

4SCIENCE

Share your knowledge

COAR Notify Project one year later: from the wireframe to the first official Releases

EuroCRIS Strategic meeting Paris
Nov 26-28, 2024

www.4science.com



Jordan Piščanc
4Science Business
Analyst



Irene Buso
4Science Deputy Chief
Sales & Marketing officer

AGENDA

4SCIENCE
Share your knowledge

www.4science.com

01

INTRODUCTION

02

COAR Notify in Dspace-CRIS 8 & DSpace 8

03

COAR Notify technical details

04

Conclusions

05

References

Introduction



4SCIENCE
Share your knowledge

www.4science.com

One year ago, at euroCRIS Strategic Membership Meeting 2023 in Pamplona, 4Science presented the COAR Notify Project as a groundbreaking initiative at the intersection of open science and technological innovation.

At 4Science, we strive to be more than just supporters of the DSpace community and developers of the DSpace-CRIS solution.

We are committed to pioneering advancements in the open access and open science realms.

Our dedication to driving innovation in this space sets us apart.

A testament to this commitment is our active involvement in developing new enhancements, such as the COAR Notify project.

Introduction



- COAR (the Confederation of Open Access Repositories) initiated this project to improve the global discoverability and visibility of open access content.
- The COAR Notify Initiative aims to develop and promote the community adoption of a standardized, interoperable, and decentralized method for reusing and linking research outputs hosted in the distributed network of repositories and CRIS systems with other external systems.
- This feature will also enhance the research information for organizations both from a Open Science perspective (aligning with the Barcelona Declaration) and from an administrative perspective increasing the value and the number of information available.

Introduction



How does it work?

- The Notify Protocol leverages the established **Linked Data Notifications** and **ActivityStreams2** W3C standards, enabling seamless communication between Notify-enabled repositories/CRIS and services. Initially, the focus has been on connecting repository resources with external peer review platforms and overlay journals.
- However, other use cases of interest to the community include linking articles with research data and ensuring efficient, near-real-time reuse of resources by other systems for purposes such as preservation, analysis, and evaluation.
- The community adoption of such a standard that is interoperable and has a decentralized approach for linking research outputs across the distributed network of Repositories/CRIS could significantly bolster the principles of openness over centralization.

COAR Notify in DSpace

4SCIENCE
Share your knowledge

www.4science.com

In June 2024, we released the CORE Notify patch for DSpace 7.6.1 to the community and integrated the protocol as a core functionality in the DSpace 8 release.

Following these official releases, we at 4Science launched an awareness and demonstration campaign to showcase the protocol's real-world applications.

- Open Repositories 2024
- Open Access Tage 2024



By integrating the CORE Notify protocol into the base code of the widely used open-source DSpace Repository platform, we believe this will enable a large number of installations to immediately utilize the protocol, significantly enhancing the value of this distributed network.

COAR Notify in Dspace-CRIS

the DSpace-CRIS 8 2024 release will soon be available to the large community of CRIS adopters

- The COAR Notify implementation in DSpace-CRIS will help researchers enrich the data available in CRIS/repository systems and identify new data of interest, reducing the friction of deposit.
- Suggested data will be placed directly in the CRIS system where needed.
 - For example, when a researcher deposits a dataset into a data repository, they can use COAR Notify to send the link directly to the CRIS/repository system (in this case, DSpace-CRIS) along with the related publication, which can then be linked to the dataset and vice versa.



COAR Notify in DSpace-CRIS

- Managers will have the ability to configure rules for automatic decisions based on the trustworthiness of the source and transparency policies, such as linking a review or ingesting content.
- This capability will be automatically available to other providers like ORCID and OpenAIRE Graph.
 - For researchers, this will be a significant time-saver, allowing them to review new requests, such as linking a review or ingesting new suggested/linked content, directly within the CRIS/repository system.



COAR Notify in DSpace & DSpace-CRIS

4SCIENCE
Share your knowledge

www.4science.com

The use cases of the Notify Protocol will become everyday reality:

- Notification service that allows CRIS/repository systems to notify external systems such as global aggregators, national evaluation platforms, repositories, peer-review platforms and other services about the availability of new content or relationship among scholarly resources.



