Open Access-Network: Heading for Joint Standards and Enhancing Cooperation: Value-Added Services for German Open Access Repositories

Stefan Buddenbohm, Göttingen State and University Library (stefan.buddenbohm@sub.uni-goettingen.de)
Maxi Kindling, Humboldt University Berlin (maxi.kindling@ibi.hu-berlin.de)

Abstract

OA-Network collaborates with other associated German Open Access-related projects and pursues the overarching aim to increase the visibility and the ease of use of the German research output. For this end a technical infrastructure is established to offer value-added services based on a shared information space across all participating repositories. In addition to this OA-Network promotes the DINI-certificate for Open Access repositories (standardization) and a regularly communication exchange in the German repository landscape.

Awareness for Open Access publications

Overview: Repositories in Germany

To generate impact and advantages from their digital format and distribution, it is not just sufficient for Open Access scientific publications to be deposited in an institutional[1] or subject-based repository. The publications have first and foremost to gain awareness within their main target group: the researchers.

The German repository landscape that Open Access-Network[2] (OA-Network, OAN) is aiming at can be characterized in the following way:

Characteristics of the German repository landscape: heterogeneous, efforts for standardization

- more than 130 repositories in Germany, both disciplinary and institutional targeted,

- heterogeneous types of content (i.a.): primary data, teaching material, multimedia objects, code and for a large share: text documents,

- various repository software operational: OPUS, DSpace, EPrints,

- lowest common denominator for interoperation: widespread implementation of OAI-PMH, but still deficits in standardization and data harmonization,

- most prominent repository registries: OpenDOAR, ROAR, DINI,

- main repository collaborations: DRIVER, COAR, DINI,

- search engines for scientific content: BASE, OAIster, GoogleScholar, OAN-Search, and

- DINI cluster: several Open Access projects in the Electronic Publishing Group aiming at enlarging the German repository infrastructure; DINI certificate 2010 for Document and Publication Services as seal of quality and as a means to promote standardization.

Although this seems to be an already sufficient infrastructure for green Open Access, one has to acknowledge several desiderata, which are partly responsible for the still missing general break-through of Open Access in Germany[3]:

Reasons for the still missing breakthrough for Open Access in the German research arena

---

[1] Institutional repository: IR
[2] http://www.dini.de/projekte/oa-netzwerk/
[3] Müller, Severiens, Malitz, Schirmbacher, 2009

- There is still a lack of acceptance of OA publications among academic communities, particulary regarding the reputation of this kind of publications.

- So far most IRs have not been successful in acquiring a critical mass of OA documents, and often they don't represent a considerable collection of scholarly publications, particulary with regard to the common collections of scientific libraries.

- The presentation of the IRs as one of the institutions' services has been usually insufficient, and often the repository is not known to the university members.

- Technical, legal and organizational support for authors could be improved, the deposit of documents could be more intuitively and user-friendly.

- There has been a widespread absence of effective integration of IRs with overall retrieval networks, therefore many small collections exist alongside without being interlinked and diminish the attractiveness for users.

- Value-added services (e.g. evaluation of usage statistics, citation tools) have either been missing or have been insufficiently promoted, and

- The DINI certificate as suitable means to recommend standards and interoperability is still not spread widely enough.

Aims and Target Groups of OA-Network and the DINI Context[4]

Filling the gap: the DINI OA projects with solutions for repository operators, developers, and the scientific community

Addressing this context OA-Network is building a networked infrastructure for (and of) German repositories, aiming at three different target groups: repository operators, developers, and the scientific community. OA-Network enhances the collaboration between German Open Access repositories both institutional and disciplinary, and strives to enable searching and browsing via interlinked and standardized repositories. It improves the visibility of scientific publications deposited in the repositories both on a national and international level. It advocates the development of value-added services by providing a test bed and finally makes these services available to the end user.

