CERNBox: Storage gateway for CERN and beyond

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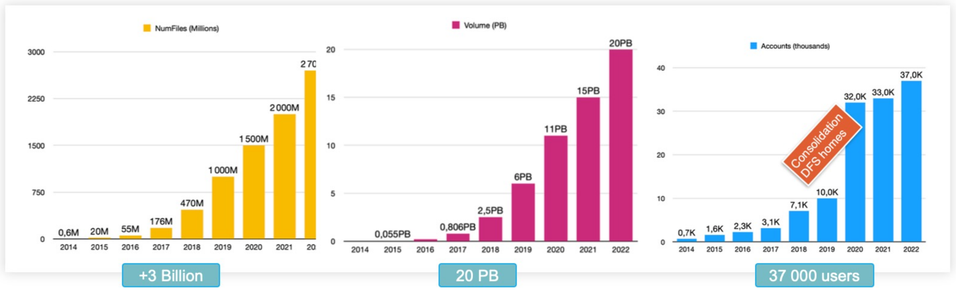
- +1000 Project areas
- 31 LHC and non-LHC experiments working areas

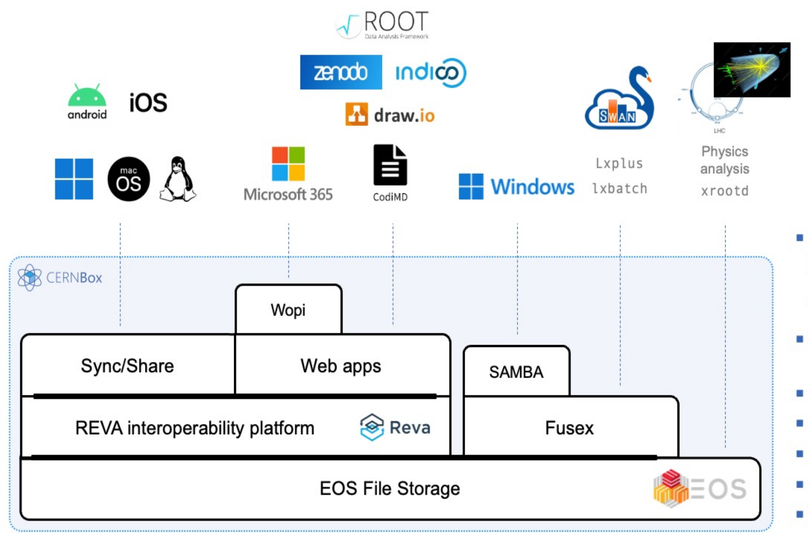
13k unique users/month

Skyrocketing usage



+3 Billion | 20 PB | 37 000 users

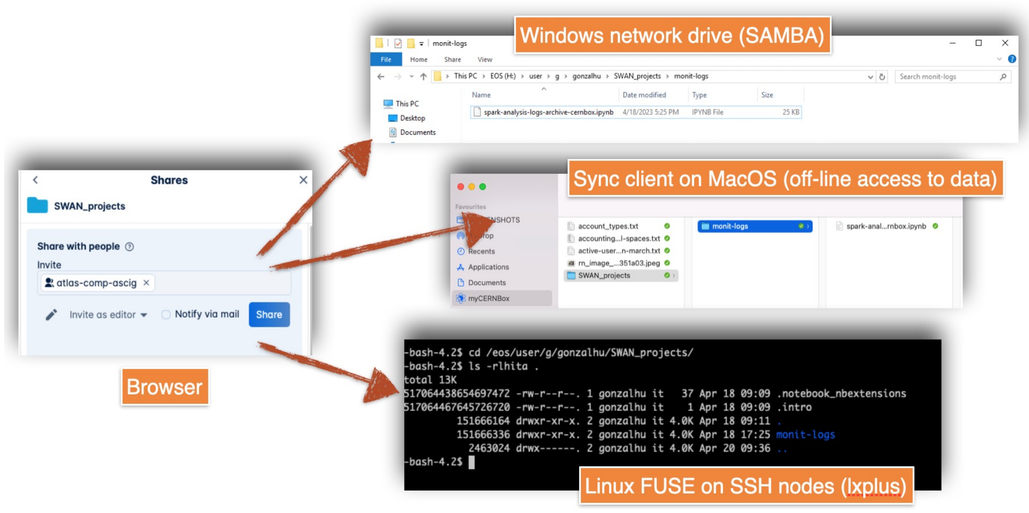
GitHub · Reva · EOS · ownCloud

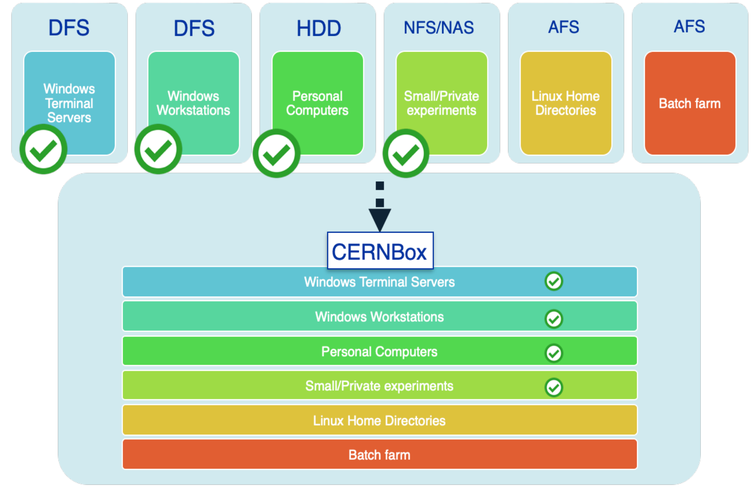


- Sync clients for all major platforms (VFS support on Windows)
- Mobile device support (Android, IOS)
- 30k fuse clients
