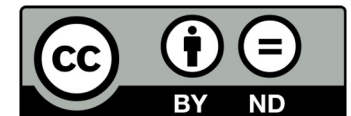


EOOSC Data Transfer Service

Mark Dietrich, EGI Foundation

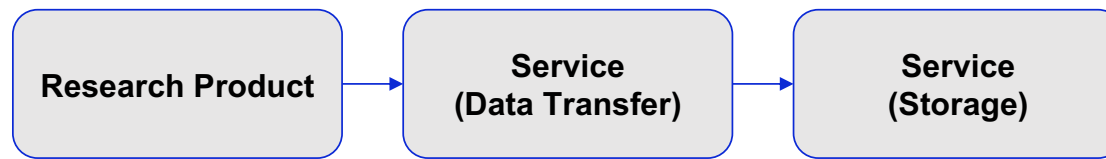
The EOOSC Future project is co-funded by the
European Union Horizon Programme call
INFRAEOOSC-03-2020, Grant Agreement 101017536





EOSC Data Transfer Service (DTS)

Enable transfer of a Research Product (such as a dataset) from its location at the Data Source to a storage Resource accessible by the User

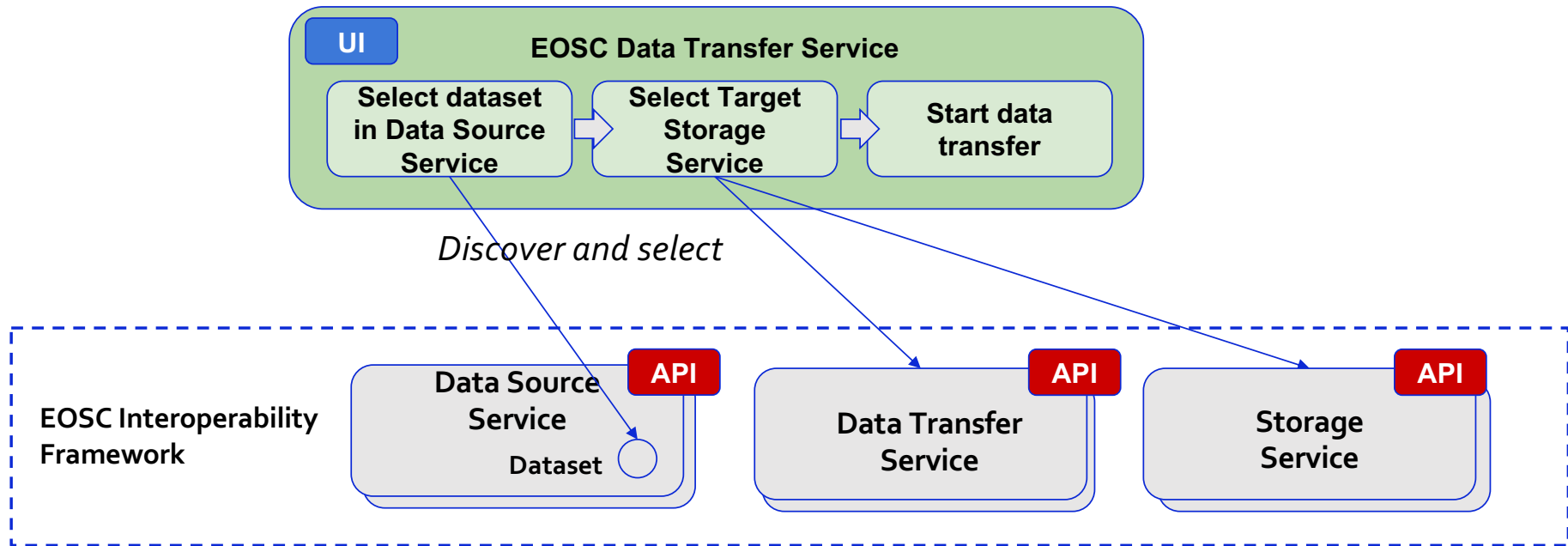


- **DTS is a common step in many research workflows.**
- **Availability:** Now in Beta (TRL7), Production (TRL8) by M22 (January 2023)



EOSC IF Guidelines for Data Transfer

Service composability





Interoperability

- *Data Transfer Service Interoperability Guidelines* in development
 - Draft: <https://github.com/EGI-Federation/eosc-future-data-transfer>
 - To be submitted to EOSC IF Registry when finalised.
- Based on a flexible DTS API: <https://eosc-data-transfer.vm.fedcloud.eu/q/swagger-ui/#/>
- Currently supported sources/...

