



VO Federation in EFSS

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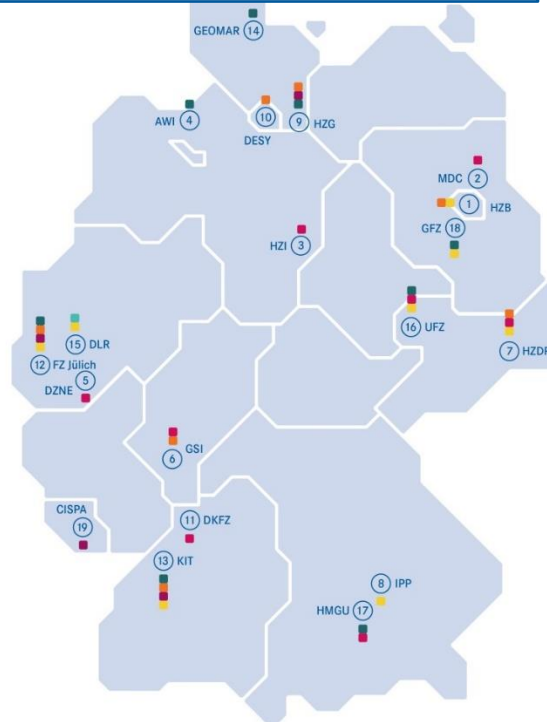
Matthias Leander-Knoll

KIT

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Helmholtz Association

1. Berlin
Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)
2. Berlin-Buch
Max Delbrück Center for Molecular Medicine in the Helmholtz Association (MDC)
3. Brunswick
Helmholtz Center for Infection Research (HZI)
4. Bremerhaven
Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung (AWI)
5. Bonn
German Center for Neurodegenerative Diseases (DZNE)
6. Darmstadt
GSI Helmholtz Center for Heavy Ion Research
7. Dresden
Helmholtz Center Dresden Rossendorf (HZDR)
8. Garching
Max Planck Institute for Plasma Physics (IPP) (Associate Member)
9. Geesthacht
**Helmholtz Center Geesthacht
Center for Material and Coastal Research (HZG)**

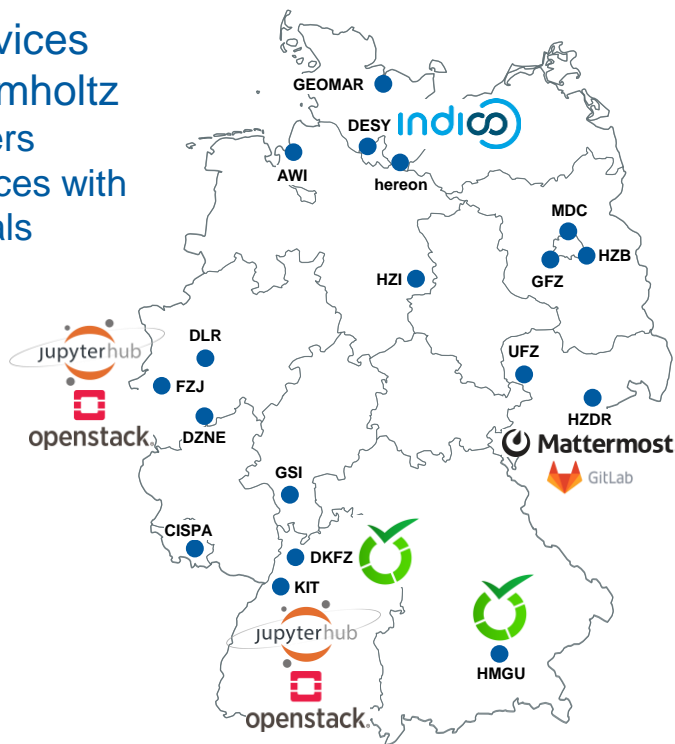


10. Hamburg
Deutsches Elektronen-Synchrotron DESY
11. Heidelberg
German Cancer Research Center (DKFZ)
12. Jülich
Forschungszentrum Jülich (FZ Jülich)
13. Karlsruhe
Karlsruhe Institute of Technology (KIT)
14. Kiel
GEOMAR Helmholtz Center for Ocean Research Kiel
15. Cologne
German Aerospace Center (DLR)
16. Leipzig
Helmholtz Center for Environmental Research – UFZ
17. Munich
Helmholtz Center Munich – German Research Center for Health and the Environment (HMGU)
18. Potsdam
**Helmholtz Center Potsdam
German Research Center for Geosciences GFZ**
19. Saarbrücken
Helmholtz Center for Information Security – CISPA

