Library System Automation Projects:
A Summary of Development and Speculation on Future Possibilities
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The short story

Talk to nearly any baby-boomer librarian and they can give you a quick summary of library automation in Illinois, usually as a short personal story. For example, Tina Hubert, Executive Director, Lewis and Clark Library System reported:

> "I started as a page at the Granite City Public Library, back with hanging chads courtesy of Gaylord stamped date due cards. All we had to rely on was our collection, through the cards in the catalog. Putting something on hold was a step below purgatory. Now, our libraries are not isolated. Fifty-five libraries participate in GateNet, our automation program, and our new resource-sharing package makes it easy for patrons to order from home, work, or anywhere. A dozen years ago, annual area ILL and reciprocal borrowing totaled 45,000 items. Now it's ten times that level. As far as I can see, the "haves" will become "have mores" and "have nots", will become "haves". I am very positive about what we've achieved and quite confident that library technology will continue to improve customer service. It is truly remarkable all that has been accomplished in a relatively short timeframe."

In the beginning

Library systems were established to improve library service through library cooperation and resource sharing. In 1965, the Library System Act declared that "Because the State has a financial responsibility in promoting public education, and because the public library is a vital agency serving all levels of the educational process, it is hereby declared the policy of the state is to encourage the improvement of free public libraries and to encourage cooperation among all types of libraries in promoting the sharing of library resources. In keeping with this policy, provision is hereby made for a program of state grants designed to establish, develop and operate a network of library systems covering the entire state." (75 ILCS 10/1)

In keeping with the intent of the Library System Act, early annual reports of eighteen library systems were replete with descriptions of resource-sharing projects that enabled resource discovery and lending. Systems established union catalogs of books, periodicals, newspapers, art prints, films and audio recordings to identify local resources. As soon as their finances allowed, systems began van delivery services within their region to shuttle resources to members. Organizational and interpersonal knowledge gained by library leaders through these early resource sharing programs helped provide the experience and confidence needed to establish the library circulation system, the precursor of today's systems.

SLS and NSLS: Early innovators

Suburban Library System (SLS) installed a turnkey circulation system from CLSI in 1973. Nine public library members were initial participants. Only partial information was inputted, and later additional work was needed to create an online catalog. By 1980, the SLS system supported two clusters of libraries, eight in the south and six in the north. Each cluster had 375,000 titles and 1,000,000 items. The two circulation clusters were combined into one database in 1982.

After lengthy study by two independent consultants, North Suburban Library System and six members began the Pioneer Cooperative Computer On-line Circulation System in 1974. The CLSI LIBS 100 system cost $140,500 and was financed by NSLS with the understanding the six libraries would repay the system over the next five years. The project was originally housed and operated at the Northbrook Public Library and went live in 1975. By 1979, when site and operational responsibility were transferred to NSLS, 17 libraries participated. In 1987, Cooperative Computer Services (CCS) and NSLS amicably parted and CCS began operating autonomously as an Intergovernmental Instrumentality, while maintaining a close working relationship with NSLS.

Support Unit Agreements

The minicomputers, software, telecommunications equipment, and telecommunications lines used by these pioneers were very expensive. One of the financial innovations used by CLSI and DLS, NSLS, and SLS was called a "support unit agreement".

Richard Shurman, Director, Cooperative Computer Services, recalls the importance of these agreements.

> "Support unit agreements enabled libraries participating in a project to purchase the central site resources needed to support a terminal for a stipulated price, often thousand of dollars per supported terminal. In absence of this type of financing and operating plan, consortia members had to make a contractual commitment to purchase a system designed to support a specific number of terminals. Expanding beyond the limit of the system required purchasing capacity in increments, usually in multiples of 16, and often required hundreds of thousands of dollars. That meant either purchasing what was needed at the moment, knowing that growth would bring frequent upgrades often requiring financing on short notice, or having to anticipate that growth by seriously over-purchasing hardware, which was costly and unduly burdensome for the present participants in a consortium. By allowing new or existing participants to purchase needed capacity incrementally, the support unit agreements enabled projects to grow more fluidly, and were a powerful stimulus for growth when equipment costs were very high.

