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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, ...

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

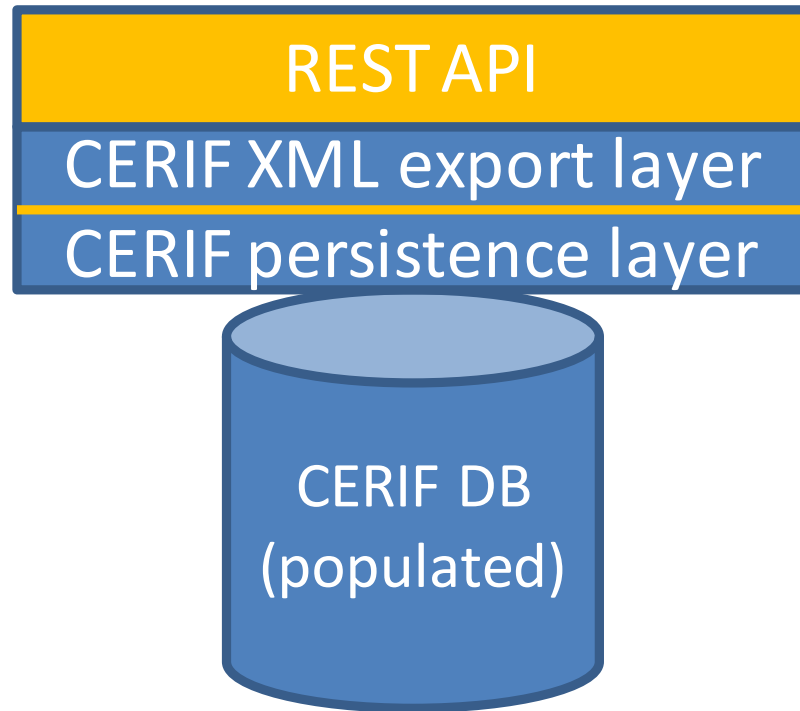
CERIF Reference Implementation

- 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



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.

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+)

