



Unified Resource Management: The Ex Libris Framework for Next- Generation Library Services

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1. Introduction

With shifting user needs and expectations, changing economics, advancements in technology, and increased pressure from global information services outside the library environment, today's libraries are in the midst of a sea change: many libraries are revisiting—and transforming—their core mission within the larger organization. Not only do libraries need to do things differently, but they need to do different things.

Recognizing the changing needs related to library management, Ex Libris has begun designing and building a new model for “next-generation” library services. With the 2007 introduction of [Primo](#)[®], Ex Libris decoupled the unified resource discovery and delivery platform (URD²) to provide simplified access to both local and remote resources. This approach enables discovery of resources across multiple repositories, while obscuring from users many of the management complexities of those systems. Now, Ex Libris is in the process of revolutionizing the library's administrative, or “back office”, activities by implementing a framework for unified resource management (URM). Together, the URD² and URM components will provide a comprehensive platform for the discovery, delivery, and management of scholarly resources.

2. The Library Landscape

In more than forty interviews conducted by Ex Libris with libraries around the world, we have heard a resounding need for change – libraries need to both do things differently *and* do new and different things. This input is supported by recent library studies and research reports that highlight key trends in the library industry, including the [JISC & SCONUL Library Management Systems Study](#), [On the Record: Report of the Library of Congress Working Group on the Future of Bibliographic Control](#), and [No Brief Candle: Reconceiving Research Libraries for the 21st Century](#). These reports reinforce the fact that the library community is at a critical point in its

evolution and needs to reconsider the the function of the library, as well as the systems and processes it manages.

The URM aims to address the recommendations from its users and the larger community – to improve current workflows, to lower total cost of ownership through collaboration and sharing, and to support the role of the library in a new world of research and learning, all in an open, extensible environment that grows with libraries' needs. Specifically, the URM will:

- Enable libraries to do more with less by consolidating workflows and integrating back-office processes across all materials, regardless of type, format, and acquisition method.
- Support collaboration across institutions and within user communities to increase productivity and to leverage the “network effect.”
- Use service-oriented architecture and component-based design to provide a modular, extensible framework that grows with library needs.
- Integrate library processes into the parent organization’s administrative , technology, and research frameworks.
- Offer options for a network-level, or Software-as-a-Service, implementation to leverage centralized data services and to simplify software deployment.

3. The Ex Libris Conceptual Model for Next-Generation Library Services

An integral part of the interview process in the Ex Libris research project was the development and refinement of a conceptual model for delivering the support required for a next-generation library. The URM conceptual model includes a number of parts, which are described in more detail below.

3.1 World of Knowledge

Underlying the conceptual model is the notion that the “world of knowledge” managed by libraries is expanding – not just in size, but in scope. The materials that a library manages fall clearly into two domains, physical and digital (or electronic), each with a variety of different management workflows. Additional resource attributes also determine appropriate management activities for library materials – materials that are owned are typically administered differently than those that are accessed from a remote source, for example. In addition, the wealth of free resources available online and new business models for user-driven acquisition of e-books and other content present new challenges for library staff, challenges that a next-generation framework must address.

3.2 Management Services: Institutional Inventory and Centralized Data Services Environment

In the URM framework, the local holdings of a library are known as the institutional inventory. A number of applications that support the management of print, electronic, and digital resources contained in the library’s collections surround the inventory — selection, acquisition, circulation, license management, and more. For example, resources identified in the world of knowledge become part of the library’s inventory through the processes of selection and acquisition; the URM supports the appropriate workflows for each type of asset, whether print or electronic, owned or accessed, licensed or free.

One of the most important recommendations noted in the library reports and voiced by interviewees in the Ex Libris research project is to find ways to leverage global data—descriptive metadata, knowledge-base information, prediction patterns, and more—that is common across institutions. For example, more than 4200 libraries in North America use the same basic record to describe Steven Levitt’s book *Freakonomics*; each of those libraries currently downloads and maintains that record locally, as part of the inventory, a practice that results in significant cost and effort.

What if a new framework could also support a *centralized* record that could be shared by libraries that own *Freakonomics*?

To address this need, the Ex Libris conceptual model introduces a global data services environment, which provides a variety of services to both the URD² and URM components. For example, the URM works with a centralized metadata management system (MMS), an infrastructure that provides new models for working with bibliographic and other descriptive information. Consisting of metadata from a variety of sources, the MMS maintains the *basic* description for, say, *Freakonomics*, while the inventory maintains any local information, including institutional holdings and item-level details. The unique design of the MMS provides libraries several options for working with metadata, ranging from library-controlled catalogs similar to today's integrated library systems to "community", or fully shared, records; most libraries will likely use a "hybrid" model, with some inventory items connected to library-controlled metadata and others linking to community records. Regardless of the option selected by the library, the Ex Libris model provides both unrivalled flexibility and a new set of time-saving services for management and maintenance of its metadata.

And, whether you work with a library catalog or with community data or a combination of both, the metadata used to describe items in your inventory is **yours**. Libraries are the true owners of this data and should be able to make decisions about its use, both within the URM and in other environments, without interference from Ex Libris. As a result, Ex Libris offers the MMS environment to libraries without imposing any record use or reuse policies.

3.3 Management Services: Dissemination Control

Dissemination control, a new function introduced in the Ex Libris conceptual model, enables libraries to manage their inventory for publication or dissemination to discovery and other user spaces. With the array of resources managed in a library's inventory, it's critical that the library have ways to create specific collections – a

“new books shelf”, subject-based reading lists, course reserve materials – and subsequently “publish” all or part of the collections for use in other applications. Further, options for publishing metadata not included in the inventory, from contents of databases to unlicensed resources available on a pay-per-view basis, make resources available for access (via discovery) *without* mandating management in the URM inventory, simplifying the work required of library staff.

3.4 User Services

In traditional integrated library systems (ILS), user management is tied very closely to inventory management; in fact, patron records are part of circulation in most systems. The URM framework separates the user from the inventory and introduces a new component—user management—that bridges management and user services. Through the separation of the user from the inventory, the URM framework provides an elegant architecture for resource sharing across multiple inventories, while preserving the privacy of patron information.

4. Not Just New Ways, But New Things

The changing needs of libraries demand a new framework to support not just new ways of doing today's tasks, but to enable new kinds of library services and functions. As the libraries look to the future, they anticipate the need to deliver new services and support – engaging in e-learning, organizing and managing research information, more fully integrating with other cultural and memory institutions, and more. With the extensible framework provided by Ex Libris's conceptual model, libraries will be able to extend their missions to provide a broader array of knowledge and information management services to their parent institutions and their constituents.

5. Works Cited

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