Document delivery - an idea whose time has gone?

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Abstract:

With the advent of new ILL and document delivery technologies it might seem that finally libraries are bringing their practices in this area into a successful focus. Networked and automated solutions to a long term controversial but cooperative activity are at hand.

But we are also seeing the rise of technologies which may bypass and marginalise libraries. Some are -

- *Preprint/reprint servers*
- *Self publishing by authors*
- *The threat of end use access to article level databases by end users linked to micro payments*

What role do libraries have as direct end user access grows? The paper explores these ideas. The paper will explore how libraries could cope with these developments.

Introduction

The title of this paper is a little tongue in cheek. While there is a possibility and indeed likelihood that much serial material will be available at article level across the network direct to end users and bypassing the library the need for libraries and librarians to assist with this process will remain. In addition the vast print collections of libraries will not be digitised in our lifetime and the need to provide access to them will remain and improved methods for doing this will be available.

This paper looks briefly at the developments which are under way with respect to -

- Document delivery
- Online bookshops
- Interlibrary loan software
- Article level access via electronic publishing
- Preprint/reprint services.

I then speculate on ways in which these services might be integrated into library catalogues both for monographs and serials.

Rapid Innovation

The advent of the Internet has seen a continual innovation in network-based techniques to assist interlibrary lending and document delivery. Network techniques in this country predated the deployment of AARNet in 1990 [1] with the use of email for requests, notably with ILANET [2,] this service being still active, particularly in NSW and now Internet based.

Ariel

While the use of email for ILL requests probably started fairly early in an informal way on the Internet the initial major innovation was the deployment of Ariel[3] software by the Research Libraries Group (RLG) to provide image transfer between libraries at a quality higher than fax and hopefully with as much convenience (although discussion on the ARIE-L list[4] indicates continuing difficulties). Ariel initially was configured to transmit images via tftp to the annoyance of network administrators who rightly regarded this as a security hole. Ariel was shifted to ftp and more recently to MIME email transmission. The background to this is in a different section of the paper, which discusses developments in Australia.

Document suppliers

Another early innovation was the UnCover service by the Colorado Alliance of Research Libraries. This took requests over the Internet for articles and delivered them via fax to requestors. I suspect the deployment of this service was a wake up call to a number of commercial firms and subsequently there are a large range of bodies which provide document supply at the article level.

There is now a wide range of general and specialist commercial document suppliers and it would be unproductive to list them all. There are numerous Internet sites which provide lists, for instance -

- Document Suppliers (Outside U.S.)
  http://www.docdel.com/Document_Delivery_Outside_US.html
- Full-Service Providers http://www.docdel.com/Full-Service_Providers.html
- Document Delivery Specialists
  http://www.docdel.com/Document_Delivery_Specialists.html
- Document Delivery Suppliers http://www.nnlm.nlm.nih.gov/pnr/docsupp/
- Just-in-Time(sm): Electronic Article Delivery Services
  http://www.public.iastate.edu/~CYBERSTACKS/Just.htm
- Document Delivery Sites: Pastel Programming Co.
  http://www.netins.net/showcase/trhalvorson/g-stuff/gs_dd.html
- Librarians' Resource Centre. Professional Development: Resources :Document Delivery and Tables of Content
  http://www.sla.org/chapter/ctor/toolbox/resource/page3.htm#docdel
- Yahoo Document Delivery
  http://www.yahoo.co.uk/Business_and_Economy/Companies/Information/Document_Delivery/

A variety of organisations tried to move into the exposed niche including publishers, indexing service suppliers, serial suppliers and new players. This proved to be a confusing and difficult area for the members of CAUL who tried to make some assessment of what was trialled [5] through the CAUL datasets program. Similarly there was much activity by libraries.

Publishers

The commercial journal publishers took some time to see that they would need to look to network delivery, and these still see it as a potential threat to the handsome profits some of the major publishers make. The serials costs crisis is out of scope for this paper, but its future is inextricably bound up with network delivery, and a number of factors are of significance.

