Changing the face of interlibrary loans:
LIDDAS at Macquarie University

Kathryn Pearson
Manager, Serials and Document Supply
Macquarie University Library
kpearson@library.mq.edu.au

Abstract:

Academic interlibrary loan departments are facing a major crisis. Interlibrary loan Managers and their staff make use of a complex variety of automated and manual processes as workloads increase exponentially. With the current information explosion, customer requirements continue to escalate. However, the currency crisis and other factors have led to significant serial cancellations, therefore placing a greater strain on interlibrary loan departments.

This paper considers the current crisis in interlibrary loan departments and examines the LIDDAS (Local Interlending and Document Delivery Administration System) Project. The paper discusses what LIDDAS will deliver, and how it will be implemented at Macquarie University Library. The paper explores the effects that the implementation will have on staff, and the opportunities for enhanced levels of service to library customers.

Introduction

We live in the information age, where we are witnessing an explosion in technology, and where it frequently seems that everything is possible. In libraries, we have seen laborious and inefficient manual processes transformed, firstly by the automation of circulation functions, and then by the introduction of online catalogues. In recent years, the rapid development and expansion of Internet technology has led to the introduction of a myriad of new services that we are able to offer to our customers. Indeed, we could be forgiven for thinking that the sky is the limit!

Yet in most interlibrary loan departments around the country, and around the world, a plethora of systems are in use, all of which are usually held together by an unmanageable mountain of paper. Interlibrary loan departments are unable to manage the vast array of paper requests that need to be searched against an ever-increasing variety of databases and bibliographic sources. In libraries where some form of automated management of interlibrary loans does exist, systems are not integrated and communication between systems is fraught with problems.

It is abundantly clear that interlibrary loan departments have reached a critical stage. Those working in the area of interlibrary loans and document delivery will be well aware that it is an extremely busy area associated with high levels of stress. There is no doubt that the area of interlibrary loans has always been busy, and not subject to the same seasonal variations that other library services experience. However, over recent years, several factors seem to have compounded the workload problems. For several years now, libraries have been compelled to address the escalating cost of serial subscriptions, coupled with decreasing budgets. This situation has necessitated extensive serial cancellations and this factor alone has led to an increased number of interlibrary loan requests. Furthermore, in the last few years, electronic citation databases and the Internet have exposed library users to the existence of a much wider range of information, fostering a need for more and more interlibrary loan requests.

Libraries have been attempting to afford their customers some autonomy, and reduce workloads, by offering their customers access to unmediated document delivery. In most cases, unmediated document delivery has proved to be unsatisfactory, as there have been limited methods available to monitor cost, and to ensure that the customer checks library holdings before requesting a document through an unmediated service. As Debbie Orr and Margaret Appleton revealed in their evaluation of the Researchdoc project at Central Queensland University Library, "In 1995, 10% of documents ordered could have been retrieved locally and the same percentage was reached in 1997".[1]

The LIDDAS project aims to address these issues, both by providing an automated in-house management system and by providing gateways to information required by our customers. It is, indeed, an ambitious project.

---

[1] Orr and Appleton, p. 65.

What Is LIDDAS

LIDDAS (Local Interlending and Document Delivery Administration System) evolved out of the CILLA (Coordinated Interlibrary Loan Administration) Project, a feasibility study charged with the task of identifying requirements needed in the Australian interlibrary loan scene, and reviewing existing products to determine their suitability. CILLA project manager, Judith Greenaway, defined the CILLA model succinctly, describing it as "an environment where individual end users can access information resources, identify and locate relevant material, order selected material according to pre-defined rules and have that material delivered directly to them, regardless of the format, in a seamless, convenient process, with all the management processes, resource sharing negotiations, costs, labour and intellectual property rights taken care of behind the scene".[2] Whilst a suitable product was not found during the course of the CILLA feasibility study, the LIDDAS project was born out of the requirements identified by CILLA. The project, a joint initiative of the AVCC and the National Library of Australia, issued a request for tender in May 1997[3]. The successful tenderer was Fretwell-Downing Informatics, based in Sheffield, U.K. Support for the product in Australia is provided by Proteus, based on the Gold Coast.

