



Date : 09/06/2006

New frameworks for resource discovery and delivery: the changing role of the catalogue

Warwick Cathro
 Assistant Director-General, Innovation
 National Library of Australia

Meeting:	102 IFLA-CDNL Alliance for Bibliographic Standards ICABS
Simultaneous Interpretation:	Yes

WORLD LIBRARY AND INFORMATION CONGRESS: 72ND IFLA GENERAL CONFERENCE AND COUNCIL
 20-24 August 2006, Seoul, Korea
<http://www.ifla.org/IV/ifla72/index.htm>

Abstract

There is currently a lively debate about the role of the library catalogue and its relationship to other resource discovery tools. An example of this debate is the recent publication of a report commissioned by the Library of Congress on “the changing nature of the catalogue”

As part of this debate, the role of union catalogues is also being re-examined. Some commentators have suggested that union catalogues, by virtue of their size, can aggregate both supply and demand, thus increasing the chance that a relatively little-used resource will be discovered by somebody for whom it is relevant.

During the past year, the National Library of Australia (NLA) has been considering the future of its catalogue and its role in the resource discovery and delivery process. The review was prompted, in part, by the redevelopment of the Australian union catalogue and its exposure on the web as a free public service, badged as Libraries Australia.

The NLA examined the enablers and inhibitors to proposition “that it replace its catalogue with Libraries Australia, as the primary database to be searched by users”. Flowing from this review, the NLA is aiming to undertake a number of tasks to move in the medium to long term towards a scenario in which it could deprecate its local catalogue.

Introduction

In March this year the Library of Congress released a report, prepared by Karen Calhoun, entitled *The changing nature of the catalog and its integration with other discovery tools*¹. The report made these pessimistic statements about the future of the catalogue:

Today, a large and growing number of students and scholars routinely bypass library catalogs in favor of other discovery tools.... The catalog is in decline, its processes and structures are unsustainable, and change needs to be swift.

The Calhoun report identified four approaches to extending the life-cycle of the research library catalogue. The most radical of these approaches was labelled “Find new uses and new users”. One of its strategies was “building the necessary infrastructure to permit global discovery and delivery of information among open, loosely-coupled systems (e.g., find it on Google, get it from your library)”.

The report also commented on the role of union catalogues:

Some influential library and information science professionals are beginning to suggest relying more on state-wide, national or global aggregations of catalog data for discovery, and using library ILSes [integrated library systems] as a middle “switching” layer to enable delivery.

A few weeks later Thomas Mann, on behalf of the Library of Congress Professional Guild, published a critical review of the Calhoun report². The Mann Review criticised its “business model” approach, its recommendation to eliminate Library of Congress Subject Headings, and its focus on fast turnaround in cataloguing.

During the past year, the National Library of Australia (NLA) has also been considering the future of its catalogue. NLA’s focus has not been on the issues identified in the Mann Review. Rather, it has been on the role of the catalogue and the local library system in the resource discovery and delivery process.

The NLA review took as its point of departure a paper by Judith Pearce entitled *New Frameworks for Resource Discovery and Delivery*³. In her paper, Pearce notes that users may discover a book through a search engine (such as Google Scholar), through another web service (such as Amazon) or through a union catalogue service (such as WorldCat, RedLightGreen, or *Libraries Australia*) rather than through a library catalogue. The increasing tendency of users to prefer such discovery pathways to the library catalogue was stressed in the Calhoun report.

This trend towards alternative discovery pathways does not mean that the local library system (as opposed to the local catalogue) has lost its relevance in the resource delivery process. Rather, as Pearce asserts, a user who has discovered a resource through such alternative pathways may wish to interact with a local library system in order to complete the process of gaining access to that resource through a library. Pearce also asserts that the user may prefer to complete the workflow within the original discovery interface.

The role of the union catalogue

In her paper, Pearce makes the following comments on union catalogues as an initial discovery service:

A recent survey by the Research Libraries Group showed that institutions prefer to target their own catalogues, rather than union catalogues, in their metasearch services. This reflects an economic reality: the need to limit access to union catalogues in order to keep search costs down; and to restrict lending services to library patrons and interlending services to privileged groups within this class. But it also results in a paradox. Libraries enable unmediated access to the world's journal literature through indexes and databases but give priority to their own collections when it comes to the discovery and delivery of books and other non-serial items.

