

# Implementing the Notify protocol and standard practices in DSpace

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## The Notify Project

**COAR** Confederation of  
Open Access Repositories

# What are we talking about?



**DSPACE**

- A minimum viable product (MVP) was funded by the University of Minho as part of the PUBIN ([www.pubin.pt/](http://www.pubin.pt/)) project (2019-2022) at the end of 2021
- The implementation was delivered by 4Science in January/February 2022 for DSpace 5 & 6
- Harvard proposed a new use case to the Notify project and offered help to move the MVP to DSpace 7
- Initial code for version 7 is available at 4Science's and Harvard's GitHub repositories, official PRs will come for evaluation in DSpace 7.4 (Fall 2022)

HOW WE  
GOT HERE ?

## The goals of the MVP



Quick & effective



Working on the most adopted versions currently



Supporting the open review scenarios but extensible

## ldn-coar-notify.cfg - Configuration

ldn-coar-notify project includes some limits to communications between hosts and ldncdn-InBox and record status updates about items.

To reach this result, the file `ldn-coar-notify.cfg` under the path `dSPACE/ldn-coar-notify` must be updated as follows:

### Setting up the trusted hosts which can reach out the ldncdn-InBox

Trusted hosts can be configured in two different ways, both ways can be used:

```
ldn-trusted.from.ip = ldncdn-trusted.from.hostname =
```

Trusted hosts can be set up using their **IP addresses** if they're static. This solution represents the **easiest and most dynamic solution**. (This solution is the most dynamic solution)

Here's an example of configuration for both properties:

```
ldn-trusted.from.ip = 192.168.0.32, 192.168.1.58 ldncdn-trusted.from.hostname = ldncdn-inbox.antleaf.com/inbox
```

The second step is mandatory, otherwise no host will be able to perform operations.

### Configuring review/endorsement endpoints, IDs, and review/endorsement process

The next step is configuring review and endorsement IDs, they must be unique and must match with these ones. Note the IDs must not contain a space in the request body (Without including `http://` or `https://`).

Example:

```
ldncdn-service.service-id.ldncdn = service1, ... , service2
```

Example:

```
ldncdn-service.service-id.ldncdn = example.com, ldncdn-inbox.antleaf.com
```

You can define IDs for services. **Services listed under review/endorsement process**. To define whether the service provides the following property:

```
ldncdn-service.<service-id>.endorsement = true Here is an example of configuration:
```

```
ldncdn-service.example.com.endorsement = true ldncdn-service.ldncdn-inbox.antleaf.com.endorsement = true
```

Note that "example.com" and "ldncdn-inbox.antleaf.com/inbox" are the services IDs.