COAR Notify in DSpace & DSpace-CRIS

4SCIENCE
Share your knowledge

www.4science.com

The use cases of the Notify Protocol will become everyday reality:

- We will start to notice requests that allows the CRIS/repository system to send requests to external system to perform a service such as review, endorse or ingest content allowing the orchestration of complex, distributed workflows simplifying the researchers, administrators and librarians user experience allowing the CRIS/repository system to initiate such processes respecting the core principle **“enter once, reuse multiple times”** that should inspire each RIS system (Science Europe. (2016). Position Statement on Research Information Systems. <https://doi.org/10.5281/zenodo.5059955>).



COAR Notify in DSpace & DSpace-CRIS

4SCIENCE
Share your knowledge

www.4science.com

With the latest release of DSpace-CRIS 8 and DSpace 8, where the CORE Notify protocol is integrated like other interfaces such OAI-PMH and REST, we believe that making this protocol accessible to institutions worldwide will promote the broad dissemination of open access content and connect services within the 'publish, review, curate' ecosystem. This is highly valuable in the Open Access and Open Science context.



COAR Notify technical information

Overview: The COAR Notify Protocol is a new feature that facilitates interoperability and communication between different repositories.

- Implements the COAR Notify Protocol for sending and receiving Linked Data Notifications (LDN)
- Allows registration of external LDN services for message exchange
- Enables requesting review/endorsement from external services during item submission

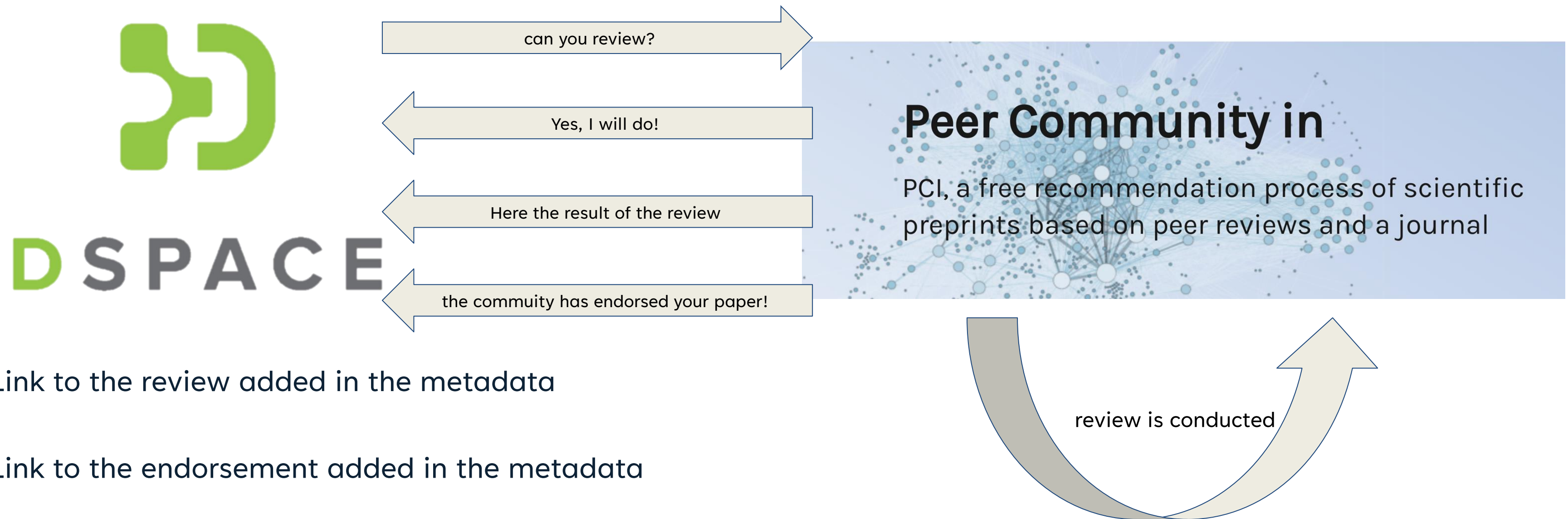
Importance: Interoperability is key to effective data sharing and collaboration across institutions. This protocol ensures that repositories can communicate and share data seamlessly.

