Store and Share using EUDAT B2SHARE REST API

EGI-CF EUDAT training workshop
November 2015

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for Data Access and Re-use

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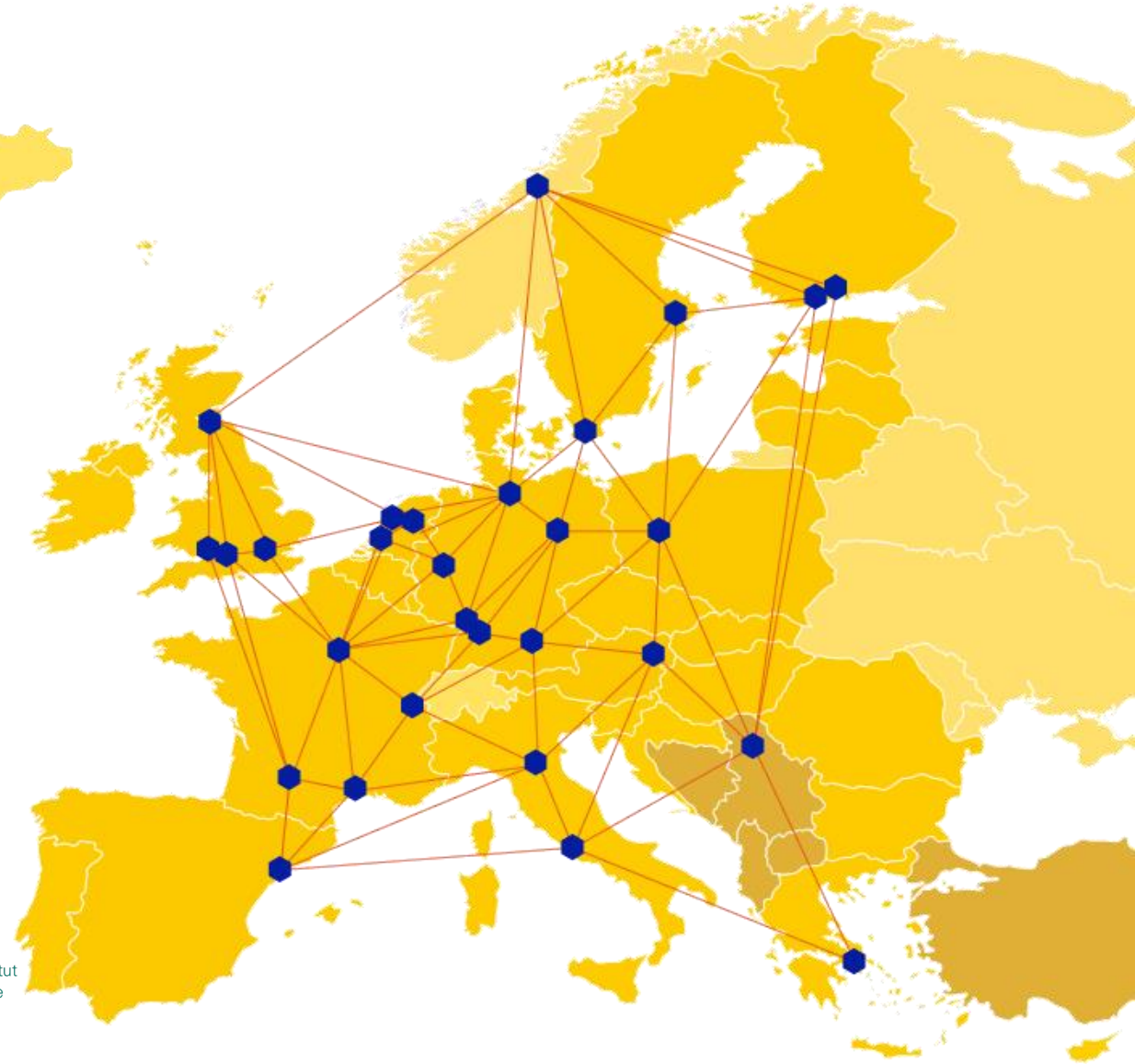
EUDAT receives funding from the European Union's Horizon 2020 programme - DG CONNECT e-Infrastructures. Contract No. 654065

What's that EUDAT again?