Collaboratively use of a pool of networked repositories by several projects
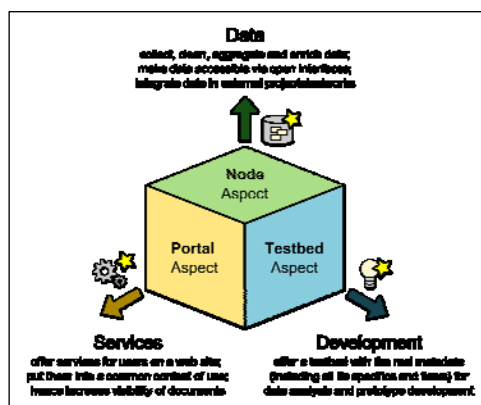

Illustration 1: The three different aspects of the OA-Network infrastructure

OA-Network has been funded by the German Research Foundation[5] since 2007 and is currently in its second funding phase. It is operating under the umbrella of the German Initiative for Network Information (DINI)[6] where it is integrated in the Electronic Publishing Group. It collaborates closely with other Open Access-related projects such as Open Access Statistics (OAS)[7], Distributed Open Access Reference Citation Services

(DOARC)[8] or the Community for Reviewing, Publishing and Editorial

---

[4] In the following, the targeted and already achieved aims of OA-Network as consortial project are described. Participating institutions: Humboldt University Berlin, State and University Library Göttingen, Osnabrück University, Oldenburg University.
[5] http://www.dfg.de/en/index.jsp
[6] http://www.dini.de/english/ and http://www.dini.de/ag/e-pub/
[7] http://www.dini.de/projekte/oa-statistik/english/
[8] http://www.isn-oldenburg.de/projects/doarc2/

Technology (CARPET)[9]. It becomes clear that OA-Network with its offered services claims to go beyond established and renowned services such as ROAR or BASE. Its strength lies in its multifaceted approach of several collaborating projects that all make use of the pool of networked repositories, visibly kept together by the DINI certificate.

The overarching objectives of DINI and its projects are to establish standards for repositories and to develop outstanding and concurrent practical solutions for specific repository-related tasks such as usage or citation statistics or to collect these solutions.
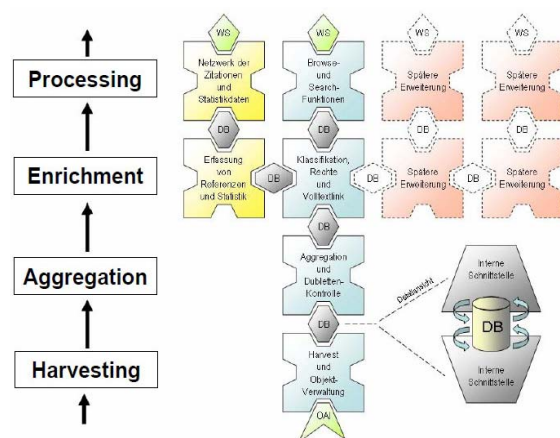
Two-tiered Approach of OA-Network

OA-Network pursues a two-tiered approach to enhance standards for and cooperation with repositories: a technological and an organizational one.

Technological Approach: OA-Network creates an information infrastructure which comprises three main aspects. First, it works as a node delivering aggregated data to external partners such as repositories by linking their collections and enabling the mutual use of services such as evaluation of usage or citation statistics. Above this, OA-Network serves as national aggregator node for the European DRIVER platform[10]. The infrastructure makes use of the well-established OAI-PMH interface. Second, it is a portal for end user-oriented services like the metadata and full text search function via the interlinked collections or browsing along a classification tree (DDC, WP[11] Spec). These services will tackle multilingual document sets (WP Lang) as well by delivering context sensitive result lists by semantic analysis of the documents' metadata (WP mORE).

> OA-Network's infrastructure: central node, portal for end user oriented services, test bed for services and projects

It is planned to integrate this portal element into the already existing information platform Open-Access.net. Last but not least OA-Network serves as a test bed for developing these services, also for the collaborating projects. Only services which have passed the test bed are to be integrated into the portal and thereby to enhance the functionality for end users and third party services.

