

Opportunities for collaborating with Science Mesh

26th Jan, 2022 – CS3MESH workshop

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 823852



Call: Horizon 2020 InfraEOSC-04 Partners: ESRF, ILL, XFEL.EU, ESS, CERIC-ERIC, ELI-DC, EGI **Description: cluster of ESFRI Photon and Neutron sources Observers/non-funded: GÉANT, national Ris Co-funded project: ExPaNDS** Linked 3rd parties via EGI: DESY, STFC, CESNET Status: Started 1/12/2018 Github: https://github.com/panosc-eu Home page: https://panosc.eu Twitter: @PaNOSC eu #PaNOSC Budget: 12 M€ Coordinator: ESRF Started: 1/12/2018 1/12/2022 Ends:

Duration: 4 years





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Photon and Neutron RI typical environment

- Large user community (50 000 users/18 Months) with heterogenous profiles:
 - Scientific field: Biology, Material science, chemistry ... Archaeology, nuclear physic, HEP
 - Academic and Industrial users
 - Quite often very limited IT support in the users' home organisation
- Datasets volume vary from 10s of GB to 100s of TB
- Yearly data production from 300TB to 10s of PB per RI
- Data are openly accessible after a 3 years embargo period
- Relatively small RI's IT teams, mainly focused on data production (i.e. experiments) support and integration of existing solutions





Some key achievements

- FAIR data policy framework
 - https://doi.org/10.5281/zenodo.3738497
- E-learning platform
 - https://pan-learning.org/
- FAIR data management practices
 - Data catalogue for all RI
 - Common APIs to access data
 - PIDs for data
 - DMPs
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Community AAI ready for EOSC





Data Analysis Services

- Jupyter Notebooks
- VISA Remote Desktop in Browser









PaNOSC and ExPaNDS projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements 823852 and 857641, respectively.

Data transfer

• 3 uses cases :

- 1. User driven data transfer (Globus Online, IBM Aspera)
- 2. Data archiving for RI (Rclone)
- 3. Transfer from RI to compute facilities on behalf of users (i.e. based on the scenario where users perform analysis on a different infra than the one of the RI where the data have been produced). Currently exploring **OneData**.









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photon and neutron

open science cloud

Software provisioning

- Need to be able to provision software for VISA and HPC infra
- Local vs remote infrastructure
- Need for community trustworthy software repositories
- ...
- Currently evaluating CVMFS







Thank you for your attention



