



Smart Libraries™

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Smarter Libraries through Technology

The Beginning of the End of the ILS in Academic Libraries

By Marshall Breeding

The integrated library system has fallen onto hard times, especially when it comes to academic libraries. Over the last decade or so, libraries in colleges, universities, and other research organizations have been at the forefront of a broad trend where electronic content has grown more and more dominant. Unfortunately, library automation systems have been slow to respond to this obvious and fundamental change. The essential model of the integrated library system, one comprised of functional modules such as cataloging, acquisitions, serials, circulation, and an online catalog, was conceived in the print era. It seems that now, the ILS has prevailed past the time when its functionality reflects the best way to organize a library's strategic activities.

To the extent that the ILS specializes in managing print resources, it's subject to an ever diminishing role in academic libraries. The original model of the ILS emerged during a time when librar-

ies primarily dealt with print materials. Once electronic materials became a major aspect of academic library operation, we saw a proliferation of products that were designed to supplement the ILS and provide capabilities to manage them. Library personnel divide their attention among products like link resolvers, electronic resource management systems, digital asset management systems, and institutional repositories in addition to the various modules of the ILS. The support and operation of this assortment of separate systems has become an immense burden that can't be sustained in the long term.

The online catalog as a module of the ILS has already begun to fade, displaced in many academic libraries by discovery services that present a modern, more intuitive interface. These systems allow patrons to search a much broader representation of library collections that extends beyond books, to include articles within e-journals, multimedia collections, and other digital assets.

We're now seeing a new round of library technology products that embrace a more unified approach, where a single platform supports the management of all forms of content. Rather than operating several distinct products—often from different providers—that do not work well together, this new genre aims to manage all forms of content and to offer new groupings of functionality in a format shaped much differently than the traditional ILS modules. Most of these products function through some form of cloud computing, delivered through software-as-a-service, with highly shared data models relieving individual libraries of the need to redundantly manage databases of bibliographic records. These products provide an opportunity for libraries to transform that they perform their work, moving away from

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patterns dictated by the previous generation of automation systems and instead offering the freedom to follow workflows more natural to their current reality, which is dominated by electronic content. These systems, through embracing a more overarching vision of functionality, avoid monolithic self-contained architectures and facilitate interoperability and library-driven development by exposing layers of Web services and other application programming interfaces.

In previous issues of *Smart Libraries Newsletter*, we've covered each of these new ground-breaking products as they have been announced or released:

Ex Libris took some of the early steps in this new model when it articulated its vision of a Unified Resource Management System in June 2007, which has been recently been named as **Alma**. This product, due for initial release at the end of 2011, integrates the management of all library formats, will be delivered through software-as-a-service, and offers a multi-layer data approach with shared repositories in a community zone and library-specific information held in a local zone.

The **Kuali OLE** project embraces this general model as an open source initiative. This project, which got underway in late 2007, envisions a platform that supports print and electronic workflows, well-integrated with the broader technical infrastructure of a university, created as open source software. Indiana University leads the current two-year development effort, and is joined by a number of other major research libraries and consortia. This group operates under the governance of the Kuali Foundation from which it borrows several underlying technical components.

OCLC announced its **Web-Scale Management Services** in May 2009, with libraries in production since January 2011. This platform brings the functionality of



the traditional ILS into a new platform based on WorldCat, obviating the need for a library to operate a local automation system. This new product leverages OCLC's extensive bibliographic database (originally oriented toward print) into the realm of management and access of electronic and digital content. OCLC has designed this new service for libraries of all types, with a diverse selection of organizations already engaged as early adopters and development partners.

Innovative Interfaces has also announced a new-generation automation system, called **Sierra**, initially announced at the ACRL conference in March 2011. Innovative has followed a more integrated approach for managing print and electronic. Its Electronic Resource Management product works in close concert with its Millennium integrated library system. Sierra fosters a higher degree of functional integration, delivered on a modern, service-oriented platform.

In this issue, we report on the Serial Solutions' vision, announced at the ALA Conference in June 2011. The goal of Serials' development effort is to create a new

product, not yet named but referred to by the category name **Web-Scale Management Solution**. This product extends the company's prowess in developing tools for management and access of electronic resources into a comprehensive library management platform.

