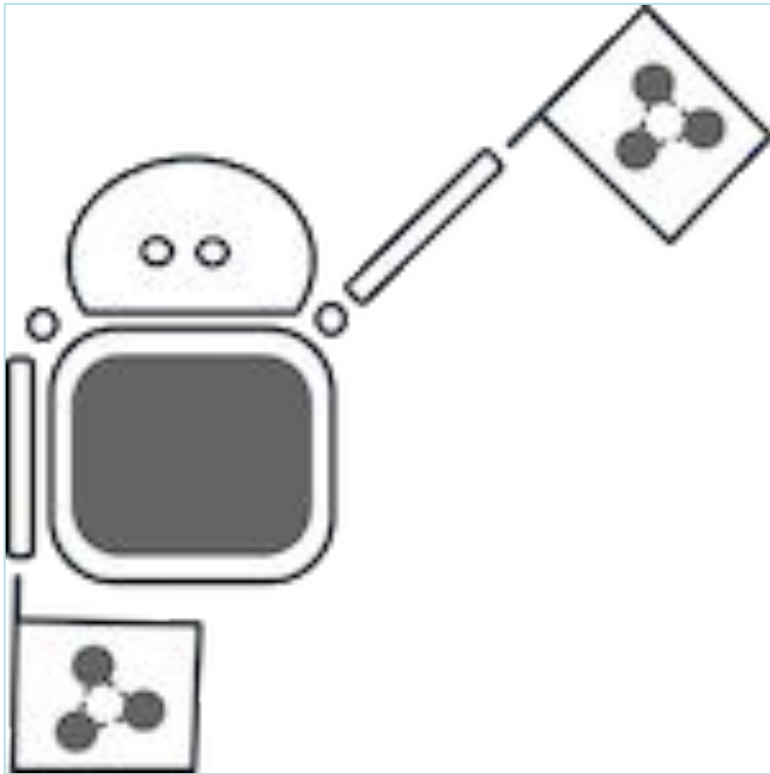


Using an Event Notification Network for Transparent Sharing of Artifact Life Cycle Data



Patrick Hochstenbach (Ghent University)
Ruben Verborgh (Ghent University)
Herbert Van de Sompel (DANS)

<https://www.eventnotifications.net/>

COAR Next Generation Repositories (2017)

The screenshot shows a web browser window displaying a Zenodo record. The browser's address bar shows the URL <https://zenodo.org/records/8077381>. The Zenodo header includes the logo, a search bar, and navigation links for 'Communities' and 'My dashboard'. Below the header, the record is titled 'Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group (2017)'. It is published on November 28, 2017, and is Version 2. The authors listed are Bolini, Andrea; Knoth, Peter; Perakakis, Pandelis; Rodrigues, Eloy; Shearer, Kathleen; Van de Sompel; Walk, Paul. The record has 460 views and 328 downloads. A 'Show more details' link is present. The 'Versions' section shows Version 2, published on Nov 28, 2017, with the DOI 10.5281/zenodo.8077381. A note states: 'This is a new version of the original report published in 2017 with correct authorship and properly formatted pdf.' The abstract text reads: 'In April 2016, COAR launched the Next Generation Repositories Working Group to identify the core functionalities for the next generation of repositories, as well as the architectures and technologies required to implement them. This report presents the results of work by this group over a 1.5 year period. The report describes 11 behaviours for the next generation of repositories, as well as the recommended technologies, standards and protocols that repository platforms need to incorporate in order to support these behaviours.'

Published November 28, 2017 | Version 2

[Report](#) [Open](#)

Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group (2017)

Bolini, Andrea¹ ; Knoth, Peter² ; Perakakis, Pandelis³ ; Rodrigues, Eloy⁴ ; Shearer, Kathleen⁵ ; Van de Sompel⁶ ; Walk, Paul⁷

[Show affiliations](#)

This is a new version of the original report published in 2017 with correct authorship and properly formatted pdf.

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Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group. <https://doi.org/10.5281/zenodo.8077381>

COAR Next Generation Repositories (2017)

Repositories as the foundation for a distributed, globally networked infrastructure for scholarly communication, on top of which value added services are deployed.

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Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Repositories Working Group (2017)

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COAR Next Generation Repositories (2017)

Machine interfaces for repositories are essential to encourage the emergence of value added services. Uniform interfaces across repositories lower the barrier for service creation.

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Event Notifications

Event Notifications in Value-Adding Networks

Living Document, 6 September 2023

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 - 6.1.1 Data Node to Service Node

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Event Notifications

Machine-to-machine conversations between data nodes (repositories) and service nodes about adding value to repository artifacts.

