

Linking Electronic Resources to Save Research Time

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Abstract

Sifting through the mix of print and electronic resources of today's hybrid academic libraries can be a daunting task. Although meant to make the process of finding information easier for users, today's electronic resources often make research more difficult and baffling for many. One way to address this problem is by merging commercial online databases with other electronic resources, and with the library's OPAC through a series of links and special features now available in most commercial databases. Although some large universities have the financial resources to afford such hot new linking services as Ex Libris's SFX or Endeavor's one-shot searching tool, Encompass, smaller academic libraries are often unable to afford such powerful utilities. That does not mean, however, that smaller academic libraries cannot still take advantage of some powerful linking technology. This paper will describe how the library at Rose-Hulman Institute of Technology, a small engineering and science college, utilized some of these features to link two full text databases to the library OPAC and directly to electronic journals. By adding MARC records containing links for each of the full text titles of each database into the OPAC, a loop can be created, whereby a non-full text search result in EBSCOhost could lead to the full text journal in ProQuest.

The Internet often has made it necessary for librarians and library users to search through several databases, the library catalog, and sometimes lists of electronic journals to locate the full-text of an article found in another commercial database. In the last few years, new technology has added new services and features to online databases that librarians can use to connect these resources, thus almost eliminating the need to sift through countless resources to find one article. At the forefront of these advances are linking tools such as Ex Libris's SFX and Endeavor's Encompass. Although these services are very powerful, they are also very expensive, so expensive that many small colleges cannot afford them or justify their cost since these schools often tend to have smaller electronic collections. With all the new linking features that most commercial database services have today, smaller colleges need not be left out of today's linking trends. Two of these features include the ability to add a local collection to a commercial database, the static approach, or linking the database directly to the Online Public Access Catalog (OPAC), the dynamic approach. The library at Rose-Hulman Institute of Technology, a small engineering and science college in Indiana has utilized these features to connect its electronic resources to create a more dynamic and simpler searching process. The project was carried out primarily by myself with the assistance of our technical services librarian, Amy Harshbarger. Amy updated all our serials holdings in the catalog and added our electronic journals.

Most commercial online databases allow the subscribing library to adapt access to the local environment via the local administrator component. With the local holdings feature, the librarian may add information about each journal held by the library so that when a user retrieves a citation without full text availability, the holdings information will display, telling the user if the library has it. Some commercial databases, such as ProQuest, allow the librarian to include information about the format, years of coverage, and a link to the online location if it is an online journal. ProQuest allows local holdings to be entered in one of two ways. First, they can be entered manually where the librarian simply searches by ISSN number or title and adds the information about their library's holding for that title. The second method is to create a delimited text file that has all the required information about a title and upload that file to the local administrator. Although both methods are relatively simple, both can be time consuming, especially for libraries with large serials collections. The biggest drawback is that these records are static and will become outdated if they are not edited as the library's journal subscriptions change. They must be updated at the same time that the catalog holdings are updated in order to remain current. This could be difficult for most academic libraries since it is often two different librarians that manage each function.

A better approach is to maintain only the catalog records and link the commercial database to the OPAC. Not only is the librarian making a link to the OPAC, but the commercial database automatically queries the OPAC for the journal title listed in the citation and displays the results in a new window. This is where the real value lies. If the OPAC includes holdings for all electronic journals with the journal's URL in the MARC 856 field, the user simply clicks his or her way from the non-full text citation, to the OPAC, to the journal itself. Two or three clicks are all it takes. Most large commercial databases are now capable of linking to library OPACs. Some of these include: Cambridge Scientific Abstracts, EBSCOhost, Ei's Ei Village, Gale's InfoTrac, ISI's Web of Science, OCLC's First Search, Ovid, ProQuest Direct, Silver Platter's WebSpirs, Ulrich's Books in Print, and Wilson Web.¹

To link to the OPAC, there are several criteria that the OPAC must meet. First, the ISSN number must be indexed in the catalog database, so that searching can take place for that field. Second, the URL used to search the catalog must be predefined ("static") so that only the ISSN number has to change. There are some OPACs in which each search is associated with a dynamically generated session ID. The link to OPAC feature is not compatible with this type of OPAC search protocol. Third, the OPAC must have a web front end for searching. Fourth, the OPAC must support either a URL-based syntax for searching or a CGI-based method. Finally, most commercial databases handle the ISSN number with a hyphen in the middle of the number.² For example: 0256-8546. If the OPAC handles the ISSN number without the hyphen, the link will not work. This can be worked around and will be described later in this paper. OPACs that are known to be compatible (meet the above criteria) include Endeavor's Voyager, Innovative Interface's INNOPAC, BIBSYS, ExLibris's Aleph, DRA, Sirsi, Talis, VTLIS, Techlib, WebPals, and Ameritech's Horizon.³

