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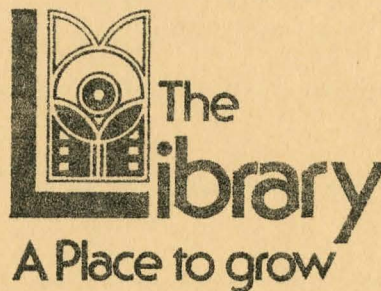
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# A NETWORKING PRIMER

November 1980



State Library of Iowa  
Office of Library Development  
Historical Building  
Des Moines, Iowa 50319

NETWORKING - OPTIONS FOR IOWA

A NETWORKING PRIMER

NOVEMBER 1980

Cooperation and Networks

There is a strong tradition of cooperation among libraries in Iowa. The seven regional library systems, North East Iowa Academic Libraries, Southeast Iowa Academic Libraries, Tri-College Cooperative Effort, and of course, I-LITE, are all examples of cooperative programs in Iowa. As IOWANET, the proposed multitype, multipurpose library network for Iowa, began to be speculated upon, discussed and planned, it seemed a natural, even inevitable development. It is time to expand our thinking beyond local cooperatives, and even the statewide configuration of I-LITE, to the more sophisticated structure of a network.

TABLE OF CONTENTS

In Battelle Columbus Laboratory's Final Report - A Needs Assessment Study of Iowa's Libraries, the distinction between cooperatives and networks is made.

Networking - Options for Iowa ----- 1

"Cooperation is the general term for association or working with others for mutual benefit."

Cooperation

I-LITE and OCLC Libraries in Iowa ----- 6

"A network is a system of formal connections among libraries and other members of the information community which allows for the communication (transfer) of information. If formal connections are usually thought of as communication channels linking together telephones, teletypes, or computers."

Maps ----- 7

Barbara Evans Markuson, "The Library Network Development" in the Journal of Library Development. In this article, Markuson cautions that using the term "network" when we are talking generally about library cooperation, obscures the significant and momentous changes that network technology will bring.

Regional Library Networks in the U.S. -----10

The Bibliographic Utilities -----16  
I-LITE will deny that Markuson's caution is an estimate of that impact. The I-LITE protocols are in danger of being disregarded now that OCLC has eliminated blind searching and placed the collections of over 2100 libraries nationwide.

A Networking Glossary -----19

A Networking Bibliography -----24

IOWANET and the Library System Design Consultants

The initial design of IOWANET as originally conceived by the State Library proposed a dual purpose for the new network. Initially, IOWANET will replace I-LITE. I-LITE's structure will not be dismantled until there is a workable IOWANET interlibrary loan system with acceptable protocols to replace it. Then, as IOWANET develops, guided by the priorities revealed in the Iowa Needs Assessment Survey's "Rankings of Potential IOWANET Services" and the recommendations of the IOWANET consultant, IOWANET should provide a political, technological and logistic structure to its member libraries whereby other services can be initiated as needs are perceived and agreed upon.



## NETWORKING - OPTIONS FOR IOWA

### Cooperation and Networks

There is a strong tradition of cooperation among libraries in Iowa. The seven regional library systems, North East Iowa Academic Libraries, Southeast Iowa Academic Libraries, Tri-College Cooperative Effort, and of course, I-LITE, are all examples of cooperative programs in Iowa. As IOWANET, the proposed multitype, multipurpose library network for Iowa, began to be speculated upon, discussed and planned, it seemed a natural, even inevitable development. It is time to expand our thinking beyond local cooperatives, and even the statewide configuration of I-LITE, to the more sophisticated and versatile structure of a network.

In Battelle Columbus Laboratory's Final Report - A Needs Assessment Study of Oklahoma Libraries, the distinction between cooperatives and networks is defined as follows:

"Cooperation is the general term for associating or working with others for mutual benefit. Cooperation may be formal or informal."

"A network is a system of formal connections among libraries and other members of the information community which allows for the communication (sharing) of information. The formal connections are usually thought of as communication channels linking together telephones, teletypes, or computers."

Barbara Evens Markuson, in her article "Revolution and Evolution: Critical Issues in Library Network Development" in the anthology Networks for Networkers, cautions that using the term "network" when we are talking generally about library cooperation, obscures the significant and momentous changes that network technology will bring to the libraries." None of the librarians who have observed the impact OCLC has had on I-LITE will deny that Ms. Markuson is correct in her estimate of that impact. The I-LITE protocols are in danger of being disregarded now that OCLC has eliminated blind searching and placed the collections of over 2100 libraries nationwide at the fingertips of the 40 OCLC libraries here in Iowa.

### IOWANET and the Library Systems Design Consultant

The initial design of IOWANET as originally conceived by the State Library proposed a dual purpose for the new network. Initially, IOWANET will replace I-LITE. I-LITE's structure will not be dismantled until there is a workable IOWANET interlibrary loan system with acceptable protocols to replace it. Then, as IOWANET develops, guided by the priorities revealed in the Iowa Needs Assessment Survey's "Rankings of Potential IOWANET Services" and the recommendations of the IOWANET consultant, IOWANET should provide a political, technological and logistic structure to its member libraries whereby other services can be initiated as needs are perceived and agreed upon.



The IOWANET consultant is being asked to supply a great deal of guidance, in large part based on his or her expertise and perspective. The State Library's Request for Proposals which was sent to over a dozen library systems design consultants made the following statements:

"Under the guidance of the library systems consultant, an examination will be made to determine which libraries will participate in IOWANET either as suppliers or as affiliate members. The services IOWANET should offer, along with supporting projects, technologies, and products necessary to provide those services, should be defined. The recommendations of the consultant will be sought concerning the structure of IOWANET, including its governance, funding, and appropriate enabling legislation, as well as its total geographical configuration and concomitant interlibrary loan protocols."

This is not to say that the consultant is going to make all final decisions about IOWANET. It is vital that the library community be in close touch with the State Library and its IOWANET consultant during the time the consultant is gathering information, seeking background and determining current and future needs in Iowa. It is even more important after the consultant has submitted the final recommendations that the State Library is able to confer closely with librarians who are sensitive to current issues and well informed of all the viable and realistic options available, before the State Library makes its decisions and proceeds to appropriate action.

