UNLOCKING THE INFORMATION GATEWAYS:
new models of collaborative library service

Earle Gow
La Trobe University, Melbourne

in collaboration with
Edward Lim
La Trobe University, Melbourne
and
Doreen Parker
Victoria University of Technology, Melbourne

ABSTRACT

There have been a number of significant cooperative and collaborative initiatives undertaken by Australian academic and research libraries in recent years. Evidence of genuine cooperation and collaboration between several academic libraries has now become a prerequisite for success in grant applications. Furthermore the Strategic Plan of the Council of Australian University Librarians (CAUL), which covers all 38 Australian university libraries, is based on cooperative action and collaborative solutions.

The paper will allude to some recent projects that demonstrate the above, but will focus on the Australian Academic and Research Library Network (AARLIN) Portal Project, supported by the Australian Research Council, 20 Australian university libraries and the National Library of Australia. Its principal aim is to develop a structure and framework for providing unmediated, personalised and seamless end user access to the analogue and digital resources of Australian university and research libraries from workstations of research staff and students.

INTRODUCTION

Library co-operation has long been regarded as a distinguishing feature of the profession. Michael Keller, the University Librarian and Director of Academic Information Resources at Stanford University Libraries, attributes this to what he terms "the genetic imprint for service" that is a defining characteristic of librarians. Yet this may not always have been the case. Another distinguished American librarian, James Skipper, was once moved to observe that "librarians genuflect at the altar of co-operation, only to go away and sin again". Anecdotal evidence can run either way.

In Australia there has been a strong tradition of co-operation across all sectors of the profession. To an extent this has been facilitated and assisted by formal structures which encourage such behaviour. Inspite of the keen competitive environment in which the Australian higher education sector finds itself, university libraries have maintained a strong pre-competitive approach when developing and delivering services to clients.

At a planning meeting of the Council of Australian University Librarians (CAUL) held in Hobart, Tasmania in March 1999, representatives of Australia's 38 universities examined a number of issues confronting university libraries and discussed strategies and actions that might be adopted to address them. Unsurprisingly, many of these issues were specific to the Australian higher education environment. There were, however, others that transcended national pre-occupations and were global in their implications. These included concern over the 'crisis' in scholarly communication, which increasingly saw what a colleague aptly referred to as the "commodification of information". The convergence of the commercialisation of the Internet and the "trading of content," resulted in acquisition and mergers of publishers and consequential threats to affordable scholarly information.

Also of concern was the increasing difficulty experienced by library users of academic and research libraries in accessing the diverse range of information resources in a variety of formats from a large number of differently organised collections and databases with different and sometimes idiosyncratic access protocols. The need to develop improved discovery and access 'tools' or mechanisms became a high priority. In all no fewer than 35 actions were identified under the following four broad Goals:

- maximising access to information resources and services
- transforming the current scholarly communication system
- promoting continuous improvement in university libraries
- advocating effective policies and an appropriate legal and regulatory environment

However, it was the suggestion from Professor Edward Lim, then University Librarian and Adjunct Professor in the Faculty of Information Technology at Monash University which attracted most attention. This was a proposal to research and develop an architecture using portal technologies, which would integrate the various library resource sharing services so that users would have an integrated view of the information resources available in collaborating libraries. The development of this interesting concept was assigned to a group of CAUL members and subsequently promoted at a number of forums, including joint meetings of CAUL and the Council of New Zealand University Librarians (CONZUL). Inspite of some initial scepticism from within the ranks of CAUL, specifications for AARLIN were developed. Funding support was provided by 19 universities, the National Library of Australia, and a A$250,000 grant from the Australian Research Council, of the Australian Academic and Research Library Network (AARLIN) for the prototype to commence. During reciprocal visits by CAUL to the UK in early 2000, meetings with senior staff at the UK office of Library and Information Networking (UKOLN), where complementary work was being undertaken in the UK to implement a Distributed National Electronic Resource (DNER), proved to be of mutual benefit. The subsequent release of the ARL White Paper 'The case for a Scholar Portal to the Web' confirmed the significance and far-sightedness of the AARLIN portal project and led to dialogue between the AARLIN project team and ARL Scholars Portal project staff in 2001.