Benefits:

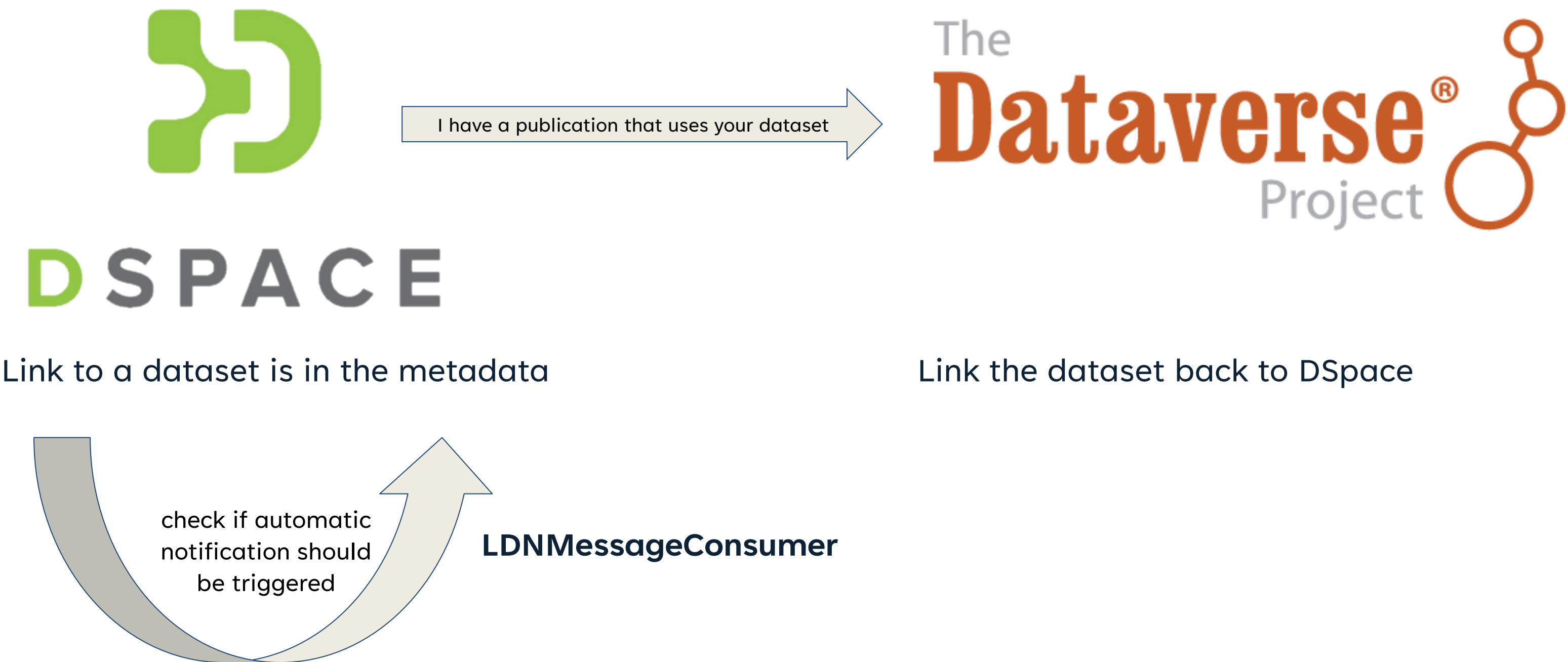
- **Improved Collaboration:** Enables better data sharing and collaboration between institutions, enhancing research outcomes.
- **Standardized Communication:** Provides a standardized way for repositories to communicate, ensuring consistency and reliability.
- **Enhanced Data Sharing:** Facilitates the sharing of data and metadata across repositories, broadening the reach and impact of research outputs.
- Supports real-time notifications for research-related events