### The First Priority of IOWANET

Interlibrary loan was named as the first priority by four out of five of the types of libraries who ranked potential IOWANET services. In that the time has undeniably come to "do something about I-LITE," interlibrary loan is the first order of business.

What are our options for interlibrary loan in the state? There are several, and some begin with the creation of a new interlibrary loan system and then lead eventually to other new services and systems for the libraries of Iowa.

- I. Simply upgrade the I-LITE machinery and continue as before.
- II. Upgrade the I-LITE machinery and change the interlibrary loan protocol to accommodate the services of the OCLC ILL subsystem. Such a protocol might look like the following:
  - A. Check OCLC for Iowa locations. If the item is owned by an Iowa I-LITE library, make a direct request by teletype (or upgraded communications system) in this order:
    1. Nearest public library.
    2. Nearest academic library.
    3. Nearest university library (Special arrangements will have to be made to secure access to the University of Iowa's RLIN records).



- B. If the item is owned by an Iowa OCLC library which is not an I-LITE library, make a direct request through locally established phone loops or through the OCLC ILL subsystem.
  - C. If OCLC does not indicate that the item is owned by an OCLC library, either make a request on OCLC to out-of-state libraries or proceed with the I-LITE "Wheel" routine.
- III. One librarian suggested that a period of "anarchy" might be in order, during which time each library would run a "shake-down" operation, seeking its own most advantageous arrangements, agreements, traffic patterns and routines. The implication of such an unstructured operation is that it would give Iowa's libraries the opportunity to discover whether state protocols are necessary at all. If they are, a more natural, effective, efficient pattern would establish itself.
- IV. Install new communications and computer technology. Redesign I-LITE entirely, eliminating the "Wheels" and creating new multitype regions of cooperation. Protocols will be based on an Iowa Union Catalog derived from OCLC archive tapes, automated circ records and locally created data bases. The format would be either COM or online, and each bibliographic record would include locations and local call numbers.

It is the last option, "IV", which appears to offer the most creative, the most long-lasting and versatile service for the future, because it is based on a data base which can be put to a variety of uses by Iowa's libraries over the coming years. It is also the most costly option to implement.

#### The Iowa Union Catalog

The creation of an Iowa Union Catalog from OCLC archive tapes, automated circ system records, and machine readable records from locally created data bases is labor intensive and costly. Once it was agreed that such a union catalog was to be created, standards would have to be agreed upon for the entry of bibliographic records, so that these records, collected from three or four different sources, could be combined in the most efficient manner.

A determination as to the depth of the data base would have to be made. For interlibrary loan purposes it may not be necessary for every participating library to enter its entire collection. Perhaps only the last three, five or seven years of publications is required to create an effective data base. Some libraries may choose to enter only special segments of their collections.

Programs to manipulate the machine readable records would have to be designed especially for Iowa's needs, or purchased and adapted. The Washington Library Network sells its software for around \$250,000. Iowa State University has just purchased the SPIRES (Stanford Public Information Retrieval System) software to apply to its OCLC archive tapes.



## Options For Funding

It has been estimated that conversion costs alone for the eight largest urban public libraries in Iowa would come to over three million dollars. The entire FY 80 LSCA Title III (Interlibrary Cooperation) appropriation was only five million dollars - for the entire nation! LSCA monies could certainly help, but an IOWANET based on an Iowa Union Catalog would have to seek substantial funding elsewhere.

The likeliest source for such funding would be the Iowa State Legislature. A viable IOWANET whose services grew year by year would need to be based in Iowa law with appropriate enabling legislation that also provided adequate funding, not only for planning and development, but for implementation and continuing maintenance.

It then becomes evident that Iowa's libraries, to successfully secure such legislation and funding, must present to the legislature a unified position. IOWANET's multitype library philosophy would have to be accepted and put forth in a concerted, organized manner. Allen Sevigny, Library Program Director, U.S. Office of Education Region V, Chicago, wrote in the Nov.-Dec. 1977 Wisconsin Library Bulletin that "the least hint of public dissent within the library world will cause legislators to draw back and support neither faction. This is the reason that type-of-library factionalism is so dangerous."

There are other potential sources of funds on a more local, or individual library, level that might be explored for projects that could be accomplished satisfactorily at that level while still working and contributing to IOWANET in a coordinated manner. When an individual library installs its own automated circulation system or decides to convert its card catalog to COM form, the library's bibliographic records must still be converted to machine readable form. Ultimately, if these separate conversions were all done to a mutually agreed upon standard for entry, the resulting records could still be incorporated into an Iowa Union Catalog. Libraries might explore such sources of funding as municipal bank loans, city and/or county funds, or private grants for such locally limited projects.

## The State Library's Options

The State Library has several options for creatively and productively using the limited LSCA dollars it receives each year.

- A. The State Library could provide start-up funds for physical equipment.
- B. The State Library could pay some proportion of the costs of conversion of records to machine readable form for automated circulation systems, COM catalogs and RetroCon/OCLC.
- C. The State Library could pay the interest on bank loans for the purchase of automated systems equipment.
- D. The State Library could subsidize the day-to-day interlibrary loan transactions component of IOWANET.



## IOWANET

Perhaps it is to our advantage to have reached a situation where libraries can no longer afford, literally afford, to exist independently of other libraries in their communities, their regions, their state. It seems that we have come to that point in time when such ideas as multitype library networking or cooperative collection development must be seriously considered, so that we can meet even the minimal needs of our patrons today and into the future.

The Iowa Networking Forum is our opportunity to explore controversial issues (cooperative collection development, reimbursement of net suppliers, the creation of an IOWANET Data Base). We can voice concerns, examine fears and doubts, and inform the State Library of needs and priorities. Hopefully this Forum will produce several task forces, and lead to other meetings, seminars and workshops. The result of this activity will be IOWANET, a network which better serves the needs of the libraries of Iowa, and which can be supported enthusiastically by all its participants.



