

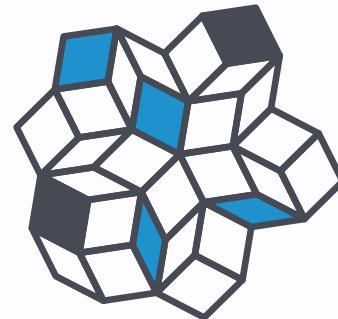
Science
Mesh

An Interoperable Federation of EIFFS services for European Open Science Cloud

Pedro Ferreira (CERN)

The Idea

- **Decentralized** mesh of EFSS nodes
- Based on **Open Standards** and **Open Source**
- **Interoperable Platform** to easily share and deploy applications and components

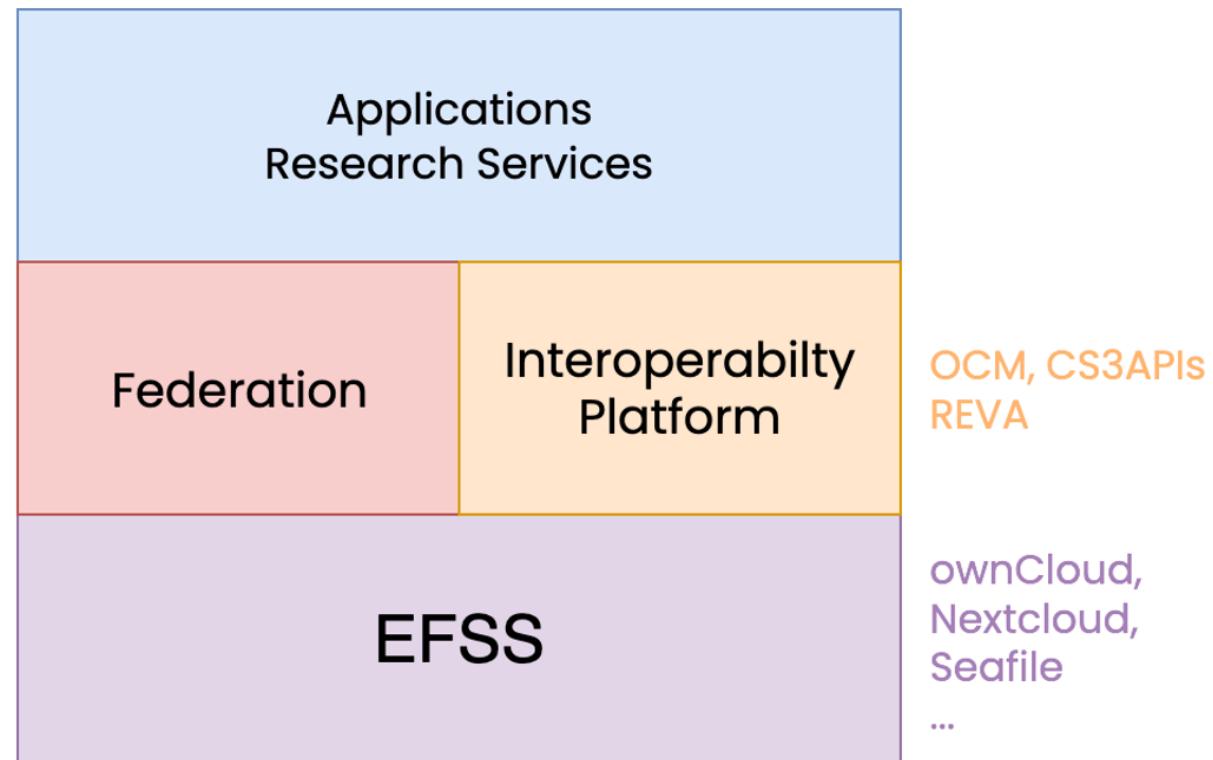


Science
Mesh





Science
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Objectives

- **Application platform** for distributed collaboration
- **Federated** research space for Europe (and the world!)
- Leveraging the potential of the **CS3 Community**



