Solid as foundation for Digital Heritage Networks

Solid Amsterdam Meetup
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Miel Vander Sande - meemoo
miel.vandersande@meemoo.be / @mielvds

dutch digital heritage network

Contents

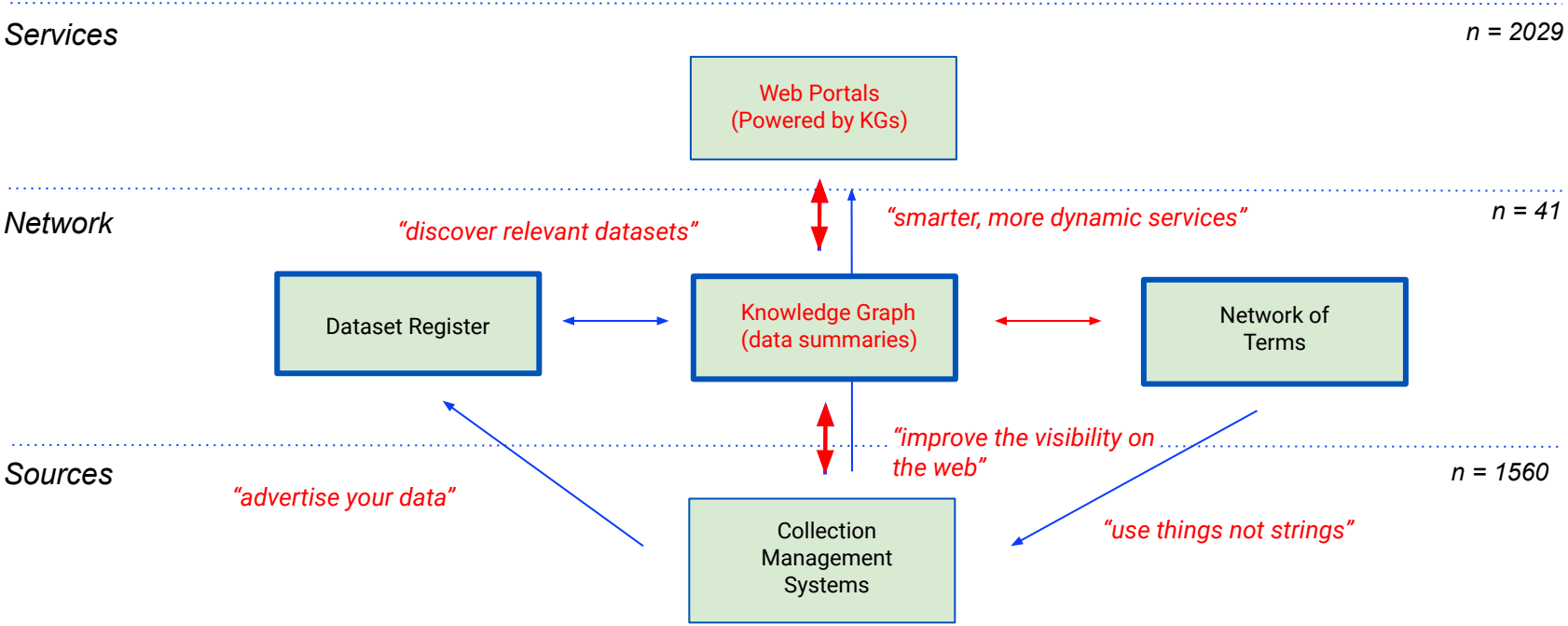
National Digital Heritage Strategy

The Dutch Digital Heritage Network (NDE) aims **at increasing the social value of the cultural heritage information** maintained by libraries, archives, museums and other cultural institutions.

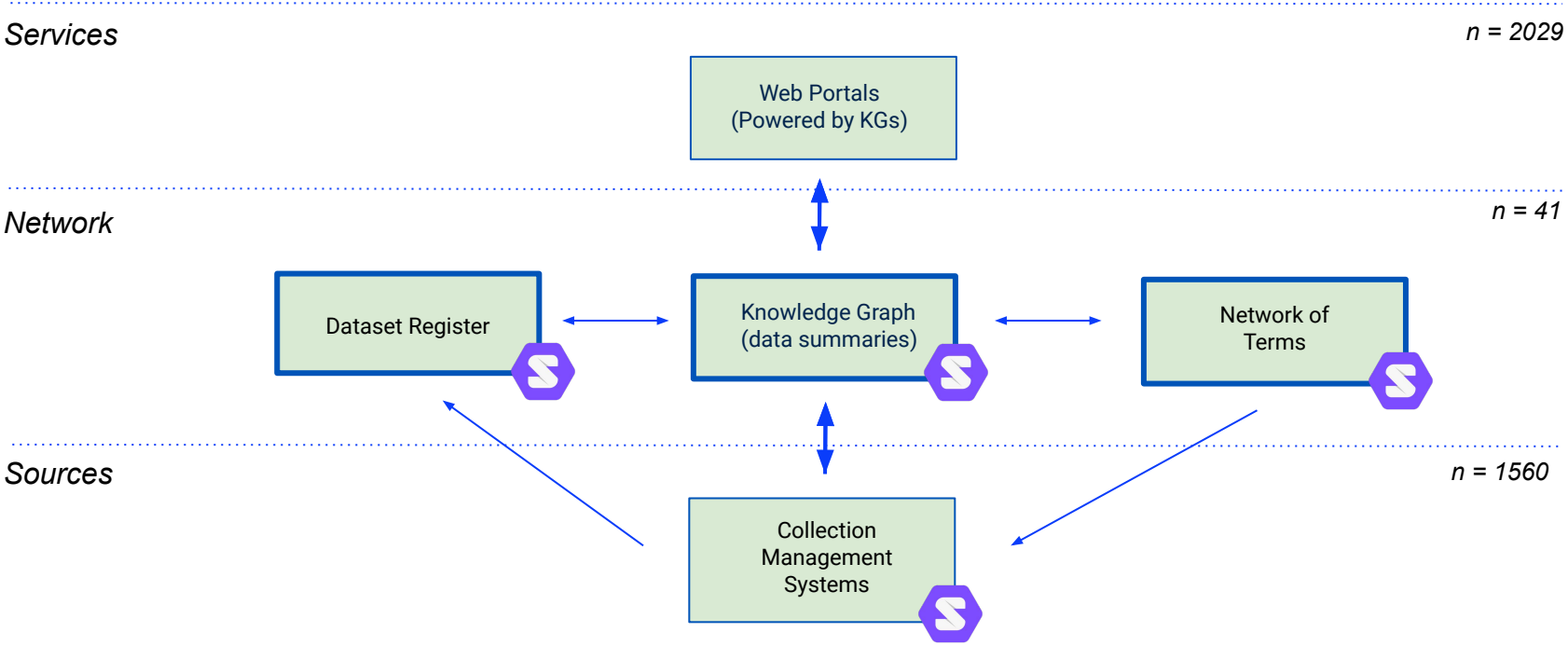
The NDE strategy starts from the **end user perspective** and encourages institutions to provide digital heritage information that is more **visible, usable and sustainable**.