# The MVP was implemented for DSpace v5 and v6 JSPUI only

<https://github.com/4Science/DSpace/tree/coar-notify-5>

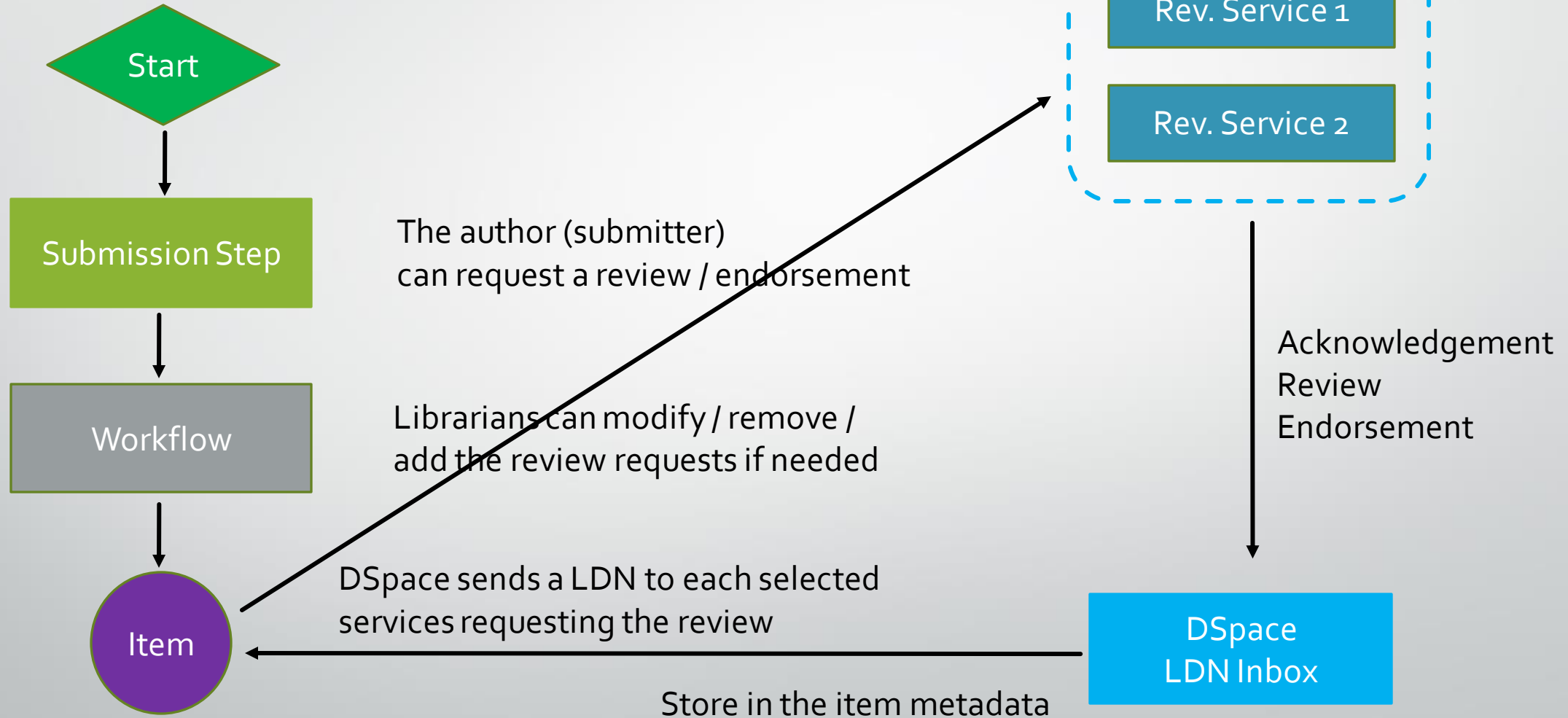
<https://github.com/4Science/DSpace/tree/coar-notify-6>

Documentation is available in GitHub as  
**README.md**

ID ↑↓	Scenario	↑↓ Use-case(s)	↑↓ Participating Systems
1	<a href="#">Author requests review with possible endorsement (via overlay journal).</a>	<a href="#">Peer-review</a> , <a href="#">Endorsement</a>	Overlay Journal <-> Repository
2	<a href="#">Author requests review with possible endorsement (via repository).</a>	<a href="#">Peer-review</a> , <a href="#">Endorsement</a>	Repository <-> Overlay Journal
3	<a href="#">Overlay Journal Announces Review and Endorsement of Pre-print to Aggregator</a>	<a href="#">Peer-review</a> , <a href="#">Endorsement</a> , <a href="#">Dissemination</a>	Overlay Journal <-> Aggregator
4	<a href="#">Overlay Journal Endorses Pre-print (Initiated by Author).</a>	<a href="#">Endorsement</a>	Overlay Journal <-> Repository
5	<a href="#">Repository requests review (on behalf of corresponding author).</a>	<a href="#">Peer-review</a>	Repository <-> Review Service
6	<a href="#">Author submits to overlay journal using repository to host resource and reviews</a>	<a href="#">Peer-review</a> , <a href="#">Endorsement</a>	Overlay Journal <-> Repository
7	<a href="#">Review Service Announces Review of Pre-print to Aggregator</a>	<a href="#">Peer-review</a> , <a href="#">Dissemination</a>	Review Service <-> Aggregator
8	<a href="#">Review Service Announces Review of Pre-print to Repository.</a>	<a href="#">Peer-review</a>	Review Service <-> Repository
9	<a href="#">Author requests reviews from review service, via repository.</a>	<a href="#">Peer-review</a>	Repository <-> Review Service

# Supported scenarios

# The Notify Workflow



# Asking Review during the submission is the first step

The list of services is configurable but known in advance to the repository system administrator

Describe Describe Upload Verify License Complete

Logged in as aaa

## Submit: Describe this Item ?

Please fill further information about this submission below.

