestdam T, Strijbosch, L, Clements A, Brasse V, Zendulkova D, Höllrigl, T, Valkovic L, Engfer, A, Jägerhorn M, Mahey M, Brennan N, Sicilia M-A, Ruiz-Rube I, Baker D, Evans K, Price A, Zielinski M (2012): CERIF 1.3 Full Data Model (FDM): Introduction and Specification. euroCRIS, 2012.

[2] Jörg, B.; Dvořák, J.; Vestdam T.; van Grootel, G.; Jeffery, K.G.; Clements, A.; (2012): CERIF – 1.3 XML: Data Exchange Format Specification. euroCRIS, January 2012.

[3] CERIF vocabulary: http://www.eurocris.org/Uploads/Web%20pages/CERIF-1.3/Semantics/CERIF1.3_Vocabulary.xls

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[2] CASRAI and euroCRIS signed Memorandum of Understanding:
http://www.eurocris.org/Uploads/Web%20pages/newsflash/Newsflash%2048.pdf
[3] VIVO project and euroCRIS joint statement: http://vivoweb.org/blog/2011/11/joint-statement-eurocris-and-vivo-project