LIDDAS is an interlibrary loan management system that is capable of managing the lifecycle of a request electronically, with no need for paper records. It is based on a Windows interface for use by library staff, known as the Vdx (Virtual Document Xchange), and a Web-based interface for use by library customers. Customers using the Web interface are able to search using a powerful Z39.50 search mechanism, and then turn their request into an interlibrary loan request. The LIDDAS system uses Ariel integration to deliver documents either to the requesting library, or more appealingly, directly to the desktop of the library customer. The system is based on the ISO 10160/1 ILL Protocol, much of the work for which was done in Canada. It is highly configurable, allowing for unlimited varieties in the way people choose to handle their interlibrary loan requests.

System Functionality

In a recent paper, Neil McLean provided a concise outline of the main functional features of LIDDAS. These include:

- web based client searching, requesting and monitoring of requests
- managing the end user relationship
- interfacing to local systems such as the local catalogue and circulation system
- linking with bibliographic and citation databases
- managing copyright arrangements
- facilitating site-configurable workflow management

---

[2] Greenaway, p. 49.
[3] Amos and Wells, p. 156.

- processing requests through applying local business rules which will automatically locate suppliers and route requests
- delivering electronic documents to document store
- providing linkages with directory services
- developing detailed reporting and statistics[4]

LIDDAS offers the opportunity for end users to place requests which can "be sent to the supplier if unmediated requesting is allowed"[5]. LIDDAS uses what can be termed "auto-mediation", employing much of the rationale behind unmediated requesting, but applying codified business rules to determine where the request placed by the library customer is sent, and also advising a maximum cost. The business rules are devised and put into place by the home library. LIDDAS could thus be configured to search holdings of the home library first, and only go outside if the document is not identified locally. Once it has been determined that the document is not held locally, the business rules put in place by the home library will decide what other sources are searched, and what costs are deemed to be appropriate. Staff will only need to handle exceptions, where, for whatever reason, a request comes back to the home library unfilled. Staff will then be able to intervene and make a decision about how the request should be processed. LIDDAS will also provide for full mediation of interlibrary loan requests lodged by library customers, if required, where library staff view and authorise every request.

Delivery of articles to the desktop of the customer offers the opportunity for significantly improved service. Documents will be delivered more quickly, without the need for library staff to be involved in physical processing and mailing of documents. When a requested document arrives at the home library via Ariel, it will be held in the LIDDAS document store. An email message will be automatically generated and sent to the customer, who will only need to go to the document store to retrieve the document.

For the end user or library customer, LIDDAS will become the primary information-gathering tool. In many instances, LIDDAS will replace the home catalogue or OPAC. Searching via LIDDAS will ensure not only that the home catalogue is checked, but also that an interlibrary loan request is created where the item is not identified locally. There will no longer be a requirement that the customer be concerned with trivial details such as checking the home library before placing a request. Indeed, although as librarians we have always been frustrated by the seeming inability of our customers to check local holdings before requesting material through interlibrary loan, it has always been a rather unreasonable expectation. LIDDAS will deliver a level of service to our customers to which they are not accustomed, but which they are entitled to expect.

LIDDAS will also manage copyright. At the present time, it is very difficult for libraries using any form of electronic requesting to keep track of copyright. However, LIDDAS will monitor the lodgment of copyright declarations submitted by customers, making the work of interlibrary loan staff much more manageable.

---

[4] McLean, October 1999.
[5] Amos and Wells, p. 159.

There will be linkages with directory services provided through LIDDAS, particularly that which the National Library hopes to develop. LIDDAS will also be able to provide detailed reporting and statistics, and will interface with Microsoft products to produce these reports.

The Relationship of LIDDAS to Kinetica

LIDDAS is primarily intended for use by large libraries with high-volume, complex interlibrary loan operations. It has always been understood that Kinetica Document Delivery will not "attempt to cover the complex range of functionality required for local interlending management in the university environment".[6] Kinetica will, however, provide adequate solutions for the smaller libraries.

LIDDAS libraries will need to depend on Kinetica for the provision of some services that are outside the scope of the LIDDAS project. The aggregated payment service provided by the National Library will be an essential component of the LIDDAS environment. The impact of the GST on interlibrary loan payments will provide an even greater imperative for well-managed payment services.

Furthermore, for LIDDAS to operate at an optimum level, it will need to have access to a well-developed national directory service. Amos and Wells point out that "The LIDDAS and the National Library share a vision of a more dynamic and distributed directory"[7]. LIDDAS will require much more than the information currently contained in the Interlibrary Loan Resource Sharing Directory. Effective "auto-mediation" will require information on costs and charges, service levels, reciprocal and other arrangements, and details on whether or not a library is supplying at a particular point in time. The National Library is committed to the further development of directory services.