Enter appropriate subject keywords or phrases.

**Subject Keywords**


+ Add More

Enter the abstract of the item.

**Abstract**

Enter the names of any sponsors and/or funding codes in the box.

**Sponsors**

Enter any other description or comments in this box.

**Description**

Select the services you want to ask for a review

Service	Selected
<input checked="" type="checkbox"/> Example Review Endorsement - WITH ENDORSEMENT	<input checked="" type="checkbox"/> ldn.cottagelabs.com - NO ENDORSEMENT
<input checked="" type="checkbox"/> ldninbo.antleaf.com - NO ENDORSEMENT	<input type="checkbox"/> compstat.peercommunityin.org - WITH ENDORSEMENT

< Previous
Cancel/Save
Next >



## Coar Notify Metadata Report

In this page there is a full report of all the metadata stored for the Coar Notify Project

### Items in Pending Review

#### John Smith's Item

Handle: 123456789/6

Service	Date
Service: <b>Example Review Endorsement</b>	24-Jan-2022 12:11:09
Service: <b>ldninbox.antleaf.com</b>	24-Jan-2022 12:11:12
Service: <b>ldn.cottagelabs.com</b>	24-Jan-2022 12:11:12



# Monitor the status of the notify conversation

## Coar Notify Metadata Report

In this page there is a full report of all the metadata stored for the Coar Notify Project

Status	Items
Pending Review	1
Ongoing	1
Reviewed	1
Pending Endorsement	0
Endorsed	1

# Results

links to  
the review and/or  
to the endorsement  
(overlay journal) from  
the repository

## DSpace JSPUI

DSpace preserves and enables easy and open access to all types of digital content including text, images, moving images, mpegs and data sets

[Learn More](#)

DSpace at My University / community / collection 1

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/6>

### Notify Status Report

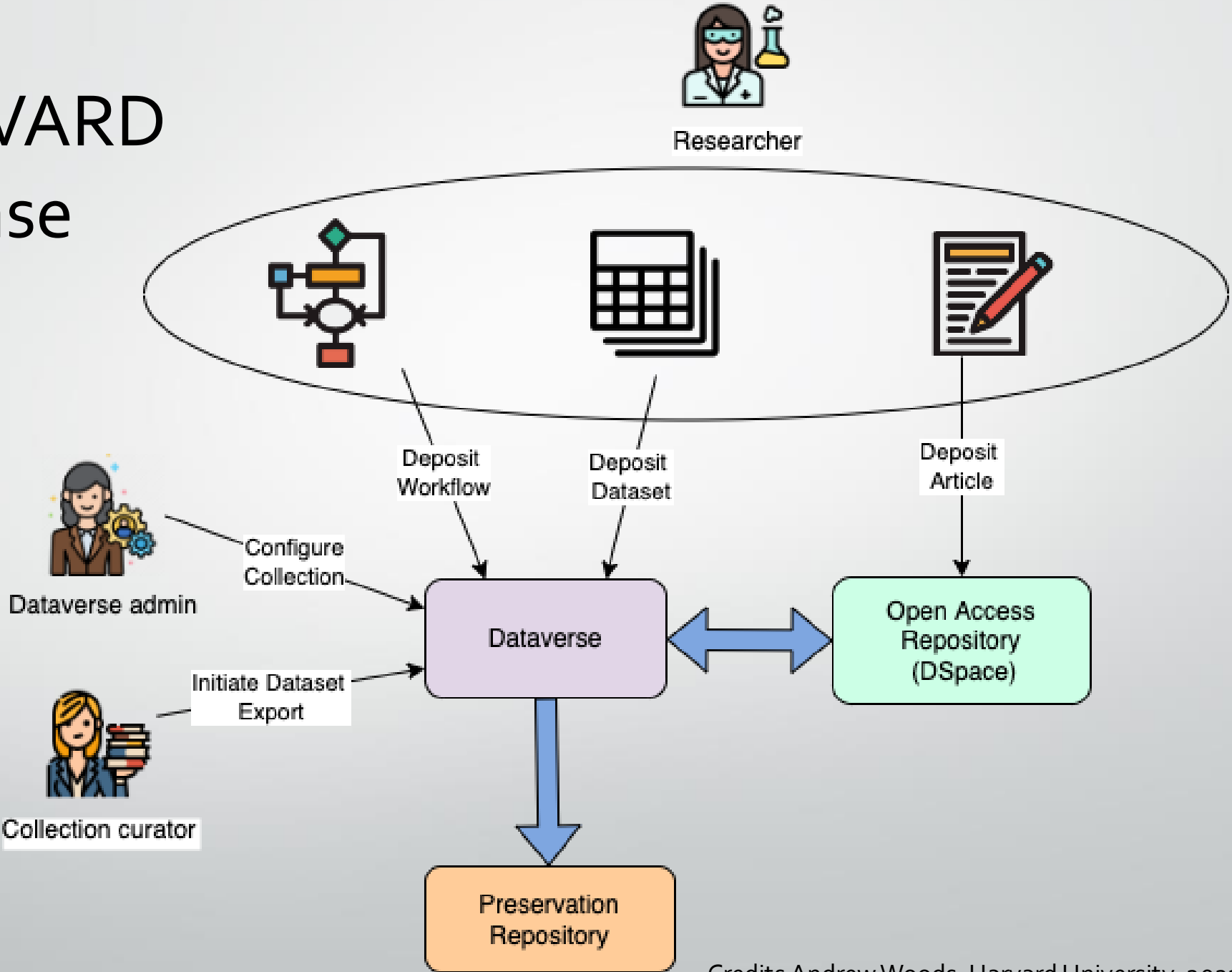
Service	Status	Date	Link
ldninbox.antleaf.com	Ongoing	2022-01-24 12:29	N/A
ldn.cottagelabs.com	Reviewed	2022-01-24 12:35	<a href="https://review-service.com/review/geo/202103/0021">https://review-service.com/review/geo/202103/0021</a>
Example Review Endorsement	Reviewed	2022-01-24 12:11	<a href="https://overlay-journal.com/articles/00001/">https://overlay-journal.com/articles/00001/</a>
Example Review Endorsement	Endorsed	2022-01-24 12:41	<a href="https://overlay-journal.com/articles/00001/">https://overlay-journal.com/articles/00001/</a>