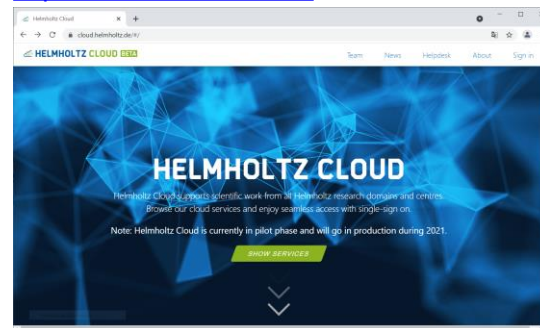
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HIFIS Cloud

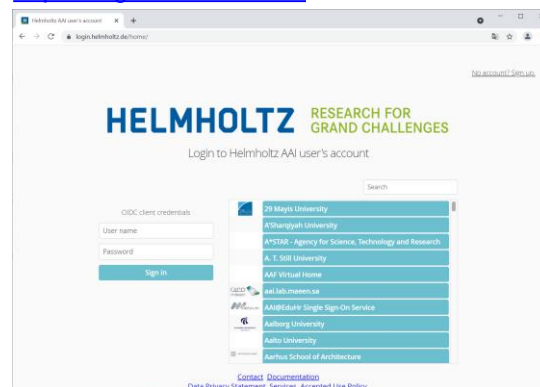
- Making existing IT Services accessible to all of Helmholtz
 - And research partners
 - Users log in to services with their home credentials using Helmholtz AAI



<https://cloud.helmholtz.de>



<https://login.helmholtz.de>



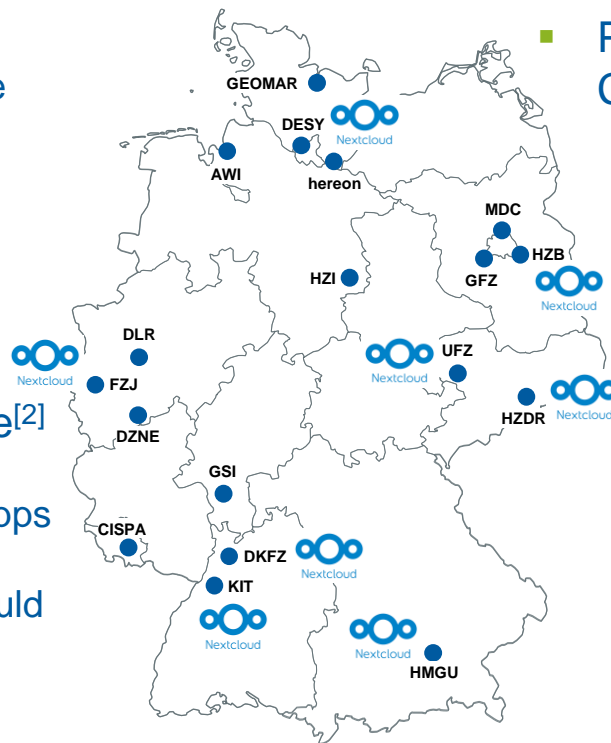
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The Enterprise File Sync&Share (EFSS) situation

- No consolidation
 - Desire for independence

- No OCM^[1] federation
 - Exchange of user databases raises data protection issues

- No Nextcloud Global Scale^[2]
 - Different Nextcloud versions with different apps in operation
 - Other EFSS vendors could not participate



- Participation in CS3 Community^[3]

