
Next Generation Repositories

Que faire pour une meilleure interopérabilité

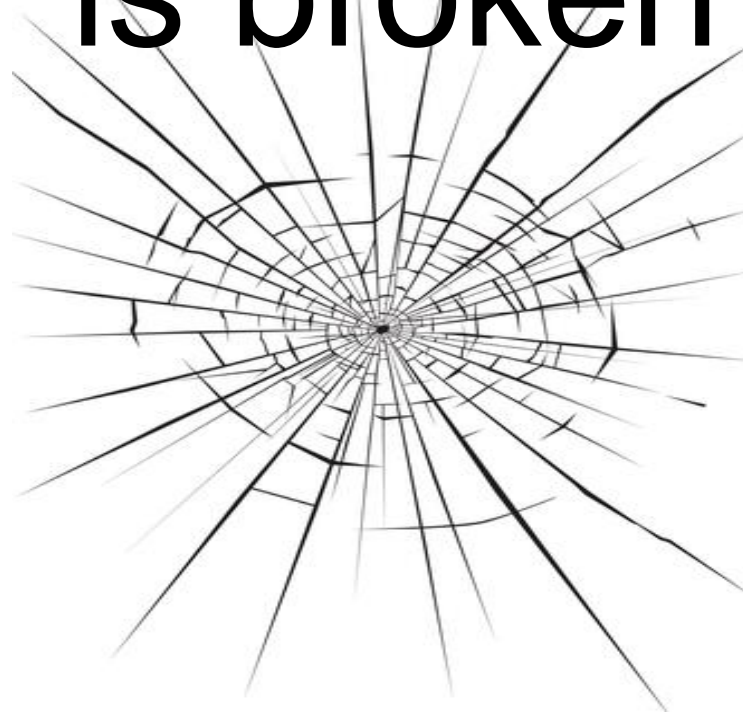
Kathleen Shearer, Eloy Rodrigues, Andrea Bollini, Alberto Cabezas, Donatella Castelli, Les Carr, Leslie Chan, Chuck Humphrey, Rick Johnson, Petr Knoth, Paolo Manghi, Lazarus Matizirofa, Pandelis Perakakis, Jochen Schirrwagen, Tim Smith, Herbert Van de Sompel, Paul Walk, David Wilcox, Kazu Yamaji



#nextgenrepositories
@COAR_EV



The current scholarly communication system is broken



**Not
Sustainable,
Equitable or
Innovative**

COAR's Vision



A global knowledge commons based on a
network of open access repositories



Old Technologies

But... repository systems are using **old** technologies developed over 15 years ago that do not support the functionalities we need.



Next Generation Repositories

- » Major strategic priority for COAR
- » Working Group launched in April 2016
- » Recommendations delivered in November 2017
- » Now in the implementation phase

Aim: to identify functionalities and architectures for the next generation repositories within the context of scholarly communication