I-LITE AND OCLC LIBRARIES IN IOWA

I-LITE LIBRARIES

Public Wheel

Cedar Rapids  
Council Bluffs  
Davenport  
Des Moines  
North Central  
Sioux City  
Waterloo

Academic Wheel

Coe  
Cornell  
Graceland  
Grinnell  
Loras  
Luther  
Morningside  
Wartburg

University Wheel

Drake  
Iowa State University  
University of Iowa  
University of Northern Iowa

State Library

OCLC LIBRARIES

Cedar Rapids  
Council Bluffs  
Davenport  
Des Moines  
Northern Iowa Area C.C.  
Sioux City  
Waterloo

Coe  
Cornell  
Graceland  
Grinnell  
Loras  
Luther  
Morningside  
Wartburg

Drake  
Iowa State University  
University of Northern Iowa

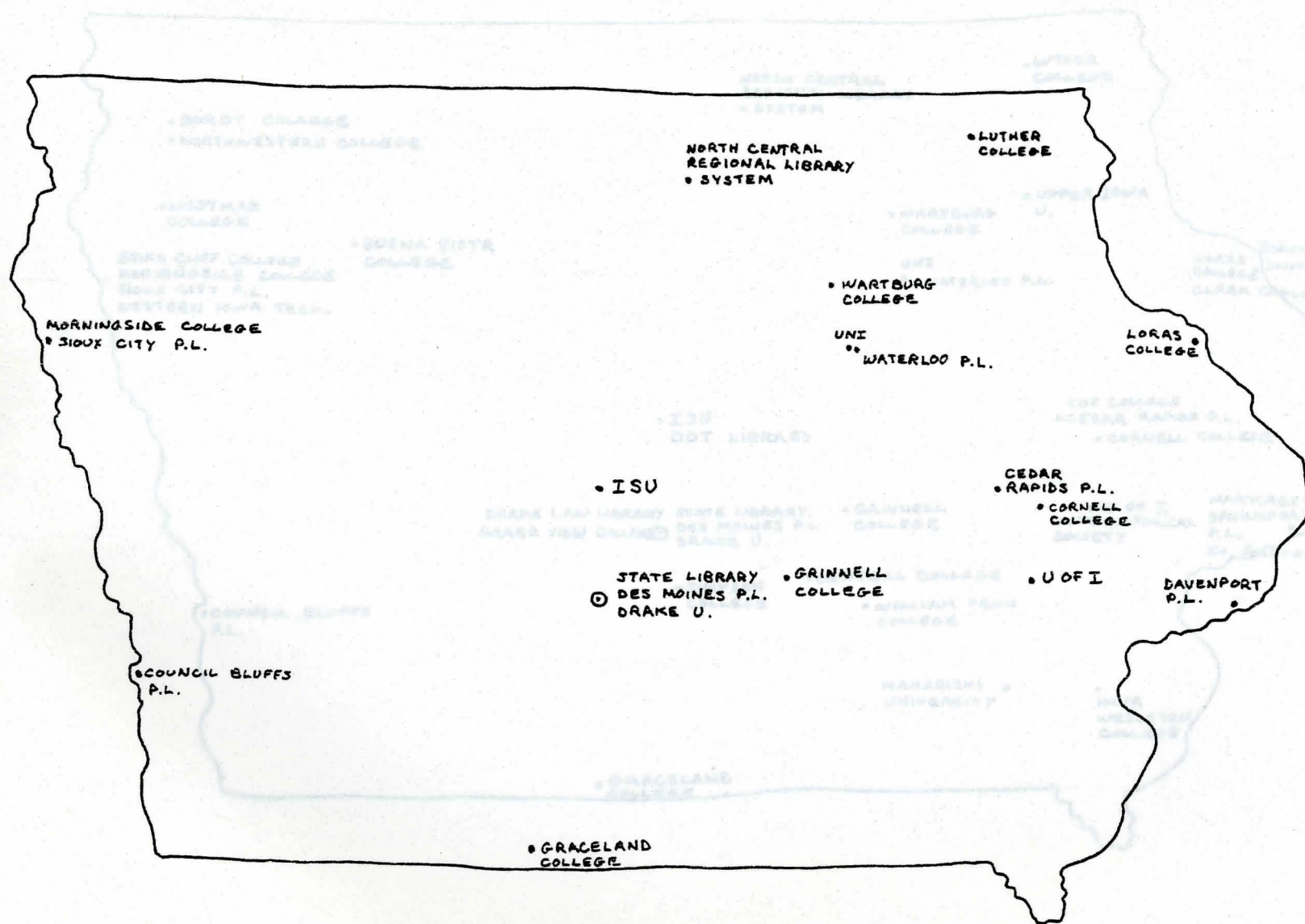
State Library

Briar Cliff  
Buena Vista  
Central  
Clark  
Drake Law  
Dordt  
Grand View  
Iowa Wesleyan  
Maharishi U.  
Marycrest  
Northwestern  
St. Ambrose  
Schools of Theology - Dubuque  
Simpson  
University of Dubuque  
Upper Iowa University  
Western Iowa Tech C.C.  
Westmar  
William Penn  
Iowa Historical Society  
Dept. of Transportation



