

COAR Interoperability Roadmap

Uppsala, May 21, 2012

COAR General Assembly

Background

COAR WG2's main objective for 2011-2012 was to facilitate a discussion on interoperability among Open Access repositories.

- Phase 1: Kick off the process by writing and releasing a briefing paper providing overview of interoperability for OA repositories.
 - [“The Case for Interoperability for Open Access Repositories,”](#) a briefing paper, was released on 11-July-2011.
 - [Spanish Translation, by COAR member,](#) available January 2012
- Phase 2: Stimulate an open discussion among COAR members and the broader OA/repository community to gather input about current and anticipated challenges related to global interoperability for OA repositories.
- Phase 3: Define and issue the COAR Roadmap for Open Access Repository Interoperability.



The COAR Roadmap for Open Access Repository Interoperability

Goal: to provide clarity and guidance for the interoperability landscape by:

- Presenting an overview of the current and emerging services that interoperability initiatives make possible
- Presenting interoperability standards/protocols in connection to these services
- Provide guidance and recommendations on future directions and solutions for enhancing repository interoperability in the context of OA and e-infrastructure



The COAR Roadmap for Open Access Repository Interoperability

Intended Audience: Institutions, and repository managers, operating at different points in terms of infrastructure, resources, and institutional support

- For institutions new to OA and repositories: Roadmap will provide guidance in getting started – providing ideas on the types of services repositories can offer
 - Which interoperability standards and protocols are necessary to implement in order to provide those services
- For institutions and repository managers already involved in OA and repositories: ideas for additional functionality, services possible to provide



Outline of the Roadmap

- Part I – State of the art report – To be released before July 10th
- Part 2 – Future directions – To be released by the end of 2012



Outline of the Roadmap – Part 1

- **Part 1 – General overview:** representation of the categories of the current services that interoperability can support and which interoperability initiatives are related to those services. *Emphasis on services.*
- **Part 2 – Description of current standards/guidelines/projects**
 - a) **Description** – Detailed information about specific interoperability guidelines and standards referenced in the roadmap. Each item will be summarized in a consistent way.
 - b) **Applications** : concrete examples of services or applications that have been developed using the standards/guidelines/projects.
 - c) **Additional** resources for further readings, particularly focusing on explanatory texts and other useful information.
- **Annexes – List of terms and abbreviations/glossary**



Themes & Categories of Services

- Metadata Harvesting Tools and Interfaces
- Support for International and Regional Networks, National Search Services
- Usage Statistics
- Web Visibility
- Author Deposits & Ingest Tools
- Managing Compound Objects (including Enhanced Publications, Linked Data)
- Integrating Repositories into Research Administration Workflows/Current Research Information Systems
- Persistent Identifiers
- Author Identification



Services	Protocols, Standards, Guidelines, etc.
Metadata Harvesting	OAI-PMH
International, Regional, National Networks	DRIVER OpenAIRE
Usage Statistics	COUNTER DINI Statistics KE Usage Statistics OA-Statistik PIRUS SURE
Web Visibility	<i>See preprint article and responses from authors, Kenning Arlitsch and Patrick OBrien</i>
Author Deposits and Ingest Tools	SWORD Open Access Repository Junction
Managing Compound Objects	OAI-ORE METS
Author Identification	ORCID AuthorClaim Names Project
Research Administration	CRIS-OAR CERIF
Persistent Identifiers	PersID DOI Handle System DataCite



List of Interoperability Standards, Protocols, Guidelines to Consider

- AuthorClaim
- Counting Online Usage of NeTworked Electronic Resources (COUNTER)
- Current Research Information Systems and Open Access Repositories (CRIS-OAR)
- DataCite
- DINI Certificate for Document and Publication Servers
- DINI Statistics
- Digital Object Identifier System (DOI)
- Digital Repository Infrastructure Vision for European Research (DRIVER)
- Handle System
- KE Usage Statistics Guidelines
- Linked Data/RDF: anything?
- Names Project
- Open Archive Initiative – Object Reuse and Exchange (OAI-ORE)
- Open Archive Initiative – Protocol for Metadata Harvesting (OAI-PMH)
- OA-Statistik (OAS)
- Open Access Repository Junction (OA-RJ)
- Open Access Infrastructure Research for Europe (OpenAIRE)
- Open Research & Contributor ID (ORCID)
- PersID
- Publishers and Institutional Repository Usage Statistics (PIRUS)
- Statistics on the Usage of Repositories (SURE)
- Simple Web-service Offering Repository Deposits (SWORD)



Preliminary Template

Full Name of Standard, Guideline, Protocol, or Project (Acronym)

URL:

COAR Roadmap Category: *See list from project documentation for suggested categories.*

Geographic Focus: *Use 'Global' if not specific to any one region/country.*

Current status: *(Select one: Currently maintained, Under development, No longer maintained)*