Next generation repositories working group

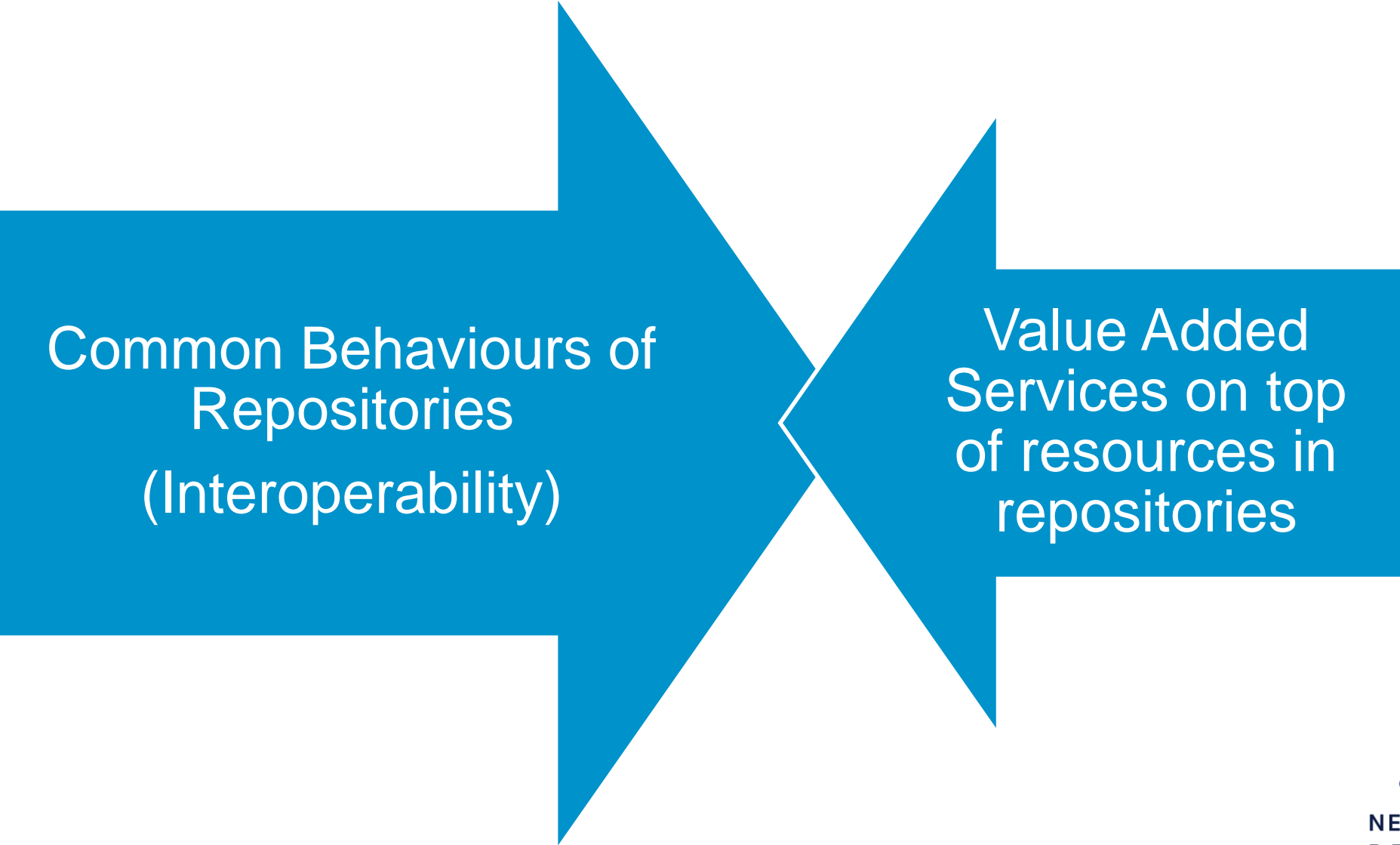
*The aim of this activity is to develop a **global network** of repositories that allows **frictionless access** to open content and encourages the creation of **cross-repository added-value services**.*



Guiding Principles

- Distribution of control
- Inclusiveness and diversity
- Public good
- Intelligent openness and accessibility
- Sustainability
- Interoperability

Two Critical Elements of the NGR Vision



Common Behaviours of
Repositories
(Interoperability)

Value Added
Services on top
of resources in
repositories

Key Design Assumptions

- Focus on the resources themselves, not just associated metadata
- Pragmatism
- Evolution, not revolution
- Convention over configuration
- Engage with users where they are

Next generation repositories working group

“...making the **resource**, rather than the repository, the **focus** of services and infrastructure.”