DSpace/DSpace-CRIS 8 Features - COAR Notify

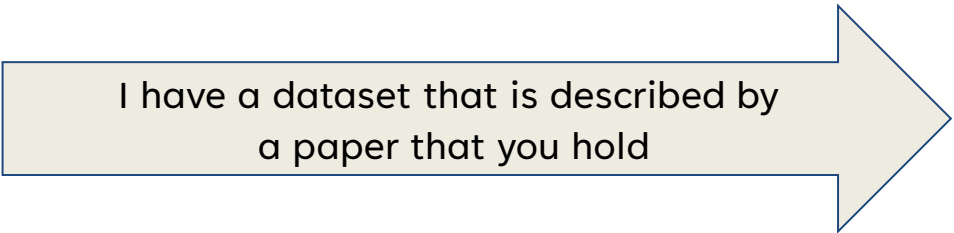


DSpace/DSpace-CRIS 8 Features - COAR Notify



DSpace/DSpace-CRIS 8 Features - COAR Notify

Link the dataset back to Dataverse is added to the metadata

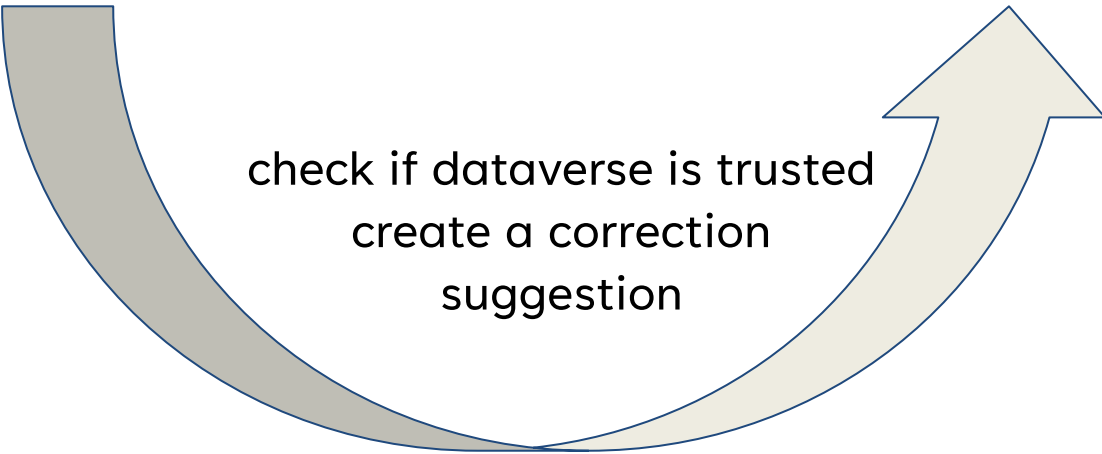


I have a dataset that is described by a paper that you hold



Link to a dspace item is added in the metadata

LDNInboxController



check if dataverse is trusted
create a correction
suggestion

DSpace 8 Features - COAR Notify

Link the dataset **back** to the other DSpace



DSpace 8 Features - COAR Notify

Management

+ New

>

Edit

>

Import

>

Export

>

Notifications

>

Access Control

>

Admin Search

>

Registries

>

Curation Task

>

Processes

>

Health

>

Administer Workflow

>

System-wide Alert

>

COAR Notify

>

Dashboard

LDN Services

notify

DSpace

Communities & Collections All of DSpace

Home

Registered Services

Registered Services

+ New

Now showing 1 - 4 of 4

Name	Description	Status	Actions
COTTAGE LABS	Test service by Cottage Labs	Enabled	
test	test	Enabled	
notify-inbox ACCEPTED AUT.	COAR Notify LDN inbox and validation system Approves automatically items whose title ends with "demo"	Enabled	
NOTIFY inbox - Automatic service	Service used to automatically send the requests No items filter is used	Enabled	