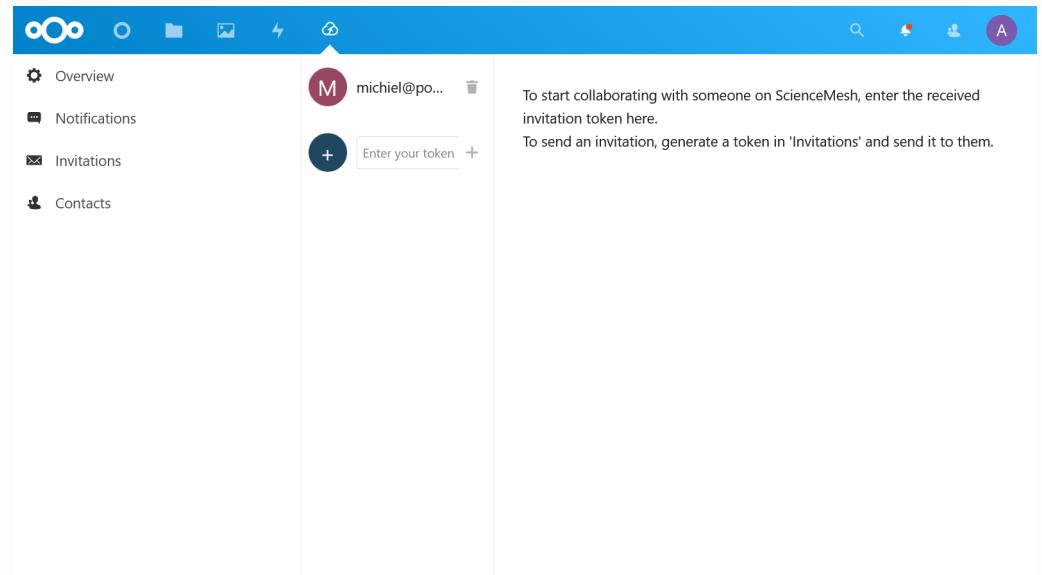
EFSS Integration

Objectives

- Platform-specific plugins;
- Implement "Invite workflow" from EFSS system;
- A User Interface which feels seamless;

