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MEMORANDUM

TO: Senator LeRoy Stumpf, Chair, Higher Education Division
Representative Gene Pelowski, Chair, Higher Education Finance Division

FROM: Leslie K. Mercer, Chair
Library Planning Task Force

DATE: February 10, 1997

SUBJECT: Plan for a Statewide On-Line Information System for Libraries (MnLINK)

Legislative Request. The 1996 Legislature directed the Higher Education Services Office (HESO), in cooperation with the Library Planning Task Force to, "create a plan and process to develop a statewide on-line information system for libraries," and asked that we provide the chairs of the higher education committees in the House and Senate with, " a plan...including a proposed implementation timeline, technical standards, draft request for proposal, and a budget." *Laws of Minnesota for 1996, Chapter 395, Section 2(b).* This memo and the attached information are submitted in fulfillment of that request.

Brief Description of the Proposed On-Line Library System. The name chosen by the Library Planning Task Force for the new statewide system is the Minnesota Library Information System or "MnLINK".

- MnLINK will link public libraries, academic libraries, school libraries, and government libraries all over Minnesota so that they will appear to the user as a single resource.

- MnLINK will be a powerful statewide multitype library and information system and will play a major part in improving the quality of education, research, and economic development in Minnesota.

- MnLINK will be a gateway to the rapidly expanding world of information stored in electronic formats. State-of-the-art software and hardware technology will be used to provide people with a comprehensive guide to the effective use of library and information resources.

After considerable discussion within the Library Planning Task Force as well as feedback from interested citizens, policy makers, librarians and educators, we determined the system we created could best meet the multiple and varied needs of differing libraries and library patrons by providing two technical components to MnLINK.

- *System X* - An Integrated Library System, replacing the University of Minnesota's outdated online system (LUMINA) and the Minnesota State Colleges and Universities PALS online system, and including state government libraries, private college libraries, and public and K-12 school library media centers choosing to participate.

- *The Gateway* - A common services gateway enabling libraries with existing local and regional automated systems to link with System X and with each other. This component consists of web client/servers and interface software.

The Process and Key Accomplishments to Date. The Higher Education Services Office and the Library Planning Task Force began developing a work plan for the project as soon as the 1996 legislation was enacted. Intensive work began with the release of planning funds on July 1, 1996. In the past seven months we have accomplished a great deal. The Higher Education Services Office and the 22 members of the Library Planning Task Force were assisted by more than two dozen other individuals contributing countless hours serving on committees to develop recommendations on governance and operations, public information and budget as well as to draft the technical requirements for the two major components of the request for proposal. (*Attachment A* includes the membership of all the committees.)

- ***Information Gathering and Dissemination.*** The Library Planning Task Force sought and received input and suggestions from numerous groups, organizations, and individuals who were interested in MnLINK. We heard testimony at Library Planning Task Force meetings, as well as attended meetings throughout the state. Drafts of materials were (and continue to be posted on HESO's web site). Various organizations listservs and newsletters also serve as vehicles to distribute information about this project. Members of the Library Planning Task Force will continue to present information about the project at meetings and conferences around the state.

- ***Development of a Draft Request for Proposal (RFP).*** While the integrated library management system, "System X" and the gateway must work seamlessly to meet the needs of libraries and their users, it is possible that two (or more) different vendors will ultimately supply the component pieces of MnLINK. For this reason, the technical and functional capabilities of the two components were developed separately. Each component was developed by a subcommittee of individuals with the necessary knowledge and expertise. The two major sections are included in *Attachment B*, and will eventually be merged into a single Request for Proposal.

All sections of the Request for Proposal will continue to be reviewed and revised. This is necessary to ensure that state information policies and practices as well as updated and newly released national and international information and library standards are accurately reflected in the Request for Proposal when it is finally released. We have enjoyed effective working relationships with both the Information Policy Office and the Office of Technology and expect their continued involvement in fine tuning the substance and language of the Request for Proposal. We also expect RMG Consultants, Inc. (a national library consulting firm retained by the Services Office to provide technical expertise) to provide additional assistance in this process, particularly in completing a risk assessment. Finally, we will be working with staff from the Contract area of the Department of Administration to guarantee that the final Request for Proposal is fully compliant with all relevant state of Minnesota contract requirements.

In November, a Request for Information (RFI) was sent to all vendors of library system software known to have installations in Minnesota. Additional major library system software vendors were added to the mailing. Vendors were presented with six "what-if" scenarios and asked to respond to any or all which they could satisfy. Based on the 15 responses received, we determined that our proposed budget for implementing MnLINK was adequate. We also identified several areas in which we need to provide additional information and/or modeling to provide the technical specifications needed in the final Request for Proposals.

MNLink: Budget Information.

There are several factors that make it difficult to develop a detailed project budget now. First and of greatest impact, while the functionality of MnLINK has been specified, its architecture will be determined by the selected vendor(s). For example, an architecture which is centralized will incur different categories of costs than one which is distributed. Similarly, the interaction between the integrated library management system and the gateway is complex; larger numbers of participants in one with correspondingly smaller numbers in the other will affect implementation costs as well as operating expenditures. Decisions yet-to-be-made about which libraries will participate in which components of MnLINK and when they will be ready to join are also factors. Over the long term, numbers of end users, their location and the nature of the services they use will also affect the operating costs for MnLINK.

- ***Legislative Request.*** HESO's budget request includes a biennial request for $12.76 million for MnLINK. The Governor has recommended $12.0 million, and IPO has approved the request for the entire amount.

  Based on the information we received in response to the November 1996 Request for Information, we believe that the following figures are reasonable approximations of what we will need to invest in the first two years of MnLINK implementation. While the ranges varied considerably, the consultant who provided the analysis of the Request for Information's believes that the $12.76 million is a reasonable request.

• System X (hardware and software and vendor supplied technical assistance)	$ 3.9 - 10 million
• Gateway (hardware and software servers and vendor supplied technical assistance)	$ 2.1 - 6.6 million
• Record Conversion (@10-15¢/record)*	$ 2 million
• Project Management (project staff, contracts for technical assistance, travel, committee expenses)	$ 600,000 - 750,000

  **This figure is highly dependent on the number of overall participating libraries.*

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Because of the uncertainty about how many sites can be brought into MnLINK during the first two years, we request authority to carry over funds into the subsequent biennium, if necessary, to complete this phase of the project. As noted in the discussion of the timeline, at this time we anticipate that additional funds will be required to support implementation of MnLINK at additional sites during the 2000-2001 and 2002-2003 biennia.

- ***Local Costs.*** The 12.76 million requested represents only a portion of the total cost of MnLINK. The hardware and software provided for System X and the gateway comes to the door of the institution and for example, does not include any computer terminals or wiring within the campus, school, or library.

  Operational costs for System X will be charged to participating libraries; these charges will be set to create a fund for equipment replacement and software upgrades. We are exploring what portion of operating costs for the gateway can be charged back to participating libraries and whether some modest state contribution for maintenance of the gateway system would be necessary.

Governance Model. The Library Planning Task Force has approved the recommendation of the Governance Subcommittee that provides the skeleton for the governing and operations structure of MnLINK. *Attachment C* contains the model as approved by the Library Planning Task Force. Those recommendations include:

- The Library Planning Task Force serve as the governing board of MnLINK until June 30,1999. The duties of the governing board would be to:

  - Establish policies and set standards for MnLINK.
  - Plan for the continued development of MnLINK.
  - Oversee fiscal operations, including:
    - Seek and receive funding from governmental, private, and participant sources.
    - Approve the MnLINK budget and fee structures for participants.
  - Contract for administrative and operational services.

- During the next two years, a permanent governing board be created that will reflect the organizational structure and membership of MnLINK. One suggestion has been to explore the creation of a semi-governmental unit similar to the Minnesota Historical Society, or a public non-profit that could seek and receive private as well as public funds.

- An Operations Council of no more than 15 members be created to:

  - Oversee and operate MnLINK within the policies, standards, and budget set by the governing board.
  - Make recommendations to the governing board on:
    - Policies and Development
    - Standards
    - Budget and Fees
    - Vendors
    - Related Items

- The Higher Education Services Office be the fiscal agent for the project and provide the project management during the implementation phase.

- Ongoing staff for the operation of MnLINK be provided through a contract with an entity with the necessary skills and expertise. MnSCU PALS has expressed an interest in providing operational and training services on a contractual basis.

So that potential participating libraries will know what will be expected of them if they join MnLINK, the Library Planning Task Force has created a Checklist for Participation. *Attachment D* includes the checklist.

Implementation Timeline. A tentative MnLINK project timeline which will be taken to the Library Planning Task Force for discussion in late February. This should be viewed with some caution, since project vendors have not yet been selected. While there is a strong desire to get the MnLINK system "up and running" as soon as possible, this is accompanied by an awareness of the enormity of the task. While other states have initiated projects which will achieve some of the same functionality as MnLINK, no other state has attempted to involve the whole of the library community nor to meet so extensively the information of all its residents.

During the first six months of Year 1 (Fiscal Year 1998) of the project, we expect to fill project management roles, finalize the Request for Proposal, release it, and review responses. During the same period, participating libraries will begin to prepare their staffs and databases for conversation to the new integrated system and/or gateway.

During the next six months, negotiations with the vendor(s) will take place and the contract(s) will be executed. Libraries not participating in the integrated system will acquire and install any needed new hardware and software, while System X libraries will undertake parallel activities in preparation for the implementation of the integrated library management system.

Initial installations of a small number of sites, representing a mix of System X and gateway participants, in the first quarter of Year 2 will be accompanied by extensive acceptance testing to assure that as part of this testing, we will be looking at telecommunications traffic and patterns to make sure that the load on the Learning Network of Minnesota will be manageable now and in the future. In the second and remaining quarters of Year 2, additional sites will be brought online. We anticipate that local conditions (systems and hardware), the availability of telecommunications infrastructure, and other factors will combine to spread the complete implementation of MnLINK over a five or six year period.

In addition to the selection and installation of the system, timelines for the governance system and plan for providing the ongoing operational support staff are being more fully discussed by the Library Planning Task Force in the coming months. It is expected the Library Planning Task Force will approve a set of principles for the governance and operations of MNLINK by March. Once these guiding principles are in place and libraries begin to indicate their interest and timeline for joining either System X or the Gateway, the governance structure will be more fully developed.

Next Steps. The Higher Education Services Office and the Library Planning Task Force will continue to flesh out the details of this plan in the coming weeks and months. We believe we have created a process and a plan that will enable MnLINK to:

- Bring the world's knowledge and information to every Minnesotan.
- Help Minnesota be competitive in a global economy.
- Provide for cost-effective use of existing resources.
- Build upon the history of library cooperation and adoption of new technologies.

We look forward to sharing our progress with you and with other members of the legislature. Please let us know if there are questions or additional information that we can provide.

LKM:dl

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ATTACHMENT A

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ATTACHMENT B

DRAFT

REQUEST FOR PROPOSAL I

Components Relating to an Integrated Library Management System

December 9, 1996

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1 Language for these sections needs to be added based on further discussion with actual participants; it should be based on State of Minnesota practices and IPO guidelines.

2 Additional information is required to complete these sections and will require input beyond the RFP SC.

Appendices (to be added later -- ie. when participants are known)

A. Participating Libraries

B. Standards
   1. State information technology standards and guidelines
   2. library and national standards

C. Item ID numbering and check digits

D. Patron ID numbering, check digits and security

E. Accounting systems used in participating libraries

F. List of reports by subsystem

DRAFT
REQUEST FOR PROPOSAL I
Components Relating to an Integrated Library Management System
9 December 1996

1. INTRODUCTION

1.1 Purpose
This Request for Proposals I (RFP) contains specifications and related information for the furnishing, delivery, installation, and maintenance of an integrated library management system for the use of Minnesota libraries as specified in Appendix A. [Specifications and related information for a UIAS, also referred to as a common gateway, are provide in the Request for Proposals II.] The participating libraries desire a reliable, online, flexible, easy-to-use integrated automated library system that will accommodate the requirements of individual libraries, formal library consortia, and both formal and informal partnerships which exist to facilitate resource sharing and other common library activities.

1.2 Objectives
In 1996 the Minnesota Legislature charged the state's libraries, under the aegis of the Higher Education Services Office, to develop a statewide, online information system. That system is referred to as the Minnesota Library Information Network or MnLIN.

The Minnesota Library Information Network will create a virtual library for the benefit of Minnesota residents and the well being of the state. It will use appropriate software and technologies, human expertise, and a full array of information resources to provide Minnesota consumers with seamless access to high quality library services in an environment that is highly collaborative and responsibly cost-effective. This virtual library will allow consumers to acquire information and knowledge whenever, wherever, and however -- regardless of their needs, life circumstances, and individual characteristics.

The range of educational attainment, technological competency and information literacy among the residents of Minnesota means that the Minnesota Library Information Network must be exceptionally capable. It must allow for sophisticated access from home or office to highly specialized resources without requiring the intervention of a librarian or other intermediary, while at the same time providing access to commonly used resources from public sites which can also offer intensive user support.

The Minnesota Library Information Network must be fully compatible with existing and emerging information standards as well as be based on software and

Document delivery: resources requested through a commercial vendor or document fulfillment service.

Fully integrated system: an automated library environment in which links between functions are seamless and transparent to the user, all transaction occur in real time, data is entered once and can be operated on for multiple applications, and actions complete in one function must inform or create actions in another function. All mandatory requirements listed in this RFP are supported in this integrated environment.

Interlibrary loan: resource sharing between libraries

Interoperability: the ability to respond to a search request from the client software for an item or items known to be in the target database by returning information about the result set and to respond to a "present records" request from the client software by returning records.

Local library: any participating library or any member library within a participating consortium

Local loan:. a loan between branches or administrative units of a single library

Location: an administrative unit, a building, a group of collections (e.g., all reference units), or a collection within a building

Open systems: computer systems composed of products which adhere to international and industry standards for interfaces with other products

Processing unit: a technical services unit that processes materials for one or several service points

Staff person: member of a library's staff, who is able to execute functions and transactions in the system to which access is restricted by means of a password or other authorization mechanism. [See also *authorized staff person*]

User: member of the user community for any participating library

1.4 Background Information [necessary to revise to reflect actual participants]
In its initial phase, the integrated library management system is expected to serve the needs of XX libraries. A brief description of each library or library system and a discussion of unique characteristics, provided by the participating libraries, follows. Additional information about participants may be found in Appendix A.

Participants include individual libraries (with or without branches), formal consortia and other groups of libraries. For the most part, the vendor may assume that each library operates autonomously with respect to the acquisition, circulation and cataloging of library materials. Furthermore, some of the participants have multiple libraries. Different libraries within the same system or consortium also may operate autonomously.

In general, the system is expected to operate efficiently in an environment in which any participant can

(1) establish its own operating policies and procedures through independent profiles,

(2) control use of the integrated library system through independent password and authorization functionality, and

(3) control access to certain files through independent password and authorization functionality.

At the same time, it is mandatory that the catalog database (bibliographic and holdings and authority records) function as a union catalog for all participating libraries. In other words, while it is important that the system function in such a way that each library, consortium or other group can establish its own operating policies and can control access to those files involving internal library functions, it is essential that the information concerning the holdings and the circulation status of those holdings of the individual libraries be easily accessible and visible from any workstation that is accessing the proposed system, regardless of its location.

The system is expected to allow each library control of its own bibliographic record and the ability to handle and display multiple call numbers in one shelflist. The system is expected to store and maintain for each library its bibliographic data including all institution specific data in USMARC format and display that information to each library's staff and users on demand in real time. Describe how this will be accomplished.

1.5 Standards (a brief description of required library and information technology standards to be added later and a complete list to be included as Appendix B)
The vendor proposal must include a vision of the future which is open; i.e. standards-based, when available, or based on commonly accepted practices, whne no standard is available, and which provides for true multi-tier client-server architecture. Respondents to this Request for Proposals must document, both for the proposed system and for the software and hardware environment within which it operates, a commitment to open systems standards and practices.

The State of Minnesota has established a Library Planning Task Force that reviews all library technology projects to assure that these projects meet Legislative Goals. Six factors are considered by the Task Force:

- Standards-based: Libraries should only invest in systems that are standards-based, to prevent problems in the future with transmitting or exchanging data and also to enable easier integration with future developments.

- Open: The architecture and underlying protocols and software should be open.

- Functional. Technology systems should support an integrated approach to library processes (input once, use many).

- Network-based: Technology systems, including downloading and printing capabilities, should integrate easily into the networks in place locally, regionally and nationally and work across network architectures.

- Virtual: The information systems should be capable of interacting with other resources in such a way that a "virtual electronic library" is created for the user no matter where the data are located.

- Future-looking: Vendors should be willing to experiment and partner with the users, have appropriate methods for receiving user input about needed functionality, and use this information to help shape future enhancements.

2. **Instruction to Vendors (more to be added later along with state language)**
   - affirmative action certification of compliance
   - certificate of insurance
   - Minnesota tax ID number
   - affidavit of non-collusion
   - who to contact with questions
   - number of copies of proposal required

- Each respondent must describe in its responses to each specific requirement how the proposed system meets these requirements. Each respondent must specify clearly which parameters have system-wide application or forces and which data must be shared on a system-wide basis.

• Mandatory system requirements are designated by use of the term "shall." All other (ie. desirable) system capabilities are designated by the term "It is expected that" or similar language. Any proposed system which does not satisfactorily meet mandatory requirements may be eliminated from further consideration.

For each capability the system vendor must indicate whether the system:

- is fully compliant
- is compliant except for specific elements (to be named/described)
- is NOT compliant
  - has plans to become compliant by a specified date
  - has NO plans to become compliant

To the extent possible, responders to this RFP should describe HOW they achieve both mandatory and desired capabilities.

3. Evaluation of Proposals (more to be added later)

Proposals will be evaluated by members of the Library Planning Task Force, Higher Education Services Office, and representatives of participating libraries. It is the goal to contract with an automated system vendor who demonstrates a forward looking approach to development and implementation and is working in areas such as artificial intelligence, relevance ranking, fuzzy matching, and electronic commerce, as they become feasible in library systems.

Factors upon which proposals will be evaluated include but are not limited to the following:

- understanding of scope and objectives
- approach and deliverables
- qualifications of company and personnel
- cost

4. Conditions (more to be added later with state language; see attachment 4)

- state right to reject any and all proposals
- cancellation
- audits
- data privacy/data practices act
- intellectual property/ownership/copyright
- demonstrate how user input is used for development of their product
- demonstrate how vendor works collaboratively with other library vendors
- source code access or escrow
- describe how new functional requirements identified in the future by participating libraries will be accommodated
- provide a list of libraries whose bibliographic files have been converted

5. Mandatory System Requirements

The features described in this section are mandatory; that is, the vendor must be able to offer all of them. Any vendor who is not able to demonstrate compliance with these mandatory requirements may be excluded from further evaluation. In the case of emerging standards, noted as such in Appendix B, if the vendor is not fully compliant at the time of response, the vendor should provide a "plan for compliance" which specifies the date by which the vendor will be fully compliant with each element of the standard not currently supported .

The system shall be a complete system, which is defined as the applications software, software installation, database loaders, training, documentation, maintenance, and ongoing software enhancements necessary to provide easy-to-use online real-time integrated automated support for the following functions:

- online public access catalogs, including union catalogs for consortia
- authority control
- circulation control, including both electronic reserve services and traditional reserve services
- database maintenance and cataloging
- acquisitions
- serials management
- binding control
- fiscal management
- interlibrary loan system
- inventory control
- management information
- integration with other automated systems at the local library level
- linkages with other bibliographic databases and full-text, numerical, image, and multimedia databases
- booking system
- interfaces with vendors systems

A system that uses PC-based software for a function, such as acquisitions, and updates the catalog database by means of periodic uploads of the PC files will not comply with this mandatory requirement.

5.1 Technical Requirements

5.1.1. Open Systems/Standards

5.1.1.1. The system shall use common user interface standards. Screen scraping technology is not acceptable.

5.1.1.2. The system shall have an fully-functional integrated extension to HTTP

or its successor technology in order to use a commonly-used Web or successor technology browser as a "universal client" when necessary, as in remote access via the Internet to the database(s) outside of the physical libraries.

5.1.1.3. The system is expected to be object-oriented or object based.

5.1.1.4. The system shall interface with common applications development platforms/tools.

5.1.1.5. The system is expected to be DCE (Distributed Computing Environment) compliant.

5.1.1.6. Vendors shall specify platforms supported for their products and indicate which platforms would be most likely to support the loads and functionality desired by the participating libraries with an appropriate response time.

5.1.1.7. If the mainframe is a host server for the system, the interface shall be based upon standards or, where standards are lacking, commonly accepted protocols, for access to that server for all purposes.

5.1.1.8 There is expected to be a block with the client software to prevent user access to secured files and records. If the system does not provide for this protection, please specify how this protection might be assured.

5.1.2 Client Server Architecture

5.1.2.1. The system shall support an open client/server architecture, which is portable and interoperable and which depends upon standards or, where standards are lacking, commonly accepted practices. Although the architecture is to be defined by the system vendor, we anticipate that the proposed system will put highly shared activities and resource-intensive activities on application servers and data access activities on database servers (using multi-tier architecture) while placing presentation activities and highly customizable activities on the client. The system is expected to redistribute data or logic from client to server, between clients, and among servers. It is expected to redistribute client upgrades from a central server or to run them from a network server.

5.1.2.2. Staff in-library clients shall be compatible with a current version of Windows. There shall be at least one in-library client designed for public use. This client may be Windows- or Web-based. For public uses originating outside of a library there shall be a fully functional Web interface accessible with a standard Web or successor technology browser. In practice, either client may be used in or out of the participating libraries depending upon local choice.

5.1.2.3. The system shall support at least one client which can be used in dial-access situations.

5.1.2.4. The system shall support at least one client that is compatible with standard adaptation products used by individuals covered by the Americans with Disabilities Act.

Given these clients, respondents shall describe minimum hardware requirements and software requirements for the desktop computers to be used as devices for the system.

5.1.3. Relational Database
A highly-supported relational, or object-oriented, or highly supported database management system shall be part of the system.

5.1.4 Network Connections
5.1.4.1. The system shall operate within a full TCP/IP environment, including Telnet, FTP, and SMTP. Connections are required to backbone networks and to local area network infrastructures for the system's online data communications with data input and output devices, including computers, printers, and those devices that are capable of displaying and inputting the full ALA character set or the UNICODE set.

5.1.4.2. It shall be possible to use desktop computers, including PCs running Windows, version 3.1 or higher, communicating with the central site(s) hardware via the network infrastructure, as devices for input and display for the system. *[The preceding item must be reviewed immediately prior to release of the rfp.]*

5.1.4.3. Respondents shall specify in their proposals how the requirements of this section will be accomplished and shall identify in the proposal the cost of any host or server communications hardware and software that will be required in order for the proposed system to comply with this requirement.

5.1.5 Security and Backup
5.1.5.1. The data security plans for MnLIN are to provide access to secured data, databases, and services through implementation of authentication technology that will ensure secure computing environments for customers and institutional data. The system is expected to support this option. Vendors should describe how they provide security and authentication other than through the use of the patron file.

5.1.5.2. The system shall provide authentication and account profile systems to limit access to certain records, fields, and functions to authorized personnel or workstations. The system shall accommodate multiple levels of

security and allow for different levels of authorization to be associated with the same staff person for different subsystems.

5.1.5.3. The system shall provide a way to:

- protect the central files and databases from erasure or damage due to accident, error, or through deliberate action
- provide continuous backup
- provide for restoration of all transactions following accidental or deliberate file damage
- provide for forward recovery of all transactions from a specified point following correction of damage
- provide rollback (also known as transaction backout) for failed or interrupted transactions

The vendor shall specify how each of these tasks is accomplished.

5.1.5.4. Describe how the system will protect system users who have entered secure information in order to protect that information when moving from one function to another or closing a work session.

5.1.6. Imaging Directions

The system is expected to support integration with local imaging systems and to retrieve and display images from these links. Links may be in the bibliographic record (859 field) and in circulation item records (URL field).
[The preceding item must be reviewed immediately prior to release of the rfp.]

5.1.7. Interactive Voice Response Directions

The system, if it provides interactive voice response capabilities, is expected to interact with local voice response systems.

5.1.8. System Software

The vendor shall describe how user participation is handled as part of the system's development process. In addition to describing the dvelopment model, the vendor shall specify the methods used to receive, assess, and respond to input from participating libraries. What options do libraries have if the vendor chooses not to implement requested enhancements?

Does the vendor have experience in partnering with user libraries in development and maintenance processes? If so, the vendor shall specify the nature and outcomes of such partnerships and provide references from the partner organization(s), so that MnLIN may contact them.

5.2.2.6. Given appropriate terminal hardware and software, it shall be possible to import, export, store, display (in proper relationship to other displayed characters), and edit all diacritical marks and other characters that comprise the ALA character set. Each respondent shall state whether any special terminal hardware or software is required for this capability, bearing in mind the mandatory requirement for TCP/IP network. If a system has this capability, it is assumed that the bid price includes the cost of any special software that might be required.
[The preceding item should be reviewed immediately prior to release of the rfp]

5.2.2.7.Given appropriate terminal hardware and software, it shall be possible to import, export, store, display (in proper relationship to other displayed characters), and edit all diacritical marks and other characters that comprise theUNICODE Worldwide Character Standard, Version 1 and new versions as approved. Each respondent shall state whether any special terminal hardware or software is required for this capability, bearing in mind the mandatory requirement for TCP/IP network. If a system has this capability, it is assumed that the bid price includes the cost of any special software that might be required.
[The preceding item should be reviewed immediately prior to release of the rfp]

5.2.2.8. The system shall support at least one client that is compatible with standard adaptation products used by individuals covered by the Americans with Disabilities Act.

5.2.3. Record Creation and Maintenance
5.2.3.1. All record creation and maintenance transactions shall occur in real time.

5.2.3.2. The system shall support the creation of a bibliographic record, whether it is created online or as a result of data transfer from an external source, to which an order record can be associated.

5.3.3.3. The system is expected to store and maintain for each library its bibliographic data including all institution specific data in USMARC format and display that information to each library's staff and users on demand in real time. Describe how this will be accomplished.