The Wider Application of LIDDAS

At its most basic level, LIDDAS is an automated interlibrary loan management system. However, the fact that the architectural model underpinning LIDDAS is standards-based, using Z39.50, ISO ILL and Ariel integration, ensures that LIDDAS can have a much wider application that just an ILL management system. One of the original LIDDAS participants, University of Southern Queensland, intends to use the LIDDAS platform for the flexible delivery of distance education.[8] Conceivably, LIDDAS will be able to be used as a platform for many other services. LIDDAS offers a service model, using an open system to link customers, service management and resource discovery.

The fact that LIDDAS employs the Z39.50 standard will mean that it may, in some instances, replace the use of the local catalogue. It will be capable of searching several catalogues and

---

[6] McLean, Library Hi Tech, p. 257.
[7] Amos and Wells, p. 160.
[8] McPherson, 1997.

databases simultaneously, therefore producing a greatly enhanced hit rate, and then create an interlibrary loan request for an item which is not found locally. At Macquarie, we anticipate that all customers eligible to use the interlibrary loan service will search via LIDDAS rather than via the Library catalogue.

Technical Issues Requiring Attention

All libraries will need to give thought to links with their local architecture and legacy systems when implementing LIDDAS, and the issues will vary from one institution to the next. There are different models around, depending on the particular circumstances of the institution. We have already done quite a bit of work in this area at Macquarie, due to our involvement in the LIDDAS Project.

Several years ago, Macquarie University Library made a conscious decision not to add to our catalogue all titles of fulltext journals available through aggregated services. The decision was made after we went through the unenviable experience of having to remove numerous titles, both from our catalogue and from ABN, when we moved from one platform to another. In order to provide a way for our customers to find out what we did have available in fulltext, a list was developed on Wordperfect. The list was mounted on our homepage, and became known as JournalSearch. This database has since been moved to an Access database, and is used extensively by our customers to identify electronic holdings. However, it is not searchable via Z39.50. We realise that this will significantly impede the effectiveness of LIDDAS, and work is now underway to convert this database into an X500 database that is directory enabled. Neil McLean and Kerry Blinco are working on this as part of the PRIDE (People and Resources Identification for Distributed Environments) Project.[9] Macquarie University is the Australian partner in the PRIDE project, a European initiative consisting of nine partners.

Authentication, authorisation and access management are other key issues that will need to be addressed in the LIDDAS environment. For LIDDAS to be able to operate at maximum efficiency, we are going to have to be able to easily authenticate our users, establishing their identity, their status, and what services this status entitles them to access. We will also need to be able to link this authentication to authorisation, providing them with the means to access appropriate services. Access management will be essential if we are able to handle the wide range of services that are currently available. At Macquarie, we are hoping that the PRIDE Project will eventually offer some solutions. However, as Neil McLean has pointed out, "the sobering fact is that almost none of the infrastructure as outlined in the PRIDE scenarios exists, as yet".[10]

LIDDAS at Macquarie

At Macquarie University, all interlibrary loan requests are lodged via a form on the Library's homepage. However, because of the absence of a suitable electronic management system to date, requests are printed off and paper copies filed. There is an In-Progress drawer for requests that

---

[9] PRIDE project - October 1999 - http://lirn.viscount.org.uk/pride/
[10] McLean,, <u>Library Hi Tech</u>, p. 261.

have been actioned, a Pending drawer for requests which are awaiting further advice, and a Requester drawer with a copy of the request filed under the person's department. Process improvement strategies have reduced a considerable amount of the paperwork, yet nevertheless, the amount of filing is significant. When a customer makes an enquiry about the progress of his or her request, it is often difficult to locate the request, as it can be on anyone's desk while it is in progress. Staff in the Serials and Document Supply Department at Macquarie University, as elsewhere, are dedicated, committed and very hard-working. Few of them work only the required 35 hour week. At all levels, staff are working extended hours just to stay on top of their increasing workloads. We believe that the implementation of LIDDAS is vital to solve some of these problems. At Macquarie, we are looking at LIDDAS as a way of managing what is presently a cumbersome paper-based operation. However, in the longer term, we are also expecting LIDDAS to allow us to offer a greatly improved, more streamlined service to our customers.