Characteristics of Next Gen Repositories

» Manages and provides access to a wide diversity of resources

Resource centric

Networked

Machine-friendly

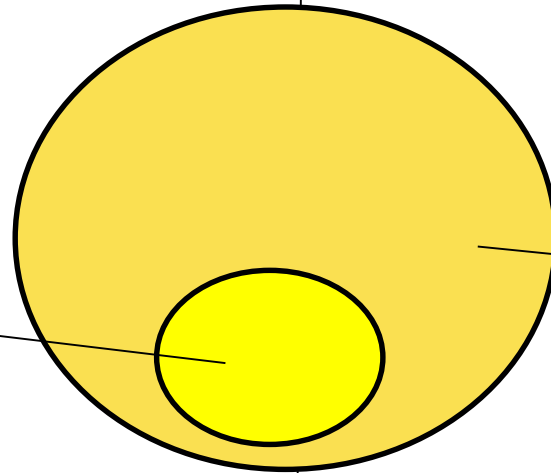
Active

Current repositories

Next generation repositories

Services we can develop with repositories today

Services we can develop with the next generation repositories



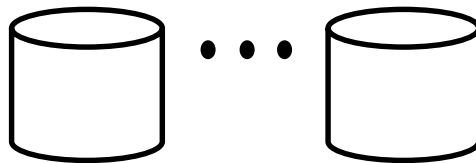
Conceptual layer

Batch
disco
very

Metadata

Interoperability

Persistence layer



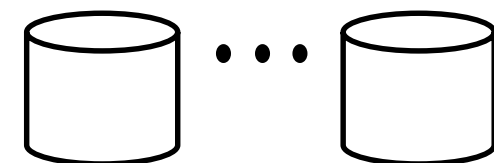
Conceptual layer

Discovery mechanisms
- Batch
- Navigation
- Notification

Usage interactions and metrics	Comments	Peer-reviews	Messages
Global sign-on			
Metadata	Content	Links between resources	Notifications

Interoperability

Persistence layer

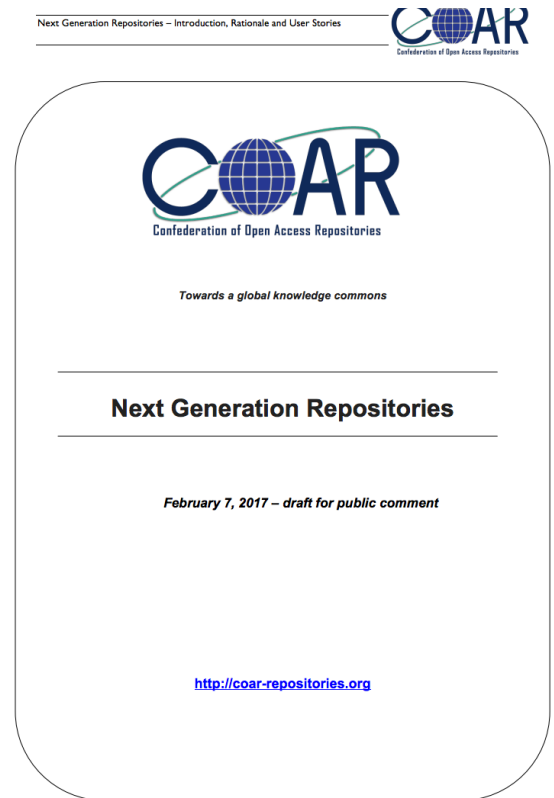


Importance of interoperability

Lack of interoperability in the scholarly communication system is a major barrier to innovation.

User stories

- Data mining
- Discovering metadata that describe a scholarly resource
- Discovering the identifier of a scholarly resource
- Discovering usage rights
- Resource syncing and notification
- Recognizing the user
- Commenting & annotating
- Providing a social notification feed
- Recommender systems for repositories
- Preservation
- Peer-review
- Comparing usage



<https://www.coar-repositories.org/files/COAR-Next-Generation-Repositories-February-7-2017.pdf>

11 Behaviours and Technical Recommendations

1. Exposing Identifiers
2. Declaring Licenses at the Resource Level
3. Discovery Through Navigation
4. Interacting with Resources (Annotation, Commentary, and Review)
5. Resource Transfer
6. Batch Discovery
7. Collecting and Exposing Activities
8. Identification of Users
9. Authentication of Users
10. Exposing Standardized Usage Metrics
11. Preserving Resources

Les archives ouvertes de prochaine génération

Fonctionnalités et recommandations techniques du Groupe de travail COAR sur les archives ouvertes de prochaine génération

28 novembre 2017



Aurore boréale, Norvège

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Traduction française assurée par Marc Rubio & Jean-François Nominé
Equipe Traduction - Inist-CNRS - Vandoeuvre-lès-Nancy

Supporting technologies

- Notification protocols
 - **ResourceSync**
 - **Signposting**
 - ETag
 - HTTP Signatures
 - IPFS
 - ORCID
 - OpenID Connect
 - Activity Streams 2.0
 - SUSHI
 - SWORD
 - Sitemaps
 - Social Network Identities
 - Web Annotation Model & Protocol
 - WebID
 - WebID/TLS
 - WebSub
 - Webmention
 - IIF
 - COUNTER
 - Creative Commons Licenses
-