- 3 Document Conventions
- 4 Network entities
 - 4.1 Agent
 - 4.2 Artifact
 - 4.3 Data Node
 - 4.4 Service Node
 - 4.5 Service Result
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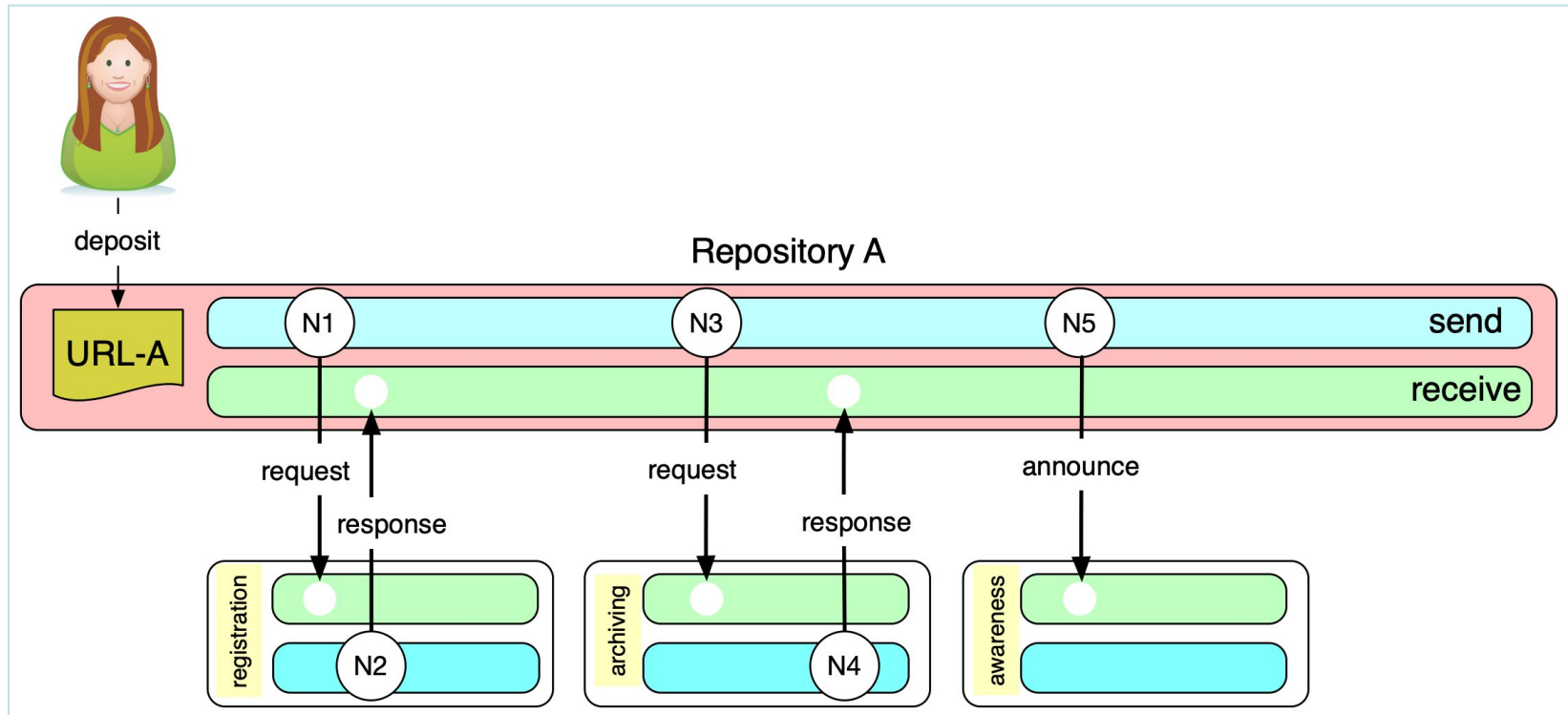