The NDE program is about building strong **cross sector networks** on the level of **expertise and information**. **Linked Data** is regarded as one of the enabling technologies.

Roadmap for the NDE discovery infrastructure



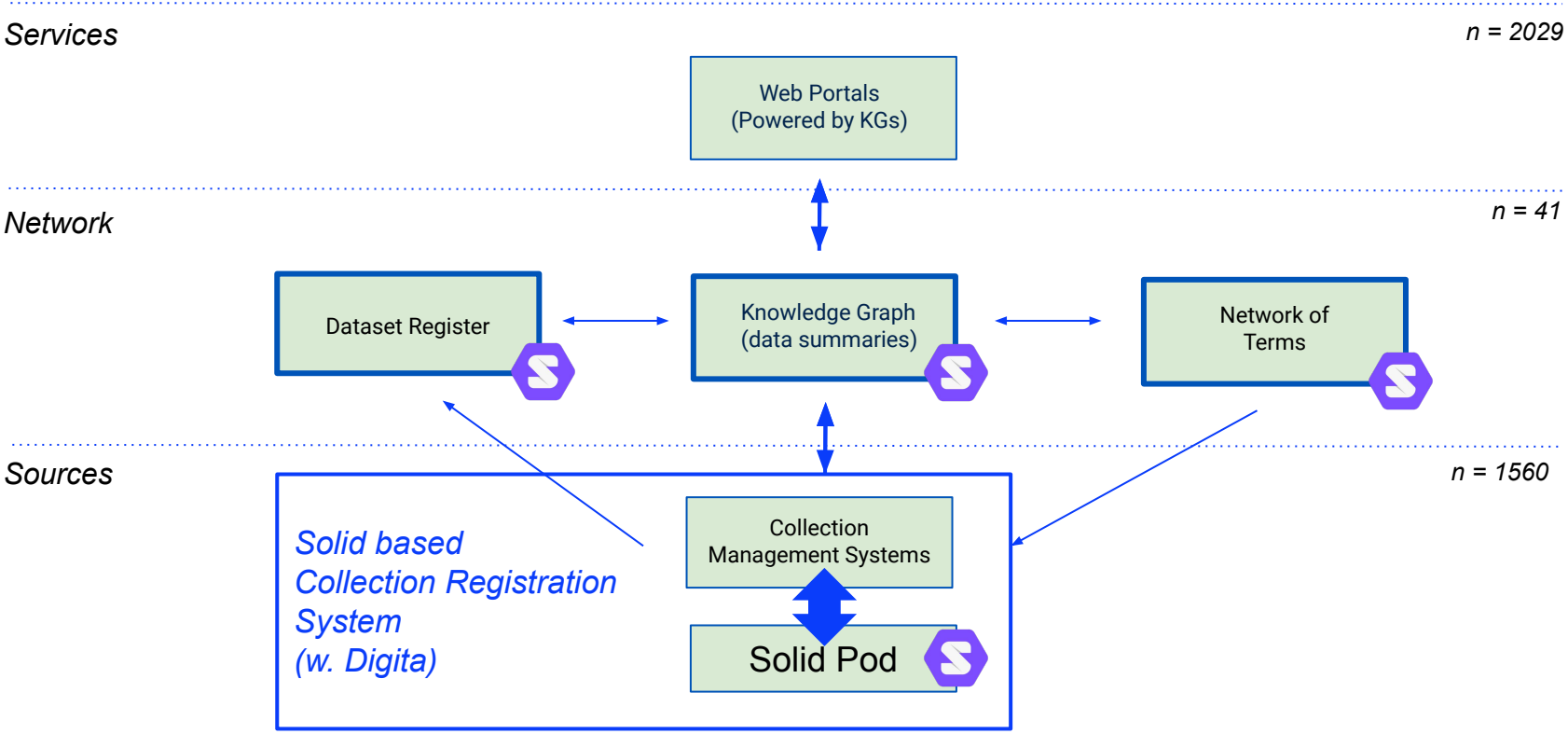
Is Solid a suitable implementation layer?



Is Solid a suitable implementation layer?

- Linked Data at the core - based on the Linked Data Platform specification
- Fits well in our decentralised view on the digital heritage network
- Lowers barriers for publishing data and interoperability
- Comes with authentication (for identifying network participants)
- Has integrated communication techniques (Linked Data Notifications)
- It could enable new forms of cooperation such as:
    - sharing data between organisations (collection sharing)
    - co-creating with users (feedback, corrections, additions)
    - enabling the development of third-party apps
    - interoperability and enhanced choice in third-party (data) services

Solid as implementation layer: SolidCRS



https://solid-crs.netwerkdigitaalerfgoed.nl/collection/https%3A%2F%2Fmielvds.solidcc