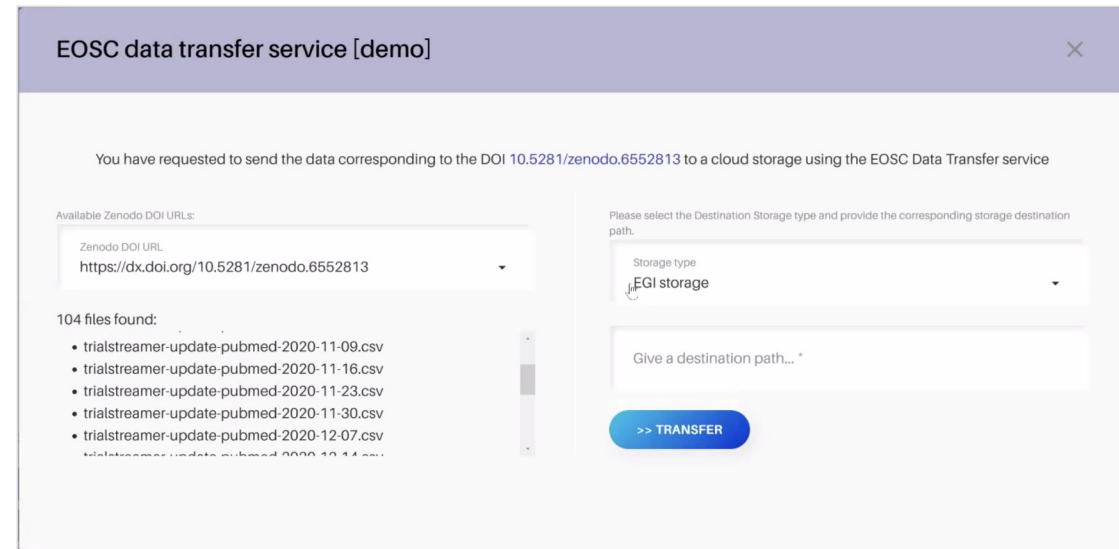
Source types (see IF WG on RP Publishing)	Transfer systems	Storage protocols
<ul style="list-style-type: none">• Zenodo records• B2SHARE records• Any URLs that resolve to Zenodo/ B2SHARE records• Signposting URLs <link>	<ul style="list-style-type: none">• EGI Data Transfer Service (link to record in EOSC Catalogue) <p>++Other transfer systems to be added into Execution Framework++</p>	<ul style="list-style-type: none">• WebDAV with token (=dCache)• S3• FTP• WebDAV with username/pass (EUDAT B2SAFE)

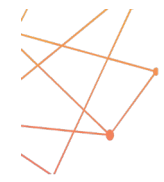
- Additional formats to be added...
- Currently based on EGI Check-in, to be extended to work across the EOSC AAI Federation.



Data Transfer Step by Step

- Use EOSC EXPLORE to find a dataset
- Click on Data Transfer Icon
 - Open Data Transfer UI
 - DOI is parsed to retrieve all versions of the dataset are shown
 - Display list of files for selected version
 - *Possible enhancement: select individual files for transfer*
- Specify destination storage service
 - Browse the destination or select a path
 - Path will be created if it does not exist
 - *Possible enhancement: show storage services to which the user already has access.*
- Start Transfer
- *Planned enhancement: dashboard to monitor transfer progress and success*





EOOSC Platform adds value through multiple integrations

DTS is available to Research Products in the EOOSC Catalogue & Marketplace that comply with the relevant DTS guidelines for source data.

DTS is a **Horizontal Service**: a utility for researchers from any discipline.

DTS is enabled by compliance with the **EOOSC-Interoperability Framework**

In particular DTS is the **first** example of the EOOSC Execution Framework:

- Enabling Composability of **Research Product, Data Transfer Service, Storage Service**
- Illustrating how specific services are “abstracted” through the Execution Framework so that they can interoperate with other elements of EOOSC Core and EOOSC Exchange.



