Producing an Architecture and Roadmap

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About the speaker

• National Documentation Centre (EKT)
• Technical architect of e-infrastructures
• CRIS, repositories, e-publishing, aggregators
• National CRIS system (in development)
• National archive of doctoral dissertations
• National repositories aggregator
• euroCRIS Board member since 2009
• CRIS Architecture and Development Task Group Leader
• Former Projects Task Group Leader
• EU projects
• OpenAIREPlus, EuroRIs-Net+, ENGAGE, ArrowPlus, ...

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Agenda

• CRIS Architecture and Development challenges
• Short-term roadmap
• Future prospects
CRIS Architecture and Development – Challenges

• Assisting developers in using / applying CERIF
• Facilitating development of reusable services over CERIF CRIS
• Facilitating development of applications over CERIF CRIS
• Enabling seamless participation of CERIF CRIS in IT ecosystems
How to achieve long-term objectives?

• Specify and check CERIF compatibility of CRIS
• Define ways for CERIF CRIS to communicate with other systems
  – Bulk data import/export
  – Fine-grained CRUD operations
  – Arbitrary queries
Short-term goals

• CERIF CRIS Reference Implementation
• CERIF Compatibility Testing System
• Basic standard REST API for CRIS
CERIF Reference Implementation

• Aims to be:

• An open system available for any interested party to study and understand CERIF down to the implementation level
  – Indicative implementation to clearly demonstrate the CERIF concepts

• An open component of the CERIF compatibility testing system
CERIF Reference Implementation

• Will *not* be:
  
• A full-fledged CERIF-CRIS product (or a first step to a future full-fledged implementation of a CERIF-CRIS software offering by euroCRIS)

• An implementation aiming to be the best of breed in terms of development details
CERIF Reference Implementation Architecture

REST API
CERIF XML export layer
CERIF persistence layer

CERIF DB (populated)
CERIF Reference Implementation Architecture

- **The CERIF database.** A native CERIF database, fully populated with fabricated (but realistic-looking) data that covers the entire CERIF model. The entire data of this reference CERIF database will be publicly available for download in CERIF XML.

- **The REST API wrapper.** A layer over the CERIF database that exposes its contents over a REST API in CERIF XML format.

- **The CERIF Export functional element.** This element handles the transformation of CERIF database data to standard CERIF XML.

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CERIF Compatibility Testing System

• Aim:
  • Assist developers of systems aiming to be CERIF-compliant
  • Ensure the quality and homogeneity of use of CERIF by systems aiming to be CERIF-compliant
CERIF Compatibility Testing

1. Scenario A
CERIF-CRIS software platforms (e.g. Elsevier SciVal, CONVERIS, Symplectic Elements, etc.)

2. Scenario B
Individual operational CERIF-CRIS systems currently in production, for example institutional, national or international CRIS (e.g. OpenAIREplus, EuroRIs-Net+)
CERIF Compatibility Testing

- Use case to be tested: Point-to-Point CRIS data exchange in CERIF XML
- Ability of a CRIS system to provide information in standard CERIF-XML through a basic REST API.
- Profiling: potential of checking conformance with specific subsets (“profiles”) of CERIF.
- More advance use cases can be targeted in the future.
CERIF Compatibility Testing System

• Components:
  • CERIF Reference Implementation (described before)
  • Compatibility Checker module, which performs queries against the system under test, retrieves the results and validates them, using, when appropriate, also information that it retrieves from the CC_REFIM.
  • The CRIS system under test – two types:
    – an operational CRIS system currently in production (e.g. institutional, national or international CRIS)
    – a specific testing installation of a particular CRIS software platform / product made available by the CRIS platform provider for the purpose of testing by the euroCRIS CERIF Compatibility Testing
CERIF Compatibility Testing
Scenario A

Compatibility Checker

CRIS Platform under test

Reference data in CERIF XML

CC_REFIM
CERIF Compatibility Testing
Scenario B

1. Deployment of REST API
2. CRIS System under test
3. Results

Compatibility Checker

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REST API over CERIF CRIS

- Programmatic access to CERIF CRIS will allow easier development of services and interaction with other systems.
- REST is a prime candidate technology due to simplicity, ubiquity, inherent compatibility with the architecture of the Web.

Examples of calls:
- http://api.eurocris.org/project/123456789 (get information of project with id 123456789)
- http://api.eurocris.org/project (get list of identifiers of all projects in the CRIS system)
- http://api.eurocris.org/get/entities (get list of entities supported in the CRIS system)
Future challenges

• Specify a full-fledged CRIS API / set of standard CRIS services

• CERIF compatibility for more advance use cases
  – CERIF CRIS exposed as Linked Open Data
  – Distributed execution of arbitrary queries
Thank you!

Questions / comments?

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