Title: John Smith's Item

Issue Date: 1-Jan-2022

URI: <http://hdl.handle.net/123456789/6>

# The HARVARD use case





A short demo of the DSpace /  
Dataverse integration from William

Porting to  
version 7 is  
ongoing, help  
and feedback  
are welcome!

Latest code:

- <https://github.com/4Science/Dspace/tree/main-coar-notify>
- <https://github.com/harvard-lts/Dspace/tree/main-coar-notify>

Issue tracking pending subtasks for MVP

<https://github.com/harvard-lts/Dspace/issues/2>

# Architecture

- LDN Receiver and Consumer are coupled and embedded in DSpace: "easier deployment option"
- Metadata (in the new COAR schema) are used to flag which services need to be notified about an item, sent and received notification
- Security: services are known and trusted in advance. Incoming message are accepted by IP addresses
- DSpace 5 – 6 : A servlet is used to implement the INBOX
- DSpace 7: a separate maven web project has been created that if activated contributes a controller to the server webapp (as the OAI, SWORD, etc.)
- According to the notification type a chain of actions are executed to process the message (add metadata, send email notification)
- Notify Announcements are sent by a DSpace Consumer once an item is archived or updated with a `coar.notify.initialize` metadata

# A note about use of Metadata

- Several metadata have been defined in COAR schema, one for each "status" of conversation  
(coar.notify. initialize|request|examination|refused|review|endorsement)
- It was the easier/quicker solution with minimal impact for future migration and that could work as is on versions 5, 6 and 7
- As the status is stored in a metadata it is available on SOLR and can be efficiently queried for the monitoring dashboard
- The following information from the LDN Message is stored as metadata value using || separator: Timestamp, Service ID, In Reply To, URL (review, endorsement)

# Future plans

- Keep the implementation aligned with the COAR Notify project
- Move the status information outside the metadata
- Add support for auto-discover the Inbox
- Add support for an external inbox
- Decouple the consumer from the inbox
- Identify authors via ORCID



# Thanks for your attention!

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