Data Transfer Service

Scenario: EOSC Data Transfer Flow from Research Product Catalogue

Step 1: **Researcher -> Catalogue and Marketplace:** The Researcher finds a interesting data set in the Research Product Catalogue

Step 2: **Catalogue and Marketplace -> EOSC Data Transfer Service:** The Researcher selects the dataset to transfer the source data repository to a computing facility to process

Step 3: **Catalogue and Marketplace -> EOSC Data Transfer Service:** The Researcher is redirected to the EOSC Data Transfer Service

Step 4: **Researcher -> EOSC Data Transfer Service:** Researcher provides destination information

Step 5: **EOSC Data Transfer Service:** Data Transfer Services selects on basis of EOSC IF Data Transfer guidelines appropriate Data Transfer service in the EOSC Exchange

Step 6: **EOSC Data Transfer Service -> FTS:** The EOSC Data Transfer service initiates data transfer at source location of the dataset

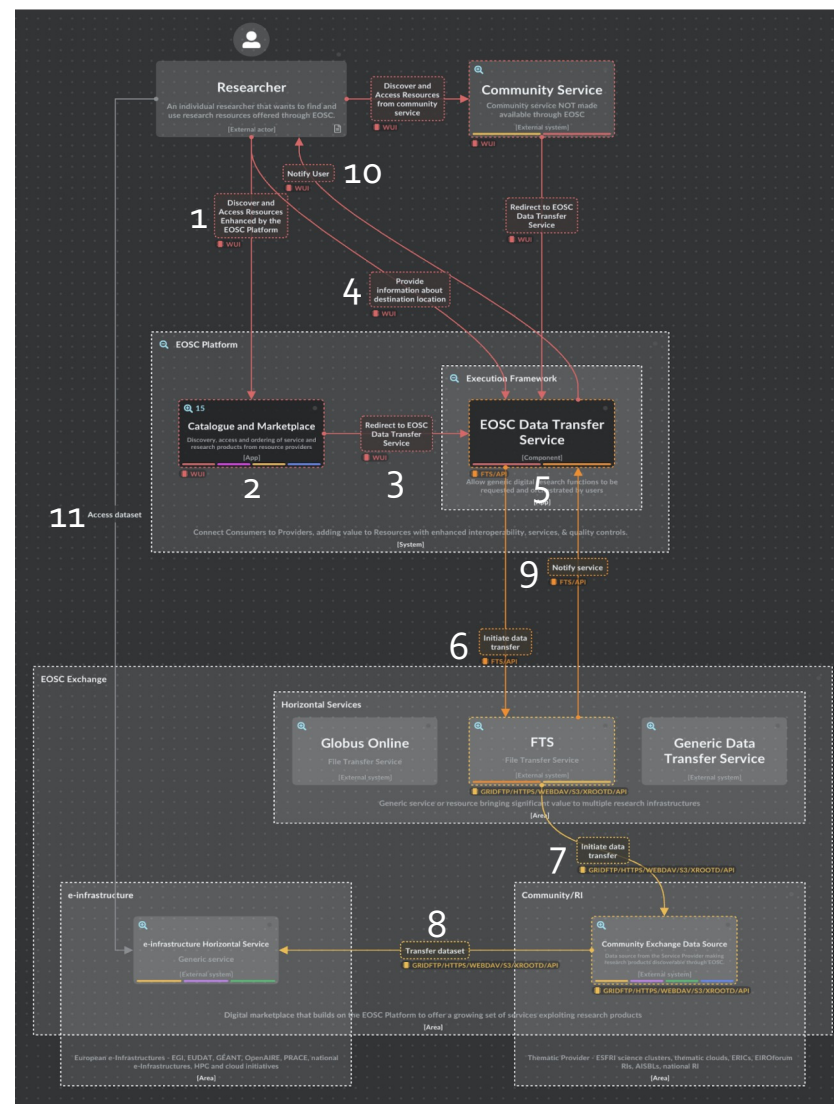
Step 7: **FTS -> Community Exchange Data Source:** The Data Transfer Service initiates the data transfer from source to destination location

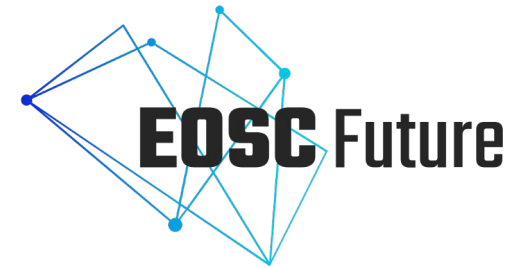
Step 8: **Community Exchange Data Source -> e-infrastructure Horizontal Service:** Data is transferred from source location to destination location

Step 9: **FTS -> EOSC Data Transfer Service:** Notify the EOSC Data Transfer Service when data transfer is finished

Step 10: **EOSC Data Transfer Service -> Researcher:** Notify Researcher that Data Transfer Service is finished

Step 11: **Researcher -> e-infrastructure Horizontal Service:** The Researcher can access the dataset on the destination location





Thank you for your attention!