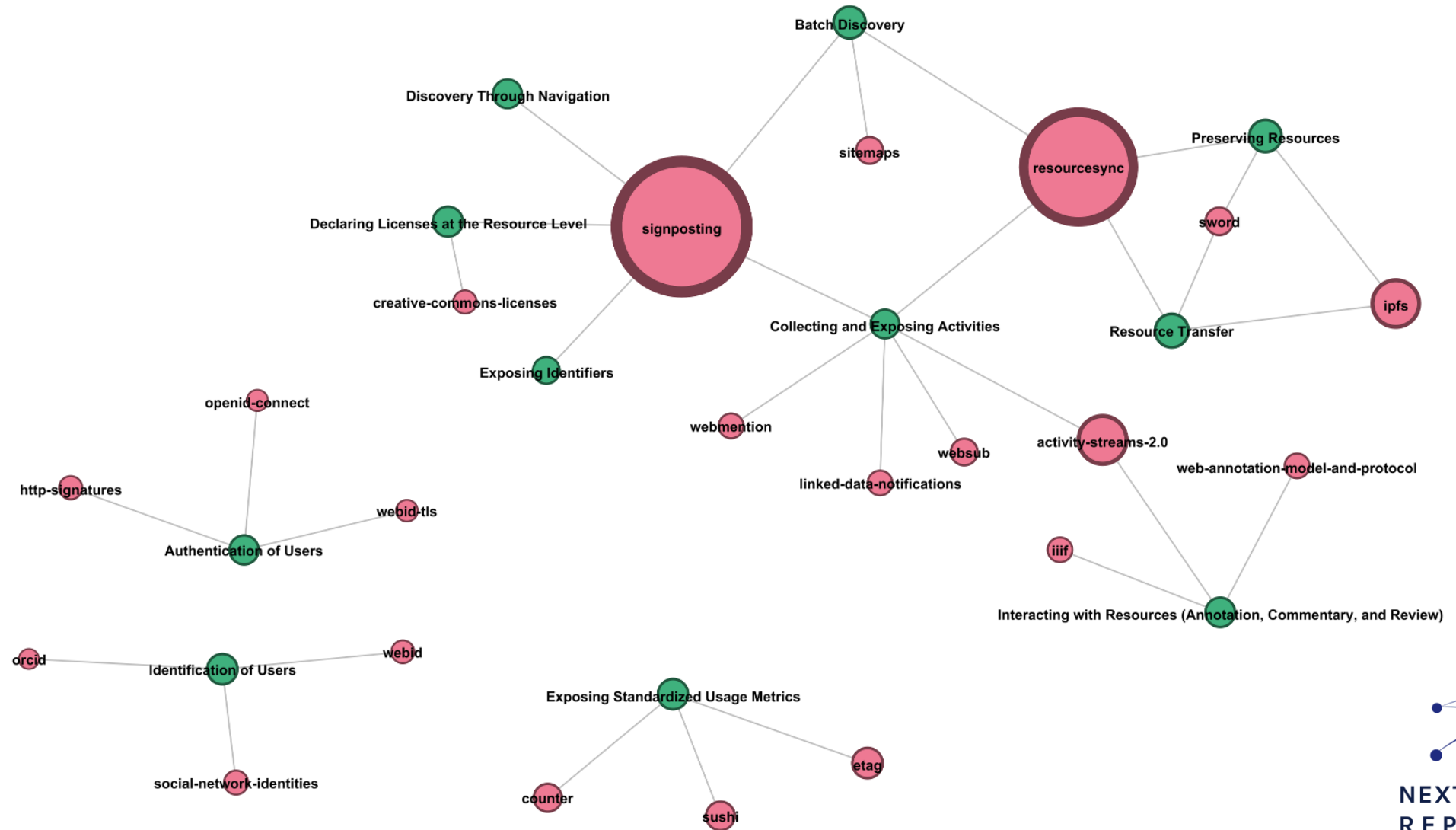
User stories and priority areas

Discovery and exposing resources	Batch	<ul style="list-style-type: none">• Data mining• Discovering metadata that describe a scholarly resource• Discovering the identifier of a scholarly resource• Discovering usage rights• Resource syncing and notification
	Navigation	
	Notification	
Research workflows and lifecycle	Annotation	<ul style="list-style-type: none">• Recognizing the user• Commenting & annotating• Providing a social notification feed• Recommender systems for repositories• Preservation
	Commenting	
	Social interaction	
Research evaluation	Peer review	<ul style="list-style-type: none">• Peer-review• Comparing usage
	Metrics	