Sponsoring Organization(s):

About this Initiative:

1-2 paragraphs explaining what is this initiative, what is its purpose, what problem does it solve

Applications of [Name of Protocol]:

1-2 paragraphs explaining how it is used

Getting Started

A brief paragraph with any key information necessary for someone to know when getting started

Examples of Implementations

3-4 bullet points of sample implementations – ideally, from at least 3 different continents (if applicable)

Additional Resources/Further Reading

1-5 bullet points with additional materials or links to presentations/publications



Open Archives Initiative – Protocol for Metadata Harvesting (OAI-PMH)

- URL: <http://www.openarchives.org/pmh/>
- COAR Roadmap Category: Metadata Harvesting
- Geographic Focus: Global
- Current status: Currently maintained
- Current Version: Version 2.0 (2008) is currently in use.
- Sponsoring Organization(s): The Open Archives Initiative

About this Initiative:

OAI-PMH makes it possible for metadata from repositories to be “harvested” or collected by external systems or repositories. When this occurs, metadata from multiple systems is aggregated together while the content itself remains at the host institution. OAI-PMH is used by two groups of participants: 1) data providers, 2) service providers. Data providers are repositories that allow for their materials to be harvested using the OAI-PMH protocol. Service providers are systems that are harvesting materials using the OAI-PMH protocol.



OAI-PMH Continued

Applications of OAI-PMH:

OAI-PMH serves a single purpose: to harvest metadata from various repositories. Once that metadata has been harvested, it is possible to create new platforms or services around the aggregated metadata.

OAI-PMH is the starting point for any interoperability work that involves harvesting metadata from multiple repositories.

Getting Started:

OAI-PMH is the entry point for repository interoperability – it is a low-barrier interoperability protocol that most repository systems are designed to support with limited work by repository managers. Major repository systems such as DSpace, ePrints, Fedora, ContentDM, and Greenstone are all designed to support OAI-PMH.

Since OAI-PMH is designed to harvest metadata from repository records, it is necessary for compliant repositories to use the Dublin Core metadata schema.



Examples of OAI-PMH Implementations:

- **Connecting-Africa:** a platform that uses OAI-PMH to harvest metadata records from repositories to provide a single interface for research about Africa. The platform currently includes resources from nearly 90 institutions; it is maintained by the African Studies Centre in Leiden, Netherlands.
<http://www.connecting-africa.net>
- **The Economists Online:** provides access to citations for economics-related research and datasets produced at member institutions. Materials are harvested from their host institutions via OAI-PMH. The project was developed by the Network of European Economists Online (NEEO) and is now supported by Nereus. <http://www.economistsonline.org/home>
- **Europeana:** a collection of harvested metadata records for types of cultural heritage objects from various European institutions including museums, archives, universities, and other types of organizations. The focus is not on scholarship, but other types of digital objects such as images and audio files.
<http://www.europeana.eu/portal/>
- **OAIster:** a union catalog of harvested records covering a range of digital materials, including Open Access scholarship and other types of cultural heritage materials such as photographs and audio recordings. OAIster is currently supported by OCLC. <http://oaister.worldcat.org/>
- **WorldCat:** a union catalog of harvested metadata records from books, journals, and other types of resources such as Open Access Scholarship.
<http://www.worldcat.org>



OAI-PMH Continued

Additional Resources/Further Reading

- OAI for Beginners – the Open Archives Forum online tutorial:
<http://www.oaforum.org/tutorial/>



Applications / Examples

Subject Repositories:

- RePEC (economics) – a decentralized database of working papers, journal articles, and software components. Materials are harvested from institutional Open Access repositories and brought together in one interface. RePEC includes several off-shoot projects that allow for RePEC materials to be searched for or browsed in various configurations. <http://repec.org>
- Economists Online & NEEO (economics) – includes scholarly economics materials that are harvested from institutional Open Access repositories and brought together in one interface.
<http://www.nereus4economics.info/projectneeo.html>

Other Applications:

- CORE suite of applications: CORE portal, CORE mobile, CORE plugin, CORE API. This suite of tools is designed to support searching and navigating across scientific publications that are available through Open Access repositories.
<http://core-project.kmi.open.ac.uk/>
- Microsoft Research – see packet of information from SPARC meeting.



Work ahead in 2012–2013

- Release Roadmap in parts:
 - Part I – State of the Art Report 1.0 – before July 10
 - Presentation at OR2012, and Berlin 10 Conf.
 - Part II – Future Directions (Recommendations on where to go and future directions) – End 2012
 - Roadmap 2.0 – Revise version I and include interoperability for/with data repositories - jointly with data infrastructure communities - 2013



How can members engage?

- Propose inclusion of standard/guidelines not already referenced – May 25th
- Participate on the writing of the Roadmap - June 2012
- Participate on the discussion/review of the Roadmap

