



Smart Libraries™

Formerly Library Systems Newsletter™

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Smarter Libraries through Technology

by Marshall Breeding

Looking Toward the Future, Letting Go of the Past

Libraries have gone through incredible changes over the past few years, and it seems like the cycles of change will turn even faster in the future. Of course, the kinds of change depend on the type of library. The transformation of collections from print to electronic media, increasing involvement with digitization of local library materials and the development of new services to accommodate new generations of library users represent some of the many classes of change that impact libraries today.

I'm keenly interested in the how technology supports the missions of libraries, and how librarians can find the best match for their library's requirements among the products and services available. Today, libraries need a very different type of automation support for their operations than they did in the past.

It seems to me that many libraries struggle to find ways to apply technology products that they might have acquired some years ago because their operations have changed so much since those products were originally created. It seems like the automation products available for libraries have consistently lagged behind the curve when it comes to the technological changes that have played out in larger society. As a small niche of the information technology industry, it's not surprising that library technology isn't out on the cutting edge. But the conservative nature of libraries seems to hold us back in making bold moves in technology that might help us carry out our work more effectively. The library technology arena constantly battles to catch up with changes that have already been accepted and adopted in other IT sectors.

Discovery systems are an excellent example of how libraries struggle to keep up. Traditional library catalogs persisted as the primary end-user search interface long after new approaches developed on the broader Web. The approaches that emerged on the web were far more powerful and easier to use. Since around 2006, a number of products have been developed that offer libraries a much more modern approach to providing access to their collections and services on the Web. While hundreds of libraries have implemented one of these new discovery-layer products, the vast majority of libraries continue to rely on older generation online catalogs. There seem to be many barriers that stand in the way of libraries keeping up with the times in the way that they use technology. For many, the costs of new

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technology exceed the funds available or lack the technical expertise on hand to move forward quickly. Others may not see the advantages offered by new technology products and are waiting for other approaches to develop that are more in line with their expectations, and some are waiting for the current products to mature.

Also factoring into this issue is the fact that different vendors offer competing approaches to the development of library technology products. As think about the history of library automation—especially in the realm of integrated library systems—the evolutionary approach has prevailed as the norm. In broad strokes, I see that most library technology products that have evolved over long periods of time. Only a few that have taken a more revolutionary approach, attempting to solve library automation issues in substantially new ways. Most of the ILS products in use today have seen steady evolution, some for many decades. The July 2008 issue of SLN, for example, outlined the longest evolutionary path, that of Uricia in the 1970's to the ILS known as Spydus today. Similar histories lie behind the path from INNOVAQ to INNOPAC to Millennium and Encore from Innovative Interfaces and in the progression of SirsiDynix Unicorn to Symphony.

Against this apparent preference for evolved systems, it's relatively rare for new systems to emerge that depart from the established path. It's been a far safer business approach to attempt to reshape a system gradually than to launch an entirely new product without the constraints of existing features and code, arguably based on outdated concepts and architectures.

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library systems. Among the systems that I would place into this category are Unified Resource Management, being developed by Ex Libris and Quali OLE, an open source project led by Indiana University, under the umbrella of the Quali Foundation, funded by the Andrew W. Mellon Foundation. In their respective proprietary and open source approaches, these two projects both aim to provide a new technology platform based on the current realities libraries face, especially the fundamental shift toward the dominance of electronic content instead of print. Likewise, OCLC's Web-scale Management Services makes a fairly drastic departure in the way that automation support takes place in the library, obviating the need for a local ILS.

In this issue of *Smart Libraries Newsletter*, we take a look at the progress of Ex

Libris in the development of its Unified Resource Management framework. As a major research and development effort coming out of the largest company in the industry focused on research and academic libraries, this product, will be of major interest to the library community.