Miel Vander Sande

Zoeken

Bruikleen

Collecties

Nieuwe collectie

Nieuwe collectie

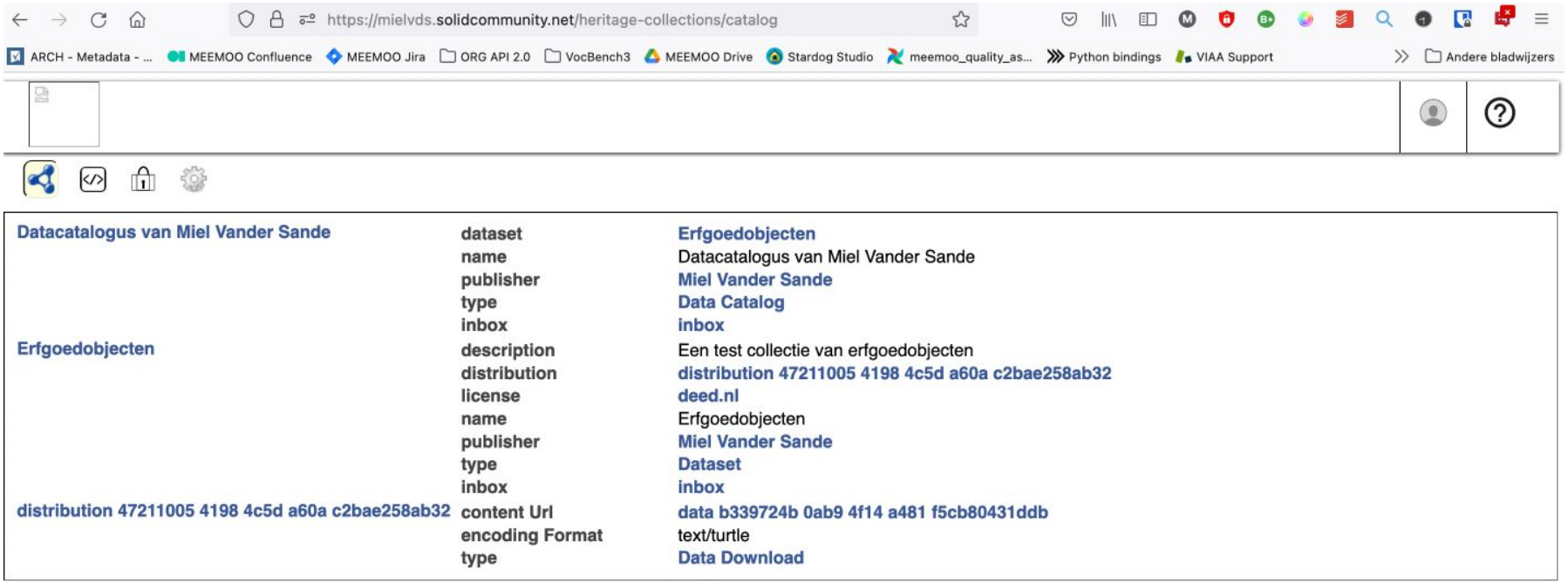
Erfgoedobjecten

Een test collectie van erfgoedobjecten