This new genre of products will phase in over the next technology cycle. I would anticipate that products beyond those mentioned in this issue might also join the fray. Though this change is happening rapidly in library time, don't expect it overnight. The wheels of technology turn rather slowly in libraries. The change cycle beginning now will take many years to complete. Only a minority of libraries find themselves in a position to jump in as development partners or early adopters; most wait for products to mature and demonstrate their worth.

For the last year, I've struggled with what to call this new genre of library software. It is clear that the connotation of the term "integrated library system" fails to capture the essence of this new generation of products, as does the term "library management system," though it is used in other

parts of the English-speaking world. While the new genre entrants are indeed integrated—even more so than those of the past generation—the term ILS has become synonymous with the print-oriented products. We see that OCLC and Serials Solutions have both latched onto the term “Web-scale.” Ex Libris tags their product “unified resource management.” One might be tempted to use a term such as “next-generation integrated system,” but such a designation comes with a short shelf life, especially for long-overdue revitalizations.

I’m gravitating toward the term “library services platform” for this new software genre. The products are **library**-specific, they enable the library to perform its **services**, internally and externally

though their built-in functionality, as well as exposing a **platform** of Web services and other APIs for interoperability and custom development. In a time when long-standing terms like “integrated library system,” or OPAC bring along considerable negative baggage, we need new terms when we talk about what comes next. In the same way that discovery services has become a fairly well accepted genre for the patron interfaces that replaced online catalogs, I posit something like library services platform for the genre of software that replaces the legacy of integrated library systems. But the term used to label the category is a small issue relative to the potentially dramatic impact this new genre promises to academic libraries.

Serials Solutions to Build Web-Scale Management Solution

Serials Solutions has announced that its project to develop a new platform to manage all types of library materials, spanning both electronic and print resources, is underway. This new product will extend the company’s existing services that focus on electronic resources into a comprehensive platform that addresses all types of content. Serials Solutions has temporarily dubbed the new product Web-Scale Management Solution, but will ultimately coin a new product name. In the same way that Serials Solutions considers Summon a Web-Scale discovery service, this new product will apply the same characteristics to internal library management. These characteristics include a highly-scalable platform addressing a comprehensive view of library collections, delivered through software-as-a-service with Web-based interfaces.

Designed for Academic Libraries

This new product primarily will target the needs of academic and research libraries. These libraries have a much stronger emphasis on electronic resources than public libraries and need different types of automation tools. Serials Solutions approach addresses libraries facing the increased dominance of electronic resources and the diminishing proportions of print. While public libraries are increasingly involved with e-books and typically subscribe to a basic set of electronic resources, their priorities continue to be centered on physical materials, at least relative to those of academic libraries. From its founding, Serials Solutions has created products with academic libraries in mind. While some of its products find use in public libraries, such as the AquaBrowser discovery interface, Serials Solutions’ primarily focuses on academic libraries.

Extends Electronic management models to Print

In the development of its Web-Scale Management Solution, Serials Solutions will apply the same strategies for handling print materials as it has embraced for electronic resources. The company bases its products supporting the management of electronic resources on the use of a knowledge base, called KnowledgeWorks. This knowledgebase tracks the contents of the products and packages to which libraries subscribe. The basic principal involves creating a comprehensive and accurate database of the relevant information to relieve libraries using its products of the need to track this information individually. Serials Solutions employs a combination of automated feeds from information providers, computerized processes for detecting and correcting errors and enhancing content, as well as manual oversight and intervention by its specialized personnel to ensure the completeness and accuracy of its knowledge base. The quality of this resource stands as one of the key assets of the company and is the foundation of its ever-expanding suite of products.

Until the announcement of this new Web-Scale Management Solution, Serials Solutions has focused solely on tools that support the management of electronic resources. Over the course of the company’s eleven-year history, it has introduced a succession of products that address an increasingly complete range of capacities to aid a library with managing its electronic resources and providing access to its patrons. Serials Solutions line of products in this area includes KnowledgeWorks, its knowledgebase of e-resources; 360 Link, an OpenURL compliant link resolver; 360 Search, a federated search service; 360 Core, a basic pack-

age for the management and access to electronic resources, and 360 Resource Manager, a complete electronic resource management environment. In January 2009 Serials Solutions announced its Summon discovery service, providing comprehensive access to the library's print, digital collections, and electronic resources through a massive aggregated index.