- First EUDAT project 2011-2014
- EU Horizon2020 project 2015-2017
- Building a Collaborative Data Infrastructure
- Data Centres and Research Communities
- Community-driven development
- Service Oriented Architecture

Vision



CSC
Barcelona Supercomputing Center
Centro Nacional de Supercomputación
CERFACS
CINECA
INES
DKRZ
umweltbundesamt
EBERHARD KARLS UNIVERSITÄT TÜBINGEN
epcc
INGV
JÜLICH
POZNAN
SURF SARA
UNINETT sigma
Science & Technology Facilities Council
UCL
Trust-IT Services Ltd
Communicating ICT to markets
grnet
KIT
LIBER
DANS
e-Science Data Factory
Royal Netherlands Meteorological Institute
Ministry of Infrastructure and the Environment
GFZ
Helmholtz Centre Potsdam
CLARIN
rzg
Jisc
CERN
EMBL
SNIC
KTH
Max-Planck-Institut für Meteorologie

B2 SERVICE SUITE

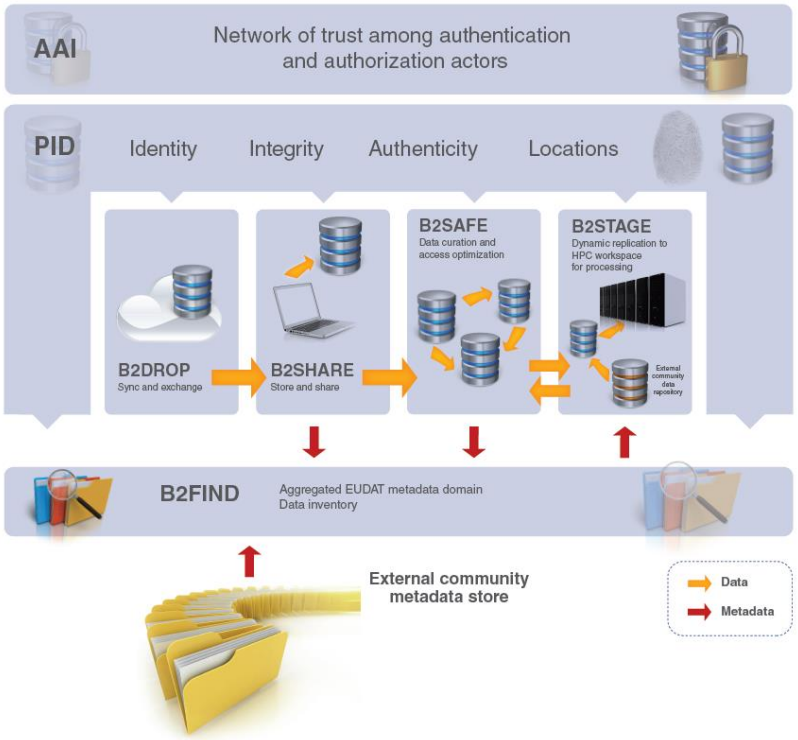
B2DROP
Sync and Exchange Research Data

B2SHARE
