Optimizing User Support through Synergistic Integration of Helpdesk Systems

A Case Study of NFDI4Biodiversity and DataPLANT

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Abstract. Helpdesks are an essential platform to engage with users around the central topics and services offered by the NFDI consortia. Thus, many consortia are planning to provide such a point of contact for the community. Topics to be covered by all helpdesks include both general and discipline specific Research Data Management (RDM)-related questions. Several consortia already offer helpdesks from previous developments, others have implemented or are in the process of implementing one.

The organization and technical backbone of helpdesks can be very diverse and can either be based on existing systems or be implemented and developed from scratch. In this abstract, we discuss both variants on the example of the existing systems of NFDI4Biodiversity [1] and DataPLANT [2]. With this example, we would like to start the discussion on potential joint helpdesk efforts in the NFDI community. Combining our efforts certainly offers many advantages, but it also poses challenges that we want to overcome together, with the goal of OneNFDI and, above all, user-friendliness in mind.

Keywords: Support, Helpdesk, OneNFDI, User-friendliness, Cross-Cutting, NFDI4Biodiversity, DataPLANT

1. Leveraging the potential of an established helpdesk for user support exemplified by NFDI4Biodiversity

The NFDI4Biodiversity Helpdesk is a single point of contact for all questions related to the consortium's ecosystem, covering general and biodiversity data management, training, and support for tools and services offered by the consortiums' partners. It can be reached via email [3] or a contact form on the project webpage [4]. Several services are directly connected to the helpdesk, such as the Data Management Planning Tool [5] with personalized support. Additionally, a REST API allows the technical integration of services as realized for the Data Submission Service [6] and the internal software development.

The NFDI4Biodiversity Helpdesk is based on the tried and tested helpdesk of GFBio e.V. The underlying ticket system allows easy communication externally with the user and internally with consortium members via tickets and email. Different types of requests are implemented as different ticket types, each with their unique and customizable workflow, fields to collect specific information for planning and reporting (e.g. number of participants for training events) and target groups within the consortium. Tickets are managed by a small core team (Helpdesk Team). The ticket dispatcher assigns the requests to the respective experts within the consortium. Often recurring ticket requests, such as training requests or service support,

are handled directly by the responsible coordinators from the Helpdesk Team. The existing ticket types (HELP, HELP-DMP, HELP-Event, Data Submission) can be extended to include other types of recurring requests.

Sensitive data such as unpublished (research) data are also commonly present. Therefore, access to tickets is restricted and can be selectively opened for the relevant experts from the consortium if needed. Finally, questions and feedback collected in the helpdesk are used to feed our Knowledge Base [7] and vice versa.

2. Establishing a helpdesk from scratch based on the example of DataPLANT

In order to support the community according to their needs, DataPLANT [8] relies on personal contact with large consortia, but also with individual research groups. For the purpose of also providing a support point for the daily work with research data, we have set up a helpdesk [9] and a dedicated mail address [10], in addition to our knowledge base [11] including a FAQ section [12], which already helps to solve most of the questions.

Due to the high developmental potential within DataPLANT, the input mask of the developed helpdesk [13] is based on the usual issue classification in software development. First, the user is asked whether the issue aims to report a question, a bug or a feature request. Second, the subject of the request can be further specified by selecting a category and a subcategory, with the option to select only a category without a subcategory or none at all. Finally, a mail address can be provided in order to stay informed about the answers and developments resulting from the request.

The output of the entry mask opens a task in the support team's planner according to the following scheme:

[Tools ARC Commander] [Question] How often should I synchronize my ARC?

Subsequently, the task is forwarded to the appropriate Github tool repository (in this case, the ARC Commander Github repository [14]) or to the appropriate team by the support group. There, the request can be processed including one or more of the following actions: Fixing the bug, implementing the suggested feature, providing feedback to the user (if an email address is provided), adding it to the Knowledge Base and FAQ section. Here, also data stewards [15] might already be involved who could either provide support themselves or, because of their interconnection within the respective community, communicate the issue to developers, service providers, or other experts at a deeper level.

3. Bringing together the best of both support worlds

Regardless of the technical backbone, the challenges and tasks of structuring and managing a helpdesk are the same: bundling and defining workflows for different types of requests, routing them to the appropriate expert(s), documenting user interaction, and implementing quality control for the helpdesk service.

Consolidation of helpdesks is a good opportunity to benefit from organizational concepts (and avoid reinventing the wheel) and to bundle resources, especially if a large part of the community or the data it generates belong to similar disciplines. On the one hand, this would spread the workload over several shoulders, but more importantly, it would also provide more focused solutions to user concerns. In an ideal world, a user contacting any NFDI helpdesk would be directed (without noticing or additional effort) to the right contact person or information and thus receive expert support. A continued fragmented landscape, on the other hand, could increase confusion. A desirable solution would therefore be for several NFDI consortia to work together to provide a first layer of support for general questions about RDM, the

FAIR principles, and similar issues. A second layer could be a cooperation of several consortia that address user concerns on a discipline-specific basis.

