RapidILL: an enhanced, low cost and low impact solution to interlending

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Abstract
Purpose – The paper aims to provide an overview of the RapidILL requesting system and describes its operation and the benefits derived by its users, including significant cost savings through elimination of various fees, expedited processing, maximum use of a library’s own print and electronic journal holdings, and dramatic reductions in the amount of staff time required for processing interlibrary loan requests.

Design/methodology/approach – This paper takes the form of a general review and is written by developers with first-hand knowledge of how the system works.

Findings – Libraries participating in RapidILL experience significant savings in both cost and staff time as a result of functionality built into the system.

Practical implications – Over 200 libraries currently use the RapidILL system, both in the USA and beyond its borders.

Originality/value – This paper provides extensive information on the functionality of the RapidILL system but also will be of interest to libraries that use other interlibrary loan systems.

Keywords Resource sharing, Interlibrary loan, RapidILL, Cost savings, Workflow, Efficiency, Interlending, Document delivery

Paper type Case study

Introduction
RapidILL (hereafter, Rapid) is specifically designed to provide an extremely fast, low-cost, low-maintenance interlibrary loan (ILL) system, but perhaps its most important feature is that it is highly automated. Rapid performs many of the repetitive tasks that staff have always done and lets computers do what they were designed to do, freeing up ILL staff to do more of the things that people are better at doing.

Another extremely important facet of Rapid is that the demand for technical support at member institutions is minimal. With just 30-60 minutes of support, a library can be using Rapid borrowing. Creating a file of journal holdings is easily accomplished within a few hours, and Rapid staff provides extensive support for each library regardless of their integrated library system. There are currently 206 participating libraries, and growing. That is small enough for members to know us and work with us and we have plenty of room to grow; yet we are big enough that over four million requests have passed through our system in the last few years.

Many of the world’s largest academic libraries use Rapid, as well as some very small libraries in small “pods”. This is really what Rapid is all about: allowing libraries to work together more effectively and more collegially than ever before.

Development of Rapid
Like many innovations, Rapid was born of necessity. Its first incarnation was as a one-way requesting system to help Colorado State University (CSU) recover from a devastating flood 12 years ago. Because CSU lost every one of its bound journal volumes in the flood, we asked four libraries whose combined collections provided overlap with our own to help us provide one day turn-around ILL service for our users: the University of Massachusetts, University of Arizona, Washington State University, and Arizona State University. The only way this program could succeed would be to provide advanced lending features such as the call number and physical location for each item, a barcode on each request to simplify updating, and exact journal holdings down to the publication year to eliminate the prospect of “title only” matches. We built a database of journal holdings and routed requests to each library regardless of their integrated library system. There are currently 206 participating libraries, and growing. That is small enough for members to know us and work with us and we have plenty of room to grow; yet we are big enough that over four million requests have passed through our system in the last few years.

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Received 20 December 2011
Accepted 21 December 2011

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This paper was originally presented at the IFLA 12th Interlending & Document Supply Conference held in Chicago, IL, 19-21 September 2011.
that all libraries might benefit from the efficiencies that “Fast Flood” and the recovery project had provided.

After much discussion and a careful evaluation of post-flood funding, we concluded that all of the participating libraries, including CSU, would benefit from a two-way borrowing/requesting system called Rapid. The primary benefits would be permanently enhanced services to our users, less than 24-hour turn-around time (later to evolve to less than 12 hours, and in many cases same day delivery), enormous cost savings for each library due to the elimination of all borrowing, lending, and IFM transaction fees, and lower staff costs as a result of load-levelling, elimination of requests for volumes not owned, and streamlined processing by not having to search the online catalogue for call numbers and/or locations. We realized, however, that until we became established, we would be seen as a “mom and pop” system. Two additional libraries joined Rapid, the University of Michigan and Northern Arizona University, creating an extremely sound collection of libraries and holdings in the Rapid system. With three libraries in the state of Arizona, we started thinking about expanding into a “pod-based” system based on academic or geographic groupings.

Fortunately, the CSU ILL department had been recognized for many years as a leader in enhancements, cost effectiveness, and efficiency (Jackson, 1998). We also had the good fortune to hire several top-flight professional IT specialists – Greg Eslick, Mike Morrison, and Jeff Lindberg – to dedicate to the program, and our funding allowed us to hire two professional support companies – Square-I Technologies and ISTS – in a huge supporting role. Rapid is not home grown; rather, it is a professionally developed and continually evolving system.

One of the points of establishing Rapid was that it was one of the few systems to develop enhancements in ILL lending. While many programs had streamlined the processing of ILL borrowing requests, such as electronic requesting (first developed at a CSU in-house project, with CSU being the first library to transfer a request from the user directly to OCLC via the PRISM transfer interface), virtually no advances had been made to the lending side.