The aims of the AARLIN project.

The long term vision of AARLIN is to develop, in a coherent way, a national virtual research library system that will provide unmediated, personalized and seamless end user access to the analogue and digital resources of Australian university and research libraries from workstations of research staff and students. To achieve this vision an organizational and technical framework is being developed to manage the information environment in a consistent way so that all the key stakeholders involved (library and information technology staff, data providers and systems and software providers) have a common understanding of the necessary components and standards for inter-connection.

One of the keystones of AARLIN infrastructure is the national portal with context-sensitive and open reference linking software which will permit researchers, once authenticated, to:

- access a context-sensitive and "standardised" search interface and undertake concurrent searches of electronic databases, web sites, online library catalogues and other electronic information resources;

- pass appropriate metadata for an unmediated document delivery request and generate a document delivery request, if required;

- access a range of appropriate or extended services (including deeplinking to full-text where available) using context sensitive reference or OpenURL linking software;

- personalise their search "environment", including access to the information resources which are relevant to their research interests, the capacity for them to suppress and expand various resources presented to them as default, and the capacity for them to add their own bookmarks;

- have pushed to them the relevant "information landscape" or suite of information resources as determined by their authenticated user profile;

- establish or modify profiles and receive literature alerts informing them of newly available material matching the criteria specified.

It is also envisaged that in due course the services offered through the AARLIN portal will incorporate a payments system and a rights management system.

It is conceivable that AARLIN may acquire different modules, which meet aspects of the above functionality, from different vendors. It is therefore important that the modules will be interoperable with other modules within AARLIN. Software vendors tendering for the project have been asked to advise on the conditions under which each component is interoperable with other components.

The initial pilot project.

The first stage of the AARLIN project was to establish the proof of the AARLIN portal concept and for this to be done in the most cost-effective way. Selected vendors were provided with information on the scope of the initial project so that the availability of appropriate software could be identified and the usefulness of the portal to researchers assessed. The pilot was seen as a precursor to a later fully operational system for which the project would go out to tender for suitable software and hardware appropriate for that phase of AARLIN.

The software and hardware required for the pilot project was installed during 2001. Available portal software was evaluated for its functionality, cost and other features. Ex Libris' Metalib and SFX software was selected for the pilot project. A Sun server was installed at La Trobe University. The Australian Academic Research Network (AARNet) provides communication facilities for the project.

For the purposes of the pilot project a centralised authentication system was used. It is planned to develop "handshaking software" using XML which can communicate with the local authentication systems of participating universities for the operational service. In connection with this, a survey of the existing authentication systems is being undertaken jointly by CAUL and the Council of Australian University Directors of Technology (CAUDIT). One of the objectives of the survey is also to ascertain what additional profiling metadata may need to be added to the directory services used by the local authentication systems. Thus it is intended that the authentication systems will also provide the profiling data that can be used to "push" relevant research resources to the users.

It was decided to develop the portal, for the purposes of the pilot, in the major research areas of health sciences/medicine, engineering and humanities. Six of the twenty participating universities were selected for participation in the pilot project on the basis of their ability to provide library liaison staff and researchers in these research areas. The selected universities were La Trobe University, Swinburne University of Technology, Victoria University of Technology, Murdoch University, Flinders University and the University of Canberra.

A number of resources have been configured for access via the Metalib/SFX software. These include full text serial databases, indexing and abstracting databases, library catalogues, research information databases, web subject gateways and document delivery services.

The Metalib software is used to search resources in a range of subject areas. Searches can be made of multiple resources and searches can be saved. Users can set up a personal profile. Once search results are obtained, the SFX software is used to access the selected items online in full text format or via library catalogues or document delivery services.

At the commencement of the trial use of the AARLIN prototype a survey was conducted of researchers who were participants in the pilot project, to ascertain their perceptions of the service and

to assist in identifying potential areas for improvement when the operational system is implemented. The survey was conducted at the start of the project. A further survey will be conducted at the end of the project in order to compare researchers' anticipated use of the service with their actual use.