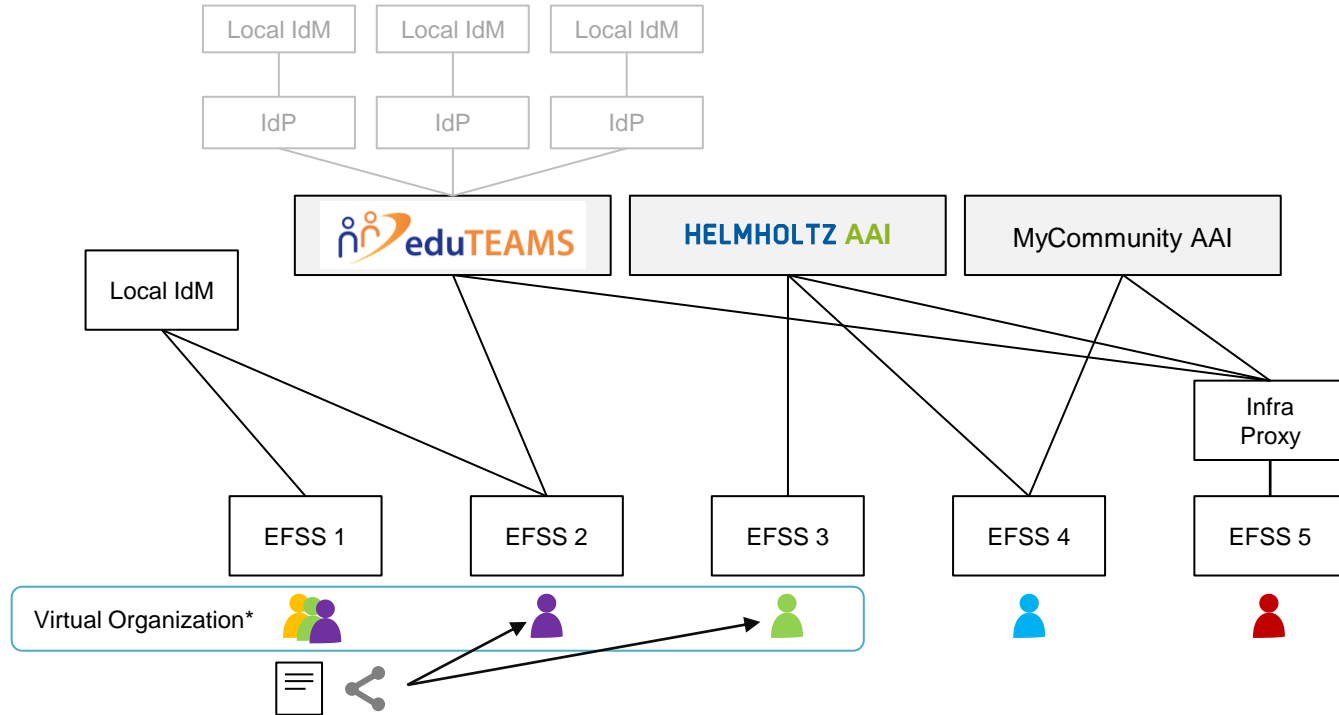
- Who were already thinking about new ways to share in EFSS
 - But only for 1:1 shares

[1] Open Cloud Mesh: <https://wiki.geant.org/display/OCM/Open+Cloud+Mesh>

[2] Nextcloud Global Scale: <https://nextcloud.com/globalscale/>

[3] CS3 Community: <https://www.cs3community.org/>

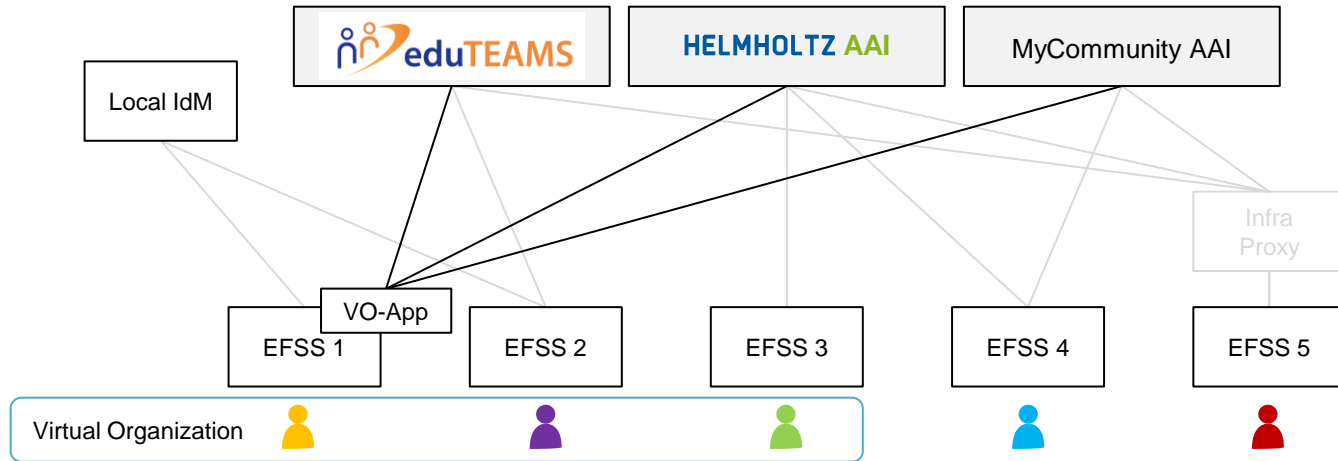
Problem



* a group of any size. It may just be two persons or a whole research center/community

