

CONSULTANT'S REPORT

ON

**IMPLEMENTATION OF THE
FLORIDA ELECTRONIC LIBRARY**

FOR THE

FLORIDA LIBRARY NETWORK COUNCIL (FLNC)

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RMG Consultants, Inc.

RMG Information Consultants Pty Ltd
464 Dandenong Road
North Caulfield, Victoria, AUS 3161
Voice: 03 9 509 7822
Fax: 039 509 7822
rmggp@ozemail.com.au

RMG Central Office
900 North Franklin St., Ste. 709
Chicago, IL 60610
Voice: 312-321-0432
Fax: 312-321-9594
rmg@rmgconsultants.com

PREFACE

The purposes of this Consultant's Report are to:

- Review the proposed components of the Florida Electronic Library and recommend implementation of initial components.
- Provide estimated one-time and ongoing costs for implementation of the recommended initial components of the Florida Electronic Library.

1 INTRODUCTION

On July 24, 2002, the Florida Library Network Council (FLNC) adopted the Florida Virtual Library Plan for Statewide Implementation.

This plan was the outcome of the strategic planning process conducted with a Planning Team of representatives of Florida libraries, representatives of the Division of Library and Information Services, the Florida Library Network Council, and the Northeast Florida Library Information Network (acting as fiscal agent for the project).

The strategic planning process resulted in the definition of key components of the Florida Virtual Library, which is now referred to as the Florida Electronic Library.

These components are:

- A Web-based portal whose public interface allows users to search for and retrieve information from a number of different resources, including library catalogs, licensed databases, state and local government agency sites, and local digital archives.
- Statewide licensing of commercially provided online databases to allow all Florida residents to search for and retrieve information from licensed sites via the Web.
- The virtual union catalog of the digital bibliographic records that represent the holdings of Florida libraries.
- A centralized statewide interlibrary loan management system, which interoperates with the portal and union catalog and allows users to request materials associated with records retrieved from the union catalog and allows the electronic tracking of requests and materials.
- The virtual statewide borrower's card -- possible through the combined capabilities of the portal, the union catalog, and the ILL management system -- that provides for reciprocal borrowing and user privileges based on a user's relationship with a "home" Florida library.

The statewide licensed database component is in place, the result of negotiations with database providers under state contract and the selection of the Gale Group to provide access to a select group of products for all Florida residents.

The Plan for Statewide Implementation included the following goals for the various components of the Florida Electronic Library:

STRATEGIC GOALS FOR FLORIDA ELECTRONIC LIBRARY

Statewide Licensed Databases

- Goal 1: Identify potential online database products of interest to greatest number of users statewide.
- Goal 2: Negotiate license(s) with one or more providers of online database products for access by all users statewide.

Portal

- Goal 1: Implement a portal product.
- Goal 2: Create uniform Web site and user interface.
- Goal 3: Determine content to be accessible/searchable via portal.

Virtual Union Catalog

- Goal 1: Implement the Virtual Union Catalog as a component of the FVL portal.
- Goal 2: Normalize target databases/online catalogs.

Interlibrary Loan

- Goal 1: Implement a standards-based ILL management system.
- Goal 2: Implement the ILL system to interoperate with the portal and virtual union catalog.
- Goal 3: Provide physical and electronic delivery of materials.
- Goal 4: Refine, promote, and enforce statewide ILL policies and procedures.
- Goal 5: Define concept of Virtual Borrower's card as function of the Virtual Union Catalog and statewide ILL system.

Local Digital Content

- Goal 1: Develop, promote, and support recommended standards for digital content creation and access to it.
- Goal 2: Identify and provide access to existing online digital resources of interest.
- Goal 3: Identify potential digital resources and prioritize possible digitization projects.

RMG believes that is appropriate for FLNC to review these goals, to affirm the concept of the Florida Electronic Library and its key components, and to proceed with the next phase of implementation based on the original recommendations of the Plan for Statewide Implementation and other recommendations made here.