Our primary goal was to keep Rapid in-house and tied to the CSU ILL department so that we could establish ourselves as a leader based on the application of practices developed and tested in-house. In addition to our professional programming staff, Rapid is maintained and supported by several professional librarians and a working ILL staff. Our main purpose for building Rapid was to use our sound understanding of the day-to-day practices, problems, and inefficiencies built into the ILL system to develop and maintain a project that would have broad application in the ILL world. Rapid started with six participating Association of Research Libraries (ARL) members when it was launched in 2001 and as it has grown, we have added staff to the program and added functionality as well.

As of 2011, there are over 200 participating libraries in Rapid, libraries of diverse size and collection type. In order to create a system that maintains a fair load levelling balance, libraries are grouped according to their academic type. This helps the system keep borrowing and lending in balance, and establishes a load levelling mechanism so that smaller libraries are not overwhelmed by excess lending to large libraries, and large libraries are borrowing and lending among themselves first. This is accomplished through a pod system that allows libraries of similar academic size or geographic proximity to share among themselves. They may, if they choose, also participate in other pods for which they are academically qualified. The Academic pods are ARL members, while others are based on The Carnegie Classification system, i.e., Academic E (extensive), Academic I (Intensive), Academic M (Master’s level), and geographical proximity, such as SECAC, ASERL, BLC, etc. Members in Geographical pods can also move across pods if they choose; for example the ASERL group brought 13 ARL libraries into the ARL group, as well as providing service to the ASERL pod.

Rapid integrates with ILLiad, Clio, Relais, VDX, and OCLC FirstSearch, so that virtually any library can participate in Rapid if they meet the academic requirements. In addition, Rapid provides for document transmission via ILLiad, Odyssey, RapidX, or scanned.pdf files.

Why and how Rapid works

Libraries join Rapid primarily for two reasons: excellent cost savings, primarily in the area of staffing, and vastly improved customer service. Rapid’s raison d’être is to make life easier for everyone involved in the ILL process.

To accomplish this goal, Rapid uses information from the library’s own catalogue of holdings so that lending requests received through RapidILL include the library’s own local call number or URL and location. Moreover, the supplying library receives requests only for those titles and volumes that it actually owns or to which it has electronic access because Rapid matches on both standard number (e.g., ISSN or OCLC bibliographic record number) and year, not on title alone. This eliminates those blind requests from requesters who know the library owns the title and hope it owns the specific year as well. Lending staff members can simply print the pick slips, grab them from the printer, and go directly to the stacks. Because of this type of targeted requesting, Rapid participants only have to look once and then respond either filled or unfilled. It is counterproductive to hold onto requests to see if an item gets reshelved tomorrow when the request can be sent immediately upon update to another Rapid library that probably does have it on the shelf.

The inclusion of print material is particularly important, since so many licenses for e-resources do not incorporate fair use or fair dealing into their terms. If an item is held in both electronic and print formats, the owning library can specify which format it prefers to supply; however, if the license agreement prohibits ILL lending, Rapid will supply information for the print format only. This ensures a high fill rate, about 96 percent on average, and maximizes the volume and utility of Rapid.

If a requesting library should accidentally request a title that it already owns, Rapid will return that request as “locally owned” with the library’s own call number or URL, thus allowing Rapid participants to maximize use of their own resources.

Rapid participants enjoy turnaround time that has long been measured in hours rather than days. Many libraries tremble when they hear that they have to provide one-day lending service, but once they experience the benefits of targeted requesting, they see it is easy to do so. In ten years,
no library has ever left Rapid, and no Rapid library has ever committed to a trial and not signed up!

Rapid is currently engaged in establishing its own cost survey and although an exact completion date has not yet been determined, we will certainly publish the results. According to the 2002 ARL cost study, the combined borrowing and lending costs for Rapid ILL requests averaged $5.71 each, while traditional ILL averaged $17.50 per request (Jackson, 2004). Rapid has a continuously high fill rate – never lower than 94 percent in a single month – while according to that same ARL study traditional ILL had a borrowing fill rate of 86 percent. Since that study Rapid has made numerous technical strides, among them the implementation of unmediated borrowing, so that if a library elects to receive articles posted to the web, its ILL staff will never see a Rapid request until they look at their statistics. Consequently, the amount of staff time spent on an ILL request is dramatically lower in Rapid.

**Rapid setup**

The technical setup for libraries joining Rapid is minimal and does not require the purchase of any additional software or hardware that an interlibrary loan department would not already have. Libraries using ILLiad or Relais ILL for their ILL management system make minor modifications to their workflow that allow their borrowing requests to be queried and sent into the Rapid system without staff intervention. Libraries using other ILL management systems download and install a Rapid-developed client specifically designed to send borrowing requests into the Rapid system from the Review or Save file in OCLC’s FirstSearch WorldCat Resource Sharing module. Rapid staff members provide detailed instructions for setup and assist as needed.