- Commercial publishers have attempted to maintain their prices
- They have attempted to restrict redistribution of articles via contract law to get round fair dealing provisions of copyright
- Attempts to restrict fair dealing appear to have failed in the new copyright legislation except for the libraries of commercial bodies (Wodetzki [6] has provided an analysis), and ALIA and the Australian Digital Alliance [7] (ADA) are attempting to get these provisions changed.
- An International Coalition of Library Consortia has been formed to try to get publishers to follow reasonable practices and they have published a *Statement of Current Perspective and Preferred Practices for the Selection and Purchase of Electronic Information*. CAUL has produced an "Australianised" version.

A number of publishers are now offering online access to their serial titles at the article level although -

- The access limitations such as IP number limits cause problems
- The conditions on the maintenance of print subscription are restrictive
- The formats might require special software on the end user's workstation
- Lack of standardisation between publishers adds to support complexity

Meanwhile there is a much more radical shift to free access electronic publishing of serials of special interest "e-zines" and scholarly material associated with the tireless advocacy of Harnad [8]. Such free titles require no action from libraries as they are bypassed, other than the question as to whether entries should be included in the library catalogue for them or not. With most libraries now swamped with cataloguing maintenance caused by the continual rounds of serial cancellations there is little time for such activity.

Home page publishing by authors of papers published elsewhere is also a growing trend. It may well be that for a recent paper, if you have the email address of the author, or the URL of their home page, you can get direct access to their publications. For instance mine are at http://Tony-Barry.emu.id.au/people/tony/publications.html.

The growing number, and success of, reprint/preprint servers, of which the Los Alamos arXiv.org e-Print archive[9] is the most notable, will provide direct access to the conference and serial literature in many fields bypassing both the library and the publisher. This and the steadily expanding grey literature movement could well produce the interesting result that the informal literature will be more readily accessible than the formal which will be a boon for those without access to up to date research libraries. As the "serials crisis" expands this is likely to be true of all but the richest part of the world. It seems there is still scope for making money out of this as GreyNet [10]shows.

Aggregators

As the handling of electronic versions of serials has proved to be a headache for most libraries a number of aggregation services have arisen. Serial subscription agents have seen than a natural extension of their service would be to provide a network portal to the series of multiple publishers. Blackwell's Electronic Journal Navigator[11] (EJN) being an obvious example. An indexing service example would be the SilverLinker[12] service from SilverPlatter.

Libraries

The interest and activity of libraries in document delivery is obvious. Uncover which originated in the library world then was sold and had a series of commercial owners has now returned[13] to the CARL Corporation where it started.

Libraries and ILMS vendors have also created a variety of systems to manage interlending and document delivery. A check of the major search engines shows many examples.

- Kinetica has a document delivery sub-system[14], based on the Fretwell Downing OLIB VDX product[15], which is suffering series response time problems according to the Kinetic-l[16] list.
- The Victorians via CAVAL have CIDER[17] which has switched to LIDDA

- The Queensland Universities via QULOC[18] have REDD[19]
- NSW still has ILANET but has a major role in the development of LIDDA[20]
- OCLC , which some libraries have found to be an interesting alternative to Kinetica, has its ILL service [21]
- Innovative Interfaces Inc[22] is one of the many library vendors who have ILL modules. Their module is interesting in that it can interface between other Innovative libraries, the OCLC system and the British Library ARTTel[23] system.
- 74 sites in Britain use the Lancaster ILLOS System[24] and there are a number of innovative programs under the eLib banner, such as Documents Direct[25] at the University of Leeds and the SEREN[26] project.
- There are a number of stand-alone commercial products such as CLIO[27] and CPS' System's URSA[28] product.
- In Europe the UNIverse Project[29], sponsored by the European Commission's Telematics for Libraries 4th Framework Programme, is attempting to demonstrate a large-scale, integrated solution to the delivery of advanced library services and it includes an ILL component.
- At Yale the GNU Jointly Administered Knowledge Environment[30] (gnujake) intends to create a public domain system to access serial content information

Online bookshops

The advent of the many online bookshops, by giving facilities to rapidly locate material to be purchased, coupled with rapid delivery, also can affect the decision on whether to buy rather than borrow material. This affects not only in-print material, but also second hand sources, through such services as the aggregator Bibliofind[31]. The question of what is fair dealing with respect to the interlibrary lending of monographs is now more acute.

Where to from here?