Event Notifications

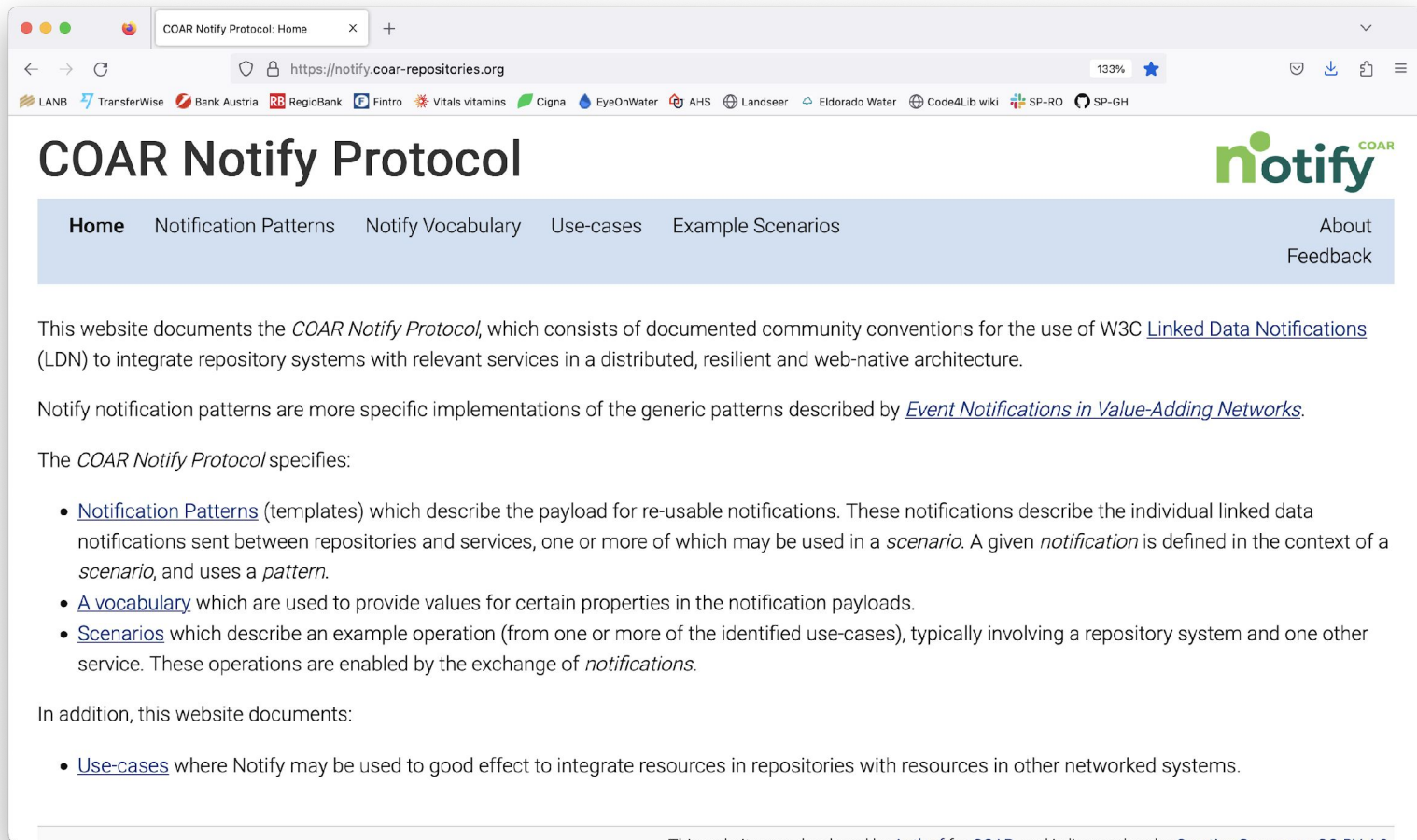
Repository interoperability has focused on accessing/adding (metadata about) artifacts. Event Notifications enables interoperable, network-wide, workflows pertaining to artifacts.

