Missouri Academic Libraries And Their Automated Futures

Prepared For:
Missouri Council on Public Higher Education

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Executive Summary

A Task Force of the Missouri Public Academic Library Administrators (MPALA) has been examining strategies for enhancing Missouri academic libraries' technology and use of technology to deliver library services. A report to the Coordinating Board for Higher Education (CBHE), entitled "Recommendations for a Telecommunications-Based Delivery System," identified a statewide automated library system employing a common platform as a means to sharply increase faculty and student access to library resources.

MPALA, with the financial support of the Council on Public Higher Education (COPHE), has undertaken planning to develop a project to implement the recommendation for a single statewide system available for use by all higher education institutions in Missouri, both public and private institutions, and 2- and 4-year institutions. The project has been named the Common Platform project (CP), and the MOBIUS consortium will provide governance and system management and coordination.

In recommending and undertaking the project, MPALA has identified the following issues as relating both to the advisability of such a project, and to the requirements for its success.

- The nature of information-provision services is changing from ownership-based service to access-based service.
- Library users (i.e., faculty and students) increasingly demand and expect access to electronic information resources, which can become very expensive when provided on a single-institution basis.
- Access-based service can increase the value of existing materials collections by making them more widely available and increasing their use.
- Access-based services only succeed when strong materials collections exist.
- Inter-Library Loan costs for sharing of materials within Missouri can be sharply reduced.
- At least seven other states have undertaken "common platform" projects for higher education, making this a tested approach to library service delivery.
- The MOREnet communications network is one of the key elements of a Common Platform.

Features and Benefits of a Common Platform

The Common Platform will include these features:

- A single user interface in use at all institutions.
- A single vendor's product in use in all institutions and a single site for central computer equipment.
- Faculty and students would have immediate access to catalog information about all higher education library materials statewide, and would have the ability to place a direct borrowing request via the CP, rather than use Inter-Library Loan processes.
- A "virtual collection" of higher education library materials in Missouri is created.
- Employs high-speed networking services, protocols, and standards.

Among the benefits to higher education institutions of the Common Platform:

- Ease of use and transportable skills for users, while allowing institutions to maintain their individual identities and their own policies.
- Containment of system upgrade, maintenance, and personnel costs.
- Faculty and staff have more materials available and have speedier access to those materials.
- Improved research access promotes recruitment and retention of faculty and students.
- Allows libraries to redirect staff time now devoted to processing Inter-Library Loan requests for intrastate higher education borrowing.
- Provides "scalable" network capacity that can grow as demand increases.
- Sharply improves the economies of scale in system purchase, operation, and information access in Missouri academic libraries.

Is There a Market For the Common Platform?

MPALA conducted a survey during the summer of 1997 regarding Missouri academic libraries' readiness for resource-sharing on a Common Platform. More than 90 percent of Missouri's public and private academic libraries responded to the survey, and results revealed 46 or more of the 51 respondents have the following characteristics in place:

- Interest in participating in the Common Platform project.

- The pre-requisites for participation: 75 percent to 100 percent of catalog records in computerized form; campus or library network in place; Internet connectivity.

In addition, most of the libraries have some computerized access to their own collections, and would need to convert to a Common Platform (unless the vendor chosen for the Common Platform is already providing that library's automated library service).

Estimated Costs

The plan for the Common Platform calls for appropriated funds to cover all capital costs and 50 percent of the recurring maintenance and operations expenses. The remaining 50 percent of maintenance and operations expenses would be covered by contributions from the individual participating institutions.

The following table summarizes the project's five-year costs, by contributing agency and by type of cost. The italicized section of the table sets forth the amounts needed as appropriated funds for the Common Platform.

Agency	Capital Expense	M & O Expenses	Total
Appropriated	***$10,053,038***	***$2,559,339***	***$12,612,377***
Institutional Contribution		$2,559,339	$2,559,339
Totals	**$10,053,038**	**$5,118,678**	**$15,171,716**

Appendix B of this report contains a discussion of how institutional contributions to Maintenance and Operation would be apportioned.

Project Status

MPALA's Task Force has undertaken a complex and demanding process, with a number of important developments.

- The MPALA Task Force has examined and is now recommending statewide automation enhancements; the Task Force meets regularly to develop and consider planning and project goals.
- MPALA developed a Request for Information (RFI), seeking vendor information regarding the feasibility of the Common Platform.
- Analysis of the RFI responses indicates that a Common Platform for Missouri academic libraries is feasible, with a high potential ratio of reward to cost and effort.

- MPALA has surveyed its membership in two forms; one sought an expression of interest and summary statistical responses, while the second seeks more detail related to how the Common Platform project might operate and what benefits would result from the project.
- The initial survey provided very encouraging responses, and indicated that a market for the Common Platform project exists in Missouri.
- Responses to the second, more detailed, survey were requested by September 19 and are being compiled.
- This report includes potential costs for the project, as well as some proposed cost allocation and funding strategies.
- MPALA has approved the MOBIUS Memorandum of Understanding as a working document for institutional participation.

Missouri Academic Libraries And Their Automated Futures

This report and its recommendations are the results of a planning process that the Missouri Public Academic Library Administrators (MPALA) has been engaged in for approximately two years, from a beginning in 1995. An MPALA Task Force has been examining strategies for enhancing Missouri academic libraries' technology. With the financial assistance and support of the Council on Public Higher Education (COPHE) for which this report has been prepared, and with the active participation of their colleagues in Missouri's distinguished private educational institutions, MPALA engaged a consultant to assist in the planning process, and to prepare materials that analyzed and described the MPALA vision.

This report is the first publicly available document outlining the MPALA vision and describing its features and benefits, its technical architecture and networking environment(s), how the vision might be implemented and managed, and what the costs for such a system might be.

Changing the Nature of Library Services

The 1990s have seen a major change in the paradigm of library service, as it shifts from an emphasis on ownership of materials to an emphasis on access to these materials. That is, technology permits libraries to more easily offer their patrons materials that are not in the library where the patron is receiving service. One of two types of materials, or two pre-conditions for materials, must exist for the requesting library to offer access services rather than ownership services:

- The materials are in a tangible form and are easily accessible from another library, and the accessing library can easily and inexpensively request them from the owning library.

  —or—

- The materials are in electronic form, such as an electronic database, index, or full-text article.

In the late 1990s and subsequently, individual libraries in Missouri, as elsewhere, must concentrate on acquiring and providing a healthy balance of electronic and tangible information formats in order for the value of access services to be fully realized.

One hugely important component remains to be identified and described: The network that permits both types of materials to be accessible. In order for libraries to operate successfully and effectively, they must be highly networked and able to connect to local and remote information resources using hardware and software that will support cost-effective resource sharing. Missouri's public and private academic libraries have historically engaged in resource-sharing

that permits library users in one institution to borrow and use materials from another institution's library. This resource-sharing activity, one example of which is the MIRACL system shared by the University of Missouri campuses, Washington University, and St. Louis University, permits an extremely valuable resource, the books, periodicals, and other items held in one library, to be available in short order to other students in the State.

The changing paradigm of library service is resulting in library user expectation (i.e., faculty and students) for broader access to electronic materials as these become increasingly available. Academic libraries, including Missouri's, will need to fund both the technology infrastructure that supports this access and the costs of the electronic materials themselves, primarily in the form of electronic subscriptions.

In planning to meet these future demands, MPALA has identified the potential for reducing the costs of delivering current inter-institutional borrowing services so that in the future some funds can be redirected to fund new and expanding services related to burgeoning technological capability. Further, the MPALA strategy aims to enhance the value of existing Missouri library collections by extending easy access to all such collections to all students, faculty, and staff of Missouri academic institutions, both public and private.

In order to exploit the value of Missouri academic library collections, estimated by the consultant to have a replacement cost of nearly $1,000,000,000, the MPALA group has settled on a strategy that MPALA has termed "Common Platform." The Common Platform strategy would select in a state-supported procurement a single vendor of computer software for library management and service, and create a statewide system of that vendor's products to improve access and use of the materials held in Missouri's academic libraries.

