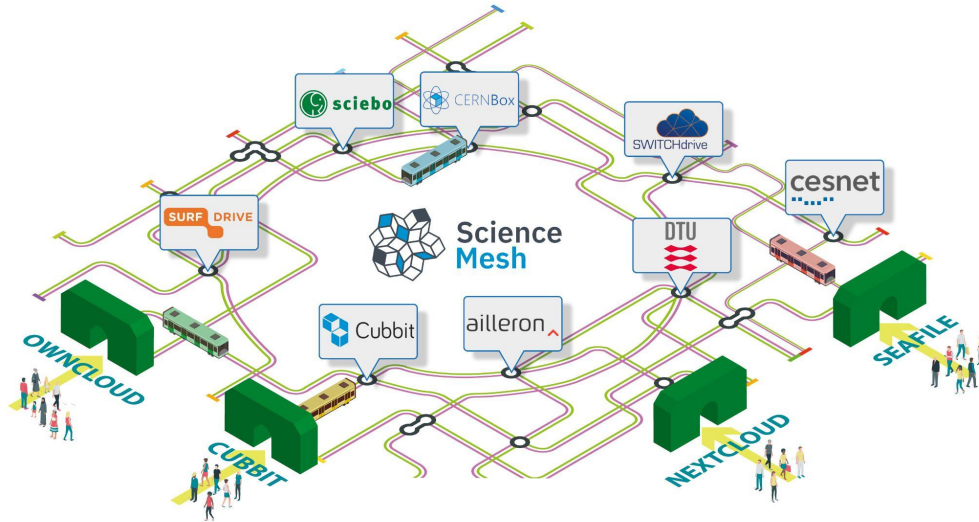# Rucio and CS3API

To enable data management for the ScienceMesh Cloud

Mentors: Martin Barisits, Hugo Gonzalez Labrador, Mario Lassnig, Giuseppe Lo Presti
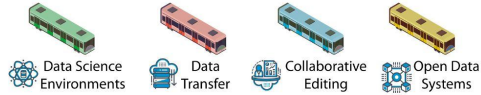
CS3MESH4EOSC

The ScienceMesh aims to federate a frictionless data transfer between these various siloed cs3 services across EU.

Reva
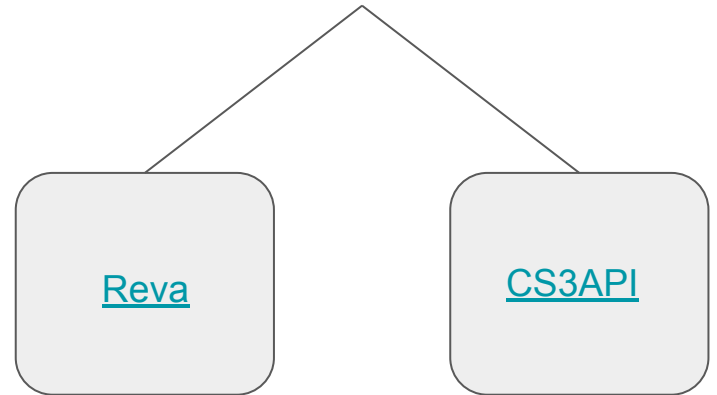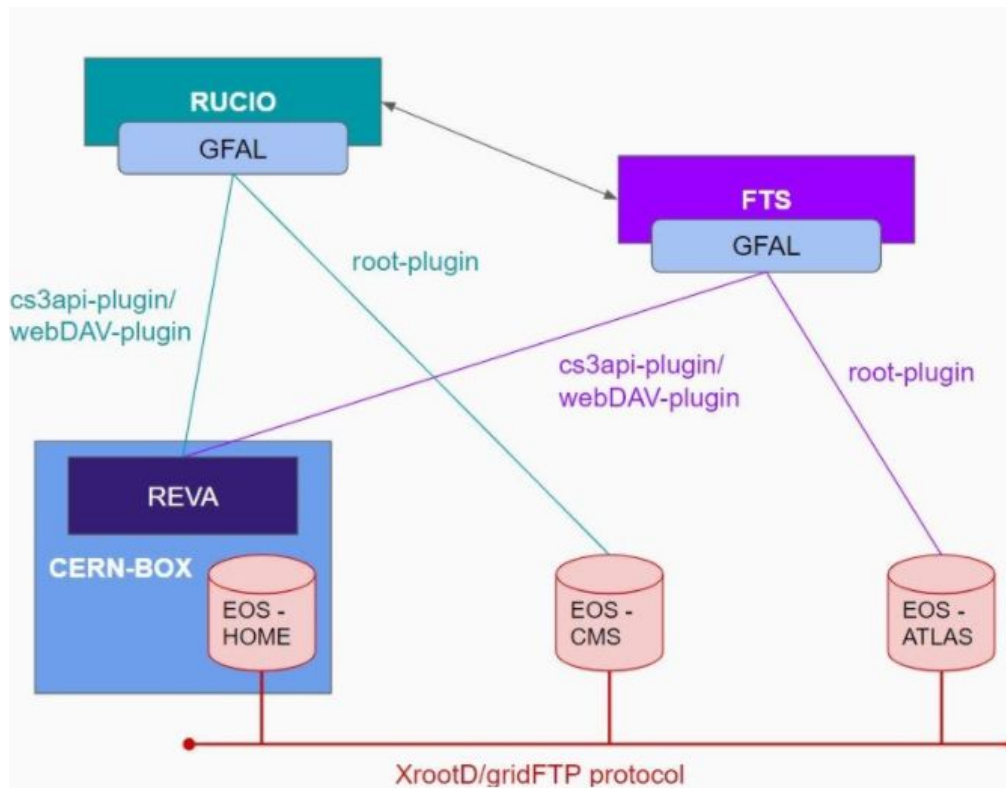
CS3API

Rucio

[Rucio](#) serves the data needs of modern scientific experiments. Large amounts of data, countless numbers of files, heterogeneous storage systems, globally distributed data centres, monitoring and analytics.

We want to use Rucio to orchestrate on demand data transfers both within the ScienceMesh and between a ScienceMesh site and a Grid Site.

Proposed Solution

We add a plugin or extend existing plugins in the GFAL library and allow the multiplexer to use the custom flow for ScienceMesh sites based on the the url prefix. Further we devise an authentication flow to retrieve tokens from reva.

Results

Below we perform a COPY in pull mode from one site in the ScienceMesh to other.

```
gfal-copy -vf \
        --copy-mode=pull \
        cs3://reva:19001/remote.php/webdav/home/srcFile \
        cs3://reva2:17001/remote.php/webdav/home/dstFile
```

Special Mentions

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- **Ishank Arora** from cs3org and

- **Mayank Sharma, Benedikt Ziemons and Thomas Beerman** from Rucio

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- **Andrei Gheata** for making this a seamless experience.

Thank you :)