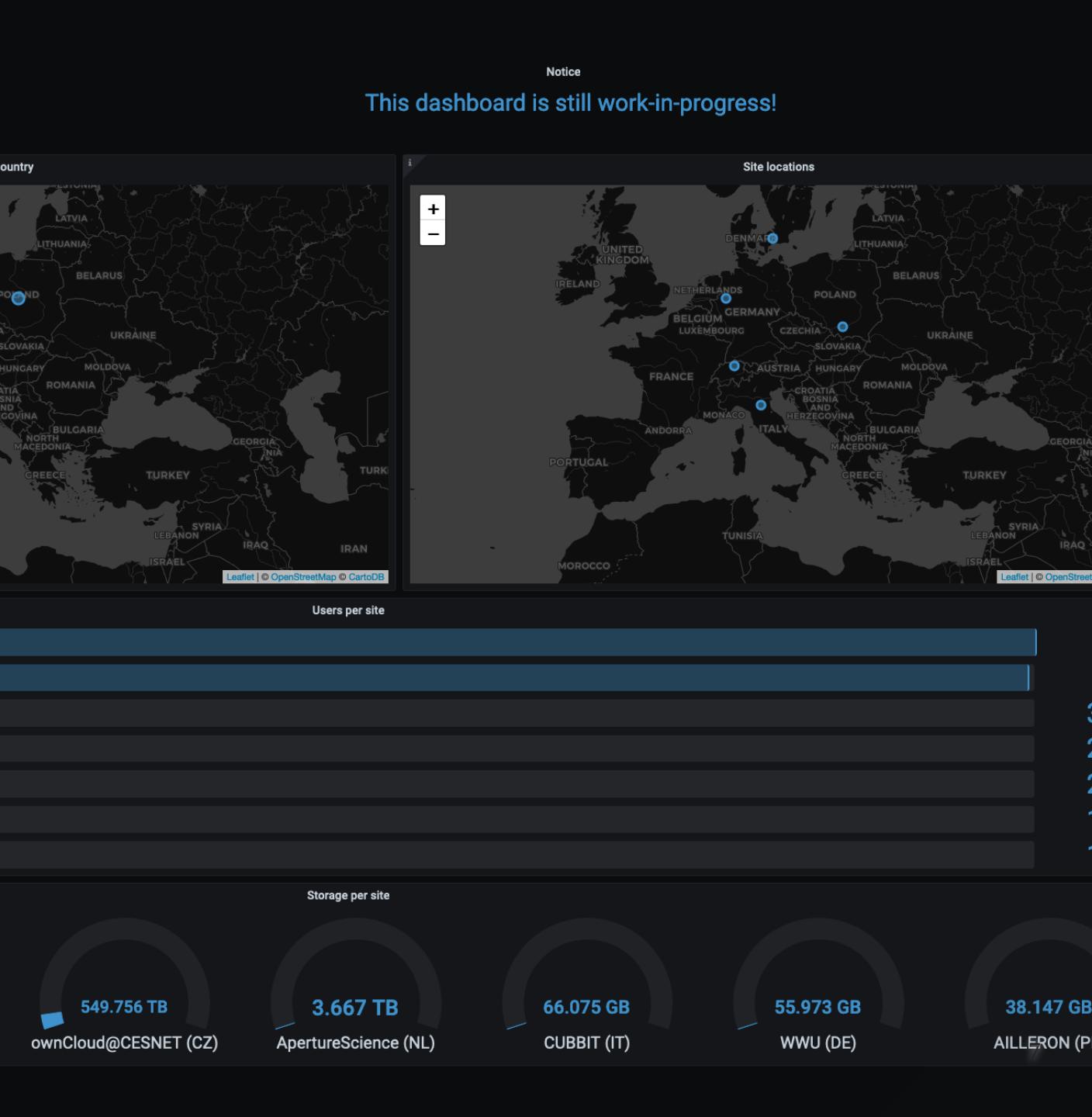
EFSS Integration

- Nextcloud
 - outsourced to PonderSource (alpha stage);
 - UX and backend;
- ownCloud
 - OCIS - using REVA, still UX work to do;
 - version 10 - backport by PonderSource (March 2022);
- Seafile
 - under discussion



Federation

- Established Roadmap for Trust
- Federated Identity
- Registry (GOCDB, Mentix)
- Monitoring (Prometheus, Grafana)
- Security
- Up and running mid-2021!