For purposes of review, these are the recommendations made in the original Plan for Statewide Implementation:

- That Florida move forward immediately with implementation of the Florida Virtual Library, establishing funding for components defined, defining projects and processes for implementation, prioritizing and scheduling implementation of components, and developing policies and procedures associated with services that will be part of the Florida Virtual Library information environment;
- That the Web portal component be implemented first, since many of the content resources and the infrastructure and backbone are already in place;
- That Florida take advantage of the opportunity to build a standards-based statewide ILL system and make it a key part of the second wave of implementation;
- That policy and consensus-building efforts focus on statewide database licensing, statewide library borrower's card, and reciprocal borrowing mechanisms as critical to implementation of a viable statewide resource sharing system; and
- That development and definition of policies that will be critical to the success of the project -- policies for ILL, privacy, digital library projects, and patron authentication -- begin immediately.

Since the Plan for Statewide Implementation and these recommendations were adopted, a lot has happened in Florida, and a number of events may have influenced the original goals and proposed outcomes for implementation of the Florida Electronic Library. Some of the key events are:

- The successful demonstration by OCLC of the Florida-only view of WorldCat, the union bibliographic database of member libraries' holdings
- The study and assessment of state-funded pilot projects of potential Florida Electronic Library components by the FSU Information Use Management and Policy Institute and lead researchers John Carlo Bertot and Charles H. McClure.

- The selection of Ex Libris (USA) to provide integrated library system and portal software to the libraries of the state university system and state community college system and the resulting agreement allowing other libraries to use the terms and conditions to purchase software licenses.

RMG proposes that FLNC review the original recommendations of the Plan for Statewide Implementation and, in the context of events in the state since adoption of the plan, consider these recommendations for proceeding with the next stages of implementation of the Florida Electronic Library.

Recommendation: Portal and Virtual Union Catalog

The statewide portal is the next logical component of the Florida Electronic Library for implementation; RMG notes that the statewide licensed database project was implemented first because funding was available and that the vendor, Gale Group, was heavily relied on to provide features and capabilities in lieu of the availability of a statewide portal.

RMG recommends that the combined features of the statewide portal and virtual union catalog be implemented on a pilot or proof of concept basis, and that the Ex Libris MetaLib product be the basis for the test implementation.

Recommendation: Interlibrary Loan Management System

The availability of a union catalog of the holdings of all Florida libraries is expected to generate requests for materials represented in the union catalog and an overall increase in interlibrary loan throughout the state. A centralized ILL management system would facilitate handling the increased traffic, and could reduce the burden on staff at individual libraries to manage and track ILL requests and transactions.

RMG recommends that consideration be given to implementation of a centralized statewide ILL management system as the next step after portal implementation. RMG notes that when the Virtual Union Catalog is implemented, traditional ILL mechanisms in place in Florida will be used for some period of time. Use may show that traditional ILL is sufficient to accommodate the activity generated by the Virtual Union Catalog.

Technology Costs

The costs shown here for the virtual union catalog/portal and ILL management system were provided by vendors of specific products considered appropriate by RMG based on experience developed through its practice in the industry.

Costs for ILL systems were provided by vendors that responded to a Request for Information issued on behalf of the project.

These costs are for planning purposes, intended to provide guidance for strategic decisions about direction with some basis for assessing financial implications. The costs are provided by vendors as a courtesy, who understand that quoted costs are not intended to be the basis for selection or rejection of a given vendor, product, or technology. FLNC should be aware that if the same ILL products described here were to be evaluated in a competitive procurement process, proposals would be specific to more detailed requirements and costs would be competitive and possibly lower.

Portal and ILL products could be provided on an outsourced basis, the application service provision (ASP) model in which the technology is provided by a vendor of a licensed software product as a service.

The product vendor would maintain the desired system configuration at a site designated by the vendor, and the designated fiscal agent would contract for system services on an ongoing basis. Vendors proposing this service typically require a minimum three-year contract for service.

The ASP model would utilize the Internet as the means of connection from Florida libraries and from remote locations to the host site.

2 VIRTUAL UNION CATALOG AND PORTAL

This section presents recommendations for implementation of a portal product that would also function as the statewide Virtual Union Catalog.

The portal, or centralized online gateway, would provide the unifying point of access to the variety of online electronic resources that are available through the Florida Electronic Library, including the statewide union catalog, statewide ILL system, licensed databases, locally-created and/or locally-hosted databases, state and local government resources, and educational resources.

The portal will also allow end-users to create persistent individualized or personalized versions of the user interface (the "my library" concept) that can be accessed and modified by users.

The portal would function as a search engine, especially for resources in which access points are based on metadata formats such as Dublin Core or MPEG or on meta tags associated with HTML coding of Web sites.