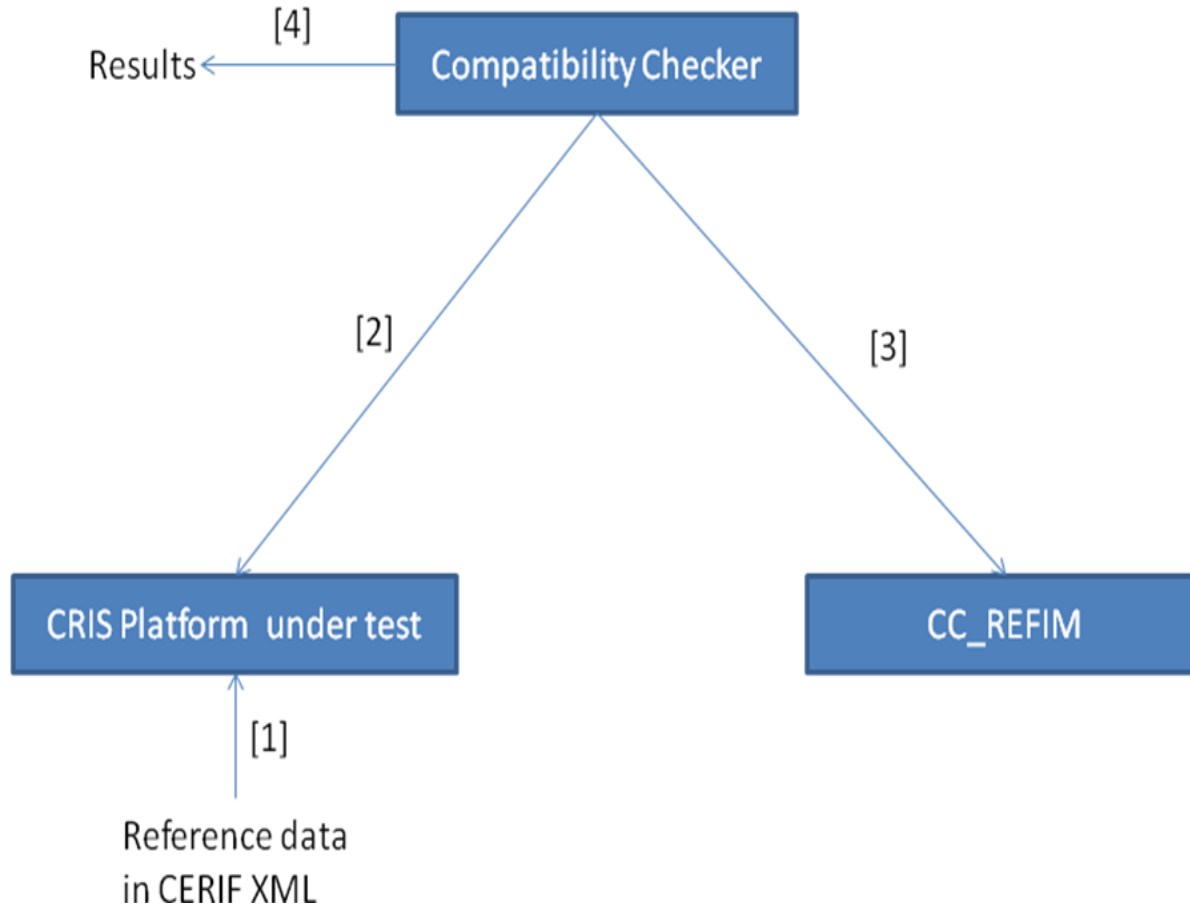
CERIF Compatibility Testing

- 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.

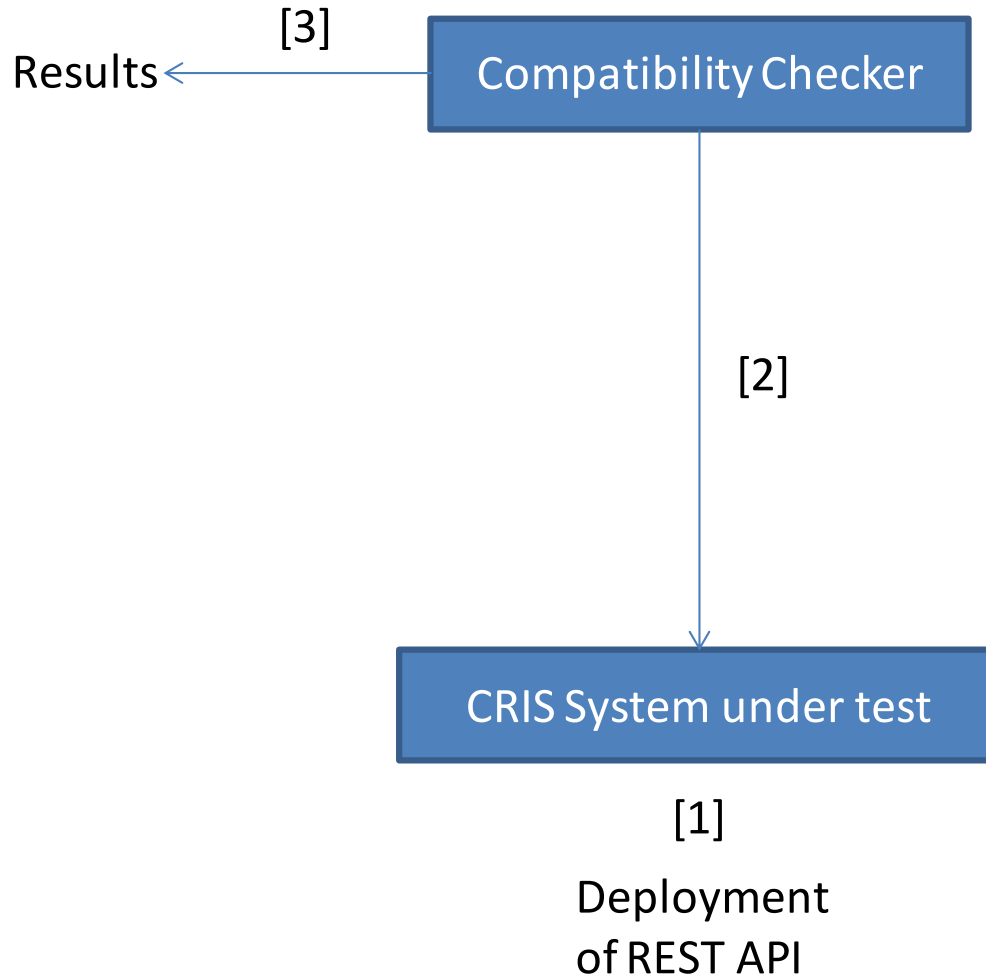
CERIF Compatibility Testing System

- **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



CERIF Compatibility Testing Scenario B



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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