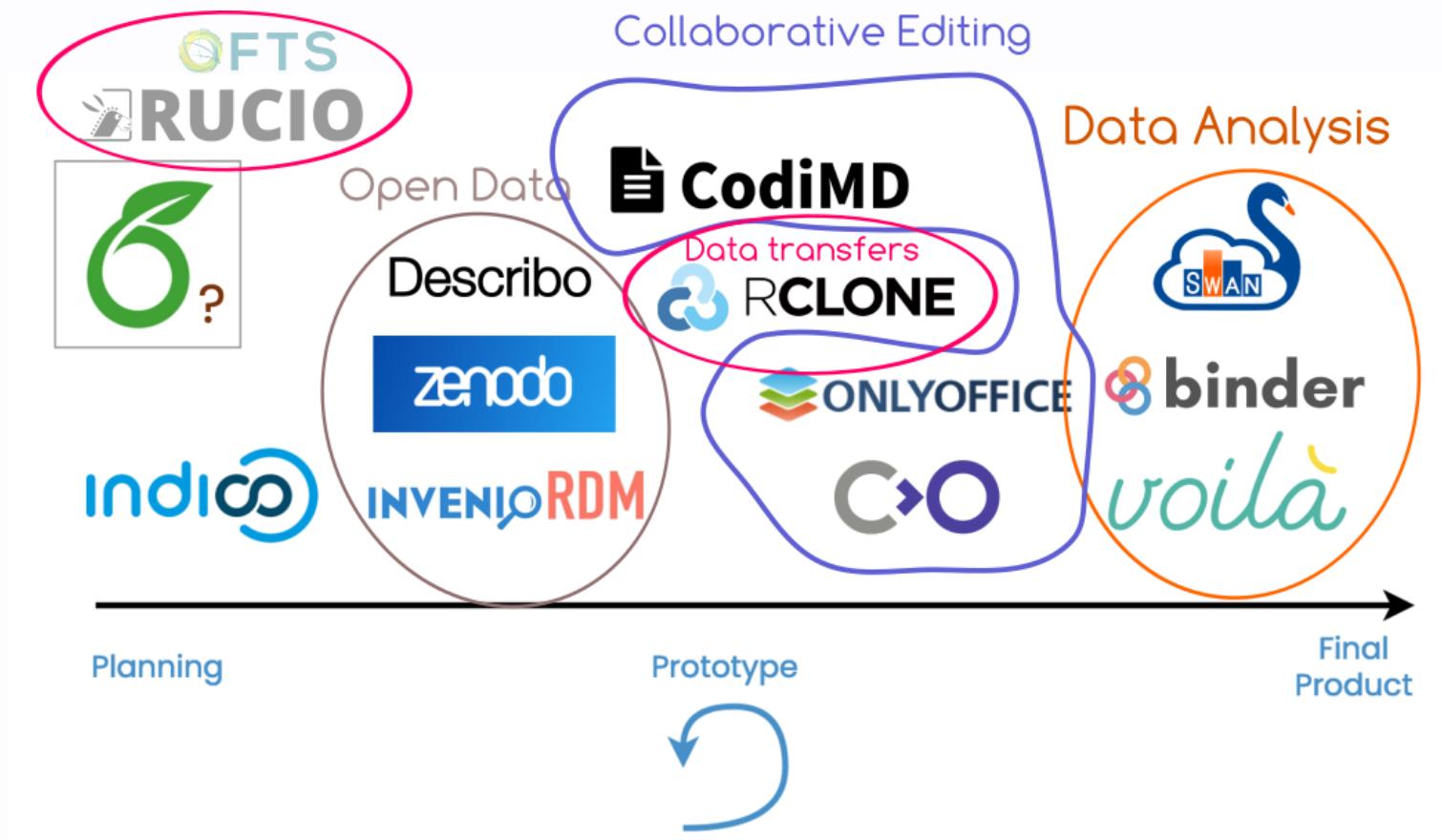


Applications

Photo by Markus Spiske from [Pexels](#)

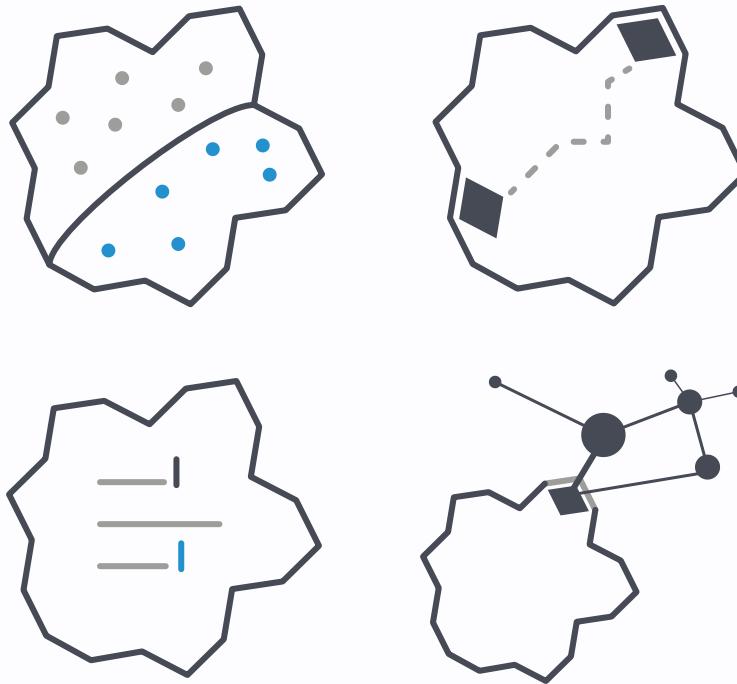
A blurred background image of a computer screen displaying code in a terminal or code editor. The code appears to be in a programming language like PHP, with syntax highlighting for various keywords and functions. A prominent red error message is visible in the center of the screen, reading: "Wrong vc_map object. Base attribute is required", which corresponds to the question about the 'vc_map' object in the slide title.

```
    $settings_function = null, $settings_file = null ) {  
  
    if ( ! $settings ) {  
        $settings = array();  
    }  
  
    if ( ! $settings['base'] ) {  
        _vc_error( 'Wrong vc_map object. Base attribute is required' );  
    }  
  
    $settings['base'] = $base;  
  
    if ( ! $settings['attributes'] ) {  
  
        $settings['attributes'] = array();  
    }  
  
    $settings['attributes'] = array_merge( $settings['attributes'], $attributes );  
  
    return $settings;  
}  
};
```



