## B2SAFE

What is B2SAFE?

B2SAFE is a **robust, safe and highly available service** which allows community and departmental repositories to implement data management policies on their research data across multiple administrative domains in a trustworthy manner.

A solution to:

- 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
- Bring data closer to powerful computers for compute-intensive analysis

B2SAFE features:

- based on the execution of auditable data policy rules and the use of persistent identifiers (PIDs)
- respects the rights of the data owners to define the access rights for their data and to decide how and when it is made publicly referenceable
- data policies are centrally managed via a Data Policy Manager, and the policy rules are implemented and enforced by site-local rule engines
- able to aggregate data from different disciplines into a storage system of trustworthy and capable data service providers
- support for repository packages (e.g. DSPACE, FEDORA) and a lightweight HTTP-based solution
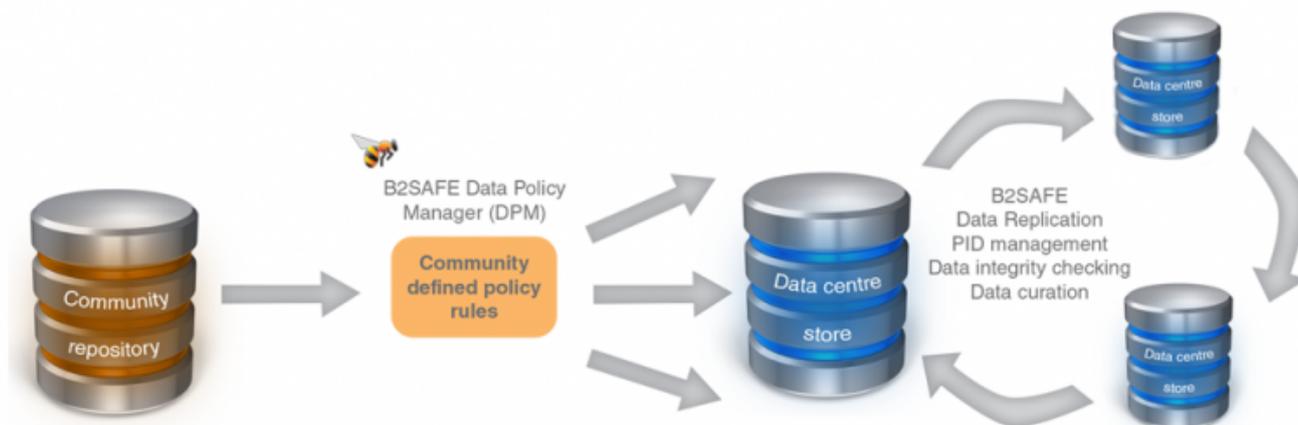
Who benefits from it?

- repositories lacking the capacity and / or funding to offer reliable storage and access services over longer periods of time
- repositories without adequate compute capacity for data-intensive computational services based on their data
- data producers who need to be sure that trusted centres are taking care of their data
- consumers wishing to access optimized services on data sources of interest to them
- consumers who wish to apply interdisciplinary data-intensive methods using data collected from various communities

How does it work?

Tomorrow's corpus of research data will be a domain of registered data objects and collections where persistent identifiers (PIDs) identify the data objects and collections, while information associated with the PIDs allows the integrity and authenticity of the data to be checked. Furthermore, data management operations will be governed by formalized policy rules that will also form the basis of any audits to assess quality. To meet this vision, **EUDAT's B2SAFE service is based on the execution of auditable policy rules and the use of PIDs, as offered by the EPIC Handle service.**

