The International e-Depot to Guarantee Permanent Access to Scholarly Publications

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Abstract

As scholars have become increasingly reliant upon the electronic versions of scholarly journals, long term preservation of these resources has become of major importance and a growing need for the library community. The Koninklijke Bibliotheek, the National Library of The Netherlands, was one of the very first cultural heritage institutions to become aware of the emerging importance of digital resources. With the establishment of the e-Depot the KB has created in 2002 the first solution to provide permanent access to scholarly information. This goes beyond the national depository role of the KB as it also preserves publications from international, academic publishers that do not have a clear country of origin. The next step for the KB is to position the international e-Depot as a European service, which guarantees permanent access to international, academic publications on a European level. There is a danger that e-journals become "ephemeral" unless we take active steps to preserve the bits and bytes that increasingly represent our collective knowledge. Besides the threat of technical obsolescence there is the changing role of libraries. In the past libraries have assumed preservation responsibility for materials they collect, while publishers have supplied the materials libraries need. These well understood divisions of labour do not work in a digital environment and especially so when dealing with e-journals. So we need new models and organizations to ensure safe custody of these digital objects for future generations. The KB has invested in order to take its place within the research infrastructure at European level and the international e-Depot serves as a trustworthy digital archive for scholarly information for the European research community.

Introduction

In centuries past publishers and libraries had well-defined roles and responsibilities in the dissemination of information: publishers produced publications, libraries bought them and preserved them in their stacks. In the digital world, that division of labour no longer applies, especially with regard to e-journals. Now, publishers retain ownership of the content and license access rights to libraries. This leaves research libraries in a vulnerable position: their dependence on electronic information is growing: e-journals have come to dominate academic literature. Although publishers assure perpetual access rights to the content purchased in their licensing agreements, the question still remains who takes responsibility for preserving this electronic intellectual output. The question is all the more pressing as digital information is fragile and very much dependent on a properly working technical environment – which must function throughout the life-cycle of the digital object. Many threats to such continuity may be identified: hardware and software will eventually become obsolete,

publishers go out of business, or their access platforms may fail. One group of libraries would seem to be specifically well-placed to assume the role of securing access to the records of science: national libraries. National libraries have a long tradition of preserving national deposit collections and their remit specifically includes the long-term perspective so needed to secure permanent access. All that would be need is to extend this remit from printed collections to digital publications.

The KB e-Depot

The Koninklijke Bibliotheek, National Library of the Netherlands, was one of the very first cultural heritage institutions to become aware of the emerging importance of digital resources. As early as 1998 it concluded an agreement with the Dutch Publishers Association to extend the Dutch voluntary deposit scheme to off-line electronic publications, and in 1999 a tender was issued for the development of a long-term storage facility for electronic information resources. As no ready-made commercial products were available at the time, the KB embarked on a joint project with IBM to develop the Digital Information Archiving System (DIAS). The so-called 'e-Depot' became operational in January 2003 and it was the first storage facility specifically designed to store and maintain digital objects not just for a few years but indefinitely, in line with the remit of the Koninklijke Bibliotheek as the national deposit library.

Originally, the e-Depot was designed to preserve the electronic publications of the Dutch publishers, in agreement with the Dutch voluntary deposit scheme. Some of the first archiving agreements were signed with major scientific publishers based in the Netherlands, such as Elsevier and Kluwer. As these are internationally operating publishers, the question soon arose how digital resources which are simultaneously published all over the world, fit into traditional national deposit schemes. The answer was simple: they do not. The KB decided that a new international framework would have to be developed to preserve digital publications for the long term. As such a framework does not come to be overnight, the KB took a first step by opening up its own e-Depot facilities to digital resources published by international publishers. Content for the e-Depot is delivered directly by scholarly publishers who have agreed to participate in the KB archiving service. As of June 2012, the e-Depot has preserved over 18 million journal articles.