5.2.3.4. The acquisitions subsystem of the system shall utilize the system's bibliographic database and not require the creation or maintenance of a separate file of bibliographic records.

5.2.3.5. The system shall be able to receive and process electronic transmission of acquisitions data, including approval plan information.

5.2.3.6. The system shall store, perform correct calculations, and display dates in the 20th and 21st centuries.

5.2.3.7. It shall be possible to copy a single bibliographic USMARC record from one library to another.

5.2.3.8. The system is expected to dynamically delete or undelete bibliographic records from an institution.

5.2.3.9. The system is expected to maintain a history of edits for each library's data.

5.2.3.10. The system is expected to edit and produce spine and pocket labels, both single and multiples, in formats compatible with local practice.

5.2.4. Interlibrary Loan and Document Delivery

5.2.4.1. The system shall support all established interlibrary loan standards, including ANSI/NISO Z39.63-1989 Interlibrary Loan Data Elements and ISO Interlibrary Loan Standard Protocols 10160/10161, and SHALL comply with developing standards as approved, including Z39.63-199x Interlibrary Loan Data Elements (revision of ANSI/NISO Z39.63-1989).

5.2.4.2. The user request interface shall display an institution-specified copyright compliance notice before allowing the request for a copy to be made.

5.2.5. Item ID Numbers and Patron ID Numbers

5.2.5.1. The system shall be able to utilize any library's existing item identification numbers, including the check-digit algorithm inherent in those numbers. Compliance requires agreement to develop the capability to calculate the check digit for both CODABAR and Code 39.
(See Appendix C for specifications of item identification numbers and the check-digit algorithms.)

5.2.5.2. The system shall be able to distinguish and use multiple bar code numbers (i.e. CODABAR and Code 39) at the same terminal in the same session.

5.2.5.3. The system shall prevent duplicate item identification numbers from being entered into the database.

5.2.5.4. The system shall be able to utilize existing patron identification numbers. Compliance requires agreement to develop the capability to use the existing patron identification numbers.
(See Appendix D for specifications of participating libraries' patron identification numbers.)

5.2.5.5. The system shall prevent duplicate patron identification numbers from being entered into the patron database.

5.2.6. Call Numbers

5.2.6.1 The system shall be able to store, display and sort correctly LC call numbers, NLM call numbers, Dewey Decimal call numbers, UN document numbers, SuDocs numbers, and local call numbers. Describe how this will be done to allow online shelflisting and efficient searching.

5.2.6.2. The system shall have the ability to store and display different call numbers for the same bibliographic item, both for a single location and for different locations. It shall not be necessary to store multiple bibliographic records for the same bibliographic item in order to satisfy this requirement.

5.2.7. Subject Headings

5.2.7.1. The system shall accept, support and maintain storage, retrieval, display and editing distinctions and capabilities for Library of Congress Subject Headings (LCSH), Medical Subject Headings (MeSH), Children's Subject Headings, and multiple local subject headings constructed according to accepted patterns.

5.2.8. Database Integrity

5.2.8.1. The system shall prevent more than one staff person from being able to modify the same record simultaneously.

5.2.8.2. It shall be possible to block staff functions for unauthorized persons from a dedicated public access terminal or from a remote public access session.

5.2.9 Draft Standards

The vendor shall demonstrate a commitment to comply with the following standards when each is approved by the library community.

For each standard the system vendor must indicate whether the system:

- is fully compliant
- is compliant except for specific elements (to be named/described)
- is NOT compliant
  - has plans to become compliant by a specified date
  - has NO plans to become compliant

To the extent possible, responders to this RFP should describe HOW they achieve both mandatory and desired capabilities.

5.2.9.1. Z39.71-199X (Holding Statements for Bibliographic Items) shall define data elements, requirements and rules for the recording of holdings statements for serial and non-serial material in all formats except electronic resources that do not exist as physical items.

5.2.9.2. Z39.76-199X (Data Elements for Binding of Library Materials) shall define both required and optional data elements that can be used in a binding record to

enable automated library systems to communicate with a bindery's automated system.

5.2.9.3. Z39.69-199x (Patron Record Data Elements) shall define the data elements that shall be included in a library's circulation system to create a library patron record.

5.2.9.4. Z39.70-199x (Format for Circulation Transactions) shall define the format for data elements to be used when transferring transaction file data between core data files (bibliographic information, holdings descriptions, and patron) and transactions files (circulation information, patron accounts, patron requests for unavailable items, and scheduled reservations or bookings).

6. Desirable System Capabilities

6.1. General Capabilities

Vendors shall specify clearly which parameters have system-wide application or forces and which data shall be shared on a system-wide basis.

6.1.1 Security

6.1.1.1. The system is expected to include a flexible multilevel staff person authorization control capability that:

- makes it possible for an appropriately authorized staff person to examine and alter the authorization levels for other staff persons in a group of libraries or a single library without needing the assistance or involvement of the vendor or central system management personnel
- allows each library to establish and maintain a separate set of passwords and authorized functions
- makes it impossible for a staff person in one library in a group or consortium to examine or alter authorization levels for staff persons in different libraries, excluding staff members with authorized administrative or functional responsibility
- makes it optional to enable or prevent a staff person in one processing unit from being able to alter or delete a bibliographic record, holdings record, acquisitions record, serials control record, and circulation record for an item that is located in a different library
- makes it possible to restrict a staff person to the ability to alter or delete records from a single file, e.g., holdings records;
- makes it possible to limit authority for work on authority records, bibliographic records, holdings records, acquisitions record maintenance, serials control records, circulation records and ILL records by library or by group of libraries.

6.1.1.2. In addition to password control for the library application software, the system's operating system is expected to prevent unauthorized access (either

external or internal access) to system management functions and files. Describe how this is handled in the system.

6.1.1.3. In the event of a hardware or software failure that damages one or more system files, the system is expected to provide a method of restoring the system database to its state of existence immediately prior to the event that caused the file damage.

6.1.1.4. The system is expected to include capabilities to control and manage large-scale printing operations so that data communication problems will not result in the loss of output and that output will not have to be regenerated, even when the printer is remote from the central site computer (see Section 8.3).

6.1.2. Profiling

6.1.2.1. System parameters and options are expected to be available interactively for addition, deletion, and change by an authorized local system administrator or designated assistant(s). These include but are not limited to:

- operator security authorizations
- OPAC menu and screen text
- OPAC record display formats
- search command parameters
- record export formats
- location names and parameters
- acquisitions and cataloging parameters
- circulation policies and calendars

6.1.2.2. Online tables are expected to be designed to expedite efficient and consistent data entry. The table structure is expected to:

- support queries on individual table values or a combination of values
- allow for a global replacement of a specific value in individual profiles
- allow the system administrator to copy or point to an existing profile
- provide tools or reports that assist the system administrator to maintain consistency in a set of profiles.

6.1.3. Flexibility

6.1.3.1. The system is expected to exhibit consist and uniform (a) screen design and (b) methodology of using the various modules and functions in the system along with flexibility and ease of use.

6.1.3.2. Consistent with security considerations, the system is expected to allow library staff members to move easily from function to function and not lose work in progress.

6.1.3.3. The system is expected to allow staff members to toggle easily from staff mode to public mode and from public mode to staff mode and between modules while displaying the same record.

6.1.3.4. Consistent with security considerations, the system is expected to make it possible to search any indexed record field while performing any function in any place within the system.

6.1.3.5. The system is expected to be available 24 hours per day 7 days per week with 98% reliability, and it shall not be necessary to make the system unavailable to public and staff persons nor should response be degraded when performing such routine system management activities as file backups, file loading, and notice and report production and printing.

6.1.3.6. When the processing required for an online transaction exceeds five (5) seconds the system is expected to display some kind of information or indication that transaction processing is underway.

6.1.3.7. The system is expected to interrupt a long search with options to revise, see partial results, continue, abandon the search, etc.

6.1.3.8. In displays involving long lists of records, such as a serials title with a large number of item records, the system is expected to navigate within the list easily and randomly, to reach the beginning or end of the list with a single transaction, and to display any specific records in the list with a single transaction.

6.1.3.9. The system is expected to make it possible, without having to reload the entire catalog database, to add bibliographic records and/or holdings records for a library that was not represented in the database when it was originally created.

6.1.3.10. When adding bibliographic records and/or holdings for a new library, the system is expected to exist to integrate those bibliographic records and/or holdings with those of other libraries or to load them as a separately searchable database.

6.1.3.11. The system is expected to create a new index in a file without having to reload the file.

6.1.3.12. The system is expected to support dynamic indexing of all records including unlinked records.

6.1.3.13. The system is expected to add indexes, add data elements to existing indexes, and delete data elements from existing indexes, without completely regenerating indexes.

6.1.3.14. All search methodologies are expected to be available in both public and staff mode subject to security requirements.

6.1.3.15. The system is expected to allow individual libraries to decide which system modules to implement and when to implement them.

6.1.4. Reporting (See also Section 6.7--Management Information)

6.1.4.1. The system is expected to include a report generator that features:

- selection of any field from any system file for reporting
- use of Boolean logic in selection criteria
- reporting of data from both fixed and variable fields
- sorting for all fields
- provision for totals in detail or in summary
- combining in one report information from more than one file
- relating of current activity to activity from previous period
- retention of generated statistical information and ability to use such generated information in subsequent reports
- retention of report formats for later recall by user interactive editing facility
- reports in electronic and print output formats, any of which can be customized and/or formatted for further analysis including ASCII, commonly accepted spreadsheets and database formats
- reports from different time periods with capability to then have the information compared and related.

6.1.4.2. The report generator is expected to feature an easy-to-use interface for designing and formatting reports and be designed in such a way that it can be used by library staff with a minimum of training.

6.1.4.3. The system is expected to be capable of having certain reports produced automatically on a library specified schedule.

6.1.4.4. The system is expected to have the capability to print transaction-related output, such as due date slips or save shelf slips, and management reports on a printer located in the library where the transaction is performed or from which the report is requested or generated.

6.1.4.5. The system is expected to maintain a transaction log, which can be analyzed, that records the date and time of each transaction on the system, the workstation for which the transaction was processed, the type of transaction processed, and the text of the transaction if consistent with a time period specified by a library. These reports may be generated by authorized staff at the local library.

6.1.5. Customizing

6.1.5.1. The system is expected to make it possible to customize system-supplied error messages.

6.1.5.2. The system is expected to make it possible for consortia and local libraries to customize the information displayed by the help system.

6.1.5.3. The system is expected to allow easy local modification of all user prompts, error messages, help screens, instructional screens, and tutorials in the OPAC.

6.1.5.4. The system is expected to allow staff members to customize the attributes of their sessions including default search file and institution, file access authorizations, record display format, print station, type of interface, and terminal settings such as timeout periods.

6.1.5.5. The system is expected to allow individual users to customize a personal profile including default search file and institution, record display format, print/delivery station, type of interface, and terminal settings.

6.1.6. Financial Accounting for Users

6.1.6.1. The system is expected to include functions for creating and tracking up to 50 separate types of debits and credits for a wide variety of financial transactions that involve library users. Examples are overdue fines, replacement charges, service charges, notice fees, interlibrary loan charges, database searching charges, document delivery charges, processing charges.

6.1.6.2. Record keeping for users' financial accounts is expected to comply with generally accepted accounting principles. [Appendix E provides information on the specific accounting systems used by the State of Minnesota and participating libraries.]

6.1.6.3. The system is expected to allow authorized staff to alter records by adding or canceling charges.

6.1.6.4. The System is expected to provide for retention and archiving of user account records for ten years; non-current records may be archived to tape.

6.1.6.5. The system is expected to make it possible to distinguish user charge by library.

6.1.6.6. The system is expected to make it possible to generate and produce user-specific reports of credits and debits by library and by type of debit and credit with appropriate aggregation of amounts.

6.1.6.7. The system is expected to provide data fields that can be used to maintain an audit trail for receipting cash.

6.1.6.8. The system is expected to interface financial transactions with other financial transaction and accounting systems at participating libraries.

6.2 Online Public Access Catalog

This section describes system capabilities having to do with searching for and displaying records.

Each vendor shall describe the capabilitites of the system to meet the following searching components:

- A spell checking feature to identify incorrectly spelled words and give suggestions to other possible spellings. This feature should be subject to be enabled/disabled at the user's option.
- Users' ability to enter searches in question format through the system's natural language ability. This feature should be subject to be enabled/disabled at the user's option.
- Thesaurus feature incorporated in the subject/subject keyword headings searches. This feature should be subject to be enabled/disabled at the user's option.
- Users' ability to search at multi-level knowledge levels. Users should have the ability to choose options (beginner, intermediate, advanced) at any time during the search with screens and commands to adjust accordingly.

Each respondent shall describe in detail the manner in which its system functions with respect to each desirable capability described in the numbered sections below.

6.2.1. Searching

6.2.1.1. Regardless of the file structure used by the system, the online catalog is expected to allow records for all libraries in any group or consortium to be retrieved in a single search.

6.2.1.2. The system is expected to maintain a search history, with numbered sets that may be used in later searches.

6.2.1.3. Each set in a search history is expected to indicate the number of hits associated with it.

6.2.1.4. The system is expected to make it possible to limit a search in various ways (e.g. by date or range of dates, language, country of publication, and type of material). This is expected to include the capability to limit by more than one parameter (e.g. language and date) as well as the capability to specify more than one value for a parameter (e.g. French or English).

6.2.1.5. The system is expected to provide clear user prompts at each stage in a search.

6.2.1.6. System-supplied error messages are expected to be clear and suggest appropriate action or alternatives instead of simply identifying the problem.

6.2.1.7. The system is expected to provide a context-sensitive help system for all functional modules of the system.

6.2.1.8. The system is expected to provide an online tutorial on how to use the online public access catalog. It is expected to also allow for seamless integration of locally developed tutorials.

6.2.1.9. The system is expected to provide an optimal interface that permits the user to choose from among multiple language interfaces. Please specify languages supported or the process by which multiple language interfaces are supported.

6.2.1.10. The system is expected to allow the user to use search commands to bypass a series of prompts or menus.

6.2.1.11. The fields and subfields to be indexed for all types of searching are expected to be locally configurable.

6.2.1.12. A keyword search is expected to cover all the fields determined in the local configuration, but it is expected that the option to qualify the search to a specific field in a simple manner will be available.

6.2.1.13. The system is expected to support right-hand and internal truncation of keywords.

6.2.1.14. The stop word list for keyword searching is expected to be configurable and changeable by consortia or local libraries.

6.2.1.15. When a stop word is used in a search, the system is expected to alert the user with an appropriate message.

6.2.1.16. Keyword searches are expected to be able to use Boolean operators (AND, OR, NOT).

6.2.1.17. Keyword searches are expected to be able to use positional operators (e.g., ADJ, NEAR, WITH).

6.2.1.18. The default operator for keyword searching is expected to be locally configurable.

6.2.1.43. The system shall allow nested search sets.

6.2.2. Displaying and Manipulating Output

Describe the capability of the system to

- implement a relevancy ranking feature as a "sort" option when displaying search results
- provide a graphical call number locator which would offer the option to view a map of the library's location of the particular item.

6.2.2.1. The user is expected to be able to select an alternate display format or set a new default display for a searching session

6.2.2.2. Displays are expected to be clearly labeled, with the text of the labels determined locally. The MARC protocols for tags and indicators are expected to determine what is encompassed by each label.

6.2.2.3. Any displayed list of headings is expected to indicate the number of bibliographic records associated with each heading.

6.2.2.4. The system is expected to display, add and configure text for printing; and print, download, or E-mail any specific record, group of records or full text. This is expected to include the capability to mark specific records for action and the ability to specify any of several formats, e.g., EndNotes, Procite, MARC, etc.

6.2.2.5. The system is expected to make it easy for users to name individual print jobs and route them to a specific networked printer.

6.2.2.6. The system is expected to be able to sort search results by any of a number of fields.

6.2.2.7. The system is expected to allow local options to sort items for display.

6.2.2.8. The system is expected to display multiple items (for example, copies in different locations of the same library) on a single screen.

6.2.2.9. The system is expected to provide receipt information for individual current issues of serials in OPAC displays.

6.2.2.10. The system is expected to display status information whenever item level information is displayed; such statuses include "On Order," "In Process," "On Reserve," "Missing," "Charged Out," "At Bindery" or similar language.

6.2.2.11. When a given item is associated with more than one related bibliographic record (e.g.. a serials record and an analytic record), changes in status and location for that item is expected to be displayed on each record.

6.2.2.12. The system is expected to give status information without requiring the user to move through multiple screens.

6.2.2.13. Displays for the status of "Charged Out" or "At Bindery" are expected to indicate the date the item is due back. For short-term loans (like "Reserves"), the system should also display the time an item is due.

6.2.2.14. A display of items with a status of "Missing" or "Lost" is expected to indicate the date that status was assigned.

6.2.2.15. In displays for items charged out, the system is expected to show the number of recalls or holds for the item.

6.2.2.16. The system is expected to support the display of full-text documents in a variety of formats. Please specify formats supported.

6.2.2.17. The system is expected to be able to search for and deliver non-print media, such as audio and video.

6.2.2.18. When full text is available for a citation, that information is expected to be clearly evident on the display screen.

6.2.2.19. The user is expected to have the option of a non-labeled display version.

6.2.2.20. The system is expected to have the capability to save the output of search sessions.

6.2.3. OPAC as Gateway

In addition to traditional OPAC functions, the system is expected to offer capabilities to access multiple databases of: citations to articles in periodicals, locally created bibliographic data, full-text documents, table of contents databases, images, and multimedia, numeric, and statistical data and link them to local bibliographic records and holdings. It is expected to also provide convenient gateways to servers outside the library.

- Describe the capabilities of the system to meet these needs directly.
- Describe the capabilities of the system to interface with appropriate products (e.g., Ovid, SilverPlatter, ERL, CD-ROM LANs, OCLC's FirstSearch) from other vendors.
- Describe the capabilities of the system to link from: one function to another, e.g., from URL in a bibliographic record to an Internet site; from an article

citation to local or consortial call numbers, holdings and circulation status holdings; and from a bibliographic citation to an image or multimedia.

- Describe the capabilities of the system to search and display results from more than one database outside this system simultaneously.
- Describe how users can search the local catalog, usenet groups, the Web, and/or journal databases from the same search statement at the same time.

6.2.4. Locally-Mounted External Databases

In addition to providing access to databases via gateways, the system is expected to support the loading, searching, displaying, and maintenance of locally-mounted external databases.

6.2.4.1. The system is expected to load records in MARC or BRS format from external sources.

6.2.4.2. The system is expected to provide the same search, display, and maintenance features for these databases as it provides for the online catalog.

6.2.4.3. The system is expected to build and maintain bridges from the external databases to the participating libraries local holdings.

6.2.4.4. The system is expected to load, store, and link full-text resources to external database citations.

6.3 Circulation

This section describes system capabilities that have to do with the circulation of library materials to library users, including the management of items placed on reserve; interlibrary loan and document delivery functions; and the management of items in remote storage. Each respondent shall describe in detail the manner in which its system functions with respect to each desirable capability described below.

6.3.1 Circulation Functions (Charge, Discharge, Holds, Saves, Recalls)

6.3.1.1. Within administrative unit constraints, it shall be possible for a user to charge or renew items from any library within a consortium. A user shall not need more than one patron I.D. to be able to charge items from other libraries within a consortium.
[NOTE THE POLICY IMPLICATIONS OF THIS.]

6.3.1.2. The system is expected to alert the staff person whenever an item that has a status of lost or missing appears in any online transaction.

6.3.1.3. The system is expected to make it possible for a patron, upon appropriate authentication to use a current ID card to charge out materials at OPAC computers or special purpose circulation terminals. If this option is supported, the system is

expected to impose the same restrictions as other components of the circulation module. (The self-charge computer is expected to also demagnetize the present security devices imbedded in the items to be charged.) The system is expected to include a user interface that protects secure information input by the user once all charges are made. [Appendix D contains information related to patron ID schema and security devices for participating libraries.]

6.3.1.4. The system is expected to check the length of the identification number and its check digit when scanning identification numbers from the item during charge and discharge and from the patron during charge. If there is an error in the number, the reason for the error should be displayed to the person performing the charge or discharge. For example "The system has detected an error in the barcode, please swipe again." or, after several tries, "The system has detected a fatal error in the barcode." If users are permitted to charge out their materials, the message should include user options to remedy the error.

6.3.1.5. The system is expected to allow an unlimited number of items to be charged to any borrower ID. Local libraries should be allowed to set specific limits if desired.

6.3.1.6. When the user ID is entered into the system, if the borrower has exceeded certain limits, such as number of items charged out, the amount of money owed, or the number of items overdue, the system is expected to alert the staff person or block the self-charge process during the course of the transaction.

6.3.1.7. The system is expected to allow authorized staff to manually restrict individual patron activities.

6.3.1.8. The system shall allow administrative units or local libraries to create and implement restrictions on patron records to alert the staff person to such restrictions during the course of the transaction.

6.3.1.9. The system is expected to make it possible for authorized staff to display and print out on a printer located at the workstation information such as lists: of items charged to a borrower with the option to display/print by location; borrower's account summary; or holds and recalls placed by a borrower.

6.3.1.10. The system is expected to make it possible to display or print only selected information such as the items charged to a borrower that are overdue.

6.3.1.11. The system is expected to make it possible for a borrower, upon appropriate authentication, to display a list of the items charged out to him or her and their status including date due; any notes associated with the borrower should also be capable of display. If a printer is attached, either directly or via a network connection to the display device, it should be possible for the borrower to print out this list. The

user interface is expected to provide a reminder to the user to sign out once all requests are placed.

6.3.1.12. The system is expected to make it possible to review online the list of uncataloged charged items and browse backwards and forwards in that list by title or other index points.

6.3.1.13. The system is expected to make it possible to use circulation functions to temporarily relocate an item to a different circulation unit or location, to circulate that item to borrowers from its temporary location, and to have the displayed location of the item reflect its temporary location. This function is expected to be available for use on individual items or for a range of call numbers.

6.3.1.14. The system is expected to make it possible to create temporary locations either at the item or title level.

6.3.1.15. When a given item is associated with more than one related bibliographic record (e.g., a serials record and an analytic record), changes in status and location for that item are expected to be made in all associated bibliographic records.

6.3.1.16. The system is expected to allow an authorized staff person to key in a borrower record at a circulation point.

6.3.1.17. The system is expected to perform a charge transaction, for example by choosing the borrower record from an index display or by checking the item out without exiting the borrower record, with a minimum of keying even when the borrower does not have an ID card. It should be an option at the local library or consortium level to require an appropriate ID.

6.3.1.18. The system is expected to to complete a charge transaction easily and with a minimum of keying even when the item being charged is not in the catalog database.

6.3.1.19. The system is expected to maintain information concerning scheduled open hours for each participating library and consider this information when setting due dates, times for charged items, and in calculating overdue fines. It should be easy to override dates, times, and fines calculated via this function.

6.3.1.20. The system, when charging an item out, is expected to determine the due date/time for the item by considering the borrower category, the type of material, and the location of the item being charged as well as the time of the charge and the building schedule for the location from which the loan was made.

6.3.1.21. The system is expected to support a wide variety of loan periods, ranging from hourly through loan periods defined by a fixed date, such as the end of an academic semester or quarter, through indefinite.

6.3.1.22. The system is expected to allow different loan periods for different copies (i.e. overnight loan for one copy, 2-week loan for second copy) of the same work.

6.3.1.23. The system is expected to alert staff person, before completing a charge-out, to check for the presence of all pieces, if the number of pieces is more than one. Optimally the system is expected to display a description of the pieces (e.g. score and seven parts). This information is expected to also be provided during the check in function. The staff person is expected to be able to complete or cancel the check-out at his or her option. In addition the staff person is expected to be able to report the absence of a missing item as they complete the check-out.

6.3.1.24. During the course of a charge transaction, the system is expected to allow an authorized staff person to easily search for and display information from other system files, e.g. the list of items charged to the borrower or the borrower's fine record, without having to reenter the borrower's ID number or the item's ID number.

6.3.1.25. The system is expected to allow an authorized staff person to override any automatic system decisions, such as selection of due date, or to override blocking conditions that otherwise would prevent the charging of an item. This override is expected to not interfere with the automatic production of notices related to the transaction. The ability to override decisions and restrictions on patron activities should be protected through the level of staff authorization.

6.3.1.26. The system is expected to use a single transaction to renew all items, or a selected sub-set of such items, charged to an individual borrower or a specified ID associated with an individual borrower, from libraries within a single administrative unit or associated with a single processing unit.

6.3.1.27. The system is expected to allow borrowers, upon appropriate authentication, to renew materials themselves either at computers in the library or via remote access. The user interface is expected to provide a reminder to the user to sign out once all renewals are made. In addition it should be possible for a borrower to renew items by telephone using interactive voice response via a touch-tone telephone.

6.3.1.28. When renewing items, the system is expected to report which items have been renewed and which may not be renewed because of restricting conditions or holds or recalls by other borrowers.

6.3.1.29. The system is expected to allow an authorized staff person to determine to whom an item is charged and, if the item is charged, the date and location of the charge and each renewal. Providing the time of the charge is desirable for reserve materials and optional for other materials.

6.3.1.30. The system is expected to allow display of a list of items charged by any borrower or a specified proxy borrower ID.

6.3.1.31. The system is expected to calculate fines immediately and automatically upon the discharge or renewal of an item.

6.3.1.32. When a charged item is discharged, the link between the borrower and the item borrowed is expected to be retained for a locally-specified period to allow for follow-up with the patron to assign responsibility for damaged materials or non-return of all pieces. After this time the link shall be broken permanently, but the date and location of last return is expected to be retained.
[THIS MAY BE A VIOLATION OF DATA PRIVACY LAW; NEEDS CHECKING]

6.3.1.33. The system is expected to alert the staff person, before completing the discharge of an item, to check for the presence of all pieces if there is more than one. Optimally the system is expected to display a description of the pieces (e.g. score and seven parts). The staff person is expected to be able to cancel the discharge if an item is missing.

6.3.1.34. The system is expected to be able to flag an item, which lacks a part, with the appropriate status: missing, lost, or claims returned, and is expected to alert the staff to take appropriate action.