The statewide virtual union catalog would be created by linking local integrated library systems and regional catalogs; the inclusion in the set of targets of OCLC WorldCat, particularly if the Florida-only view is made available, should be explored.

These various systems could be linked by using the portal's centralized search engine to conduct broadcast searches via the Internet using the NISO Z39.50 search and retrieval protocol or other method.

The portal's Z39.50 gateway would provide a Web-browser based interface for end-users and links to identified servers for purposes of providing access to individual online catalogs to retrieve item-specific information from local databases.

The portal would also allow for incorporation in retrieved bibliographic record displays in the virtual union catalog of "enhanced catalog" content, including jacket art, tables of contents, reviews, and other information provided by vendors on a subscription basis.

A number of different portal products have been implemented in Florida, and the products are characterized by a range of functionality, capabilities, and features, as described by Bertot and McClure in Florida Electronic Library: Pilot Project Functionality Assessment.

In addition to existing implementations, another portal products is being installed in Florida, the MetaLib product sold by Ex Libris (USA), Inc. The libraries of the state university system and

the state community college system are installing the Ex Libris Aleph integrated library system, and both groups have licensed MetaLib and its component module SFX as part of the application software package.

Because of the terms and conditions under which the Ex Libris products were selected and licensed, there is the equivalent of a "state contract" for Ex Libris products; any publicly-supported library in the state can purchase Ex Libris products under the same terms and conditions that govern the university and community college system purchase.

Representatives of Ex Libris have offered MetaLib/SFX as a statewide portal solution, and have proposed a one-year pilot implementation of MetaLib on a limited basis involving 10 to 15 public libraries. The pilot implementation would be intended as a proof of concept to refine MetaLib and SFX to meet Florida Electronic Library requirements, and would be provided on an ASP basis; Ex Libris proposes to operate the pilot for a one-time cost of \$50,000.

RMG recommends that Florida conduct a one-year trial implementation of MetaLib/SFX to demonstrate the proof of concept of the Florida Electronic Library and to test the Ex Libris software in a production environment.

Critical elements of the portal test would be use of NISO Z39.50 search and retrieval protocols (and associated US National Profile) to create the statewide Virtual Union Catalog and the ability of the Ex Libris software to accommodate user authentication modeled either on the authentication scheme used by Gale Group for licensed database access or on another scheme, such as one based on or involving the NISO Circulation Interchange Protocol (Z39.83).

Table 2-1 shows the costs quoted by Ex Libris to conduct the one-year proof of concept; Table 2-2 shows the costs to expand the project to a statewide basis and to fully license MetaLib and SFX.

TABLE 2-1
COSTS FOR EX LIBRIS METALIB PORTAL SOFTWARE
PILOT IMPLEMENTATION

<u>Category</u>	(1)	(2)
(1) One-Time Cost		0
(2) Ongoing Annual Cost		50,000
(4) Number of users configured		10-15 public libraries

TABLE 2-2
COSTS FOR EX LIBRIS METALIB PORTAL SOFTWARE
FULL STATEWIDE IMPLEMENTATION

	(1)	(2)
<u>Category</u>		<u>Cost (\$)</u>
(1) One-Time Costs		
(1.1) MetaLib with 1 instance of SFX		301,421
(1.2) Oracle (embedded)		19,592
(1.3) Implementation services		9,000
(1.4) TOTAL		330,013
(2) Ongoing Annual Costs		
(2.1) Metalib/SFX maintenance		45,213
(2.2) Oracle maintenance		3,723
(2.3) KnowledgeBase service		30,142
(2.4) TOTAL		79,078
(3) Software warranty period (years)		0.25
(4) THREE-YEAR COST		548,408

3 INTERLIBRARY LOAN MANAGEMENT SYSTEM

This section provides estimates of costs for implementation of an interlibrary loan management and document delivery system that would be shared by all Florida libraries.

An electronic interlibrary loan/document delivery (ILL) component is required as an adjunct to or component of the Virtual Union Catalog.

ILL will be based on access to and information about the holdings of libraries represented in the Virtual Union Catalog; some form of interface or interoperability between the Virtual Union Catalog and ILL system is required for ease of use and efficient operation. In addition, some form of interface or interoperability between the Florida Electronic Library Portal and the ILL system is required.