The Common Platform would permit a library patron to search for and borrow materials directly from any participating library in Missouri. The Common Platform could support both regional and statewide catalogs, fostering clusters of libraries that shared affinity relationships.

Other such system sharing and common interface consortia exist in Missouri, and other projects in public higher education in other states support the vision that MPALA has developed. The states listed below all have active "common platform" projects to develop a single user interface for students, faculty, and staff of most of the institutions of higher education in the state, to facilitate access and lending services between the institutions.

State	**Project Name or Identification**
California	CSULink
Illinois	ILSCO
New York	SUNY LAIP
Ohio	OhioLINK
Oregon	ORBIS
Pennsylvania	SSHE
Washington State	Washington

This report will identify costs and benefits of networking Missouri academic libraries in a Common Platform, to foster access for both types of materials noted above. The report will emphasize the first type or form, because of the potential for cost containment in that form, but several points need to be emphasized in making the case for additional technology investments:

- Missouri libraries will need funding to network themselves for both access forms.
- A return on investment will begin early in the project.
- The ultimate winner is the State of Missouri and its citizens, as academic library patrons receive better and more timely information in support of education, the economy, health care, and community development.

Common Platform: Features and Benefits

The MPALA and COPHE interests in a Common Platform are mainstream library planning, and represent a viable and fully justified approach to service enhancements and cost controls. The following table outlines some of the features and benefits of a Common Platform approach to resource-sharing.

Feature	Benefit
Single user interface at all institutions	Ease of use and transportable skills; World Wide Web accessible; retains individual identity, library policies, and preferences regarding local service
Single vendor's product in use in all institutions	Ease of contracting, maintenance, upgrades, training, operational support, security, and backup
Direct patron borrowing between institutions, allowing patrons to place a direct borrowing request to another Common Platform library	Sharply reduced costs for access to extremely valuable resources; reduces paper record keeping and improves delivery times as compared to traditional Inter-Library Loan (ILL) moderated and conducted by staff librarians
Facilitates individual library system upgrades and replacements	Provides economies of scale in local library investments; individual libraries do not face large capital investments in hardware
Creates a "virtual collection" of library materials in Missouri	Extends knowledge of materials and access to them to all academic library patrons, making the large materials investments much more widely accessible and available
Sharply reduces faculty, student, and staff effort in research by lowering access barriers to library materials	Makes Missouri educational institutions more attractive, improving recruiting and retention of faculty and students

Employs MOREnet backbone and campus links	Provides multiple paths for connecting to high-speed links, and redundant circuits in event of circuit failure; leverages existing and planned investments in MOREnet
Employs high-speed networking services, protocols, and standards	Provides Internet accessible networking; "scalable" network capacity can grow as usage or demand increases; relies on current and emerging standards for computer communications
Employs a single site for central computer equipment	Reduced personnel and management expenses; reduced hardware purchase and maintenance expenses
Employs multiple central computers to support the Common Platform in a "server farm"	Improves performance by spreading computer load over several computers; less chance of hardware problems affecting all use of Common Platform

One of the features of the Common Platform promises to be a financial bargain for Missouri higher education and state budgets: Direct patron borrowing has demonstrated a very substantial cost reduction over older manual processes and record keeping. The Common Platform strategy in use in the OhioLINK project allows the patron to conduct the borrowing process in an automated mode, substituting electronic transmission of the request for paper forms and providing automated tracking and record keeping, and resulting overall lower costs.

The OhioLINK project showed, in a study conducted at Ohio State University, that OSU and its lending partners spent a combined average of $2.70 in making materials from one library available to patrons at another library via direct patron borrowing. The $2.70 figure contrasts sharply with the Association of Research Libraries' study of similar lending that employs traditional Inter-Library Loan (ILL) processes and record keeping, where the average ILL transaction costs approximately $27.00. The difference of more than $24.00 per transaction, in a state where literally hundreds of thousands of transactions occur every year, would result in a significant statewide cost savings, allowing potential savings to be redirected to electronic subscriptions.

Among the primary goals of the Common Platform project is the restructuring of lending and borrowing between Missouri's academic libraries, to reduce the costs of ILL by making record-keeping less costly, and by making ILL more nearly like direct patron borrowing.

Current Systems in Missouri Academic Libraries

At the time of this report, the number and type of systems in Missouri is representative of the automated system marketplace, and of individual campus initiatives: Highly variable in system capacities and capabilities, varying ability to interoperate with other Missouri library systems, differing networking and connectivity capabilities. While a number of the libraries employ one specific vendor of automated systems, no statewide initiative has created a uniform approach to automation and resource-sharing.

The Common Platform is the first such initiative, and aims to replace the wide variation in Missouri academic library system capabilities and interoperability with a single vendor's product. In doing so, the Common Platform would create a unified, cost-effective approach to resource-sharing and service delivery.

MPALA recently surveyed higher education institutions regarding the academic libraries' readiness for resource-sharing on a Common Platform. More than 90 percent of Missouri's public and private academic libraries responded to the survey, and results revealed 46 or more of the 51 respondents have the following characteristics in place:

- Interest in participating in the Common Platform project.
- The pre-requisites for participation: 75 percent to 100 percent of catalog records in computerized form; campus or library network in place; Internet connectivity.

In addition, most of the libraries have some computerized access to their own collections, and would need to convert to a Common Platform (unless the vendor chosen for the Common Platform is already providing that library's automated library service).

While an emerging standard for interoperability exists, the well-known Z39.50 protocol, it does not support the enhancements that MPALA seeks. These enhancements include automated patron direct borrowing and circulation control, both of which are crucial to the proposed Common Platform and its promise of service enhancements and cost containment.

The Three Environments: Organizational, Technical, and Operational

Among the ways one can describe or understand the proposed Common Platform service, one of the most useful is to examine the same service and delivery processes as separate environments, depending on where and how the environment operates. The consultant has identified three such environments; Organizational, Technical, and Operational.

The Organizational environment is that of the governance and management of the Common Platform services. The Technical environment consists of the technology base on which the

service operates. The third environment includes operational issue themselves, e.g., What does the Common Platform provide? How does it provide its offerings? What are the operational components or subdivisions of the service?

Organizational Environment

MPALA anticipates that the delivery of electronic service, and the need for agreements on how patrons and institutions access and share materials, will involve creating a consortium of the State's academic libraries. The consortium, named MOBIUS by the MPALA Task Force, will develop and provide bylaws and other language appropriate to a service organization. The MPALA Task Force working on the Common Platform has already developed much of the foundation language for an inter-institutional agreement regarding the Common Platform and its uses.

That language will take the form of a service agreement that will bind the participants to a collegial and consultative contract to share resources, employ common standards for library service, and still retain institutional priorities for matters of local autonomy and operation. Following the service agreement's approval by Missouri academic libraries and their institutions, the MPALA Task Force will develop bylaws and other service policy language to guide MOBIUS and its participants in productive and equitable system use.

In addition to its focus on system use and participation, MOBIUS would also play an operational and managerial role in the critical issues of system implementation. MOBIUS would have a full-time staff, anticipated to number seven at "full-build"—at three years—to oversee and assist libraries with these system implementation and start-up tasks, and would also represent MOBIUS in its business relationships with MOREnet, with vendors of other electronic services, and with the vendor(s) of Common Platform hardware and software.

The system implementation and operational issues that MOBIUS would support are as follows:

- Converting data from existing systems to a new Common Platform system
- Managing the processing of bibliographic data to conform to common standards for indexing and description
- Training new libraries in the Common Platform and its use
- Managing the hardware and software at the Common Platform central site
- Managing updates and trouble-shooting Common Platform needs for campus libraries

In addition to the ongoing operational support that the MOBIUS staff would provide, the Common Platform would make an excellent development and enhancement foundation for Missouri academic libraries, and the MOBIUS staff would also conduct development business on behalf of MOBIUS libraries, including the following:

- Identifying and negotiating for current or emerging electronic services of value to Missouri academic libraries
- Developing strategies and funding options for extending the value and services of the Common Platform

Technical Environment

The technical environment for the MPALA vision actually has two separate components, campus library and central shared system. Both components are discussed in this section.