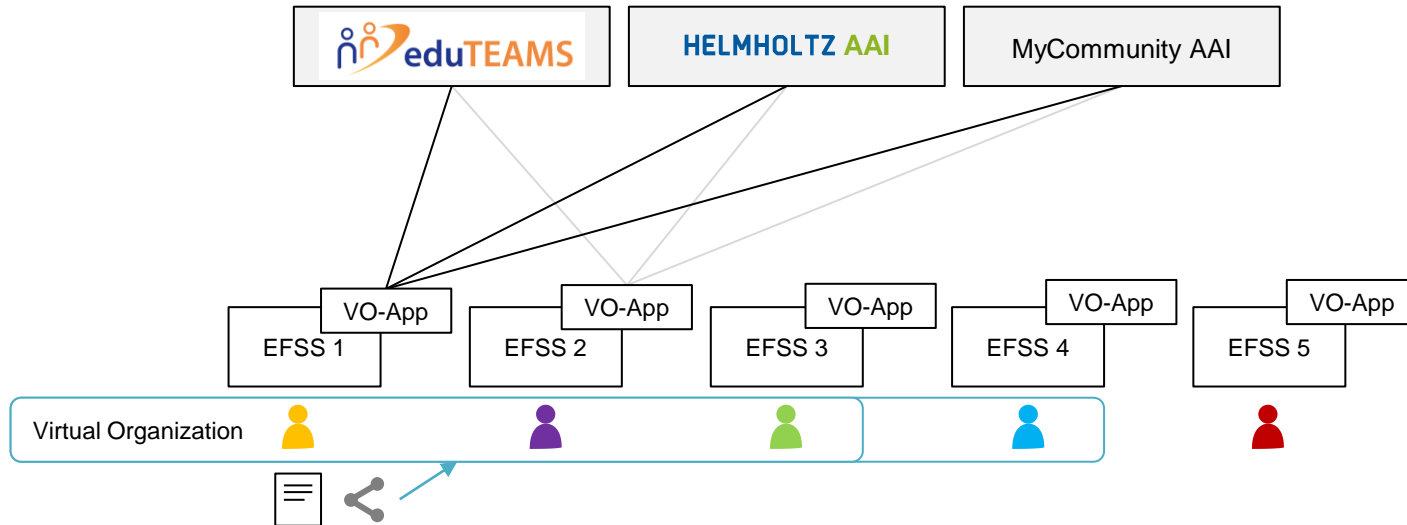
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VO-App



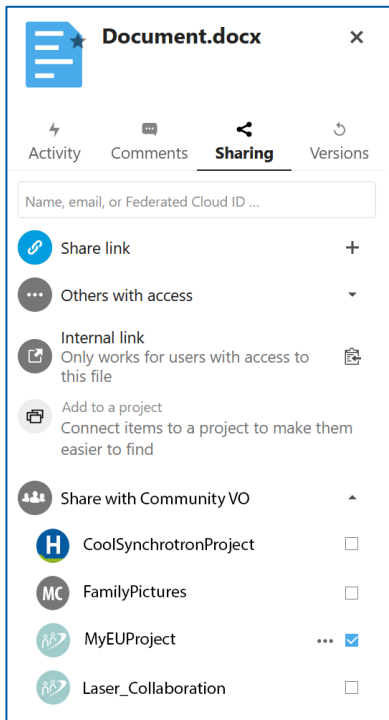
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VO-Sharing



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VO-App GUI

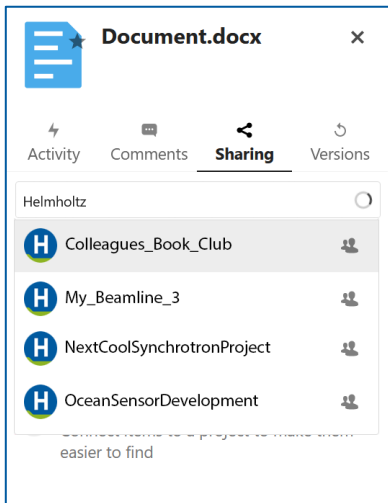


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Activity Comments **Sharing** Versions

Name, email, or Federated Cloud ID ...