<ul style="list-style-type: none">3 Document Conventions4 Network entities<ul style="list-style-type: none">4.1 Agent4.2 Artifact4.3 Data Node4.4 Service Node4.5 Service Result5 Properties in LDN+AS2 Notifications<ul style="list-style-type: none">5.1 JSON-LD id5.2 JSON-LD type5.3 AS2 object5.4 AS2 actor, AS2 origin, and AS2 target5.5 AS2 context5.6 AS2 inReplyTo6 Network communication patterns<ul style="list-style-type: none">6.1 One-way communication patterns<ul style="list-style-type: none">6.1.1 Data Node to Service Node	<p>This version: https://www.eventnotifications.net</p> <p>Latest published version: https://www.eventnotifications.net</p> <p>Previous Versions: https://www.eventnotifications.net/0.1/</p> <p>Feedback: Inline In Spec</p> <p>Editors: Patrick Hochstenbach (Ghent University Library) Miel Vander Sande (meemoo - Flemish Institute for Archives) Ruben Dedecker (IDLab - Ghent University) Paul Walk (Antleaf) Martin Klein (Los Alamos National Laboratory) Herbert Van de Sompel (IDLab - Ghent University)</p> <p> To the extent possible under law, the editors have waived all copyright and tion, as of 6 September 2023, the editors have made this specification available under the which is available at http://www.openwebfoundation.org/legal/the-owf-1-0-agreements/owf-specification-document. If so, those parts are instead covered by the license of that speci</p> 
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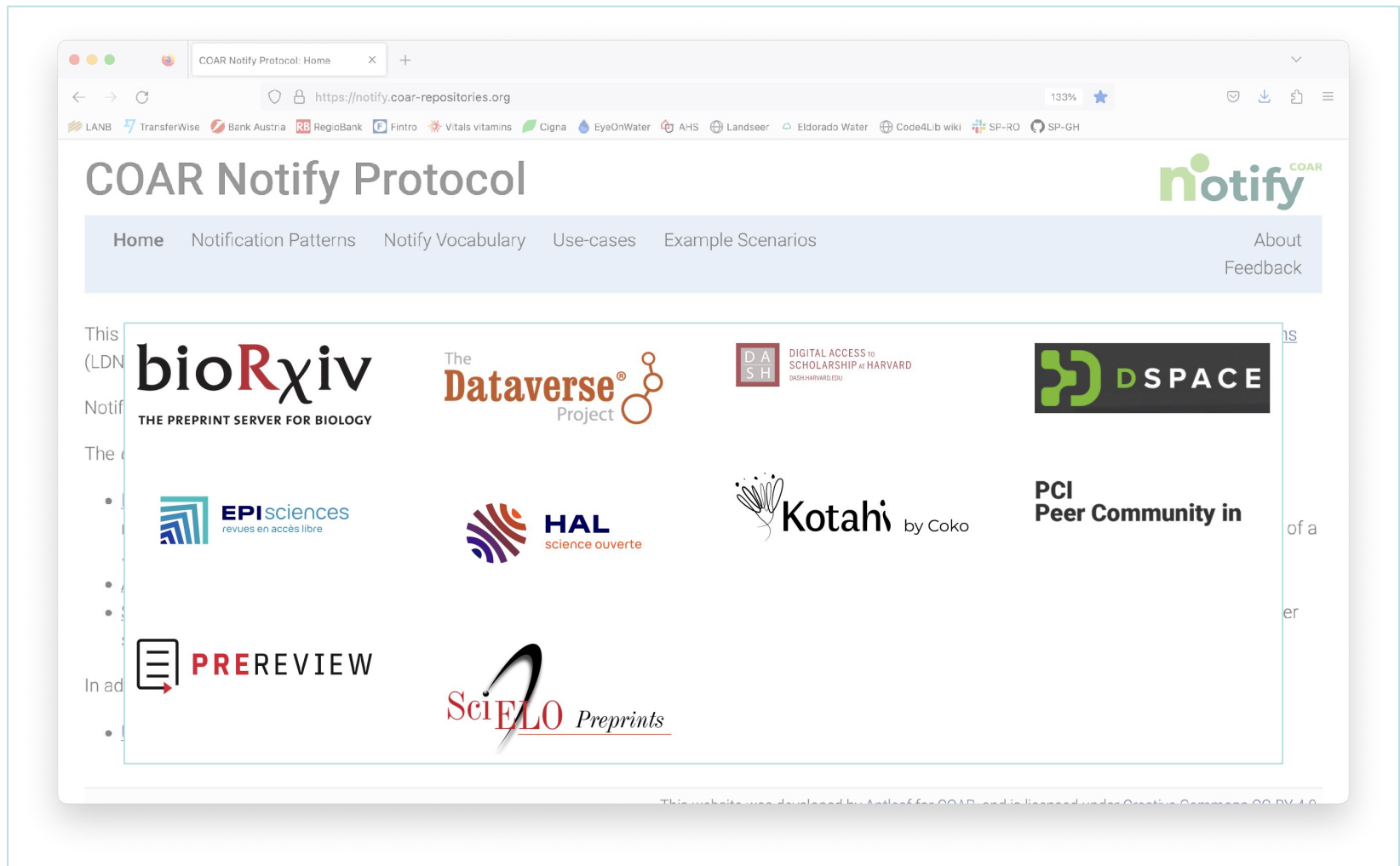
Profiled LDN/AS2 Notifications Among Repositories and Services



