

# Library Automation

## Contents:

1. Library Automation Considerations: An overview of the trends and standards in library automation slanted towards top-of-the-line systems which meet the full range of needs among academic libraries
2. Internet sites and articles about Automation
3. Letter of Introduction to WiderNet partners considering a transition to an automated library system
4. Closing in on content: this article provides a profile of automated library systems vendors and a record of the industry's recent mergers, acquisitions, and sales reports – available at <https://www.widernet.org/sites/default/files/closingin.pdf>
5. Additional Library and Information Science Resources: useful Web sites and organizations applicable to libraries and science information

# Library Automation

## Library Automation Considerations

### Library Automation Considerations

Library automation offers many opportunities to improve service to library patrons. Among other benefits, it makes materials easier for patrons to locate as well as allowing staff to better serve patrons by facilitating a multitude of staff tasks such as acquisitions, cataloguing, circulation and reference. On the other hand, the financial and staff commitment needed to move to an automated system or from one system to another is substantial and long-lasting. Automation cannot be approached as a panacea for systemic problems in a library. Without staff support and training no system can offer its full potential.

In an effort to aid WiderNet partners in deciding whether or not they wish to migrate from TINLIB and which system they might wish to migrate to, a selection of web sites<sup>1</sup> as well as this overview has been compiled. In keeping with WiderNet's goal of creating "second time buyers the first time", this overview focuses on the trends and standards in library automation. As a result, this overview is slanted towards top-of-the-line systems which meet the full range of needs among academic libraries. This is not meant to imply that school and small public libraries are not using good systems, just that those institutions have different needs and are not often the trend setters.

### Library automation trends

**Integrated library system:** An automation system in which the various applications share one bibliographic database. Each system comes with a set of core modules as well as additional modules which can be added on if necessary (or affordable).

**Client-server architecture:** Turnkey systems are quickly becoming a thing of the past. A client/server system is identified by a more powerful server machine that handles database manipulation and retrieval while leaving the user interface to the desktop client software. This shares the computational load between the client and server machines and gives the user a better experience through a faster interface.

---

<sup>1</sup> <http://www.widernet.org/digitalLibrary/LAOnlineResources.htm>

Z39.50: This is a protocol for computer-to-computer information retrieval. It allows users to access dissimilar library catalogues from the host institution's catalogue while using a familiar interface. Both a Z39.50 client and server are needed if you want to visit others and have others visit your catalogue. A Z39.50 client allows access to others' catalogues. A Z39.50 server allows others to access your catalogue. Ideally access works both ways.

GUI interface for all modules: Graphical and menu-driven interfaces have or are replacing command-driven interfaces in systems.

MARC and non-MARC compliance: First, library systems developed to use MARC records. Now systems must allow for cataloguing formats, such as Internet resources, for which no MARC formats yet exist alongside MARC records.

Web-based patron catalogue: Patron access is greatly increased when catalogues can be accessed remotely via the World Wide Web. Better systems contain password-protection to allow patrons to access portions of their own records remotely.

UNICODE: This protocol expands the character set allowed and is essential for collections with materials in non-Roman languages. UNICODE encodes 65,000 different characters compared to the extended ASCII character set of 256 characters. Not all vendors have fully implemented this yet, but most are working on it.

Core modules: Circulation, cataloguing and online public access catalogue are necessary minimums. Additional modules often cost extra and are therefore not always used by as many of the system's clients which can lead to less responsive development. Additional modules include acquisitions, community information, course reserves, imaging, inter-library loan (ILL), materials booking and serials. Acquisitions and serials are sometimes part of the same module and are often part of the core package.

Digital library management: At this point, most vendors are developing separate products to handle digital library management. However, a commitment to development strong digital library products indicates a vendor who is forward-looking.

The open source movement is developing slowly within the library community as well. Products are still very locally-based and often just a single module, such as ILL, but as with all open source projects the potential for exponential growth without huge development budgets exists.

## Information gathering

While there are many vendors creating automation products, each library invariably finds their choices limited to a few when all of the variables are taken into account. A checklist of needs, wants and limitations should be compiled. Once a basic set of systems requirements has been established, vendors can be sent requests for proposals. Helpful checklists and requests for proposals (RFPs) are available via the Internet which it would be redundant to repeat here. However, these resources were created with North American and European libraries in mind. Each library will have its own particular checklist. For example, the issue of customer support to libraries with unreliable telephone and Internet service will need to be addressed thoroughly by WiderNet partners.