The Interlibrary Loan System will work in conjunction with the Virtual Union Catalog, and also interface with local integrated library systems for purposes of authentication/identification of users, obtaining item-level status information, as appropriate, and conducting circulation-related transactions, as appropriate.

To provide some guidance to vendors in developing cost information in response to the RFI, the following assumptions were stipulated:

- The ILL system would be a statewide system for use by all Florida libraries interested in participating. However, the ILL component would be initially implemented on a pilot basis, involving ten to twelve libraries as initial participants. In presenting costs, vendors were asked to show this initial phase as one set of costs and full statewide implementation as an additional set of costs.
- For a system not provided on an ASP basis, the central site equipment and software would be hosted by an institution, yet to be determined, located within Florida that operates a data processing center.
- The desirable method of connection to and communication with the system or service by both library staff users and patrons in libraries and at non-library locations is the Internet.
- Patron-initiated requests should be possible but not required.

Vendors of standards-based ILL managements systems provided cost and other information in response to an informal, non-binding Request for Information (RFI) issued on behalf of the project.

Vendors' quotations presented here are intended to serve as representative cost models for ILL systems believed to be generally suitable for the Florida Electronic Library, based on perceived high-level functional requirements. A vendor's characterization in a cost model is not intended as a recommendation for purchase.

Three vendors provided responses to the RFI issued for the project; the vendors are Dynix Corporation, Fretwell-Downing, Inc., and OCLC.

Dynix proposed its ISO-compliant product URSA 3.0, a combination of the former URSA and RSS products. The URSA software would be provided on an ASP, hosted at a Dynix facility. The Dynix ILL system pricing also includes a front-end search engine, the Horizon Information Portal, and NCIP software. The URSA software also includes OCLC links, presumably for transmission of requests to OCLC. For pricing purposes, Dynix assumes that in the pilot implementation 12 library organizations comprising 30 separate sites would participate, and that each of the 12 organizations would generate an average of 12,500 requests per year. Dynix also assumes for pricing purposes that six organizations would require mapped circulations links (that is, non-NCIP connections) to local systems. Libraries with local systems that are NCIP compliant would not require special software.

For full statewide implementation, Dynix assumes the addition of 32 library organizations that would generate an additional 370,000 requests per year. It is not clear how Dynix arrived at this final count of libraries. Dynix assumes the addition of 16 non-NCIP systems, and adds another three OCLC links

Fretwell-Downing, an affiliate of a British company, proposed its ISO-compliant product VDX (Virtual Document eXchange), an ILL system that includes a front-end search engine, Discovery Web, described as gateway software. VDX operates on a number of platforms; operating system environments include UNIX and Microsoft Windows 2000; the database management environment is Oracle. Fretwell-Downing proposed that pilot implementation be hosted within the state. Fretwell-Downing does not sell hardware and did not include hardware costs, but estimates the hardware costs for pilot implementation at \$45,000 one-time and \$9,000 annual maintenance. Fretwell-Downing also proposed an ASP solution for the pilot implementation, and proposed that full implementation be provided on an ASP basis.

OCLC, the Online Computer Library Center known primarily as a bibliographic utility and membership organization, proposed its ILL service based on its ISO-compliant ILL subsystem. OCLC based pricing for the pilot implementation on participation by six academic libraries and six public libraries “that use the OCLC ILL service most heavily;” if the mix is different, or if more than 12 libraries participate in the pilot, OCLC will revise the pricing based on participation. Pricing is for unlimited use, including access and user support fees; however, if non-member libraries participate in the pilot, those libraries will be required to join SOLINET if they are not somehow affiliated with an organization that now belongs to SOLINET. OCLC estimates SOLINET membership at \$250 per year.

For the expanded statewide implementation, OCLC again proposed its ILL service on an unlimited basis, with the same conditions as for the pilot. In its response, OCLC noted that “Florida libraries current OCLC ILL activity is approximately \$1.15 million and is included in this unlimited ILL quote.”

As an additional option, OCLC offered to provide its ILLiad system to larger libraries that conduct 1,000 or more borrows per year. ILLiad pricing is scaled based on number of annual ILL requests, number of locations, and OCLC membership status. ILLiad hosting by Atlas Systems, Inc. is also offered

OCLC noted in its response that a new staff interface planned for FirstSearch WorldCat will allow ILL staff to produce ILL requests in WorldCat. The interface will allow staff at libraries to search, display holdings, enter lender strings, and add constant data. The new interface is planned for August 2003.