Store and Share Research Data

B2SAFE
Replicate Research Data Safely

B2STAGE
Get Data to Computation

B2FIND
Find Research Data



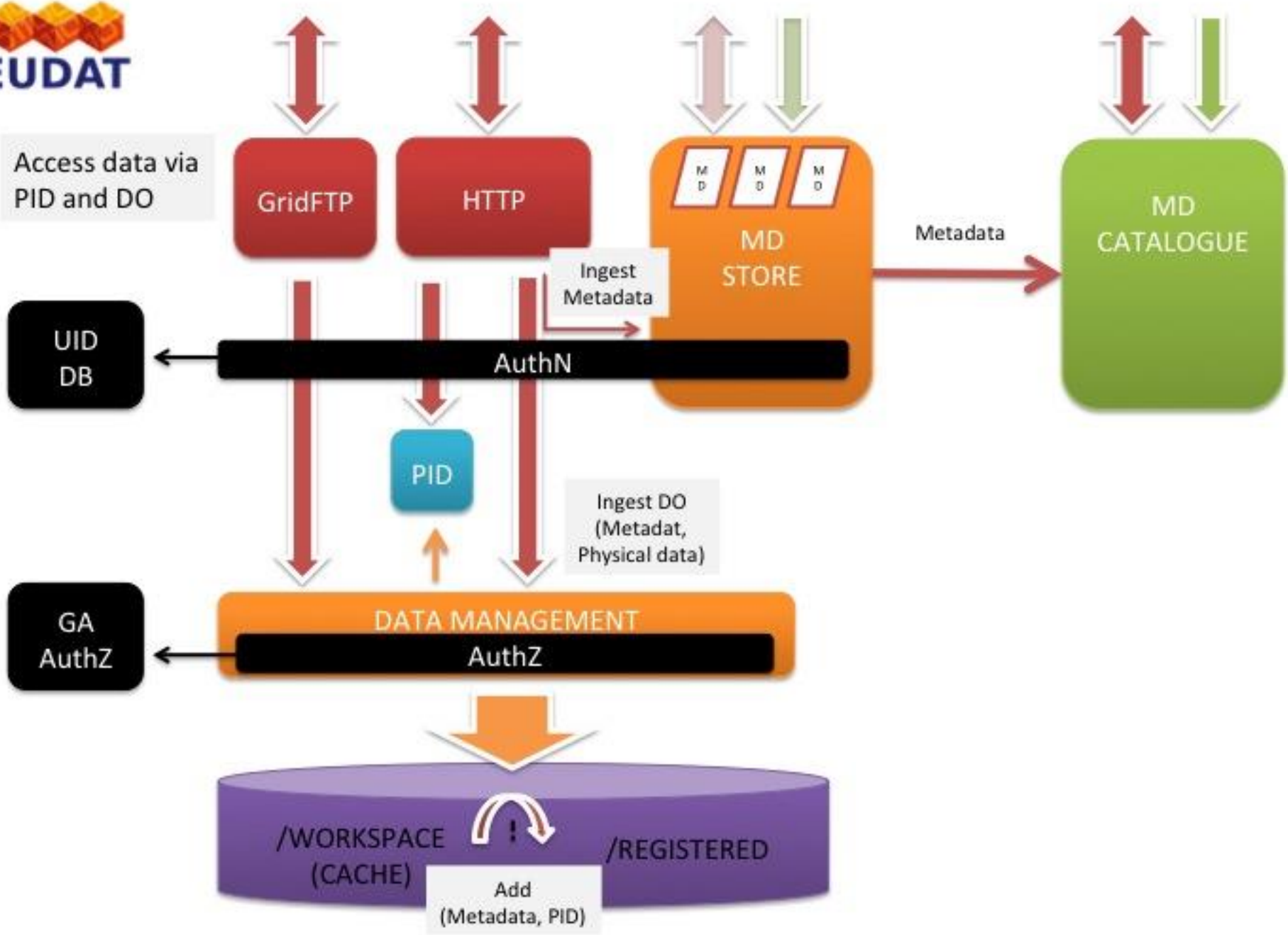
http://www.eudat.eu/services

Supportive services

- AAI with B2ACCESS
- EPIC Persistent Identifiers with B2HANDLE

B2ACCESS
Identity & Authorisation

B2HANDLE
Register your Research Data


EUDAT
Access data via PID and DO
GridFTP
HTTP
MD
MD
MD
MD STORE
Metadata
MD CATALOGUE
Ingest Metadata
UID DB
AuthN
PID
Ingest DO (Metadat, Physical data)
GA AuthZ
DATA MANAGEMENT
AuthZ
/WORKSPACE (CACHE)
/REGISTERED
Add (Metadata, PID)

EUDAT

B2SHARE
Store and Share Research Data

Why B2SHARE?

Store

Share

Publish

Store in B2SHARE

- Long tail data
- Spreadsheets, images, documents, raw data
- File size currently up to 2GB
- Data that do not fit in with existing data management policies

