Contribution ID: **250**   Type: **Presentation**

Providing a frontend for file sync and share solutions integrated into end-to-end researcher workflows - RSpace & owncloud

Friday 21 March 2025 10:45 (15 minutes)

In the era of data-intensive research and data science, the challenge of managing research data effectively while ensuring FAIR principles isn't just a technical problem—it's a collaborative one. This presentation explores how the needs of researchers, research software providers, and research IT can be addressed together by a commitment to vertical interoperability between research tools and infrastructure to provide end-to-end workflows across tools and research phases. As an example, we will show how a file sync and share solution commonly provided by research infrastructure, Owncloud, can be integrated with a generalist research tool, RSpace, to seamlessly facilitate FAIR data management as part of everyday workflows.

RSpace is a generalist solution for the active phases of research that provides researchers with an electronic laboratory notebook and sample management solution interoperable with a variety of research tools and services. The extended RSpace ecosystem thereby covers most phases of the research data lifecycle from planning to publishing data and enables end-to-end solutions integrated into everyday workflows. Additionally, RSpace integrates with IT infrastructure for e.g. storing, sharing and managing digital assets, which often pose usability challenges for researchers and frustration for the IT organisation when services are not adopted or not properly used. RSpace addresses these problems by providing a frontend for managing data in such filestore solutions and integrating these into typical researcher workflows.

In 2024, RSpace extended their integration with the iRODS file management solution, so that users can directly store the data they collect in everyday workflows in iRODS. The ongoing development phase focusses on metadata exchange between iRODS and RSpace to further improve the robustness of links to remote locations in RSpace documents as well as increase the discoverability and manageability of files in an institutional file store through metadata contextual to the research. This general idea is now being transferred to other file management solutions.

Many European research infrastructures use Owncloud for collaborative file storage, which has recently been prominently adopted by the first EOSC node. SUNET and RSpace are currently collaborating on extending the basic Owncloud functionality already integrated in RSpace in analogy to the iRODS approach. The goals are to increase the usage of managed file store solutions, improve the persistence of links to Owncloud files to prevent link-rot, and to allow efficient metadata exchange between Owncloud, RSpace and the RSpace ecosystem of tool integrations.

Besides reporting on the progress for the development of these integrations, we'll explore how a collaboration between infrastructure and tool providers addresses adoption challenges in research data management (RDM) by creating a unified frontend that seamlessly connects researchers' daily workflows with institutional storage solutions such as iRODS and owncloud.

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Session Classification: FAIR Data Management

Track Classification: Main sessions: User Voice: Innovative Applications, Data Science Environments & Open Data