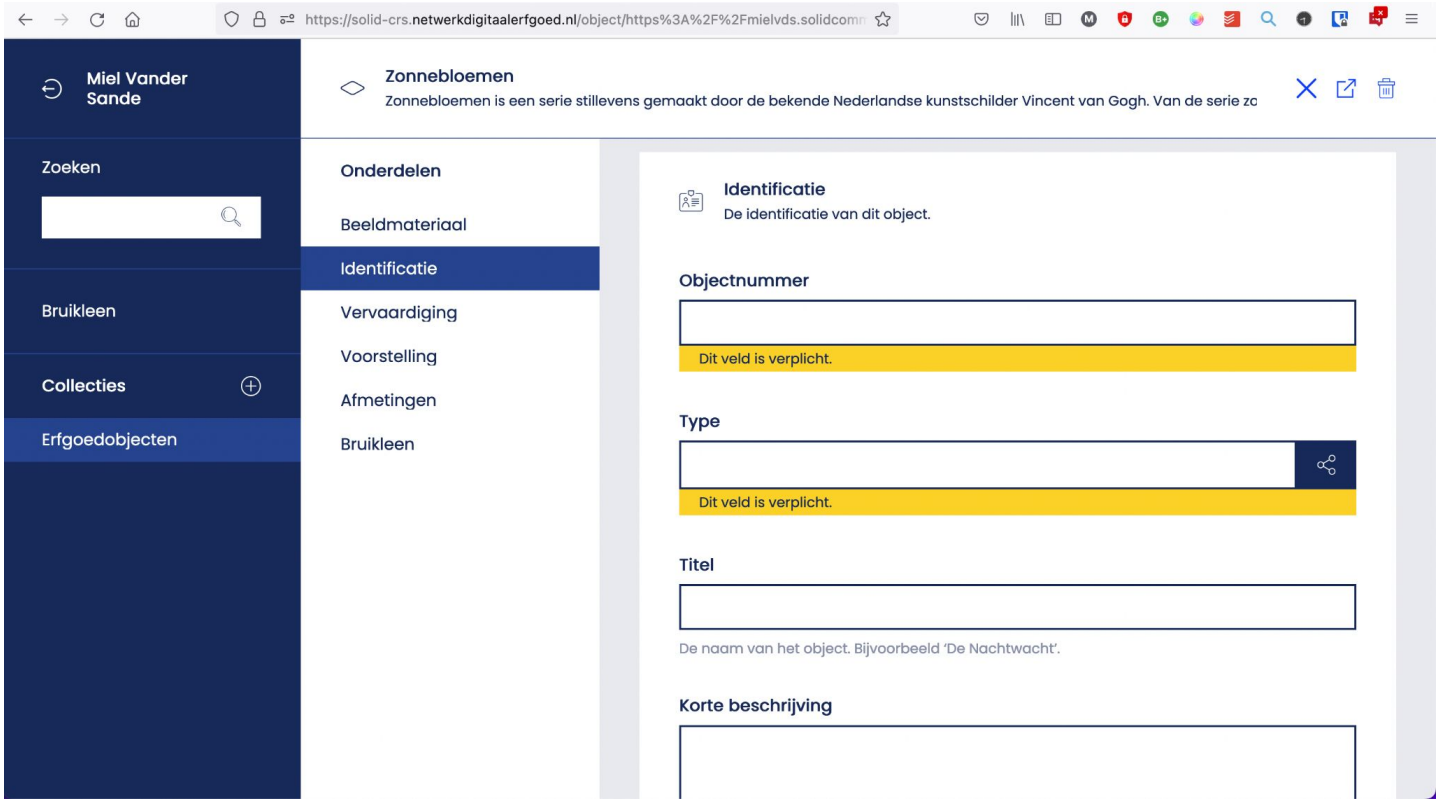
Maak je eerste object aan

Object aanmaken

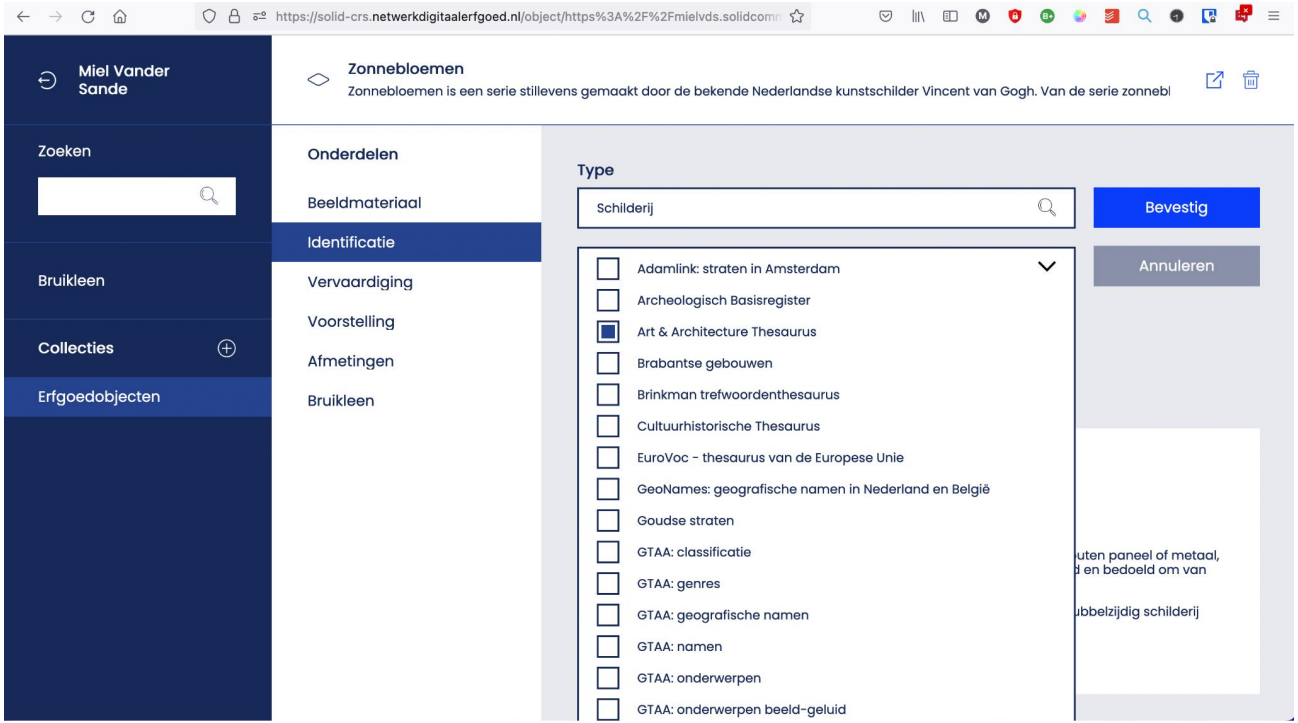
Collection descriptions are stored in Solid Pod