6.3.1.35. When a charged item is discharged in a location or circulation unit that is not its home location, the system is expected to be able, at the option of the administrative unit, to discharge the item and break the link between the borrower and the item borrowed.

6.3.1.36. When an item is discharged in a location or circulation unit that is not its home location, the system is expected to alert the staff person of the proper routing of the item and give the item in-transit status until it reaches its home location and is discharged there.

6.3.1.37. The system is expected to make it possible to place a hold or recall on an item that has a status of in-transit.

6.3.1.38. The system is expected to allow authorized staff to change the status of any item.

6.3.1.39. The system is expected to allow authorized staff to create a list of items that have been in transit for a given number of days.

6.3.1.40. The system is expected to alert the staff person based upon a library specific parameter when an uncataloged item is discharged.

6.3.1.41. The system is expected to provide the option to discharge an item automatically if a staff person attempts to charge the item to one borrower while it is still charged to a different borrower.

6.3.1.42. The system is expected to allow an authorized staff person to change the effective date of a discharge and to override the levying of fines for an overdue item at the time of the discharge transaction.

6.3.1.43. During a discharge transaction the system is expected to detect the existence of a hold or recall on an item and alert the staff person. The system is expected to allow optionally a hold shelf slip to be printed at the workstation and the borrower who placed the hold automatically notified that the item is available to be picked up.

6.3.1.44. The system is expected to track and be able to report to authorized staff regularly the use of overrides, identifying location, date, and time of the transaction.

6.3.1.45. The system is expected to allow an authorized staff person to force the hold or recall of a charged item at any time.

6.3.1.46. The system is expected to automatically notify a borrower when an item charged to that borrower has been recalled.

6.3.1.47. The system is expected to generate recall and hold notices automatically.

6.3.1.48. The system is expected to have the capability of automatically recalculating the due date for a charged item when it is recalled. The parameters governing the recalculation of the due date SHOULD consider both the location of the material, type of material, and the borrower category.

6.3.1.49. The system is expected to allow authorized staff to determine which locations materials may be routed to for borrower pick up.

6.3.1.50. The system is expected to make it possible, at the option of the local library, to place a hold or recall on an item that is on the shelf, charged out, on-order, or in process and for the system to automatically set the pickup location based upon the user profile, to set the expiration date of the hold or recall, and to manage the hold or recall queue.

6.3.1.51. The system is expected to make it possible to provide a report that lists all items presently being held for pickup at a given location for the purposes of verifying that items have been routed properly to that location.

6.3.1.52. The system is expected to allow an authorized staff person to change the expiration date, the pickup location, or the hold or recall queue at the time the hold or recall is placed or at any time thereafter.

6.3.1.53. The system is expected to allow a hold or recall on either a specific copy or on the first copy returned.

6.3.1.54. When an item that is not charged out is declared to be missing, the system is expected to identify the item as missing and initiate the automatic production of search notices. The system is expected to allow authorized staff to request lists arranged in shelf-order of lost and missing items by location.

6.3.1.55. When an item has been identified as missing, the system is expected to allow a hold on the item.

6.3.1.56. The system is expected to alert the staff person or borrower if a borrower attempts to place a duplicate hold or recall or to recall an item from himself or herself.

6.3.1.57. The system is expected to have the capability to recall automatically a charged item based on library defined criteria, borrower type or other defined conditions. The number of holds or recalls that triggers a recall is expected to be consortium or library-specific.

6.3.1.58. The system is expected to allow an authorized staff person to cancel a single hold or recall or to cancel all holds or recalls on an item and notify the patron.

6.3.1.59. The system is expected to automatically cancel all holds and recalls on an item that is recalled for reserve or that is declared lost.

6.3.1.60. The system is expected to automatically notify a user who has placed a hold or recall when a hold or recall is canceled; the notification is expected to include the reason(s) for the cancellation.

6.3.1.61. The system is expected to offer the option for library patrons to place holds and recalls within established guidelines on charged items without library staff assistance and to designate a choice of pick-up locations.

6.3.1.62. The system is expected to allow special flags associated with a given item to be created and to set these flags to disappear upon discharge or after a specified lapse of time.

6.3.1.63. The system is expected to provide backup circulation capability that can be used to charge, renew, and discharge items and to create and edit patron and item records when the online system is unavailable. The system is expected to allow stored transactions to be automatically uploaded when the online system is available.

6.3.1.64. The system shall provide a printed report of backup transactions for error correction purposes.

6.3.1.65. The system is expected to allow recording of use of an item using the system's circulation functions, distinguishing between in-library use and circulation use of an item, in order to gather information for statistical reports of various uses of materials

6.3.1.66. The system shall allow library staff to discharge labeled browsed materials at multiple locations and for multiple parts of the library at the same time with portable barcode scanners.

6.3.1.67. The system shall provide reports that will assist in returning materials to their proper locations.

6.3.1.68. The system is expected to allow gathering of information on charges, renewals, discharges, and in-house use, by location, by circulation unit, and, where possible, by borrower status for statistical reports of various uses of materials.

6.3.1.69. When an item is removed from the database, the option to retain its transaction history and statistics is expected to be available.

6.3.1.70. The system is expected to provide the option for libraries to maintain circulation statistics for all issues of serial titles.

6.3.1.71. The system is expected to provide the capability of listing holds placed for on-shelf items by library.

6.3.2 Name/Address

6.3.2.1. Participating libraries along with their parent institutions are moving towards a data model where data about a person will be stored in one place within the institution, probably in a relational database with SQL access or an X.500 directory. These databases will probably only contain information about people

officially associated with the library or parent institution, so it will continue to be necessary to also be able to store information about other borrowers and users of the libraries within the circulation system. Please describe the capabilities of your system to work in this environment.

Since the above environment may not be fully in place before the new system is chosen, the remaining items address a desired stand-alone user file in a circulation system.

6.3.2.2. At a minimum, the system is expected to make it possible to retrieve borrower records for online display by ID number and name. It is desirable to be able to search on all fields in the borrower record and to be able to combine searches on different fields.

6.3.2.3. It shall be possible for one administrative unit, local library or consortium to empower or restrict another administrative unit or local library to view and manipulate its patron records.

6.3.2.4. The system is expected to have the capability of creating name/address records for borrowers from machine readable information obtained from student and human resource systems and/or X.500 directory databases. Whether the information is obtained from another source or input manually into the system, the system is expected to indicate the source of the data and its expiration date. Name/address records should include a field for e-mail addresses.

6.3.2.5. Describe the available methods to create, display and edit name/address records both within the system and off-line.

6.3.2.6. The system is expected to employ some method, such as date of last address update, to control whether incoming machine-readable borrower information alters address information in the borrower file in order to minimize the possibility of overlaying old information over newer information in the file.

6.3.2.7. The system is expected to prevent the deletion of a user record if there are any outstanding obligations linked to that user, including but not limited to items charged out and unpaid charges.

6.3.2.8. If a user record is deleted, then the system is expected to also delete any requested holds or recalls that user has placed if there is no expiration date on the hold or recall. In this case, the system is expected to notify the user of the cancellation of the holds or recalls. Alternatively, if the system places an expiration date on recalls and holds, then the user record for a patron with an active recall or hold request should not be deleted.

6.3.2.9. The system is expected to have the capability of allowing a minimum of ten borrower ID numbers, including proxy borrower IDs, to be associated with a single borrower and to charge items using proxy borrower ID numbers.

6.3.2.10. The system is expected to have the capability of assigning the same individual to different borrower categories for the same or different units of participating libraries or consortia without having to maintain multiple borrower records for the same person.

6.3.2.11. The system is expected to allow for up to ten addresses, e-mil addresses and phone numbers in the borrower record for a given individual and be able to indicate which is the borrower's preferred method and address for receiving notices.

6.3.2.12. The system is expected to have at least two fields which can be customized and are available for local data or flags.

6.3.2.13. The system is expected to make it possible to store a lengthy free text message in a borrower record. It shall be possible for the staff person to choose whether or not this free text will be internal or whether it will display during any circulation transaction involving that borrower and whether it will be automatically removed from the patron's record at the next transaction or at a time determined by the staff person.

6.3.3. User Accounts for Circulation, Reserves, and Interlibrary Loan/Document Delivery

6.3.3.1. The system is expected to process and record a variety of forms of payment (i.e., cash, check, credit card, debit from the participating libraries and their parent institutions ID card debit strip) and print a receipt.

6.3.3.2. The system is expected to make it possible to transmit borrower account information in electronic form to other financial systems. [See Appendix E for descriptions.]

6.3.3.3. The system is expected to alert a staff person if the item being discharged is one for which the borrower has been billed and the amount due.

6.3.3.4. The system is expected to display account information for a user at any time while performing circulation and circulation-related functions, such as interlibrary loan and document delivery.

6.3.3.5. The system is expected to allow authorized staff to edit borrower account records including creating charges, consistent with audit trail requirements.

6.3.3.6. The system is expected to allow payments to be posted immediately after fees are added to a borrower's account and to clear restrictions on the patron's activities.

6.3.3.7.The system is expected to allow fees to be posted to particular income accounts.

6.3.3.8. The system is expected to maintain an audit trail that conforms to generally accepted accounting principles for all financial charges levied against a borrower including a complete history of debits and credits or payments.

6.3.3.9. The system is expected to have the capability to display debits, credits, and payments by the circulation unit at which the original debit was incurred.

6.3.3.10. The system is expected to make it possible to display and print only the unpaid charges for a borrower. It should be possible for either a staff person or the user, with appropriate authorization, to request this information.

6.3.3.11. The system is expected to display and print on demand a statement of account, including credits, for a user. It should be possible for either a staff person or the user, with appropriate authorization, to request this information. The user interface is expected to provide a reminder to the user to sign out once all requests are fulfilled.

6.3.3.12. The system is expected to print a borrower's account balance on account notices.

6.3.3.13. The system is expected to allow an individual library to process full or partial payment of any account at any time and is expected to adjust the borrower's account balance appropriately. The system is expected to allow the circulation unit at its discretion to post partial payments to appropriate charges in the account.

6.3.3.14. The system is expected to alert staff to follow up on adjusted accounts at a later time.

6.3.3.15. The system is expected to make it possible to age accounts and to produce a report of outstanding fees based on amount owed and date fees were charged.

6.3.3.16. The system is expected to produce a report identifying items that are significantly overdue to alert staff for possible billing of replacement costs.

6.3.3.17. The system is expected to allow participating libraries to establish different billing periods and charges and services fees for different types of materials, for different circulation units, and for different user categories.

6.3.4. Reserves

6.3.4.1. The system is expected to provide functions with which a staff person can easily indicate that an item has been relocated to a reserve room or location.

6.3.4.2. The system is expected to place items on reserve that are not represented in the catalog database.

6.3.4.3. the system is expected to assign a unique shelving number to uncataloged items that are placed on reserve.

6.3.4.4. The system is expected to make it possible to circulate items on reserve with a wide range of different loan periods while retaining the original loan periods used when the item is not on reserve.

6.3.4.5. The system is expected to retain reserve information for an item and to "turn on" and "turn off" reserve status for an item or group of items with a simple command or procedure.

6.3.4.6. All displays that include location information for an item are expected to dynamically indicate that the item is in a reserve location as a result of it being placed on reserve. It should not be necessary to edit the holdings record for the item.

6.3.4.7. The system is expected to allow faculty to request via the system that an item be placed on reserve. If these requests are placed within the libraries, the user interface is expected to provide a reminder to the user to sign out once all of the requests are placed.

6.3.4.8. The system is expected to place on reserve an unlimited number of items per course and professor; however, local libraries should have the option to impose a limit.

6.3.4.9. The system is expected to make it possible to delete all items on a reserve list with a single transaction.

6.3.4.10. The system is expected to process with a single transaction a change to fields related to the reserve function for all items on a reserve list.

6.3.4.11. The system is expected to make it easy to produce a list of items on reserve for a specific course or faculty member and to print this list in the library.

6.3.4.12. The system is expected to retrieve lists of items on reserve by course name or course number and/or faculty name in addition to the normal bibliographic access points.

6.3.4.13. The system is expected to allow an item to be placed on reserve for more than one academic course and/or for more than one faculty member.

6.3.4.14. The system is expected to allow different loan periods for different copies (i.e. overnight loan for one copy, 2-hour loan for second copy) of the same work which are placed on reserve.

6.3.4.15. The system is expected to allow a hold on an item that is on reserve, at the option of the circulation unit so it can be provided to the requester when it comes off of reserve. It should be possible to build a queue of such requests and manage this queue like any other hold queue.

6.3.4.16. The system is expected to notify a staff person that an item is due to be removed from reserve.

6.3.4.17. The system is expected to make it possible to edit all fields related to the reserve function.

6.3.4.18. The system is expected to gather information within the reserve function on charges, renewals, discharges, and in-house use, by location, by circulation unit, and, where possible, by borrower type for statistical reports of various uses of materials.

6.3.4.19. The system is expected to calculate overdue fines on an hourly basis and to produce overdue notices for reserve items.

6.3.4.20. The system is expected to retain bills and accounting information associated with reserve items even after the item is removed from reserve.

6.3.4.21. The system is expected to provide links from the traditional reserve system to items available in electronic form, either locally-scanned or available from vendors, and either on the Web (or successor technology), via ASCII or image databases on this system, or available via gateways to other systems.

6.3.5. Reports and Notices

6.3.5.1. The system is expected to generate and produce various batch processes including overdue notices, recall and hold fulfillment notices, hold cancellation notices, recall notices, recall cancellation notices, fine notices and bills, and statements of account. Notices, bills and statements of account should be automatically sent via mail, e-mail or voice-mail to the borrower's preferred address/phone number. Circulation units should be able to customize the message for each of these notices and to print it at the circulation desk if desired.

6.3.5.2. For all notices produced in a batch mode, The system is expected to allow an

authorized staff person to generate an individual notice or set of notices on demand and for the system to automatically modify the batch process in recognition of the notices sent on demand.

6.3.5.3. The system is expected to produce a printed or electronic purchase alert based on a consortial or local library-specified number of holds and recalls having been placed on a charged item.

6.3.5.4. Circulation units associated with one administrative unit are expected to be able to control the sequence and scheduling of circulation notice and report production.

6.3.5.5.The system is expected to allow use of electronic mail or the telephone for the purpose of automatically sending circulation-related notices to borrowers, patrons, and staff persons, depending upon the individual's preferred method of receiving notices.

6.3.5.6. The system is expected to associate a borrower record with a variety of statistical categories for statistical reporting purposes. These categories should be definable at either the system or local library level.

6.3.6 Profiling

6.3.6.1. Circulation functions are expected to be controlled by a library circulation unit-specific set of tables that can be maintained by an authorized staff person without the assistance of the vendor or system management personnel.

6.3.6.2. The system is expected to allow a library administrative unit to establish different sets of parameters governing the privileges and fines charged for different categories of borrowers.

6.3.6.3. The system is expected to allow a local library or circulation unit to set an automatic restriction if a predefined limit for items charged out, amount of money owed, or number of items overdue is reached.

6.3.6.4. The system is expected to support a large number of borrower categories. Describe how the system would handle borrower categories for a large number of libraries and circulation units.

6.3.6.5. The system is expected to define a default loan period for each location and to override or change the loan period either at the item or title level.

6.3.7. Inventory

6.3.7.1. The system is expected to inventory the collection and/or selected portions of it. The system is expected to establish a beginning and end date to an inventory

period during which any item charged or scanned through a portable device is marked. At the end of the period a list should be produced of all items not charged nor scanned during the given period. The system is expected to either automatically or manually flag the items as missing.

6.3.7.2. The system is expected to provide reports of shelving errors and circulation record/bibliographic record information mismatches.

6.3.7.3 The system is expected to provide a report of missing items by holding library and/or location.

6.3.8. Interlibrary Loan (ILL) and Document Delivery

6.3.8.1. The system is expected to support user initiated resource sharing transactions, including local loans, interlibrary loan, and document delivery. The user interface is expected to provide a reminder to the user to sign out once all requests are placed.

6.3.8.2. The system is expected to support interlibrary loan and resource sharing activities with other systems that comply with the ISO Interlibrary Loan standard protocols 10160/10161.

6.3.8.3 The system is expected to provide for user-initiated interlibrary loan for items found in other Z39.50 compatible catalogs, but not in the participating library's database, by providing an interface to designated external interlibrary loan system, e.g., OCLC, RLG, MINITEX, DOCLINE, CIC institutions, etc.

- Specify the automated interlibrary loan systems to which your system currently interfaces and the manner in which it does so, including any standards employed and authentication processes.
- Specify your system's capabilities for facilitating ILL transactions with libraries not on an automated system or with systems that do not comply with the ISO Interlibrary Loan protocols.
- Specify your system's capabilities for handling requests from unaffiliated users, who have previously set up accounts with the participating libraries, for fee-based document delivery.
- Specify your system's capabilities for interacting with participating libraries purchased accounting system for its income operations. [See Appendix E for descriptions and vendors.]

6.3.8.4. The system is expected to have the capability to accept user-initiated loan requests from both public and remote-access workstations including via the Web.

6.3.8.5. The system is expected to have the capability to interact with the circulation system in blocking requests from patrons who have exceeded certain limits, such as

number of items charged out, amount of money owed, or number of items overdue, or have other restrictions on their record.

6.3.8.6. The system is expected to have the capability to accept multiple staff-initiated interlibrary loan requests on behalf of a user.

6.3.8.7. The system is expected to assign a record number and date and time to each ILL request when entered.

6.3.8.8. The system is expected to permit patrons to view their interlibrary activity requests at public and/or remote-access workstations, under user security restraints, at the option of the library. The user interface is expected to provide a reminder to the user to sign out once all requests are placed.

6.3.8.9. The system is expected to provide query access by authorized staff to interlibrary loan requests by:

- Bibliographic field
- OCLC numbers
- NLM numbers
- RLIN numbers
- MINITEX request numbers, as assigned by the library
- User ID
- User name
- Unique numbers (such as tracking numbers assigned by the library)

6.3.8.10. The system is expected to maintain an online archive of completed ILL requests. Once the request has been filled and, in the case of returnable items, returned, the borrower information should only be indicated by status, affiliation, and interlibrary loan office handling the request. After a consortium or library-specified period, this information is expected to be archived off-line but remain accessible for query and reporting.

6.3.8.11. The system is expected to allow the local library to specify the period of online archiving required. Specify the period of ILL online archiving the system will support.

6.3.8.12. The system is expected to permit the archive to be queried by:

- Department/major of use
- User type
- Periodical /item title
- Unique number
- Item author
- Lending institution
- Borrowing institution

- MINITEX request number

Specify how the system protects the privacy and security of this function.

6.3.8.13. The system is expected to have the capability to integrate, when appropriate, interlibrary loan or other fees into the patron s fine account.

6.3.8.14. Billings that are issued to the user are expected to include interlibrary loan fees, which contribute to calculation of a fiscal-based restriction on a user.

6.3.8.15. The system is expected to interface the ILL subsystem with the circulation system activity to create interlibrary loan reports.

6.3.8.16. The system is expected to allow online or printed reports by category of ILL: complete, received, returned, will supply, shipped, unfilled, etc.

6.3.8.17. The system is expected to provide access to titles that have exceeded copyright limits.

6.3.8.18. The system is expected to support ILL participation by non-system libraries. These "subscription" ILL members shall have all the same ILL capabilities as the full participants.

6.3.8.19. The system is expected to accommodate ILL participation with centers such as MINITEX. Describe how the system would handle copyright compliance in this environment.

6.3.8.20. The system is expected to provide an unmediated environment for handling user-initiated requests. The system is expected to provide libraries with the option to have the system automatically reject requests under conditions specified by local libraries. The unmeditated feature is expected to provide libraries with the option of creating profiles of potential lending libraries, in priority order, to which request records are routed automatically.

6.3.9. Borrowing (ILL) and Lending Requirements

6.3.9.1. The system is expected to support requests for a physical items, requests for document photocopies, and requests for materials in electronic format.

- Additional information (volume, number, page, article author, title, etc.) as well as user notes is expected to be allowed in the request.
- Items requested may be local (local loan between circulation units), remote to other borrowing institutions (interlibrary loan) , or external through a vendor document fulfillment service (document delivery).
- The system is expected to allow for multiple delivery options of the requested material, including but not limited to e-mail (with or without MIME), fax,

FTP, UPS, standard mail. Each library administrative unit is expected to have the option of specifying which delivery options will be supported, based on local availability and policy.

- Requests MAY be in EDI or EDIFACT format.

6.3.9.2. The system is expected to be able to collect the bibliographic information for the request from a variety of sources:

- The results of a search of a local catalog (for local loan requests);
- The results of a search of a local index and abstract or full text database (for local loan; document delivery, or interlibrary loan);
- The results of a search of one or more external catalogs or databases (for local loan, interlibrary loan or document delivery);
- The request interface is expected to provide the option for blank request templates that can be used to request items/documents that have not been located in one of the local or remote catalogs or databases.

6.3.9.3. Document requests are expected to seamlessly interface with the online catalog searching system and are expected to support the ability to search multiple remote Z39.50 catalogs and databases simultaneously.

- The document request function is expected to be fully integrated with the search functions; i.e., users should not be required to enter a document request module to search for items to be requested.
- The document request command is expected to be readily apparent to users, i.e., not hidden on a different screen.
- If the item specified by a multiple institution search is requested, all of the institutions that satisfy the request will be recorded in the request transaction.
- Locally held items would should be dynamically identified for the user by the system. If the item is locally held, locally specified rules, based on circulation status should determine whether an external request shall be allowed.

6.3.9.4. The system is expected to capture and/or import the following data from a remote or local catalog or database using NISO standard Z39.63 or from user input, as appropriate:

- Bibliographic/citation information;
- Location, call number, shelf status (for catalog items);
- Date item no longer needed.

6.3.9.5. The system is expected to allow staff to add verification information to a request record.

6.3.9.6. Document requests are expected to interoperate with OCLC, and should operate with RLIN, and DOCLINE

- The administrative unit is expected to have the option of allowing users to search the OCLC, RLIN Z39.50, and DOCLINE servers

- The ILL staff person is expected to be able to place an ILL request via OCLC, RLIN ILL or DOCLINE systems.
- The ILL staff person is expected to be able to receive requests from OCLC, RLIN or DOCLINE ILL systems.

Describe how this interoperability is achieved.

6.3.9.7. The user request interface is expected to collect user information and authenticate the user.

- The interface is expected to provide the option of requiring users to validate against the local authentication source. The source may be internal, such as a system user file, or external such as an institutional X.500 directory.
- Once the user is authenticated, the system is expected to verify the user's authorization to place a request (e.g., the user is not blocked by fines; user has the proper status category, etc.); criteria for authorization are expected to be flexible based on the administrative unit's policies.
- The user interface is expected to provide an option specifying how many requests can be placed and how much time is allowed in the same session before a user is required to re-authenticate. The user is expected to be able to issue multiple requests without having to re-authenticate each request.
- The user interface is expected to provide a reminder to the user to sign out once all requests are placed.
- Authentication requests to the local authentication server are expected to use published standards and/or interfaces. The system is expected to be able to cache the user information to eliminate reauthentication.

6.3.9.8. The system is expected to capture and/or import the following data from a local circulation or user ID system, or from user input, as appropriate:

- User data (name, ID number, etc.)
- Delivery information (delivery address, fax number, e-mail address, etc.)
- Billing information (account number, credit card information, as appropriate).

6.3.9.9. The user is expected to have the option to cancel a request prior to sending it.

6.3.9.10. Each administrative unit is expected to have the option of allowing users to search their local catalog or databases and place a local loan delivery request; that is, a request that an item be delivered from a local location such as remote storage or be supplied through a photocopy. This request is expected to be identifiable by the system as needing to be processed by local staff.

6.3.9.11. The request interface is expected to provide the option of allowing the user to specify the delivery mode that might be: to his or her desktop; to an appropriate local ILL office; or to other user-specified pickup location.

- The interface is expected to accommodate delivery of local loan requests.
- The administrative unit is expected to have the option of specifying what delivery options are to be supported and offered for each user type.

6.3.9.12. The request interface is expected to provide the user with the option to request a copy from a fee-based document supplier, either commercial document suppliers or on-campus/library document suppliers that charge a fee.

6.3.9.13. The system is expected to support electronic commerce in a networked environment for this service

- The request interface is expected to allow the administrative unit the option of paying for all or part of any request, including photocopy charges; delivery charges; fee-based document suppliers.
- The request interface is expected to allow the institution to charge the user for any or all of the charges enumerated above.
- The request interface is expected to allow additional user fees to be added by the institution.
- If the user is charged, a variety of payment options is expected to be supported, depending upon the document supplier and the policies of the administrative unit.

6.3.9.14. The interface is expected to provide an online verification that the request has been successfully placed. This verification is expected to contain the request's system-assigned unique identifier, the item's bibliographic information, date/time the request was placed, the target institution/supplier, the estimated cost, and the selected delivery site. When applicable, the system is expected to display the appropriate copyright warning. The system is expected to allow the user to print off a verification/reminder of the request.

6.3.9.15. The system is expected to provide the capability for the user to search for his/her own outstanding request; the request to search shall be validated by authenticating the user. The system is expected to supply to the user the status of the request based upon the status codes in Z39.63. The user interface is expected to provide a reminder to the user to sign out once he or she has finished searching.

6.3.9.16. Requests from the user request interface shall be formatted to contain the appropriate Z39.63/Z39.70 elements and be able to be sent to remote servers using the Z39.50 Extended Services Document request/ILL protocol as proposed by the National Library of Canada.

6.3.9.17. The system shall allow multiple potential lenders on a request record and shall automatically forward the request from one lender to the next. The automatic forwarding shall occur after a library-specified number of days.

6.3.9.18. The system shall be fully integrated with both the lending and borrowing libraries' circulation system - the user and item files. Charging, renewing and recalling ILL items shall update the circulation records as well. ILL availability notices, overdue notices, fines, etc. shall be able to be generated using user data from the circulation records.

6.3.9.19. The system is expected to support the ability to re-initiate requests that were not supplied.

6.3.9.20. The system is expected to include a messaging feature to allow borrowing and lending library staff to communicate via messages on the ILL request record. This shall allow for an ongoing dialogue back and forth with notification of pending messages via the status tracking file.