Table 3-1 presents costs from vendors for the proposed pilot implementation of an ILL management system; Table 3-2 shows the costs for full statewide implementation.

**TABLE 3-1
COSTS FOR INTERLIBRARY LOAN MANAGEMENT SYSTEM, PILOT IMPLEMENTATION**

(1)	(2)	(3)	(4)	(5)
	Dynix ASP	Fretwell-Downing Software Only	Fretwell-Downing ASP	OCLC
	\$	\$	\$	\$
ONE-TIME COSTS				
(1) Central processing hardware	--	--	--	--
(2) Applications software	118,000	95,000	95,000	--
(3) Other costs	0	27,100	20,600	--
(4) Total purchase price	118,000	122,100	115,600	0
ONGOING ANNUAL COSTS				
(5) Central processing hardware maintenance	--	--	--	--
(6) Applications software maintenance	17,700	23,750	23,750	523,415
(7) Other costs	0	1,200	30,000	--
(8) Total system maintenance	17,700	24,950	53,750	523,415
CHARACTERISTICS				
(9) Number of users configured	12	10-12	unlimited	12
(10) Software warranty period (years)	1	0.25	0.25	1
(11) Central site hardware warranty period (years)	--	--	--	1

**TABLE 3-2
COSTS FOR INTERLIBRARY LOAN MANAGEMENT SYSTEM, FULL IMPLEMENTATION**

(1)	(2)	(3)	(4)
	Dynix ASP	Fretwell-Downing ASP	OCLC
	\$	\$	\$
ONE-TIME COSTS			
(1) Central processing hardware	--	--	--
(2) Applications software	281,000	125,000	--
(3) Other costs	0	15,600	--
(4) Total purchase price	281,000	140,600	0
ONGOING ANNUAL COSTS			
(5) Central processing hardware maintenance	--	--	--
(6) Applications software maintenance	42,150	55,000	1,268,105
(7) Other costs	0	42,500	--
(8) Total system maintenance	42,150	97,500	1,268,105
(9) THREE-YEAR COST	365,300	419,350	3,804,315
CHARACTERISTICS			
(10) Number of users configured	32	400-500	unlimited
(11) Software warranty period (years)	1	0.25	--
(12) Central site hardware warranty period (years)	--	--	--

4 HOSTING OF KEY FLORIDA ELECTRONIC LIBRARY COMPONENTS

If the Ex Libris proposal to provide the virtual union catalog/portal implementation for the first year of a pilot is accepted and the pilot is successful, the continuation of the project will require a decision about hosting and administration of the software. Ex Libris could continue to host the MetaLib software, or implementation could be moved to Florida to an agency or organization within the state capable of and interested in providing the services.

The same issues hold for the ILL management system; if a system is implemented on a pilot basis for a year and is successful, the continuation will require a decision to continue getting the system as a service on an ASP basis (if that's how it's implemented initially) or moving the software to a Florida location, if it's not already at one.

If the Ex Libris MetaLib software were to be hosted in Florida after the initial pilot implementation, a server and other hardware and related equipment should be purchased for dedicated operation of the software. The MetaLib software can operate on Linux or Sun Solaris Unix platforms; RMG estimates the costs for a dedicated Sun Solaris server that would support statewide implementation of the software at \$75,000, as shown in Table 4-1.

The costs to host the software could include space, staff, and utilities (in aggregate, hosting), system management and administration, and system staging, set-up, and design, including network connections and user interface. While costs for these services are impossible to predict, RMG recommends that the cost estimates shown in Table 4-1 be used as guidelines in negotiating hosting services.

**TABLE 4-1
ESTIMATED COSTS FOR HOSTING
FLORIDA ELECTRONIC LIBRARY TECHNOLOGY**

(1) Item	(2) One-Time Cost (\$)	(3) Annual Cost (\$)
(1) Hardware for Ex Libris MetaLib	75,000	25,000
(2) Hosting		24,000
(3) Management/administration		5,000
(4) System set-up, design	5,000	<u>5,000</u>
(5) TOTAL	80,000	59,000

Notes for Table 4-1:

(a) Line 1, column 3: Equipment replacement fund; one-third of purchase price for three years.