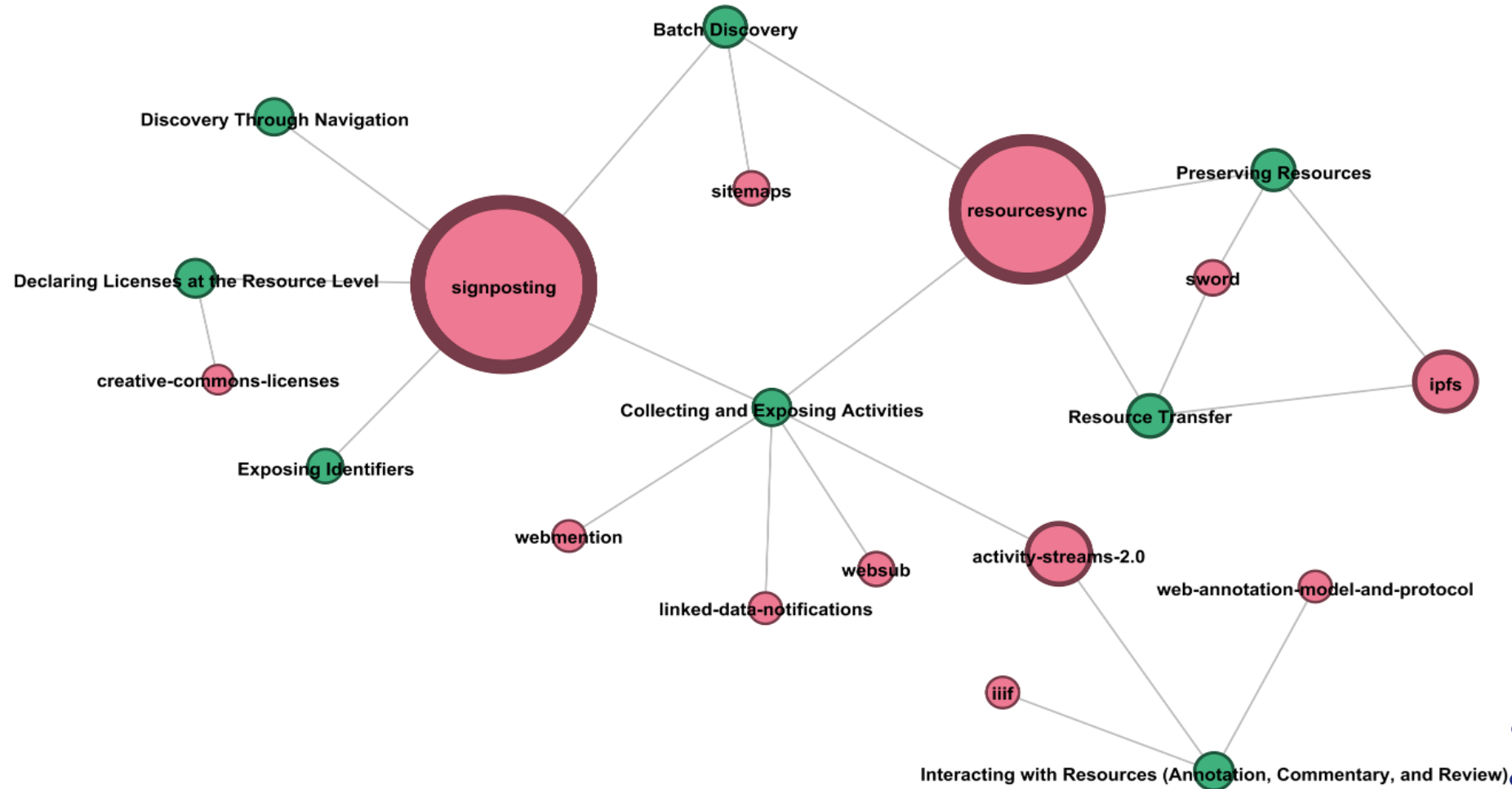
Three vertical discovery mechanisms

- » Batch – Transferring bulk data
- » Navigation – Helping robots to find resources in repositories by means of navigation
- » Notification – Enabling robots to subscribe to changes in repositories

Visualize technologies and behaviour



Priority technologies: Signposting & ResourceSync



Signposting - <http://signposting.org/>

- » Signposting is an approach to make the scholarly web more friendly to machines exposing relations as Typed Links in HTTP Link headers, fully aligned with hypermedia (REST, HATEOAS) lines of thinking regarding web interoperability