Libraries in the digital publishing era

The trend towards e-only access for scholarly journals is continuing at a rapid rate, and a growing number of journals are 'born digital' and have no printed counterpart. According to a study commissioned by the British Library in 2004, half of all serial publications will be online only by 2016. For researchers

and students there is a huge benefit because they have online access to journal articles, anywhere, any time. And they are making use of it to an increasing extend. However, the downside is that there is an increasing dependency on access to digital information. Without permanent access to information, scholarly activities are no longer possible. For libraries there are many benefits associated with providing online access to academic journals. E-only access has the potential to save the academic sector a considerable amount of money. Library staff resources required to process printed materials can be reduced significantly. Libraries also potentially save money in terms of the management, storage and end user access of print journals. While suppliers are willing to provide discounts for e-only access. However, there are concerns that what is now in digital form may not always be available due to rapid technological developments or developments within the publishing industry; this and how to ensure post-cancellation access to licensed content are key barriers to institutions making the move to e-only. A number of initiatives have emerged in an effort to address these concerns. Research and developments in digital preservation issues have grown mature. Tools and services are being developed to help planning and perform digital preservation activities. In addition, third-party organizations and archiving solutions are established to help the academic community to preserve publications and to advance research in sustainable ways. These trusted parties can be addressed by users when strict conditions (trigger events or post cancellation) are met. Finally, publishers are adapting to changing library requirements, participating in the different archiving schemes and increasingly providing options for post cancellation access.

How about permanent access to scholarly information?

There is a danger that e-journals become "ephemeral" unless we take active steps to preserve the bits and bytes that increasingly represent our collective knowledge. We are all familiar with examples of hardware becoming obsolete; 8 inch and 5.25 inch floppy discs, Betamax video tapes, and probably soon cd-roms. Also software is not immune to obsolescence; who is still using WordStar as word processing programme?

On top of this threat of technical obsolescence there is the changing role of libraries. In the past libraries have assumed preservation responsibility for material they collect, while publishers have supplied the material libraries need. These well understood divisions of labour do not work in a digital environment and especially so when dealing with e-journals. Libraries buy licences to enable their users to gain network access to a publisher's server. The only original copy of an issue of an e-journal is not on the shelves of a library, but is held by the publishers. But the long term preservation of that copy is of importance to the library and research communities rather than to the publisher. So we may need new models and organizations to ensure safe custody of these objects for future generations. A further complication is the increasingly international nature of the academic publishing business. Many publishing houses no longer have a strong association with any specific country. Ideally, therefore, trusted archiving solutions need to reflect this international perspective by providing a global dimension.

Academic libraries recognize the urgency of the problems. In 2005 the Association of Research Libraries claimed that "Urgent action is needed to preserve scholarly electronic journals [1]" and a study from the Council on Library and Information resources in 2006 recommended that libraries and consortia must press publishers to enter into e-journal archiving relationships and indicated a sense of urgency [2].

Within The Dutch academic environment awareness was raised already at an early stage. It was clear that KB and the Dutch research libraries have to co-operate with each other to face problems. KB e-Depot acted as a de-facto long term archive for the Dutch scholarly community. In 2010 the Dutch consortium of the thirteen university libraries and the KB (UKB), together with the International Association of STM Publishers signed an agreement in which they agreed upon a Sustainable Archiving Agreement for safeguarding scholarly publications. It is clear that the KB, STM and the research libraries all have a direct interest in a sustainable archiving solution. It goes without saying that these three parties are ultimately all committed to serve to the best of their ability the interests of the researcher - as an author and a consumer of scholarly information.

One step further

Being one of the first organisations to acknowledge the importance of long term preservation of scholarly information, the KB has been active in the field of digital preservation research. Since the mid-1990s considerable investments have been made in research into and the development and design of an archiving system, but also in continuous research. Also the international dimension of the e-Depot has been deliberately expanded upon. The KB has taken the initiative to set up an international cooperation between so-called preservation services. Within this network of safe places organisations share knowledge and experience with respect to providing perpetual access to digital publications.