Serials Solutions positions Web-Scale Management Solution to extend the company's existing capabilities for handling electronic resources into the print realm, offering libraries a unified approach to the way they manage and provide access to the totality of their collections. The company articulates a vision of a new platform to allow libraries to gain efficiencies by enabling print management based on an accurate centralized knowledge base, to simplify and automate many of the tasks related to the selection and acquisitions of new materials, and to offer tools for assessment and reporting, spanning all material types.

Strategy based on Centrally-managed knowledge bases

Web-Scale Management Solution will rely on a central knowledge base, extended to include bibliographic data for print materials, which will perform functions for print materials that are analogous to what KnowledgeWorks has accomplished for electronic resources. Serials Solutions will leverage the collections of bibliographic records that it has previously assembled as the basis of its 360 MARC Updates service, which delivers MARC records for libraries to load into their local systems for e-journal and eBook titles. These records derive from a variety of sources, including the Library of Congress and CONSER. Serials Solutions will also be able to tap into other key resources within its corporate family such as Books in Print from Bowker and catalog enrichment data from Syndetic Solutions. Serials Solutions is not starting from scratch in the development of its bibliographic database, but rather is able to build on an existing resource of several hundreds of millions of records.

The fundamental concept of Web-Scale Management Solution is that participating libraries share a single bibliographic database rather than each library having to maintain records independently within its local ILS. Tasks such as circulation and acquisitions will tap into records from the shared bibliographic database. The workflow of tasks associated with this centralized data model differs greatly from the traditional approach where bibliographic records are transferred from an external utility into local ILS.

It is not yet clear how the central knowledge base of bibliographic records at the heart of Serials Solutions' Web-Scale Management Solution will relate to other bibliographic resources such as OCLC's WorldCat. At this early stage of devel-

opment, no specific information is available on issues such as how libraries that use this product will make use of OCLC's cataloging and resource sharing services.

A single platform for Managing Electronic and Print

Prior to the vision embraced by Web-Scale Management Solution, libraries involved with Serials Solutions products for managing their electronic resources would rely on their integrated library system for automation activities related to their print collection. Tasks such as cataloging and acquisitions of print resources and circulation of physical items would be done through the ILS while all the activities related to the management of subscriptions to electronic content are automated through another set of tools.

As academic libraries increasingly take advantage of discovery services for access to their collections and as print resources represent a shrinking portion of the materials they acquire, the role of the integrated library system decreases in its strategic importance. Under the traditional model, the library would operate the integrated library system for dealing with print materials and another suite of products for managing electronic resources. The demands inherent in operating an integrated library system may result in a disproportionate number of library personnel involved in print relative to electronic.

By adding an incremental level of functionality to its existing products, Serials Solutions sees the opportunity to offer libraries a single platform that can be operated with much less effort and expense than the incumbent model of separate automation products for print and electronic.

Integration with other Systems

Serials Solutions' Web-Scale Management Solution will be designed to integrate with other types of systems in the library's environment. It will seamlessly operate with external systems such as YPB's Gobi environment for selecting and ordering library materials in ways that result in more efficient workflows in both the way that data flows between the systems and in how library personnel carry out their work. The system will also be built to interoperate with other components of the campus' technical infrastructure such as authentication services, financial applications, and student management systems.

Delivered through Software-as-a-service

Serials Solutions will deliver Web-Scale Management Solution through multi-tenant software-as-a-service, as it does for all its

strategic products. This model involves a single instance of the system that serves all the libraries that subscribe. All the hardware involved in supporting the service is managed by Serials Solutions with no need for libraries to operate local servers and deal with operating systems or software installation and configuration issues. Since the software is accessed by Web browsers over the Internet, libraries do not need to install, configure, or maintain special client software.

This approach contrasts with many of the library automation products promoted as software-as-a-service that actually involve separate instances of the software for each library, hosted by the vendor. Products designed specifically for deployment through software-as-a-service can offer more efficiencies than vendor-hosting of legacy systems designed for local installations.