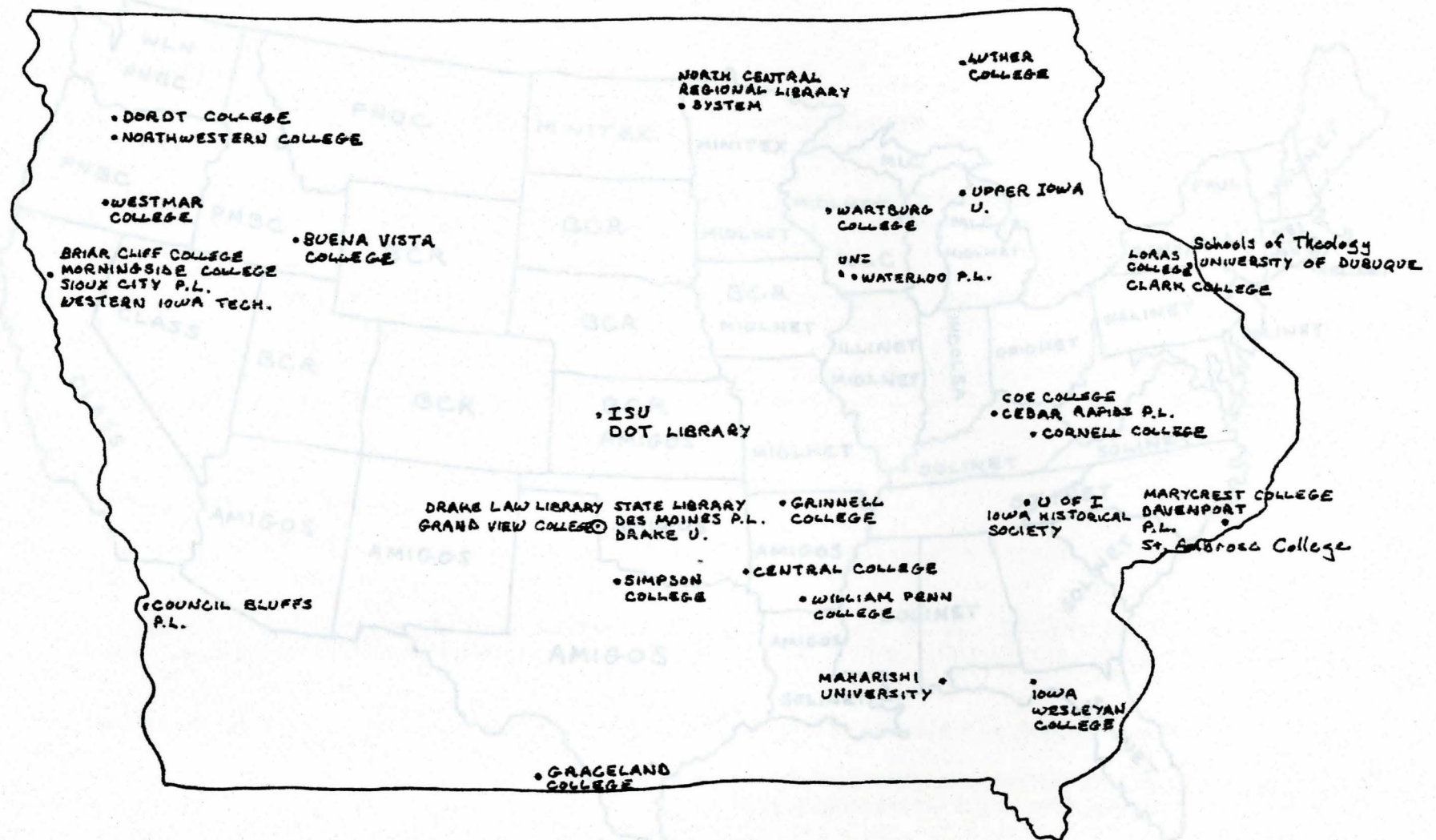
# IOWA'S OCLC LIBRARIES

## IOWA'S I-LITE LIBRARIES



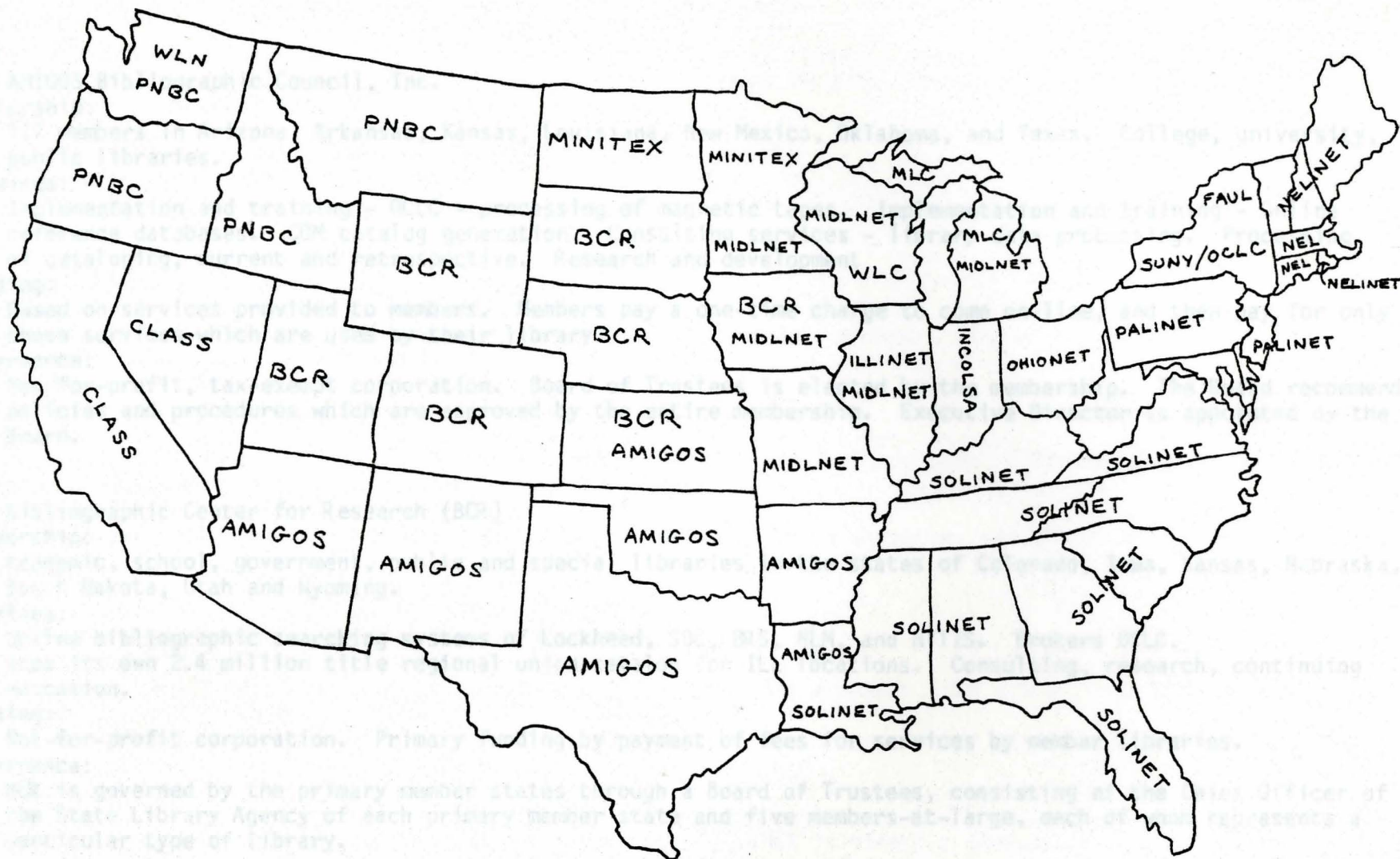


# IOWA'S OCLC LIBRARIES





## REGIONAL LIBRARY NETWORKS IN THE U.S.





## REGIONAL LIBRARY NETWORKS IN THE U.S.

NAME:

AMIGOS Bibliographic Council, Inc.

Membership:

117 members in Arizona, Arkansas, Kansas, Louisiana, New Mexico, Oklahoma, and Texas. College, university, public libraries.

Services:

Implementation and training - OCLC - processing of magnetic tapes. Implementation and training - Online reference databases. COM catalog generation. Consulting services - library data processing. Processing of cataloging, current and retrospective. Research and development

Funding:

Based on services provided to members. Members pay a one-time charge to come on-line, and then pay for only those services which are used by their library.

Governance:

Not-for-profit, tax-exempt corporation. Board of Trustees is elected by the membership. The Board recommends policies and procedures which are approved by the entire membership. Executive Director is appointed by the Board.

NAME:

Bibliographic Center for Research (BCR)

Membership:

Academic, school, government, public and special libraries in the states of Colorado, Iowa, Kansas, Nebraska, South Dakota, Utah and Wyoming.

Services:

Online bibliographic searching systems of Lockheed, SDC, BRS, NLM, and NYTIS. Brokers OCLC. Uses its own 2.4 million title regional union catalog for ILL locations. Consulting, research, continuing education.

Funding:

Not-for-profit corporation. Primary funding by payment of fees for services by member libraries.

Governance:

BCR is governed by the primary member states through a Board of Trustees, consisting of the Chief Officer of the State Library Agency of each primary member state and five members-at-large, each of whom represents a particular type of library.

NAME:

California Library Authority for Systems and Services (CLASS)

Membership:

270 libraries of all types in California, Nevada and Washington

Services:

Trains and services users of RLIN which are not RLG members. Assists and trains online reference services users. Publishes CATALIST (locations for 400,000 monographs held by 150 California libraries) and CULP (California Union List of Periodicals) in microform.

Funding:

Grants, membership fees, fees for services and products

Governance:

Libraries of state or public institutions have the principal voice in the governance structure.

NAME:

Five Associated University Libraries (FAUL)

Membership:

Cornell University, N.Y.; University of Rochester, N.Y.; SUNY-Binghamton, Binghamton, N.Y.; SUNY-Buffalo, Buffalo, N.Y.; Syracuse University, N.Y.

Services:

Planning and coordinating agency. Contracts for services as needed. Technical Services Committee

Funding:

Member institutions pay dues which are determined and unanimously voted upon by the designated representatives in the adoption of a duly authorized annual corporate budget.