> "I believe Bob McClarren, then System Director at NSLS, worked with Jane Burke of CLSI to develop support unit agreements. Whether it was Bob, or Les Stoffel, then System Director at SLS, I'm not positive. I do know it made a difference. I know it was used at DLS where I worked for a while and that it was used in the early days by other systems in Illinois to get a start on very capital intensive projects."

Innovation Spreads

Interest in cooperative library automation programs grew statewide and was supported by the Illinois State Library that began providing Library Services and Construction Act (LSCA) grants to assist with start-up expenses. By the mid to late 1980s, with assistance from these grants, the remaining sixteen systems were in the process of beginning operations or operated "integrated library systems" for their members.

Joe Harris, Executive Director, Shawnee Library Systems remembers the importance of these grants.

> "The automation start-up grants from the State Library enabled each system to purchase an integrated library system for use with its members – provided it could find enough libraries interested in participating and could figure out how to pay the ongoing expenses. At that time equipment was very expensive. A system for 20 small and medium-sized libraries might cost $500,000. I still remember the cost of the disk drives for our first system was $25,000, for what I think was one 300 mb drive. Then again, dumb terminals could be in the $2,000 range.

Explaining to rural telephone companies that you wanted a dedicated phone line for a computer was sometimes quite a challenge. The State Library used a formula that provided funding based on the number of participants and items in their collections. The formula helped libraries see how valuable it was to work together because more libraries and more materials meant larger start-up grants so less money needed to be raised locally at start-up and more libraries could share on-going costs. I was at the Cumberland Trail Library System (Flora) then and I know it would have been difficult to establish a consortium without that initial grant. As it was, we established a group that had excellent multi-type participation from the very beginning."

In addition to the financial assistance LSCA funding provided for start-up expenses, systems were beginning to provide intra-system delivery services to support library-to-library resource sharing in the mid and late '70s. The "FY 1988 Illinois Library System Directors Organization Report" issue in January 1987 reported that,

"Demand for more frequent delivery is correlative with participation in library system automation projects. ....Effective routine inter and intrasystem delivery has supplied the reliable, low cost means for physical delivery needed to compliment the improvements in communications. ...In FY1976, library systems made 75,400 stops at 584 libraries. In FY 1986, systems reported making 130,550 stops at 944 libraries."

By way of comparison, the FY 2005 operating statistics showed library systems drove 1.75 million miles, delivering 9 million items through 182,514 stops at libraries.

Shirley May Byrnes, Executive Director, DuPage Library System (DLS) commented,

"I worked at Great River Library System in the mid '60s and Rolling Prairie in the '70s. Shared integrated library systems came into Illinois while I was at RPLS and resource sharing exploded. No one at that time could have anticipated the growth in the volume of materials flowing among individual libraries of all types throughout the state. Today our delivery staff routinely uses hand trucks to get materials into and out of our member libraries, and some libraries in DLS get delivery twice a day due to the volume. Patron initiated holds and speedy, reliable delivery have been a real hit with library customers. DLS delivered 1.7 million items in the past year. I 'm impressed with what we've accomplished and excited about what the future holds for library customers."

Alice Calabrese, Executive Director, Metropolitan Library System added,

"Eight-six very active libraries participate in SWAN. No matter how you cut it, our libraries really appreciate and value our delivery service. Last year, we moved over 1.6 million items and made nearly 30,000 stops. Probably 75 % of our volume supports the SWAN libraries. I'm very proud of all the innovative things our system does. We have excellent continuing education programs and an exceptionally good library consulting and planning staff. But because library resource sharing touches so many staff members at so many of our libraries, I know many member library staff see delivery as our most valuable service."

Multi-system projects
In order to create stronger projects, six systems (Kaskaskia, Lewis and Clark, Corn Belt, Great River, Illinois Valley, and Western Illinois) chose to develop projects with one or more neighbor. The Resource Sharing Alliance of West Central Illinois (RSA) was the cooperative project under taken by the Corn Belt, Great River, Illinois Valley, and Western Illinois Library Systems. The RSA circulation

system went live in August 1984. The project was operated from Illinois Central College in Peoria until January 2, 2004 when Alliance Library System moved to a new facility in East Peoria. Lewis and Clark and Kaskaskia Library Systems cooperated in a joint project named Kaskaskia and Lewis and Clark Interconnect Project (KLIC).