- » Signposting is now implemented in DSpace-CRIS and OJS. DSpace 7 plans to provide Signposting support

Signposting - OpenAIRE

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Influência da garantia institucional sobre o risco de crédito

Nascimento, Marcos Aurélio (2009)

Publisher: Contabilidade, Gestão e Governança

Journal: Contabilidade, Gestão e Governança


Languages: Portuguese

Types: Unknown

Subjects:

O presente artigo discute a análise do crédito ao consumidor sob os aspectos pessoais - caráter e capacidade -, passando pelos demais "cs" do crédito - capital, condições e colateral - como complemento da análise. Com base em uma pesquisa de campo, buscou-se identificar fatores que justifiquem um tratamento diferenciado para consumidores que dispõem de garantias institucionais. Este tratamento diferenciado poderia ser materializado por taxas de juros menores ou linhas de crédito mais atraentes para o cliente de menor risco. Trata-se de uma pesquisa sob a ótica do tomador de recursos que, invariavelmente, vai de encontro ao interesses das instituições financeiras. A política de crédito das instituições financeiras deve ser estabelecida de forma a recompensar, também, a garantia institucional, na medida em que esta concorre para a redução do risco de crédito. Admitindo-se que há uma relação direta entre a taxa de juro e risco de crédito, pode-se inferir que quanto menor o risco menor a taxa de juro, portanto, a recompensa esperada pelo menor risco é aplicação de uma taxa menor.

[LINK TO PROJECT](#)[LINK TO RESEARCH DATA](#)[References \(0\)](#)[Related Research Data \(0\)](#)[Similar Publications \(0\)](#)

 No references.



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@misc{Nascimento, Marcos Aurélio_2009, title={Influência da garantia institucional sobre o risco de crédito}, publisher={Contabilidade, Gestão e Governança}, author={Nascimento, Marcos Aurélio}, year={2009}, month={Sep}}
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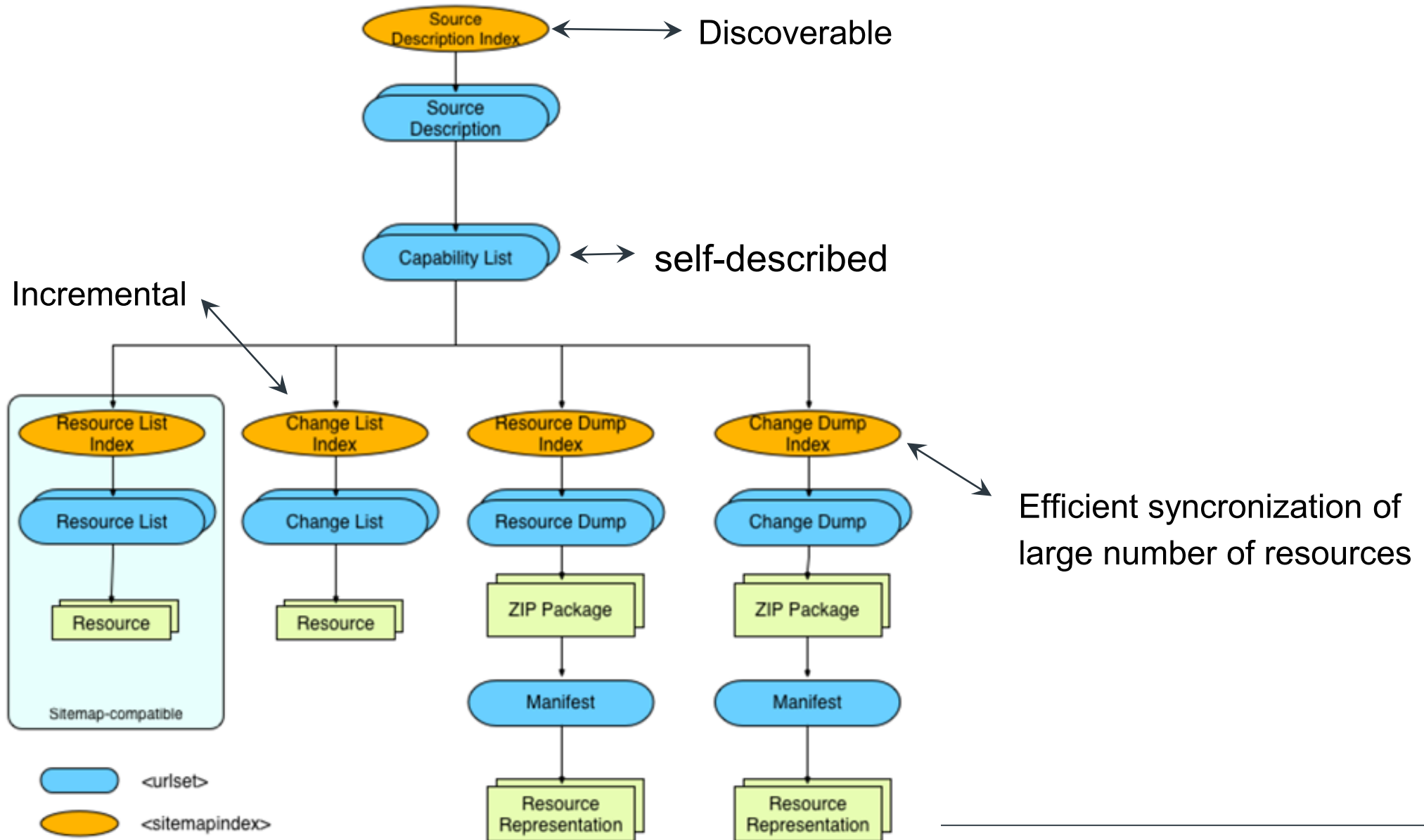
NEXT GENERATION
REPOSITORIES