Governance:

FAUL is governed by a board of directors, composed of the library directors and the provosts from each member campus.

NAME:

Illinois Library and Information Network (ILLINET)

Membership:

Libraries of all types using the OCLC system. 574 public, 149 academic, 629 school, and 392 special

Services:

Brokers OCLC. Develops use of automated circ systems. Develops a statewide coordinated delivery system.

Funding:

State and federal support.

Governance:

ILLINET is coordinated by the Illinois State Library. ILLINET is directly constituted by the 18 public library systems of Illinois, their public library members, affiliates, reference and research centers and the special resource centers of Illinois.



NAME:

Indiana Cooperative Library Services Authority (INCOLSA)

Membership:

128 libraries of all types.

Services:

Coordinates use of OCLC in Indiana. Puts out the Indiana Union List of Serials. Centralized processing and cataloging center serves 50 libraries.

Funding:

State funds, LSCA grants, other grants, membership fees.

Governance:

INCOLSA is organized under Indiana Library Services Authority act. Each member institution is represented in the Board of Directors and has one vote; this board elects a seven-person Executive Committee.

NAME:

Michigan Library Consortium (MLC)

Membership:

60 public and academic libraries in Michigan

Services:

Brokers OCLC - supplies administrative services, training, and system maintenance. Sponsors an active exchange of ideas among users.

Funding:

At least 90% from OCLC surcharges. Membership dues, workshop income, interest.

Governance:

A full Board of Trustees is appointed annually by the MLC members. The property, business, and affairs of the Consortium is managed by the Board of Trustees.

NAME:

Midwest Region Library Network (MIDLNET)

Membership:

Libraries in 12 midwestern states are eligible. As of July, 1978, 4 academic libraries and state library networks were represented on the executive board.

Services:

MIDLNET offers OCLC, BRS, DIALOG and ORBIT services.

Funding:

Derived from dues, service fees and grants.

Governance:

A not-for-profit corporation. Each full member appoints a representative to the Board of Directors.



NAME:

Minnesota Interlibrary Telecommunications Exchange (MINITEX)

Membership:

Over 115 Minnesota libraries of all types.

Services:

Centralized document delivery, reference and information service, online bibliographic searching, union list of serials (Minnesota Union List of serials - MULS), online data base of monographs through OCLC, and collection development program.

Funding:

Foundation grants, federal library funds.

Governance:

MINITEX is one of 30 programs of the Minnesota Higher Education Coordinating Board which is appointed by the governor with the consent of the senate. Advised by the Higher Education Advisory Council.