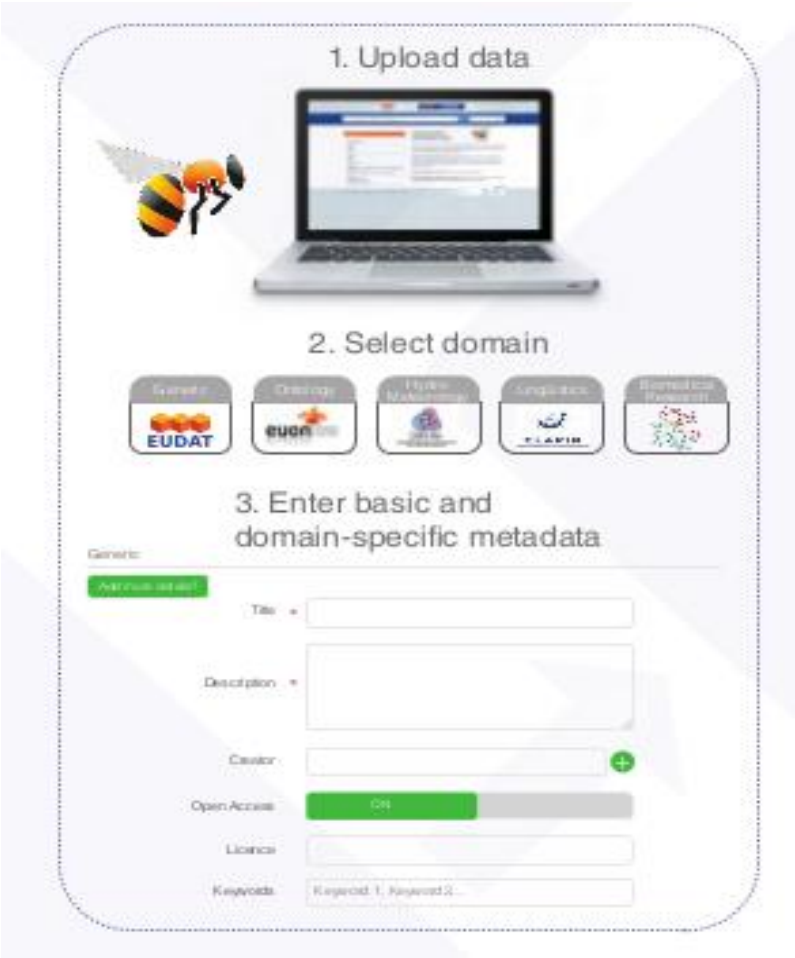
Share

- Share with colleagues all over the world
- Share research data
- Collaborate

Publish

- Publish research results
- Articles and papers
- Documents
- Raw data

How?



Simplicity by design

B2SHARE today and in the near future

- B2SHARE 1.6.1 in production
- Integrated with B2ACCESS for AAI
- Community metadata schemas
- B2SHARE 2.0 planned for December 2015
  - New Architecture with modular design
  - HTTP API – new version
  - New UI module
  - Invenio 3 backend in collaboration with CERN
  - Prepared for distributed instances
  - Easy installation top priority
  - Integration with B2DROP

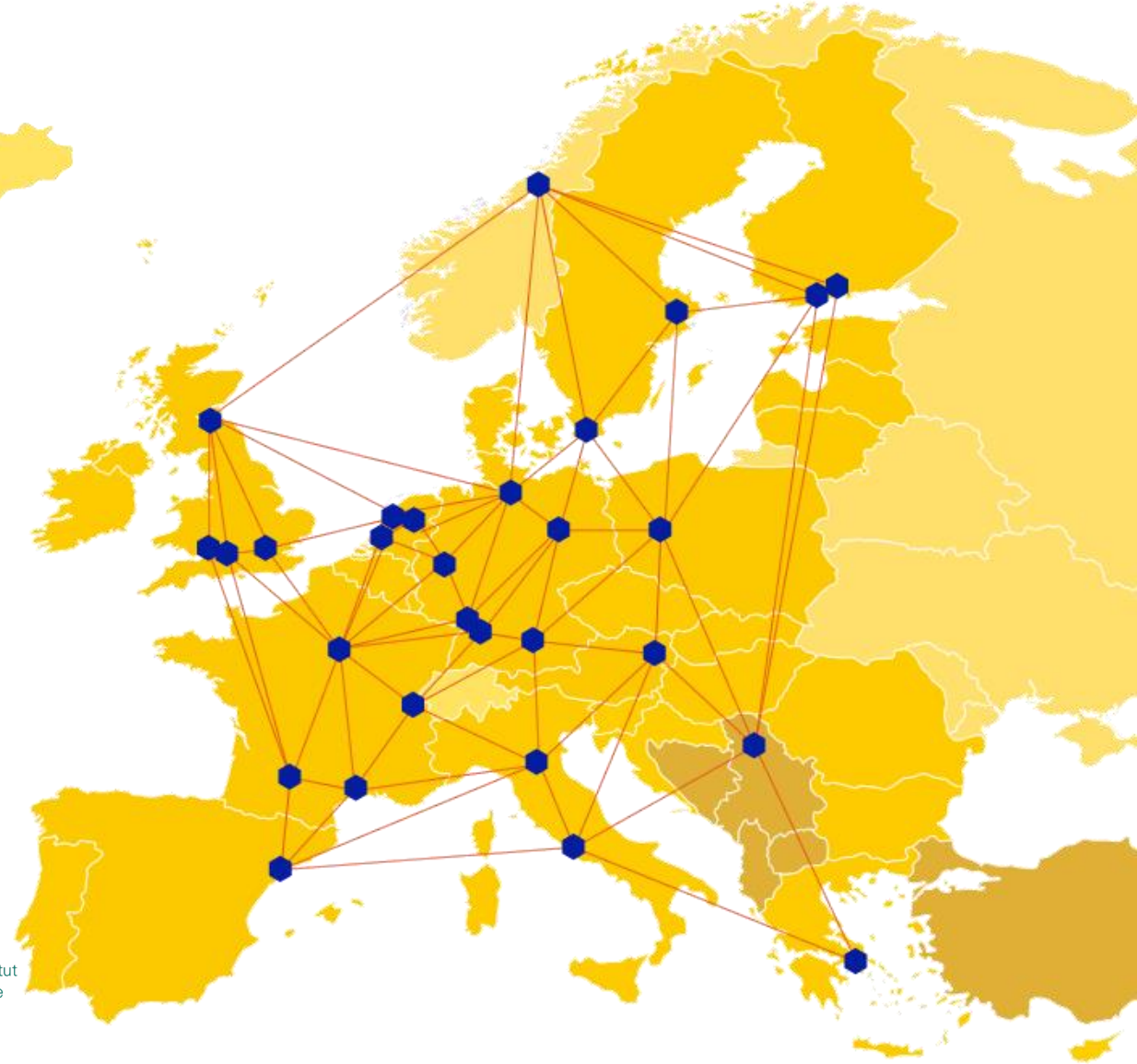
Federated AAI and Role Based Access Control