6.3.9.21. The system is expected to block requests to libraries that are not currently active ILL participants.

6.3.10. ILL Staff Management Requirements

6.3.10.1. The system is expected to assign a unique and searchable number to identify that transaction (see 6.3.8.7.). This transaction number is expected to stay with the transaction from start to finish. If a transaction from a remote ILL system is forwarded to the system for fulfillment, the system is expected to carry the remote ILL server transaction number as well as the locally assigned number in order to link the two transactions.

6.3.10.2. Within the system the status values that manage and track the request are expected to be supported as part of the request transaction, showing when the item was requested, from whom, if/when filled, when returned to the owning site, etc. The system is expected to include status values which conform to those specified in NISO Z39.63 and the ISO ILL protocols.

6.3.10.3. The system is expected to dynamically detect and reject duplicate requests from the same user providing that user with a message for the reason for the rejection.

6.3.10.4. On receipt of a request, the system is expected to choose a request destination:

- If the request is destined for the host or local site, either a local loan request or a request from another ILL system sent to this site, the system is expected to verify the item availability using locally defined rules. The local rules are expected to result in the item being added to a pickup list, the request being queued for staff review, or the request being canceled.

- If the request is canceled, the system is expected to notify the local requester or the requesting system about the cancellation and the reason for the cancellation.
- The system is expected to send requests directly to the holding library system if the holding libraries have been identified and will accept non-mediated requests. The request is expected to be sent to the holding library system via Z39.63 over TCP or using Z39.50 Extended Services.
- Otherwise the system is expected to allow staff to identify a holding library via Z39.50 or other searching functions, if needed, at which point the request is forwarded to the destination or the request is rejected per local policy.

6.3.10.5 The system is expected to provide the ILL staff person with the ability to download in batch pending requests; to sort the requests and print pull slips or lists that include bibliographic information, local call number, all lending library locations, unique system identification numbers, ship to address, and other locally specified information. The system is expected to give priority to rush requests in addition to especially flagged requests.

6.3.10.6. The system is expected to maintain status values on transactions. The status is expected to change as identified in Z39.63 and the ISO ILL protocol status values. the system is expected to set status values automatically during item processing, on individual items during staff review, or in a batch update based on institution specific criteria, such as status, date in queue, institution, etc.

6.3.10.7. When the requester's item arrives, the system is expected to generate a status change in the system and a notice that is sent to the requester noting that the item has been received and where it can be picked up. The system is expected to support paper, telephone and e-mail request notification options.

6.3.10.8. The staff management interface is expected to allow retrieval of transactions by a variety of criteria, including but not limited to user ID, originating institution, transaction status, system assigned transaction identifier, local call number.

6.3.10.9. The staff management interface is expected to allow purging of completed transactions by a variety of criteria, including date and item type. Automatic purging based on specified criteria is expected to be a locally specified option.

6.3.10.10. The ILL system is expected to maintain statistics on the time taken for interlibrary loan work forms to move from any specified status to another, based on local library or consortium selection, eg. "pending" to "shipped," from "pending" to

"received." These statistics are expected to be available for a library-specified period of time, and the system is expected to interface them to the report generator.

6.3.10.11 The system is expected to provide a method for tracking ILL fill rate and turnaround time for each lending institution.

6.3.10.12. The system is expected to supply a copyright compliance report listing the journal title and article citation of all non-returnable items requested from suppliers.

6.3.10.13. Describe how the system:
- Monitors copyright compliance
- Handles requests which would violate copyright compliance

6.3.10.14. The system shall automatically block a request when it would violate copyright compliance.

6.3.10.15. The system shall allow the ILL staff person to override blocks for copyright limit violations.

6.3.10.16. The system shall provide online access to copyright compliance information. ILL staff shall be able to browse the file for their library. The information is expected to be secure so that other libraries' copyright information is not available.

6.3.10.17. The system shall allow staff to make changes to the ILL request record at any time before completion.

6.3.10.18. The system is expected to flag duplicate requests for the same item even if they are new or in process at the lending library.

6.3.10.19. The system is expected to capture the correct call number from each successive potential lender and provide this information in successive requests.

6.3.11 Compact Storage

The state of Minnesota has funded a new regional storage facility, available for use by all libraries within the state, which will store items in bins rather than on shelves. As we move items to this facility, the system is expected to support the transfer of the item to a new location as well as manage the storage of the items in bins, facilitate the paging of these items, manage their circulation, and display the status of the item to the user of the online catalog. Because many libraries will have access to this facility, not all of their records will be represented in the system database. Please describe how the system would support such a process.

6.4. Database Maintenance and Cataloging

This section describes system capabilities that have to do with the creation and maintenance of bibliographic, authority and holdings records, the records that comprise the catalog database. The system shall maintain each library's individualized bibliographic data. Each respondent is expected to describe in detail the manner in which its system functions with respect to each desirable capability described below. Local libraries and consortia shall be allowed to describe how they wish their records to be handled and displayed.

6.4.1. Record Creation

[This section may need revision after decisions are made about the relationships and decision-making processes among participating libraries.]

6.4.1.1. The system is expected to allow libraries to transfer batches of bibliographic or authority records or individual records from national bibliographic utilities or vendors to a server using file transfer protocol (FTP). It should be possible to convert, index, and load these records into the OPAC in a single transaction.

6.4.1.2. The system is expected to make it possible to (1) search for individual records or small files of records on any Z39.50-compliant server, (2) mark records(s) in the result set for import, and (3) capture, convert, index, and load marked records into the OPAC in a single transaction.

6.4.1.3. The system is expected to make it possible to create a new record by deriving from (copying) records in the local file/s (e.g., OPAC, locally mounted resource file of Library of Congress records).

6.4.1.4. The system is expected to make it possible to key brief or complete records online with a minimum number of keystrokes and "point and click" operations.

6.4.1.5. When a new bibliographic record is added to the system through import or derived, the system is expected to create a default holdings record as well as a bibliographic record. the system is expected to include the following data in the holdings record:

- Location: The default location is expected to be tables-driven and linked to operator ID, but the system is expected to provide the option to set another default location during work session.

- Call number: Call number data is expected to be copied from fields specified in priority order in a table. The system is expected to make it possible to specify priority orders and link one order to an operator ID. The system is expected to provide the option to set another default order during a work session.

6.4.1.6. The maximum number of characters allowed for a single record (bibliographic, authority, or holding) is expected to exceed 20,000.

6.4.1.7. The maximum number of indexed fields allowed for a single record (bibliographic, authority, or holding) is expected to exceed 500 fields.

6.4.1.8. The system is expected to associate an unlimited number of item records with a holdings record.

6.4.1.9. When bibliographic and authority records are imported from databases outside the system, the system is expected to automatically overlay an existing record in the same format with a matching standard number; the Library is expected to be able to define which standards numbers are to be used as the basis of overlay and it should be possible for an authorized staff person to change the definitions without programmer intervention.

6.4.1.10. If a new bibliographic or authority record entering the system from any source and by any means (a) contains a control number that duplicates a number already in the catalog database or (b) using an algorithm based on indexed fields, matches a record already in the catalog database, the system is expected to prevent the addition of that record to the catalog database and store the incoming record in a working file so it can be examined by an authorized staff person.

6.4.1.11. The system is expected to accept, support, and maintain storage, retrieval, display, and editing distinctions and capabilities for genre subject headings and local subject headings.

6.4.1.12. The system is expected to transfer and overlay online a single bibliographic record with another record --either with a record from the same file as the existing record or a record from another file such as a resource file of Library of Congress records--and have it automatically replace a designated bibliographic record in the catalog database.

6.4.1.13. The system is expected to prevent overlay from affecting circulation or order record links.

6.4.1.14. The system is expected to allow local libraries to define which linked records will be affected by overlay, e.g., bibliographic records only or bibliographic and holdings records.

6.4.1.15. The system is expected to allow local libraries and consortia to determine fields where no overlay is possible.

6.4.1.16. The system is expected to mark errors in records imported into the system and provide a mechanism for retrieval of error records for correction. Please explain how this is handled.

6.4.2. Record Editing and Maintenance

6.4.2.1. The system is expected to allow a staff person to search for and display records from any system file at any time during the process of creating or modifying a bibliographic, authority, or holdings record online without having to terminate the record creation/modification activity.

6.4.2.2. The system is expected to support editing features similar to those in commonly used word processing programs (e.g., copy and "cut and paste" between records and insert data at any point in the record).

6.4.2.3. The system is expected to incorporate data from any existing bibliographic or authority record into a new record that is being online or into an existing record that is being modified online.

6.4.2.4. Each staff person at a participating library who performs online creation of bibliographic, authority, and holdings records is expected to be able to define and have the system display easily defined default values for certain tags, indicators, and subfield codes.

6.4.2.5. The staff person is expected to be able to control the order of display of subject fields, added entries and notes fields by arranging the order of the fields in the bibliographic record; the system is expected to preserve the order when the record is stored.

6.4.2.6. The system is expected to validate the following data against a master table whenever a record is created or updated:

- All values in 006, 007, and 008 fields
- All field tags
- All subfield codes within each field
- Repeatability of fields and all subfields with fields.

6.4.2.7. The system is expected to return appropriate error messages to aid in correction.

6.4.2.8.The system is expected to do record purges by parameters (date, etc.) specified by an authorized staff person.

6.4.2.9. It shall be possible to immediately delete or undelete bibliographic records from an individual library.

6.4.2.10. The system is expected to prevent the inadvertent deletion of a bibliographic record that has any records associated with it. A message, prompt, and override option should be provided when a staff member attempts to delete a bibliographic record with other associated records.

6.4.2.11. The system is expected to prevent the deletion of a holdings record if any item reflected in the holdings record is circulating or associated with a circulation transaction (bill, hold, recall).

6.4.2.12. The system is expected to store bibliographic, authority, and holdings records that are created online by one staff person in a working file, so that another staff person can review the records before they are entered into the catalog database.

6.4.2.13. It shall be possible to copy a single bibliographic MARC record from one library to another.

6.4.2.14. The system is expected to maintain a history of edits for each library's database.

6.4.2.15. It shall be possible to edit and produce labels, both single and multiples.

6.4.3. Authority Control

6.4.3.1. The system is expected to maintain the LC authority file in a searchable format with seamless updates and the capability to pass reports.

6.4.3.2. The system is expected to handle interactions between bibliographic and authority record data, including identification of unestablished headings, identification of bibliographic heading/reference conflicts, identification of duplicate headings and authority heading/reference conflicts whenever new authorities are added. Interactions between hierarchically related headings (e.g., recognizing an authority record for a subordinate body as being in conflict if it uses an obsolete form of the higher body's name in the established heading) also should be monitored and reported. The system is expected to identify blind references and notify the user.

6.4.3.3. The system is expected to index and display to staff and the public references and other authority record data that appear on records not matched in the bibliographic file--for example, "reference" records or records needed to complete a hierarchy or sequence of related headings.

6.4.3.4. The system is expected to make global changes to bibliographic, holdings and authority records so:

- an authorized staff person can, by means of an online transaction, cause the system to change all occurrences of one text string to another text string or add

a text string to records based on the presence of other specified data in the records or delete a specified text string from records.

- an authorized staff person can control the global change process so that only occurrences in a specified field and/or subfield or fixed field data position are changed.
- an authorized staff person can control the global change process so that heading elements may be rearranged based on subfield code alone, in conjunction with a partial heading text, i.e., use the global change process to reorder specified topical subdivisions in relation to variable geographic subdivisions when the former change from "Not Subd Geog" to "May Subd Geog."

6.4.3.5 The system is expected to make it possible to review the consequences of a global change to the database before it is implemented.

6.4.3.6. The system is expected to alert the staff person when a heading in a bibliographic record (1xx, 4xx, 6xx, 7xx, 8xx fields) that has been created online or a heading that has been added to a bibliographic record that is being modified online does not match an existing record in the authority file.

6.4.3.7. The system is expected to be able to replace existing authority records with newer versions loaded through either batch or online process, and is expected to provide the option of automatic replacement of headings in affected bibliographic records.

6.4.3.8. System generated authority records for unmatched bibliographic headings are expected to include 670s when identifying data from the 245 and 260 fields of the source record. The system also is expected to supply rule-based 4xxs (e.g., rotation of multiple surname headings within the heading and 1xx/245-based references for records generated from 1xx /240 headings). System-generated authority records should be created both during batch record loading and during online cataloging and record maintenance.

6.4.3.9. The system is expected to report the entry of new controlled headings into the indexes, regardless of the source of the heading, and report duplicate headings and authority heading/reference conflicts resulting from the addition of authority records to the file

6.4.4. Holdings

6.4.4.1. Describe how the system structures holdings data.

6.4.4.2. The system is expected to place no limit on the holdings data that can be associated with a single bibliographic record.

6.4.4.3. The system is expected to allow an authorized staff person to perform operations on a selected group of holdings records, as follows:

- to change specific data elements, such as location information, in a selected group of holdings records without having to edit each individual holdings record
- to cause a selected group of holdings records that are logically associated with bibliographic record (and no longer associated with the original bibliographic record) without having to enter a separate transaction for each individual holdings record
- to delete a selected group of holdings records
- to control the order of holdings display by location
- to customize messages associated with status of items

6.4.4.4. The system is expected to be able to link multiple bibliographic records with a single holdings record in order to accommodate bound-together items and analyzed monographic series.

6.4.4.5. The system is expected to specify in a holdings record the location of an item within a library, e.g., that a given item is located on the "Indexes" shelf in the reference collection of a particular library.

6.4.4.6. The system is expected to allow authorized staff to suppress the holdings information for a specific copy and thereby prevent the display of that holdings record in the OPAC.

6.5. Acquisitions

This section describes system capabilities that have to do with the ordering and receipt of library materials and the fund accounting activities that accompany such activities. Each respondent is expected to describe in detail the manner in which its system functions with respect to each desirable capability described below. Each respondent is also expected to describe how the system protects secure data (for example, fund number or name of requestor).

6.5.1. Integration

6.5.1.1. The system is expected to allow an authorized staff person to suppress a record from display in the OPAC.

6.5.1.2. The system is expected to be fully integrated with the serials function for tracking, ordering, renewing and paying for periodical and standing order serials.

6.5.1.3. It shall be possible to search and display records from any system file while performing acquisitions functions.

6.5.1.4. The system is expected to allow an authorized staff person to suppress specific fields in a record from display in the OPAC.

6.5.1.5. The system is expected to provide a hot link to a URL from the OPAC if the record has information in the 856 field.

6.5.1.6. The system is expected to be fully integrated with document delivery functions to allow for acquiring, tracking and paying for journal articles and other individual pieces.

6.5.2. Ordering

6.5.2.1. The parameters that control how the system carries out various acquisitions operations are expected to be easily modified by an authorized staff person without the intervention of the vendor or system management personnel.

6.5.2.2. The system is expected to place no limits on the number of order records that can be associated with a single bibliographic record. The system is expected to allow the library to specify the data elements that appear on purchase orders, whether printed or electronically transmitted, within the parameters of EDI and other approved standards. Describe how the system produces purchase orders.

6.5.2.3. The system is expected to make it possible to correct or cancel a purchase order before printing or transmitting electronically.

6.5.2.4. The system is expected to make it possible to print purchase orders locally, possible at the desktop.

6.5.2.5. The system is expected to use standard codes for countries and currencies.

6.5.2.6. The system is expected to make it possible to locally select which fields of the order record will be indexed.

6.5.2.7. The system is expected to make it possible to search and retrieve sequential record ID numbers.

6.5.2.8. The system is expected to make it possible to retrieve payment or check-in information for a specific issue within a series or subseries.

6.5.2.9. Order, vendor, and check-in records are expected to include library-defined fields.

6.5.2.10. The system is expected to provide flexibility in the number and length of fields and include the capability to enter free text notes in variable length fields for various pre-defined functions, i.e. ordering, receiving, cataloging etc.

6.5.2.11. The system shall prevent payment for items not received unless they are prepaid, renewals, or depository items.

6.5.2.12. The system shall support patron-initiated monographic or serial acquisitions requests to be used at the local library's discretion

6.5.2.13. The system is expected to have the capability to link requestor names to a patron ID and to notify patrons when a requested item has been cataloged.

6.5.2.14. The system is expected to accommodate the following types of orders in any format:

- Firm orders
- Approval plans
- Standing orders
- Blanket orders
- Continuations
- Serial orders
- Collective orders
- Gifts
- Gratis orders
- Exchange receipts
- Prepaid orders
- Deposit account orders
- Memberships

And have the flexibility to handle other types.

6.5.2.15. The system is expected to make it possible for a staff person to establish default values according to vendor type, terminal ID, or location for data elements in the order record to be used by the system whenever an order record is being created online.

6.5.2.16. The system is expected to make it possible for an authorized staff person who is creating order records online to override system-supplied default values for data elements in the order record on a record-by-record basis or by setting new default values that are valid only during the terminal session.

6.5.2.17. The system is expected to be able to detect and report in real time input errors for coded or numeric data elements (as defined by the library) in an order record when the order record is being created.

6.5.2.18. The system is expected to make it possible to make global changes to selected fields in a selected group of order records.

6.5.2.19. The system is expected to automatically check for fund availability at the time an order record is created.

6.5.2.20. The system is expected to make it possible to view online on request the complete payment history for an order record.
6.5.2.21. The system is expected to make it possible to use information in a bibliographic record, MARC format compatible electronic record, or order record from the entering library or any other library system as source data for subsequent order without rekeying.

6.5.2.22. The system is expected to have the capability, at a library's option, to order multiple items on a single purchase order or limit purchase orders to single items.

6.5.2.23. The system is expected to make it possible to suppress an inactive or pending order record so that it does not display to the public.

6.5.2.24. The system is expected to make it possible to have different copies of the same title charged against different funds.

6.5.2.25. The system is expected to make it be possible to split a single-copy order among multiple funds.

6.5.2.26. A staff person is expected to be able to easily create an order record without producing a purchase order.

6.5.2.23. The system is expected to make it possible to receive and process bibliographic information in machine-readable form, via tape or FTP, and create linked payment records.

6.5.3. Claims and Cancellations
6.5.3.1. The system is expected to allow a local library to implement automatic claiming.

6.5.3.2. Each library is expected to be able to easily control the length and actual text for individual claim and cancellation notices, within the parameters of EDI and other approved standards.

6.5.3.3. The system is expected to have an editable preview of claims, whether printed or electronic.

6.5.3.4. The system is expected to make it possible to correct or cancel a claim before printing or transmitting electronically.

6.5.3.5. The system is expected to make it possible to print claims locally, possibly at the desktop.

6.5.3.6. For claiming and cancellations, the system is expected to make it possible to produce a report only or notices only or both.

6.5.3.7. The system is expected to make it possible for a processing unit to produce a library-specific list of outstanding claims for a selected vendor.

6.5.3.8. The system is expected to make it possible to display the entire claim and cancellation history down to the copy level.

6.5.3.9. The system is expected to make it possible to control the claim interval and to disable automatic claiming.

6.5.3.10. The system is expected to make it possible to review and modify or override automatically generated claims before they are sent or transmitted.

6.5.3.11. The system is expected to make it possible to produce a claim manually.

6.5.3.12. The system is expected to make it possible to issue a claim when only part of an order has been received.

6.5.3.13. The system is expected to make it possible for an authorized staff person to cancel all orders for a selected vendor with a single transaction.

6.5.3.14. The system is expected to make it possible for an authorized staff person to reassign a selected group of orders to a new vendor.

6.5.4. Receiving and Paying

6.5.4.1. The system shall allow for multiple ship to/bill to addresses for institutions with multiple library locations.

6.5.4.2. The system is expected to make it possible to edit the vendor and the fund at the time of receipt.

6.5.4.3. The system is expected to place no limits on the size of invoice records.

6.5.4.4. The system is expected to make it possible to search invoice records by vendor name, vendor code, and invoice number.

6.5.4.5. The system is expected to produce a report from electronic invoice processing to reflect all transactions and errors.

6.5.4.6. The system is expected to make it possible to receive and process invoice information in machine-readable form.

6.5.4.7. The system is expected to make it possible to track copies returned and the reason why.

6.5.4.8. The system is expected to make it possible to edit library-selected fields in an order record that has a received status.

6.5.4.9. The system is expected to make it possible to receive items that have a canceled status.

6.5.4.10. The system is expected to make it possible to record the receipt of part of an order.

6.5.4.11. The system is expected to make it be possible to record the receipt of items with or without an accompanying invoice.

6.5.4.12. The system is expected to make it possible to pay an invoice without linking it to an order record.

6.5.4.13. The order record is expected to be easily accessed and displayed during the processing of an invoice.

6.5.4.14. The system is expected to make it possible to apply multiple credit memos to an invoice or a single credit memo to multiple invoices.

6.5.4.15. It shall be possible for an item record or piece record for the item to automatically be created when an item is received.

6.5.4.16. It shall be an option for the local library to produce a customized processing slip automatically when an item is received.

6.5.4.17. The system is expected to make it possible to identify separately such extra charges as postage, bank charges, surcharges, and rush charges and to allocate these extra charges among the items in a flexible way.

6.5.4.18. The system is expected to make it possible to edit a paid invoice consistent with the maintenance of an audit trail.

6.5.4.19. The system is expected to make it possible to select which fields of an invoice record will be indexed.

6.5.4.20. Invoice records sre expected to include library-defined fields.

6.5.5. Fund Accounting

6.5.5.1 It shall be possible to interface the system's financial transactions with other financial transaction and accounting systems at member libraries.

6.5.5.2. The system is expected to be fully integrated with the acquisitions and serials management control functions.

6.5.5.3. The fund accounting system is expected to conform to generally accepted accounting procedures.

6.5.5.4. The system is expected to make it possible to connect the invoice and fund records with participating library and parent institutions accounting system. [See Appendix E for descriptions.] Please describe how the system would manage this process.

6.5.5.5. The system is expected to maintain a copy-specific audit trail that conforms to generally accepted accounting principles for all transactions.

6.5.5.6. The system is expected to make it possible to print the audit trail for a fund on a printer located in a library or output in electronic format.

6.5.5.7. The encumbering and disencumbering of funds and the adjustment of fund balances is expected to be performed automatically and dynamically in response to creation of orders, cancellation of orders, and payment of invoices.

6.5.5.8. The system is expected to make it possible to track adjustments to fund allocations.

6.5.5.9. It shall be possible to add free text notes to fund records.

6.5.5.10. The system is expected to make it possible to adjust fiscal year beginning and ending dates for commitments and expenditures.

6.5.5.11. The system is expected to make it possible to select which fields in a fund record will be indexed.

6.5.5.12. The system is expected to make it possible for an authorized staff person to establish encumbrance and expenditure limits by fund either in terms of a dollar amount or a percentage of the allocation that can exceed 100 percent.

6.5.5.13. Totals for a fund are expected to be calculated for display.

6.5.5.14 There is expected to be no limit on the number of funds or the size of fund records.

6.5.5.15. The system is expected to make it possible to associate funds to each other in a hierarchical relationship with multiple levels such that a fund can have multiple levels of subfunds.

6.5.5.16. The system is expected to make it possible for a library easily to customize and generate financial reports.

6.5.5.17. The system is expected to make it possible to designate a fund as active or inactive.

6.5.5.18. The system is expected to convert encumbrances and expenditures automatically from foreign currencies into dollars and from dollars into foreign currencies based on a currency conversion table that can be easily maintained by an authorized staff person without the intervention of the vendor or system management personnel.

6.5.5.19. The system is expected to make it possible to carry over funds into a new fiscal year automatically.

6.5.5.20. The system is expected to make it possible to define fiscal years differently for different funds.

6.5.5.21. The system is expected to make it possible to specify by fund different carryover or rollover types.

6.5.5.22. The system is expected to make it possible to produce on demand a report, specific to the local library's fiscal year, of funds showing budget, amount encumbered, amount expended and free balance.

6.5.6. **Vendor File** (this section needs review after decisions about consortia)
It shall be possible to create a union vendor file, with library or consortia-defined fields, to which all libraries using the system would have access.

It shall be possible for each library to add local information to the union vendor record.

It shall be possible for the library specific data, including locally entered notes in a vendor record, to display for the entering library only.

It shall be able to produce system-wide or individual library vendor performance reports including average fill time, discount percent, number of orders, number of claims,number of cancels, dollars ordered, dollars paid.

6.5.6.1. There is expected to be no limit on the number of vendor records.

6.5.6.2. The system is expected to make it possible to connect the vendor record fields with local accounting systems. Please describe how the system would make this connection.

6.5.6.3. The system is expected to make it possible to store vendor-specific information that will be automatically included on purchase orders, claims, cancellation notices.

6.5.6.4. The system is expected to accommodate easily both international addresses and a 9-digit zip code.

6.5.6.5. The system is expected to make it possible to select which fields in a vendor record will be indexed.

6.5.6.6. Country and currency information is expected to be identified in separate, searchable fields in the vendor record.

6.5.6.7. The system is expected to make it possible to manually or automatically purge vendor records for vendors based on library-specified criteria.

6.5.6.8. The system is expected to make it possible to control by vendor automatic claiming of orders.

6.5.6.9. The system is expected to make it possible to control by vendor automatic cancellation of orders.

6.5.6.10. A library is expected to be able to store standard discount information by vendor, and the system is expected to use this information in determining the amount to be encumbered for an order.

6.5.6.11. The system is expected to make it possible to store information about language and specialization in the vendor record.

6.5.6.12. The vendor record is expected to accommodate multiple addresses for the vendor, including electronic mail and web addresses.

6.5.6.13. The system is expected to make it possible for an authorized staff person at the local library to use the system to block orders to a specific vendor.

6.6 Serials Management

This section describes system capabilities that have to do with the maintenance of serial orders and the binding of materials. Each library and consortium shall have the capability to control its own serial records. Each respondent is expected to

describe in detail the manner in which its system functions with respect to each desirable capability described below.

6.6.1. Integration

6.6.1.1. The system's serials management functions are expected to be fully integrated with the acquisitions functions.

6.6.1.2. The system shall provide for a serial/acquisitions interface for automatic renewal and payments of serials. Libraries should have the option to override this feature.

