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### **Providing bibliographic access to archived online resources: the National Library of Australia's approach**

#### **Peter Haddad**

Technical Services Branch, National Library of Australia,  
Canberra, Australia

#### **Pam Gatenby**

Collections Management Division, National Library of Australia  
Canberra, Australia

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#### Introduction

Remote electronic resources (also referred to as online resources) are now recognised as an integral part of every nation's documentary heritage. Collecting institutions around the world are taking action to ensure these resources are known about and continue to be available to users of the future.

The challenges, from the collecting and bibliographical points of view, are considerable. The Internet is now an essential mechanism for the dissemination of information, and its growth has been phenomenal. Merely discovering what remote electronic resources are "out there" is in itself a major task made more difficult because legal deposit laws in most countries do not yet apply to this type of material. In addition, a large proportion of remote electronic resources are ephemeral and trivial in content, akin to many of the printed resources that have never been listed in national bibliographies.

#### Collecting and providing access to online resources

The National Library of Australia accepts that its national documentary heritage responsibilities extend to collecting and cataloguing Australian resources in electronic form. The Library has been selecting and

archiving significant Australian remote resources since 1996. These resources form the National Collection of Australian Online Publications (formerly called the PANDORA Archive and referred to in abbreviated form as the Online Collection). All resources in the collection, as with those in the print collections, are catalogued for the national bibliographic record.

The Library's approach to collecting remote electronic resources is selective because the sheer volume of information available on the Internet makes it impossible for one institution alone to collect comprehensively and to provide on-going access to a nation's resources. In order to extend the range of Australian online resources available for long-term access, the Library pursues a collaborative strategy involving partnerships with other collecting institutions.

The detailed selection guidelines used for building the Online Collection<sup>i</sup> attach primary importance to the "Australianness" of the resource and consider such characteristics as subject content, authorship, quality of information, long-term research value, and if a periodical, whether or not it is indexed by a recognised indexing service. In many ways the guidelines parallel the principles governing the traditional national bibliography, without the emphasis on place of publication, a characteristic that is problematic in the electronic environment.

A primary goal of the National Collection of Australian Online Publications is immediate access for people both within the National Library, at the partner institutions and throughout the country. Pending change to legal deposit legislation to cover electronic publications, the permission of the publisher is always sought and obtained before archiving. To date, most Australian online resources have been freely available, and there has been little resistance from publishers and creators to making copies of their publications available in the Online Collection. However, an increasing number of commercial publications are appearing. When a commercial publication is selected, the National Library negotiates with the publisher to determine access conditions that will not undermine the publisher's commercial interest. The agreed terms and conditions are recorded in administrative metadata that resides in the Digital Archiving Management System.

Following successful negotiations regarding permission to archive, the remote electronic resource is catalogued onto the National Bibliographic Database (NBD)<sup>1</sup> and also appears in the Library's own online catalogue providing an integrated approach to the Library's digital and non-digital information resources. A high level cataloguing record, constructed according to the *Anglo-American Cataloguing Rules*, and carrying several Library of Congress Subject headings, is created for each resource. Additional metadata needed to describe technical characteristics of the resources and to manage the archiving and preservation of them, is recorded in the Digital Archiving Management System. The URL for the publisher's site and a Persistent Identifier for the archived copy of the resource are provided in the catalogue record. (The National Library has developed its own persistent naming and resolving system.) The publisher's URL is always provided first, and search engines such as Google will always display the publisher's URL first. This is because this site may be more up to date, and it is better for users to go to the live site rather than the archived site, until the day comes when there is no alternative, and only the archived site remains.

### Bibliographic issues

Based on our experience with collecting and archiving remote electronic resources, the National Library of Australia considers traditional bibliographic control is still necessary in order to provide reliable and standardised access to the resources. Metadata provided by creators and publishers of the resources is of

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<sup>1</sup> The National Bibliographic Database is a national resource discovery service made available by the National Library through the Kinetica system. Around 1,400 libraries contribute bibliographic records for their holdings of library materials to the database.

varying quality and generally insufficient to support the level of access required for the national bibliographic record. Particular issues that the Library has encountered in applying the traditional cataloguing approach to online resources relate to the volatile nature of the resources and to the role or function of the bibliographic record.