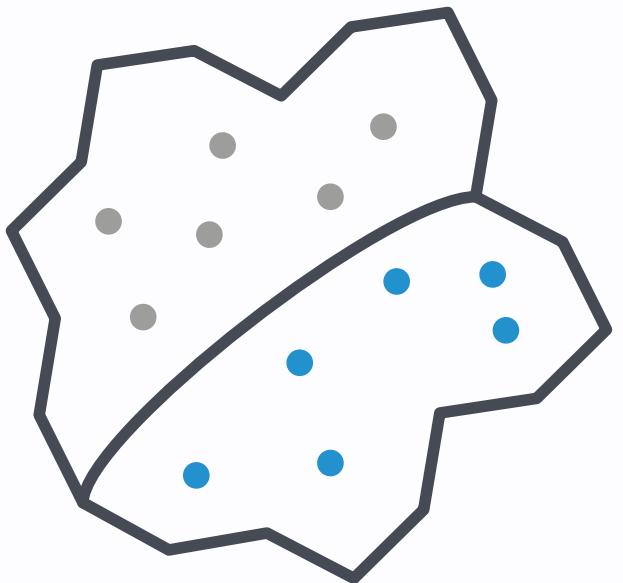
Logos are property of the respective projects

Data Science / Data Transfers

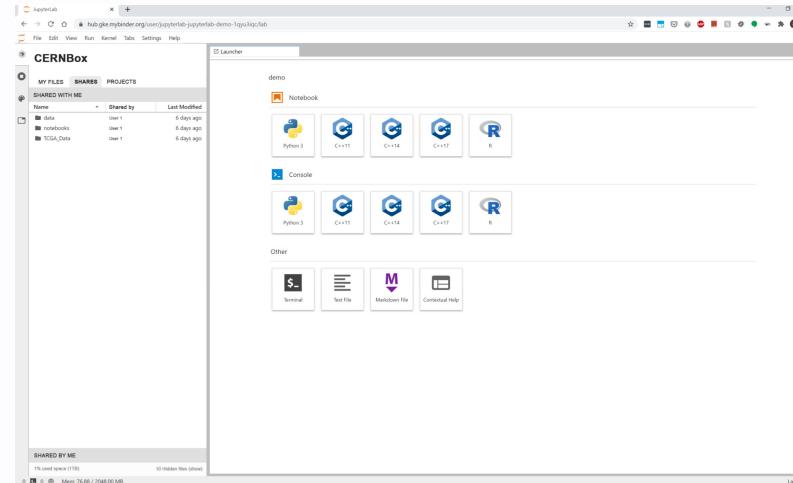


Markdown Editor / ScieboRDS

Data Science Environment

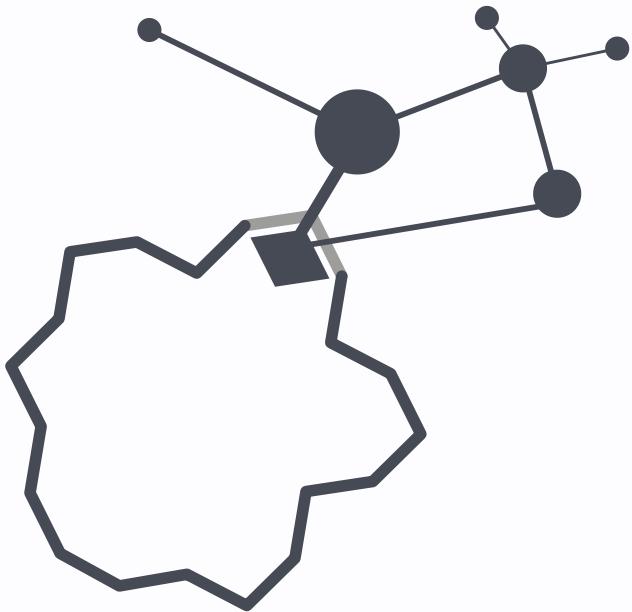


JupyterHub-based Notebook Editing

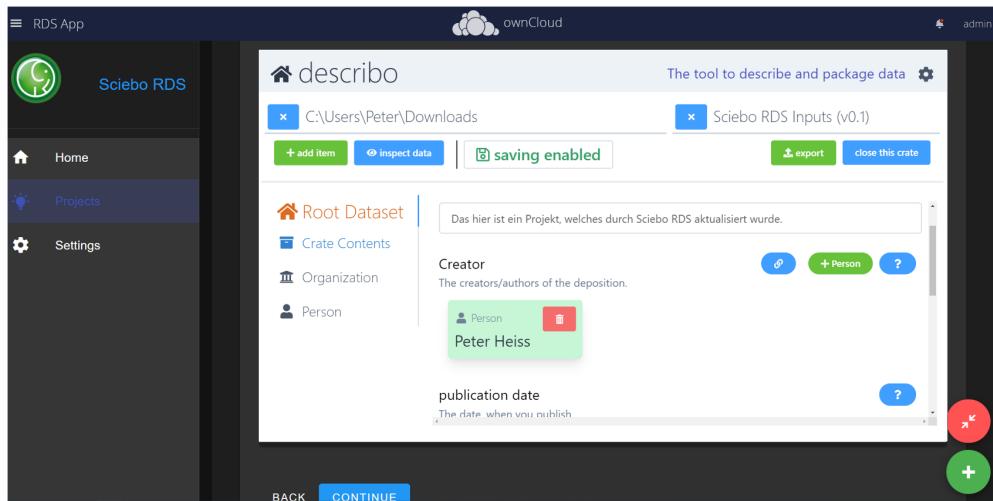


<https://github.com/sciencemesh/cs3api4lab>