6.6.1.3. The system is expected to make it possible to specify renewal instructions at the copy level.

6.6.2. Check-In

6.6.2.1. The system is expected to accommodate all types of serials in all types of media, including but not limited to periodicals, loose leafs, government publications, monographic series, conference proceedings, legal materials, technical reports, and electronic files.

6.6.2.2. The parameters that control how the system carries out various serials management operations are expected to be easily viewed and modified by an authorized staff person without the intervention of the vendor or system management personnel.

6.6.2.3. The system is expected to make it possible to authorize a staff person to check in materials only for specified locations.

6.6.2.4. The system is expected to make it possible to search for and display records from any system file while performing serials management operations.

6.6.2.5. The system is expected to make it possible to create serials records either by copying the fields necessary from existing records in the system and by manual entry.

6.6.2.6. The system is expected to make it possible to search and display serials/bibliographic records along with summary of holdings display as part of the online catalog.

6.6.2.7. The system is expected to allow identification of serials for checkin by title, ISSN, vendor ID, fund number, Bibliographic ID,and other fields.

6.6.2.8. The system is expected to allow free text notes to be attached to checkin records.

6.6.2.27. Issue specific holdings information is expected to automatically be collapsed into item-level holdings, subject to override, when bound volumes are received.

6.6.3. Claiming

6.6.3.1. The system is expected to generate claims at a library-determined point in serials issue processing.

6.6.3.2. The system is expected to support claiming on a specific serial order record.

6.6.3.3. The system is expected to produce claims of variable length, even quite long ones.

6.6.3.4. The system is expected to make it possible to control the claim interval and to disable automatic claiming for serial orders.

6.6.3.5. The system is expected to make it possible to review and modify or override automatically generated claims before they are sent or transmitted.

6.6.3.6 The system is expected to make it possible to produce a claim manually.

6.6.3.7. The system is expected to support electronic transmission of claims.

6.6.4. Binding

6.6.4.1. The binding system is expected to be fully integrated with the complete automated system, including circulation and serials management.

6.6.4.2. The system is expected to make it easy to create and maintain binding information (such as spine label, color, location, etc.) for a title and to review and modify this information prior to the preparation of bindery forms.

6.6.4.3. The system is expected to interface with the binder to support electronic transfer of binding information.

6.6.4.4. The system is expected to be capable of determining binding readiness at the copy level on the basis of whether the item is bound, the completeness of the volumes, the receipt of a specified issue, or user-defined time intervals.

6.6.4.5. The system is expected to be capable of automatically producing internal binding pickup lists or slips for items that are ready for binding. The system is expected to make it possible to review these lists online and modify them as needed.

6.6.4.6. It is expected to be possible to charge all individual items in a binding shipment to a circulation status of "at the bindery" with a single transaction.

6.6.4.7. The system is expected to maintain serial copy-specific binding patterns or profiles.

6.6.4.8. The system is expected to provide spine label support for serial and non-serial items.

6.7. Management Information and Reporting

6.7.1. General Features

6.7.1.1. The system is expected to provide a wide range of standard reports.

6.7.1.2. The system is expected to use an internal customized report generator that allows query by example, using Boolean operators and truncation, SQL queries, and GUI (graphical user interface) capabilities for easy query construction.

6.7.1.3. The system is expected to provide a method for converting existing management data, including an annual snapshot of the entire database. Describe how the system would do this.

6.7.1.4. The system is expected to export all data in standard formats for use in external report generation systems.

6.7.1.5. The system is expected to provide scheduled and on-demand report generation without negative impact on system operation.

6.7.1.6. The system is expected to allow a library staff person (not a programmer) to create customized reports on demand.

6.7.1.7. The system is expected to have the capability to create "what if" scenarios, projecting future trends from current data.

6.7.1.8. It shall be possible to generate reports with information from multiple files.

6.7.2. Specific Reports

This section provides examples of specific management information that the system is expected to be able to produce, either online or in printed form. It is not an exhaustive list. (An extensive list of desired reports is included in Appendix F.)

6.7.2.1. The system is expected to make it possible to produce on demand a report, specific to the local library's fiscal year, of funds showing budget, amount encumbered, amount expended and free balance.

6.7.2.2. The system is expected to make it possible to gather data at the whole system level as well as by administrative unit and circulation unit and other levels.

6.7.2.3. The system shall have the ability to generate statistical reports of cataloging activities coded into a locally-defined tag in the bib record.

6.7.2.4. The system is expected to make it possible to produce an annual report of library-defined technical services statistics.

6.7.2.5. The system is expected to make it possible to produce a report of unfilled prepaid orders.

6.7.2.6. The system is expected to make it possible to track vendor performance by means of online and printed reports.

6.7.2.7. The system is expected to make it possible to project next year's serials expenditures based on current year's serial (or continuation) orders, cancellation or renewal instructions, and country-specific inflation factors.

6.7.2.8. The system is expected to provide information on serials and standing orders by various categories, e.g. country of origin, language, vendor.

6.7.2.9. The system is expected to be able to calculate the average price of monographs, using various criteria.

6.7.2.10. The system is expected to provide a method for tracking order fill rate for particular types of orders.

6.7.2.11. The system is expected to make it possible to record in-library use of an item using the system's circulation functions, distinguishing between in-library use and circulation use of an item, in order to gather information for statistical reports of in-library use of materials.

6.7.2.12. The system is expected to make it possible to associate a borrower record with a variety of statistical categories for reporting purposes. These categories are to be locally definable.

6.7.2.13. The system is expected to produce a report of outstanding balances on user accounts based on the amount owed and date fees were charged.

6.7.2.14. The system is expected to make it possible to produce a shelf inventory list in call number order by location.

6.7.2.15. The system is expected to keep statistics about and be able to report use of items while they are on reserve.

6.7.2.16. The system is expected to be able to provide statistical reports with library specific data, especially by user, language and type of material.

6.7.2.17. The system is expected to interface the ILL subsystem with the circulation system activity to create interlibrary loan reports.

6.7.2.18. The system is expected to allow online or printed reports by status of ILL: complete, received, returned, will supply, shipped, unfilled, etc.

6.7.2.19. The ILL system is expected to maintain statistics on loans requested and loan filled, sorted by institution and cross-tabulated. Statistics are also needed on the number of inter-campus and inter-library requests. It SHOULD/MUST be possible to compile these statistics in any arbitrary date range.

6.7.2.20. The system is expected to have the capability to maintain statistics on the time taken for interlibrary loan work forms to move from any specified status to another, based on an individual library selection or a consortial selection, e.g. from "pending" to "shipped," from "pending" to "received."

6.7.2.21. The system is expected to provide a method for tracking ILL fill rate and turnaround time for each lending institution.

6.7.2.22. The system is expected to supply a copyright compliance report listing the journal title and article citation of all non-returnable items requested and received from non-commercial suppliers.

6.8. **Media Booking Module** (needs to be written and reviewed)

- Intuitive system.
- Compatible with Circulation subsystem.
- Ability to select, book and track all pieces of equipment/media at all times.
- Maintain a tracking history of equipment/media, e.g. where has this piece of equipment been the last several times it was booked.
- When selecting an item to book, system is expected to have the ability to key on specific coded information for each type/category of equipment or media title.
- Equipment data needed for proper identification and inventory of equipment are: make, model number, serial number, year purchased, vendor, purchase price, bulb type, general notes field (256 character minimum), repair notes field (256 characters minimum), preventative maintenance notes field (256

character minimum). Searchable field would need to be at a minimum: make or manufacturer, model number, and bulb type.

- The system is expected to allow an item to have repeat booking, e.g. if a piece of equipment is used on a regularly scheduled basis by an instructor.

- The system is expected to have the ability to accept date, time frame and delivery location needed for items. The calendar the system maintains is expected to extend for a minimum of 18 months ahead.
- The system is expected to have the ability to, if the first item in a category is booked, immediately proceed through the list of that equipment/media type until it exhausts the supply or finds an available item.

- The system is expected to supply all user data into the booking module simply by supplying the patron barcode.

- The system is expected to, when date of booking time arrives, automatically check the item out to the patron desiring the item.

- The system is expected to designate date and the system will supply you with a schedule of items booked for that day online.

- Ability to generate at any point, in printed form, a schedule of booked items indicating who the item is reserved by. If delivery is necessary, it should report destination and time, e.g. daily delivery schedule.

- Do not allow bookings of equipment/media from a public terminal. Access to media booking module is expected to be password controlled.

- System is expected to allow staff to override check-out periods as needed.

7. System Software and Operating System (to be added later)

8. Hardware (to be expanded later)

8.1 Workstation Requirements

For staff in-library clients, a current version of Windows shall be supported. There shall be at least one public in-library client, which may be either Windows-based or Web-based. For public uses originating outside of a library there shall be a fully functional Web interface accessible with a standard Web or successor technology browser. The system shall support at least one client which can be used in dial-access situations and one client that is compatible with standard adaptation products used by individuals covered by the Americans with Disabilities Act. In practice, any

of the clients may be used in or out of the participating libraries depending upon local choice.

Given these clients, respondents shall describe minimum hardware requirements and software requirements for the desktop computers to be used as devices for the system.

9. Data Conversion, Delivery, and Installation (to be expanded later)

19.1 Data Conversion

9.1.1. The vendor shall convert the following types of records:

- Authority
- Bibliographic
- Holdings (including local copy holdings and MARC holdings data)
- Item
- Order/Pay/Receipt
- Fund
- Invoice
- Patron
- Patron Accounting

9.1.2. The vendor shall maintain the following types of links between and among records:

- Patron to charged item
- Patron to patron accounting
- Patron to charged item to patron accounting
- Invoice to order

9.1.3. In order to estimate the process and effort required to convert data currently in the systems of participating libraries to the new system, the vendor is asked to respond to the following:

- Specify the information required from the participating libraries in order to carry out conversion tasks.
- Supply copies of forms typically used to record information needed for conversion.
- Outline typical steps in the conversion process, focusing particularly on procedures for library review of test files.
- Specify effort (hours and rate) required to meet the conversion requirements stated above if:
  a. All data is supplied in XXX format.
  b. Bibliographic, holdings, and authority data is supplied in USMARC format, and all other data is supplied in XXX format.
- Specify how long it will take to convert initial backfiles of data on a dedicated machine; list the specifications for that machine.

- Specify the process that will be used to update the initial database file with a subsequent load of all transactions occurring after the initial data extract and before cut over to the new system.

9.1.4. Please supply a list of libraries whose data have been converted for use in the system.

10. Maintenance and Support (to be added later)
[This is the place to discuss further MnLIN's access to source code and the plans the vendor has for responding to user needs and suggestions.]

11. Documentation

11.1. Staff Documentation User Manuals

11.1.1. Each respondent is expected to describe in the proposal the type of user documentation it maintains for the system and the unit cost of this documentation. The successful vendor will be expected to supply a minimum of one complete printed user reference manual for each participating library. The vendor also is expected to provide online documentation and context sensitive help messages. It is expected to be possible to customize online documentation, help screens, and pull-down menus to meet local needs. The cost of printed these manuals and online documentation is expected to be itemized and included in the cost of the proposed system.

Each respondent is expected to indicate in the proposal whether MnLIN has the right to make additional copies of user documentation and the type of user documentation that can be supplied in electronic form.

The annual software maintenance fee paid by MnLIN is expected to cover the cost of regular updates and revisions to the user documentation manuals.

11.1.2. Technical Documentation Manuals

The vendor will be expected to provide 5 print copies of the technical documentation for the proposed system. This material is expected to describe in detail the operation of the system, including such activities as file backup, system initialization and restart, file restoration and recovery, file maintenance and record loading from tape, report and user notice production, etc.

12. Training

12.1. Training Program

Each respondent is expected to include in the proposal a description of the proposed training program. The description is expected to identify training personnel and outline their qualifications, length of training (e.g., number of hours), and provide a syllabus describing training content.

12.2. Groups to be Trained

The vendor will be expected to train supervisory and administrative library personnel in each participating library in overall system work flow, operations, and troubleshooting.

The vendor will be expected to train library public services and technical services personnel in each participating library in the use of all system functions for each of the functional modules. The number of persons to be trained in each library will be determined during contract negotiations.

The vendor is expected to train computer operator(s) and system managers in hardware and software principles and system operation, maintenance, file backup and recovery, system security, software and database maintenance and management and report and user notice production.

13. Transaction Response Time (to be added later)

14. Acceptance Tests (to be added later)

FEBRUARY 1, 1997

FUNCTIONAL REQUIREMENTS FROM THE

REQUEST FOR PROPOSAL

FOR

MNLINK GATEWAY SYSTEMS AND SERVICES

AND SERVICES FOR

THE STATE OF MINNESOTA

Date of Issuance:
Date for Written Inquiries:
Date for Submission of Intent to Propose:
Proposal Due Date and Time:

Prepared by RMG Consultants, Inc. and The State of Minnesota

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PREFACE

RMG Consultants, Inc. has provided this proprietary Request for Proposal for MnLINK Gateway Systems and Services to The State of Minnesota Library and Information Network (MnLINK).

Please note from the Table of Contents that this RFP is organized into three Parts, and contains nine Sections plus Appendices.

Part 1 (Sections 1 through 6) of this RFP provides information on the legal and administrative requirements of the RFP process; instructions to vendors on the organization, contents, and submission of proposals; specifications of configurations of systems and services for which cost proposals are requested; and lists of questions on a variety of topics of particular interest to The State of Minnesota. *Part 1 contains specific requests for information (Sections 4 and 5) and questions of vendors (Section 6) to which vendors must respond in their proposals.*

Please note that "Section 5: Configurations and Cost Forms" specifies alternative configurations of required systems and services described by Sections 7, 8, and 9 for which cost proposals are requested. The State of Minnesota will choose a combination of alternatives that the successful proposer will provide as a turnkey solution.

The approach of describing comprehensive requirements in the sections of Part 2, and then identifying in Section 5 those specific components of systems and services for which cost proposals are requested is based on the recognition of the following:

(1) That it may not be possible or affordable for The State of Minnesota to satisfy all of its requirements at once, or through a single procurement process;

(2) That it is important for The State of Minnesota to obtain proposals that address comprehensive requirements as well as near-term priorities, in order to evaluate the suitability and longer-term prospects for proposed vendors, systems, and services; and

(3) That until current technical and cost information is received through responses to this RFP, it will not be possible for The State of Minnesota to choose the best affordable combination of systems and services from the alternative and optional configurations described by Section 5.

Part 2 (Sections 7, 8, and 9) presents general requirements and constraints for automated library systems and related services that are addressed by this RFP, *and contains requests for information and questions of vendors* ***(as indicated by shaded text)*** *to which vendors must respond in their proposals.*

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Sections 7, 8, and 9 also contain references to Appendices that contain either detailed information about key requirements, or document that The State of Minnesota does not have such requirements.

Subsections within Sections 7, 8, and 9 may be annotated with the term "NOT REQUIRED", to document decisions by The State of Minnesota that the functions, capabilities and services that are described by these subsections are not required.

The Appendices in Part 3 have been defined to present detailed information and specifications for this RFP. Where pertinent information is either not applicable or unavailable for a given Appendix, the term "LEFT BLANK" has been inserted in the Table of Contents in order to document this. An additional explanation may be recorded on the title page for a given Appendix.

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PART 1: RFP PROCEDURE, INSTRUCTIONS, AND FORMS

The following sections provide information on the legal and administrative requirements of the RFP process; instructions to vendors on the organization, contents, and submission of proposals; specifications of configurations of systems and services for which cost proposals are requested; and lists of questions on a variety of topics of particular interest MnLINK.

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PART 2: SYSTEM REQUIREMENTS

The following sections describe general requirements and constraints for automated library systems and related services. Subsections within Sections 7, 8, and 9 may be annotated with the term "NOT REQUIRED" to indicate MnLINK decisions that the functions, capabilities, and services described by these subsections are not required.

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PART 3: APPENDICES

The following Appendices have been defined in order to present detailed information and specifications about standard topics that define library system requirements. References to these Appendices occur throughout this RFP. Where used below, the term "LEFT BLANK" indicates that no such information is either available or applicable for MnLINK Libraries.

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PART 1:

RFP PROCEDURE,

INSTRUCTIONS, AND FORMS

The following sections provide information on the legal and administrative requirements of the RFP process; instructions to vendors on the organization, contents, and submission of proposals; specifications of configurations of systems and services for which cost proposals are requested; and lists of questions on a variety of topics of particular interest to MnLINK Libraries.

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NOTICE OF INTENT TO PROPOSE

The State of Minnesota requests notification on or before Date, by completion and return of this form, of intent of vendor to submit a proposal in response to the Request for Proposal for MnLINK Gateway Systems and Services. The State of Minnesota requests this information in order to plan for adequate review of proposals.

Please fill out and return this form as provided below; responses may be returned by fax transmission.

---

(1) Name of Firm Intending to Submit Proposal: _____

(2) Name of Contact: _____

(3) Telephone Number of Contact: _____

(4) Signature of Representative of Firm: _____

PLEASE RETURN THIS NOTICE TO:

Name, Title
Library
Address
City, State, Zip
Voice:
Fax:

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INTRODUCTION

The purpose of the Request for Proposal (hereafter "RFP") is to solicit proposals for MnLINK Gateway Systems and Services for the libraries and throughout the State of Minnesota (hereafter "Minnesota"). Administratively, libraries in Minnesota serve a current patron population of about xx,xxx,xxx citizens with library resources of more than xx,xxx,xxx items. Table 1-1 and other tables that follow provide statistical information about libraries in the State of Minnesota.

1.1 OVERVIEW OF MnLINK AND MnLINK GATEWAY SYSTEMS AND SERVICES

The State of Minnesota in this RFP represents the purchaser of systems and services to be implemented and operated on behalf of both individual libraries and groups of libraries. MnLINK, the Minnesota Library and Information Network, represents that planning effort and that operational entity which has charge of defining, implementing, and maintaining systems and services on behalf of Minnesota libraries which ultimately elect to utilize some element MnLINK Systems and Services such as the MnLINK Shared System or MnLINK Gateway Systems and Services. In this document MnLINK represents a project, an entity in formation, and a set of systems and services for which the entity has responsibility.

In brief, the MnLINK Project seeks to allow users to access both traditional library material (e.g., print-form, etc.) information resources – primarily those held in the collections of Minnesota libraries or other libraries with which Minnesota libraries have cooperative arrangements – and digital information resources available in electronic databases hosted on commercial systems and services, on servers located throughout Minnesota and globally on the Internet/WWW.

MnLINK Gateway Systems and Services are defined as the set of components required to provide a single, easy to use, integrated, and coherent computer-based user interface. Such an interface provides for the end-user easily searchable access to and direct online access to or delivery of:

(1) Traditional Library Resources such as those described in Minnesota library Online Public Access Catalogs and in selected catalogs of libraries beyond Minnesota,

(2) Digital Resources, including

(2.1) A variety of online Index, Abstract, Statistical, and Directory databases;

(2.2) Minnesota based text, image, video, and multi-media resources available via Minnesota statewide network infrastructure; and

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(2.3) Internet based resources from within and beyond the local institution's and Minnesota's network environment

The State of Minnesota and its libraries regard integrated access to both forms of material as a necessity. Such access maximizes the ability of patrons to access existing materials in Minnesota Libraries while assisting them in becoming literate, knowledgeable, and critical users of a wide array of digital information..

This Request for Proposal covers systems and services related to MnLINK Gateway Systems and Services that will allow users at personal computers via World Wide Web ("Web" or "WWW") browsers (e.g., Netscape, Mosaic, etc.) at any MnLINK library and/or campus – or connected to any library and/or campus network, or remotely via the Internet – to search for wanted information in the collections of Minnesota libraries, LAN/WAN accessible digital resources, databases licensed by MnLINK, as well as digital resources available through the Internet/World Wide Web.

MnLINK Systems and Services include:

(1) ***an End-User Client Workstation*** configured as a World Wide Web client. Such a workstation may be either a graphically oriented microcomputer workstation or Network Computer with graphical Web browsing capability. For purposes of ADA compliance and compatibility with the existing installed base of terminals, MnLINK will support terminals which can emulate VT100 terminals via Lynx, a capability for supporting computer terminals which access World Wide Web resources. Libraries are expected to invest in graphically oriented workstations now and in the future.

(2) ***MnLINK Gateway Servers*** which stand between end users at workstations and a variety of target databases, systems, and services. The MnLINK Gateway Servers have responsibility for identifying, authenticating, and authorizing users, for maintaining information about the state of a user's interaction with one or more databases, systems or services, for supporting a World Wide Web user environment at the workstation, and for supporting a variety of open standard computer protocols for the search, retrieval, and processing of information obtained from target sources. Gateway Servers may be dedicated to a single library or shared among several libraries.

(3) ***A MnLINK Union Catalog*** which identifies the library material owned by participating libraries using conventional cataloging records. For such materials, the MnLINK Union Catalog can respond to a user's search with information about titles of works which match the user's search criteria, which libraries own such materials, detailed information about the component physical pieces which make up a title, and

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information about the current availability of such pieces in each owning library. The MnLINK Union Catalog either may exist as a single, centralized, shared system or may function as a distributed "virtual" Union Catalog in which Gateway Server software in real time searches a number of online public access catalogs and composes a response to a user's search criteria.

(4) ***A MnLINK Shared System*** which provides automated integrated library system services to participating libraries, in the form of circulation control, acquisitions, serials control, online public access catalog, interlibrary loan, and other functions. The MnLINK Shared System may or may not host a MnLINK Union Catalog depending upon a number of factors. The MnLINK shared system itself may consist of a single, centralized host system or a distributed system with multiple host computers each serving a library or group of libraries. The MnLINK Shared System represents a key component in an overall strategy which allows individual libraries to cooperate with each other in a number of areas, such as collaborative collection development and interlibrary loan. For example, Interlibrary Loan Server software takes responsibility for assisting library staff in fulfilling interlibrary loan requests from client software resident on the MnLINK Gateway Server.

(5) ***MnLINK Value Added Systems and Services*** consist of databases, systems, and services accessible via the MnLINK Gateway architecture. Such systems and services, offer services beyond the MnLINK Gateway System, the MnLINK Union Catalog, and the MnLINK Shared System. Such services may include licensed online subscription databases, pay per view databases, an Internet index or catalog, interlibrary loan services external to MnLINK, document delivery services. MnLINK will determine which services to add or withdraw from such a menu of databases, systems, or services and/or the terms on which such a service is available (shared subscription or pay per view or use). MnLINK will utilize open systems computer and communications protocols for purchasing such services; vendor who seek to do business with MnLINK will need to provide their services in such a manner that such an open systems environment is maintained.

(6) ***MnLINK Participating Library Z39.50 Servers.*** Libraries participate in MnLINK through use of the MnLINK Shared System and/or by making information regarding their collections, their detailed collection holdings, and the availability of those holdings known to MnLINK users. MnLINK Libraries which have automated library systems and for whatever reason do not participate in the MnLINK Shared System must acquire MnLINK Z39.50 Server capability sufficient to make information about their collections and holdings available to MnLINK users.

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MnLINK end users will gain access to MnLINK systems and services via a World Wide Web compatible workstation environment. A MnLINK Gateway Server will identify, authenticate, and provide authorization of MnLINK users -- wherever such users may gain access to Gateway Systems and Services -- the local library and/or campus, Minnesota statewide networking environment, or via the Internet. The point in a user session at which a user must undergo such authorization must be subject both to initial control and subsequent modification by designated MnLINK System Administrators, based upon changing needs to limit or control access to one or more or all features accessed via Gateway capabilities. The MnLINK Gateway must have the capability to allow designated MnLINK System Administrators to define and maintain multiple user interfaces as well as the ability to invoke a default user interface deemed appropriate for a user based upon that user's type as determined via the authorization process.

Via the Z39.50 Version 3 Search and Retrieval Protocol, the MnLINK Gateway Server will provide access to a variety of catalog and index type services and databases (including a MnLINK Union Catalog including both library holdings and item availability information maintained by local automated library systems, an index of Internet resources (including World Wide Web resources), other subscription and pay-per-view databases), directly displayed content resources (e.g. digital information which able to be displayed or played at the user Web workstation from Minnesota network based digital resources or Internet sources) and delivery type services (e.g. interlibrary loan, commercial document delivery, etc.),

The MnLINK Gateway should be extremely flexible. Designated MnLINK Systems Administrators must have the ability to profile the target servers to be searched as a group, to create one or more HTML search forms as the front end of the MnLINK, and to modify authorization groups and classes as needed to extend or restrict privileges to various groups of potential users.

Using a MnLINK Union Catalog a user will be able to locate and request interlibrary loan of materials located in MnLINK library collections and in libraries beyond Minnesota.

A single search (and in some cases the same search that is made of the Union Catalog) must also have the capability to conduct the user to other analog and digital resources beyond those in the Union Catalog, including library resources of libraries not a part of the union catalog as well as digital resources throughout Minnesota, Global WWW resources, subscription type licensed databases, or "pay-for-view" database services.

MnLINK Shared System Libraries will make collaborative use of automated library system services from a single vendor. In a similar manner to its decision regarding the architecture of a MnLINK Union Catalog, MnLINK will determine whether such a Shared System will consist of a single,

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centralized computer configuration or a distributed system based on elements of feasibility, functionality, performance, and cost which form part of its criteria for the selection of a vendor for the MnLINK Shared System.

Those libraries which do not participate directly in the MnLINK Shared System and which have automated library systems in place may join in the overall resource sharing framework of MnLINK by purchasing and implementing NISO and ISO Z39.50 Server capabilities for use with their systems. MnLINK, the MnLINK Gateway vendor, and the Union Catalog and Shared System vendors will need to work together to determine the interoperability of various components. MnLINK cautions libraries that the Z39.50 Servers required for participation in MnLINK must implement Version 3 of the protocol and must interoperate successfully with the to be chosen vendor's or vendors' systems and services.

MnLINK will determine on an ongoing basis the systems and services which it will purchase on behalf of MnLINK Libraries as Value Added Systems and Services. Such databases, systems, and services, in a manner similar to automated library systems of participating local libraries, will also be required to interoperate with MnLINK's Gateway, Shared System, and Union Catalog components.