COAR Notify: Event Notifications Focused on Review as a Service

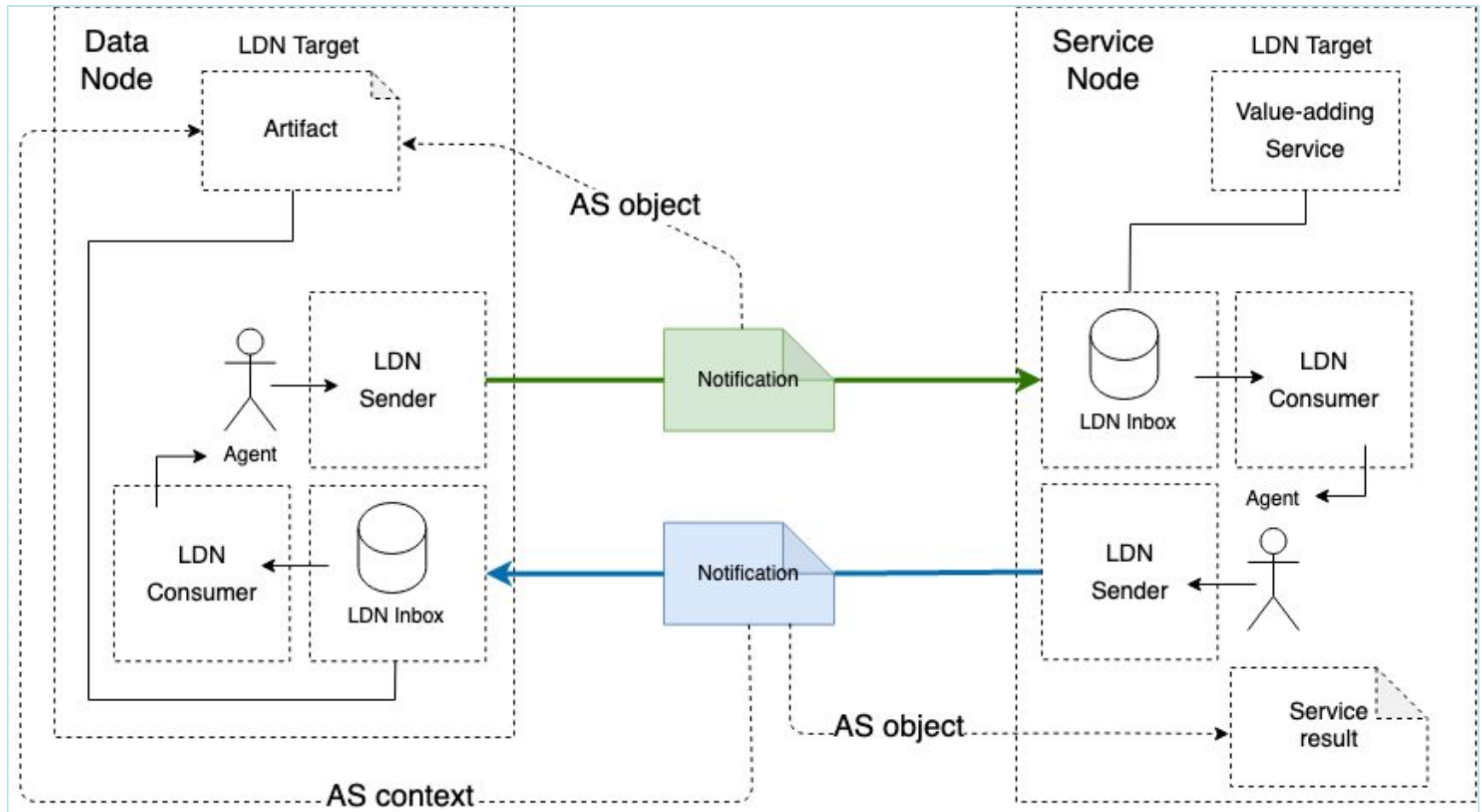


COAR Notify: Event Notifications Focused on Review as a Service