Creating objects



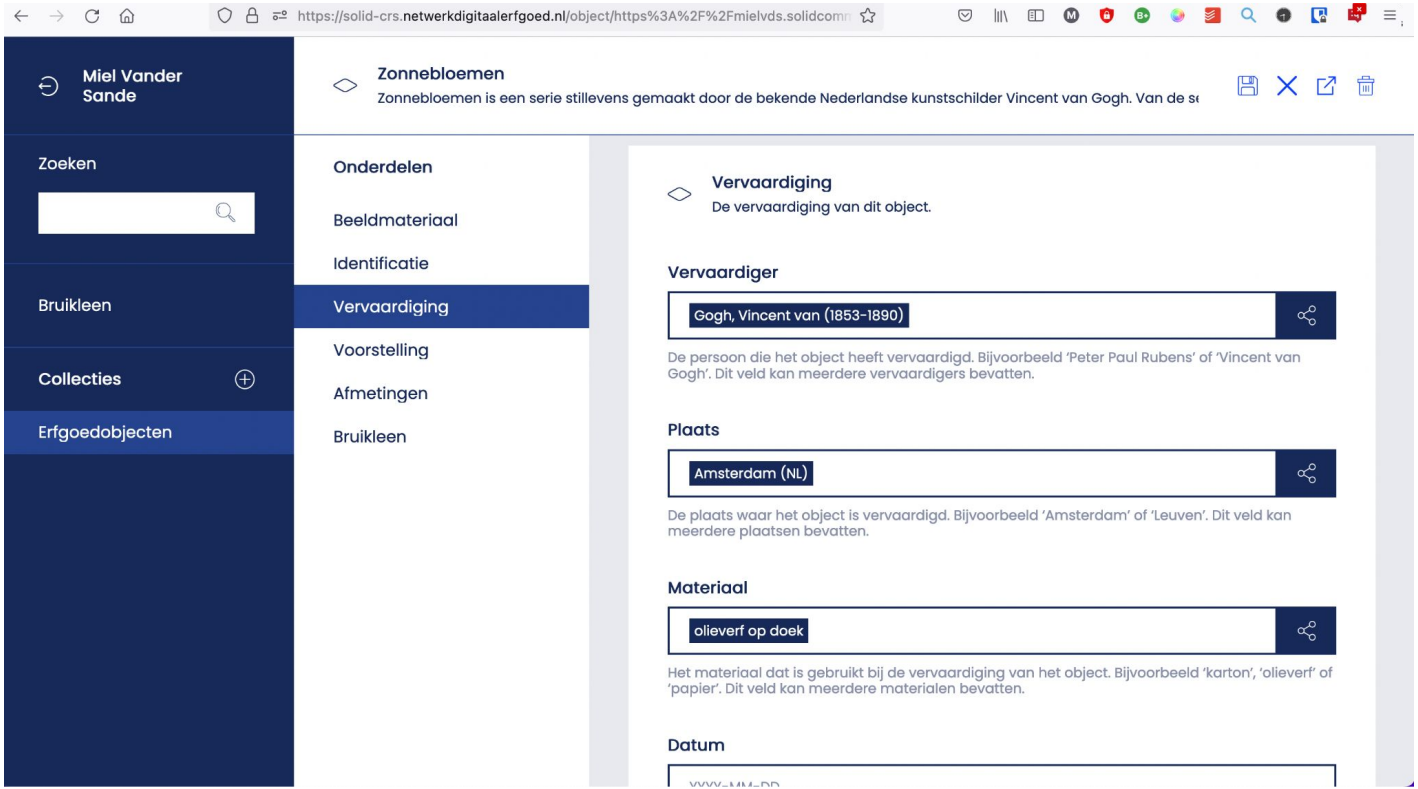
Integration with Network of Terms



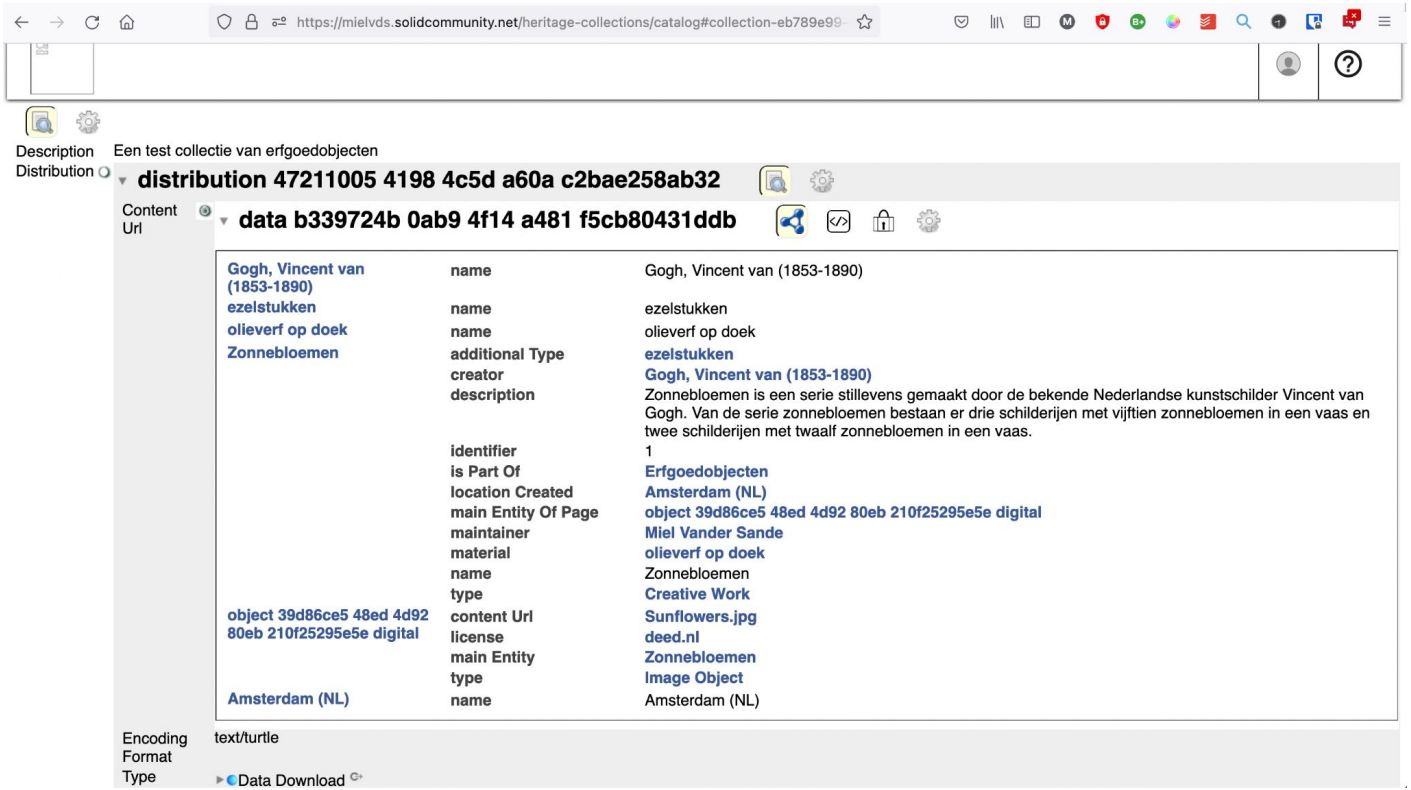
Realtime search in terminology sources from SolidCRS