- 15 production clusters
- 20 PB general storage
- 400 PB Physics storage
- https://reva.link/

Successful evolution built on open source technologies: ownCloud, Reva and EOS

Flexible layered architecture





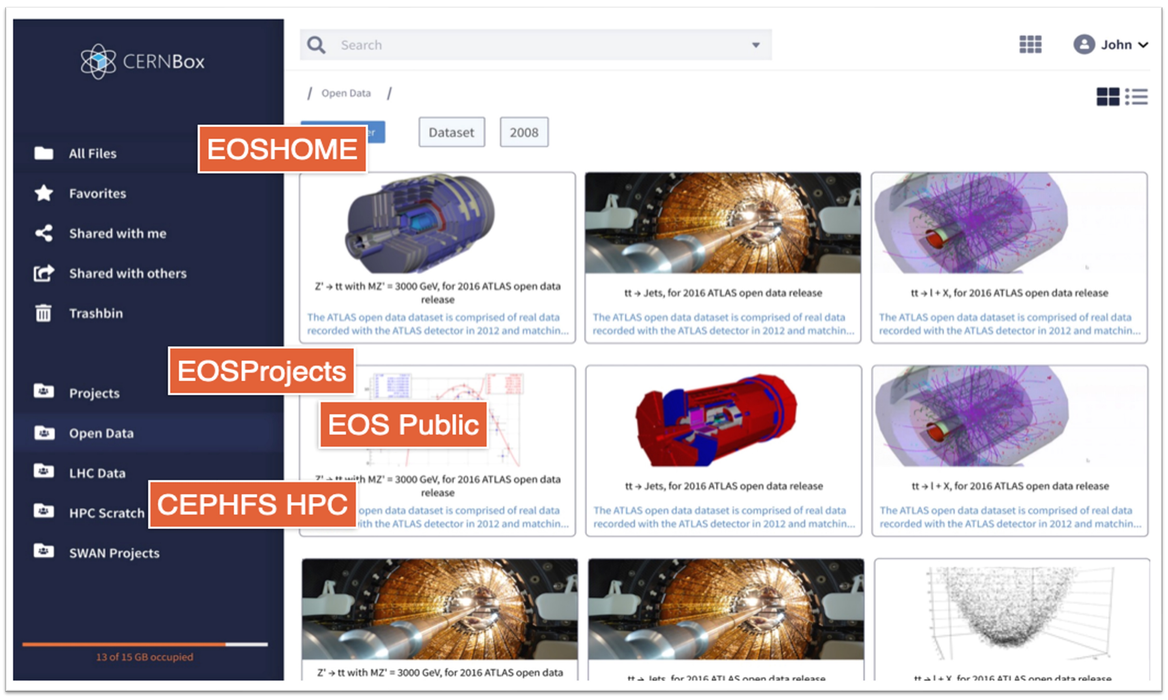
ACLs are respected across protocol boundaries

A variety of storage solutions have been consolidated into CERNBox

CERNBox is CERN's on-premises Scientific Cloud Storage Platform

CERNBox

After 10 years running, the service satisfies the needs of 37,000 users at CERN, who store more than 20PB of data over 3 billion files