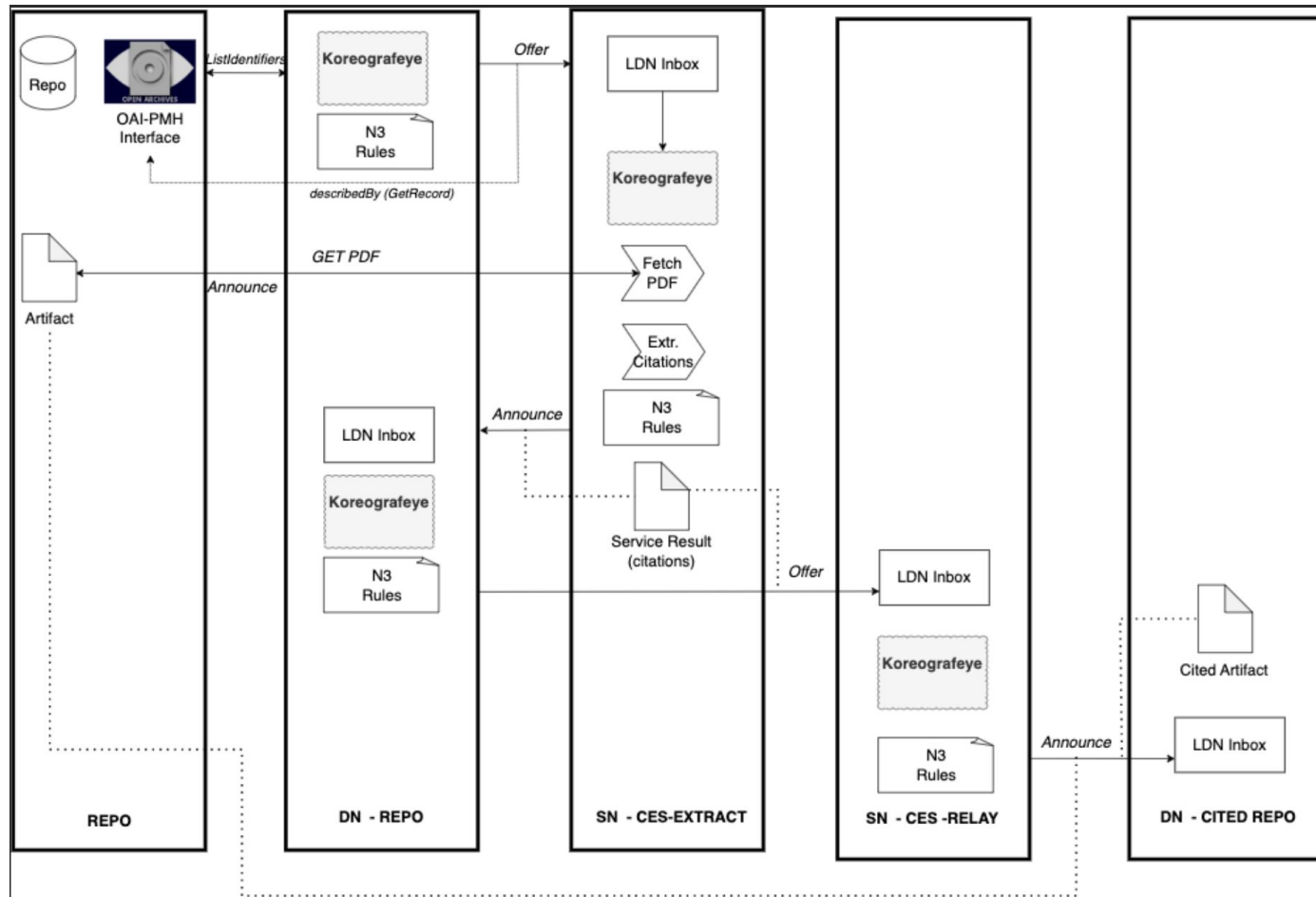


COAR Notify
<https://notify.coar-repositories.org/>

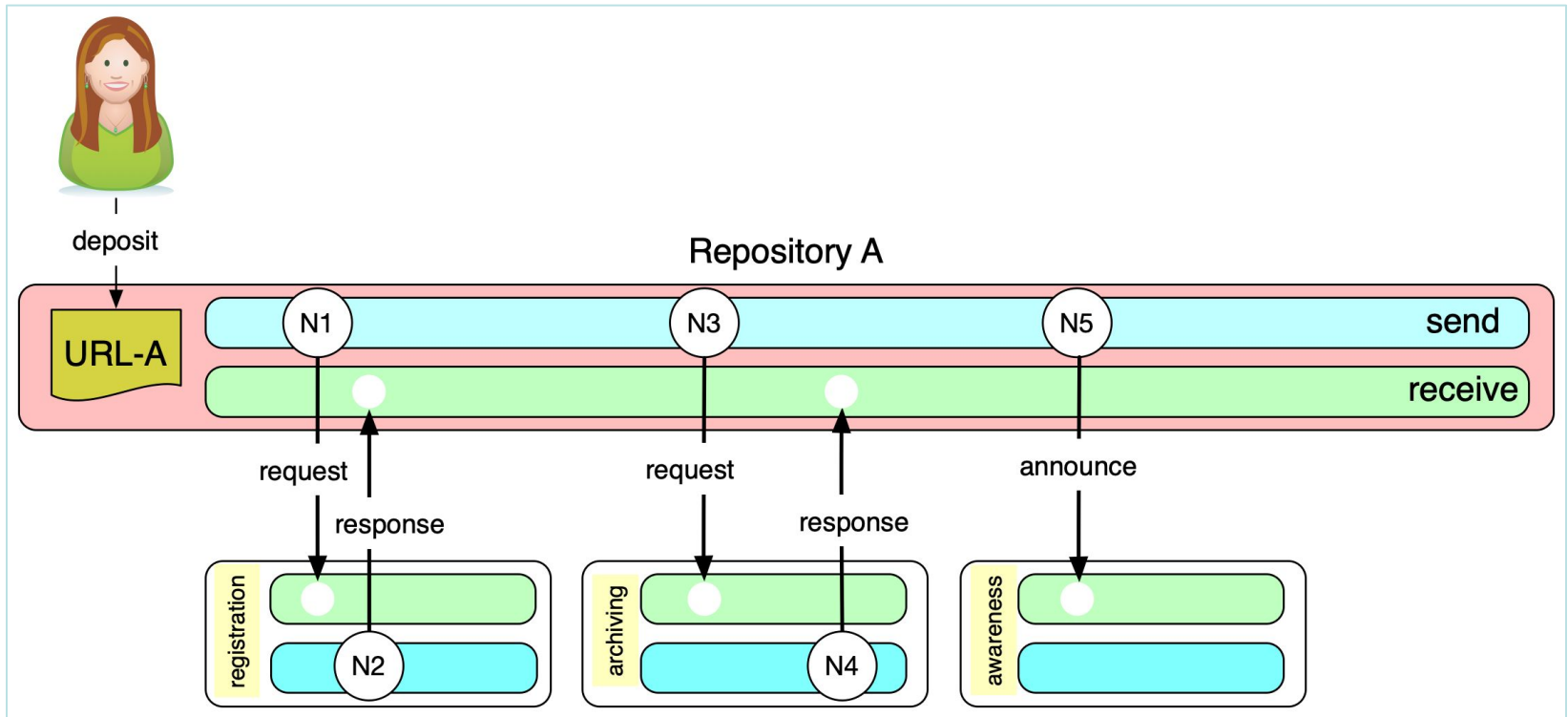