DSpace 8 Features - COAR Notify

COAR Notify

You can request a review to one of the following services

Select a service for request-review of this item

+ Add more

You can request an Endorsement to one of the following overlay journals

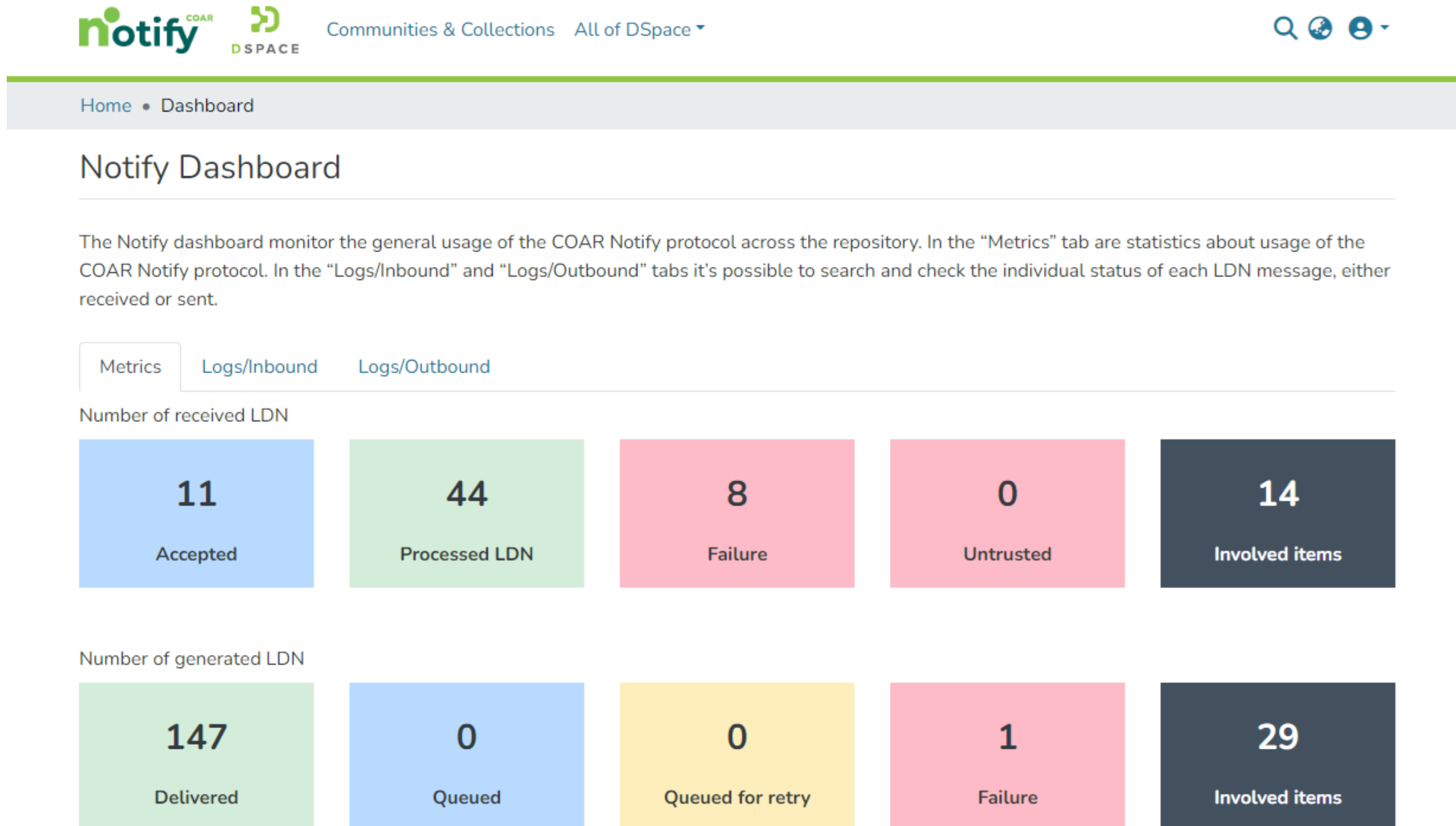
Select a service for request-endorsement of this item

+ Add more

You can request to ingest a copy of your submission to one of the following services

Select a service for request-ingest of this item

DSpace 8 Features - COAR Notify



DSpace 8 Features - COAR Notify

Home • Dashboard

Notify Dashboard

Metrics

Logs/Inbound

Logs/Outbound

Inbound messages

Filters

Related item

LDN Service

Queue status

Activity stream type

COAR Notify type

Last processing time

Reset filters

Settings

Message Detail

Type

message

Id

urn:uuid:658e26e0-2e8d-4117-a0d1-ee713523bc45

COAR Notify type

Review action

Activity stream type

Accept

In reply to

urn:uuid:ab0e1072-355f-4c89-ac20-d8599c4b37f9

Queue attempts

1

Queue last started

2023/11/24 11:15:00

Queue status

Processed

Queue timeout

2023/11/24 12:15:00

Show message

```
{
  "@context": [
    "https://www.w3.org/ns/activitystreams",
    "https://purl.org/coar/notify"
  ],
  "id": "urn:uuid:658e26e0-2e8d-4117-a0d1-ee713523bc45",
  "type": [
    "Accept",
    "coar-notify:ReviewAction"
  ],
  "actor": {
    "id": "https://www.w3.org/ns/activitystreams",
    "type": "Service",
    "name": "DSpace 8"
  },
  "object": {
    "id": "https://purl.org/coar/notify",
    "type": "Notify",
    "name": "COAR Notify"
  },
  "to": [
    "https://purl.org/coar/notify"
  ],
  "cc": [
    "https://purl.org/coar/notify"
  ],
  "published": "2023-11-24T11:15:00Z",
  "updated": "2023-11-24T12:15:00Z"
}
```

Type

Status

Action

Accept

Processed

Detail

Accept

Processed

Detail

Accept

Processed

Detail

Announce

Processed

Detail

Announce

Processed

Detail

TentativeReject

Processed

Detail

DSpace 8 Features - COAR Notify



COAR

DSpace

Communities & Collections

All of DSpace ▾

Statistics



Home

•

COAR Notify Test

•

Automatic processing coll...