Speaking to the issue of creating a consortium that spanned four systems when it was formed initially, Kitty Pope, Executive Director, Alliance Library System said,

> "Establishing the Resource Sharing Alliance of West Central Illinois was essential for the area that became the Alliance Library System. Originally, RSA had 16 members spread across four systems. Working individually no one system had enough members with enough financial muscle, bibliographic resources or interest to create a system. I'm glad my predecessors had the foresight to move in this direction. Now we have 175 participants in the integrated library system project and we look forward to a bright future."

The River Bend Library System (Coal Valley) developed a variant on the multi-system project. The River Bend Project began in 1980, but due to problems with its initial, online vendor, it went live with a CLSI system in 1984. At start-up the consortium included 15 libraries, 6 Iowa and 9 Illinois libraries. River Bend had previously added as affiliate or cooperating members Iowa academic and public libraries, so libraries throughout the Illinois-Iowa Quad Cities participated in RBLS supported reciprocal borrowing and van delivery. Without the Iowa libraries, the River Bend project, Quad City Libraries in Cooperation (Quad-LINC), would have been very ineffective.

Mary Anne Stewart, Assistant Director, Prairie Area Library System, remembers:

> "In the RBLS area, multi-type bi-state cooperation had been around since the late 1950s. Area libraries appreciated the value of working together. A group formed in 1978 to discuss a cooperative circulation system. The libraries were ready, but without adequate funding either individually or together. The advent of LSCA funds in 1979 was just the catalyst they needed."

When River Bend joined with Heritage Trail and Northern Illinois Library Systems to form the Prairie Area Library System, 9 of the 83 online libraries in the system automation program were located in Iowa. The participation of Iowa libraries located in the immediate Quad Cities area is still welcomed. PALS is working to combine what had been four separate automation projects in the former three systems. A unified PALS project is planned to go live as soon as August 2006. At that time, the PALS project should have more than 7 million items and will circulate more than 10 million items a year. Overall operating statistics will be similar to the SWAN, the SLS project, which has over 7 million items and circulates more than 11 million items per annum.

Feisty 40
Currently, 733 libraries participate in LLSAPs operated by Alliance, DuPage, Lewis and Clark, Lincoln Trail, Prairie Area, Rolling Prairie, Shawnee and Metropolitan Library Systems. Statewide, 43 academic, 420 public, 229 school, and 41 special libraries participate in these LLSAPs. The projects have holdings information for 28 million items, circulation in excess of 39 million, and patron records for 3.5 library users. At a minimum, these projects offer circulation and online catalog services. Many offer additional content (book jackets, reviews, table of contents, author biographies), links to electronic resources (e-books, e-journals, websites), and patron notification when new items are added in a patron's area of interest. Some offer the user the ability to simultaneously search multiple library catalogs, journals, reference databases and web resources with one query.

Where are we going? Resource sharing will continue to grow

Library systems throughout the state are seeing increased lending between members of the LLSAP. Generally, this is attributed to software that has made it easier for patrons to place holds themselves on items in a consortia's database.

Bev Obert, Executive Director, Rolling Prairie Library Systems says, "The volume of material shipped from one library to another has increased by 33 % since the system changed vendors 18 months ago. The new system makes patron initiated loans easier to place and make the whole system more dynamic."

Jan Ison, Executive Director, Lincoln Trail Libraries System, quoted an unnamed librarian in a 1994 *Illinois Libraries* article on patron initiated loan in LINC. "The statement sounds as true today as it did then", Ms. Ison said. 'We just need to get out of their (the patron's) way and let them make their own decisions'.

Integration of services will continue to grow

Integrated library system vendors understand that libraries want their patrons to get access to all the library's resources easily and quickly. New software is making the online catalog much more than just an index to print collections. Illinois consortia are in the process of implementing software that will enable each consortia member to provide online access to the local content they create for their community and their unique set of publicly licensed electronic resources. The boundaries between formats are dissolving in the push to meet the patron's demand for useful information.