Within this flux of activity and overwhelming choice where does an individual library go? There are coordinating bodies:

- The ARL North American Interlibrary Loan and Document Delivery (NAILDD) Project[32]. Interlibrary Loan Protocol Implementers Group[33] (IPIG). The group includes members from over thirty organizations and projects in the U.S., Canada, Australia, U.K., Singapore, Italy, India, and Sweden.
- The UK Forum on Interlending[34] provides more practitioner coordination and the Focused Investigation Document Delivery Options [35](FIDDO) project is a good source of information.
- In Australia the National Resource Sharing Working Group[36] has carriage of this issue and commissioned a paper, the Interlending Issues Discussion Paper[37], which concluded "*there is no recent empirical data on what is happening with the interlibrary lending system in Australia*" and recommended yet another in the long line of Australian ILL studies.

One element of light is that there seems to be a coming together at the international level and close attention being paid to the application of standards. The National Library of Canada supports the Interlibrary Loan Application Standards Maintenance Agency[38], which has a list of projects[39] using these standards. The European Commission's Open Information Interchange service maintains a list of Library Information Interchange Standards[40].

So what is the way to go in Australia?

The Australian Alphabet Soup

There is an alphabet soup of document delivery projects in Australia which engenders confusion. There is a convergence however towards a single of pair products. Those products are the Virtual Document eXchange (VDX) system produced by Fretwell-Downing and the Research Library Group's Ariel. The lead up to VDX went through a series of projects named variously LIDDA, LIDDAS and CILLA.

It is interesting to trace some of the history of these and, as I was a remote participant, I must confess to some degree of bias. In 1993 Carl Brewer, Steve Thomas and I wrote a paper[41] which we circulated around a number of lists suggesting that email was a better transport mechanism for scanned images rather than ftp as used by Ariel. Mostly the response was negative but in 1994 a group of QULOC libraries (University of Queensland, Griffith University and Queensland University of Technology) took up the idea and were awarded a grant for what became the REDD[42] project. The Work was done by Geoff Collins and others who greatly improved on the idea by making http (the www protocol) the delivery mechanism, and using the web for the interface. Those who use Ariel now, five years later, are seeing only now the addition of web delivery through Prospero[43] and similar interfaces.

In my view REDD was well in advance of anything else at the time. Yet it was criticised for lack of compliance with standards, notable the ISO ILL standards, the Generic Electronic Document Interchange standard[44] (GEDI) for file formation which Ariel uses. The latter is ironic for two reasons. Firstly Iris Radulescu at Monash for their EReserve program[45] had developed software to handle the multipage TIFF files similar to those envisaged in the GEDI standard. Secondly, although Ariel used the GEDI and FTP standard to communicate, the port usage and APIs appear to be quite idiosyncratic and undocumented.

With funds provided via DEETYA, initially coordinated at Griffith University where much of the REDD work was done, the AVCC and the National Library then undertook the CILLA project. This resulted in the transfer of funds to the Research Libraries Group to add email capability to Ariel, and a greater shift of funds to the UK based Fretwell-Downing group to develop their VDX product to meet the CILLA specifications. CILLA then became LIDDA and the opportunity to build a product based on innovative Australian work was lost. The phrase cultural cringe comes to mind.

In a period when the Open Source Movement is making inroads into even the Microsoft empire with Linux, and there are active developments in libraries listed in oss4lib[46], throwing funds into the private sector can be questioned. After all the central core value of the library profession are the free provision of information and cooperation.

So much for sour grapes. LIDDA is now the only game in town and it will link to Kinetica and the CAVAL CIDER system.

Online Bookshops and Interlibrary Loans

The Internet has expanded the scope for vertical integration of industries. In this context the emergence of Internet based bookshops, such as -

- http://www.amazon.com,
- http://www.altbookstore.com and
- http://www.coop-bookshop.com.au,

have the potential to have some interesting effects on monograph inter-library loans.

Libraries exist because books are expensive to buy and the organisation of large numbers of them is difficult. ILL systems exist because no library has the resources to acquire all that their clientele may wish to read. There are limitations on what might be lent though. Libraries exist for the purpose set down by their institution so they are unlikely to borrow books from another institution which are wildly outside their normal area of interest and do not contain content which bears some relationship to the purpose the institution served. Loans for purposes of amusement by patrons are normally discouraged for instance.