> Modular architecture extensible by related services

The diagram shown in illustration 2 depicts the information infrastructure of OA-Network. At the 'Enrichment' and 'Processing' levels the collaborating projects OA Statistics and DOARC[12] provide their specific services which can be seen as blue prints for further enhancements of the infrastructure.

Illustration 2: Modular system architecture of OA-Network[13]

Organizational Approach: At the organizational level, OA-Network aims (a) to improve coordination and collaboration between operators of documents, publication services (mainly repositories), and developers and (b) to communicate the above-mentioned services by several means to the end users. This is mainly

> The three target groups of OA-Network: operators, developers, end users

---

[9] http://www.carpet-project.net/en/home/
[10] http://www.driver-repository.eu/
[11] Working Package within OA-Network
[12] Distributed Open Access Reference Citation Services
[13] Robin Malitz, 2007

pursued by addressing the three OA-Network target groups to establish communities. Be it by own activities such as promoting the DINI Certificate for Document and Publication Services, by attending conferences and workshops or through cooperating with other partners, e.g. the information platform Open Access.net.[14]

The DINI certificate as seal of quality for repositories

The DINI certificate for Document and Publication Services as important component of OA-Network has just recently been issued in the third generation. It was established in 2004 and facilitates the interoperability of these distributed document archives and aims at enabling comprehensive services on top of them. By 2010 more than 30 German repositories have undergone the certification process[15]. This way, they give evidence of their functional efficiency and standardized level of quality.

Results of OA-Network in a nutshell

Within its second funding term (2010-2011) OA-Network expects to accomplish the following targets:

- Establishing an overarching functional information infrastructure within the DINI-context but also open up for collaborations with other projects:
    - OA-Network as central node for harvesting and aggregation of repository-related data; national aggregator for the DRIVER consortium (use of OAI-PMH), (WP Infrastructure),
    - OA-Network as portal offering value-added services in the areas of search, result refining, data export, alerting and personalization, considering multi-lingual document sets (WP Lang), browsing along classifications (WP Spec) and context-sensitive result lists (WP mORE),
    - OA-Network as test bed for developing value-added services by third party partners, and
    - All this by means of: Standardization in interfaces, protocols and formats for a wider community; Repository based services; Harvesting, searching, browsing, re-use of metadata.
- Improvement of coordination and collaboration between repository operators, developers and end users:
    - Coordination role within the DINI Electronic Publishing group,
    - Competency network of operators
    - Focal point for developers, and
    - All this by means of: Building target group-specific communities or collaborate with already existing communities and scientific societies (WPs Communities and Support).
- Sustainability and future use of the OA-Network infrastructure:
    - Securing the infrastructure and basic services and keeping it open for the addition of future services,

---

[14] The information platform Open-Access.net informs and lobbies on open access. It was initially funded by the German Research Foundation and has been online since 2007. It addresses several German-speaking interest groups such as researchers, publishers or research institutions and lobbies for open access on different levels. Website of the information platform: http://open-access.net/de_en/homepage/
[15] http://www.dini.de/no_cache/service/dini-zertifikat/zertifizierte-server/

- ▪ Systematic enhancement of the network of certified repositories, and

- ▪ Framing the organizational structure with DINI as umbrella organization to meet the needs of the specific target groups such as operators of repositories, users of the retrieval service or end users.

In a broader sense OA-Network can gain relevance for the German OA community because it promotes the development and implementation of innovative competencies and technologies, making enhanced search and retrieval functionalities available and functioning as a showpiece for scientific OA content.

This proposal is part of a coordinated effort by several German Open Access-related projects[16] to present and discuss their work at the Open Repositories Conference 2010. We consider the conference as an ideal opportunity to discuss patterns of strategic and everyday collaboration and to open up to international partners. We would suggest presenting these papers in a joint session.

---

[16] OA-Network, OA Subject Repositories, OA Statistics, DOARC, CARPET