Campus Library

The MPALA vision is of each library in the consortium having a similar, if not identical, technical configuration, as follows:

- MOREnet or other Internet connection, with MOREnet/Internet data communications as the access channels between campus libraries and the Common Platform systems
- Use of routed Transmission Control Protocol/Internet Protocol (TCP/IP) communications
- Domain Name Service
- Local Area Network on campus, or at minimum, within the library
- Workstations have Internet addresses
- All library data, whether bibliographic, patron, technical, or policy information is loaded into a shared MPALA system, the Common Platform

Each campus library would be responsible for purchasing its own local hardware, network, cabling, local administrative and other software not required by the Common Platform, and for arranging its connection to MOREnet or another Internet Service Provider.

Central Shared System

The central system that MPALA envisions is of a "server farm," where a group of computers providing Common Platform services to each library reside in a secured, conditioned facility with two high-speed connections to the MOREnet backbone. Some of the characteristics of the shared system Common Platform are described as follows.

- The Common Platform would likely reside on eight to ten separate computer servers, to provide some redundancy and to spread operating demand over multiple computers. This type of architecture has the nickname "server farm" in computing terms, and is a tried and often-used method of supporting large computing applications.

- The servers in the "farm" would likely employ the Unix operating system and support a Data Base Management System to manage the Common Platform library data.
- The servers would communicate using Ethernet between them, with the TCP/IP protocols managing connectivity and access to the MOREnet network.
- The server farm would connect to MOREnet with two high-speed data links.
- The facility in which the Common Platform's server farm is housed would be a secure facility, with limited access. Only staff with a need to update or maintain equipment, or to support backup or tape manipulation would be permitted inside the room.
- All power and air-conditioning requirements necessary to maintain a trouble-free and low-risk technical environment would be in use.
- The facility may or may not be on the campus of any of the Common Platform participant libraries, and may in fact be in rented quarters.

Operational Environments

The environments in which the MPALA system(s) would function easily fall into two primary components: server and library.

Server Operational Environment

From an operational point of view, the servers in the Common Platform server farm will likely all have the following characteristics.

- House library data that conforms to a series of national standards for data description and contents.
- In addition to a catalog for each library, automatically update a statewide union catalog of all materials held in Missouri academic libraries, including their availability status.
- Support from one to seven or eight libraries' data, providing good price/performance.
- Be supported by a staff of approximately three system operator-managers, with at least one of the operator-managers being a senior specialist in the software and operating system supporting the Common Platform.
- Be regularly maintained for hardware, software, and network connectivity purposes, and be regularly backed up, to ensure no loss of data in the event of system or power failures.

Campus Library Operational Environment

Individual campus libraries would continue to provide automated library services using fairly familiar methods, as follows:

- Acquire, classify, and house materials, using the Common Platform and its software to support these functions.
- Deliver online public access to a catalog of library materials for the institution, again using the Common Platform.
- Provide automated circulation control for the institution's materials using the Common Platform.
- Provide patrons the ability to borrow materials from other institution's libraries, using cost-effective Common Platform direct borrowing methods: If the item is not available at the patron's institution, the patron can redirect the search request to a statewide catalog, and initiate a borrowing request.

Interaction and Joint Operations with MOREnet

The MPALA vision would function best if the technology of linking the computer hardware to individual campuses and libraries was as uniform and reliable as possible. With the State of Missouri's investments in MOREnet, MPALA has a ready and competent network services provider, one that is able to provide consistent and uniform services across the State. The consultant recommends a closely coordinated relationship with MOREnet in implementing the MPALA vision.

In order to function successfully, the linkages between libraries and servers must be robust, self-healing, redundant, and scalable; that is, the computer communications traffic must pass over very high capacity lines that have specific capabilities. MOREnet provides the required capabilities:

1. MOREnet has sufficient data transmission capacity to handle millions of transactions per day, without failure. Providing that transmission capacity will require upgrades to MOREnet links.
2. The MOREnet network has the ability to monitor itself, and to identify and correct faults in transmission lines and switches.
3. MOREnet supports multiple circuits between Common Platform computer site and libraries, permitting the transmission of information over more than one circuit. This assures at least one access channel in the event the other fails.

4. The MOREnet network is "scalable," to permit deploying additional bandwidth or capacity on critical circuits as needed.

5. MOREnet employs state-of-the-art computer transmission and control protocols.

Several features of the MOREnet backbone and circuits as they currently exist or are planned to exist support these critical needs. That is, MOREnet's offerings have or will soon have all the capacity, redundancy, error detection and correction, and scalability needed to support MPALA's vision.

Further, MOREnet operates, in part, as a provider of Internet connectivity to Missouri libraries, and thus employs all of the necessary signaling and traffic transmission requirements. Several MOREnet characteristics make using its services a natural fit with MPALA's vision:

6. MOREnet acquires most of its bandwidth from Southwestern Bell, and therefore has lower capital costs than some other states' statewide communications providers. The role that MOREnet has developed for itself is that of Network Operations and Information Center, rather than capital-intensive owner of high-cost transmission and switching facilities.

7. MOREnet's primary circuits, or backbones, are configured in loops that provide two access directions, so that a failure in one portion of loop still permits data traffic to flow in the other direction.

8. As an educational service entity, MOREnet already connects to most of the campuses or library service locations that would be part of the MPALA Common Platform service, and thus has in place the necessary routers and channel capacities.

9. Southwestern Bell has recently begun offering a new service called Broadband Educational Service (BES), and MOREnet will be able to link to a central server site at transmission speeds up to 155 million data bits per second (155 MBps), a transmission speed of enormous capacity.

Summary: MOREnet's role in the success of the MPALA Common Platform project cannot be overemphasized. MOREnet's transmission capacity, equipment (which will likely need to be upgraded or enhanced to support a central site), and operating experience will be critical success factors for the Common Platform.

Implementing the Vision

Making the MPALA vision of a Common Platform come true will require a number of successful steps, oriented around a complex planning and purchasing effort. The key elements in such an effort include the following:

- Develop a project team, such as the MPALA Task Force, to oversee and conduct the library elements of a Common Platform purchase.
- Develop a set of specifications for the Common Platform and make those specifications part of a competitive purchasing process, generally called a Request for Proposals.
- Select and contract with a vendor or vendors to supply the components of the Common Platform.
- With the assistance of the vendor, develop an implementation plan and schedule that covers a period of at least two years.
- Change at a manageable rate that takes into account existing library systems and contracts and the crucial need to convert data from existing systems to the Common Platform.

Issues of Finance and Future Support

The Common Platform project will require approximately five years to implement fully, and will cost approximately $15.1 million dollars in that five-year period. Appendices A and B address both the project's costs (Appendix A) and the contributions that individual institutions will be asked to make toward the project's successful operation (Appendix B). Please see the Appendices for greater detail regarding cost issues, including display of cost estimates for a wide range of library sizes (Appendix B).

Several points are important to an understanding of Common Platform costs and contributions.

- The project as currently defined seeks appropriated funds to purchase all capital equipment, software licenses, and start-up costs for the Common Platform.
- The project also seeks to use appropriated funds to defray 50 percent of operating costs for the Common Platform.
- Any opportunities for savings could be used to defray future expenses. One potential for such savings is in selecting a vendor whose automated system is already in operation in some Missouri academic libraries; in such a case, hardware, software, training, and other start-up costs should be lower than estimated in this report.

- Beyond five years, the Common Platform would likely join other similar projects in Missouri that receive on-going appropriated support, such as common shared networking and common shared database access.

- Certain costs are related to the minimum requirements needed to ensure quality service. In particular, every library is assumed to need at least five access ports (simultaneous user sessions), and the assumed annual cost of providing those access ports is $2,500.

Issues Requiring Additional Research

The MPALA Task Force and the consultant working on the Common Platform project have identified and addressed a number of issues relating to the project and its goals and objectives, but a number of issues remain to be researched, or to be identified and analyzed. A partial list of those unresolved or not-yet-analyzed issues follows.

- What is the role of existing, successful consortia currently providing services to potential Common Platform participants? The Kansas City Public Library consortium is one example of an organization that supplies automation services to some Missouri academic libraries.