We have recently covered the progress of OCLC's Web-scale Management Services; in an upcoming issue, we'll turn to the Quali OLE project. In an industry where evolutionary systems dominate, such revolutionary systems face an uphill climb. It's this dynamic that makes the current era of library automation interesting. Libraries have more choices than ever before—not only among different vendor choices for an ILS, but for open source alternatives, and now for emerging technology platforms based on new conceptual models.

Ex Libris Marks Progress in Developing URM

Ex Libris continues to make progress on the development of its next-generation library management platform called Unified Resource Management, or URM. This product, which was developed as the company's long-term strategic library automation platform, continues in the research and development stage, with expected release at the beginning of 2012. Although the product is still some time away from general availability, it has progressed from the proof-of-concept prototypes to a functional model. Though preliminary, some versions have been made available to development partner libraries for testing and assessment.

Broad Product Strategy

Ex Libris positions URM not as a new integrated library system, but as a new framework that addresses the requirements of academic and research libraries in substantially different ways. In this article, we will examine some of the basic concepts of URM and provide an update on the company's progress in its development.

In broad terms, Ex Libris' product strategy consists of two layers, unified resource discovery and delivery (URD²) for library users, and unified resource management that addresses the automation needs for the internal library operations. The company attacked the end-user layer first through the development of the Primo and Primo Central products now positioned as the strategic end-user interfaces offered to libraries that use its own Voyager and Aleph ILS as well as those using competing products. For the last two years, Ex Libris has been working on the second half of its strategy, that dealing with internal library operations.

Unified Resource Management, or URM, addresses the automation support needed by library staff and does not provide public interfaces. It has been designed to integrate with Primo and Primo Central as the discovery and delivery tools for library patrons. Primo has been available since May 2007, and is now in its third major release. URM will also integrate with competing discovery products.

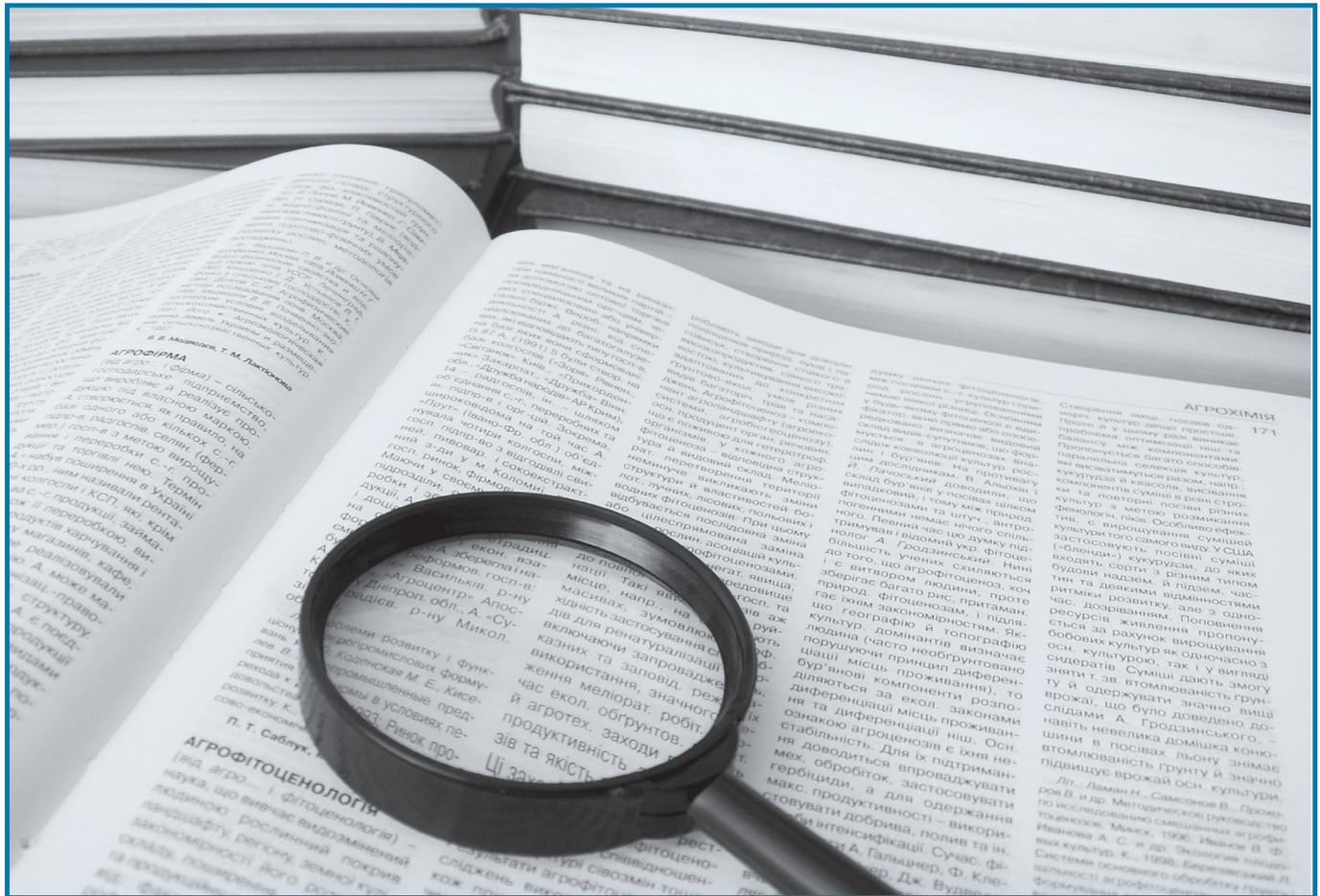
One of the key tenants of URM is providing a single unified platform to manage all types of resources in library collections, including physical items, digital objects, and electronic content. Integrated library systems, including Ex Libris' own Aleph and Voyager, have a reputation for an orientation toward print resources. Libraries must resort to electronic resource