The Rose-Hulman Linking Project

Logan Library at Rose-Hulman subscribes to two full text databases. These are EBSCOhost, which contains numerous databases purchased through a state-wide consortium and ProQuest, containing two databases, the Research Library Complete and General Science. The library also

subscribes to JSTOR, 114 IEEE journals via IEEE Xplore, ACM Digital Library, and numerous other electronic journals directly from the publisher's web site. There are other commercial databases to which the library subscribes, but these currently do not yet have linking capability. Finally, the library uses Endeavor's Voyager OPAC. The OPAC is part of a three-college consortium, Rose-Hulman, Saint Mary-of-the-Woods College, and Indiana State University, with ISU managing the OPAC for all three institutions. My goal was to reduce redundant searching by linking non-full text citations to the relevant electronic journals in another location. For example, in the past, a non-full text search result in EBSCOhost, would mean the user would have to search in ProQuest to see if it was full text there, search the OPAC to see if the title was held locally, and finally, look through several pages of electronic journals since these were not listed in the OPAC. This can be a cumbersome task and our library staff found that on many occasions, students would give up on an article because it was not full text in the database in which they conducted the search. More commonly, they would ask a member of the library staff how to obtain that article. The library staff member would then run them through the above process.

The project was divided into four phases. Phase one was to add local holdings information in ProQuest and EBSCOhost. I only had to enter about 300 journals into ProQuest, which took about three or four days. An EBSCO technical support staff member entered our titles directly into EBSCOhost, which was a simple process since EBSCO manages most of our journal subscriptions. This phase could take much longer for libraries with larger journal collections. Had I been aware of the linking the OPAC function at this time (phase two), I would have skipped phase one entirely. Thus phase one was halted prematurely as phase two began. Phase three was to update all our journal holdings in our OPAC. This included adding all our electronic journals to the OPAC. The fourth and final phase is to link other commercial databases to the OPAC as those databases make that feature available. This phase is ongoing.

Phase 1

If a library staff desires to link the commercial databases directly to the OPAC, then phase one should be skipped. There is no sense in spending the time to add the library's local holdings to the local administrator if the link to the OPAC feature works. However, if linking directly to the OPAC is not possible due to incompatibility, adding local holdings information to each database is an alternative. It was only after I spent the time adding our local holdings to both ProQuest and EBSCOhost that I found out about the linking to the OPAC feature. I first added our local holdings into ProQuest. This can be done in one of two ways. One is to enter each title directly into the local administrator. After conducting a quick search for a title, that title can be listed as being held by the library along with coverage information, available formats, and a URL to the online version if one is available. Since Rose-Hulman's journal collection is very small, this took only about three or four days to complete. The other way is to upload to the local administrator a delimited text file with holdings information for each title. Each line represents a title and each field is separated by a | (pipe).

Line 1 administrator account name|password (or password:n where n is number of the library holdings file if multiple holdings files assigned)

Line 2 Title|ISSN|URL|URL_label|FMT_Elect|FMT_CDROM|FMT_Micro|FMT_Paper|Note|Start_Date|End_Date|Start_Vol|End_Vol|Start_Issue|End_Issue

Line *n*

Title|ISSN|URL|URL_label|FMT_Elect|FMT_CDROM|FMT_Micro|FMT_Paper|Note|Start_Date|End_Date|Start_Vol|End_Vol|Start_Issue|End_Issue

For more detailed instructions see <http://www.proquest.com/hp/Support/LHAdmin/LHDoc.html>

I found the first approach to be quite an easy process. In addition, I added MARC records into the OPAC for all the ProQuest full text titles to which Rose-Hulman has access. This was also a simple process since ProQuest can generate a batch import file containing MARC records for each full text title held by a library. Next, I turned my attention to EBSCOhost. Within a day after speaking with EBSCO technical support, all of our journal titles managed by EBSCO were automatically entered into our account. I was ready to manually add the few journals that we subscribed to directly through the publisher when I discovered a much better method-- linking to the OPAC. Thus, I abandoned completing phase one and went on to phase two.