By and large MnLINK Gateway Systems and Services are intended to consist of off-the-shelf hardware and software components that have been implemented within the library and information industry – including the automated library systems and World Wide Web sectors. These components will include new modules to be added to existing automated library systems at some libraries and campuses, some new systems and services, and in some cases replacements for older library systems that have become obsolete.

With the stress today upon budgets to maintain adequate library resources, the recommended information infrastructure and goals for coherent access to information resources – both traditional library material (print-form, etc.) as well as digital – are designed to yield the best possible return on investments in library programs, materials, operations, technology, and access to information.

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6 QUESTIONS FOR RESPONSE

Proposers must provide written narrative response to the following questions (see Section 4.4: Instructions for Part 4 of Proposal). In your response, ***please repeat each question with your answer,*** as a convenience to readers, numbering the questions and answers as shown.

6.1 QUESTIONS REGARDING APPLICATIONS SOFTWARE REQUIREMENTS

6.1.1 *Questions Regarding Specific Software Modules*

(1) What software and subsystems not now available must the proposer provide in order to implement the system that it proposes? Plans for development of this software and future subsystems, including dates of availability, should be described according to Section 4.3.

(2) Please describe which aspects of the system (parameters) are susceptible to modification either by the vendor or by the library. How will the library set the parameters for each module/subsystem? Please describe how parameters are set for each subsystem. Indicate whether the parameters can be set and changed online as a system function or whether the parameters must be defined and set as part of system installation.

(3) Does proposer's union catalog store authority data in conformance with US/MARC formats for authority needs? Please explain the formats proposer's system uses for authority data, and if and how US/MARC authority data can be applied to update the system's authority records.

(4) How does the proposer's union catalog authority control system prevent the occurrence of blind cross-references?

(5) Is proposer's union catalog system forgiving of users' mistakes, such as misspelled terms that are input to make queries? Please explain your answers.

(6) Does the union catalog system treat common misspellings in a manner which informs the searcher of a transfer to the correct spelling, then transfers him?

(7) Can the union catalog system store a limited number of standard searches on topics searched very frequently (online pathfinders)?

(8) Can the union catalog system look for the entered term as the beginning of a longer string of data without an explicit truncation symbol ($)?

(9) Does the union catalog system search for both singular and plural forms of words entered?

(10) Does the union catalog system remove common suffixes when patrons enter them in complete form (librarianship, librarians, etc.)?

(11) In the union catalog system would initial articles in foreign languages be omitted as they are in English? If so, can there be exceptions, e.g., Los Angeles, El Paso? Would we have the ability to choose, on a case-by-case basis, whether we wanted them omitted or not?

(12) What is the length of the time-out feature, if any, on union catalog workstations? May library staff set this time?

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(13) Describe the ability of the union catalog to provide help screens in languages other than English. What languages are supported? How does a user indicate to the system that he or she wishes to use a non-English help screen?

(14) Are there retrieval limits in the union catalog? If so, can each library set this parameter? (For example, the patron keys in a prolific author like "Shakespeare" or a subject like "History," and the system retrieves too many hits to display them all.)

(15) What means is there within union catalog by which a user may determine a library's location, address, telephone number, and hours of operation?

(16) Can proposer describe how its union catalog makes use of different levels of bibliographic record displays?

6.1.2 Questions Regarding Records, Data Files, and Database(s)

(17) Describe the various statuses that can be set and maintained on user authorization records in the MnLINK Gateway System. What statuses are there, how are they invoked and which ones are set or unset automatically by the system, which can be set or reset by authorized library staff, and which ones are dependent upon another status having already been set and filed? Does the library have a choice in how each status is worded, whether and how it appears in the authorization procedure?

(18) Can proposer's system batch-load bibliographic records in the US/MARC format, detect duplication with records in the Bibliographic Database, and process the incoming and existing records to avoid unwanted duplication of bibliographic records? Can proposer's system batch-load authority records in the US/MARC and Minnesota Serials Union Catalog format without pre-processing by another computer? Please explain your answer.

If "no," please explain how to avoid or correct unwanted duplication of bibliographic records.

If "yes," please explain if and how such input can be made during periods of interactive use of the system, and if and how response times would be impacted.

If "yes," please specify how many records-per-hour can be input both in dedicated batch mode and during periods of interactive system use.

(19) Will proposer please explain if, how, and whether proposer's system can output files of bibliographic, authority, and other user-oriented data onto magnetic tape?

If "yes," please explain if and how such output can be made during periods of inter-active operation of the system, and if and how response times would be impacted.

If "yes," please specify for each type of file how many records-per-hour can be output to magnetic tape both in dedicated batch mode and during periods of interactive system use.

If "yes," please specify for each file the particular MARC format in which it can be output.

If "yes," will proposer provide MnLINK with software and necessary documentation and training to batch output onto magnetic tape bibliographic records and authority records in such a way that these records can be transferred to another system?

(20) How may bibliographic records be created and updated in proposer's union catalog system?

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(21) How is proposer's system updated and maintained in order to accommodate ongoing changes in the US/MARC formats and how does or will the vendor deal with MARC format integration?

(22) Please describe any print constants or labels supplied by the system when bibliographic records are being viewed by patrons. For example, when displaying field 505, is a label such as "Contents:" visible to patrons? Or for a field 520, a "Summary:" label? What about labels for "author," "title," "composer," "call number," "location," "subject," etc.?

(23) Does the proposer's system use filing indicators contained in the MARC records for searching and alphabetizing the appropriate fields?

(24) How does the proposer's system treat a title found in a subfield t (of a 6XX or 7XX tag, for example), when that title begins with an initial article?

(25) How is database maintenance (file reorganization, backup, etc.) performed in proposer's system for Bibliographic files, Authority files, and other files?

6.2 Questions Regarding Technical Environment

(26) What warranties does proposer provide on the installed and accepted system, in part and in whole, including processor(s), disk drives, workstation devices, database back-up equipment, telecommunications equipment, printers, and data capture devices? What warranty is given for software? What procedures are provided for filing warranty claims, consideration of them, and resolution of them?

(27) Is proposer willing to interface its union catalog and MnLINK gateway server systems with other vendors' automated systems? If so, what will be required of proposer and of other parties to make such interfaces?

(28) Is the proposed system capable of interfacing with a local area network? If so, with what LAN software (for instance, Novell) is the system compatible? Is the proposed system capable of interfacing with LAN/WAN software? If so, with what LAN/WAN software (for instance, TCP/IP) is the system compatible?

(29) Can MnLINK workstations be equipped to allow disabled patrons to search the union catalog? Are specialized devices available which permit users with limited vision, lack of manual dexterity, or other disabilities to use features available with regular workstations? If so, please describe the capabilities and quote costs on a per-workstation basis.

(30) Would proposer please describe the locations from which proposer would provide required hardware and software maintenance and support services, and the procedures for the provision of these services? Please describe vendor's preventive hardware maintenance programs and methods used to detect and remedy latent failures. Which procedures, if any, require downtime? How soon will critical parts be available for installation in MnLINK's system? How soon will non-critical parts be available for installation in MnLINK's system? Does proposer have multiple sources for obtaining parts?

(31) Does proposer maintain a "trouble-desk" service with a toll-free phone number? If "yes," for how many hours per day, and days per week? Are there any restrictions on which MnLINK or MnLINK Library staff may place a call?

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(32) Is a remote console facility available allowing system operators to diagnose and correct minor problems from a remote location? What security provisions exist for this capability? Can dial-back modems be used? Can a workstation connected to a Minnesota TCP/IP based LAN/WAN Network Environment or the Internet via a constant connection be used.

(33) Should any spare peripheral devices be included in the system purchase price? If so, how many spares does vendor suggest the library keep on hand?

(34) Is pre-installation training using an Internet based set of MnLINK Gateway and/or Union Catalog Servers/Services to simulate system use available?

(35) What operating system is used? What are the strengths and weaknesses of this OS? Is the operating system designed for a real-time environment where, in the event of some type of crash, the system can be brought back up with all files intact in a short period of time?

(36) How is proposer's system protected against unwanted access and use by computer "hackers?"

(37) How much staff will MnLINK and MnLINK Libraries need for system implementation, system management, and computer operations for the system that proposer has proposed?

(38) How much space and of what type will be needed to accommodate any systems proposed by the vendor? What factors should govern the location and oversight of any and all systems or system components?

6.3 Other Questions

(39) Describe the proposed migration from current arrangements in Minnesota to the proposer's system detailing which files will be migrated, the order in which files will be transferred, the way in which final cutover will occur, the means of capturing bibliographic and other types of data, the length of time for each phase of the migration project, and the amount of downtime (if any) which each and every MnLINK library and/or campus can expect, if any. When transferring data from the present system to a new system, what guarantee does MnLINK and MnLINK Libraries have of not losing information in their existing database?

(40) Will MnLINK Libraries be able to use existing encoding for machine-readable labels? Can proposer's system be used with MnLINK Libraries' machine-readable labels that have been applied to its materials

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6.4 SPECIAL QUESTIONS ON CLIENT/SERVER ARCHITECTURE

(41) *Please give your definition of "Client/Server Architecture."*

(42) *Please explain how the system(s) that you have proposed are or are not based on client/server architecture.*

(43) *For each of your applications modules, please explain the status of your development of Web clients, or of your plans to develop Web client modules for personal computers. Please indicate the operating system environments (e.g., Windows, Windows 95, Windows NT, Macintosh, etc.) for these clients.*

(44) *Can the proposer provide a single interface to access both the union catalog and Internet?*

(45) *Is the proposer's system conformant right now with version 3 of the Z39.50 standard?*

If "no," how soon can the proposer guarantee that to be available, and at what cost?

If "yes," please describe Z39.50 client modules that can be operated on MnLINK Gateway Server computers, and the Z39.50 server modules that can be operated on servers in conjunction with local integrated library systems and OPACS.

(46) *Have you tested or implemented into production operations a graphical Web browser interface to a Gateway Server as described by this MnLINK RFP?*

If "yes," would you please describe how a given user at a graphical Web station is connected to the Gateway Server?

For such connection, please describe whether or not session is established, and how each query transaction handled.

Would you please describe the differences in response-time performance and transaction-volume throughput between access to your union catalog through your proprietary graphical interface vs. a graphical Web browser?

(47) *Would you please describe if and how the use of a graphical Web browser to access your union catalog has affected your software licensing or product pricing policies?*

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PART 2:

SYSTEM REQUIREMENTS

Part 2 (Sections 7, 8, and 9) presents general requirements and constraints for automated library systems and related services that are addressed by this RFP, and contains requests for information and questions of vendors to which they must respond in their proposals. Sections 7, 8, and 9 also contain references to Appendices that contain either detailed information about key requirements, or document that MnLINK does not have such requirements. Subsections within Sections 7, 8, and 9 may be annotated with the term "NOT REQUIRED" to indicate MnLINK's decisions that the functions, capabilities, and services described by these subsections are not required.

The approach of describing comprehensive requirements in the sections of Part 2, and then identifying in Section 5 those specific components of systems and services for which cost proposals are requested is based on the recognition of the following:

(1) That it may not be possible or affordable for The State of Minnesota to satisfy all of its requirements at once, or through a single procurement process;

(2) That it is important for The State of Minnesota to obtain proposals that address comprehensive requirements as well as near-term priorities, in order to evaluate the suitability and longer-term prospects for proposed vendors, systems, and services; and

(3) That until current technical and cost information is received through responses to this RFP, it will not be possible for The State of Minnesota to choose the best affordable combination of systems and services from the alternative and optional configurations described by Section 5.

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7 APPLICATION SOFTWARE REQUIREMENTS

7.0 OVERVIEW

This section presents a narrative overview of comprehensive, long-range requirements for the type of integrated systems and services appropriate for Minnesota's long-term use as a MnLINK Gateway. The following sections give brief overviews of each of the desired software systems, subsystems, or modules (these terms are used variously and interchangeably).

The intent of this section is to describe ***what a suitable MnLINK library system should do and be, but not how it should perform various functions***. The distinction between ***what*** a system should do and ***how*** it should do it is the distinction between ***requirements*** and ***specifications***.

Each computer system has its own, unique specifications. It is possible for several computer systems with different designs and specifications to fulfill the same set of library system requirements.

By working at a requirements level, the MnLINK Project can focus on what a system should do for individual Minnesota libraries as well as Minnesota libraries and their users as a whole, leaving the technical work of detailed computer system design and specification to the vendors who develop particular systems. For the MnLINK Project to work at the level of specifications is tantamount to their saying exactly how a system should be designed and implemented – which goes beyond the experience and skills of individuals who are not library systems analysts and developers. Unless a library or libraries know precisely which automated system it or they wish to implement, the libraries in question should work at the requirements level, and await the vendors' proposals, system descriptions, and technical documentation to provide specifications of particular computer systems to the library's stated requirements, in order to identify the system believed to be most suitable.

Please note that Section 5 of this RFP specifies alternative configurations of required systems and services for which cost proposals are requested. MnLINK will choose a combination of alternatives that the successful proposer will provide as a solution in response to MnLINK defined issues and requirements.

Please note that each proposer shall annotate with detailed and explicit narrative information the deviations of proposed systems from the requirements presented in Sections 7, 8, and 9, and should answer questions and requests for information that are contained in the texts of these sections.

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(1) What software and subsystems not now available must the proposer provide in order to implement the system that it proposes? Plans for development of this software and future subsystems, including dates of availability, should be described in conjunction with requirements stated in each section according to criteria such as ***COMPLIES with Requirement based on Existing System Capability in Production Release Since (Date), DEVIATES from Requirement based on Existing System Capability in Production Release Since (Date), Complies Based on System Capability UNDER DEVELOPMENT and Projected for Release (DATE), Capability PLANNED for Release (DATE), NOT PLANNED.***

(2) Please describe in the response to each section which aspects of the system (parameters) are susceptible to modification either by the vendor or by the library. How will the library set the parameters for each module/subsystem? Please describe how parameters are set for each subsystem. Indicate whether the parameters can be set and changed online as a system function or whether the parameters must be defined and set as part of system installation.

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7.1 GENERAL SYSTEM DESCRIPTION

The desired system for MnLINK is an online, real-time library Gateway System and/or Service that presents a single-user interface to a number of databases, systems, and services, including: a MnLINK union catalog, other library catalogs or union catalogs, digital information resources via an Internet Index, subscription database services, and services (such as pay per view database access, interlibrary loan, and document delivery). The MnLINK Environment represents a information strategy which will unfold over time which:

- puts in place a major capability for cooperative library resource sharing in Minnesota in the form of the MnLINK Shared System,
- preserves and enhances investments in existing systems of libraries which do not participate directly in the MnLINK Shared System through retrofitting such systems, where feasible and cost effective with standard NISO Z39.50 search and retrieval server capabilities,
- capitalizes on the universal adoption of TCP/IP protocols and World Wide Web protocols such as HTTP, HTML, etc. in their successive versions and in new "Web" type protocols as they emerge,
- further capitalizes on the international adoption of the Internet and Web based NISO and ISO Z39.50 protocol for search and retrieval of information from library catalogs, abstract and index, and full text sources,
- lays the framework for multimedia content delivery via graphically oriented microcomputer workstations and emerging simplified network computers both using Web browser client technology, while providing text based access from and to the installed base of terminals serving both the general population as well as those with visual or hearing disabilities through specialized hardware and software based on text processing,
- establishes an open system and standards environment which does not constrain MnLINK or individual libraries in their choice of vendors, systems, and services now or in the future,
- provides the capability to serve Minnesota users of MnLINK at home, in the office, in the library, on campus, in a distance learning environment, or while traveling,
- allows a MnLINK administrative organization to integrate. manage, and tune user access to and use of a diverse and changing set of databases, systems, and services through gateway architecture which can provide for the development, implementation, and refinement of coherent sets of policies on a statewide basis.

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The basic components of the overall MnLINK System and Service Configuration include a (1) World Wide Web based End-User Client Workstation, (2) a Gateway System and/or Service, (3) a MnLINK Union Catalog System/Service, (4) a MnLINK Shared System consisting of one or more Shared System Servers and corresponding Staff-Oriented Workstations tailored for use with the Shared System, and (5) MnLINK Value Added Systems, Databases, and Services (such as subscription and pay-per-view databases). A sixth component, Z39.50 Servers for local systems form a part of the overall architecture, but are not the subject of this procurement. Figure 7-1 illustrates the MnLINK Environment for Systems and Services. Brief component descriptions follow:

(1) ***an End-User Client Workstation*** configured as a World Wide Web client. Such a workstation may be either a graphically oriented microcomputer workstation or Network Computer with graphical Web browsing capability. For purposes of ADA compliance and compatibility with the existing installed base of terminals, MnLINK will support terminals which can emulate VT100 terminals via Lynx, a capability for supporting computer terminals which access World Wide Web resources. Libraries are expected to invest in graphically oriented workstations now and in the future.

(2) ***MnLINK Gateway Servers*** which stand between end users at workstations and a variety of target databases, systems, and services. The MnLINK Gateway Servers have responsibility for identifying, authenticating, and authorizing users, for maintaining information about the state of a user's interaction with one or more databases, systems or services, for supporting a World Wide Web user environment at the workstation, and for supporting a variety of open standard computer protocols for the search, retrieval, and processing of information obtained from target sources. Gateway Servers may be dedicated to a single library or shared among several libraries.

(3) ***A MnLINK Union Catalog*** which identifies the library material owned by participating libraries using conventional cataloging records. For such materials, the MnLINK Union Catalog can respond to a user's search with information about titles of works which match the user's search criteria, which libraries own such materials, detailed information about the component physical pieces which make up a title, and information about the current availability of such pieces in each owning library. The MnLINK Union Catalog either may exist as a single, centralized, shared system or may function as a distributed "virtual" Union Catalog in which Gateway Server software in real time searches a number of online public access catalogs and composes a response to a user's search criteria.

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(4) ***A MnLINK Shared System*** which provides automated integrated library system services to participating libraries, in the form of circulation control, acquisitions, serials control, online public access catalog, interlibrary loan, and other functions. The MnLINK Shared System may or may not host a MnLINK Union Catalog depending upon a number of factors. The MnLINK shared system itself may consist of a single, centralized host system or a distributed system with multiple host computers each serving a library or group of libraries. The MnLINK Shared System represents a key component in an overall strategy which allows individual libraries to cooperate with each other in a number of areas, such as collaborative collection development and interlibrary loan. For example, Interlibrary Loan Server software takes responsibility for assisting library staff in fulfilling interlibrary loan requests from client software resident on the MnLINK Gateway Server.

(5) ***MnLINK Value Added Systems and Services*** consist of databases, systems, and services accessible via the MnLINK Gateway architecture. Such systems and services, offer services beyond the MnLINK Gateway System, the MnLINK Union Catalog, and the MnLINK Shared System. Such services may include licensed online subscription databases, pay per view databases, an Internet index or catalog, interlibrary loan services external to MnLINK, document delivery services. MnLINK will determine which services to add or withdraw from such a menu of databases, systems, or services and/or the terms on which such a service is available (shared subscription or pay per view or use). MnLINK will utilize open systems computer and communications protocols for purchasing such services; vendor who seek to do business with MnLINK will need to provide their services in such a manner that such an open systems environment is maintained.

(6) ***MnLINK Participating Library Z39.50 Servers.*** Libraries participate in MnLINK through use of the MnLINK Shared System and/or by making information regarding their collections, their detailed collection holdings, and the availability of those holdings known to MnLINK users. MnLINK Libraries which have automated library systems and for whatever reason do not participate in the MnLINK Shared System must acquire MnLINK Z39.50 Server capability sufficient to make information about their collections and holdings available to MnLINK users.

The End-User Client Workstation consists of any hardware platform which can run World Wide Web browser client software. Such workstations include Windows type microcomputers, Unix workstations, MacOS microcomputers, as well as Network PC workstations. The control of the interface and the capabilities which the user has via the End-User Client is a function of the HTTP Server component of the MnLINK Gateway Server. At the Client Workstation the user must have

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capabilities for searches of the MnLINK Union Catalog and a variety of other databases accessible principally and primarily via Z39.50 supplemented by use of other standardized or proprietary protocols, agents, or search engines which provide coverage of databases, systems, and services of interest to MnLINK. Through the use of the Client the user must be able to invoke the display of holdings, status, and availability information for an item or items of library material; its inter-library loan within and beyond Minnesota, as well the provision of such material by a commercial document delivery service.

For digital type resources the End-User Client Workstation must have the ability to display a Web based searching environment, to display of bibliographic and/or index information, to display Web addresses specifying the location of digital content described either in a bibliographic record or another Web page, to allow point and click selection of such network addresses, to utilize such information to locate, retrieve, display, and play a digital resource directly without intervening assistance from the MnLINK Gateway Server.

The MnLINK Union Catalog System/Service provides user searching of and retrieval from a MnLINK Union Catalog comprised of bibliographic databases from participating MnLINK libraries. The MnLINK Union Catalog must have Z39.50 Version 3 Server capabilities. The Z39.50 Server will allow the MnLINK Union Catalog to interface with MnLINK Gateway Servers.

The Gateway supports a Web (HTTP and other Web based protocols) based environment at the end user workstation, provides methods for access control and session management, and provides interfaces to target databases, systems and services – one of which consists in NISO Z39.50 compliant catalogs and databases. With respect to access control the MnLINK Gateway Server component identifies and provides Network Authentication and Authorization of MnLINK users (wherever such users may gain access to MnLINK-- the local library and/or campus, the MnLINK TCP/IP based LAN/WAN network environment, or via the Internet) such that a user so authenticated may make use of any and all local and remote services for which that user is authorized (from the MnLINK Union Catalog, other Z39.50 accessible library catalogs, an Internet Index, MnLINK or local library licensed subscription databases, interlibrary loan, document delivery, and pay per view databases) via a single authentication and authorization process. The authentication and authorization services should allow designated MnLINK Gateway Systems Administrators to script the conditions under which the Authentication/Authorization process must take place and to change such scripting as policies governing various systems, services, and resources as policies change. The authentication and authorization services will provide an important means for MnLINK to tune the performance of MnLINK Systems and Services as a whole, extending or restricting access to various search profiles and services as policy or available resources dictate.

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With respect to session control the MnLINK Gateway maintains the state of a user's search with respect to the one or more target databases in order that the user may navigate the search results and refine a search by adding criteria or performing set operations on search results.

The MnLINK Gateway Server will provide access to a variety of databases, applications, systems, and services via standard communications protocols such as NISO Z39.50. Such resources include: the MnLINK Union Catalog, status and availability information for each individual title held by a MnLINK library, an Internet index and/or catalog, subscription and pay-per-view databases, interlibrary loan, commercial document delivery, and other types of applications, systems, and services.

The kind of system that is described by this document is an "integrated set of MnLINK Systems and Services" whose design is based on open systems and standards and takes into account the basic interrelationships of bibliographic and other data and processing functions found in automated library systems and services. MnLINK Systems and Services must have excellent growth potential with respect to the addition of other libraries and of new functions, increase in processing power and capabilities for transaction throughputs, addition of online data storage, and added numbers of workstations, without degradation to response time.

The applications modules – or subsystems – for which cost proposals are requested by the State of Minnesota are specified in Section 5 of this RFP.

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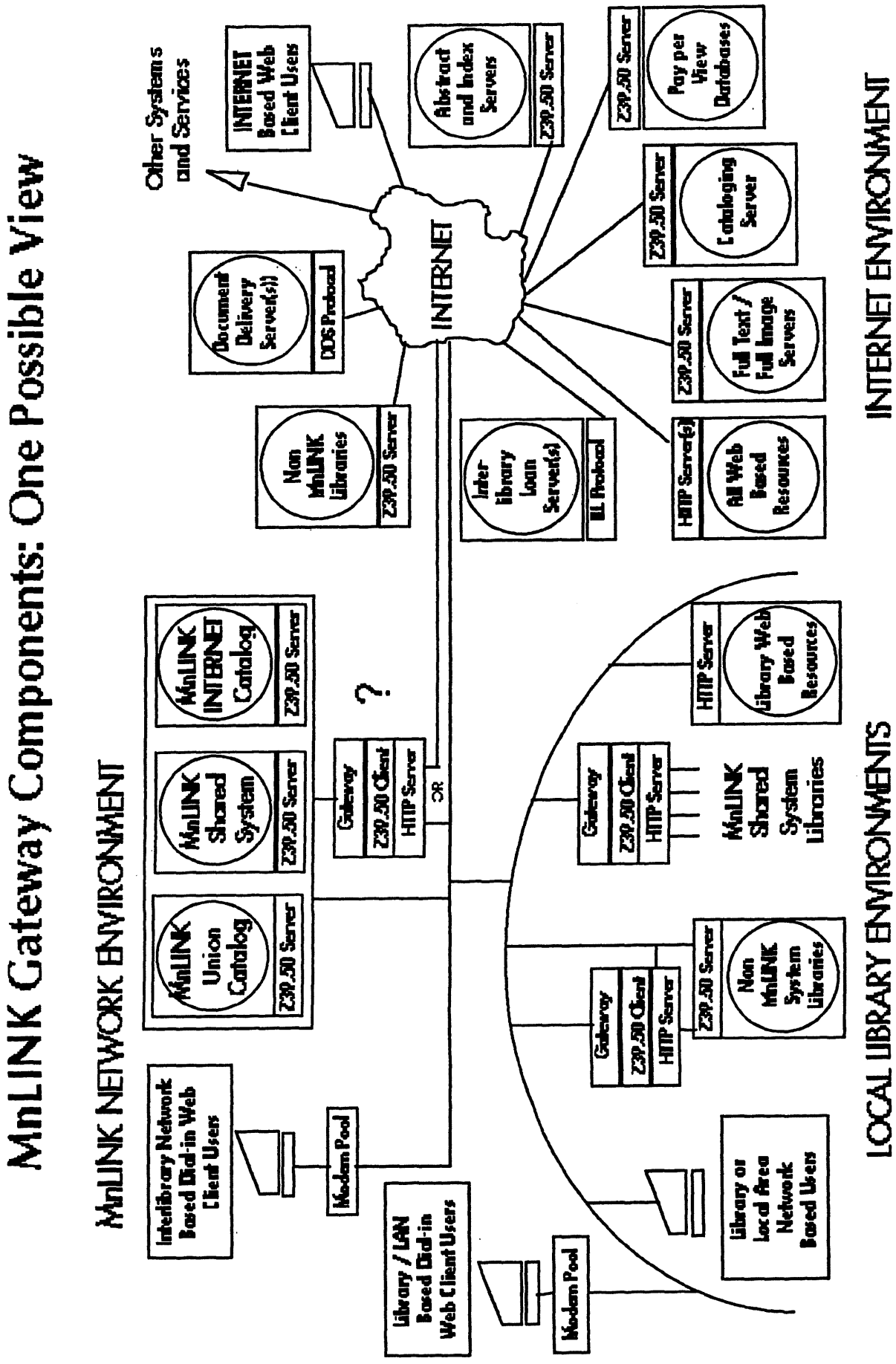

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7.2 MNLINK END-USER CLIENT WORKSTATION SOFTWARE

Individual users shall have the ability to gain access to the MnLINK Gateway Server from any point at which an Internet or a TCP/IP based MnLINK LAN/WAN network connection may be made, including direct connections from a participating MnLINK Library, various desktops connected to a library and/or campus network or the MnLINK LAN/WAN network environment, other desktops connected to the Internet, as well as SLIP or PPP dial-up locations. Except for connection speed, the MnLINK Gateway Server interface shall function identically for the user from anywhere it is accessed.