- Federated AAI via EUDAT's service B2ACCESS
- Self-registration: e-mail address only requirement
- Supporting OpenID (Google, more to come)
- EduGAIN partially supported (fully supported soon)
- Role Based Access Control
- Two access levels: normal users and data mangers
- Open for e.g. Citizen Scientists
- Promoting Open Access

APIs

- OAI-PMH for metadata harvesting
- HTTP REST API
  - Scripted interaction
  - Integration with communities (community portals, CMS, other storage systems)
  - Integration with other EUDAT Services
  - Integration with other B2SHARE instances

Remember the vision



B2SHARE 2016

- B2SHARE as Metadata Store with B2SAFE & B2FIND
- Semantic Web Technologies (e.g. annotation)
- EUDAT CDI HTTP REST API
- Graph Database support for metadata?
- Support for other storage systems (object stores)?
- Support for large (massive?) data sets
- Support for information packages (e.g. OAIS SIP, etc)?

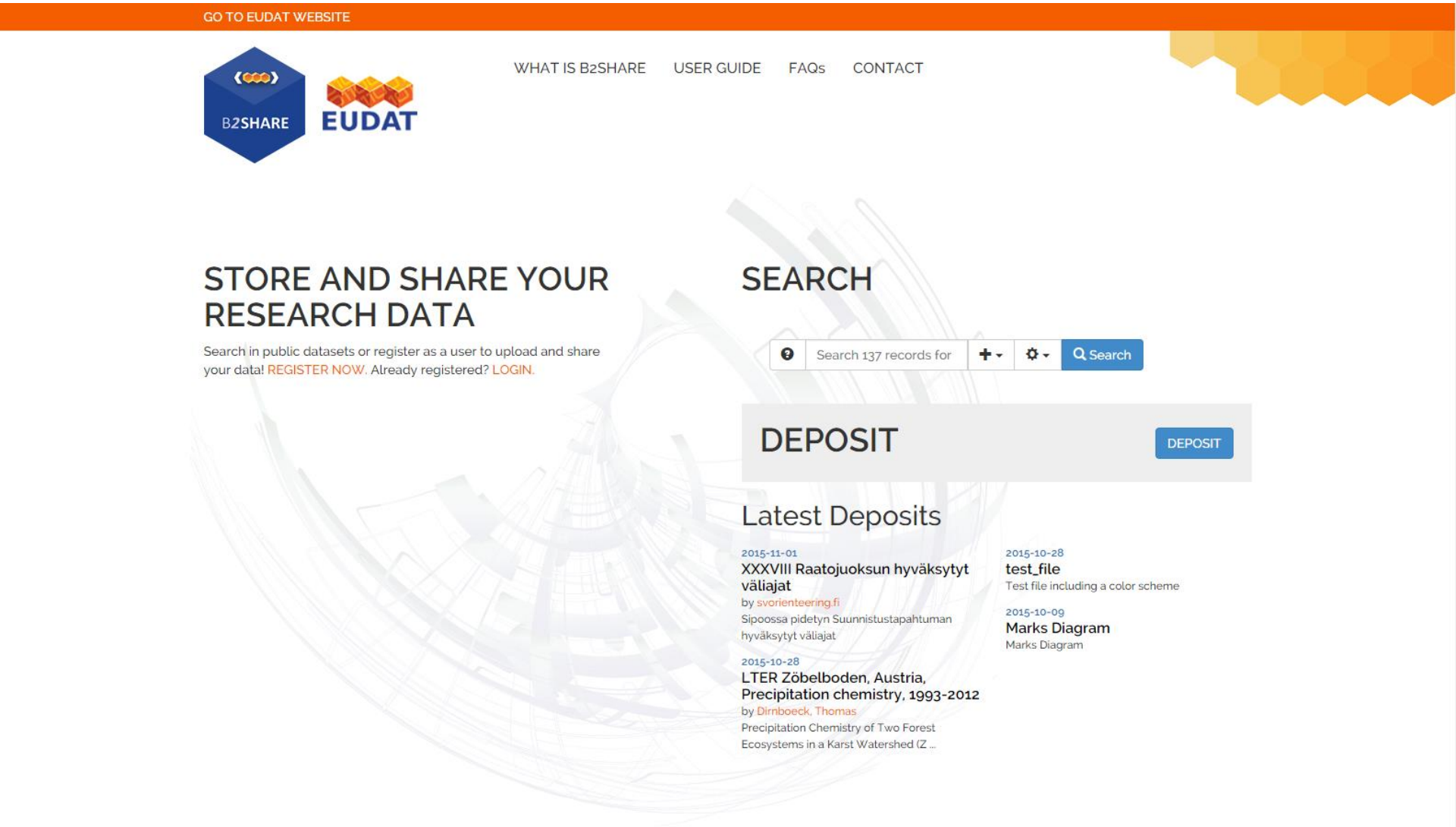
Know more?