Event Notifications: General Framework



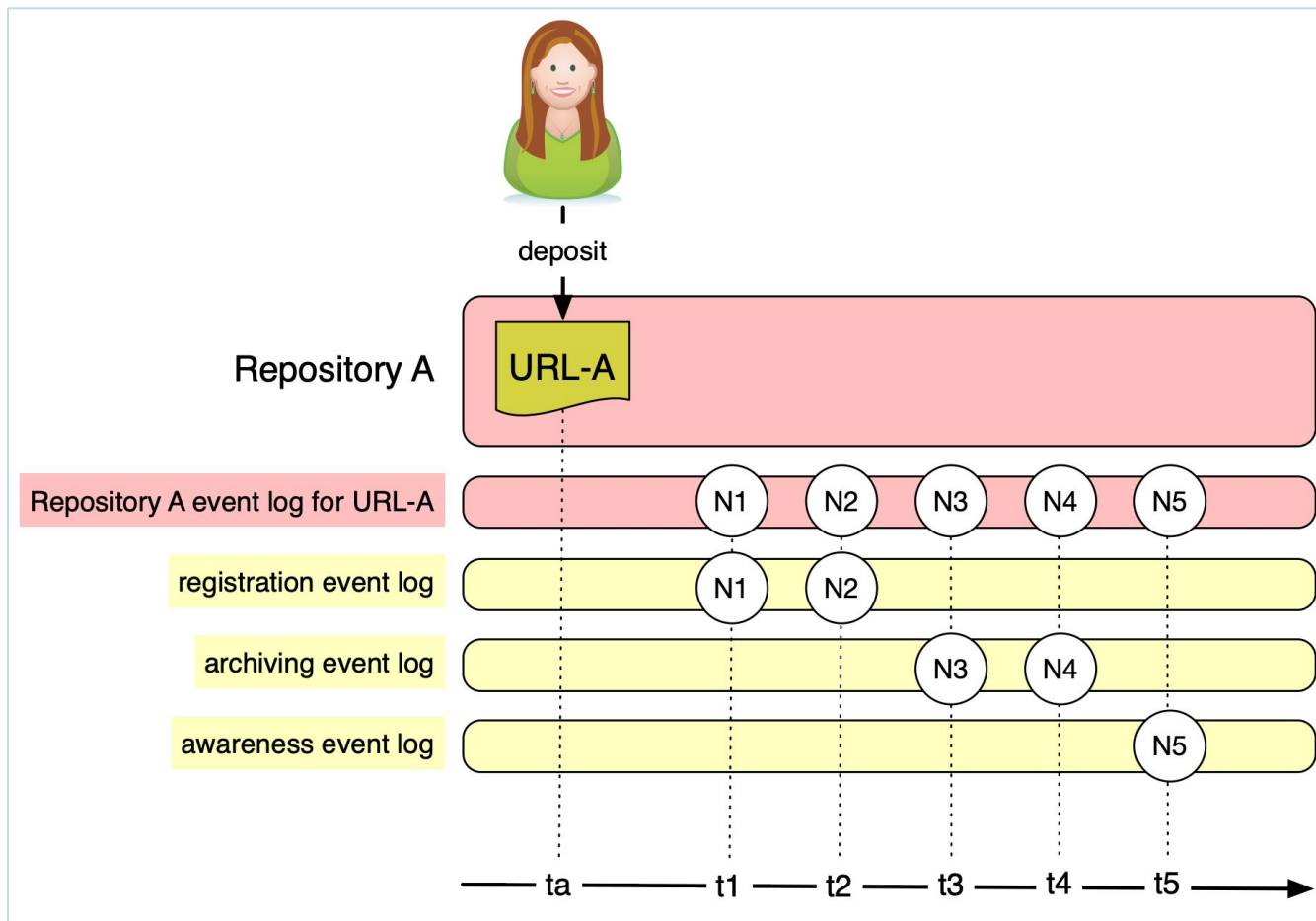
Repository-2-Repository Citation Notification Prototype