management systems, such as Verde, for the management of electronic resources, which involve much different kinds of processing and business arrangements than print materials. URM also subsumes the functionality of other standalone repository platforms such as DigiTool that support specialized digital collections. The vision of URM involves a single platform to manage all aspects of a library's collection rather than the current approach involving multiple standalone products.

Ex Libris positions URM as a next generation library automation platform that will eventually provide a forward migration platform for many of its current products. URM encompasses the functionality addressed by ILS products such as Aleph and Voyager, electronic resource management products like Verde, and digital asset management systems such as DigiTool.

The creation of URM does not spell the end of development of the company's current ILS products, Aleph and Voyager. Both of Voyager and Aleph find use in some of the largest, most complex, and prestigious libraries in the world. Many of these libraries will need to continue to use their current systems for many years and will expect ongoing support and development of enhancements. The more that libraries find ongoing satisfaction with their current systems, the more that they will have confidence to move to URM once they are prepared to adopt its new approach. URM will likewise be the forward migration path for its Verde electronic resource management system.



Product Design and Architecture

URM aims to strike a balance between providing automation services through shared resources and those that are managed locally. Its conceptual approach includes multiple layers, or zones:

- The Community Zone provides a layer of broadly shared services. The community zone will include a large metadata store of bibliographic that Ex Libris will initially provide accessible by all URM libraries. This store will also grow through contributions made by libraries as they create new records. Records in the community zone can be enhanced as needed by libraries using URM.
- The Library Zone is a metadata store specific to a single organization implementing URM. Libraries may have various circumstances which might lead them to maintain some of their metadata in a private way.

A library's holdings are managed through another data store called the Inventory, which can associate with descriptive data from either the Community or Library zones. As libraries add new items to their collections, they can tag onto existing records in the Community Zone, create new records in either zone as needed, and can retrieve records from external bibliographic services as needed, which can then be contributed to either zone, depending on concerns like record use restrictions. Ex Libris intends the metadata in the Community Zone to be available openly.