The checklist should include not only an examination of module features such as which fields are indexed, but also the long-term viability of the product and vendor. Library Systems (July 2001) includes a set of minimums to look at which core modules (acquisitions, serials control, cataloguing, circulation and the patron access catalog), minimum sales (\$5 million, preferably \$10), minimum installations (100), minimum new installations (20, preferably 50), minimum programmers (15) and minimum customer support ratio (1:20). In: Endeavor, epixtech, ExLibris, Innovative, SIRSI and TLC. Gaylord with the completion of Polaris may move back into the viable group. With the exception of its poor customer support ratio, BiblioMondo appears to be a healthy company at this point. Frequency of enhancements and the degree of customer input on these is worth examining as well. The number of development staff will offer have a direct bearing on the ability to regularly adopt enhancements.

## Overview of programs

In light of recent mergers and acquisitions, increasing development costs and reduced sales (because most North American and European libraries with sizable budgets are already automated), it is important to select a product that belongs to a strong vendor and which that vendor is supporting well and with a future outlook. With the exceptions of BiblioMondo (Canada), Fretwell-Downing (UK) and Ex-Libris (Israel), the vendors which cater to the academic market are based in the United States. Despite this, a global outlook is growing among vendors as evidenced by UNICODE enhancements and as necessitated by the greater potential for growth outside of North America and Europe. The common choice of Oracle as the database management system also reflects its position as the most-widely supported DBMS in the world.

Library Journal's Automated System Marketplace articles, "Closing in on Content<sup>2</sup>" and "Delivering the personalized library<sup>3</sup>", provide helpful run-downs of many of the systems available. An excellent source of information is Library Source, the newsletter of ALA TechSource. WiderNet access to its annual surveys of vendors is being sought.

Generally speaking, vendors can be divided into two groups. One group is based on multi-user operating systems and the other supports PC or Mac-based products. In general, the multi-user operating systems offer greater function and cater to academic as well as mid-size and large public libraries. "A library should seek to purchase a system from a vendor that has a significant number of its customers in the library's segment because product development will generally be focused on the needs of libraries that constitute the most important market segment for a vendor." (Library Systems, April 2001) For this reason, premiere systems focused on the academic market were examined most closely for this overview. The following systems have strong growth and interest in academic libraries: BiblioMondo Portfolio, Epixtech Horizon Sunrise, Endeavor Voyager, ExLibris ALEPH, Innovative Millennium and SIRSI Unicorn.

While price often comes to mind at the beginning of the search process, a low price means little if the product does not meet the institution's needs or will not be around long. Additionally, until vendors receive a concrete request for a proposal (RFP), there is little willingness to divulge prices, particularly among the larger vendors. One thing is clear though. Cost for these multi-user, multi-function high-end systems run high - from \$60000 (and up, way, way up) for the initial software as well as annual maintenance costs which are often set at 12-15% of the software costs.

Numerous systems have been developed with the school and small public library markets in mind. Both the initial and maintenance costs for these systems are considerably cheaper (i.e. \$10000 software costs, \$1500 annual maintenance fees (or less depending on the number of modules being used)). As well as targeting their modules to different client needs, however, they also do not have as many functioning units. For example, reserves, interlibrary loan and journals modules are frequently missing. The customer support and development staffs of the smaller systems are often considerably smaller and, as mentioned earlier, react to rather than set trends. The frequency, substance and responsiveness to customer requests of upgrades is superior among systems with a substantial development staff. Advanced searching capabilities are frequently more limited.

---

<sup>2</sup> <http://www.libraryjournal.com/automated-marketplace/2001/ASM2001main.asp>

<sup>3</sup> <http://www.libraryjournal.com/automated-marketplace/2000/delivering.asp>

A word should be said about two systems (TINLIB and Alice for Windows) relevant to the partner's experiences and past searches for automation systems, particularly since these systems have evolved and are not widely reviewed. TINLIB was acquired by EOS International and is now called T series, but Q series is the most actively developed system which is in synch with current library trends. Most of EOS International's clients are corporate and government sector libraries, but they do have academic library clients. The new installation and product development staff figures for EOS International do not bode well for the ongoing development of its products. Two facts about Softlink Alice (formerly called Alice for Windows) should be highlighted. It is Z39.50 server compliant, but not Z39.50 client compliant. This would be a problem when it comes to accessing other library catalogues. It does not have an inter-library loan module either. In addition, its primary market is schools rather than academic institutions and its future enhancements will probably reflect that interest.