- Start using: https://b2share.eudat.eu
- Try it: https://trng-b2share.eudat.eu
- Read more: http://eudat.eu

How to register and get an access token

- Click "Login" (DO NOT USE "REGISTER NOW")
- Click "Sign in with B2ACCESS" (Do not use login form)
- Now your are in B2ACCESS – use federated login or create id in B2ACCESS for password login
- When back in B2SHARE - click on your user name
- Click "Account", then choose "Application"
- Under "Personal access token", click "New token"
- Name it and create it
- Copy this token to use it

Click "Login"


GO TO EUDAT WEBSITE
B2SHARE
EUDAT
WHAT IS B2SHARE
USER GUIDE
FAQs
CONTACT
STORE AND SHARE YOUR RESEARCH DATA
Search in public datasets or register as a user to upload and share your data! REGISTER NOW. Already registered? LOGIN.
SEARCH
Search 137 records for
Search
DEPOSIT
DEPOSIT
Latest Deposits
2015-11-01
XXXVIII Raatojuoksun hyväksytyt väliajat
by svorienteering.fi
Sipoossa pidetyn Suunnistustapahtuman hyväksytyt väliajat
2015-10-28
LTER Zöbelboden, Austria, Precipitation chemistry, 1993-2012
by Dirnboeck, Thomas
Precipitation Chemistry of Two Forest Ecosystems in a Karst Watershed (Z ...
2015-10-28
test_file
Test file including a color scheme
2015-10-09
Marks Diagram
Marks Diagram

Click ”Sign in with B2ACCESS”

GO TO EUDAT WEBSITE

B2SHARE EUDAT

WHAT IS B2SHARE USER GUIDE FAQs CONTACT

Please sign in

Username or email >

Password >

Remember me

Login >>>

Don't have an account? Sign up here.

Lost password?

Sign in with B2ACCESS

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Terms of Use REST API About EUDAT

Login through B2ACCESS

GO TO EUDAT WEBSITE

What is B2ACCESS User Guide FAQs Contact

Username:

Password:

Authenticate Cancel

Select your primary identity information provider

Search:

Log in with your B2ACCESS ID	Log in with your social ID	Log in with your organisational ID
Password	Google Account	AAI@EduHr Single Sign-On Service
		ABES - French Bibliographic Agency for Higher Education
		ACC - A.C.Camargo Cancer Center
		ACOnet staff