Paul Mills, Manager, Technology Services, Prairie Area Library System said,

> "Our librarians have always excelled at understanding the wants and needs of their communities. The addition of WYSIWYG style software gives our non-techie librarians the opportunity to make their content accessible without having to become bogged down in the "how" of getting the content up."

Rolling Prairie Library System LLSAP Manager (name withheld) commented:

> "Our libraries are looking to offer a complete catalog to their patrons. The LLSAP of the future will provide access to local and remote library materials, subscription content, community resources, customizable information-on-demand services, and other types of information that we can't even conceptualize in today's terms. The technology, as it evolves, will be faster, more responsive, and flexible."

Increasing the patron's means of access

Libraries are working to provide patrons access by the means patrons choose for themselves. Wireless or wired, microcomputer, pda, cell phone, you name it. Sharp people at consortia members and library systems are working tirelessly to provide access to patrons on the patron's terms, not just the library's.

Paul Mills, Manager, Technology Services, Prairie Area Library System said,

> "Studies show that 85 % of 15 to 25-year-olds have at least one IM account and expect to be able to not only access our resources through the means they get other information, but also to communicate with us that way as well. We must never forget that we must also make it easier for our patrons to access our most valuable resource — our librarians."

Increasing the patron's interaction

Libraries will continue to work with their vendors so that the software they use to provide access to library resources will become more of a two-way street. Patrons have the expectation of being able to interact with our data and with us rather than merely to receive what we present. Integrating tools such as instant messaging, patron reviews, and patron defined tags will enable our librarians to be partners with their patrons in creating added value for the resources our libraries have.

Rolling Prairie Library System LLSAP Manager (name withheld) commented:

> "The librarian remains a key player. The LLSAP of the future, like all automated systems, must always enhance the role of the librarian, not degrade or eliminate it as doomsayers have prophesied. The Google model is never the complete answer, because our patrons want to find precisely what they need and to find it quickly. In order to make that happen, librarians will provide and use the best tools at their disposal and will instruct the patrons how to make those tools work for them."

Closing Comments

Several closing observations come to mind as we reflect on library automation:

Standardized bibliographic records

First, it will take nearly 45 years - from the mid '70s to 2010 – to create catalogs that share identical bibliographic records for identical titles. The recent move to require library systems to base their holdings records on OCLC MARC was long overdue. Going forward, it will be easier to discover all the bibliographic resources in all of the library system projects.

Linked systems passé

Second, on and off we spent a lot of time and energy talking about linking all the library system consortia for resource sharing. It is nice to think that the next generation of library leaders will be able to create the linkages we imagined with a modest amount of effort.

Staying successful means working together

Increasingly, LLSAPs may not be for every library. The average system LLSAP has nearly 100 participating libraries. Each year it holds scores and scores of meetings for hundreds of people from all levels of their parent organizations that work on a myriad of policies, tasks, and strategies. As projects evolve, they build on long histories of group decisions and strong perspectives of effective service. Participants recognize that they give up some local control but believe their library and its patrons gains overall through participation.

The trade-off of local control for the advantages of participating seems very favorable now. More computing power and more fully featured software from vendors offer more local libraries options with the established operating advantages of group programs. A high number of participants tends to lower ongoing costs of innovation, and provides patrons' with more library resources. However, projects with more options and collective resources challenge the technical, managerial, leadership and human relationship skills of the systems and participating libraries. Getting agreements on new activities and policy changes takes time and resources.

Library System Automation Projects will continue to be for those libraries that need one another enough to justify some loss of local control for the benefit of improving services to patrons. Projects will

continue to rely on strong people from local libraries who are willing work together to solve problems, exert leadership, and who can see a future where lots of people gain, not just the patrons at their individual library.

In many ways, group dynamics have remained a constant in LLSAPS. Strong groups have generally created strong projects. Going forward our continued willingness to work with one another will continue to be our most valuable asset.

ISL Grant funding contributed to two periods of rapid development

There have been two sharp periods in the growth in the number of libraries participating in library system automation programs.

1974 – 1987: Start-up

There was a sharp period of growth from the mid-70s to the mid-80s as systems through out the state established and expanded programs. In 1974, only 15 libraries participated library system projects in NSLS and SLS. By 1987, the number of participants had mushroomed.