Implementation Issues

As one would expect with the introduction of any new technology, there will be many issues that need to be confronted with the implementation of LIDDAS. At Macquarie University Library, we have given the matter much thought. As stated, we are faced with some technical issues that need to be resolved in order to attain the maximum benefit achievable through LIDDAS. We also believe that LIDDAS will present significant change for our staff. Their jobs will change dramatically and rapidly. It is imperative that staff are well prepared for such change and we have concentrated our efforts on this over the past 12 months. We have endeavoured to keep staff informed about LIDDAS developments, and this has been the topic of conversation at many of our staff meetings. Staff have been encouraged to express their concerns and indeed, we have become aware of significant concerns. Staff, understandably, fear for the safety of their jobs, and some are concerned about their ability to cope with the new technology. Training and the deliberate raising of skill levels will greatly assist. The time ahead will be challenging, and we are ever mindful that "companies in a strong change mode never stop evolving; managing changes effectively lays the groundwork for future initiatives".[11]

Training

LIDDAS is a powerful system, and therefore highly complex. The "auto-mediation" facility, a major feature of LIDDAS, will require extensive planning and a highly thoughtful approach on the part of library management. Considerable judgment will need to be executed when deciding on how the parameters are to be set up, and staff will need to be skilled in configuring LIDDAS to achieve the maximum benefits.

Staff will need to be highly trained in the complexities of the system to be capable of ensuring the required outcomes occur with the use of the system. The introduction of Kinetica Document Delivery in the latter part of 1999 has provided staff with some insight into what to expect of LIDDAS, as the systems are devised from the same original software. Staff are now familiar

---

[11] Ettorre, p. 8.

with the terminology used in the ISO ILL protocol. However, significant learning curves are expected. Particularly for staff where much of their job in the past has involved physical processing, there will be a gradual requirement for skills enhancement, as staff move from a paper-based environment to one that is managed electronically.

Interlibrary loan staff will be dealing with exceptions, rather than with the easier, more straightforward requests. Although there may be fewer staff in the LIDDAS environment, they will require a high degree of skill. As processing work is reduced, there will be fewer repetitive tasks, and a greater reliance on staff expertise.

Reduction in Staffing Levels

With the opportunity for Ariel integration and the increased ease of direct desktop delivery to the customer, there will be fewer journal articles needing to be physically placed into envelopes and mailed to customers. Staff now employed to process photocopies and send them out in the internal mail will eventually find there is less work to be done. There will be no need for filing. Furthermore, as staff deal with exceptions rather than all interlibrary loan requests, it is anticipated that fewer staff will be required for bibliographic searching and ordering of documents. Obviously, this reduction in workloads will occur gradually, as the full implementation of LIDDAS will take some time, with staged enhancements. However, it seems clear that there will eventually be a reduction in the number of staff required, although we sincerely hope that this will be achieved over time and through natural attrition.

Marketing LIDDAS to our Customers

The success of LIDDAS will depend very much on how well it is accepted by our customers. At Macquarie, we have experienced varying degrees of acceptance as we have introduced new electronic services. Some welcome the convenience that electronic services offer, whilst others who are less technically adept have clung to the older print-based services. With this in mind, we have tried to prepare our customers for the implementation of LIDDAS. We have placed information about LIDDAS on our homepage, and this has generated some interest. At the beginning of 1999, we stopped accepting hand-written interlibrary loan requests and asked all customers to submit their requests on our Web-based forms. The aim was to familiarise our customers with electronic requesting well before the introduction of LIDDAS. Surprisingly, this move was very well received and we have had few complaints. We had expected a few of our academics to insist on lodging hand-written requests, and we were prepared to accept these until the introduction of LIDDAS, but the need has not arisen.

We are already advertising the introduction of LIDDAS more aggressively to ensure that our customers are aware of impending changes. We intend to conduct training sessions for our customers to introduce them to LIDDAS and to assist them with getting started. We are well aware that our customers will require an understanding of how LIDDAS works to ensure that they gain the optimum results. One only needs to review a batch of requests presently received to realise that "auto-mediation" will have no chance of being applied successfully unless our customers understand the importance of adequate referencing, correct spelling and correct typing. We view these issues as challenges which we must embrace.