LDN/AS2 Notifications Among Repositories and Services



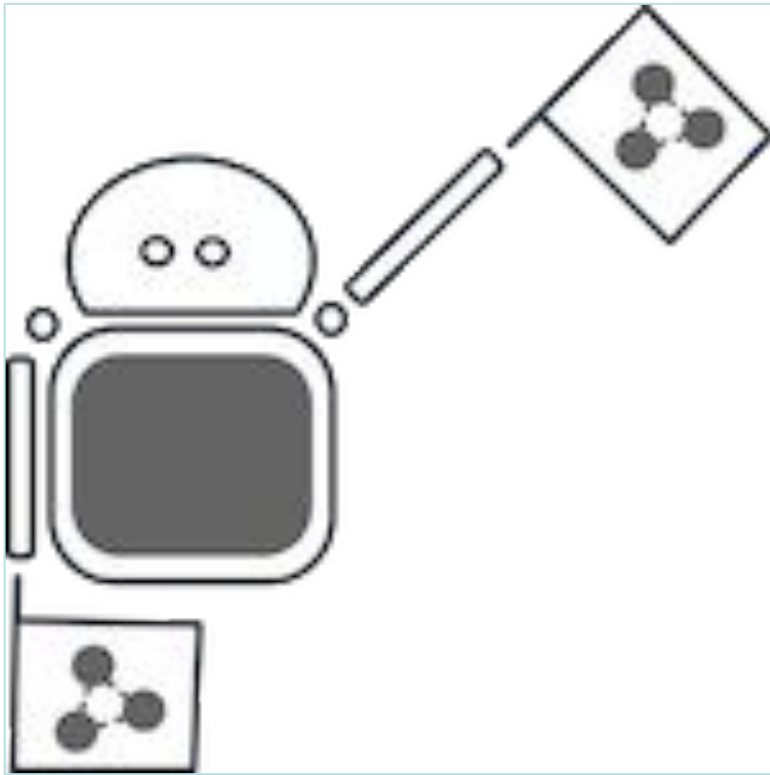
Event Logs: Publicly Accessible Notifications Reveal Lifecycle



Event Logs: Technical Challenges

- **Serialization:**
 - One resource per event, or all events in one resource?
 - How to add annotations to an event (fixity, ...)
 - JSON-LD LDES + ZIP + BagIt
- **Discovery:**
 - Given a URL-A in a repository, find its event log
 - Given services provided for URL-A at a service provide, find its event log
 - Link-Template HTTP Header Field (<https://shorturl.at/Ugycv>)
- **Trust:**
 - Trust by reputation does not scale in an decentralized web
 - Trust based on secrets (signatures) does not scale on the long-term
 - Pragmatic approach: distributing many copies of the event log in trusted archival services

Using an Event Notification Network for Transparent Sharing of Artifact Life Cycle Data



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