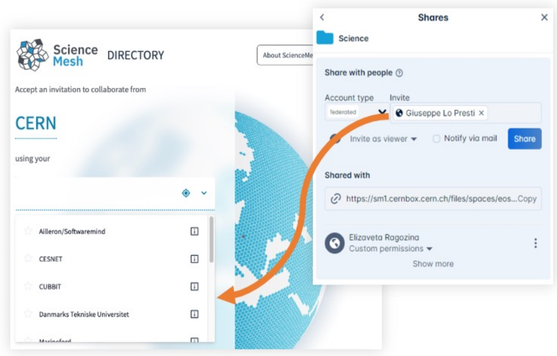
- CERNBox is part of ScienceMesh
  - Federated network of Cloud Sync and Share Services (EFSS)
  - 300K user base (CS3 community) across Europe (SURF, WWU, DESY, PIC, SUNET, ...)
  - Product of EC H2020 funded project CS3MESH4EOSC
  - Reva provides access to the mesh thanks to standards protocols (OCM, WebDAV) OPENCLOUDMESH

Federated sharing of data across different sync-and-share services.

Federated use of applications such as collaborative document editing, data archiving, and data publishing.

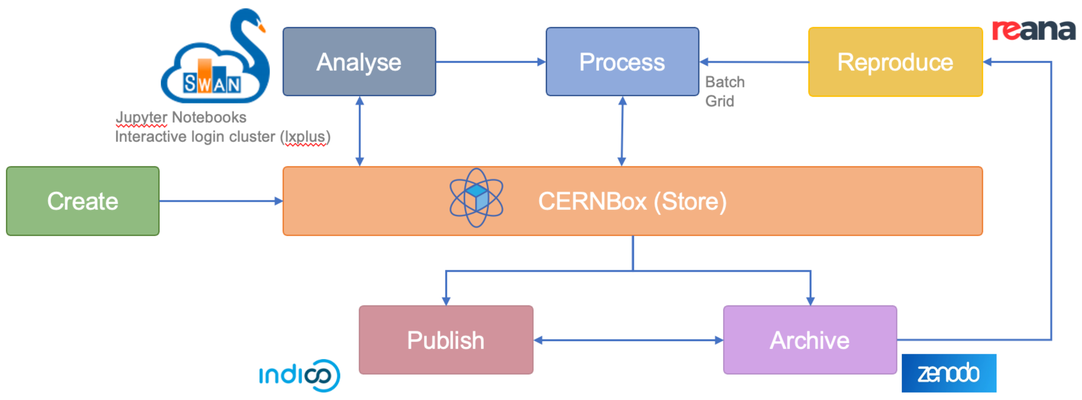
Fast transfer of large datasets from one site to another.

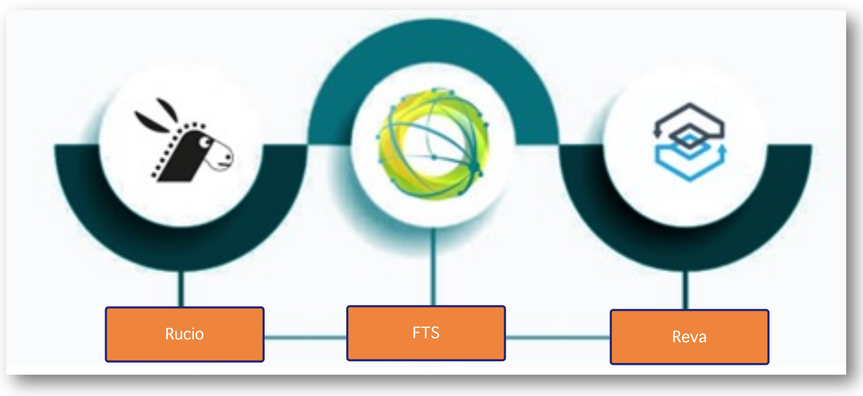
Remote data analysis through sync-and-share services.



CERNBox provides access to personal and project areas. We are extending support to all Physics data stores and CephFS-based HPC areas

CERNBox allows local users to share their data with remote collaborators by leveraging the Open Cloud Mesh protocol





CERNBox is an integration tier for Research Data Lifecycle services

CERNBox integrates with Data Management technologies like Rucio and FTS to transfer large amounts of data thanks to EOS. It also supports TPC (Third-Party-Copy)

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