- Should participation in the Common Platform project take into account consortia such as KCPL's, and offer a form of participation that primarily supports union catalog access but not full operational support?

- How and where should a "server farm" be located? Should the emphasis be on an MPALA institution campus? Or should the location emphasis be on security and cost, regardless of the location?

- What is the role of document delivery systems?

- How should the MPALA and COPHE organizations seek funding? In what amounts, and over what period(s) of time?

- Is the cost allocation formula laid out in this report an equitable and attractive one?

- Finally, what other issues exist that require identification, research, and analysis?

Project Status and Summary Recommendations

This section of the report summarizes the current status of the Common Platform project, and then lists the consultant's recommendations to MPALA and COPHE.

Project Status

MPALA's Task Force has undertaken a complex and demanding process, with a number of important developments.

- The Task Force has examined and is now recommending statewide automation enhancements; the Task Force meets regularly to develop and consider planning and project goals.
- MPALA developed a Request for Information (RFI), seeking vendor information regarding the feasibility of the Common Platform.
- Analysis of the RFI responses indicates that a Common Platform for Missouri academic libraries is feasible, with a high potential ratio of reward to cost and effort.
- MPALA has surveyed its membership in two forms; one sought an expression of interest and summary statistical responses, while the second seeks more detail related to how the Common Platform project might operate and what benefits would result from the project.
- The initial survey provided very encouraging responses, and indicated that a market for the Common Platform project exists in Missouri.
- Responses to the second, more detailed, survey were requested by September 19 and are being compiled.
- This report includes potential costs for the project, as well as some proposed cost allocation and funding strategies.
- MPALA has approved the MOBIUS Memorandum of Understanding as a working document for institutional participation.

Consultant Recommendations

The consultant drafting this report makes the following recommendations to the MPALA and COPHE organizations.

- Continue to use a measured, well documented, and analytic process as has been the history of this project. The thorough and well planned nature of the project is a major asset.

- Identify and connect with potential partners and advisors in the project. These would certainly include the MOREnet organization, the Coordinating Board for Higher Education, the State Library, the State Budget Office, and legislative budget analysts.
- Develop a regular reporting and communication method for keeping Missouri academic libraries apprised of project status and next steps. A website, a paper newsletter, and some project reports will give presence to the project and enhance its visibility and probable success.
- Identify existing consortia or organizations that will be affected by a Common Platform project and work with them to ensure their participation, while reducing potential competitive threats to the Common Platform project or the consortia.
- Take MPALA Common Platform plans to the State Legislature for funding as soon as the opportunity for a presentation exists.
- Plan relentlessly to prepare for a Common Platform project.

Appendix A: Costs and Budget Projections For a Common Platform

This Appendix provides a number of financial projections regarding the purchase of a Common Platform and its Maintenance and Operating expenses over a five-year period.

The following table summarizes the project's five-year costs, by contributing agency and by type of cost. The italicized section of the table sets forth the amounts needed as appropriated funds for the Common Platform.

Agency	Capital Expense	M & O Expenses	Total
Appropriated	***$10,053,038***	***$2,559,339***	***$12,612,377***
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Discussion of institutional contributions to Maintenance and Operations Expenses (M & O) appears in Appendix B.

The contents of this Appendix are as follows:

- The cost chart on page A-2 outlines a number of cost figures, displayed in three different cost areas.
- Page A-3 provides explanations for each of the three cost areas depicted in the cost charts.
- A narrative on page A-4 explains some of the assumptions underlying the cost information.

Missouri Public Academic Library System: Common Platform Purchase
Projected First-Year Start-Up and Five-Year Operating Costs
Total Five-Year Cost, With One-Time and Recurring Authority Control

Single Server Site: Full Cost

Estimated Total $15,171,716

A. CAPITAL COSTS:	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
1. Capital Hardware Costs, Single Server Site:	242,474	242,474	181,855	181,855	181,855	1,030,514
2. Capital OS/DBMS Costs:	172,500	172,500	134,375	134,375	134,375	748,125
3. Capital Software, Port, Loader, and Interface Costs:	1,422,076	1,422,076	1,081,557	1,081,557	820,339	5,827,604
4. Miscellaneous (Installation, Data Loading, Training):	100,757	100,757	75,568	75,568	37,784	390,434
5. Data Conversion and Authority Control (A/C):	591,546	443,659	340,385	340,385	340,385	2,056,361
Total Capital Costs (over five years)	**2,529,352**	**2,381,466**	**1,813,741**	**1,813,741**	**1,198,508**	**10,053,038**
B. ANNUAL SYSTEM MAINTENANCE AND OPERATIONS COSTS AT FULL BUILD (Before 2.5% annual increases):						
1. Recurring Annual Hardware Maintenance Costs:						174,447
2. Recurring Annual OS/DBMS Maintenance Costs:						31,050
3. Recurring Annual Software Maintenance Costs:						457,982
4. Recurring Annual Operational Costs (Personnel):						454,400
5. Recurring Annual Facilities Costs:						55,200
Total Annual Recurring Costs:						**1,173,079**
C. ESTIMATED COSTS, BY YEAR:	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
1. Hardware Purchase & Maintenance:	242,474	300,041	416,921	226,890	232,562	1,418,888
2. OS/DBMS License & Maintenance:	172,500	187,059	212,228	241,127	247,155	1,060,069
3. Library Software/Maintenance:	1,536,571	1,574,985	1,614,360	1,654,719	1,701,587	8,082,222
4. Miscellaneous (Install, Data Loading, Training):	100,757	100,757	75,568	75,568	37,784	390,434
5. Operational Costs, Personnel:	227,200	299,904	440,768	447,269	458,451	1,873,592
6. Data Conversion and A/C Costs:	591,546	443,659	340,385	340,385	340,385	2,056,361
7. Facilities Costs:	55,200	56,580	57,995	59,444	60,930	290,149
Subtotals	**2,926,248**	**2,962,986**	**3,158,225**	**3,045,402**	**3,078,855**	**15,171,716**
8. Less Institutional Contribution (See App B, Sec C.1)	-250,840	-397,173	-606,630	-632,684	-672,012	-2,559,339
Totals to be Requested as Appropriations:	**2,675,408**	**2,565,813**	**2,551,595**	**2,412,719**	**2,406,843**	**12,612,377**

Recurring M&O costs assume a 2.5% annual increase.

The three cost areas in the charts on page A-2 cover estimated costs for individual components of the Common Platform and maintenance and operations expenses required to operation the Common Platform during the first five years.

A. Capital Costs

Section A is a table that lists five separate capital goods or services that are needed for the Common Platform project, and estimates their costs per year for five years. Again, the final figure in Section A is the amount to be sought over five years for capital expenses from a legislative appropriation.

B. Annual System Maintenance and Operations Costs at Full Build

Section B is a single column that identifies the estimated cost to maintain each of the capital goods or services in an ideal "full-build" year, when all capital purchases have been made (not recurring capital services), and is thus only maintenance expenses. Capital services such as A.5 are not included since they are recurring capital expenses. Section B does not forecast the impacts of annual cost increases for recurring items.

C. Estimated Costs, By Year

Section C is a table of eight estimated actual cost elements, by year, that fall into three primary cost types:

- Anticipated capital equipment and goods expense, including the recurring maintenance for the equipment and goods
- Capital services, by year
- Recurring operational and maintenance expenses

The subtotal in Section C includes all estimated annual cost increases for recurring expenses.

Line 8 in Section C carries over the sums for Institutional Contributions from Appendix B, page B-2, Section C, line 1, as the amounts individual institutions would jointly contribute to reduce annual operations expenses.

The final figure in Section C, **Totals**, is the estimated five-year amount to be requested in appropriations to conduct the project, with all estimated costs for purchase, operations, and staffing included, including the contributions to maintenance and operations shown as line 8.

Assumptions Underlying Appendix A Cost Estimates

In Sections A through C of the cost charts in Appendix B (page B-2), the financial estimates assume that the project will "ramp up" to include seventeen libraries in the first year, add eighteen in the second year, then nine, three, and three. All these sections include costs that represent the best estimate of financial impacts of adding libraries and the equipment and services needed to support their use of the Common Platform.