## **Conversion**

Considerable thought needs to be given to how conversion of the existing holdings will take place. Helpful options to original cataloguing include use of a bibliographic utility such as OCLC or RLIN and contracting out the conversion to an experienced vendor. Each option presents significant time savings at a cost; the vendor option increases both. Whatever method is chosen, take time to weed the collection prior to beginning the conversion. The cost and time savings will be well worthwhile.

## **Conclusions**

Initial and on-going training will be needed at both the staff and patron levels. If the WiderNet partners chose to adopt the same system this could be beneficial in negotiating prices with vendors as well as the ability to form of a user's group which could meet to share tips, join for training. As well, such a group can provide a stronger voice to enhancement suggestions to the vendors.

A complex and exciting decision awaits. As more information is received from the partners about their needs and desires, demonstrations by vendors and bibliographic utilities can be arranged for April.

## **Bibliography**

Library automation articles and web sites<sup>4</sup> as well as interviews, telephone conversations and emails with a variety of vendors, bibliographic utilities and local libraries regarding their systems.

Breeding, Marshall. "A new look at large-scale automation systems," *Computers in Libraries*. 19:8 (Sept 1999): 36-40.

*Library Systems Newsletter*. ALA TechSource. (Jan 2000-Dec 2001)

Nkereuwem, Edet E. "Theory and practice of cataloguing library materials by using TINLIB software," *International Cataloguing and Bibliographic Control*. 26:3 (July/Sept 1997): 66-67.

Northover, Steven A. "A checklist for choice of an OPAC," *Library Automated System Information Exchange* 21:2 (Sept/Oct 1990): 51-56.

Saffady, William. "The status of library automation," *Library Technology Reports* (Jan-Feb 2000).

Saffady, William. *Introduction to automation for librarians*. 4th ed. Chicago: American Library Association, 1999.

Andrea Clinkenbeard, MLS  
Jan 2002

---

<sup>4</sup> <http://itsnt109.its.uiowa.edu/at/ken/aut/autarticles.html>

# Library Automation Selection Resources

**Library automation/technology glossary**

<http://www.libraryhq.com/glossary.html>

## Metasites

### Project LIS

[http://www.coe.missouri.edu/~is334/projects/Project\\_LIS/default.html](http://www.coe.missouri.edu/~is334/projects/Project_LIS/default.html)

### LibraryHQ Automation Source

<http://www.libraryhq.com/automation.html>

**Naomi Lloyd's** list of library automation resources (updated September 2000)  
<http://www.escape.ca/~automate/resource.html>

### ALA TechSource

<https://www.techsource.ala.org/>

### Biblio Tech Reviews

Library automation, software, business and reviews  
<http://www.biblio-tech.com/>

## Decision-making and Implementation

### Planning for library access

<http://www.htctu.fhda.edu/libaces/planning.html>

### "Collection Automation" by Naomi Lloyd

A 'how I did it' story  
<http://www.sla.org/chapter/cwcn/wwest/v2n3/nlautom.htm>

### "Managing the transition to a new library catalog: tips for smooth sailing" by William Doering

<http://www.infotoday.com/cilmag/jul00/doering.htm>

## Checklist and RFP samples

### Library management system checklist

<http://www.libraryhq.com/checklist.html>

### Sample request for proposal (RFP)

<http://www.ilsr.com/sample.htm>

### Sample RFP (94 pages)(Word file)

<http://www.libraryhq.com/rfp.doc>

## Conversion

### Retrospective conversion: Guidelines for Libraries (OCLC)

<http://www.oclc.org/oclc/promo/6075retr/6075ret1.htm>

### Retrospective conversion at Yale

<http://www.library.yale.edu/recon/>

### University of Iowa/OCLC retrospective conversion project

<http://www.lib.uiowa.edu/cps/OCLC/oclc/etro.html>

## Vendor Profiles and/or Reviews

**Every April Library Journal publishes an overview of the automated system marketplace**

2001:  
<http://www.libraryjournal.com/automated-marketplace/2001/ASM2001main.asp>