Fair use is another limitation which also constrains what might be borrowed. Libraries should avoid undermining the booktrade by their actions, and the interlibrary loan codes have suggested that borrowing material which is in print should be avoided. However finding what is in print and easily available is not as simple as just looking up the various books in print listings. While it may be listed it might not be possible to acquire it in a reasonable time. For these reasons surveys have shown that many interlibrary loans are for items which are in print and understandably publishers and booksellers have a right to feel that they may lose revenue by such practices. In the United States this has led to the CONFU[47] meetings on fair use, which have failed to resolve the differences between the library and the other two sectors.

Into this equation there arrives the Internet based bookshop. Suddenly we have a situation where.-
- Often similar discounts that libraries have been able to acquire in the past are available to the casual purchaser. Books are cheaper to the end users.
- Delivery can be rapid, and at a premium, very rapid. Delivery in a few days for anywhere in the world. In Australia, in the case of the Coop bookshop, you can arrange to pick the book up from the shop nearest you and avoid delivery charges. Delivery will normally be faster than that via interlibrary loan except perhaps for fast track loans.
- It is easy to locate books in the bookshop catalogues and find if a book is available and in some cases you can even find if it is on a given shop's shelves. Amazon for instance has many million titles in its database, more than all but a few of the biggest libraries. It is no longer hard to find if a book is in print. It can be done from the desk of the end user. They could also do it from within the library.

How do these changes affect what libraries do? Firstly let us take the case of books that are in print and available rapidly via electronic bookshops.

Interlibrary loans are costly in staff time for the two libraries involved. If the item sought fits into the collection policy it should be bought, as there is no longer a disincentive, such as delays by dealing through library suppliers, to purchase it. The fair dealing concept says we

should. If it does **not** fall within collection policy guidelines why borrow it at all? The user who needs it can acquire it quickly unlike what may have been the case in the past and has an alternative to the library if the item is required urgently and the library is unprepared to acquire it.

We might wish to make an exception for very expensive items but should libraries consider borrowing expensive items from other libraries outside the scope of their collections to satisfy an unusual request by the user? There are ethical considerations in involved in such use of the other libraries' resources in this way.

This has implications for how the library's services are presented across the net. If we are to promote fair dealing then the pages on our web server where we offer document delivery and ILL services should indicate that in-print material should be suggested for purchase, rather than borrowed, and have links to bookshop databases so that users can check the availability of material.

Should we not consider that the OPAC (web based of course) could be set up so that a search could be made for the same items in selected bookshops? Before anybody jumps to the conclusion that this requires a modification to the ILMS OPAC software, remember that potentially it can be done in Javascript so that it all happens on the end user's workstation after downloading from the host web site. The end users could devise their own interface independently of the vendor and the library. This is already happening[48].

In the end we are there to help the library clients with their information needs. Some we help directly, but in this way, by the provision of suitable tools, we can provide indirect help for clients to help themselves for those things which we judge to be out of scope.

The provision of guided access to bookshops from library services could be regarded as a conflict of interest, in that the bookshops so selected might gain a competitive advantage. So they will but -

- Libraries already provide access to selected web search engines which are operated on a commercial basis
- By accepting discount deals with some suppliers students are already put in a position where they are likely to purchase such services in the future eg Lexis for law students
- The interesting possibility of sponsorship exists, such as preferential access to an online bookshop service via the OPAC coupled with payment to the library or discounts for purchases made from the institution.

Some thoughts on Serials

The web-enabled library catalogue raises a wide range of new opportunities. One of them is ability to enhance online access to the content of journals by linking from a catalogue entry to the full text or a document delivery service for that journal. In the case of document delivery this would be done for titles that the library did not own rather than those that it did! This raises the question of what a catalogue is for. Is it an access tool to the library's holdings or material it has paid for or is it a more general delivery tool for information?

We are used to the situation where a library either owns material or the material is obtained from another library. In the case of journals this is in the form of photocopies. The advent of the network has made some changes in this approach, for instance the Ariel system. New opportunities are offered by services which give article level delivery via web access. Should catalogue entries be made for titles not held by the library with a URL link to a document delivery supplier or ILL service? Monash University Library has done this for instance with the MEADS[49] service.