Consequently, many of the capital costs in Appendix A—Section C, item C.1 is a good example—show an uneven rate of expense, as the project acquires capital equipment in its early years and then goes into an operations mode, lowering total expenses as they become maintenance costs rather than purchase.

Conversely, some maintenance and operations expenses—Section C, item C.5 is a good example—show a growth as staff is added to support the project, and, as annual expenses grow by an estimated 2.5 percent annually.

One key assumption lies in the cost tables: That the capital costs and 50 percent of the Maintenance and Operations costs will be a State of Missouri legislative appropriation, at the level shown at the foot of the Total column in Section C.

Appendix B: Institutional Cost Allocations For a Common Platform

Appendix B illustrates some estimated costs for the proposed institutional commitment and fund allocations needed to support a Common Platform system. Underlying all such estimates are the following assumptions:

- Individual institutions will pay 50 percent of actual recurring expenses.
- Appropriated funds will pay the other 50 percent.
- The institutional cost allocation will operate on a sliding scale, with each library paying two annual usage charges: An Annual Port Fee of $100 per user port or simultaneous connection, and an Annual Maintenance Cost. The latter will range from about $600 per port per year to $750 per port per year, depending on overall CP maintenance expenses.
- Each institution would also pay an annual MOBIUS membership fee of $5,000.

The following table summarizes the project's five year costs, by contributing agency and by type of cost. The italicized portion sets forth summary institutional cost commitments over five years.

Agency	Capital Expense	M & O Expenses	Total
Appropriated	$10,053,038	$2,559,339	$12,612,377
Institutional Contribution		***$2,559,339***	***$2,559,339***
Totals	**$10,053,038**	**$5,118,678**	**$15,171,716**

Participants in the Common Platform program will pay an annual flat-rate membership fee, to MOBIUS, which will be retained as a contingency fund for start-up staffing or additional staffing found to be necessary for the Common Platform project. Section C, line 2, page B-2 depicts the total membership amount to be contributed each year as a contingency and support contribution by the institutions.

The contents of this Appendix are as follows:

- The cost charts on page B-2 outline a number of cost figures, displayed in four different cost areas.
- Pages B-3 through B-7 illustrate estimated annual institutional cost.
- Page B-8 provides explanations for each of the five cost areas depicted in the cost charts.
- A narrative on page B-9 explains some of the assumptions underlying the institutional cost information.
- A narrative on page B-9 explains the basis for calculating institutional annual costs.

Missouri Public Academic Library System: Common Platform Maintenance Project Growth, Maintenance Cost Commitment for State and Institutions, and Cost Allocations. Estimated 5-Year Maint Cost, 50% Each State & Institutions:

Maintenance Costs: 5-Year Estimated Total $5,118,678
50% = $2,559,339

A. PROJECTED GROWTH AND DEMAND	1999	2000	2001	2002	2003	Total
1. Number of Participating Libraries:	17	35	44	47	50	
2. Number of Ports or Sessions Available:	420	840	1,100	1,180	1,260	
3. Number of Ports Assigned in Base (5 per Library)	85	175	220	235	250	
4. Number of Ports Remaining	335	665	880	945	1,010	
B. M & O FUND MATCH REQUEST: APPROX 50%	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
1. Hardware Maintenance:	34,889	63,083	98,439	102,918	107,601	406,930
2. OS/DBMS Maintenance:	6,210	12,839	19,304	20,183	21,101	79,638
3. Software Maintenance:	91,596	165,301	259,687	271,503	283,856	1,071,944
4. Personnel Costs:	118,144	155,950	236,288	242,195	248,250	1,000,827
Totals	**250,840**	**397,173**	**613,719**	**636,799**	**660,808**	**2,559,339**
C. SAMPLE FUNDS ALLOCATED BY LIBRARIES	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
1. Funds Allocated for 50% Maintenance & Operations:	250,840	397,173	613,719	636,799	660,808	2,559,339
2. Funds Allocated for Membership Contribution:	85,000	175,000	220,000	235,000	250,000	965,000
Totals	**335,840**	**572,173**	**833,719**	**871,799**	**910,808**	**3,524,339**
D. ANNUAL, FIXED, & MEMBERSHIP COSTS	**1999**	**2000**	**2001**	**2002**	**2003**	**Total**
Estimated Annual Maintenance Cost per Port:	$749	$597	$697	$674	$654	

Annual Port Fee: $100 per user port, with a minimum cost of $2,500 and a minimum port allocation of 5 user ports.

Membership Fee: $5,000 per library per year.

E. SAMPLE TOTAL INSTITUTIONAL COSTS USING $750 ANNUAL MAINTENANCE COST

This section uses the estimated Annual Maintenance Cost of $750.

Number of Ports	Annual Port Fee	Annual Maint. Cost	Annual Member Fee	Total Annual Cost
1-5	$2,500		$5,000	$7,500
6	$2,500	$750	$5,000	$8,250
7	$2,500	$1,500	$5,000	$9,000
8	$2,500	$2,250	$5,000	$9,750
9	$2,500	$3,000	$5,000	$10,500
10	$2,500	$3,750	$5,000	$11,250
11	$2,500	$4,500	$5,000	$12,000
12	$2,500	$5,250	$5,000	$12,750
13	$2,500	$6,000	$5,000	$13,500
14	$2,500	$6,750	$5,000	$14,250
15	$2,500	$7,500	$5,000	$15,000
16	$2,500	$8,250	$5,000	$15,750
17	$2,500	$9,000	$5,000	$16,500
18	$2,500	$9,750	$5,000	$17,250
19	$2,500	$10,500	$5,000	$18,000
20	$2,500	$11,250	$5,000	$18,750
21	$2,500	$12,000	$5,000	$19,500
22	$2,500	$12,750	$5,000	$20,250
23	$2,500	$13,500	$5,000	$21,000
24	$2,500	$14,250	$5,000	$21,750
25	$2,500	$15,000	$5,000	$22,500
26	$2,600	$15,750	$5,000	$23,350

Number of Ports	Annual Port Fee	Annual Maint. Cost	Annual Member Fee	Total Annual Cost
27	$2,700	$16,500	$5,000	$24,200
28	$2,800	$17,250	$5,000	$25,050
29	$2,900	$18,000	$5,000	$25,900
30	$3,000	$18,750	$5,000	$26,750
31	$3,100	$19,500	$5,000	$27,600
32	$3,200	$20,250	$5,000	$28,450
33	$3,300	$21,000	$5,000	$29,300
34	$3,400	$21,750	$5,000	$30,150
35	$3,500	$22,500	$5,000	$31,000
36	$3,600	$23,250	$5,000	$31,850
37	$3,700	$24,000	$5,000	$32,700
38	$3,800	$24,750	$5,000	$33,550
39	$3,900	$25,500	$5,000	$34,400
40	$4,000	$26,250	$5,000	$35,250
41	$4,100	$27,000	$5,000	$36,100
42	$4,200	$27,750	$5,000	$36,950
43	$4,300	$28,500	$5,000	$37,800
44	$4,400	$29,250	$5,000	$38,650
45	$4,500	$30,000	$5,000	$39,500
46	$4,600	$30,750	$5,000	$40,350
47	$4,700	$31,500	$5,000	$41,200
48	$4,800	$32,250	$5,000	$42,050
49	$4,900	$33,000	$5,000	$42,900
50	$5,000	$33,750	$5,000	$43,750
55	**$5,500**	**$37,500**	**$5,000**	**$48,000**
60	$6,000	$41,250	$5,000	$52,250
65	$6,500	$45,000	$5,000	$56,500
70	$7,000	$48,750	$5,000	$60,750
75	$7,500	$52,500	$5,000	$65,000