Union catalogues are still a missing part of the service framework. In order to realise the benefits of the significant investment libraries have made in these tools over the years, they need to be promoted as a primary means of access to wanted resources in library collections.

The discussion about union catalogues has meshed with recent discussions about “the long tail”. This concept was described by Chris Anderson in *Wired Magazine*⁴:

Unlimited selection is revealing truths about what consumers want and how they want to get it in service after service People are going deep into the catalog, down the long, long list of available titles, far past what's available at Blockbuster Video, Tower Records, and Barnes & Noble. And the more they find, the more they like. As they wander further from the beaten path, they discover their taste is not as mainstream as they thought

Commenting on this article, Lorcan Dempsey observed that the network environment has the capacity to aggregate both supply and demand, thus increasing the chance that a relatively little-used resource will be discovered by somebody for whom it is relevant. In such an environment, Dempsey said, “fewer but larger pools of metadata to support discovery would help”⁵. The union catalogue is a good candidate for such a “larger pool”.

The NLA's review

The NLA currently provides its online catalogue through its local library system which is based on the Endeavor Voyager software. The NLA also provides a national union catalogue known as *Libraries Australia*, which records the locations of more than 40 million resources held in more than 800 Australian libraries. A new free web search interface to this national union catalogue was released in February this year.

The NLA's review defined a number of assumptions, among which were:

- The NLA will continue to use Voyager to underpin workflow operations in acquisitions, cataloguing and serial check-in
- Users should be able to find all relevant resources that can be made available to them whether or not the resources are in the NLA's own collections
- Users need to know whether they are searching the NLA's collections only or all Australian library collections, and users need to be able to limit or expand the scope of what they are searching

- There is a need to offer users a primary or “default” search target
- Most people prefer to use the Google-style search interface that *Libraries Australia* offers
- Users want an easy-to-use requesting interface. They should be able to request items, order copies and monitor their requests and orders through a simple, easy to use and effective process, similar to the “Where’s my stuff?” feature in Amazon.

Enablers

In its review, the NLA examined the proposition that it replace the NLA catalogue with the Australian union catalogue (*Libraries Australia*) as the primary database to be searched by users. The fact that it manages the national union catalogue, and has a large degree of control over its software, gives the NLA a rather unusual opportunity to consider such a proposition.

The NLA identified a number of “enablers”, or benefits, associated with this proposition. These included:

- Users would have access to a wider pool of library resources, including the national distributed collection of Australian resources
- The Australian union catalogue is now available as a free search target
- All the records in the local catalogue are in the union catalogue
- The union catalogue now has better functionality (including ease of search, personalisation, alerts and getting processes) than the library catalogue
- The NLA has the ability to further improve the union catalogue functionality; and
- The NLA has an opportunity to enhance the user’s experience through integration of the union catalogue interface with other discovery services.

Inhibitors

The NLA also identified a number of “inhibitors”, or barriers, to achieving the proposition.

The first inhibitor is the inadequate inter-operability between the union catalogue (or other web service used as the discovery pathway) and the information in the local library system. If users of the union catalogue discover a resource of interest to them, they may wish to borrow or consult that resource through a library that they are entitled to use. If the resource is held by such a library, what do they do? To begin with, they need to be able to access “detailed holdings” information. If the resource is a serial, does the library have the issue they need? If it is a book, is there a copy available for loan or consultation?

There are two ways of allowing the user to access such detailed holdings data. One is to “deep link” from the union catalogue to the local catalogue: that is, take the user from the record in the union catalogue to the same record in the local library system. The users may experience a rather ugly interface transition, but they will be able to access the data. Union catalogues such as WorldCat, RedLightGreen and *Libraries Australia* have been constructing such “deep links”.

Quite a lot of work is involved for union catalogues and other discovery services to build and maintain such “deep catalogue links” and even then, as we have observed, the user experiences a rather unsatisfactory interface transition. A better long term way to tackle this problem is to develop a standard web services protocol through which a discovery system will pass a request to a local library system for detailed holdings information, and receive this information in a standard format. There is already a protocol and schema (the Z39.50 Holdings Schema) developed for this purpose ⁶. And there is an alternative option, through the process which has commenced within ISO Technical Committee 46 to develop an XML Holdings Schema ⁷. To achieve the inter-operability we need, local systems will need to be enhanced to support either of these protocols and schemas.