To varying degrees libraries have been adding URL links in the OPAC to full text versions of journals via the 856 MARC tag. Users of the catalogue can then use a web browser to search, find the title, and then link to the full text. In this way the delivery of the text is integrated with the searching for the title. While the library then does not need to hold a hard copy version of the title concerned, we have seen that for many publishers access to the electronic version is conditional upon a print subscription. This can only be a transitional solution. At some stage all publishers will need to look much harder at solely electronic access to their serial publications.

It is possible to go further than this. A link from the record could be made not to the publisher, but to a document delivery supplier. This would be particularly valuable if the link was to a full table of contents service. The user of the catalogue could then link from the catalogue entry to a menu of the table of contents of the journal on the supplier's web server. There the required article could be located and transferred either direct to the browser, via email or through some other means. In this way a library would be able to provide an access service to journals that it did not hold. This can only be done if the service offers a stable URL to each title. Unfortunately existing services all appear to offer HTTP POST based services, where the search arguments are not encoded in the URL, or use state maintaining transaction variables, which change each session. A change in the way document delivery services are currently offered over the web might be needed. Ideally you would be able to access such a service via a URL of the form -

http://document_delivery_service.com/ISSN/123456789

where "123456789" would be the ISSN of the title.

A philosophical objection might be raised by some about whether it is appropriate to use the library catalogue to describe material not held by the library. The resolution to this is held in deciding whether the purpose of the catalogue is to deliver information or to describe information artefacts held by a library. An allied question relates to the use of the 856 MARC field. This is intended to indicate the location of an electronic document. The way I have described its use, it is being addressed as a mechanism one step removed from the location of the document. Definitional purists might feel that additional tags are required in the MARC record to allow for such alternate usage, although creative use of the $3 and $z subfields might be possible [50].

It is all very well to postulate such a service, but the labour of adding serial catalogue records is a significant cost to cataloguing operations. Is there an easier way?

A possible approach is described below.

- The library would supply the vendor with a list of their current serial holdings
- The vendor would match this against the titles they offer and supply the library with a list of titles the library did **not** hold.
- The library would then select the titles which interested them, indicating, if appropriate, differential subsidy options. That is, whether they wish to subsidise access to some titles for users from their institution or all of them.
- The vendor would then supply MARC records for the titles chosen with URLs to their service in the 856 field and the library would load them into its web enabled OPAC.

The end result is that the catalogue would contain records for additional serial titles of interest to the library's patrons, to which it did not to subscribe. There may be no subscription either because of the staff costs of checkin, binding, claiming etc or due to high subscription price or both. These entries in the catalogue would then provide direct user access to the contents of the journals.

The end users get easier access and hopefully cheaper access to titles which the library could not provide other than through laborious interlibrary loans services. On the other hand it could be used to make the moribund Distributed National Collection idea work. Participating libraries, which had contracted to hold certain titles, could provide freely provide MARC records with URL links back to their ILL service, and these records could be loaded into the catalogues of other libraries.

Musings and conclusions

As Pogo (Walt Kelly) said[51]: *We are confronted by insurmountable opportunities.* The increased vertical integration facing all industries which are trying to cope with the Internet suggests we will need to find closer and more effective means of relating to the other industries in the information supply chain.

There is scope, as we are seeing, for new kinds of intermediary information services. There is scope also for existing services to deliver information directly to end-users and bypass the library.

A number of things seem clear -

- Our print collections will not go away and we will need to provide access to them in some form
- Rapid adaptation to new services is essential if libraries are to remain relevant
- We need to question service models of the past, rejecting some and forming new ones. In some areas we may need to vacate document delivery, and in others facilitate access to quite different services than those provided in the past.
- There is a huge amount of creative effort being addressed to this problem with increasing amounts of coordination.
- In the serials area there is a convergence between electronic publishing, document delivery and indexing database, which have a poor fit with the traditional modes of library organisation and catalogue service.

May you live in interesting times. So says the Chinese curse. In Chinese I believe the word crisis is written with two characters. One symbol represents danger, the other opportunity.

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