Rapid libraries are also required to provide their journal holdings for inclusion in the Rapid database. Rapid libraries generally provide two holdings files, one for their print journal holdings and another for electronic journal holdings. As with the management software and/or client setup, Rapid staff members provide instructions and support for creating the holdings files which are then submitted to Rapid staff through FTP or a web page upload. Rapid staff has experience working with a variety of OPAC vendors and can handle a range of different file types. We have also developed a number of complex algorithms to process holdings files and to handle the complexities, inconsistencies, and errors often found in holdings files, so that the library providing the files need not worry about massaging their own data. Rapid requires a yearly update on holdings files but libraries have the option to update their holdings more frequently if needed.

Once a new Rapid member is set up and configured to send and receive requests in the Rapid system, they are trained on all aspects of the Rapid system including workflow, processes, procedures, and service expectations. Training is done over the phone in two one-hour sessions: one for the borrowing workflow and one for the lending.

**Figure 1** The general workflow for a Rapid borrowing request

- **Request submitted by patron**
- **Copyright clearance**
- **The Lender delivers the document via Rapid ILL upload, Ariel, or Odyssey**
- **The Borrower receives the document and delivers to the patron via their standard local process**
- **Requests are either automatically submitted to Rapid via routing in ILLiad or Relais ILL, or they are manually submitted by staff via the Rapid client**
- **The Lender has the option to update the request to Filled, Unfilled, or Bad Citation. If the request is updated to Unfilled, it is automatically routed to the next Lender**
- **If the Lender updates the request to Bad Citation, the request is returned to the borrower for review**
- **If no match is found, the request is returned back to the Borrower for review**
- **Rapid checks the borrower’s holdings and for duplicate requests already in the system**
- **If a duplicate request is found, the request is returned to the Borrower for review**
- **Rapid checks the holdings of potential Lenders**
- **If no match is found, the Borrower has the option to fix the Bad Citation and resubmit into Rapid**
- **If a local holding match is found the request is returned to the Borrower for review**
Borrowing processing

The Rapid borrowing workflow is designed to minimize staff time. Patrons request journal articles the same way they always have, and so Rapid is invisible to them. Most Rapid libraries then use an unmediated process to send article requests into the Rapid system. For ILLiad or Relais ILL users, this involves the automatic routing of borrowing requests into a certain queue in their management system where articles are automatically queried against the Rapid system. Rapid libraries that do not use this unmediated process instead use a Rapid-developed client that is run manually for each borrowing request in order to submit their articles into the Rapid system.

Article requests submitted to Rapid are matched against the Rapid holdings database using a combination of a standard number, either an ISSN or OCLC number, and the article’s year of publication. Rapid checks the holdings of libraries that belong to the requesting library's “pod(s)” to determine who owns that particular combination of standard number and publication year. Rapid will then determine which owning library has received the fewest number of lending requests for that particular day and route the request to that library for processing. If the first library to which a request is routed is not able to fill the request, it is automatically routed to the next owning library that has received the fewest number of requests for the day. Request routing is completely invisible to the borrowing staff; there is no need for borrowing staff to know the details of the routing process.

Figure 2 Sample lending request in the Rapid web interface
check holdings or create a lender string. The routing and load-leveling process is automatically handled dynamically by the Rapid system.

Rapid also checks the borrowing library’s holdings and, if a match is found, returns the request to the borrowing library with their local call number and location for print titles or URL for electronic titles. The borrowing library then has the option of sending the request into Rapid, filling it through the library’s local document delivery process, or canceling the request and returning it to the patron. The process will also check for duplicate requests that are already in the Rapid system going back one week. Duplicate catches are returned back to the borrowing library for review with a note (see Figure 1).

Rapid libraries can choose to have their articles delivered by Ariel, Odyssey, or through a downloadable link accessed by ILL staff from the Rapid web page. Delivery information is passed on to the lender for each request based on what the borrower has configured in Rapid, and ensures that libraries always receive their documents via their preferred delivery method. The delivery process is designed to be consistent with how a library receives their non-Rapid documents to maintain workflow consistency. Libraries that use Ariel and Odyssey are able to take advantage of any unmediated processing of received articles and deliver-to-patron processes that are available through their ILL management system. For example, articles that are delivered via Odyssey can be set to automatically match and post for the patron in a borrower’s ILLiad system. Patrons are notified of the availability of their Rapid-processed articles through the borrowing library’s standard notification process.

Copyright management for Rapid requests is handled through the library’s ILL management system, so no separate workflow is involved. While statistics for Rapid requests can generally be generated through a library’s ILL management system.