The MnLINK End-User Client Workstation Software environment consists of a World Wide Web browser client. The MnLINK Gateway Server must support a World Wide Web browser Client or a character oriented WWW browser interface such as Lynx.

The HTTP Server component of the MnLINK Gateway Server must provide at the End-User Client a variety of searching modalities and service offerings to an end-user whether such a user has novice or advanced searching abilities. Users should have differential privileges with respect to access to MnLINK Systems and Services based upon individual circumstances (e.g. registered MnLINK user or not) and user type (e.g. library staff or library patron).

The MnLINK Gateway should allow designated System Administrators to script the circumstances under which a user must identify and authenticate themselves and to determine for which systems and services a user must receive authorization. The MnLINK Gateway must allow for circumstances in which no user identification is required, such as users which originate a network connection from a known network addresses associated with a specific library or campus location. The MnLINK Gateway must allow System Administrators the option of defining a set of user privileges, if any, which may be provided to an unidentified (or anonymous) user..

For traditional library resources, such as books, serials, films, microfiche (hereafter "analog resources") the MnLINK End-User Client Workstation must display information about such resources in response to a user search of the MnLINK Union Catalog and other MnLINK databases. The MnLINK End-User Client Workstation must have the capability to display for such resources bibliographic information. holdings, status, and availability. The End-User Client must provide for the interlibrary loan of such material or its delivery via commercial document delivery service. For digital resources, the End-User Client Workstation must have the capability to display and play directly all forms of text, graphics, and multimedia types commonly recognized on the Internet and the World Wide Web.

The interface presented at the End-User Client, the target catalog and database services, and the services accessible will turn on the user type. MnLINK must have the capability to create and modify service profiles for each user type, consisting of the search interface and help capabilities to

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be presented, the identity and number of target catalog and database servers to be addressed in parallel, and the services to which a user type may gain access. Users must have some capability to modify such service profiles immediately to meet their searching needs and with proper authorization to gain access to any resource available via MnLINK. MnLINK must have the capability to modify its policies governing access to MnLINK resources and the service profiles of various user types as MnLINK gains experience with the use of its systems and services.

The End-User Client must exhibit compliance with the Americans with Disabilities Act and operate with assistive software or devices such as large printed interfaces, voice activated input, alternate keyboard or pointer interfaces, etc. The End-User Client interface design must accommodate users who do not speak English, but who speak and/or read a language other than English.

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7.3 MNLINK UNION CATALOG SYSTEM/SERVICE

The MnLINK Union Catalog System/Service provides the capability for conducting search and retrieval against a Minnesota Union Catalog comprised of bibliographic databases from MnLINK participating libraries in MARC record form, including cataloging records, Union List of Serials records, and other MARC based bibliographic records such as those containing table of contents information.

Much of what appears in this section and elsewhere in this RFP draws upon understandings of the Union Catalog as a single, centralized database and corresponding software functionality. Database and system architecture admit of a number of methods of distributing catalogs from replication of the complete database to various forms of segmentation. Each of these methods has advantages and disadvantages. However, the model of a single, centralized Union Catalog database offers the most clear-cut case for understanding user and library requirements without attempting to make complex technical assumptions which verge on system design. In terms of database management, database integrity and quality, reliability and the costs of achieving reliability, comprehensive scope, and prospects for bringing together various copies and forms of a single work, the Union Catalog model has not given ground to the alternatives. However, MnLINK has not decided whether such a Union Catalog System / Service will reside on a single, centralized computer configuration or in a distributed system environment. MnLINK will decide such an issue based on elements of feasibility, functionality, performance, and cost which form part of its criteria for the selection of a vendor for the MnLINK Shared System. Therefore MnLINK requests that vendors propose alternatives which the vendor believe to be responsive to MnLINK's criteria for the selection of a Union Catalog solution, including feasibility, functionality, performance, and cost. MnLINK requests that in each case vendors describe the degree to which such solutions:

(1) meet the requirements of a single, centralized Union Catalog,

(2) diverge from such requirements, and/or

(3) present unique advantages not inherent in a single, centralized Union Catalog.

However situated, the MnLINK Union Catalog must be capable of handling both full bibliographic records as well as provisional and/or brief records. In addition, the Union Catalog must provide capabilities which allow an individual library or group of libraries to include or exclude from the Union Catalog records of certain types, such as those for items on order, certain library specified sets of records including catalog subsets and/or those for MARC based local information and referral files. The MnLINK Union Catalog should provide the capability to assign a single record to several catalog subsets with independent control over whether various user types may search and display such catalog subsets.

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Basic Union Catalog Search and Retrieval Capabilities

The native search and retrieval capabilities of the MnLINK Union Catalog together as well as its associated Z39.50 Version 3 Server capabilities will provide the basis for receiving and responding to user inquiries initiated at an End-User workstation client via a MnLINK Z39.50 enabled Gateway.

Via such a Gateway, the Union Catalog must support state of the art searching capabilities including exact phrase and keyword searches, Boolean combinations, proximity searches, browsing, and truncation, and other search mechanisms present in other large state of the art union catalog projects. The Union Catalog should be capable of providing access to any part of the bibliographic record including all MARC fields or parts of fields.

Multi-item query results should be presented in an ordered display. The overall design of the Union Catalog and Gateway Systems should allow the designated System Administrator of a particular MnLINK Gateway to choose the default ordering of both multi item and single item displays and should allow an individual user to modify the ordering of such displays.

Union Catalog Database Concept

In concept, the MnLINK Union Catalog will contain bibliographic records from participating Minnesota libraries; users making inquiries of the Union Catalog must be able to determine holdings and availability information for each title in the Union Catalog in the most efficient way. Users of the Union Catalog should perceive that for a title of interest, the Union Catalog contains a single set of bibliographic records and detailed holdings, status, and availability information, whereas such information may be stored centrally in the MnLINK Union Catalog or may be compiled on demand as a result from a Z39.50 inquiries of individual library OPACs.

Proposers are invited to put forward the optimum arrangements to address these requirement. Proposers must assume that not all libraries will participate in a single MnLINK Shared System. Proposer must assume that some number of libraries in the state will continue to use one of a number of local automated library systems now in place throughout Minnesota. Although a number of libraries may elect to participate in a MnLINK Shared System, the MnLINK project is not intended to displace the investments of all libraries in Minnesota with a single vendor or system.

If a vendor puts forward a solution in which a single, centralized Union Catalog maintains detailed holdings, status, and availability, feasible methods for maintaining the currency of this information also must be put forward. If a proposer recommends a single, centralized Union Catalog which does not maintain detailed holdings, status, and availability information that proposer must also describe methods for compiling such information on demand. If a proposer puts forward one or

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more forms of a distributed Union Catalog, that proposer must address methods which provide for the on demand compilation of union catalog type bibliographic, detailed holdings, status, and availability information from a number of local automated library systems using Z39.50 capability.

The MnLINK Union Catalog must be scaleable and provide capacity for growth to accommodate full participation by a broad spectrum of Minnesota libraries of varying size and type and potentially multi-type networks of libraries. The Union Catalog must allow libraries and campuses sharing a MnLINK Gateway, consistent with MnLINK policies and procedures, to customize the scope and reach of a user's search in a variety of ways including specifying which libraries, databases, and systems a particular search will address. The MnLINK Union Catalog must allow for the creation of specialized "virtual collections" of library selected material intended to support certain types of uses such as individual distance learning courses.

A Centralized MnLINK Union Catalog

Whether or not a proposer puts forward a single centralized MnLINK Union Catalog, the MnLINK Union Catalog must provide for initial MARC record loading from the initial set of individual library OPACs either via direct input or via vendor provided pre-processing. The MnLINK Union Catalog must not require MnLINK participant library staff to undertake any specialized processing of bibliographic and/or holdings information as output from local OPAC systems prior to input to the MnLINK Union Catalog. However, the Union Catalog should provide methods for individual participating MnLINK libraries to choose whether or not certain library identified classes of records should appear in the Union Catalog.

A single, centralized Union Catalog also should utilize the master record concept, where Union Catalog input processing detects duplicate bibliographic records and combines bibliographic information into a single record based on choice of the highest quality cataloging source e.g., (Library of Congress Source as transcribed by the Library of Congress [e.g. DLC:DLC] as first choice, of cataloging source followed by hierarchy of cataloging source). Vendors are invited to propose arrangements for creating and maintaining a Union Catalog of high quality. Should a vendor propose a distributed Union Catalog, the vendor should indicate how the quality of such a distributed database would be established and maintained such that the MnLINK Union Catalog can retrieve all copies or forms of a work by a single author or pertaining to a specified subject without regard to where among the MnLINK participating libraries such material may be held.

For a centralized Union Catalog duplicate detection should use a hierarchy of matching criteria including: matching OCLC # as first choice, matching ISBN with confirmation based on title words, matching ISSN with confirmation based on title words, and matching LCCN with confirmation based on title words. For the initial Union Catalog MnLINK recognizes that acceptable and reliable level of quality may require specialized input processing outside of the capability of the Union Catalog

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System or Service itself. In a similar manner for purposes of serials, a Minnesota Union List of Serials record will be the master record in the MnLINK Union Catalog; in the establishment and update of the MnLINK Union Catalog database, a vendor must not overlay such serials master records with any locally generated local library serial records. The MnLINK Union Catalog must accommodate the Local Data Record (LDR) structure as used in the OCLC Union List record.

MnLINK acknowledges that despite the methods in use to determine master record and identify duplicates, some library material will be inconsistently represented due to local cataloging practices. For example, some libraries have catalog records for government documents and some do not. Some libraries have fully analyzed major sets and series, and others have only a bibliographic record for the set or series as a whole. Therefore, some level of inconsistency and potential duplication will exist should MnLINK establish a centralized single Union Catalog; however, MnLINK requires that the proposer's Union Catalog System minimize such inconsistency and duplication and each proposer demonstrate its capabilities to minimize such problems. Vendors should project based on its experience the effect of either a centralized or distributed Union Catalog design upon such matters.

Both initially and on an ongoing basis, the MnLINK Union Catalog must provide for authority type analysis and reporting related to subject and name headings for bibliographic records added to the Union Catalog. The MnLINK Union Catalog must provide reports for each new occurrence of a name, series, subject, and uniform title added entry, organized both by alphabetized entry and by library and/or campus and frequency. MnLINK intends this capability to provide an informal basis for monitoring the bibliographic input to the Union Catalog and the capabilities of the system itself to correctly identify duplicate records upon input. MnLINK will devise procedures for sampling from such reports to assure itself regarding the quality of the Union Catalog on an ongoing basis.

MnLINK seeks a Union Catalog vendor which will propose methods either for MnLINK or for the vendor to assume responsibility for maintenance of the MnLINK Union Catalog including the associated authority files and related access points. The vendor of Union Catalog systems/services will provide upon the establishment of the Union Catalog and on an ongoing basis Library of Congress MARC based authority records for each and every access point for which such authority records exist, including any and all updating of MnLINK Union Catalog authority records based on newly released LC MARC authority data. Vendor costs for the Union Catalog must include maintenance of authority files and related access points.

Updating A Single, Centralized MnLINK Union Catalog

Whether the vendor proposes a centralized or distributed design for the Union Catalog, the vendor must demonstrate that MnLINK can manage the catalog on an ongoing basis. A single MnLINK Union Catalog must provide for continuous update via a variety of methods including batch

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tapeloading or online uploading from an authorized library and/or campus cataloging workstation. Some MnLINK libraries already have cataloging workstations which have capabilities for uploading cataloging to two sources, e.g. OCLC and their local OPAC system. By extension, such capabilities may make it possible to update online the MnLINK Union Catalog automatically on an ongoing basis. Alternatively, batching of cataloging records for FTP to the Union Catalog among other destinations may present another alternative. The proposer must take into consideration in recommending a solution the requirement that updating the MnLINK Union Catalog impose as little as possible on the ongoing operations of the cataloging departments of MnLINK participating Libraries.

The MnLINK Union Catalog system must support complete authority control, including the capability for linking records in and between files, validating and verifying headings, "deblinding" cross references, processing global changes, and other required maintenance. The MnLINK Union Catalog System must be capable of deriving authority data from machine-readable bibliographic records and of accepting batch input of authority data from such sources as LC, OCLC, RLG, NLM, BNA, and Brodart or any other source. The authority control subsystem must also accommodate juvenile subject headings.

The MnLINK Union Catalog must provide for downloading of a Union Catalog based cataloging (e.g. MARC) record upon the request of a MnLINK library operator. The MnLINK Union Catalog must provide an operator with proper authorization the ability to update records online as an editing function to correct obvious errors and problems which do not admit of any other solution. The vendor's system must provide MnLINK with such a capability.

Distributed Union Catalog

Earlier sections enumerate aspects of creating and maintaining a single, centralized Union Catalog. In a distributed or "virtual" union catalog such matters may not arise directly. MnLINK requests that vendors comment on the degree to which a vendor proposed distributed union catalog design meets the objectives of a physical union catalog.

A distributed union catalog approach must:

- demonstrate the ability to work within demonstrably reasonable network bandwidth requirements,
- work together and conduct search and retrieval operations with local automated library systems of different design and manufacture than that of the Union Catalog server,
- execute broadcast searches against an arbitrary number of local automated library system servers within a reasonable amount of time without excluding results from one or a significant number of servers,
- achieve search and retrieval results comparable to those of a single, centralized Union Catalog in an environment in which local servers and databases exhibit subtle or profound differences in record completeness or quality, and

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- either must possess sophisticated abilities to detect and process duplicate records in real time or impose that task upon the end user.

Notwithstanding such constraints and requirements, advocates for distributed or virtual union catalogs and for so-called "broadcast" or "parallel" searching have advanced strong arguments for such approaches in recent years. MnLINK seeks to establish the viability of either or both the single, centralized union catalog or the distributed "virtual" catalog in its setting. MnLINK requests that proposers respond to either or both approaches to a MnLINK Union Catalog and characterize the feasibility of each approach for MnLINK.

Union Catalog Server Capabilities

The Union Catalog server capabilities are intended to consist of a set of system-oriented query-only functions for search and retrieval of records contained in the Union Catalog via a Z39.50 Version 3 or later interface. Such capabilities must exist whether the Union Catalog is centralized or distributed. The Union Catalog ultimately will rely upon Z39.50 as a protocol for the transport of search requests and search results. As such the Z39.50 Server capabilities of the Union Catalog effectively will mediate the Union Catalog's search capabilities to the end-user. Among the local systems in place in Minnesota and among both local library systems and other Z39.50 servers, capabilities of the underlying search engines in place vary. These differences work to constrain the searching capability which an end-user can obtain from any particular server or group of servers. However, for MnLINK, the implementation of a Gateway System is intended to provide a consistent and coherent search environment spanning all MnLINK libraries and campuses, despite the variety of local system choices at the individual library level. Therefore, MnLINK will examine carefully the abilities of the Union Catalog for search and retrieval and the ability of the selected MnLINK Gateway to interoperate with the MnLINK Union Catalog. Vendors are required to demonstrate (1) compliance with NISO Z39.50 Version 3 and (2) interoperability with a wide variety of Z39.;50 clients at a detailed feature by feature level.

The Union Catalog and Z39.50 Server capabilities should be flexible to allow for adaptation by MnLINK. The Union Catalog and Z39.50 Server should have the ability to search across all library-specified MARC fields, material formats, and all other MnLINK library data.

The Union Catalog and Z39.50 Server should provide for keyword typed in as a phrase, in that exact order (implicit; "and" implied). The combined Union Catalog/Z39.50 Server should allow the searcher to combine terms with Boolean AND, OR, and NOT operators (explicit) and to make efficient use of such Boolean operators in conducting searches.

The Union Catalog/Z39.50 Server should allow the searcher to limit searches by library-specified fields, including fixed fields and specific material formats, either before or after the search is executed for the first time.

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The Union Catalog/Z39.50 Server should accept the input of entire headings, even if they are long and subdivided.

The Union Catalog/Z39.50 Server should allow when available proximity searching using the operators "near" and "within" and relational searching, using terms such as less than "<" or greater than ">". In general, the Union Catalog/Z39.50 Server should be browsable by call number and alphabetically by author, title, subject, and keyword.

The authority control capabilities of the Union Catalog should be inherent in the Union Catalog and able to be utilized in searching via the Z39.50 Server. When a user enters any form of a name, title, or subject in a search, all bibliographic items associated with that form should be retrieved, regardless of whatever name the author may have used or whatever variant form may have been chosen. The Union Catalog and the Z39.50 Server should accommodate the use of MARC authority records for all types of headings.

Searches of the Union Catalog must permit the use upper or lower case letters and the absence or presence of spaces and punctuation marks.

The Union Catalog and the Z39.50 Server should respond to a term not found by replying a list of terms preceding and following the entered term. The Union Catalog/Z39.50 Server may suggest keyword searching when an exact match search fails.

If the Union Catalog/Z39.50 Server requires the use of any stop-words, the library must be able to choose which stop-words to use. If the patron's search results in zero hits because a - interfered, an informative message should explain the problem.

The Union Catalog/Z39.50 Server should permit as standardized character masking (wom*n retrieves both women and woman).

The Union Catalog/Z39.50 Server search capabilities should minimize the practice of vendor specific private extensions to the standard Z39.50 protocol, should publicly register for open use any such private extensions, and should migrate to the use of public and commonly recognized implementations of various search and retrieval protocol elements as soon as such approaches gain recognition and are suitable for implementation.

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7.4 MNLINK GATEWAY SERVER AND THE SEARCH AND RETRIEVAL CLIENT

The MnLINK Gateway Server presents the End-User Client Workstation with a single interface available across a variety of desktop and mobile computing platforms. Although the MnLINK Gateway server exists exclusively for the benefit of MnLINK's End-Users as opposed to library staff, the vendor must provide MnLINK with assurance that its Shared System can support, in a similar manner, a variety of desktop and mobile computing platforms, including Windows (Windows 3.11, Windows 95, and Windows NT), Unix, and MacOS operating systems. The vendor must provide a mechanism which eliminates the need for library staff uses of the Shared System to gain access to that system via the MnLINK Gateway Server(s).

The MnLINK Gateway Server enables a user at such a workstation to gain access to a wide variety of databases, applications, systems, and services. The MnLINK Gateway Server provides access to resources such as: the MnLINK Union Catalog, detailed holdings information, status and availability information about individual items of library material from local MnLINK participating OPACs, an index and/or catalog of Internet resources, subscription and pay-per-view databases, interlibrary loan, and commercial document delivery.

The MnLINK Gateway Server operates as locally as possible, potentially from each library and/or campus in a TCP/IP Internet communications environment, communicating with the End-User Client Workstation via HTTP/HTML communications and presentation protocols. The Gateway Server shall support HTML Forms, CGI scripts, PERL, and secure transmissions. Although intended to support such HTML based graphical clients such as Netscape, Mosaic, and Internet Explorer, it must also support the ASCII client Lynx. Although support of Lynx does not represent a primary function of the Gateway, MnLINK requires such a capability both for Americans with Disabilities Act (ADA) compliance and for limited backward capability with the large population of terminal devices for which libraries and institutions are developing replacement schedules.

The MnLINK Gateway Server should communicate with remote databases, systems, and services via open systems based protocols, agents, and search engines appropriate to function being performed. MnLINK requires the provision of Z39.50 Version 3 capability for searching the MnLINK Union Catalog, individual participating MnLINK online public access catalogs, other non MnLINK library catalogs, licensed subscription databases, and pay-per-view databases. Moreover, MnLINK requires demonstrated ability to interface and to interoperate successfully with other vendors' Z39.50 Servers. MnLINK considers that the provision of additional capabilities (such as access to SQL databases, Verity Topic™ agent technology, Web search protocols and search engine access, etc.) as they extend appropriately the reach of the MnLINK system will add value to a vendor's overall proposal. However, such technology must demonstrate actual operational value for MnLINK and not just technological capability.

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The Gateway Server software must operate on industry standard hardware and operating system software such as Unix or Windows NT. MnLINK recognizes that the marketplace currently is arguing the preferences each of these two operating systems. The ability to configure the Gateway Server on various operating system platforms and in configurations of varying capabilities and cost may add value to a vendor's proposal, if all other factors remain equal. MnLINK Gateway Server software, including all components should be programmed in standardized high level languages such as C or C++.

Individual users shall have the ability to gain access to the MnLINK Gateway Server from any point at which a TCP/IP Internet or MnLINK LAN/WAN network connection may be made, including direct connections from a participating MnLINK Library, various desktops connected to a library and/or campus network or the MnLINK LAN/WAN network environment, other desktops connected to the Internet, as well as SLIP or PPP dial-up locations. Except for connection speed, the MnLINK Gateway Server interface shall function identically for the user from anywhere it is accessed.

The Gateway System should allow the searcher to exploit fully the searching capabilities of the MnLINK selected Union Catalog/Z39.50 Server configuration. The Gateway System should allow users to:

limit searches by library-specified fields, either before or after the search is executed for the first time.

limit each search to a specific participating MnLINK library location, search a subset of MnLINK library locations, or search the entire Union Catalog database.

receive notification if a long search is in progress and given the means to interrupt such a search.

save a search (or searches) and combine the results with subsequent search results [or, these should be automatically saved and assigned numbers to combine with subsequent search(es)]; such search history should be maintained until the workstation is returned to the beginning screen through time-out or intentional exit.

display the number of titles which contain the item in question, when a search results in a match against an item.

The Gateway System should have the ability to retrieve holding location, status, and availability information for bibliographic records of materials cataloged, on-order, in-process, or partially converted to machine-readable form.

The Gateway System must project a flexible patron interface. The library or libraries sharing a Gateway should be able to choose the type of opening screen – tutorial or an invitation to begin searching – and the content of the messages. In general, the retrieval of information from the database must be accompanied by clear, concise instruction displays which can be edited and formatted by the library. The Gateway System should avoid library or computer jargon, using as much natural language as possible. The user must be given the option of choosing a mode of

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interaction consistent with skill level (i.e., novice vs. experienced user). Online assistance should be provided to the extent necessary to guide a user logically and efficiently through the search process using natural language as much as possible. The means of getting to help screens should always be visible be spelled out, graphically clear, or mnemonic (H for Help). A path to HELP facilities should be available as should a list of available options at any point. A conventional set of such options (e.g. Start Over, etc. must persist throughout the user session). Context specific help should always be available. Local adaptation, particularly the ability to alter the content of help facilities, should be possible.

How-to-start over instructions or buttons should always be visible, not just on the opening screen. The means of getting out of someone else's search should always be evident, and simple. A time-out should be implemented at the Gateway Server level. However, the user should have the ability to resume an existing search at any time.

Patrons should not to be able purposely or accidentally to exit, freeze, or disrupt normal operation of the system.

Session Management

While basic HTTP/HTML transactions are stateless, the MnLINK Gateway System will support virtual user sessions for the purpose of user authentication / authorization, and search request status and history. Such sessions will generally be supported by a method such as passing a token between the HTTP/HTML End-User client and the MnLINK Gateway System. Session capabilities should include: authentication, authorization, search history, and search progress reporting.

Authentication

The MnLINK Gateway Server component identifies and provides MnLINK network authentication and authorization of MnLINK users. Vendors are requested to provide information regarding their capabilities to register patrons with more than one library affiliation. Does the vendor's system have the capability to aggregate a patron's privilege sets in an intelligent manner? How does the vendor's system record usage statistics for such patrons?

User identification should consist a unique number or alphanumeric string which differentiates an individual from all other individuals using MnLINK systems and services. This method of identification functions similarly to an e-mail login name or a library patron identification number on a borrower card.

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Authentication consists of a procedure for confirming that the identification presented by an individual is valid; usually authentication consists in challenging the user to verify their identity by presenting a second form of identification, usually in the form of a word or number assigned to the individual in question and which should be known only to that individual and the system presenting the challenge.

The MnLINK Gateway allows System Administrators to require user identification and authentication in order to restrict access to some systems and services (e.g. licensed databases) to recognized members of a group entitled to such access. User authorization consists in the process of determining the ability of an identified and authenticated user to gain access to specialized resources beyond those defined for the user group or class of which the individual is a member (e.g. library patron, library staff, etc.). User type represents one type of authorization. Library staff and library patrons may have access to different systems and services solely based upon such a status. In another case, authorization may consist in the system determined ability of the individual to assume responsibility for financial obligations associated with a pay-per-use database. The MnLINK Gateway must have the capabilities to handle the most obvious types of authorization and to incorporate new authorization techniques as required.

A single point of authentication and authorization permits users – e.g., registered patrons (wherever such users may gain access to MnLINK – the local library and/or campus, the MnLINK LAN/WAN network environment, or via the Internet) to make permitted uses of any and all local and remote services (including pay per view account authorization). The authentication and authorization services should allow MnLINK via designated System Administrators to script the conditions for which such an authentication process must take place and to change such scripting as policies governing various systems, services, and resources change. For example, such authentication / authorization might occur at the point at which such users make interlibrary loan requests, or attempt to gain access to any digital or library resources deemed to require secured or restricted access.