2000:  
<http://www.libraryjournal.com/automated-marketplace/2000/delivering.asp>

### Vendor profiles created by Project LIS

[http://www.coe.missouri.edu/~is334/projects/Project\\_LIS/vendorprofiles.html](http://www.coe.missouri.edu/~is334/projects/Project_LIS/vendorprofiles.html)

### **Marshall Breeding's database of systems vendors**

Database searches for systems. Links to press releases, partial lists of clients  
<http://lib11.library.vanderbilt.edu/ltg/VEND-search.pl>

### **Systems trends among Association of Research Libraries (high-end systems)**

<http://staffweb.library.vanderbilt.edu/breeding/arl-systems.html>

### **Vendors list**

(Note: many links are dead and has not been updated to reflect a number of mergers and acquisitions, but useful because it lists many of the non-North American based systems)  
<http://libinfo.com/vendors-systems.html>

## **Open source library software**

### **oss4lib: Open source software for libraries**

<http://www.oss4lib.org/>

### **Koha Open Source Library System**

<http://www.koha.org/>

### **Open source digital library system project**

<http://osdls.library.arizona.edu/>

## **Professional Development Links**

### **Library listservs**

<http://www.wrlc.org/liblists/>

### **Library workshops, conferences, etc.**

<http://www.libraryhq.com/conferences.html>

# Letter of Introduction to WiderNet Partners considering a transition to an automated library system

## Greetings,

My name is Andrea. I've been asked to compile information about library automation which you will find in the two attached documents, one an overview of current automation trends, particularly in academic libraries, the other a list of Web links. This is just a beginning. We haven't yet received permission to copy more than one of the web sites' content onto a CD, but we will be working on that (and additional content) so they can be easier to access.

I would like to ask you some questions regarding your automation aspirations. Some to help me know more about the obstacles you face, others to make knowledgeable additions to the CD of web sites such as cataloguing resources. I am sure there will be many more, but this can be a starting point.

- Why was TINLIB not fully implemented?
- Have circumstances changed so that a new system would be able to be fully used?
- Are there any plans to build a union catalog? work as a consortium?
- What is your collection size? (each library)
- What non-book materials does your collection contain?
- Which modules are you most interested in?
- How would you like to see interlibrary loan used? serials?
- How many terminals will be required initially? after 2-3 years?
- Would it make sense to put items on the TINLIB database with the aid of a bibliographic utility and then convert systems?
- What kind of systems support is available to the libraries? What is the relationship between each library's system and the university's?
- Is there any access to shared cataloguing or is everything done as original cataloguing?
- What classification system is used?
- What subject headings list is used?
- What bibliographic standards are followed/adapted?
- If a form of MARC records is used, which?
- Are you interested in academic library materials only or stuff for public, corporate, government and school libraries as well?

Perhaps to facilitate receiving permission it would be best to have a link with one of the Library Science programs in Nigeria to create a straight-forward educational purpose. Do you think that would be possible? If yes, the full name of the program and its director would be helpful.

If each library could provide a list of materials needs, there is the possibility of some materials for the libraries to be collected/donated. Please be as specific and discriminating as possible. We don't want to send stuff you can't use!

I would suggest a demo of a bibliographic utility as well as some vendors in April. Visits could either be arranged by vendors or to some local libraries. It would not take as much of

their time to have the vendors come to them as for them to travel to libraries, but, of course, there are more visual benefits to touring libraries. The 5 high-end systems which I think should be looked at closely are ALEPH, Endeavor, Horizon, Innovative and Unicorn. I would expect ALEPH and Innovative to price themselves out of the running. Despite my focus on high-end systems, once we have more information about the features you are looking for, it is quite possible that a system more oriented towards school libraries such as Softlink Alice could work. The more information you can provide, the better we will be able to match demonstrations in April to your needs and desires.

Please contact me at [clinkenbearda@widernet.org](mailto:clinkenbearda@widernet.org) or [aclinkenbeard@home.com](mailto:aclinkenbeard@home.com) if you have any information or questions for me. I look forward to your replies. Thank you very much.