https://termennetwerk.netwerkdigitaalerfgoed.nl

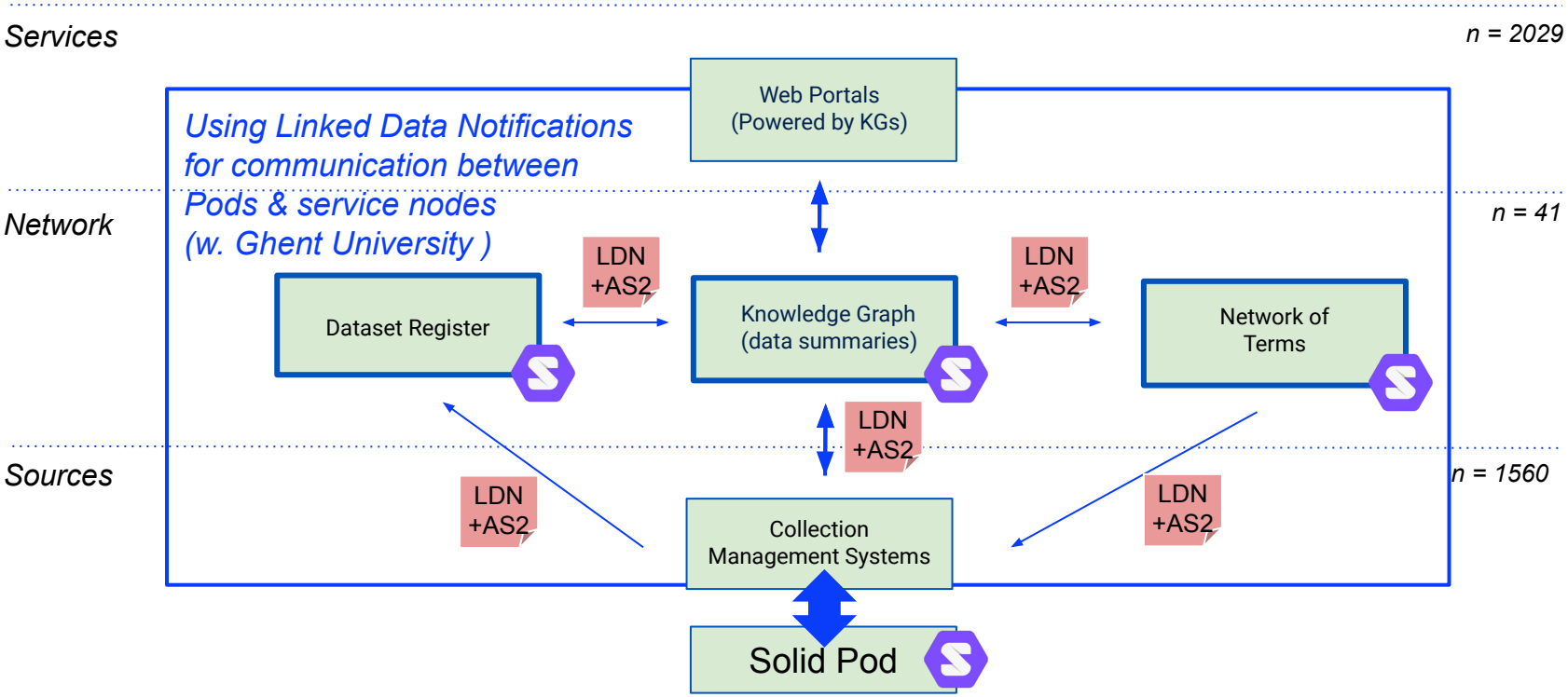
Store links between object and terms



Object descriptions are stored in Solid Pod



Solid as implementation layer: ErfgoedPod



Event Notifications in Value-Adding Networks

Event Notifications in Value-Adding Networks

Living Document, 23 September 2022

This version:
https://www.eventnotifications.net

Latest published version:
https://www.eventnotifications.net

Previous Versions:
https://www.eventnotifications.net/0.1/

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Inline In Spec

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)
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https://www.eventnotifications.net

Digital heritage as Value-Adding Network

Output of collaboration with mellon foundation research project ResearcherPod

Decentralized “Value-Adding” network:

- Artifacts (Web resources) made available by nodes
- Nodes add ‘value’ to Artifacts (= events), eg. register, archive, loan, review
- value & service is determined by the domain (= dutch digital heritage network)
- communicate about value using push-based notifications

Use cases in Scholary communication, digital heritage and Construction planning

Linked Data Notifications with ActivityStreams 2.0 payload (JSON-LD preferred)
→ Solid is not required, but is a very suitable implementation layer

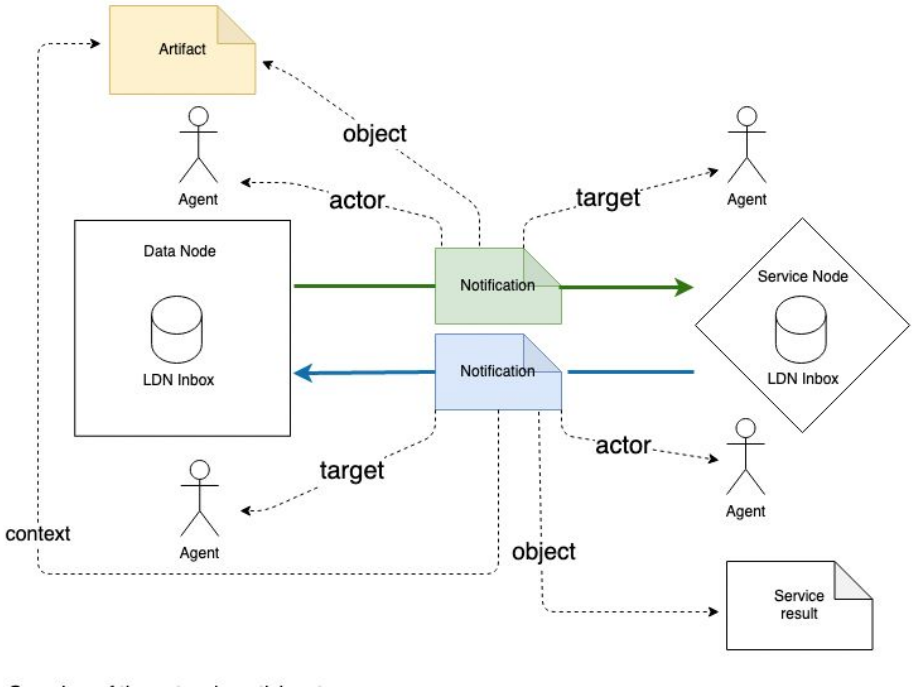
Network Entities

Artifact: resource; primary focus of interaction (e.g. dataset, heritage object, document)

Data Node: host artifacts; inbox

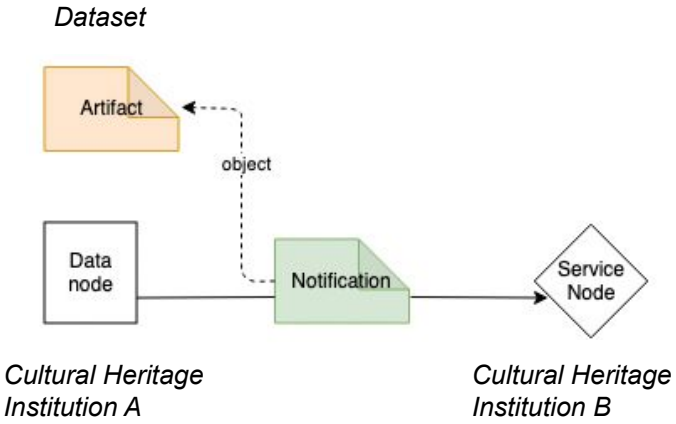
Service Node: provides a service (which adds value to the artifact); produces *Service result*