Number of Ports	Annual Port Fee	Annual Maint. Cost	Annual Member Fee	Total Annual Cost
80	$8,000	$56,250	$5,000	$69,250
85	$8,500	$60,000	$5,000	$73,500
90	$9,000	$63,750	$5,000	$77,750
95	$9,500	$67,500	$5,000	$82,000
100	$10,000	$71,250	$5,000	$86,250
105	$10,500	$75,000	$5,000	$90,500
110	$11,000	$78,750	$5,000	$94,750
115	$11,500	$82,500	$5,000	$99,000
120	$12,000	$86,250	$5,000	$103,250
125	$12,500	$90,000	$5,000	$107,500
130	$13,000	$93,750	$5,000	$111,750
135	$13,500	$97,500	$5,000	$116,000
140	$14,000	$101,250	$5,000	$120,250
145	$14,500	$105,000	$5,000	$124,500
150	$15,000	$108,750	$5,000	$128,750
155	$15,500	$112,500	$5,000	$133,000
160	$16,000	$116,250	$5,000	$137,250
165	$16,500	$120,000	$5,000	$141,500
170	$17,000	$123,750	$5,000	$145,750
175	$17,500	$127,500	$5,000	$150,000
180	$18,000	$131,250	$5,000	$154,250
185	$18,500	$135,000	$5,000	$158,500
190	$19,000	$138,750	$5,000	$162,750
195	$19,500	$142,500	$5,000	$167,000
200	$20,000	$146,250	$5,000	$171,250
205	$20,500	$150,000	$5,000	$175,500
210	$21,000	$153,750	$5,000	$179,750
215	$21,500	$157,500	$5,000	$184,000

Number of Ports	Annual Port Fee	Annual Maint. Cost	Annual Member Fee	Total Annual Cost
220	$22,000	$161,250	$5,000	$188,250
225	$22,500	$165,000	$5,000	$192,500
230	$23,000	$168,750	$5,000	$196,750
235	$23,500	$172,500	$5,000	$201,000
240	$24,000	$176,250	$5,000	$205,250
245	$24,500	$180,000	$5,000	$209,500
250	$25,000	$183,750	$5,000	$213,750
255	$25,500	$187,500	$5,000	$218,000
260	$26,000	$191;250	$5,000	$222,250
265	$26,500	$195,000	$5,000	$226,500
270	$27,000	$198,750	$5,000	$230,750
275	$27,500	$202,500	$5,000	$235,000
280	$28,000	$206,250	$5,000	$239,250
285	$28,500	$210,000	$5,000	$243,500
290	$29,000	$213,750	$5,000	$247,750
295	$29,500	$217,500	$5,000	$252,000
300	$30,000	$221,250	$5,000	$256,250
305	$30,500	$225,000	$5,000	$260,500
310	$31,000	$228,750	$5,000	$264,750
315	$31,500	$232,500	$5,000	$269,000
320	$32,000	$236,250	$5,000	$273,250
325	$32,500	$240,000	$5,000	$277,500
330	$33,000	$243,750	$5,000	$281,750
335	$33,500	$247,500	$5,000	$286,000
340	$34,000	$251,250	$5,000	$290,250
345	$34,500	$255,000	$5,000	$294,500
350	$35,000	$258,750	$5,000	$298,750
355	$35,500	$262,500	$5,000	$303,000

Number of Ports	Annual Port Fee	Annual Maint. Cost	Annual Member Fee	Total Annual Cost
360	$36,000	$266,250	$5,000	$307,250
365	$36,500	$270,000	$5,000	$311,500
370	$37,000	$273,750	$5,000	$315,750
375	$37,500	$277,500	$5,000	$320,000
380	$38,000	$281,250	$5,000	$324,250
385	$38,500	$285,000	$5,000	$328,500
390	$39,000	$288,750	$5,000	$332,750
395	$39,500	$292,500	$5,000	$337,000
400	$40,000	$296,250	$5,000	$341,250

The five cost areas covered in the charts on pages B-2 through B-7 are defined as follows.

A. Projected Growth and Demand

This section outlines the project's growth in number of libraries and the number of simultaneous users—"ports"—that could connect to the Common Platform at any given time, per year. It also begins to lay out an allocation formula that assigns a base of five ports to each Missouri academic library that participates in the Common Platform project.

B. Fund Match Requested

Section B lays out the anticipated cost for recurring maintenance and operations at a fifty percent level, to note that the State of Missouri's legislative appropriation would be needed to generate the funds for that section. The five-year total of those funds is $2,559,339. This figure is a match of funds contributed by the participant libraries.

C. Sample Funds Allocated By Libraries

This section lays out the aggregate costs for all participant libraries, by year, expressed as two figures: One is a match of the fifty percent contribution requested of the State, and the other is a cost of $5,000 per participant library per year for contribution to a membership fund.

D. Annual, Fixed, and Membership Costs

This section simply lists the three different costs: Annual Port Fee, Annual Maintenance Cost, and Membership.

E. Sample Costs: By Port

This financial section shows costs for all port allocations from five ports through 400 ports, with an incremental display from five though 50, and then by five-port increments to 400.

- Each library has a base of five ports or simultaneous users that can connect to the Common Platform.
- Each library or institution pays an Annual Port Fee toward Common Platform and MOBIUS operations and maintenance, with the fee set at $100 per user port, and with a lower limit of $2,500. Every library has at least a five port allocation.
- Each library also pays an Annual Maintenance Cost costs associated with its number of ports beyond the allocation of five ports. The Annual Maintenance Cost will range from about $600 to about $750 per port per year.

Assumptions Underlying Cost Estimates

In Sections A through C of the cost charts (page B-2), the financial estimates assume that the project will "ramp up" to include seventeen libraries in the first year, add eighteen in the second year, then nine, three, and three. All these sections include costs that represent the best estimate of financial impacts of adding libraries and the equipment and services needed to support their use of the Common Platform.

Two key assumptions lie in the cost tables: First is that the capital costs will be a State of Missouri legislative appropriation, at the level shown at the foot of the Total column in Section A, Appendix A, Page A-2.

Another assumption is that the costs shown in Section C, page B-2, assume that the State of Missouri and individual institutions will roughly split the ongoing operational costs, with some imbalance for institutions to create a pool of membership funding.

Estimating Recurring Annual Costs for Individual Libraries

The proposed library cost figures and calculations are intended to provide both some fixed costs (same for every library) and some that are proportional to use (larger libraries pay more, smaller libraries pay less). This section provides a review of cost elements. See pages B-3 through B-7 for institutional cost samples based on number of ports in use.

Usage costs:

1. **Annual port fee:** A CP annual charge, varying by number of simultaneous users from $2,500 to as much as $50,000 per year. The base cost is $100 per port, except that the bottom end of the fixed charge is $2,500. Every library receives at least five ports, and pays the minimum base of $2,500.

2. **Annual maintenance cost:** Support charges per port for six or greater ports, on an annual basis. Port maintenance costs for the Common Platform will depend on the number of ports and cost of maintenance of the system. Port maintenance costs for individual libraries are projected to range between about $600 and $750 per port per year. The following table uses an Annual Maintenance Cost estimated at the $750 level.

Equal costs:

3. **Membership:** $5,000 for MOBIUS membership annually, ensuring equality of participation

Frequently Asked Questions:
The Common Platform Project

Any thoughtful analysis of a complex project such as the Common Platform for Missouri academic libraries creates a very useful review of the project. What follows are some questions related to the Common Platform and some reactions or responses to those questions. This Frequently Asked Questions (FAQ) document will be updated from time to time.

Common Platform: Isn't it a step backward in technology? Don't standards and protocols exist to link library systems regardless of the hardware and software in use?

The Common Platform seeks to use technology to improve access to library materials on a statewide basis. Such access does not now exist for all academic institutions. A number of other states have shown that a Common Platform in academic libraries can provide very high utility at modest cost per transaction.

The Common Platform will certainly employ protocols, standards, and technology that create open networks connecting each Missouri academic library that participates. These open networks will support a number of resources, of which the Common Platform is just one such resource. Rather than being a step backward, the Common Platform extends the benefits of technology in a cost-effective manner to the broadest range of library patrons, while enhancing the value of existing library collections.

Won't technology such as Z39.50 or the Web replace the need for a common platform to achieve interoperability? Won't ILL software do the same thing?