Sincerely,

Andrea Clinkenbeard (MLS)

# Library automation selection resources

Library automation/technology glossary  
<http://www.libraryhq.com/glossary.html>

## Metasites

- Project LIS  
[http://www.coe.missouri.edu/~is334/projects/Project\\_LIS/default.html](http://www.coe.missouri.edu/~is334/projects/Project_LIS/default.html)
- LibraryHQ Automation Source  
<http://www.libraryhq.com/automation.html>
- Naomi Lloyd's list of library automation resources (updated September 2000)  
<http://www.escape.ca/~automate/resource.html>
- ALA TechSource  
<https://www.techsource.ala.org/>
- Biblio Tech Reviews  
Library automation, software, business and reviews  
<http://www.biblio-tech.com/>

## Decision-making and implementation

- Planning for library access  
<http://www.htctu.fhda.edu/libacces/planning.html>
- "Collection Automation" by Naomi Lloyd  
A 'how I did it' story  
<http://www.sla.org/chapter/cwcn/wwest/v2n3/nlautom.htm>
- "Managing the transition to a new library catalog: tips for smooth sailing" by William Doering  
<http://www.infotoday.com/cilmag/jul00/doering.htm>

## Checklist and RFP samples

- Library management system checklist  
<http://www.libraryhq.com/checklist.html>
- Sample request for proposal (RFP)  
<http://www.ilsr.com/sample.htm>

- Sample RFP (94 pages)(Word file)  
<http://www.libraryhq.com/rfp.doc>

### **Conversion**

- Retrospective conversion: Guidelines for Libraries (OCLC)  
<http://www.oclc.org/oclc/promo/6075retr/6075ret1.htm>
- Retrospective conversion at Yale  
<http://www.library.yale.edu/recon/>
- University of Iowa/OCLC retrospective conversion project  
<http://www.lib.uiowa.edu/cps/OCLC/oclcretro.html>

### **Vendor profiles and/or reviews:**

- Every April Library Journal publishes an overview of the automated system marketplace.  
2001: <http://www.libraryjournal.com/automated-marketplace/2001/ASM2001main.asp>  
2000: <http://www.libraryjournal.com/automated-marketplace/2000/delivering.asp>
- Vendor profiles created by Project LIS:  
[http://www.coe.missouri.edu/~is334/projects/Project\\_LIS/vendorprofiles.html](http://www.coe.missouri.edu/~is334/projects/Project_LIS/vendorprofiles.html)
- Marshall Breeding's database of systems vendors  
Database searches for systems. Links to press releases, partial lists of clients.  
<http://lib11.library.vanderbilt.edu/ltg/VEND-search.pl>
- Systems trends among Association of Research Libraries (high-end systems)  
<http://staffweb.library.vanderbilt.edu/breeding/arl-systems.html>
- Vendors list  
(Note: many links are dead and has not been updated to reflect a number of mergers and acquisitions, but useful because it lists many of the non-North American based systems)  
<http://libinfo.com/vendors-systems.html>

### **Open source library software**

- oss4lib: Open source software for libraries  
<http://www.oss4lib.org/>

- Koha Open Source Library System  
<http://www.koha.org/>
- Open source digital library system project  
<http://osdls.library.arizona.edu/>

### Professional development links

- Library listservs  
<http://www.wrlc.org/liblists/>
- Library workshops, conferences, etc.  
<http://www.libraryhq.com/conferences.html>

### Cataloguing tools

- Cataloguer's toolbox  
Memorial University  
<http://www.mun.ca/library/cat/>
- Cataloger's reference shelf  
TLC (The Library Corporation)  
<http://www.tlcdelivers.com/tlc/crs/CRS0000.htm>
- Functional requirements for bibliographic records (IFLA)  
<http://www.ifla.org/VII/s13/frbr/frbr.htm>

### For digital libraries page:

- Information Technology and Libraries (journal)  
<http://www.lita.org/ital/index.htm>

### General library sites (probably to move to Angela's page)

- Library listservs  
<http://www.wrlc.org/liblists/>

<http://www.libraryhq.com/conferences.html> : library workshops, conferences, etc.