- Share link +
- Others with access ▾
- Internal link
Only works for users with access to this file
- Add to a project
Connect items to a project to make them easier to find
- Share with Community VO ▲
 - CoolSynchrotronProject
 - FamilyPictures
 - MyEUProject ...
 - Laser_Collaboration



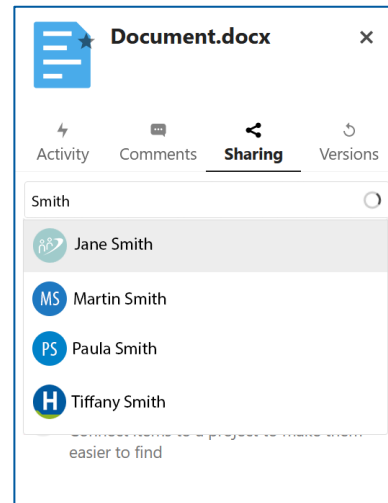
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Activity Comments **Sharing** Versions

Helmholtz ○

- Colleagues_Book_Club
- My_Beamline_3
- NextCoolSynchrotronProject
- OceanSensorDevelopment

easier to find



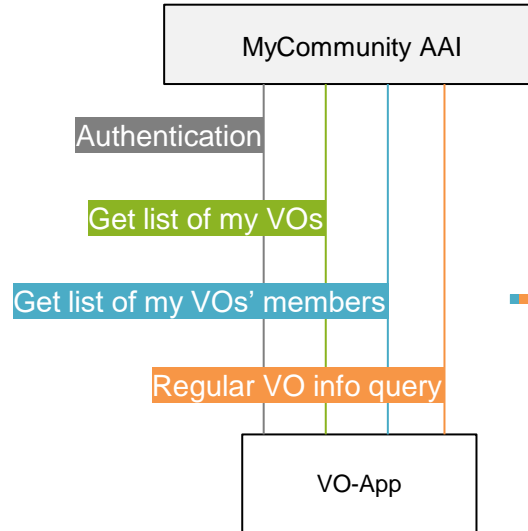
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Activity Comments **Sharing** Versions

Smith ○

- Jane Smith
- Martin Smith
- Paula Smith
- Tiffany Smith

easier to find



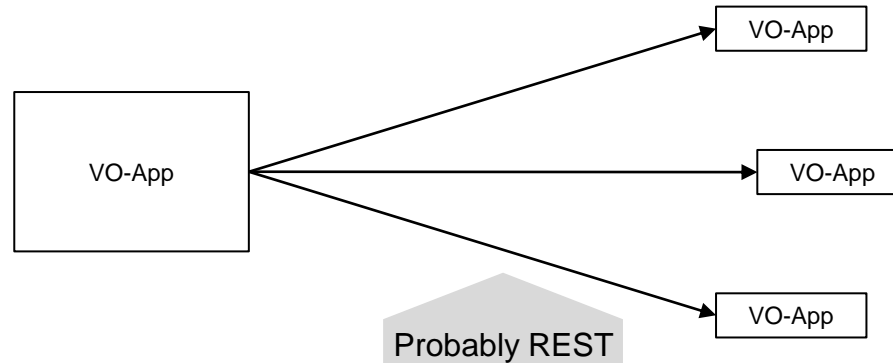
- New types of query which are currently not possible in OIDC^[1]
 - Will be implemented as REST API using the SCIM^[2] protocol
 - Should become part of AARC^[3] Guidelines

[1] OIDC Protocol: [https://en.wikipedia.org/wiki/OpenID#OpenID_Connect_\(OIDC\)](https://en.wikipedia.org/wiki/OpenID#OpenID_Connect_(OIDC))

[2] SCIM Protocol: <https://datatracker.ietf.org/doc/html/rfc7644>

[3] AARC Guidelines: <https://aarc-project.eu/architecture/>

- Broadcast
 - for new shares coming from local user
 - VO membership loss
- Query
 - for new shares on VO membership gain



- Shares generated via CS3 APIs^[1]
 - Which are implemented in Reva^[2]

Challenges lie in large VOs
and increasing federation size

[1] CS3 APIS: <https://github.com/cs3org/cs3apis>

[2] Reva: <https://reva.link/>

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Next steps

- Nextcloud VO Federation App call for tenants will go live soon
- We will push for development in other EFSS solutions
- Further features like auto-WebDav-mounted VO-Folders may come

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Get in touch.



<https://hifis.net>

support@hifis.net