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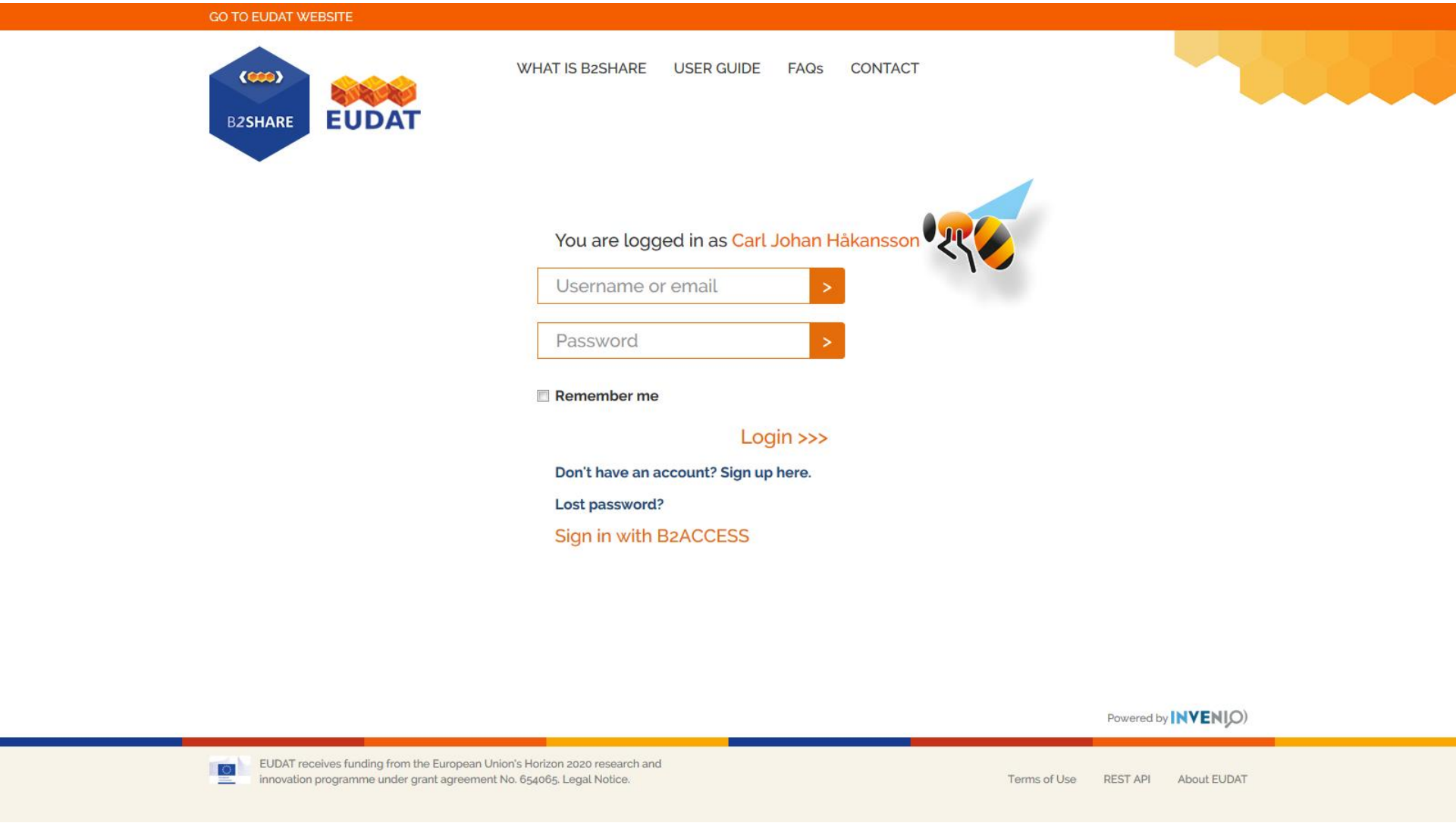
Terms of Use Data Privacy Statement About EUDAT

Powered by Unity-IDM

Back in B2SHARE - click your user name



Click "Account"

GO TO EUDAT WEBSITE

B2SHARE EUDAT

WHAT IS B2SHARE USER GUIDE FAQs CONTACT

Alerts WIP

You own the following 0 alerts

Messages

You have 0 new messages out of 0 messages.

Your Baskets

You have 0 personal baskets

Cloud Connections

TODO

Account

Tags

You have 0 tags associated with 0 documents.

View tags as cloud or list.

Deposits

You have 0 deposits

Searches

You have made 0 queries. A detailed list is available with a possibility to (a) view search results and (b) subscribe to an automatic email alerting service for these queries.

Logout

Closed Widgets can be re-opened by clicking on the following button(s)

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Choose "Application" in left menu
Under "Personal access token", click "New token"

B2Share

https://trng-b2share.eudat.eu/account/settings/applications/

GO TO EUDAT WEBSITE

WHAT IS B2SHARE USER GUIDE FAQs CONTACT

Settings

- Profile
- Groups
- Linked accounts
- Your actions
- Applications

Developer Applications + New application

You have not yet registered any applications. Click the 'New application' button to create an application to access the B2Share API.

Personal access tokens + New token

You have not yet created any personal access tokens. Click the 'New token' button to create a personal access token.