This will increase trust in data and services in the anonymous world of data re-usage and re-purposing. Suitable technology that allows to execute sequences of policy rules will be applied, and the EUDAT data federation will be built on trust agreements, which ensure that ownership rights to the data reside with the originators. To make replicas accessible via community-defined portals, service providers will need to host community-based software respecting all access permissions. Although the EUDAT project is initially funded for three years, we will ensure persistent access and services through mutually beneficial partnerships with data centres that have long term funding.
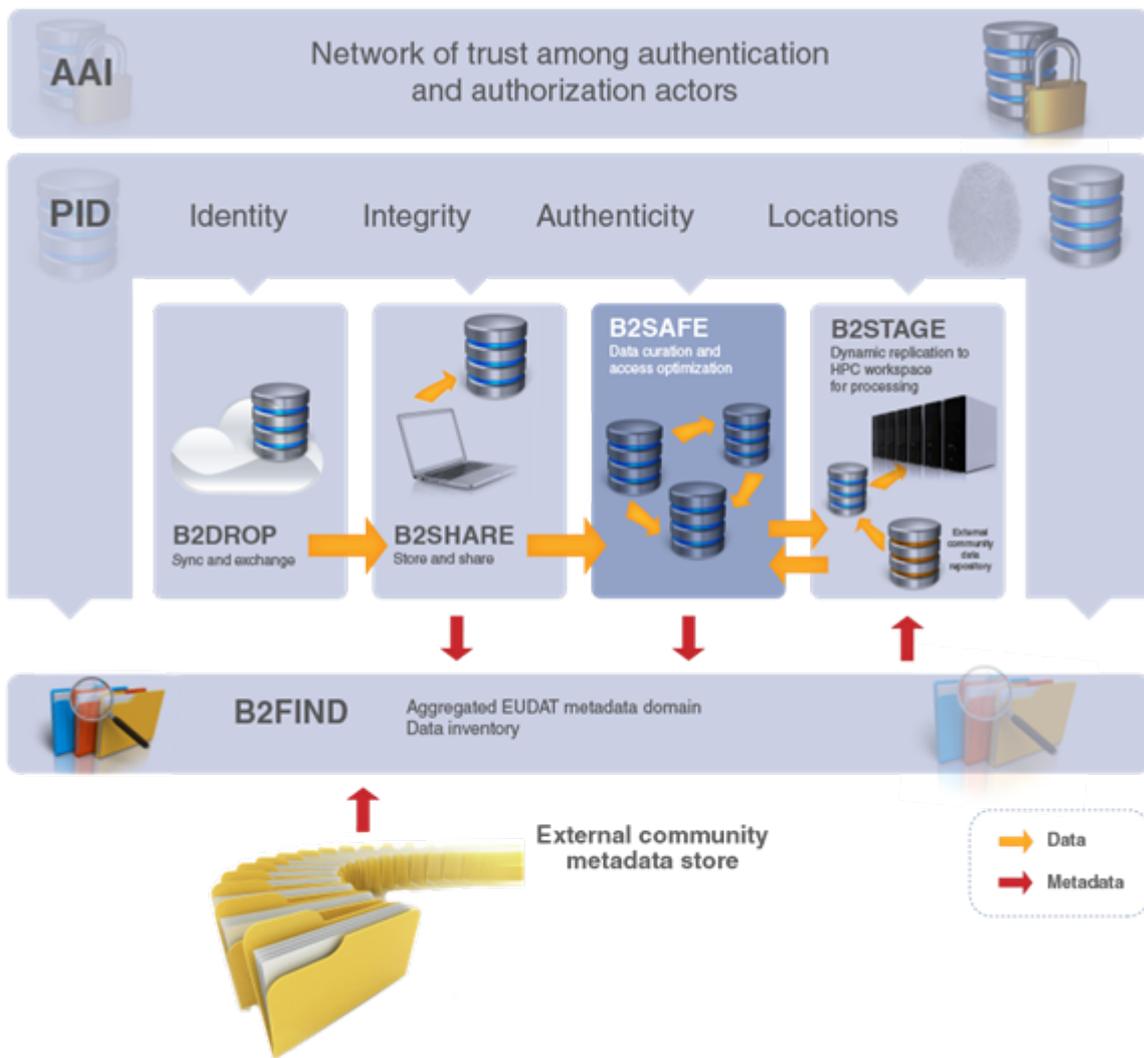
How can you join?

Any community and departmental data repositories that have a proper repository infrastructure supporting PIDs and metadata describing the properties and context of the data being replicated can participate in the B2SAFE service. The replication service currently relies on iRODS but also supports other federation technologies. Participating repositories can choose to use iRODS and link it with their local repository to enable a tight integration to the EUDAT infrastructure, or use other easy-to-integrate federation approaches and client libraries.

EUDAT will help interested community centres to set up and use this service by running training courses, and providing support for the necessary adaptation work, including offering a service helpdesk. To find out more details about the EUDAT B2SAFE service, please contact the EUDAT service team at the address below.

EUDAT is happy to talk to any interested communities about their detailed requirements with respect to the B2SAFE service.

For more information please email: eudat-safereplication@postit.csc.fi

B2SAFE in the B2 Service Suite