Agent: administrator; addressable via WebID



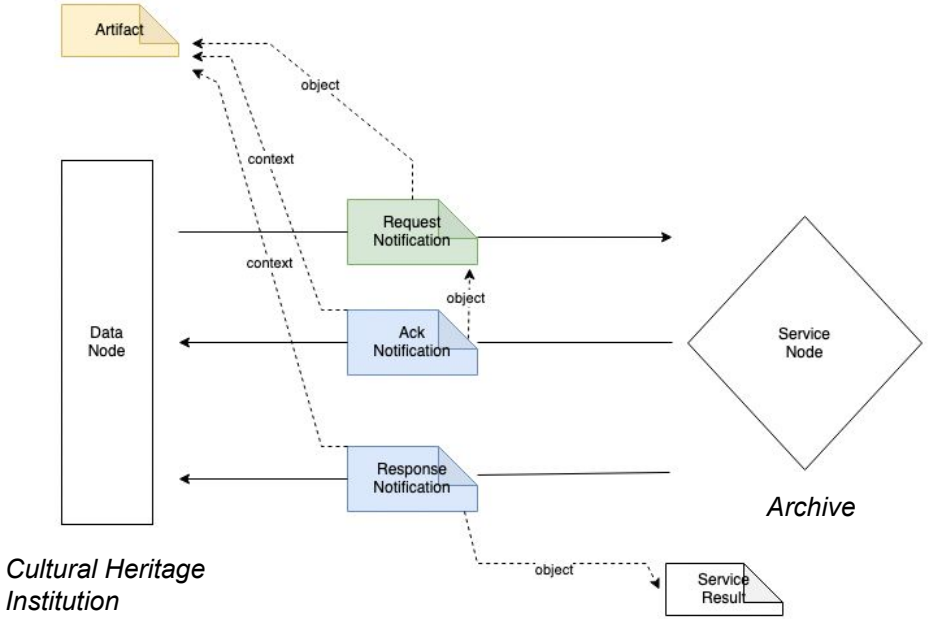
One-way pattern

“I performed this activity on an Artifact” - Informative; no response/result expected



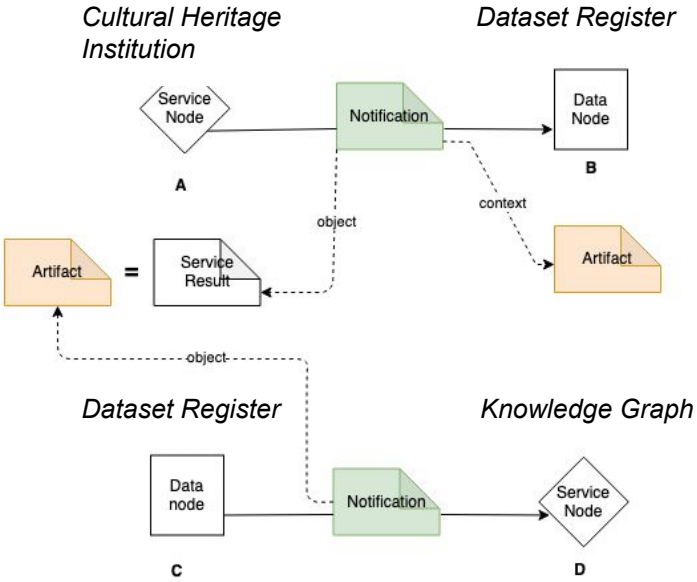
Request-response pattern

Provisioning of value-added service; more elaborate back and forth initiator expects response (but not necessarily instant)