Once users have ascertained the availability of a copy of the resource, they will need to request or reserve that item in their library, and to monitor the status of that request. Here, too, a standards based approach should be possible. There is already much discussion in the standards community about the need to develop a simple, stateless protocol that would carry a request between systems and also allow one system to query another system about the status of a request. Some agencies are already experimenting with OpenURL or a web service for this purpose.

The NLA has approached Endeavor concerning the need for a standards based solution to this inter-operability problem. The NLA has also raised this matter in relevant standards forums.

A second inhibitor to the proposition (that the NLA replace its current catalogue with the Australian union catalogue as the primary database to be searched by users) is the potential for user confusion about what they are searching. Will users be sufficiently aware of when they are searching the NLA collection and when they are searching the nation’s collection? The union catalogue interfaces must present these choices clearly to the user, and must be capable of applying a “held in my local library” search limit in a straightforward way.

As a related issue, the user may be confused by the large number of hits and any multiple or duplicate records in the union catalogue. The best way of addressing this inhibitor is through quality control in the union catalogue (often a challenging task, especially when much of the content is batch loaded from local systems) and through good “clustering” of result sets, including clustering of variant editions and versions.

A third inhibitor is that the union catalogue may lack some important data which is held in local catalogues. This “institution specific data” may, for example, describe copy-specific information or local information about formed collections. Another example is represented by the links to record sets which are purchased by local libraries. Due to the licence conditions associated with particular record sets, linking URLs for these sets may be permitted in a local catalogue but not in a union catalogue. In such cases it may be necessary for the union catalogue service to limit the use of these links to users from authorised institutions.

The future

The NLA is aiming to undertake a number of tasks to move towards a scenario in which it could deprecate its local catalogue in favour of the Australian union catalogue. The NLA will:

- encourage standards bodies and local system vendors to develop and implement standard protocols to support (a) the exchange of detailed holdings information and (b) exchange of requests and request status information;
- examine and if possible implement mechanisms for storing and managing institution-specific data on the Australian union catalogue;
- as part of the above, examine the feasibility of including linking URLs for licensed collection sets in the union catalogue, but with access controls that would limit its use to users from authorised institutions;
- change the interface under the “Catalogue” area of its web site, so that the user is presented with a clear choice of searching the nation’s libraries, or searching the NLA collection only;
- make improvements to the presentation of results sets in the union catalogue to support relevance ranking and result clustering; and
- continue to improve the quality of data in the union catalogue.

Conclusions

During the past year, the National Library of Australia has been considering the future of its catalogue. The NLA’s focus has been on the role of the catalogue and the local library system in the resource discovery and delivery process.

The NLA has identified a case for a medium term project to change the way that users search the NLA collection and the nation’s collections. One motivation for such a change is the increasing trend for users to discover library resources through services other than the catalogue. Another motivation has been the recent redevelopment of the Australian union catalogue, with its easy-to-use interface and its linkages between the finding and getting functions. The NLA wishes to make the union catalogue an important part of the resource discovery process for the Australian public.

The NLA has examined the enablers and inhibitors to “replacing the NLA catalogue with the Australian union catalogue as the primary database to be searched by users”. As a result of this analysis, the NLA has defined a possible project which would allow it to deprecate its local catalogue in favour of the Australian union catalogue.

References

1. The changing nature of the catalog and its integration with other discovery tools. Prepared for the Library of Congress by Karen Calhoun. <http://www.loc.gov/catdir/calhoun-report-final.pdf>
2. Mann, Thomas. The changing nature of the catalog and its integration with other discovery tools. A critical review. <http://>

3. Pearce, Judith. New Frameworks for Resource Discovery and Delivery.
<http://www.nla.gov.au/nla/staffpaper/2005/pearce1.html>
4. Anderson, Chris. The long tail.
http://www.wired.com/wired/archive/12.10/tail_pr.html
5. Dempsey, Lorcan. Libraries and the long tail. D-Lib Magazine, April 2006.
<http://www.dlib.org/dlib/april06/dempsey/04dempsey.html>
6. Z39.50 Holdings Schema. Version 1.4, November 2002.
<http://www.loc.gov/z3950/agency/defs/holdings1-4.html>
7. ISO Technical Committee 46, Subcommittee 4. New work item proposal. Schema for holdings information.
http://www.unt.edu/xmlholdings/Resources/N529_Holdings_Schema_NWI.pdf