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Learning through Experience: Bootstrapping an Electronic Lab Notebook as a central IT-Service for Thuringian universities –Challenges and Lessons Learned (*)

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Electronic lab notebooks (ELNs) have emerged as vital tools in modern research, significantly impacting the way data and metadata are documented, managed, and shared throughout the research data lifecycle. By enabling structured, standardized, and consistent metadata collection from the start of data generation, ELNs notably improve metadata quality. Their digital nature not only facilitates backups or collaboration, but also enhances the discoverability of new connections between datasets, thereby promoting data reuse. As the demand from researchers and funding bodies for robust data management practices grows, the need for institution-wide ELN solutions becomes increasingly urgent.

Despite these well-known benefits of ELNs, action at the universities in Thuringia had not yet gone beyond initial efforts. Until early 2025, none of the universities offered their researchers a centrally hosted and administrated, ready-to-use generic ELN service. Instead, individual research groups were left alone to navigate the complexities of selecting, implementing, and maintaining their own ELN solutions. This fragmented approach led to inefficiencies, duplication of effort, and an uneven landscape where smaller or less technically resourced groups are at a disadvantage.

Recognizing this critical gap in provision and equipped with initial experiences in inter-institutional collaboration with the federal network of university computing centers from a previous project, the Thuringian Research Data Management (RDM) state initiative TKFDM took up the challenge to overcoming the institutional level and initiated a joint effort to establish an ELN as a shared IT-service for all universities in the state. Now that the goal has been set and in sight, should we not expect a straightforward and direct path to it and also expect to be able to focus soon on introductory courses and on supporting end users in research teams using the ELN?

This poster reflects on the technical and organizational challenges encountered in the ongoing efforts. Key issues include the need for software development to ensure compatibility with the DFN Authentication and Authorization Infrastructure (AAI), the development of a sustainable concept for shared support and onboarding, and the complexities of cross-institutional coordination –both internally (between project coordination and operational teams) and externally (with stakeholders such as staff councils and data protection officers). It also discusses the importance of clear governance structures, effective communication channels and the need to adapt to obstacles and evolving requirements.

By sharing our experiences and lessons learned, we aim to provide data stewards and research IT professionals with practical insights into the complex bottom-up process of establishing a federated IT service, and to foster discussion on strategies for successful cross-institutional research data infrastructure initiatives.

*) „[…] so far."H. J. Simpson in The Simpsons Movie, 2007, USA

Abstract

Poster

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