Now, after ten years of operating a digital preservation system, the KB wants to expand its initiative to a broader community. The KB will develop its international e-Depot into a European wide service, which guarantees permanent access to international, academic publications for the entire community of European researchers. This will not rival with publishers services, nor will it be a service which provides access on payment. The archive is essentially a "dark archive". Access to content is restricted and occurs only under specific conditions where a publication (or set of publications) has become unavailable from the publisher. The actions upon which content becomes available are called "trigger events". There are four trigger events:

- a publisher ceases operations
- a publisher ceases to publish and offer a title
- a publisher no longer offers back issues
- upon catastrophic and sustained failure of a publisher's delivery platform

Participation libraries will be provided with a campus wide access (or in the public domain) to archived content when a trigger event occurs.

In addition to trigger events, both publishers and libraries have recognized that in some cases, after termination of a license to an electronic resource, a library will grant continuous access to

the content it had previously paid for within the license. This is called post-cancellation access. There are different ways for a publisher to provide libraries with post-cancellation access:

- continued online access to archival copies of the licensed material on the publisher's server
- supplying archival copies of the licensed material to the library
- granting access to the licensed material via an e-journal archiving solution
- In many cases publishers designate an archiving solution as a mechanism for post-cancellation access.

In the forthcoming years, the KB will further expand the content in the international e-Depot. It already has agreements with many of the top 70 publishers in the world and shall endeavor to conclude agreements with the remaining companies in this group. With this the e-Depot has the ambition to hold about 80% of the scholarly literature.

Stakeholders

The risk and impact of losing access to e-journals may vary from institution to institution and from title to title, but it is nevertheless a generic problem. Every academic institution needs to ensure that their researchers and students have continuous access to the materials they require in order to do their work. Although libraries can safe money by switching to e-only, any e-journal preservation process needs investments. It takes huge investments in infrastructure, systems, staffing, storage, maintenance and management. Benefit can be found in co-operation and shared services. Setting up and managing a preservation system is a complex and costly undertaking which requires a sustainable infrastructure, continuous research and development and well-trained staff. So there is a pressing requirement for trusted and internationally accepted repositories focused on archiving and preserving e-journals, which are independent of publishers, and which offer solutions which can safeguard content while sharing costs between libraries and publishers equitably. The international e-Depot protects libraries investments in e-content, assures long-term access to e-content and provides a guarantee against the potential loss of access to one of their important digital collections. It also allows libraries to eliminate parts of their print collections and to free up shelf space.

By participating in an e-journal archiving solution, publishers are able to meet library demands for a trusted digital archive. Participation also will reduce costs for current or future internal archiving activities and preservation actions.

Concluding

Guaranteeing permanent access to digital information is very expensive. As libraries are facing increasing pressure on their budgets and funding, it is of great importance to spend the scarce budgets as efficiently as possible. Co-operation is essential, each organisation starting from its own role and responsibility in the information chain. In sharing budgets, sharing services and sharing knowledge, libraries and publishers can safeguard the scholarly information for future researchers and students. The KB has invested a great deal in order to take its place within the research infrastructure at European level and the international e-Depot will serve as a trustworthy digital archive for scholarly literature.

References

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Author Biography

Marcel Ras is Programme Manager for the International e-Depot at the KB. As programme manager he is responsible for the development of the international e-journals archiving programme of the KB. Until September 2011 he was head of the e-Depot Department of the national library of The Netherlands (KB) and in this function responsible for the e-Depot operations. He received his M.A. degree from Nijmegen University in the fields of Ancient History and Archaeology in 1992. After some of years of Archaeological field survey in different countries, he joined the Post-Graduate training on Historical Information processing at Leiden University as Head and teacher of the training school. From 1999 to 2005 he worked as a consultant for the Digital Heritage Association and was involved in many digitization- and standardisation projects in The Netherlands. As of 2005 Marcel works for the national library of the Netherlands, first as project manager Web Archiving, and since 2007 as manager of the e-Depot department. Marcel is still involved in training and teaching at Leiden University in the field of digitization and digital preservation.