NAME:

New England Library Information Network (NELINET)

Membership:

80 member libraries of all types in six state region (Massachusetts, Connecticut, Vermont, Maine, New Hampshire, Rhode Island). An additional 42 libraries are served directly.

Services:

Brokers OCLC services. Offers many related services. Offers online bibliographic search services (BRS, Lockheed, etc).

Funding:

Fees for service, dues from member institutions and government appropriations.

Governance:

Not-for-profit, tax-exempt corporation. Executive committee, composed of directors of member libraries.

NAME:

OHIONET

Membership:

Over 150 Ohio libraries, mainly academic and public with a few special libraries. Its members are Ohio libraries participating in the OCLC System.

Services:

Full complement of management, training, implementation, and technical programs.

Funding:

Fees for service. Corporate worth of 500,000 dollars. Maintains a service program to members of over two million dollars annually.

Governance:

Not-for-profit, tax-exempt corporation. Members elect trustees, retain right to amend the code and articles of the corporation. Member owned and member governed. 9 member Board of Trustees sets rates for services and authorizes all expenditures.



NAME:

Pacific Northwest Bibliographic Center

Membership:

Multitype libraries in Alaska, Idaho, Oregon, Washington, Montana, British Columbia, Saskatchewan, Alberta.

Services:

Locates materials throughout region for ILL. Will search outside region. Assists in bibliographic verification, provides photocopies from library of U. of Washington, provides some access to WLN, OCLC and LC when necessary. Trains on WLN.

Funding:

The Board creates a budget, and then each participating state pays a proportion of that budget according to volume of use. Libraries in Washington and Oregon have graduated levels of charging by types of libraries.

Governance:

The governing board is made up of representatives from 5 of the member states, a representative of the University of Washington, and the vice-president of the Pacific Northwest Library Association.

NAME:

PALINET and Union Library Catalog of Pennsylvania

Membership:

160 libraries of all types in eastern Pennsylvania, New Jersey, Delaware, and Baltimore, Maryland.

Services:

Brokers OCLC. Interlibrary loan location referral services through the Union Library Catalog, which includes a file of 4.5 million entries with holdings in 127 libraries.

Funding:

Fees for services.

NAME:

Southeastern Library Network (SOLINET)

Membership:

About 200 libraries of all types in 10 southeastern states (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia).

Services:

Brokers OCLC, including training. A SOLINET Union Catalog is being created from the OCLC Archives Tapes. SOLINET has brought the WLN software and hopes to use these programs to provide its members an interlibrary loan system. SOLINET data base subject search and authority control capabilities.

Funding:

Fees for service, grants.

Governance:

The membership controls the policies of the organization and the activities of the staff by direct vote at membership meetings and through the elected Board of Directors.



NAME:

SUNY/OCLC

Membership:

152 New York state institutions representing over 500 university, college, private and public libraries.

Services:

Stores and maintains the SUNY/OCLC Archive Tapes. Programs for the tapes make possible the following services:

1) Analysis of collection strengths and weaknesses; 2) COM Catalogs; 3) Online circ files; 4) Management data.

Funding:

SUNY/OCLC is almost totally self-supporting from participants' network fees.

Small amount of individual support.

Governance:

SUNY/OCLC is administered by the Office of Library Services of the Central Administration of State University of New York. It is governed by the Policies of the Board of Trustees of State University and by the state and federal laws which govern public higher education in New York State. Its SUNY/OCLC Advisory Committee (SONAC) provides advice and planning expertise for N.Y. users of OCLC. SONAC has 9 representatives from among whom are elected delegates to the OCLC User's Council.

NAME:

Western Council of State Libraries, Inc.

Membership:

State Librarians of 14 states west of the Mississippi River, including Alaska and Hawaii, excluding Minnesota, Missouri and Texas.

Services:

Provides a forum for the development of resource sharing. Continuing education programs. Staff exchanges.

Funding:

Membership dues.

Governance:

Membership elects president and other officers.

NAME:

Wisconsin Library Consortium (WLC)

Membership:

35 libraries in the state of Wisconsin; academic, public and state agency.

Services:

Brokers OCLC

Funding:

Surcharges on OCLC transactions, state funds, LSCA funds, HEA grant.

Governance:

WLC is the service program of the Council of Wisconsin Libraries (COWL), a not-for-profit corporation composed of participating libraries.



## THE BIBLIOGRAPHIC UTILITIES

There are four recognized Bibliographic Utilities which, by virtue of the quantity and scope of the services they offer their customers, stand outside of, or above, the regional networks described earlier in this Primer. The four utilities, OCLC, RLIN (Research Libraries Information Networks), WLN (Washington Library Networks), and UTLAS (University of Toronto Library Automation Systems) provide large data bases or unique software which the regional networks do not offer themselves. In many cases the regional networks "broker" the services of the utilities to the local members of the regional networks. A bibliographic utility might be more precisely defined as "an organization that maintains a large online bibliographic data base and provides to its customer libraries products and services (both on and offline) using that data base. ("Understanding the Utilities. "American Libraries" (May 1980):262.)

### OCLC

OCLC is the largest of the four bibliographic utilities. It is a not-for-profit corporation chartered by the state of Ohio. Its data base holds over 6 million records which display over 3300 terminals in over 2100 libraries on this continent. OCLC presently offers to its member libraries an online union catalog and shared cataloging, an interlibrary loan subsystem, a serials control subsystem, and an acquisitions subsystem (in the testing stage). Other services, such as subject access, circulation control and remote catalog access, are in developmental stages.

OCLC provides its services to individual libraries through their membership in regional networks (such as SOLINET and BCR). In most cases libraries sign contracts with these networks, and the networks then sign contracts with OCLC. Only seven libraries contract directly with OCLC.

OCLC is not without its problems. OCLC is limited by the accuracy and completeness of the records input by its members. There is no authority control. Entry is slow because edited records must be sent line-by-line rather than a whole screen or a whole record at a time. There are many duplicate records in the system, and there is no access by subject.