According to the "FY1988 Illinois Library System Directors Organization Funding Report" over $4,000,000 in LSCA funding provided essential start-up funding.

> "Since 1974, all 18 library systems have become involved in library automation projects offered through the System Headquarters. Collectively, these projects hold bibliographic data on nearly 19 million items owned by 316 participating libraries.

> "Participants represent all segments of the library community and consist of 234 public, 11 special, 24 academic, 29 school libraries, and the 18 library system headquarters. The participating public libraries provide service to 80% of the state's population taxed for public library service. A total of 1,154 remote terminals for public service and on-line catalog access have been installed as part of these systems.

> "According to a recent survey approximately $15,817,288 has been invested in equipment for this network since 1974. Of that amount, 26% came from ISL in LSCA funds, 24% for library system funds, and 50% from participating libraries. (Numbers included the Chicago Public Library.)

> "Since 1974 the number of staff members working on regional automation projects has increased from 6 to 63.5 full-time equivalents. Likewise, aggregate operating expenses for library system automation projects have risen from $75,000 to nearly $4 million in FY 1986. In FY 1986, participating libraries paid 56% of this amount and 44% was paid by the library systems. For some library systems, annual automation expenses approach 25% of their area and per capita income."

1993 - 2002

Another period of sharp grow occurred from 1993 through 2002 when Live and Learn Library System Automation grants and less expensive, more versatile Internet-based telecommunications teamed up to make participation more affordable for many libraries. In 1993, library system projects had 308 online participants. All 18 systems, however, connected to the Internet by 1995. By 2002, an estimated 80%

of the libraries participating in their System's integrated library system service used the Internet to carry their communications.

Jan Ison, System Director, Lincoln Trail Libraries System, remembers,

> "Between 1993 and 2002, the number of libraries participating in LINC increased from 38 to 73. During this period, nearly every library we added used their Internet service to carry LINC telecommunications. Previously, telecommunications cost would have made participation impossible for at least 50% of these libraries.

> "In addition, between 1995 and 2001, the Illinois State Library made non-competitive grants of $100,000 per year to each System to help with automation activities. In Lincoln Trail, we were able to use the lion's share of these grants to help libraries with LINC start-up expenses. I suspect 20 of these participants might not be with us today without this financial assistance."

Bev Obert, Executive Director, Rolling Prairie Library System, tells a similar story,

> "Between 1993 and 2003, the number of libraries participating in our LLSAP increased from 24 to 82. Live and Learn Library System Automation grant funding really helped the system keep the operating costs down and helped libraries with start-up costs. Also, about 20 school districts were simply ready for new library operations software and the availability of a library system program supported by lower telecommunications costs proved very timely. It was a very exciting period at the system headquarters and for our members."

Creating a shared LLSAP contributed to merger of Cumberland Trail and Shawnee Library Systems in 1992

Many Illinois librarians know that cooperating in the Resource Sharing Alliance of West Central Illinois contributed to the merger of the four systems that became the Alliance Library System in 1994. It's less well known that the first merger of the original 18 systems was Cumberland Trail Library System (Flora) and Shawnee Library System (Carterville). These systems merged July 1, 1992.

According the Joe Harris, Executive Director, Shawnee Library System and former Cumberland Trail Library System staff member,

> "Prior to merging, our library automation programs the Cumberland Trail and Shawnee Library System automation programs ran on nearly parallel tracks. Each system established an LLSAP in 1983 using DATAPHASE, Inc. software with the help of a start-up grant from the Illinois State Library. Each system had very good participation in their projects from area community colleges and larger public libraries and schools. When the Systems began looking for a new vendor in the early 90s, we began talking about a shared automation project and that really helped us see how all our services might be stronger if we brought Cumberland and Shawnee together.

> "Cumberland and Shawnee merged effective July 1, 1992. Less than a week later, System Area and Per Capita grant funding was cut by 33%. Cumberland and Shawnee by themselves would have had real problems maintaining automation programs after the cuts. All but three employees in Flora were let go and four positions were eliminated in Carterville. Our members were thankful that we'd merged after the cuts occurred. It was difficult, but at least we were able to

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