Open Data Workflow

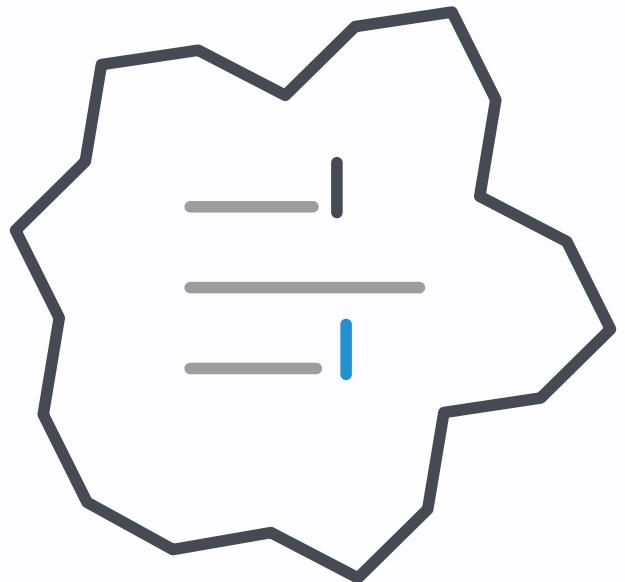


ScieboRDS + Describo Online



<https://github.com/Sciebo-RDS/port-reva>

<https://github.com/Arkisto-Platform/describo-online>



Markdown Editor

CodiMD from you EFSS

width:500px

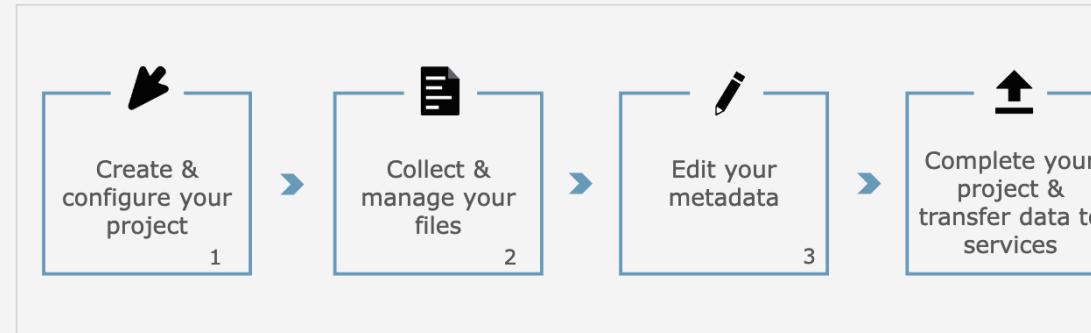
<https://github.com/cs3org/wopiserver/blob/master/src/bridge/readme.md>