**Figure 3** The Rapid web interface
system, Rapid also provides a number of statistical reports through the Rapid web page.

**Lending processing**

The Rapid lending workflow was designed to make the process as efficient as possible so the supplying library is able to meet the 24-hour turnaround time commitment. Because each member library's holdings are included in the Rapid database, libraries receive requests only for volumes they actually own. Each Rapid lending request is received with the lending library's local call number and location. For lending requests from a library's electronic collection, Rapid provides a URL that is based on information in the electronic holdings file supplied by the lending library. The lending staff does not need to spend time verifying call numbers or locations and, for requests from their print collection, can print out the received lending requests immediately to collect, scan, and update. To ensure fast turnaround time for the borrower, lenders employ a “look once” process so if the item is not found on shelf they cancel the request right away to be routed to another lender for processing (see Figure 2).

Libraries have the ability to set the loan status for specific holdings to local-only, meaning that they will not accept lending requests for these titles but will still receive borrowing requests they are trying to submit into Rapid for volumes that they own. If there is a particular branch, location, title, or ISSN or publisher licensing specification that does not allow or cannot be filled within a 24-hour period, the library can choose to set these holdings to local-only. By default, all electronic holdings are set to local-only until a library provides a list of what they can supply so as not to violate any licensing agreement for the electronic content. When set to lendable, libraries have the option to set the status to lendable region, lendable country, or lendable international.

Rapid provides an easy to use web interface (see Figure 3) for libraries to manage their Rapid lending requests. Staff can print, batch update, and review their lending requests through this interface. New requests can be separated out by library branches for printing and requests for a library's electronic collection can be set to route to a separate queue that can be processed on the fly without having to print the queue.

Rapid libraries that use ILLiad or Relais ILL also have the option to import their lending requests into their management systems, which allows them to utilize local tools and delivery methods to handle their Rapid requests. They then have options for customizing their workflow by designing queues and routing rules to increase efficiency and to place a higher priority on filling Rapid requests. For example, libraries can use routing to move requests to certain queues in their system that need to be handled by branch libraries, or they can set up a custom queue where requests for items in their electronic collection are routed and processed directly from the client, eliminating the need to print hard copies of the requests.

Delivery options for filling lending requests include Ariel, Odyssey, and RapidX. RapidX is an upload form on the Rapid web page that the lending library can use to upload a PDF, TIFF, or HTML file for a lending request. The Rapid system automatically handles the article delivery to the borrower, whether it is Ariel, Odyssey, or a downloadable link on the Rapid web page for the borrowing staff to access (see Figure 4).

Because Rapid libraries might use incompatible delivery processes, RapidX also functions as an intermediary between libraries using different delivery systems. So, for example, if the lending library uses Ariel and the borrowing library uses Odyssey, Rapid provides the lender with an Ariel IP address, but that IP address is actually the IP address of the RapidX server. RapidX receives the request on Ariel and then delivers it to the borrower via Odyssey. This process is completely automated and the RapidX system delivers the article to the borrowing library based on their configured delivery preferences. The RapidX process in this instance is invisible to both the borrower and the lender and does not require any extra steps for the lending staff (see Figure 5).
Conclusion

While sophisticated technology and processes are built into RapidILL, its backbone is the dedication of its members to a high level of service commitment. Continually evolving technologies result in increased levels of efficiency, and members experience savings in staff time via unmediated processes, automatic lender selection, and request routing and load-leveling. The agreement of all Rapid members to extend reciprocity for Rapid transactions means that members do not incur charges on a per request basis. The cost savings, streamlined workflow, and a shared commitment to filling article requests quickly and at a high level of quality make RapidILL a unique option for resource sharing.

References


About the authors

Thomas G. Delaney received a BA in Anthropology and Linguistics from Providence College and an MLIS from Syracuse University. He has been working in libraries since 1986, and was head of ILL at Colorado State University from 1995-2003, then head of ILL and Document Delivery at Columbia University from 2003-2006. In the late 1990s and early 2000s, he co-presented a series of ARL workshops on ILL performance improvement called “From data to action,” and has several publications. A family move to the Midwest provided an opportunity to become involved in RapidILL again, as the system has expanded and improved. Tom currently lives in and works remotely for Rapid from Santa Fe, New Mexico. Thomas G. Delaney is the corresponding author and can be contacted at: tgdelaney@rapidill.org

Micheal Richins began working in libraries in 1998 and has over ten years of experience in interlibrary loan. He joined the ILL department at Colorado State University in 2000 where he initially worked as a borrower before moving into the Lending Supervisor position. One of his other responsibilities in that role was assisting patrons at the reference desk. In 2010, he joined the Rapid team and is currently the Coordinator of Rapid Training and Support.