Shortcomings aside, OCLC's most visible and most valuable asset is still its great data base. There is wide-spread agreement that OCLC is probably the best development that has ever occurred in the technical services field. Many librarians feel there is no better, less expensive system for building a bibliographic data base.



## RLIN

The Research Libraries Information Network is one of four services offered by the Research Libraries Group, Inc. RLG, Inc. is a corporation owned by 19 of the major universities and research institutions in the nation. Besides RLIN, RLG offers programs in collection management and development, shared resources, and preservation.

RLIN has a data base of 2.2 million plus book records, 370,000 serials records, and 1.6 million authority records. It offers its members authority control, an acquisitions subsystem, an interlibrary loan subsystem, management information, patron access to online catalogs, subject access and Boolean logic. RLG expects its members to input the full MARC record into the RLIN data base. Researchers are enthusiastic about the quality of RLIN's records, and its extensive, sophisticated and flexible search capabilities.

RLIN was created to satisfy the unique problems of research libraries in linking vast, complicated, multilingual research collections. RLIN's objectives are different from those of OCLC, and as cooperative efforts among libraries become increasingly critical, the competition between these two utilities should be healthy and beneficial.

## WLN

The Washington Library Network is a relatively small bibliographic utility which limits its direct service to libraries in the Pacific Northwest area. What is unique about WLN is the fact that it will sell, and in fact encourages the purchase of its sophisticated software.

58 libraries of all types in 6 states are participants in the utility whose bibliographic records number 1,616,000 plus. But despite such a strong regional data base, the principal interest of libraries and regional networks in WLN is its attractive software package.

The WLN system provides excellent authority control for cross-referencing, search capabilities including truncated values, Boolean operators, and access by subject. The system also offers circulation control, acquisition functions that can be called up on the same terminal as cataloging and interlibrary searching, and spin-off COM catalogs.

Both SOLINET and the University of Illinois found the software attractive enough to purchase and apply to their existing OCLC tapes. The University of Illinois will pay upwards of \$250,000 for the system.

In March, 1979, RLG and WLN agreed to develop joint programs leading to the development of a multi-network data base. The first phase of the program will allow the two utilities to share authority files. WLN sees this agreement as a large first step toward the creation of a national network.



## UTLAS

The University of Toronto Library Automation Systems utility has as yet no customers in the United States, although it sells its products and services to more than 500 libraries on 6 continents. Among the services UTLAS offers are CATSS, its online "Catalog Support System" based on a data base of over 7 million items (not all unique), an online authority file, interlibrary searching, and a program for the construction of bibliographies.

UTLAS' most sophisticated service is its LCMS (Library Collection Management System). This is a minicomputer package that provides online inventory control, including searching and circulation, at the local, regional and UTLAS-centralized levels. A spokesperson for UTLAS has announced that not only is UTLAS willing to market its services in the U.S., it is "anxious" to do so.



## A NETWORKING GLOSSARY

This glossary contains a few key terms selected for inclusion here because they are the most basic, the most frequently used, and the most necessary to an understanding of a discussion of library networking today.

The glossary does not attempt to be a complete listing of all networking and computer terms, but it is hoped that the terms included here will provide a common vocabulary for librarians participating in a discussion on networking and automation.

Archival Tape: A magnetic tape that contains a copy of a library's machine readable data base in MARC II format. A library's OCLC archival tapes will contain all local data for a specific record, which does not display on the master record shown on the CRT.

ASCII: American Standard Code for Information Interchange.

A computer code which provides a method of representing data so that it can be interpreted by computers. ASCII is a 7 bit code used primarily for data communication.

Authority File: A file that may contain records of the authorized form of author headings (personal, corporate, meeting and conference names, and uniform title headings), author/title and title series headings, and subject headings (topical, geographic, personal, corporate and meeting names, and uniform title headings). Cross-references and notes are usually included where appropriate.

Baud: A unit of signaling speed equal to the number of separate signal events per second.

One baud means that one bit moves through a telecommunications line every second. Common high speed baud rate is 1200 bps (bits per second).

Bibliographic Utility: An organization that maintains a large online bibliographic data base and provides to its customer libraries products and services (both on and offline) using that data base. The four major bibliographic utilities are OCLC, UTLAS, WLN and RLIN.

Bit: A unit of information that is the smallest unit in the binary system used in the computer systems discussed in this Primer. A bit is a representation of one or zero. It is the combination of these bits that represent data. In the 8 bit EBCDIC computer code, 1000 0001 = "a" and 1100 0001 = "A". 1111 0111 = the number 7. Each grouping of 8 bits is known as a byte.



Boolean Logic: A technique for customizing an online search request by combining or excluding characters, words and numbers. The terms or "operators" used to achieve this effect are AND, OR, and AND NOT. RLIN, UTLAS, and WLN provide this capability. OCLC does not.

Byte: A grouping of adjacent binary digits or bits operated on by the computer as a unit. The most common size of byte contains 8 binary digits.

K = 2 to the 10th power or 1024 bytes.

MB = Megabyte or 1 million bytes. K and MB are terms used to describe the primary storage capacity of a computer.

Central Processing Unit (CPU): See "Main Frame"

COM: Computer Output on Microform.

Computer produced microfiche or microfilm. COM has come to be associated with computer produced catalogs on fiche or film. These COM catalogs are known as micro-catalogs or a "COMCAT."

CRT: Cathode Ray Tube.

A television-like device upon whose screen is displayed the output information of the computer to which it is connected. One type of terminal, as opposed to a Printer.

Data Base: The entire collection of data files maintained in a computer system.

Dedicated Telephone Line: A telephone line used exclusively by one customer. The line usually does not pass through interexchange switching equipment. The line is provided for a monthly service charge without regard to the amount of use of the line.

See "Dial-up Access."

Dial-up Access: The use of a dial or pushbutton telephone to place a telephone call from a library to a computer. In a dial-up system the library's computer terminal is not linked to the computer when not in use. Libraries using dial-up access often don't have the full range of functions available to them as they would with a dedicated telephone line.

