



Data Sharing and Publishing

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EUDAT B2 Services Diagram









The FAIR Data Principles

- Findable
 - F1. (Meta)data are assigned a globally unique and persistent identifier
 - F2. Data are described with rich metadata (defined by R1 below)
 - F3. Metadata clearly and explicitly include the identifier of the data they describe
 - F4. (Meta)data are registered or indexed in a searchable resource
- Accessible
 - A1. (Meta)data are retrievable by their identifier using a standardised communications protocol
 - A1.1 The protocol is open, free, and universally implementable
 - A1.2 The protocol allows for an authentication and authorisation procedure, where necessary
 - A2. Metadata are accessible, even when the data are no longer available

Interoperable

- I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (Meta)data use vocabularies that follow FAIR principles
- I3. (Meta)data include qualified references to other (meta)data
- Reusable
 - R1. Meta(data) are richly described with a plurality of accurate and relevant attributes
 - R1.1. (Meta)data are released with a clear and accessible data usage license
 - R1.2. (Meta)data are associated with detailed provenance
 - R1.3. (Meta)data meet domain-relevant community standards





EUDAT B2Service Suite

- **EUDAT B2Service Suite**
 - B2DROP
 - B2HANDLE
 - B2SAFE
 - B2STAGE
 - B2SHARE
 - B2NOTE
 - B2FIND
- How EUDAT services link to data lifecycle
- How EUDAT services support the FAIR principles
 - Helping scientists to generate FAIR data





Anyone wanting to use the B2 Services

What

- Complies with community ownerships and access rights, basis of trust
- Credential conversion approach (e.g. SAML, OpenID, X.509, Username/ password)

Identity provider for citizen scientists

Why

Use your own ID in federated environment

https://b2access.eudat.eu/









Citizen scientists and small teams

What

- Store and exchange data
- Synchronize multiple versions
- Ensure automatic desktop synchronization

🕨 Why

Ease of UseTrusted European Service

https://b2drop.eudat.eu/

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Small to Medium Teams

What

- Store data (incl. software) and add domain meta data
- Share registered research data worldwide
- Preserve (small-scale) research data for long-term

Why

- Register Data for Publications (FAIR)
- Make known to wider community

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https://b2share.eudat.eu/







- Who
 - Anyone
- What
 - Find collections of scientific data quickly and easily, irrespective of their origin, discipline or community
 - Get quick overviews of available data
 - Browse through collections using standardized facets
- 🕽 Why
 - Unique collection
 - Ease of Searching



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B2FIND

Find Research Data







B2SAFE Replicate Research Data Safely

Who

- Community Data Managers
- Sophisticated' Organizations

What

- Provide an abstraction layer which virtualizes large-scale data resources
- Guard against data loss in long-term archiving and preservation
- Optimize access for users from different regions and to computing resources
- Data management on basis of policies

Why

- Performance
- Replication between trusted sites
- Data Preservation













- Users and Communities who want to interact with EUDAT CDI services
- What
 - Provide a common access layer to B2 services
 - Copy large data sets, ingesting them onto EUDAT data services
 - Enables data transfer for large data collections from EUDAT storages to external HPC facilities for processing
- 🕨 Why
 - Support data transfers between PRACE and EGI
 - Simplify data transfers





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B2HANDLE Register your Research Data

Who

 Groups or communities who want to make their data referenceable, improving data management tasks

What

- Follows policies to register data and make it long term referenceable
- Reliability through mutual PID mirroring
- Provides abstraction layer between a globally unique persistent identifier and physical location of data objects
- PIDs global resolvable

Why

- Simple integration
- Technology Agnostic











B2NOTE

eWho

Anyone

What

- Enrich data with Semantic tag, Freetext keyword or comment without changing the data record
- Share annotations
- Manage annotations
- Integrate with data repositories

Why

Retrieve and aggregate

heterogeneous files from distributed sources on basis of annotations

https://b2note.eudat.eu/

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Hands-on!

- B2DROP
- B2DROP -> B2SHARE publication workflow
- B2FIND -> B2SHARE discovery and download
- B2DROP -> CLARIN Switchboard example



The CLARIN Community

- CLARIN is the European Research Infrastructure for Language Resources and Technology. It makes digital language resources and language technology available to researchers from all disciplines but especially the Humanities and Social Sciences
- CLARIN is a partner in EOSC-hub and
 - Potentially contributes a huge amount of metadata for language resources and services to B2FIND.
 - Provides thematic service(s) : CLARIN Metadata Infrastructure
 - Virtual Language Observatory (VLO)
 - Virtual Collection Registry (VCR)
 - Language Resource Switchboard
- These services should be integrated with other EOSC-hub services e.g.
 - CLARIN metadata visible in B2FIND
 - Language Resource Switchboard integrated in B2FIND and B2DROP





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 - CLARIN metadata visible in B2FIND
 - Language Resource Switchboard integrated in B2FIND and B2DROP





- First step in CLARIN/EOSC-hub services integration
- Extensive demo available at <u>https://www.clarin.eu/eosc</u>









Thanks to: Narges Zarrabi SURFsara and EUDAT colleagues

Please provide your feedback about the training session:

https://www.surveymonkey.com/r/EOSC-hub_week_01