Synergies

- Conversations with several vendors about new features and integrations
 - e.g. sponsoring developments in **Rclone**
- Open Data partnership involving UTS, PARADISEC (AU), Zenodo
 - Based on WWU's **Sciebo RDS** and UTS's **Describo**



sciebo RDS – Our Current Workflow



OSF zenodo

...

Lennart Hofeditz

27/01/2021

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Peter Heiss, Lennart Hofeditz - Progress of Sciebo Research Data Services

Describo Desktop - define and link entities

The image shows three windows from the Describo Desktop application:

- Author Window:** A modal window titled "Author" with tabs for "Person" and "Organization". It shows a "Person" entry for "John Public" with a delete icon.
- Dataset Connection Window:** A modal window titled "This item is connected to:" containing the text "@type: RootDataset → hasPart" and "name: my crate" with a delete icon.
- Edit Dataset - data Window:** A detailed configuration window for a dataset named "data". It includes fields for "name" (data), "description" (+ text), "license" (+ Creative Commons), and "hasPart". The "hasPart" section lists several items:
 - another level: DT1-214-A.mp3
 - NT1-20003-002.jpg
 - NT5-TokelauOf-CAT-PDSC_ADMIN.xml
 - NT5-TokelauOf-vid.mp4Each item has a delete icon. Below the "hasPart" section are fields for "author", "publisher", and "funder", each with tabs for "Organization" and "Person". A "Show all available properties" button is at the bottom, along with a "Save" button.

Marco La Rosa, Peter Sefton - Describo and RO-Crate - the FAIR data research helpers

You app/service could be the next one!

Cubbit

- CS3Mesh on a physical device!
- Integration with CS3APIs/IOP

*Gianluca Granero - Cubbit Hive:
the private distributed cloud*





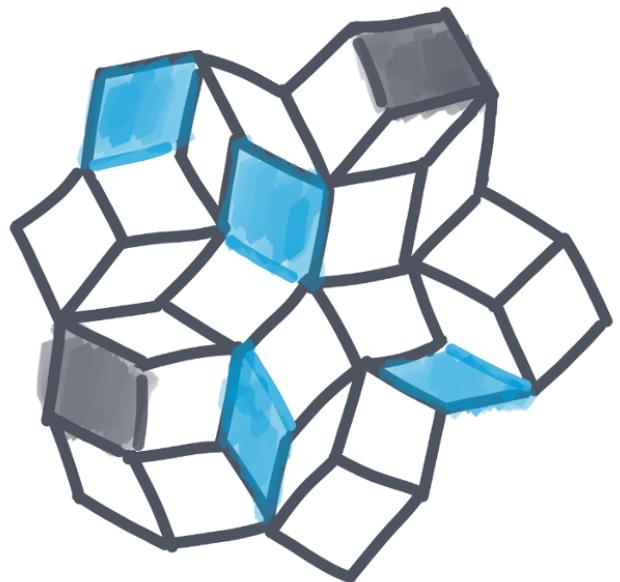
Unlock scientific collaboration through technology.

ScienceMesh is a rich ecosystem for frictionless scientific collaboration and access to research services.



Communications

- Project website and branding
 - Newsletters, [@cs3org](#) and others
- ScienceMesh website and branding
 - Documentation on how to join
- Events such as this one!



Roadmap

1. **mid-2021** - Consolidation of Proof of Concept (user sharing)
2. **early 2022** - Second prototype - sharing with groups of users
3. **late 2022** - Production infrastructure, applications fully integrated

Conclusion

- Lots of things for you to **discover**
- ... but it's also about **your** ideas
- **We hope you will like the workshop!**