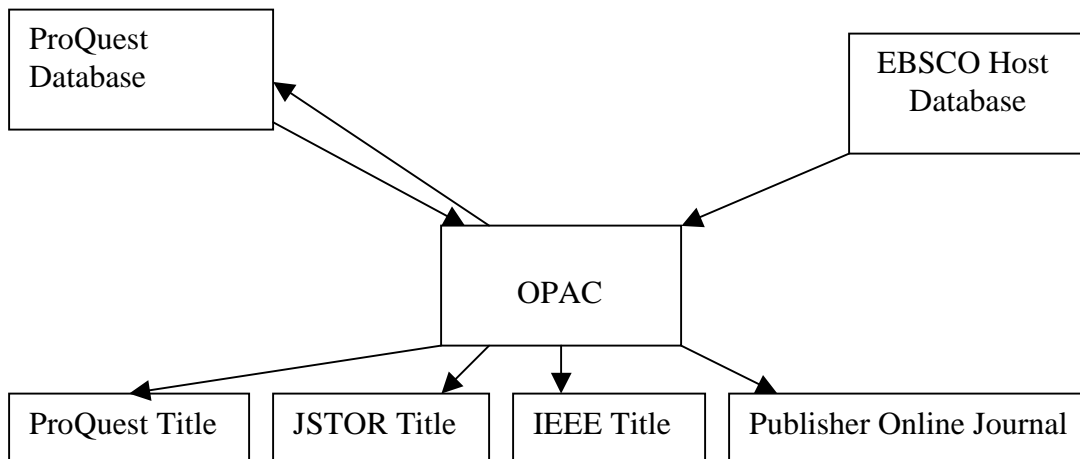
Phase 2

Phase two was to connect both commercial databases directly to the OPAC. This phase can be completed in less than a day if there are no complications. Linking EBSCOhost to the OPAC took literally that amount of time as their technical support was very helpful and were able to set up the connection for us by the end of the day. All I had to do was contact EBSCOhost technical support, email them our static URL to the OPAC, and they added the necessary parameters to the URL in our local administrator. It took about six months before I had this function working with ProQuest. This was mostly due to the way Voyager handles ISSN numbers and ProQuest's technical support staff's inability to resolve the problem earlier. In both EBSCOhost and ProQuest, the link text can be whatever you want it to be. I used "Check LUIS (library catalog) for local holdings." I soon discovered the most powerful aspect of this, the ability to search EBSCOhost, link non-full text articles directly to the OPAC which searches for the journal title automatically, and then link to that title if its held electronically somewhere else. Because I added MARC records for all the ProQuest full text titles, we could link from an EBSCOhost abstract, to the OPAC record for that article's journal, to that journal in ProQuest with only a few clicks. By adding MARC records for EBSCOhost full text titles, I could have created a complete circle between the two databases. We chose not to add MARC records for EBSCO because doing so would have created other issues in managing the records that we did not wish to face. Doing so with a shared catalog would have further complicated matters.

Linking ProQuest to the OPAC was a little more difficult than it was with EBSCOhost. As mentioned earlier, most commercial databases handle the ISSN number with the hyphen in between the two sets of four digits. Voyager reads them as an eight-digit string with no hyphen. Thus, linking to the OPAC would not have worked without some intervention by the ProQuest technical support staff. The answer was a Perl script that tells the OPAC to read the ISSN number without the hyphen. So in the local administrator, rather than referencing the URL to the OPAC along with other necessary parameters tacked on at the end, the URL entered into the local administrator is directed to the Perl script. A system administrator must make the Perl script executable, otherwise ProQuest will open the script as a text file. Librarians should feel free to read the online documentation and try setting up the OPAC links themselves if the vendor allows it, but it is advisable to not spend too much time on this process if it does not work early on. Although most documentation makes it sound very simple, the reality is that there are a

number of issues that could keep it from working properly. Commercial databases vary and each uses different syntax to make its query to the OPAC and different OPACs may handle search statements differently. Do not hesitate to contact the database vendor's technical support to avoid a great deal of aggravation and wasted time.

The Rose-Hulman library linking chain



Phase 3

The third phase was to add all our electronic journals into the OPAC, including journals from large packages such as IEEE Xplore, JSTOR and ACM journals. Libraries that already have their electronic titles included in the OPAC can skip this phase. For libraries that do not, the process will vary according to the size of the library's journal collection and the amount of time that can be devoted to the task by staff member(s). Up until this time we did not have our electronic journals listed in our OPAC. The desire to make the linking project worth the effort was just the incentive we needed to finally add these records to the OPAC. I did not have the time to begin this process until two months after phase two was completed and is still underway at date of publication. The real power of the linking to the OPAC feature is using the OPAC as a central point to reach other electronic resources without having to open the OPAC and conduct an additional search.

Phase 4

Phase four is to include our other online commercial databases into the linking chain as they add that capability. This phase is ongoing and depends on whether other commercial databases add this function. I expect to link Ei Compendex (via Dialog@Site) to the OPAC in a very short time and will also add a Cambridge Scientific Abstracts database this summer when we begin our subscription. Some other commercial databases we would like to be able to add in the future include MathSciNet and ACM Digital Library.

These methods are far from the power offered by SFX, which has the capability to link directly to the article level rather than to the just the journal level. However, linking to the OPAC is still a remarkable improvement over having to work with each resource separately. In addition to

linking to the OPAC, a number of other features are already being added such as the ability to automatically convert a citation into an interlibrary loan request to be sent directly to the interlibrary loan librarian. These features are also much easier and less time consuming to maintain than SFX, another big plus for librarians of small college libraries. Services such as SFX may someday become more affordable for smaller college libraries; but, until then, these other alternatives can make online research quicker and easier than what we have become accustomed.

¹ "OpenURL Enabled Resources," SFX FAQ, <http://www.sfxit.com/sources-list.html>

² "WebSPIRS Administrator's Guide for Silver Platter Ver. 4.3," 2000, p. 6-23.

³ "Dynamic Holdings on WilsonWeb," <http://www.hwwilson.com/jhcu/jhcu1.htm>

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