The results of these surveys will be analysed and reported to the Forum in July. Early indications of the utility and value of an AARLIN portal were sufficiently encouraging to warrant an application to the Australian Government Department of Education Science and Technology (DEST) to award the AARLIN project a further A$2.8million from its Systemic Innovative Infrastructure Scheme to continue the development of AARLIN along the lines of the long term vision outlined earlier in this paper.

This funding will enable the project to be expanded into a national service. It will involve further developmental work to upgrade the current software, implement authentication mechanisms, increase the target resources and develop the customisation and add e-commerce features. It is planned to undertake this in three stages.

a) Roll out the AARLIN facility to all participating institutions, using a devolved authentication and access mechanism based on AARLIN accepting pre-authenticated request tokens from trusted servers within member institutions.

b) Focus on resource usage tracking which will provide the basis for optimising the system's profile-based personalisation and system performance.

c) Develop a capability to distribute the optimised operating costs of AARLIN between the participating members on a usage-based policy to be agreed by the members and on e-commerce functions.

Present stage of development.

- The initial pilot phase will be completed by the end of June and an evaluation will be forwarded to the funding bodies and the participating institutions.

- An RFP for the next stage – the Operational Phase has been circulated to vendors expressing an interest in tendering for the project.

- An Evaluation Committee is in the process of discussing responses from each vendor prior to a short-listing of the two preferred tenders.

- The two top tenders will then be required to demonstrate their products against the specifications set down in the RFP.

- The Evaluation Committee will then recommend the preferred Vendor. This is scheduled to take place in early August.

Allowing for subsequent contract negotiations, possibly involving a partner relationship with the vendor in the development of additional required software, the roll out of the staged operational system will commence in early 2003.

Vendors have been advised of the requirement for as many as possible of the following components:

Enterprise portal facility which will allow each member of the AARLIN Consortium to direct sets of resources (or "information landscapes"), such as subject-specific lists of databases and web sites, to specific categories of users within their institution, and allow users to create a personalized workspace collecting together their most frequently used resources.

A simultaneous search gateway demonstrably capable of correctly searching, displaying and retrieving the appropriate records and information from diverse resources using the Z39.50, HTTP and other protocols via a uniform query interface.

An alerting, or Selective Dissemination of Information service, which can be configured by end users who wish to be kept informed of new resources (e.g. articles or books) in their fields of interest.

Seamless access to a document requesting facility for authorized users, including transfer of relevant user and item metadata.

Context sensitive linking software preferably following the OpenURL framework to provide end users with "extended" services such as linking:

- from a record in a citation database to the full-text described by the record
- from a record in a citation database to a document delivery service request

The capability of integrating with local authentication systems (including LDAP directories), which will contain appropriate profiling information enabling the respective institutions to "push" relevant information resources or information landscapes to their end users according to the user's profile(s) and the profiles of the group to which the user belongs.

Integration with IP-based authentication via Ezproxy web server and/or other mandatory proxy authentication systems.

Selective as well as comprehensive listings of available databases, catalogues, web sites and other electronic information resources from which users may make selections for frequent use.

While the AARLIN project, based at La Trobe University in Melbourne is seen as a major example of cooperation and collaboration among higher education libraries in Australia, the potential for extending its coverage to include the National Library of Australia, the State Libraries of the various Australian States and the main science research library of the CSIRO (Commonwealth Scientific, Industrial and Research Organisation) is also being examined. The recent announcement by the ARL in the United States, of the commencement of its Scholar Portal project, affords an opportunity for international collaboration in developments in this field. It is hoped that IFLA 2003 in Berlin will provide a forum for discussion and review of the utilisation of portals in the enhancement of library and information services.

This brief outline will be supplemented at the Forum by a report on the survey of participants of the AARLIN pilot project and ongoing developments in the transition from a 'proof of concept' trial to an operational system covering additional university libraries.