The global services included with URM will allow libraries to leverage widely shared resources. The bibliographic records available in the Community zone will facilitate efficient workflows when adding new materials to their collections. One of the broad goals of URM is to allow libraries to execute common tasks in the most efficient ways so that they can concentrate more on the unique activities of

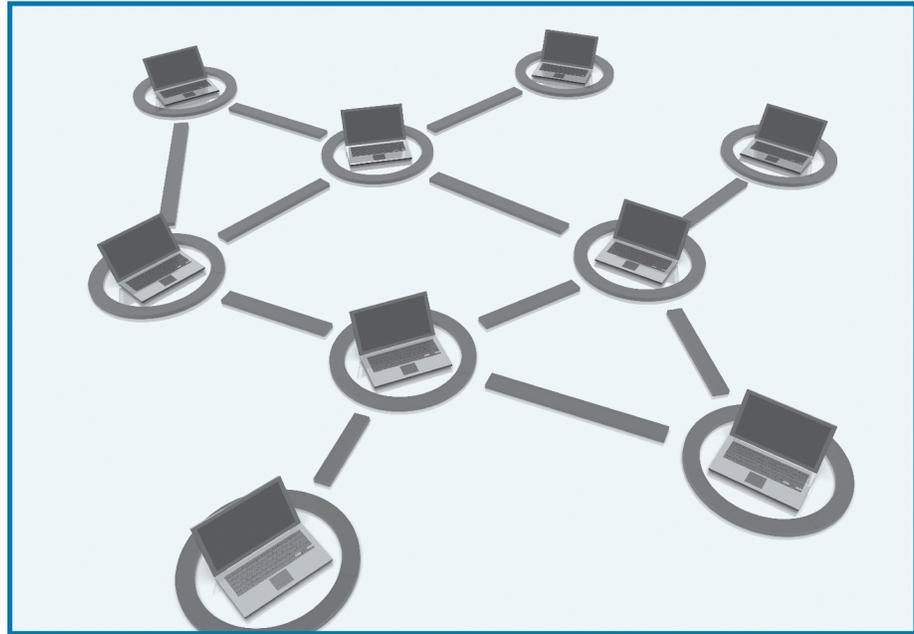
more interest and strategic value to their organizations.

The Metadata Management System provides tools and services related to metadata. This component will include editors and other tools that are involved in the creation and maintenance of metadata. URM will take a format agnostic approach to metadata. Since it provides services for all types of materials, it will not be tied to MARC, but will be able to provide editing and validation tools for all applicable formats. The Metadata Management System will also support management of licensed electronic resources, relying on the knowledge-base currently associated with its SFX link server.

Ex Libris will offer URM through software-as-a-service, hosted in a cloud infrastructure. During the development phase the system is hosted in Amazon's Elastic Compute Cloud. The company has not yet determined whether the production product will be delivered through the Amazon EC2 platform or some other competing infrastructure. The cloud infrastructure that Ex Libris ultimately selects will be based on cost, performance, and service-level agreements. While it's important to understand that URM has been designed for deployment through the cloud, the specific provider ultimately selected will not necessarily be apparent to the libraries that use the product.

Ex Libris has indicated that it intends to support local installations of URM. Large consortia, for example, may prefer to implement and manage their own instance of URM. While the product has been designed for delivery through SaaS, some libraries may have specific needs that require a local installation.

The staff interfaces for URM will be entirely Web-based. No local software will be required for library



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personnel to operate URM and it is expected to function will all major Web browsers.

Development Partners and Early Adopters

Ex Libris has engaged several libraries that will collaborate in the development of URM as development partners. These include the libraries at Boston College, Princeton University, and Katholieke Universiteit Leuven, on board since July 2009. KU Leuven is associated with the LIBIS library network, bringing a consortial perspective to the development effort. In December 2009 Purdue University Library, a Voyager site

since 1998, joined as an additional development partner.