Many remote electronic resources are static files or documents, but others are constantly changing and evolving. The rate of change on the web makes it difficult to give an accurate picture of evolving documents and websites through a single bibliographic record. At most, the bibliographic record can aim to record the characteristics of the site the time it was “collected” and catalogued and to be broad enough to avoid the need for regular amendments.

Applying the traditional bibliographic approach to remote electronic resources calls into question the role of the bibliographic record in this context. For instance;

- what should it describe and how does it deal with context when a part of a web site or a single document from the web site is collected;
- what additional metadata is required to describe the technical characteristics of a resource and other administrative information needed to access it on an on-going basis, and where should this data reside; and
- what is the role of the bibliographic record in facilitating persistent access to the resource described?

Providing persistent access to national resources in online form is an issue that national libraries need to deal with as a matter of urgency. The traditional model of a national bibliography is independent of location information. It can be assumed that the resources listed are obtainable in the national bibliographic agency or deposit library, or indeed in many other libraries, and a catalogue search will provide access. In the case of remote electronic resources the web address is vital information as long as it remains valid. The bibliographic record can have a role beyond recording what that address was at the time of cataloguing, to that of providing continuing access into the future through the recording of Persistent Identifiers applied to the resource by a national registration agency.

#### National Bibliography in Australia

The national bibliography has always had a resource discovery aspect as part of its role. As for print, resource discovery for remote electronic resources means structured services built on metadata, freely available to all, with some guarantee of authenticity and reliability. In addition, remote electronic resources require no mediation in their use. While libraries and national bibliographic agencies have an excellent record in providing centralised services, in the new electronic environment interoperability is a key factor to the future success of service provision.

At present the National Bibliographic Database (NBD) serves as Australia’s national bibliography and the National Library is planning to develop a specific interface to the Australian component of the NBD that will provide better searching functionality and more closely approximate to an online Australian national bibliography product.

The National Library is also exploring a model for a new national bibliography service that would combine access to traditional library-supplied bibliographic information with creator or publisher-supplied metadata, and that would also provide direct access to the content of online resources. Ideally this should be done so that the user accesses information from both sources in a way that is completely transparent.

It is proposed that this new bibliography service would harvest its data from two sources: the National Bibliographic Database and the National Resource Discovery Service, a national metadata repository of digital Australiana, which is still at the concept stage of development.

The National Bibliographic Database presently contains the following types of Australian data:

- Cataloguing data from libraries for a range of publications
- Cataloguing records for remote electronic resources archived by the National Library
- Digital theses records
- Cataloguing records from vendors including vendors of electronic resources and services

The Resource Discovery Service will contain the following types of data:

- Metadata from e-print archives
- Metadata from subject gateways
- Metadata from digital content services hosted by the National Library, the educational sector and the cultural sector

The Resource Discovery Service will use the Open Archive Metadata Harvesting Protocol to gather metadata from distributed repositories. It will support Dublin Core and its extensions, converting some MARC-based sources to Dublin Core for inclusion.

The result of this approach would be a national bibliography that is far more comprehensive in its coverage of remote electronic resources than a library-based model could ever be. It would also provide a single gateway for the user covering the national output in an integrated way, listing both physical format and online resources. The user could opt to select just print or electronic resources, or both. However, regardless of the technical feasibility of actually implementing the approach, many issues will need further investigation. These include the presentation of information from these very different sources, quality of the metadata gathered, consistency and reliability of coverage of the service, the need for authority files and navigation aids, and the need to indicate which of the resources are being archived for long-term access and where.

Faced with the many challenges associated with carrying out their national collecting and bibliographic roles in the electronic age, there is a pressing need for national bibliographic agencies to share information with each other. There is scope for some common decision-making on standards and technical issues in handling these resources. Finally, and perhaps most usefully of all, there is the need to re-examine the principles, requirements and role of national bibliography and bibliographic records in the electronic age.

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<sup>i</sup> National Library of Australia. PANDORA Selection Guidelines. Available online <http://pandora.nla.gov.au/selectionguidelines.html>