We intend to work initially with a small group of our customers, whilst we pilot the new system. Once we are satisfied that LIDDAS is working as expected, we will go live with the new system, involving all our customers. We intend to hold a launch and give the new system much publicity. It is very important to us that our customers become our partners in this new endeavour.

Rethinking our Enterprise

Changes won't happen overnight, of course. However, we are expecting significant changes in the nature of our interlibrary loans department over the next few years. We believe that we will need fewer staff, but with a greater degree of skill. This is a common issue to be dealt with whenever significant change occurs. At Macquarie University, we would prefer to have our staff utilised in offering services that our customers need, rather than busying themselves with tasks that can be dealt with more effectively and more efficiently electronically. We are focusing on multiskilling as a means of preparing our staff for different and more varied roles in the future.

We are aware that we will need to re-think our enterprise, as we continue to refine our services in the LIDDAS environment.

The Future of Document Delivery

One could be forgiven for wondering whether document delivery as we know it does still have a future. Indeed, in the long run, it may not. The continued development of fulltext databases means that customers are not just being presented with citations as they were in the past, where the article needed to be tracked down and requested on interlibrary loan if not held locally. Customers are now being presented with fulltext articles, and in many cases, this is the end of the search. Furthermore, products such as Elsevier's ScienceDirect seem to indicate that the marketplace may eventually move toward document purchase rather than journal subscriptions. We may well see a time, in the not-too-distant future, when there is a much reduced need for document delivery, as libraries purchase access to platforms such as ScienceDirect, where the articles their customers require are available on demand, on a piece by piece basis.

Nevertheless, it seems possible to predict with some certainty that libraries will continue to manage for some time a hybrid service environment, where print and electronic information resources are required by our customers. There are vast repositories of print material in both monographs and journals that will continue to require access management by library systems. Fulltext electronic services for journal articles will continue to grow, however access management systems will still be necessary to handle the variety of business arrangements with service providers. LIDDAS has been designed as an open systems resource sharing platform which deals with access management for the discovery and recovery of both print and electronic resources. LIDDAS, therefore, is not dependent on any particular form of document delivery and, as such, is well placed to survive changes in distribution methods.

Furthermore, the architecture underpinning LIDDAS will ensure that it can be used as a service model for many other future enterprises.

Conclusion

As we have now moved into the 21st Century, we can no longer tolerate the lack of efficiencies seen in most large interlibrary loan departments. The implementation of LIDDAS will afford us the opportunity to reassess what we do, and provide a much better service to our customers. These are exciting times, and interlibrary loans is certainly a dynamic area to be involved in at the present time.

Bibliography

Amos, Howard and Wells, Andrew. "What a librarian should look for in a document access system: developing a new resource sharing infrastructure in Australia". In: <u>Document Delivery Beyond 2000</u>. Proceedings of a conference held at the British Library, September 1998, sponsored by the Joint Information Systems Committee (JISC) of the Higher Education Funding Councils, as part of its Electronic Libraries Programme (eLib). Edited by Anne Morris, Neil Jacobs and Eric Davies. London: Taylor Graham, 1999, pp. 150-162.

Ettorre, Barbara. "Change management". <u>Management Review</u> May 1996, p. 8.

Greenaway, Judith. "Interlending and document delivery: the way forward". <u>Vala98</u>. Conference Proceedings. Melbourne: January 28-30, 1998, pp. 39-55.

McLean, Neil. "The evolution of information resource sharing infrastructure: an Australian perspective". <u>Library Hi Tech</u>, Vol. 17, no. 3, 1999, pp. 256-264.

McLean, Neil. "Matching people and resources: authentication, authorisation and access management". October 1999. At: http://www.lib.mq.edu.au/McLean/Matching/

McPherson, Madeleine. "Practising the paradigm shift: real world experience of on-line support". Paper presented at: 2nd <u>International Symposium on Networked Learner Support</u>, 23-24 June 1997, University of Sheffield, England.
 At: http://www.usq.edu.au/library/homepgs/mcpherso/sheffield.htm

Orr, Debbie and Appleton, Margaret. "Management issues surrounding unmediated document delivery at Central Queensland University". <u>Vala98</u>, Conference Proceedings. Melbourne: January 28-30, 1998, pp. 57-65.

PRIDE project - October 1999 - http://lirn.viscount.org.uk/pride/

Rusbridge, Chris. "Towards the Hybrid Library". <u>D-Lib Magazine</u>, July/August 1998.
At: http://www.dlib.org