Authorized applications

You have not yet granted any external applications access to your account.

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Terms of Use REST API About EUDAT

Name and create token

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B2SHARE EUDAT

WHAT IS B2SHARE USER GUIDE FAQs CONTACT

Settings

- Profile
- Groups
- Linked accounts
- Your actions
- Applications

New personal access token

Name

Name of personal access token.

Scopes

Scopes assigns permissions to your personal access token. A personal access token works just like a normal OAuth access token for authentication against the API.

Cancel Create

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Terms of Use REST API About EUDAT

Name and create your token, copy it to use it

GO TO EUDAT WEBSITE

B2SHARE EUDAT

WHAT IS B2SHARE USER GUIDE FAQs CONTACT

Please copy the personal access token now. You won't see it again!

Settings

- Profile
- Groups
- Linked accounts
- Your actions
- Applications

Personal access token / Some name

Access token

787co7MJUQ82mYFARJasaqp93aqXw43W8uNg3J0sE9tUSufBHidGb95xjyDz

Do not share this personal access token. It gives full access to your account.

Name

Some name

Name of personal access token.

Scopes

Scopes assigns permissions to your personal access token. A personal access token works just like a normal OAuth access token for authentication against the API.

Delete Save

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Terms of Use REST API About EUDAT

API Requests: list records

List all the records

List all the records, without any filtering.

- HTTP method: GET
- URL path: /api/records
- Required parameters: access_token
- Optional parameters: page_size, page_offset

Example: curl -i http://example.org/api/records?access_token=LKR35GP7TF&page_size=5&page_offset=2

List records per community

List all records of a specific community.

- URL path: /api/records/COMMUNITY_NAME
- HTTP method: GET
- Required parameters: access_token
- Optional parameters: page_size, page_offset
- Returns: the list of records (in JSON format) or an error message with the list of valid community identifiers if the COMMUNITY_ID is invalid.

Example: curl -i http://example.org/api/records/BBMRI?access_token=LKR35GP7TF&page_size=10&page_offset=3

API: list a specific record

List a specific record

List the metadata of the record specified by RECORD_ID

- URL path: /api/record/RECORD_ID
- HTTP method: GET
- Required parameters: access_token

Example: curl -i http://example.org/api/record/1?access_token=LKR35GP7TF

API: create a record and add a file

Create a new deposition

Create a new deposition

- URL path: /api/depositions
- HTTP method: POST
- Required parameters: access_token
- Returns: the URL of the deposition (both as JSON and in the field 'Location' in the http header)

Example: curl -i -X POST http://example.org/api/depositions?access_token=LKR35GP7TF

Upload a new file into a deposition object

Upload a new file into a deposition object

- URL path: /api/deposition/DEPOSITION_ID/files
- HTTP Method: POST
- Required input data: the file, sent as multipart/form-data
- Required parameters: access_token
- Returns: the name and size of the newly uploaded file

Example: curl -i -X POST -F file=@TestFileToBeUploaded.txt http://example.org/api/deposition/23k85hjfiu2y346/files?access_token=LKR35GP7TF

API: list the files and commit the record

List the files uploaded into a deposition object

List the files uploaded into a deposition object

- URL path: /api/deposition/DEPOSITION_ID/files
- Http Method: GET
- Required parameters: access_token
- Returns: the name and size of all the files in the deposition object

Example: curl -i http://example.org/api/deposition/23k85hjfiu2y346/files?access_token=LKR35GP7TF

Commit deposition

This action transforms a deposition into an immutable record.

- URL path: /api/deposition/DEPOSITION_ID/commit
- HTTP Method: POST
- Required input data: the metadata for the record object to be created. This metadata must be sent as a list of fields (key:value pairs). The required fields are:
  - domain [string]: the id of the community to which the record belongs
  - open_access [boolean]: the access restriction of the new record
  - title [string]: the title of the new record
  - description [string]: the description of the new record

Depending on the domain specification, other fields could be required in order to make a successful commit. The list of all the fields, with their description, multiplicity and controlled vocabulary, is automatically returned to the user in case one of the required fields is missing.

- Required parameters: access_token
- Returns: the location URL of the new record if the submitted metadata is valid; otherwise, the list of all the metadata fields that can be filled in and details on each one.

Example: curl -i -X POST -H "Content-Type: application/json" -d '{"domain":"generic", "title":"REST Test Title", "description":"REST Test Description", "open_access":"true"}' http://.../api/deposition/DEPOSITION_ID/commit\?access_token=LKR35GP7TF