B2DROP
The EUDAT Personal Cloud Storage

31.01.2017 | Benedikt von St. Vieth, Thijs Cobben, Sander Apweiler, Mikael Karlsson
The **EUDAT** project(s)

- data services
- **EUDAT**
  - 2011 - 2015
  - EU FP7
- **EUDAT2020**
  - 2015 - 2018
  - EU Horizon 2020
- **EUDAT CDI**
  - beyond
- community driven
The **EUDAT** Collaborative Data Infrastructure

- **B2HANDLE**: PID Management
  - Identification, Integrity, Authenticity

- **B2SAFE**: Policy-based data management
  - Secure data exchange
  - Store and publish research data

- **B2STAGE**: Dynamic replication for processing
  - Network of trust

- **B2FIND**: Aggregated metadata inventory
  - Identity & Authorisation

**Network of trust**

External Community data repository and metadata catalogues
The EUDAT Collaborative Data Infrastructure

B2DROP: Secure data exchange
B2SHARE: Store and publish research data
B2HANDLE: PID Management
B2SAFE: Policy-based data management
B2STAGE: Dynamic replication for processing
B2FIND: Aggregated metadata inventory

Identification, Integrity, Authenticity

Network of trust

Data
Metadata
AAI

External Community data repository and metadata catalogue
B2DROP

For whom?
Researchers (including citizen scientists) who want to share their research with a small set of collaborators prior to making it available to a wider audience.

What can you do with it?
- a service to store and exchange data
- automated desktop synchronization on many platforms
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What can you do with it?

- a service to store and exchange data
- automated desktop synchronization on many platforms
- (move data to other EUDAT services)
Usage Statistics - b2drop.eudat.eu

- users: 1000
  - 330 in 9/2015
  - 125 in 3/2015
- volume: 950 GB
- objects: 990,000 #
- requests:
  - 313,000 #/day
  - 3.6 #/sec
Operations

- deployment using puppet
- transparent migration to new server in 04/2016
  - new LAMP stack
  - ownCloud version 7→8.0→8.1→8.2→9.0
- ownCloud version 9.0→9.1 in 07/2016
- continuous theme adoptions
- B2SHAREBRIDGE (ownCloud App) implementation
- Nextcloud tests (theme, B2SHAREBRIDGE, B2ACCESS)
**B2SHAREBRIDGE Plugin**

**Use Case:**

A researcher worked on a publication. The volatile digital objects were stored, synchronized and shared using B2DROP. Now, after finalizing it, he wants to publish the final document using B2SHARE.
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- extend B2DROP WebUI
  - create deposit on a per-file base
  - make community (metadata) selectable

- implement third-party transfers
# User Interface - File List

### Files

- **All files**
- **Favorites**
- **Shared with you**
- **Shared with others**
- **Shared by link**
- **Tags**
- **Deleted files**

### File List

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>20160205_B2DROP-UserTraining_UserForum.pptx</td>
<td>4.8 MB</td>
<td>2 days ago</td>
</tr>
<tr>
<td>20160512_B2DROP-Community-Meeting_Utrecht.pptx</td>
<td>2.8 MB</td>
<td>2 days ago</td>
</tr>
<tr>
<td>20160620_B2DROP-Technical-Meeting_Barcelona.pptx</td>
<td>2.8 MB</td>
<td>2 days ago</td>
</tr>
<tr>
<td>20160714_B2SAFE-Swict_Dueseldorf.pptx</td>
<td>814 KB</td>
<td>2 days ago</td>
</tr>
<tr>
<td>IMG_1268.JPG</td>
<td>2.2 MB</td>
<td>a month ago</td>
</tr>
</tbody>
</table>

**B2SHARE**

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31.01.2017

**B2DROP**
User Interface - Community Selection
# User Interface - Deposit List

## All Deposits

<table>
<thead>
<tr>
<th>Transfer ID</th>
<th>Filename</th>
<th>Status</th>
<th>Publish URL</th>
<th>Triggered At</th>
<th>Last Update</th>
</tr>
</thead>
</table>

**Pending Deposits**

**Published Deposits**

**Failed Deposits**

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31.01.2017  B2DROP
Deposit in B2SHARE

Editing 20160620_B2DROP-Technical-Meeting_Barcelona.pptx

Add files

Drop files here, or click to select files

Add B2DROP files

Uploaded files

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>20160620_B2DROP-Technical-Meeting_Barcelona.pptx</td>
<td>Nov 23, 2016</td>
<td>2.90MB</td>
</tr>
</tbody>
</table>

Basic fields

Community

Title

Description
User Interface - Personal Settings

**EUDAT B2SHARE Bridge**

- B2SHARE API token: 7QuXl5PglmmzKyv1VOVsW0KqmjrYmS3UQ0r0fXzGCNltudpqyJqt

**Federated Cloud**

Your Federated Cloud ID: bvonstvieth@fsd-cloud48.zam.kfa-juelich.de
User Interface - Admin Settings

EUDAT B2SHARE Bridge

- **External B2SHARE API endpoint**: https://fsd-b2share.jda-jaunit.de:443
- **# of uploads per user at the same time**: 5
- **MB maximum filesize per upload**: 512
- **Check valid secure (https) connections to B2SHARE**: [ ]

Mail Templates

<table>
<thead>
<tr>
<th>Theme</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>b2drop</td>
<td>Please choose a template</td>
</tr>
</tbody>
</table>
ownCloud / Nextcloud App

We followed the owncloud 3rd party App pattern
ownCloud / Nextcloud App

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ownCloud / Nextcloud **App Framework**

- database tables (*b2sharebridge/appinfo/database.xml*)
  - store deposit states
  - store B2SHARE communities
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  - register deposit as a **QueuedJob**
  - fetch B2SHARE for communities as regular **Job**
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- *OCA.Files.FileList / OCA.Files.DetailTabView*

- *OCP.Template* *(settings-personal, settings-admin)*

- PublishController *(php)* that connects to B2SHARE.v2 API
B2ACCESS Integration
B2ACCESS

- CSC/JUELICH put effort into ownCloud SAML integration
  ⇒ lack of client support
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- Nextcloud provides a user_saml module (on GitHub)
  - WebDAV/mobile clients through user-managed application passwords
  - client applications allow to use federated logins
B2ACCESS

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**but:**

- currently not enough attribute mapping possible
- after enabling `user_saml`, only federated accounts work
  ⇒ no local admin (and LDAP?) anymore
**B2DROP - Current Status**

- service usage as expected
- **B2SHAREBRIDGE** ongoing development
- ➞ after initial release, further extend WebUI
- **B2ACCESS** integration quite challenging
- ➞ (automated) migration of all users close to impossible