- » Successor of the OAI-PMH protocol and much more...
- » Faster, reliable and scalable
- » Allows real-time notification (and recovering of missed messages)
- » Drives resource synchronization: content and metadata are both managed

ResourceSync – core specification

- » Based on the Sitemap protocol...
 - » essentially some XML files that list your resources (ResourceList)...but also machine «discoverable» from well known URLs...auto explicative in the supported functionalities (CapabilityList) and able to eventually deal with changes (ChangeList) and synchronization of large amount of data (Dumps)
 - » It is a framework: additional specifications add more features, for example the Change notification allows «push-based» synchronization
-

ResourceSync Framework Specification (ANSI/NISO Z39.99-2017)



Ongoing work and next steps

1. Implementation of technologies in repository platforms
2. Development of network or hub services
3. Ongoing monitoring of new technologies, standards and protocols

1. Implementation of technologies in repository platforms

- Already progress – several platforms are implementing NGR recommendations
 - OpenAIRE – Europe
 - National Institute of Informatics (NII) - Japan
 - US Next Generation Repositories Implementers Group
 - CARL Open Repositories Working Group - Canada
- Meeting of repository platforms at Open Repositories 2018 in Bozeman, Montana over the summer



2. Support the development of network or hub services

- 2 days of meeting of Repository Networks, May 14 & 15, 2018 in Hamburg, Germany to discuss NGR functionality and international alignment



- Pilot Projects 2nd half 2018 (Open Peer Review, Common Standards for Usage Statistics, Recommender Systems)



3. Monitoring of new technologies, standards and protocols

COAR Next Generation Repositories Editorial Group

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Herbert Van de Sompel

Paul Walk

Kazu Yamaji



How to contribute?

Support the implementation of the identified behaviours and technologies in your community (DSpace, Eprints, Fedora, Dataverse, Samvera, etc., etc.)

Join the conversation on GitHub

<https://github.com/coar-repositories/ngr>

Read the report at

https://www.coar-repositories.org/files/NGR-Final-Formatted-Report_french-version.pdf



Call for Papers Open Repositories 2019

OPEN REPOSITORIES 2019

Hamburg, June 10-13, 2019

Call for Proposals

The 14th International Conference on Open Repositories, OR2019, will be held June 10-13th, 2019 in Hamburg, Germany. The organisers are pleased to invite you to contribute to the program. This year's conference theme is:

All the user needs



COAR Annual Meeting 2019 in Lyon



COAR Annual Meeting & General Assembly

May 21-23, 2019

Lyon, France

The Confederation of Open Access Repositories (COAR) and the Center for Direct Scientific Communication (CCSD) are pleased to announce that the next COAR Annual Meeting will take place in Lyon, France.

More information will be available soon.



#nextgenrepositories

THANK YOU

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<http://ngr.coar-repositories.org>