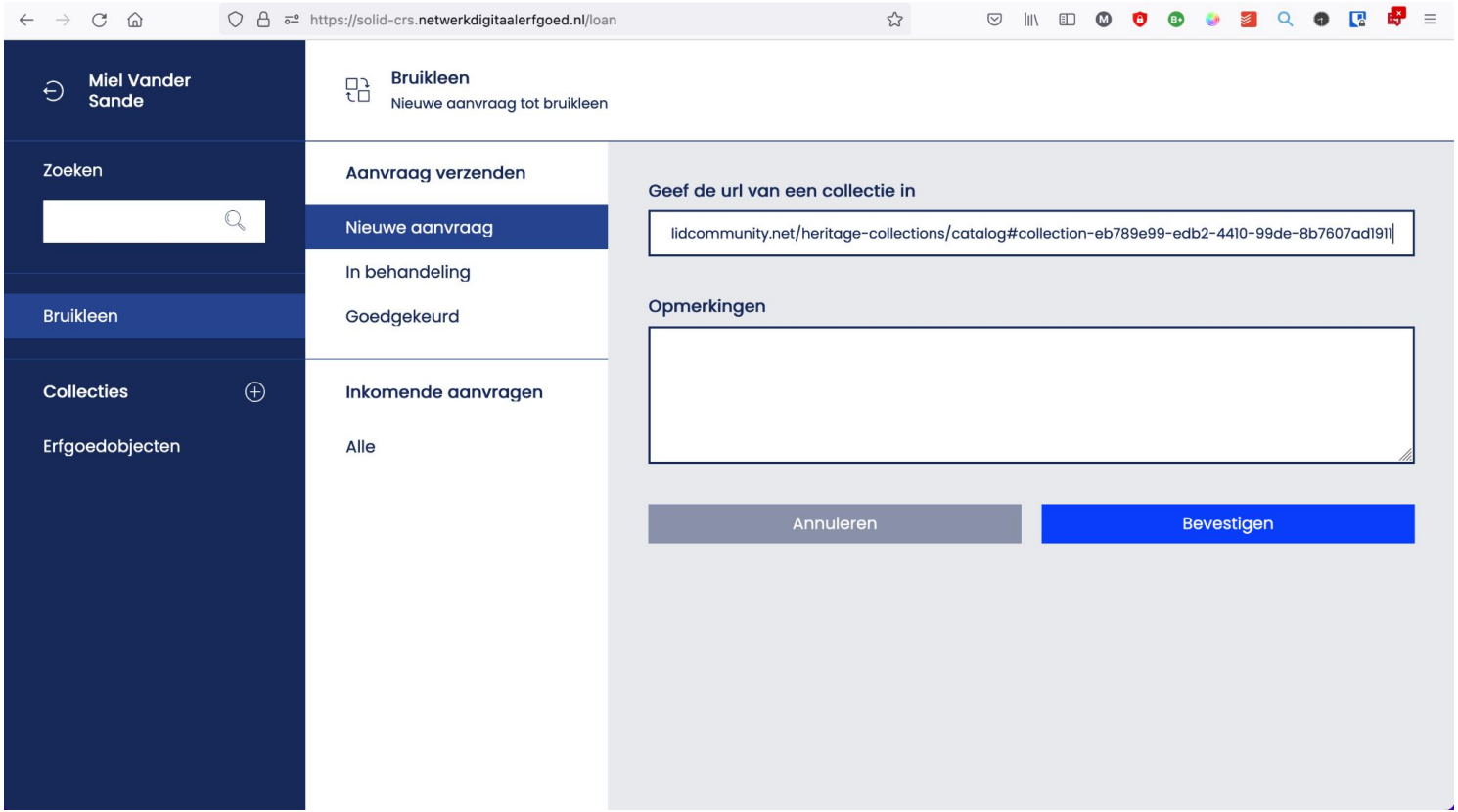


Chained pattern

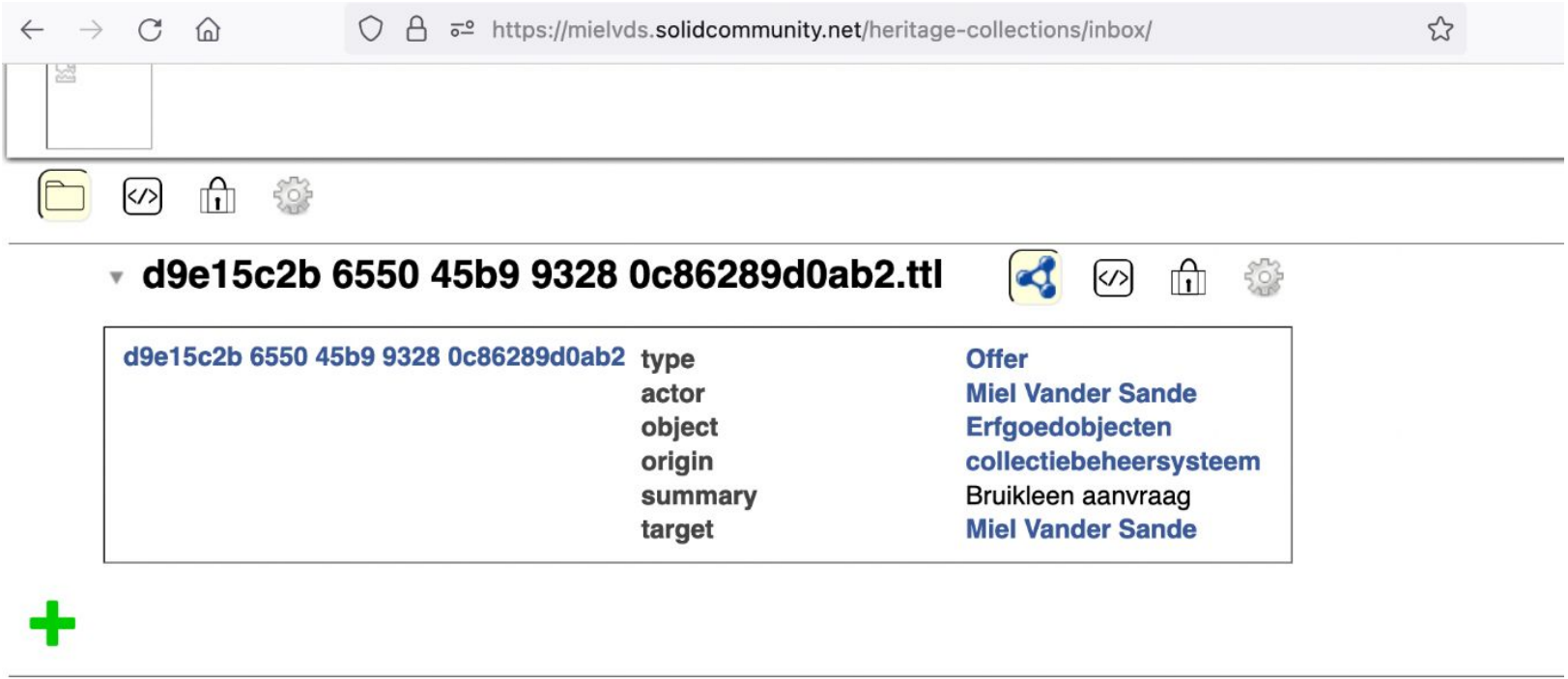
More complex workflows; chain of actions through the network



Collection loan – extension to SolidCRS



Notification is delivered to LDN Inbox



Lessons Learned (so far...)

- Linked Data in the core is very powerful
- Separate POD Provider + Identity Provider + Client application = complexity
- Authentication (WebIDs) can still be a barrier for adoption?
- Strong dependency on external parties / infrastructure / toolkits
- Working with Solid requires a different mindset
- Challenges wrt. semantic data modelling and integration remain

Lessons Learned (so far...)

- Real-world use cases are needed to mature the Solid ecosystem
- Some existing protocols are ‘too generic’ (LDN, AS2) for direct real-world use
- Creating data nodes is pretty easy using Solid pods
  - trivial to setup an LDN Inbox + authorization + APIs
- A few message types and patterns can cover most essential communication in a digital heritage network
  - A test implementation using Solid indicates scalability
- Funds like “Innovatiebudget Digitale Overheid”, especially in combination with larger research funds like Mellon, are important enablers

Thanks for your attention!

Please contact us tech@netwerkdigitaalerfgoed.nl
or miel.vandersande@meemoo.be for any additional information!