•

test 2 demo



COAR

There are 1 pending review to check

Check



COAR

The requested Endorsement for notify-inbox ACCEPTED AUT. has been rejected.



COAR

The requested Endorsement for COTTAGE LABS is pending.

← Back to Results

Test demo

No
Thumbnail
Available

URI

https://dspace-coar.4science.cloud/handle/123456789/42

Collections

Automatic processing collection

Full item page

Files

many-publications.xls (9.5 KB)

Date

2023

21

DSpace 8 Features - COAR Notify – 4 Patterns

Supported Pattern	Item Filter	Automatic	
Announce Relationship	Type equals Dataset	☐	
Request Endorsement	Type equals Journal Article	☐	
Request Review		☒	
Request Ingest	Item is public	☐	

Notify Patterns

Item filters are configured into a static list mapped into *item-filters.xml* file on a bean named *IdnItemFilters*.

- We established for the following item filter to be shown:
- Has one Bitstream* = the item must have exactly one bundle named "ORIGINAL";
 - Item is public* = anonymous user can see/read the item;
 - Title starts with pattern* = the dc.title metadata of the item must start with 'Pattern';
 - Type equals dataset* = the dc.type metadata of the item must be 'Dataset';
 - Type equals dataset* = the dc.type metadata of the item must be 'Journal Article';

Live demo

[DSpace-CRIS 8 Demo :: COAR Notify Support](#)
[Diamond OA at Cambridge:: COAR Notify Support](#)
[DSpace Keep PT Repository](#)

Conclusions



Support for the COAR Notify protocol will elevate DSpace-CRIS to the next level, making each DSpace-CRIS system an active player in the new Scholarly Communication Information Space. National and regional CRIS/Repository aggregators could also play a new role in disseminating collected data that could be notified to individual Repository/CRIS systems.

Modern integration scenarios become now a reality supported out-of-the-box, allowing for:

- Establishment of overlay journals and open peer review platforms
- Integration among publications and data repositories
- Near-real-time and scalable integration with preservation platforms and aggregators
- Greater flexibility to meet different institutions' needs and integration requirements

We're happy to share significant progress in the implementation of COAR Notify within the DSpace ecosystem. The recent launch of COAR Notify in the CSIC (Spanish National Research Council) that uses DSpace-CRIS repository platform marks a major milestone for open science and interoperability.

References

- [1] COAR Notify Initiative website, <https://www.coar-repositories.org/notify/>
- [2] COAR Notify Technical Documentation website, <https://notify.coar-repositories.org/>
- [3] The COAR Notify Scenarios, <https://notify.coar-repositories.org/scenarios/>
- [4] The COAR Notify patterns, <https://notify.coar-repositories.org/patterns/>
- [5] Donohue, Tim, Michele Mennielli, Andrea Bollini, and Art Lower. (2024, Jun 3) DSpace Developer Meet-up and Q&A Open Repositories 2024 (OR2024), Gothenburg, Sweden. Zenodo. <https://doi.org/10.5281/zenodo.12633284>
- [6] Bollini, Andrea; Buso, Irene; Lombardi, Corrado; Maffei, Stefano; Mornati, Susanna; Shearer, Kathleen; Walk, Paul; Klein, Martin; Rodrigues, Eloy (2023, Jun 14) Implementing the COAR Notify Protocol in DSpace 7. Open Repositories 2023 (OR2023), Stellenbosch, South Africa. Zenodo. <https://doi.org/10.5281/zenodo.8091620>
- [7] Bollini, Andrea; Lombardi, Corrado; Maffei, Stefano; Welling, William; Carvalho, José. (2022, June 8). Implementing the Notify protocol and standard practices in DSpace. Open Repositories 2022 (OR2022), Denver, Colorado. Zenodo. <https://doi.org/10.5281/zenodo.6671781>
- [8] COAR Notify protocol in DSpace <https://wiki.lyrasis.org/display/DSDOC8x/COAR+Notify>

THANK YOU

4SCIENCE
Share your knowledge



jordan.piscanc@4science.com



Irene.buso@4science.com

info@4science.com

www.4science.com



4science



[@4Science@mastodon.social](https://mastodon.social/@4Science)



4science International



4ScienceDSpace



4science_IT