While AARLIN has concentrated on supporting researchers and research, there is scope for it to be extended to undergraduate learning as well. The attached diagram reflects the structure of the AARLIN and its functional elements.

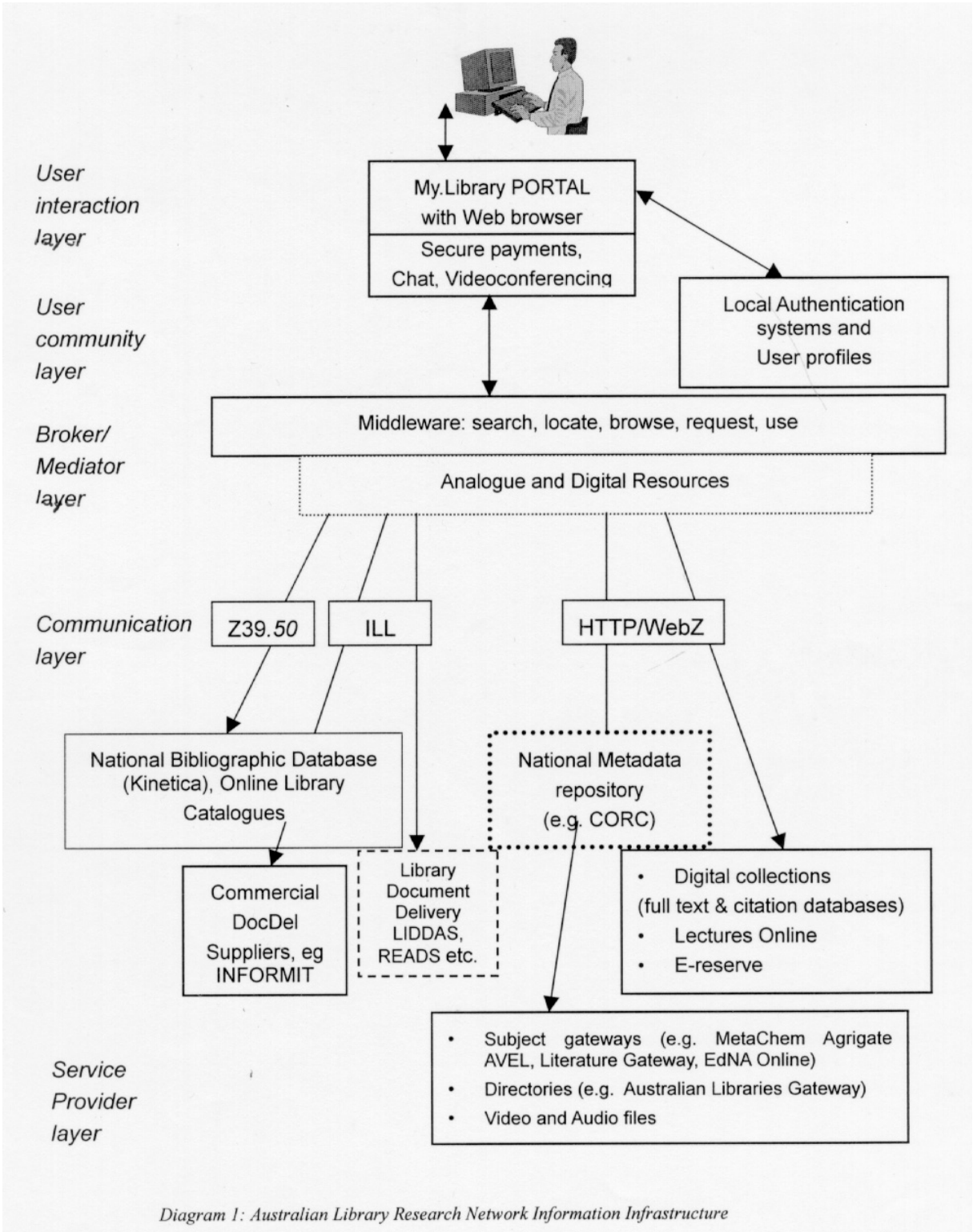

Diagram 1: Australian Library Research Network Information Infrastructure