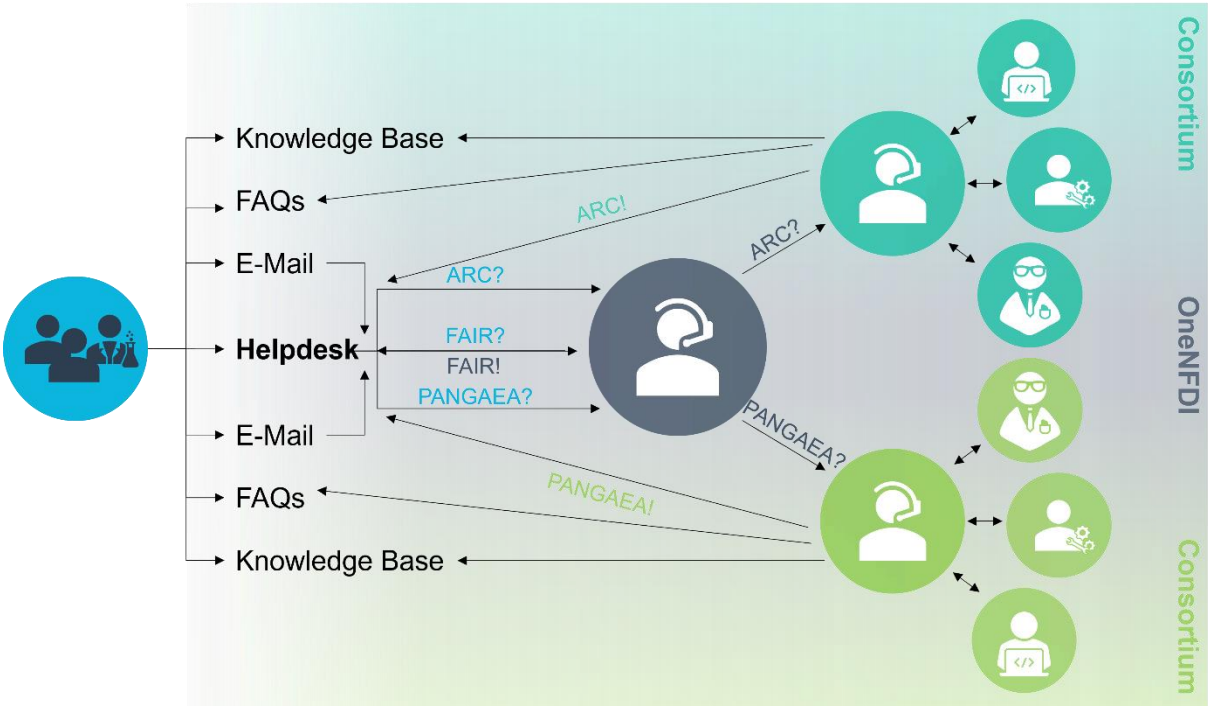

Figure 1. Optimizing User Support through Synergistic Integration of Helpdesk Systems.

As outlined above, shared support offers great opportunities, however, it also presents several challenges that need to be addressed:

Opportunities:

- **Shared concepts:** Adapt existing Helpdesk concepts rather than each consortium developing its own
- **Shared resources**: Benefit from knowledge pools and already established materials as well as a large pool of experts
- **OneNFDI**: Provide support with a common terminology and based on NFDI-wide best practices
- **User guidance and satisfaction**: Avoid the frustration of a fragmented landscape
- **Technical interfaces**: Leverage established interfaces to route requests where they belong

Challenges:

- **Access rights**: Larger pool of potential readers can lead to issues regarding sensitive data, proposals or similar
- **Technical platform:** Connecting different technical platforms may require developement and structural reorganisation; a central platform requires agreement on common standards
- **Commitment**: Helpdesk support is resource-intensive and requires the active participation of all partners involved, which often adds on to the overalll workload.

With all the opportunities and challenges of this endeavor, the ambition to collaborate remains, not just because of the objective of OneNFDI, but also to develop a common understanding of RDM, to pool valuable (human) resources, and most importantly, to improve the user experience.

Data availability statement

Not applicable.

Underlying and related material

All material is cited in the text.

Author contributions

JE, IK, JL, KF, DvS, CMR: drafted and corrected manuscript.

Competing interests

The authors declare that they have no competing interests.

Funding

This work was supported by the German Research Foundation (DFG) within the project "Establishment of the National Research Data Infrastructure (NFDI)" in the consortium NFDI4Biodiversity (project number 442032008) and DataPLANT (project number 442077441).

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