Disk (Disk Pack, Floppy Disk): A thin metal disk coated on both sides with magnetic recording material. Disks are one form of auxiliary storage devices which include magnetic tape and magnetic drums. A disk pack is six or so disks stacked on a vertical shaft and packaged as such. Disk packs are removable and provide unlimited storage capacity simply by replacing one disk pack with another.

A floppy disk is a single flexible plate of Mylar material housed in a paper jacket, much like a 45 rpm record. It is also called a diskette. (Alternate spelling - Disc)

Duplex (Full and Half): Full Duplex - the simultaneous, two-way, independent transmission of data in two directions (to and from computer and terminal).

Half Duplex: One-way-at-a-time, alternate, independent transmission of data between computer and terminal.

EBCDIC: Extended Binary Coded Decimal Interchange Code

A computer code which provides a method of representing data so that it can be interpreted by computers. EBCDIC is an 8 bit code that can represent 256 characters, upper and lower case, and many special and control characters.



Field: Part of an online or data base record. A Field is a specified area in the record reserved for a particular category of data. In MARC II format, the 099 Field is reserved for a library's local call number. Some Fields are fixed in length, while some vary. See Variable and Fixed Length Records.

Fixed Length Record: A record that has the length fixed in advance rather than being varied according to the actual amount of data in the record. See Variable Length Record.

Front-end System: A computer system in which the vendor only provides the hardware and software for that portion of the system housed in the library. The library must arrange for and maintain links to an off-site host computer for a major portion of its computations. Gaylord's automated circulation system is such a system. As opposed to "Stand-alone Systems".

Hardware: The physical equipment in a computer system. All of the tangible components of the computer system - the central processing unit, disks, terminals, printers, etc.

Interface: A common boundary between two pieces of hardware or between two systems. The linking of two or more computers, or the storage of a computer being accessed by two or more computer programs, such as acquisitions and circulation.

Main Frame: The part of the computer which actually performs most of the programmed computations. It is the part of the computer which contains the arithmetic unit, internal storage unit and control functions. Same as Central Processing Unit.

MARC II Format: MARC stands for MAchine Readable Cataloging. MARC II is a specific variable length record format developed by the Library of Congress. In MARC II, each item of information in a cataloging record is identified or tagged by a three digit number. Tag 245 identifies the title of the item while tag 300 identifies the collation, etc.

Microcomputer: A complete computer processor on a single integrated-circuit chip approximately the size of a dime. A microcomputer can accommodate only a limited number of diskettes at one time.

Minicomputer: A physically compact digital device that has a central processing unit, at least one input-output device (terminal and/or printer), and a primary storage capacity of at least 4000 characters.

Modem: Also called a "data set".

Literally, short for modulator-demodulator. The modem, connected electronically to the telephone line, one at the sending end and one at the receiving end of a terminal-computer link, translates the data signals from the terminal into signals that can be carried by voice grade telephone lines. The modem at the computer end translates the signals back into those the computer can use. The process is reversible - the computer can initiate the message to be translated by the interviewing modems.



Multiplex: A process which permits more than one separate signal to be transmitted simultaneously over one physical communication channel. Multiplexing is possible because the operations that are multiplexed take place at a considerably slower speed than the operating speed of the computer.

Network: A group of libraries linked formally or informally for the purpose of fostering certain types of communication among its members. Networks may be off-line, but today it is often assumed that some kind of computerized link (a statewide online union catalog, for instance) exists among participants. Today's networks must include a communications channel. They may emphasize information retrieval or technical processing, and they may offer either single or multiple functions.

OCR: Optical Character Recognition

A method of inputting data into a computer. A type font is used which can be read by humans. This input device allows the computer to read the printed characters directly from a paper document.

Online: A teleprocessing system in which data is transmitted immediately from the computer to remote terminals or vice-versa via communication facilities. Equipment or storage under the control of the central processing unit so that a user can interact directly with the computer.

Printer: An output device for the computer similar to an electric typewriter that converts machine code into readable impressions or characters on paper.

Release: A periodic revision of software that is distributed to all customers of a circulation system vendor.

Remote Communications Processor: An OCLC project is currently being developed which would place main frame computers at different points around the country. This RCP will hold local data records, diagnose modem problems, and allow application of local software to local data records. Both SOLINET and NELINET already have RCP's.

Response Time: The time, generally expressed in seconds, between the entry of a user's query at the terminal, and the beginning of the computer's response on the CRT, printer, or other output device.

Retrospective Conversion: A library project to convert either all or some portion of its existing cataloging to machine-readable form. Often abbreviated as RetroCon.

Software: The collection of control programs or instructions, procedures and documentation used to make a computer perform its intended functions.

Stand-alone System: A computer system that is capable of performing all the specified functions without the help of another computer. CLSI's automated circulation system is such a system. As opposed to Front-end Systems.

Storage Capacity: The memory of a computer. Frequently defined in terms of a specific number of bytes or characters. The device in which this data is held for later retrieval can take many forms - core storage, magnetic disk unit, magnetic tape unit, magnetic drum unit, etc.

Primary storage capacity is that which is an integral part of the CPU. Auxiliary storage capacity is that which is kept on external units such as magnetic disks, tape or drums.



Telecommunications: Pertains to the transmission of data over long distances through telephone and telegraph facilities.

Turn-key System: The provision of a complete system by a vendor, including equipment, software, and training. The system can be delivered with little or no modifications.

Tymnet: The largest private, non-telephone communication facility for the transmission of computer data. Carriers such as Tymnet and its chief competitor Telenet lease telecommunications lines from other carriers to create new communications networks. Charges to users are made by the hour of connect time and by the number of log-on occurrences.

Variable Length Record: A record which is as long as the amount of data to be entered in that record necessitates.

Most current texts on computers, telecommunications and information processing have glossaries included. There are two excellent glossaries available which were written expressly for librarians. They are:

White, Howard S. "Glossary." Library Technology Reports 15 (Jan.-Feb. 1979): 12-18.

"A Utility User's Glossary." American Libraries 11 (May 1980): 264-268.

Several definitions for this glossary were taken from:

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