Ex Libris has delivered partner releases of URM to these libraries that include working versions of the software in specific areas. Partners have the opportunity to experience early versions of the software, loaded with their own data extracted from their legacy Aleph and Voyager systems, and, in future releases, from Verde and DigiTool.

To date, Ex Libris has delivered two releases of URM to its partners. The first, made in July 2010, included a selection of modules that included functionality involved with circulation of physical items, acquisitions, management of staff user profiles, search functions, and some portions of the repository management features.

Ex Libris met its next benchmark with URM in November/December 2010 as it delivered a new release to its development partner libraries. This release includes functionality with acquisitions support that spans both physical and electronic resources; management of electronic resources through their complete lifecycle from acquisition to activation; a support for streamlined processing to fulfill requests for physical materials; a new Web-based metadata editing tools for catalogers and other technical services personnel. This release also includes a staff searching capacity that searches across formats with faceted navigation.

In November 2010, Ex Libris announced that a group of seven institutions in Australia and New Zealand had committed to be early adopters of URM once available in general release. These included The University of Western Sydney (currently running Voyager), Monash University (Voyager), Swinburne University of Technology (Aleph), a consortium comprising Flinders University, University of South Australia, and University of Adelaide (all Voyager), and

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UNILINC, including Australian Catholic University, Charles Sturt University, and Southern Cross University (Aleph). Ex Libris indicates that it is initiating programs in other regions to cultivate libraries interested in becoming early adopters of URM.

While Ex Libris has a reputation for catering to larger academic, research, and national libraries, it aims for URM to appeal to smaller libraries as well. In July 2010, the company formed an advisory group to assist with identifying the requirements for URM to support smaller libraries. The URM Small Library Advisory Group includes Colorado School of Mines (Voyager), Messiah College (Voyager), College of the Mainland (Voyager), Springfield College (Voyager), Southern Baptist Theological Seminary (Aleph) and international

institutions including Seneca College (Voyager) in Canada, Fachhochschule Burgenland (Alphino) in Austria, Forschungszentrum Dresden-Rossendorf (Aleph) in Germany, and the Medical University of Graz (Aleph) in Austria.

Though the general release of URM lies a year into the future, we can see substantial progress in its development. As an emerging framework that offers a significantly different approach than most of the traditional automation products in use today, many academic and research libraries will want to keep a close eye on URM. SLN will continue to follow any milestones of progress made over the course of the next year and any additional libraries that commit to implementation.

—Marshall Breeding

People in the Industry

Innovative Interfaces named **John Rose** as its new Director of New Sales, North America. Rose comes to Innovative from LibLime, a company that provides services surrounding the opens source Koha ILS. At LibLime, Rose was Vice President Strategic Markets. Rose had also worked for SirsiDynix and for Endeavor Information Systems. It's not unusual to see industry veterans such as Rose shift among companies over the course of a career. It is inter-

esting when such shifts cross companies involved with open source and proprietary ILS products.

Polaris Library Systems announced a number of internal executive appointments. **Jodi Bellinger** has been promoted from head of customer relations department to Executive Director of Customer operations. **Anita Wagner** shifts to VP of Product Management, from her previous role as Chief Operating Offi-

cer. **Kathryn Spier-Miller** advances to Executive Director for Marketing and Communications.

Marc Roberson exits Auto-Graphics where he served as North American Sales Director to join Ingram Content Group as Director of Public Library Sales. Prior to Auto-graphics, Roberson was VP Library Partners at LibLime.

—Marshall Breeding

OCLC Offers EZproxy Through SaaS

OCLC announced that EZproxy, a software utility used by thousands of libraries to provide access to restricted electronic resources to library patrons, is now available through software-as-a-service. EZproxy had previously been available only for local installation. Initially the SaaS option will be available only to institutions in the United States and

Canada; with availability to those in other regions to follow. OCLC acquired EZproxy from Useful Utilities in January 2008.

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