The Z39.50 protocol, as promising as it might be, still does not address true interoperability. Z39.50 is a retrieval and display protocol and does not address borrowing, circulation, patron files, or Inter Library Loan (ILL). Further, there is a substantial concern that Z39.50 poses large and complex demands on local systems. See the following WWW page for a description of the complexities faced by some of the country's largest university libraries in attempting to use Z39.50 to achieve interoperability.

http://cedar.cic.net/cic/cli/veltech.html

The Common Platform will almost certainly support Z39.50 for some types of access, such as to electronic databases.

Use of WWW-based ILL scripts could mean that each of the more than 50 Missouri academic libraries would support a server running proxy connections to each separate local library system, each with Common Gateway Interface (CGI) code linking to the local circulation module in that system. Such WWW proxies might operate effectively, but they raise a large number of troubling questions:

- Library system vendors issue new software releases, frequently as often as twice per year. Might not every library have to update or modify its CGI code every time such a release is issued?

- Who develops and maintains the HTML forms? What are the implications of attaching proxies to systems that don't support CGI connectivity?

- What are the security implications of such a proxy system? Once a user gains access to the proxy WWW server, might it not be vulnerable to use as a "trojan horse" for hacking the library system server?

Any attempt to use Z39.50 or WWW to provide a full range of circulation functions is likely to be highly labor-intensive and prove difficult to guarantee consistency of output across all participating institutions. The Common Platform seeks to avoid these pitfalls, and instead aims to extend the benefits of a robust and integrated service to the largest possible user base.

Inter-Library Loan (ILL) modules might actually assist the Common Platform, and could be an excellent addition to the project's plans. Such software would permit borrowing and lending outside the MPALA consortium to be tracked with less cost and effort than in manual processes. The aim of the Common Platform, however, is to replace ILL for consortial lending with direct patron borrowing.

Server farm and regional collaboration: Won't a single computer site reduce regional initiatives and collaboration?

The Common Platform project should not impact regional or affinity group efforts to meet, to develop policies, undertake projects, and interact to improve library services to their patrons. A single server site should not have much effect on such regional collaboration.

In fact, the MOBIUS organization should almost certainly support and foster regional or affinity group development, as well as outreach to existing consortia to ensure communication and exchange of ideas and plans.

How dependent is this project on the MOREnet enhancements?

Much of the project's plan depends on the speed of the network. MOREnet is ordering and installing equipment and communications channels to increase network speeds dramatically.

Did the MPALA Request For Information (around which the CP cost factors were calculated) include all modules of what a vendor had to offer? What happens if my library has an additional need (i.e. Reserves) that is not covered by what the common library platform is offering?

The MPALA RFI (which is available at the CBHE offices) requested information and costs for integrated automated systems consisting of all modules including cataloging, authority, acquisitions, serials, OPAC, Web access, circulation.

In the Common Platform Request For Proposals (a purchasing document used to detail requirements and seek vendor responses), there will be a way that vendors will be able to propose add-ons.

Since bibliographic utilities such as OCLC have products that enhance interlibrary loan activity, how can we not look at such utilities as possible vendors?

Such products will likely be valuable for ILL access out of state, but such products from utilities do not exist to support direct patron borrowing. At present these products do not meet the state's specific needs, in that they do not currently check the local institution's shelf before allowing a transaction, they lack copy-specific shelf information, and they do not accommodate direct patron borrowing.

How are the participant library estimates (17 libraries for the first year, for example) determined?

The figures regarding potential participation were a "best estimate" based on library responses to the first of the surveys distributed to potential participants. No list of first-year CP participant libraries exists at this time, although the project has identified at least 40 libraries that expressed interest in the project and in being involved in it. We anticipate that more libraries will want to participate in succeeding years.

If the Common Platform proves to cost my institution more than we're currently paying, how can I justify a larger cost?

Libraries should focus on the benefits of the Common Platform and the enhanced access the CP will provide to millions of volumes held in Missouri academic libraries. We also need to consider future costs surrounding upgrades to our current systems, and replacement costs for new systems. If those costs (upgrade and replacement costs) are added to a library's existing maintenance costs, the Common Platform's costs over an extended period are very attractive.

How do I calculate my share of the recurring CP maintenance costs and MOBIUS membership?

The proposed library cost figures and calculations are intended to provide both some usage costs that are proportional to use (larger libraries pay more), and a cost that is equal for all participants. This latter cost is a membership fee.

Usage costs:

1. **Annual port fee:** A CP annual charge, varying by number of simultaneous users from $2,500 to as much as $50,000 per year. The base cost is $100 per port, except that the bottom end of the fixed charge is $2,500. Every library receives at least five ports, and pays the minimum base of $2,500.

2. **Annual maintenance cost:** Support charges per port for six or greater ports, on an annual basis. Port maintenance costs for the Common Platform will depend on the number of ports and cost of maintenance of the system. Port maintenance costs for individual libraries are projected to range between about $600 and $750 per port per year. The following table uses an Annual Maintenance Cost estimated at the $750 level.

Equal costs:

3. **Membership:** $5,000 for MOBIUS membership annually, ensuring equality of participation

The following table illustrates the annual cost for each port configuration up to 50 ports. Beyond 50 ports the table shows costs in five-port increments. For the illustrative table, $750 per year has been used as the Annual Maintenance Cost per port, but this per port cost will vary by year as explained above.

Number of Ports	Annual Port Fee	Annual Maintenance Cost	Annual Membership Fee	Annual Total Cost
1-5	$2,500	$0	$5,000	$7,500
6	$2,500	$750	$5,000	$8,250
7	$2,500	$1,500	$5,000	$9,000
8	$2,500	$2,250	$5,000	$9,750
9	$2,500	$3,000	$5,000	$10,500
10	$2,500	$3,750	$5,000	$11,250
11	$2,500	$4,500	$5,000	$12,000
12	$2,500	$5,250	$5,000	$12,750
13	$2,500	$6,000	$5,000	$13,500
14	$2,500	$6,750	$5,000	$14,250
15	$2,500	$7,500	$5,000	$15,000
16	$2,500	$8,250	$5,000	$15,750
17	$2,500	$9,000	$5,000	$16,500
18	$2,500	$9,750	$5,000	$17,250
19	$2,500	$10,500	$5,000	$18,000
20	$2,500	$11,250	$5,000	$18,750
21	$2,500	$12,000	$5,000	$19,500
22	$2,500	$12,750	$5,000	$20,250
23	$2,500	$13,500	$5,000	$21,000
24	$2,500	$14,250	$5,000	$21,750
25	$2,500	$15,000	$5,000	$22,500
26	**$2,600**	**$15,750**	**$5,000**	**$23,350**

Number of Ports	Annual Port Fee	Annual Maintenance Cost	Annual Membership Fee	Annual Total Cost
27	$2,700	$16,500	$5,000	$24,200
28	$2,800	$17,250	$5,000	$25,050
29	$2,900	$18,000	$5,000	$25,900
30	$3,000	$18,750	$5,000	$26,750
31	$3,100	$19,500	$5,000	$27,600
32	$3,200	$20,250	$5,000	$28,450
33	$3,300	$21,000	$5,000	$29,300
34	$3,400	$21,750	$5,000	$30,150
35	$3,500	$22,500	$5,000	$31,000
36	$3,600	$23,250	$5,000	$31,850
37	$3,700	$24,000	$5,000	$32,700
38	$3,800	$24,750	$5,000	$33,550
39	$3,900	$25,500	$5,000	$34,400
40	$4,000	$26,250	$5,000	$35,250
41	$4,100	$27,000	$5,000	$36,100
42	$4,200	$27,750	$5,000	$36,950
43	$4,300	$28,500	$5,000	$37,800
44	$4,400	$29,250	$5,000	$38,650
45	$4,500	$30,000	$5,000	$39,500
46	$4,600	$30,750	$5,000	$40,350
47	$4,700	$31,500	$5,000	$41,200
48	$4,800	$32,250	$5,000	$42,050
49	$4,900	$33,000	$5,000	$42,900
50	$5,000	$33,750	$5,000	$43,750
55	**$5,500**	**$37,500**	**$5,000**	**$48,000**
60	$6,000	$41,250	$5,000	$52,250
65	$7,800	$54,750	$5,000	$67,550
70	$7,000	$48,750	$5,000	$60,750
75	$7,500	$52,500	$5,000	$65,000
80	$8,000	$56,250	$5,000	$69,250
85	$8,500	$60,000	$5,000	$73,500
90	$9,000	$63,750	$5,000	$77,750
95	$9,500	$67,500	$5,000	$82,000
100	$10,000	$71,250	$5,000	$86,250
105	$10,500	$75,000	$5,000	$90,500
110	$11,000	$78,750	$5,000	$94,750
115	$11,500	$82,500	$5,000	$99,000
120	$12,000	$86,250	$5,000	$103,250