The MnLINK Gateway System should request authentication from users only as necessary. In many cases the Gateway System should recognize the user via a MnLINK library and/or campus IP address; in some cases in which such IP authentication is not possible, the Gateway System should require identification via a valid password or Personal Identification Number (PIN). For example, in general, a student in a lab on a campus should not have to go through an authentication process for use of the local OPAC, the Union Catalog, or other MnLINK pre-paid information resources.

Use of existing PIN or passwords already established for MnLINK library patrons is viewed as an absolute requirement. The MnLINK Gateway System must determine the validity of a user from a

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database created and maintained either via automatic methods or a specialized MnLINK registration process. Automatic input could occur in real time or batch and could derive information from an interface with library and/or campus registration, e-mail account files or library borrower files.

Beyond authentication some MnLINK services may require specific authorization in order for users to gain access. Authorization may be based on any of a number of conditions, including: borrower category information of any type. The MnLINK Gateway System must allow MnLINK via designated System Administrators to put in place authorization, at MnLINK's option, for resource intensive functions, such as searching of multiple databases in parallel (broadcast search). For other services such as pay per view databases, authorization will depend upon ability and willingness to "pay" for service. The MnLINK Gateway System may require a user to have permission to draw upon a minimum free balance in an established deposit account or willingness and ability to make immediate payment via some form of credit instrument (e.g. credit card, smart card, etc.).

A user should be able to save a search and target a separate database or databases or modify a search and resubmit it against the same database. The MnLINK Gateway System should provide for this capability by logging the interaction between the user and application clients such as Z39.50 enabled MnLINK Search and Retrieval or other "Client" processes. The MnLINK Gateway System should support for authorized users the ability to store designated searches between search sessions.

The MnLINK Gateway System should allow session management capabilities such that the Search and Retrieval Client can report on its own status to the end user via the Gateway Server. Such session management capability should allow monitoring of the state of a search in progress as well as the state of the user as the user shifts contexts from viewing data to operating on data, such as requesting interlibrary loan or document delivery of a particular title.

Search Capabilities

The basic search methods of the MnLINK Gateway System will require Z39.50 Version 3.0 or later protocols on target servers, including local library systems in order to gain access to the content of such servers for MARC record and other types of searches. The MnLINK Gateway System must also have capabilities for alternate search protocols such as local or remote submission of a user's search input to a Web Server search engine via HTTP Forms capability. The MnLINK Gateway System must have the capability to submit a user search to either a Z39.50 Server, a Web Server, or both in parallel. The MnLINK Gateway System must search multiple target databases on different servers with one "broadcast search". If the proposed Gateway system can search using various protocols, agents, and search engines, it must have effective methods to resolve the results returned via various methods and servers into an intelligent display for the end-user.

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The MnLINK Gateway System must use the state of the art Z39.50 Version 3.0 information retrieval protocol and advance that protocol where necessary to incorporate new and wanted search capabilities. When searching MARC record databases, the MnLINK Gateway System must present a simple default search logic. In addition, the user must have the ability to customize when formulating complex search strategies upon request. When the MnLINK Gateway System interacts with Z39.50 Version 3.0 servers it must have the ability to effect advanced searching strategies such as Boolean searches, adjacency searches and limiting by format or location.

Ultimately the MnLINK Gateway System depends upon the search capabilities inherent in each target server, their implementation, and the ability to invoke these capabilities via Z39.50. The MnLINK Z39.50 Client Component must have the ability to utilize fully the capabilities and services of a wide variety of Z39.50 Servers of various types and manufacture, despite differences in server hardware and software design and protocol implementation. Vendors must demonstrate the capability of their solution to achieve this end by interoperability at a detailed feature by feature level with the Z39.50 Servers of other vendors.

Therefore, although MnLINK may not impose search requirements, in practice, on systems beyond the MnLINK Union Catalog, the MnLINK Gateway System should present no obstacles to the formation of both simple searches and more complex searches according to the capabilities of the MnLINK Union Catalog.

The MnLINK Gateway System should be capable of retrieving and displaying item status and availability from either a single, centralized Union Catalog, a Union Catalog supplemented by OPACs of libraries owning a particular item or items of interest, or a group of MnLINK Shared System and/or OPAC servers functioning as a "virtual" union catalog.. For the MnLINK Union Catalog the MnLINK Gateway System should also show item status, based on its ability to obtain such information either from the Union Catalog or from one or more local library OPACs via Z39.50 inquiry for the item or items selected by a user. The MnLINK Gateway System should have default search profiles which define one or more groups of target Z39.50 Servers against which to inquire on behalf of the user. Authorized MnLINK staff must have the capability to modify such scripts and the end user must have the capability to compose a custom group of target servers against which to search.

The MnLINK Gateway System must provide for smooth interaction with Z39.50 Servers for which MnLINK has made arrangements for use; the process of user identification, authentication, and authorization via login and password must appear as transparent as possible to the user and must function automatically without user interaction with external Z39.50 Servers wherever possible. The MnLINK Gateway System should report the progress of the search at the End-User Client (e.g. how many sites are done, how many remaining sites, percentage, etc.) and the MnLINK Gateway System should allow the user to stop a search in progress with the results yielded so far available for display upon request.

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The MnLINK Gateway System should allow a user to enter a single search query which the MnLINK Gateway System uses as the basis for searching several Z39.50 databases and other supported search interfaces at one time in a "broadcast search" of multiple target servers. The MnLINK Gateway System should allow the user to choose the default profile of target servers or to construct a custom list of servers. The MnLINK Gateway System should provide scripting capabilities for profiling multiple search interface designs. A search profile consists of a set of HTML formatted "pages" which form the background for search input, the display of results, and help screens; the profile also defines set of servers against which that search profile runs.

The Gateway Server must allow an individual participating MnLINK library to define the scope of a user's search to include entire non-MnLINK collections by allowing profiled portions of the Z39.50 compliant catalogs of such libraries to be added to a MnLINK Gateway Server search.

Display of Results

The MnLINK Gateway System must make the display of search results meaningful and lucid, especially given the wide spectrum of servers, databases, and content in general that MnLINK searches may span. The MnLINK Gateway System must allow for intelligent ordering, filtering, formatting, and overall presentation of results from both single server and multiple server broadcast searches.

The MnLINK Gateway System should allow for the display of search results in several types of order: alphabetically by search field(s), reverse chronological order, degree of term adjacency, or ranking by degree of fit with user's search criteria. The MnLINK Gateway System should allow default and user selected options for order of display by database and type of database, such as bibliographic, full text etc. The MnLINK Gateway System should allow for the filtering of a search either by a readily understood ranking scheme or according to pre-established criteria, such as subject area, date intervals, source (catalog, index, etc.). In any circumstance in which the MnLINK Gateway System utilizes a system assigned ranking the basis of that ranking should be evident to the user.

When search results are returned from multiple databases a default or user specified display order should apply. The MnLINK Gateway System should allow display by database, or by a single sequence in cases where duplicates have been eliminated.

Accessing Traditional Library Material and Digital Content

The MnLINK Gateway System needs to make user choices for content access clear when it displays search results and when the user initiates a process for MnLINK interlibrary loan, or document delivery. In any display (such as that of Union Catalog records, index and abstract records), the

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MnLINK Gateway System needs to make clear the available alternatives for access to that material: immediate linkage to the display of full text, chart, graphic image, video, audio, etc.; MnLINK interlibrary loan, or commercial document delivery.

To the greatest degree possible, search results should include the option to access the materials which the system and the user have determined as relevant to the user's needs. For digital materials of interest, the user may select a clearly indicated link in the display. Supported links should include the 856 fields in MARC records. Choosing a link may lead to several results:

Selecting the link should result in the direct retrieval of networked full text items, images, charts, graphs, etc. for display in the MnLINK End-User Client.

Allowing the end user to request access to traditional library materials by document delivery or MnLINK interlibrary loan.

For those instances in which a user requests MnLINK interlibrary loan, or commercial document delivery, the Gateway System should initiate a search of the library collection associated with the user first and display any titles which the MnLINK Gateway System believes might satisfy the request exactly. The MnLINK Gateway System via an interaction with the user should determine whether a user's interlibrary loan request remains necessary or valid subsequent to the review of the display of available material at the user's library and/or campus. If the user is not located at a MnLINK library and/or campus, the MnLINK Gateway System should search all MnLINK library and/or campus collections for exact or close matches to the user's requested item and conduct a similar interaction with the user. Interlibrary Loan capabilities should support national standards including ANSI/NISO Z39.63-1989 and subsequent revisions and ISO Interlibrary Loan Standard Protocols 10160/10161.

The display or playback of some files will require multimedia abilities, including image, sound and video display and playing. The MnLINK End-User Client should provide these capabilities via in-line and helper applications such as an MPEG player.

The MnLINK Gateway System should provide options for pay per view searching. In such cases the MnLINK Gateway System should secure automatic charging of a user's credit card or debit account or withdraw funds from a library funded deposit.

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7.5 INTERLIBRARY LOAN CLIENT

The MnLINK Interlibrary Loan Client, located on the MnLINK Gateway System, works together with external Interlibrary Loan "server" systems to effect the loan of library material to end-users. The MnLINK Interlibrary Loan Client must work with any and all national, international, and industry standards for Interlibrary Loan as such standards are implemented within the library and information services industry; in particular, the ILL Client must work with such ILL systems as OCLC's Interlibrary Loan System, RLG, and NLM Docline. The MnLINK ILL Client System must support both direct patron initiated and library mediated interlibrary loan requests.

As in all sections what this section describes represents an optimum system from the viewpoint of MnLINK; MnLINK understands that a vendor's system may fulfill the functionality called out in this section in more basic ways than those described herein; however, the ability to fulfill these requirements in a non proprietary framework is very important to MnLINK.

End-User Authorization

The ILL Client System must determine at the outset of an interaction with an end-user, if the user in question has authorization for inter-library loan transactions. The MnLINK Gateway System authentication /authorization system should allow MnLINK to profile which types of users have such authorization. This determination may depend upon information in the MnLINK Gateway System authorization system or it may require access to a patron file maintained by one of the participating MnLINK libraries.

MnLINK requires that individual libraries be able to set different thresholds for each type of interlibrary loan transaction. MnLINK requires the ability to enable or disable ILL capability for various types of end-users as a group (e.g., library staff, patrons, etc.); MnLINK also requires the ability to modify such end-user profiles by end-user type easily. MnLINK seeks to block end-users from requesting ILL transactions when they have defined levels of overdue fines or other charges pending in their records. In addition the ILL Client System must allow MnLINK to limit the number of ILL transactions which any patron may have outstanding at one time or over a MnLINK prescribed interval of time. The ILL Client must provide MnLINK with the capability optionally to limit the number of ILL transactions to any one end-user without cost, to impose costs upon an end-user beyond such thresholds for ILL service, and to verify during the authorization process that an end-user has the ability to pay for such costs (e.g. a deposit account or a debit card).

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The ILL Client should provide each library and/or campus with the option of providing delivery of inter-library and/or campus circulation material to a non library and/or campus address. The ILL Client should also permit the imposition of costs for value added services, such as a charge for direct delivery to locations (such as a home address) not served by the existing MnLINK inter-library delivery service.

If an end-user is authorized for inter-library and/or campus circulation, the ILL Software Client must obtain from the MnLINK Gateway System authorization system or the appropriate local system patron file sufficient information to allow the library which fulfills the request to directly charge the material to the patron in question. Such information should include name, patron identification number, current telephone number, home address, and e-mail address from the end-user making an inter-library and/or campus circulation request, so that information on the progress of the inter-library and/or campus circulation (e.g. fulfilled, not fulfilled, etc.) may be sent via this method.

Material Availability

The ILL Client will use Z39.50 searches of one or more holding libraries to determine detailed holdings and availability of the item or items in question. Before allowing an MnLINK end-user to effect inter-library loan, the ILL must determine whether or not the end-user's home library holds the item in question and whether the item is available at that location. The ILL utilizes the authentication/authorization capabilities of the MnLINK to determine the home library and/or campus. The end-user's selection of an item and a request for interlibrary loan of that item signal the ILL that it should make such a determination. If the ILL determines that the end-user can obtain the item from the home library, the ILL refers the end-user to that library. The ILL should provide the capability for a user with special authorization (end-user or library staff) to request an ILL transaction, even if the home library holds an available copy of the wanted item.

The ILL System must provide a means for individual MnLINK libraries, at their option, to specify that subsets of the collection or the entire collection may circulate locally, but will not circulate as a part of the ILL capability. For example, course reserve material should not circulate beyond outside a library.

The ILL Client System must provide a method which can assist in equalizing demand upon MnLINK lending libraries. Methods may vary, but could range from informing users of the queue of ILL transactions which each library is currently processing to very formalized load balancing algorithms which dictate the location from which an end-user may make an ILL loan based on current ILL workload and workload over some MnLINK established interval.

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Transaction Processing and Transfer of Material and Record Keeping

The ILL System must capture all information necessary regarding patron and item for the recipient MnLINK library to effect a circulation transaction, should staff find the item in question on the shelf. Such information should include the name, address, telephone number, and patron identification number of the end-user, the local call number and shelf location of the item to be borrowed from the participating Library's local catalog as a part of the transfer of an interlibrary loan request. The ILL Client should transfer online requests for interlibrary loan to the library selected as the potential provider of the material.

The ILL System must support a mechanism for staff at the named potential lending library to call up ILL requests and dispose of such requests based on whether the material is in fact available. For requests which it can fill, staff of the lending library must have the capability to inform the requesting library and patron of the inter-library loan at an e-mail or an alternate form of address. In the event that the designated library can not fill the ILL request the ILL System must provide the ability to refer the request to another MnLINK library (should the originating library so stipulate), to refer the request to the originating patron's library, or to generate an external interlibrary loan request. In order to refer the lending request to another MnLINK library, staff at that library must have the ability to call up the request, search the MnLINK Union Catalog for other libraries with available holdings of the title in question, and refer the request to an appropriate library. The ILL System should also allow either the library receiving an ILL request or the library of the patron making an ILL request to use the ILL request as the basis of an external Interlibrary Loan request. The ILL System should require the library receiving an ILL request to inform the requesting patron and the patron's library of the disposition of the request. This capability will allow unfilled requests to proceed to the next potential lender without the need to return to the originating library or patron to identify another potential lender among MnLINK Libraries.

The ILL System must support tracking of interlibrary loan transactions. The ILL System should not require any additional library record keeping to monitor transactions from origin to the fulfillment of the request or to produce management reports. The ILL System must provide MnLINK Libraries the capability for billing back the requesting patron or the patron's library; alternatively the system must provide for an accounting of credits and debits for net lending and net borrowing among MnLINK Libraries similar to OCLC's Loan Reimbursement System. Once MnLINK ILL Client has placed an interlibrary loan request the tracking and processing of the loan request becomes the responsibility of the ILL server (e.g. the ILL server on the MnLINK Shared System). Should the capability exist for interaction between the server and the MnLINK ILL Client, the ability to report the disposition of the ILL request at various stages of processing by the ILL server would be highly regarded. However, proposers should recognize that any additional work imposed upon MnLINK library staff to coordinate between various ILL systems and MnLINK ILL client would not be viewed favorably.

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7.6 DOCUMENT DELIVERY APPLICATION CLIENT

The MnLINK Document Delivery Client, located on the MnLINK Gateway System, works together with external Document Delivery "server" systems to effect the delivery of wanted information to end-users. The MnLINK Document Delivery Client must work with any and all sources of document delivery services. MnLINK encourages proposers to work together with document delivery services and national and international standards bodies to define and implement a service definition and standard protocol for document delivery covering the process from request to fulfillment. The MnLINK ILL Client System must support both direct patron initiated and library mediated document delivery requests.

End-User Authorization

The Document Delivery Client System must determine at the outset of an interaction with an end-user, if the user in question has authorization for such transactions. The MnLINK Gateway System authentication /authorization system should allow MnLINK to profile which types of users have such authorization. This determination may depend upon information in the MnLINK Gateway System authorization system or it may require access to a patron file maintained by one of the MnLINK libraries.

Although the requirements for end-user authorization for Document Delivery turn on the same criteria as those for inter-library and/or campus circulation and interlibrary loan, MnLINK requires that MnLINK and individual libraries and campuses be able to set different thresholds for each type of transaction. MnLINK requires the ability to enable or disable Document Delivery capability for various types of end-users (e.g. 1st year students, staff, library staff, faculty); MnLINK also requires the ability to modify such end-user profiles by end-user type easily. MnLINK seeks to block end-users from requesting Document Delivery transactions when they have defined levels of overdue fines or other charges pending in their records.

The Document Delivery Client must provide MnLINK, and MnLINK Gateway System Administrators with the capability optionally to limit the number of Document Delivery transactions to any one end-user without cost (including zero [0]), to impose costs upon an end-user beyond such thresholds for Document Delivery service, and to verify during the authorization process that an end-user has the ability to pay for such costs (e.g. a deposit account or a debit card).

If a end-user is authorized for document delivery service, the Document Delivery Client must obtain from the MnLINK Gateway System authorization system or the appropriate local system patron file sufficient information to complete an delivery transaction with an external Document Delivery server, such as name, patron identifier, a current telephone number, home address, e-mail address, and mode of document delivery: physical address, fax, e-mail, regular mail, express mail, etc.

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Material Availability

The Document Delivery Client must use Z39.50 searches of the MnLINK Union Catalog and other catalogs of libraries with whom MnLINK has working resource sharing agreements to determine whether the item in question may be obtained via inter-library and/or campus circulation, interlibrary loan, or other method of non-commercial document delivery In particular, before allowing an MnLINK end-user to effect a document delivery transaction, the Document Delivery Client must determine whether or not the end-user's home library holds the item in question and whether the item is available at that location. Document Delivery utilizes the authentication/authorization capabilities of the MnLINK to determine the home library and/or campus. A document delivery request begins with the input of the bibliographic information which the user has for the item in question and a search of the databases available to the user via the MnLINK. For an authorized user type, failure to find the item should result in a request by the system for additional search input of specified types: author, title, and other information which could improve the user's chance of identifying the wanted item from the MnLINK Union Catalog and other catalogs available for searching based upon the user's MnLINK profile. If such an augmented search does not locate the wanted item and the user meets the MnLINK and library and/or campus criteria for such service, the MnLINK should offer the user the option of initiating a request for document delivery service.

Transaction Processing and Transfer of Material and Record Keeping

Once the MnLINK has initiated a document delivery request the tracking and processing of the request becomes the responsibility of the external Document Delivery server. Should the capability exist for interaction between the server and the MnLINK Document Delivery Client for reporting on the disposition of the Document Delivery request at various stages of processing by the external system, such a capability would be highly regarded. However, proposers should recognize that any additional work imposed upon MnLINK library staff to coordinate between various external systems and MnLINK Document Delivery Client would not be viewed favorably.

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7.7 MANAGEMENT INFORMATION SYSTEM/REPORT GENERATOR

The Management Information System is intended to provide detailed summaries of data on the operations, use, activity, and performance of the system overall and each system in particular.

Such information is required by MnLINK to monitor use of the system, to determine resource allocation and costs of various subsystems, and to plan for system utilization and expansion.

A Report Generator facility is needed to generate customized reports from user-designated files and combinations of files, according to user-specified parameters for the contents and formats of reports. This module is intended for use by library staff to generate ad hoc reports from the database, and select and output wanted records.

This module should be easy to use and allow for retrieval of records from one or more files, according to the presence of specified fields and/or specified values in those fields.

Custom report generation capabilities should include the on-demand production of reports based on data from across all system files and records. Authorized users should be able to customize formats of reports, including use of various print styles and sizes. The custom report generator must be easy to use, without requiring knowledge of programming languages. Descriptions of the use and capabilities of the custom report generator, as well as samples of custom reports, should be included with proposals.

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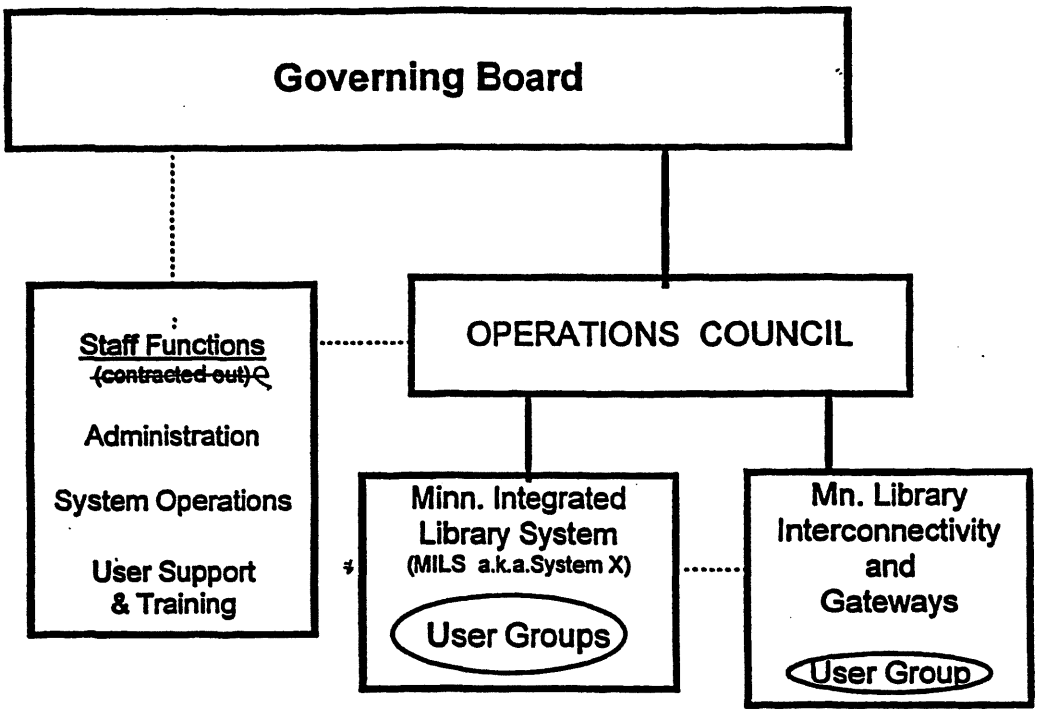
ATTACHMENT C

Minnesota Library Information Network



GOVERNING BOARD

Membership: Library Planning Task Force
(for July,97 to June, 99 biennium)

Responsibilities:
Establish policies and set standards for MnLIN
Plan for the continued development of MnLIN.
Oversee fiscal operations including:
Seek and receive funding from governmental, private, and participant sources.
Approve the MnLIN budget and fee structures for participants
Contract for administrative and operational services

OPERATIONS COUNCIL

Members: 15 maximum
MILS User Representatives
Interconnectivity Users
Non-voting ex-officio Reps:
Governing Board
MINITEX, LDS,
Telecom. Council

Responsibilities:
Oversee and operate MnLIN within the policies, standards, and budget set by Gov. Board.
Make recommendations to the Governing Board on
Policies and Development
Standards
Budget and Fees
Vendors
Related Items

FUNDING:
Legislative appropriations to be provided via HESO or direct from legislature.
Operational Costs for MILS (System X) to be provided by participants in System X.

ATTACHMENT D

Checklist of Requirements for Participants in MnLINK

Revised

Local Responsibilities for MnLINK Library Participants

For discussion 1/15/97

In order to protect the value of MnLINK, so there is more equal sharing of resources throughout the Network and no one library abuses its participation in MnLINK, each library will:

1. Develop a plan for the effective utilization of technology in library and information services including MnLINK;

2. Implement and fund a formal policy providing for upgrade of local equipment and technological infrastructure on an on-going basis in order for MnLINK remain state of the art;

3. Provide its fair share of resources needed to operate the network including annual membership fees, participation in MnLINK activities, and payments toward a central fund for the upgrade and/or replacement of MnLINK hardware and software;

4. Designate staff person(s) to be the official contact(s) for MnLINK related activities. Provide these persons with the opportunity and resources to obtain training to gain and maintain the skills necessary for effective system use;

5. Ensure that all staff are provided with the training necessary to use the network effectively;

6. Provide adequate financial support to meet current and on-going collection and operational needs;

7. Have its governing authority sign an agreement with MnLINK certifying it meets and will continue to meet the requirements for participation.

Resource Sharing for MnLINK Library Participants

For discussion 1/15/97

In order to participate, each library will:

1. Share resources by following established protocols, policies, and procedures agreed to by all library participants in MnLINK;

2. Participate in MnLINK-approved delivery services to move needed materials among participating libraries effectively;

3. Ensure that appropriate staff attendance occurs at training sessions relating to effective and efficient resource sharing among libraries;

4. * Be a member of the MINITEX Library Information Network, a Minnesota Regional Public Library System, or a Multi-county/Multitype Library System;

5. Participate in MnLINK equitable interlibrary loan load leveling protocols to ensure fair use of resources among participating libraries;

6. Participate where appropriate in cooperative collection management processes and joint purchasing of electronic resources;

7. Update and maintain MnLINK information such as serials holdings and current cataloging;

8. Participate in reciprocal borrowing arrangements to which it has agreed. (At present, public libraries honor reciprocal borrowing by their patrons borrowing directly from other public libraries. Academic libraries honor reciprocal borrowing only among libraries not by patrons unless arrangements have been made in local geographical areas.)

* Criteria for MINITEX Participation
Criteria for Multitype Library Systems
Criteria for Minnesota Regional Public Library Systems

Technical Responsibilities for MnLINK Library Participants

For discussion 1/15/97

In order to participate, each library will:

1. Catalog using the USMARC record format;
2. Install and operate system software which is Z39.50 version 3 compliant;
3. Install and operate system software to provide a Web/Z39.50 interface;
4. Index bibliographic records according to MINITEX/LDS *Indexing Standards and Guidelines for Bibliographic Records*;
5. Follow the MINITEX/LDS *Bar Code Standards and Guidelines*;
6. Provide security authentication which meets MnLINK standards;
7. Operate using other standards endorsed by MnLINK;
8. Meet minimum computer and local area network infrastructure for each level of functionality as defined by MnLINK.