Number of Ports	Annual Port Fee	Annual Maintenance Cost	Annual Membership Fee	Annual Total Cost
125	$12,500	$90,000	$5,000	$107,500
130	$13,000	$93,750	$5,000	$111,750
135	$13,500	$97,500	$5,000	$116,000
140	$14,000	$101,250	$5,000	$120,250
145	$14,500	$105,000	$5,000	$124,500
150	$15,000	$108,750	$5,000	$128,750
155	$15,500	$112,500	$5,000	$133,000
160	$16,000	$116,250	$5,000	$137,250
165	$16,500	$120,000	$5,000	$141,500
170	$17,000	$123,750	$5,000	$145,750
175	$17,500	$127,500	$5,000	$150,000
180	$18,000	$131,250	$5,000	$154,250
185	$18,500	$135,000	$5,000	$158,500
190	$19,000	$138,750	$5,000	$162,750
195	$19,500	$142,500	$5,000	$167,000
200	$20,000	$146,250	$5,000	$171,250
205	$20,500	$150,000	$5,000	$175,500
210	$21,000	$153,750	$5,000	$179,750
215	$21,500	$157,500	$5,000	$184,000
220	$22,000	$161,250	$5,000	$188,250
225	$22,500	$165,000	$5,000	$192,500
230	$23,000	$168,750	$5,000	$196,750
235	$23,500	$172,500	$5,000	$201,000
240	$24,000	$176,250	$5,000	$205,250
245	$24,500	$180,000	$5,000	$209,500
250	$25,000	$183,750	$5,000	$213,750
255	$25,500	$187,500	$5,000	$218,000
260	$26,000	$191,250	$5,000	$222,250
265	$26,500	$195,000	$5,000	$226,500
270	$27,000	$198,750	$5,000	$230,750
275	$27,500	$202,500	$5,000	$235,000
280	$28,000	$206,250	$5,000	$239,250
285	$28,500	$210,000	$5,000	$243,500
290	$29,000	$213,750	$5,000	$247,750
295	$29,500	$217,500	$5,000	$252,000
300	$30,000	$221,250	$5,000	$256,250
305	$30,500	$225,000	$5,000	$260,500
310	$31,000	$228,750	$5,000	$264,750

Number of Ports	Annual Port Fee	Annual Maintenance Cost	Annual Membership Fee	Annual Total Cost
315	$31,500	$232,500	$5,000	$269,000
320	$32,000	$236,250	$5,000	$273,250
325	$32,500	$240,000	$5,000	$277,500
330	$33,000	$243,750	$5,000	$281,750
335	$33,500	$247,500	$5,000	$286,000
340	$34,000	$251,250	$5,000	$290,250
345	$34,500	$255,000	$5,000	$294,500
350	$35,000	$258,750	$5,000	$298,750
355	$35,500	$262,500	$5,000	$303,000
360	$36,000	$266,250	$5,000	$307,250
365	$36,500	$270,000	$5,000	$311,500
370	$37,000	$273,750	$5,000	$315,750
375	$37,500	$277,500	$5,000	$320,000
380	$38,000	$281,250	$5,000	$324,250
385	$38,500	$285,000	$5,000	$328,500
390	$39,000	$288,750	$5,000	$332,750
395	$39,500	$292,500	$5,000	$337,000
400	$40,000	$296,250	$5,000	$341,250

Missouri's Academic Libraries and Their Automated Futures

The Common Platform:
A strategy for improving library efficiency and patron service

Introducing the Common Platform and its Benefits

A shared computerized library system for Missouri's colleges and universities is being planned as part of a project called the Common Platform. The Common Platform (or CP) will provide a number of benefits to Missouri's academic libraries and their patrons:

Service delivery improvements—

- Sharply improved access to the 13 million items in Missouri's academic libraries
- Enhanced patron services through direct borrowing, with lower transaction costs
- Support for other services: electronic indexes, databases, and electronic document delivery
- Resource-sharing of primary library materials

Administrative/management benefits—

- Cost-effective computer and networking investment
- Enhanced value of taxpayer-funded investment through higher utilization of materials
- Improved research and faculty services; improved retention of faculty and students
- Cost savings for libraries planning to upgrade their systems; an alternative to full purchase

The Common Platform: Background and Future

The Common Platform will share an automated system among all participating academic libraries in Missouri, whether public, private, two-year or four-year. The CP strategy has been developed by the Missouri Public Academic Library Administrators (MPALA) and the Council on Public Higher Education (COPHE).

Similar plans in other states have shown substantial benefits to faculty and students. A consortium of user libraries, called Mobius, will support and administer the CP.

The CP will permit every academic library in Missouri to connect to a single state-wide database and provide direct services to patrons, including search, retrieval, and lending—all conducted directly by the patron.

The CP and MOREnet

The CP will employ the Missouri Research and Education Network (MOREnet) Internet computer network to link from a central site to every participating academic library in the State of Missouri. Libraries not connected to MOREnet can also participate if they have an Internet connection.

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CP Services for Libraries and Patrons

The CP will provide all the primary modules libraries employ in managing and accessing their materials:

- Public access module for searching the catalogs
- Cataloging module
- Purchasing module that will support library acquisitions in an electronic mode
- Inventory control module that will permit circulations to be linked to the catalog and to individual patrons.

There will be other library support services available, too, including a module for managing periodical publications, support for standardized indexes as authority-controlled access terms, World Wide Web access and support, and connectivity to other resources and electronic databases (Z39.50- compliant to meet international library computing and networking standards).

The CP: when will we see it?

The Missouri Coordinating Board for Higher Education (CBHE) has developed a request for funding for approval by the Missouri Legislature and the Governor, targeted to go to the Legislature in early 1998. The CP development process will begin immediately following those approvals.

The Common Platform will go into service as soon after October 1, 1998, as possible, with mid-1999 as a probable target date. A phased approach will be used in implementing the CP, with full implementation likely to take several years.

How much will the CP cost, and who pays?

The total anticipated CP cost over five years is about $15.2 million. MPALA, COPHE, and CBHE believe that the CP's costs will be partially offset by sharply reduced unit costs for interlibrary lending between the CP's Mobius members.

The current plan is to seek approximately $3 million per year for five years to fund the one-time purchase and startup costs of the CP, and to fund
50 percent of the CP's operations costs.

Individual participating libraries will be asked to pay the other 50 percent of the maintenance and operations budget. The planned costs for individual libraries will include a fixed annual cost for every participant, and a sliding scale of costs, with larger libraries paying more and smaller ones less.

Operating and managing the CP

The proposed method of housing the CP equipment and software will involve a "server farm" made up of several server computers and the software and databases needed to make the CP function. Using a single computer site offers the best combination of access, network speed, and lower personnel cost.

A small operations staff will maintain the computers and software, and will troubleshoot equipment. As individual libraries affiliate with the CP project, their information will be added to the databases housed on the CP.

Management and governance of the CP

In addition to Mobius' operations staff, there will be a small executive and management staff to oversee the project. Staff will support the libraries affiliated with the CP project, which will become members of the Mobius consortium. Mobius will be a member-governed organization.

Current status and next steps: Where's the CP plan now?

The CP project is now in the development stage, including seeking legislative funding. Much of the planning work regarding definition, goals and objectives, and proposed schedule is complete.

By early 1998, MPALA, COPHE, and CBHE hope to have initial approval and legislative support for one of the most exciting library service programs ever developed in Missouri.

How can I stay informed? Participate? Help my library affiliate with the CP?

MPALA provides a WWW site with current news, meetings and scheduled events, and details regarding the CP project. See:

http://merlin.missouri.edu/mobius/

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