Serials Solutions' implementation of multi-tenant software-as-a-service allows libraries to gain access to shared resources such as the knowledge bases of bibliographic records and e-resource knowledge base, and other shared resources such as vendor information. This approach also results in a more efficient technical environment where all changes and improvements to the software can be deployed to all subscribers simultaneously.

Web-Scale Management Solution will deliver all staff functions through a Web-based interface. Libraries will not have to install specialized desktop clients, obviating another burdensome task associated with many of the client/server legacy systems.

Goal to allow libraries to Unplug their ILS

Serials Solutions intends that libraries implementing its Web-Scale Management Solution will no longer need to operate their local integrated library system. All of the traditional functions such

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as circulation, cataloging, and acquisitions, will be subsumed into the new service, though not necessarily in the same way as in the legacy model. The company anticipates that this new approach will not only offer some significant new efficiencies in the way that library personnel carry out their work, but will also result in savings, as libraries will spend less of the funds dedicated to the maintenance of the integrated library system.

Enabling a library to discontinue the operation of its local integrated library system opens up the opportunity for libraries to reallocate resources dedicated to its operation and maintenance. Rather than devoting highly trained technology personnel to the routine and engaging them in the complex tasks involved in maintaining the servers and software associated with the local ILS, they can focus their attention on other activities of more direct benefit to the library's services.

Back-end Automation support optimized for Discovery

Web-Scale Management Solution will function as a tool for automating internal library operations and will not itself offer an interface for library patrons. Serials Solutions' intention is that Summon will serve as the ideal patron interface for Web-Scale Management Solution, with inherent interoperability baked in. These two products will connect seamlessly as a match set.

Libraries can instead choose to deploy other discovery services with the Web-Scale Management Solution. It will offer a complete set of application pro-

gramming interfaces that will enable it to exchange data and communicate with any discovery product the library chooses to implement. It will be up to the library, however, to perform the integration tasks to connect Web-Scale Management Solution with discovery services other than Summon. Just as Summon operates with any of the major library automation systems, Web-Scale Management Solution will be developed to work with any discovery product, using the standard techniques for data exchange and real-time status displays. Serials Solutions plans to leverage the way that its 360 suite of products integrate into discovery services to simplify the integration process.

Cost and Availability

Serials Solutions anticipates that the first phase of its Web-Scale Management Solution will be available by the end of 2012. Under the current development schedule, this initial version will focus on resource management, offering a broad package of functions to manage electronic, print, and digital resources. It will include license management, acquisitions across all material types, fund accounting designed to accommodate patron-driven acquisitions, and license management. A second major release with a more complete array of functionality is planned for late 2013.

Serials Solutions will offer Web-Scale Management Solution through a monthly or annual subscription, scaled according to the size and complexity of the library. The cost of the subscription will displace several categories of expense associated with the ILS that will no longer be required, such as any ongoing maintenance fees for the hardware and

software, as well as the personnel costs associated with operating a local server.

Market positioning

Serials Solutions has long resisted getting involved with the domain of the traditional integrated library system or developing products for the ever-diminishing realm of print materials in academic libraries. Yet by extending their current products into the print realm, they may be able to seize an opportunity to deliver a comprehensive platform to libraries based on the principles championed in their current product suite. The company is well positioned for such a project. Jane Burke, for example, Vice President for ProQuest with responsibilities for Serials Solutions, led the development of the Voyager ILS for academic libraries in the mid-1990's as President and CEO of Endeavor Information Systems. Several personnel at various levels of the company came from the ranks of the ILS vendors. The company can tap into deep expertise from these individuals as it addresses incorporating the management of print resources into its new platform.

Serials Solutions comes into the competition for new library systems fairly late. OCLC, for example, has developed

its Web-Scale Management Services with libraries already in production. While the new offerings from OCLC and Serials Solutions bear many similarities on the surface, each brings a radically different perspective and background. Ex Libris, a major competitor with Serials Solutions on the academic library front, has completed much of the development of Alma, with delivery of the initial version anticipated in early 2012. Given the slowness with which libraries turn over their automation systems and the relatively small portion of libraries already committed to one of the other products, market opportunities for new products remains fairly wide open. Libraries appreciate wider range of options and Serials Solutions' approach has to date generated considerable appeal.

In developing its new Web-Scale Management Solution, Serials Solutions appeals to the reputation that it has established in the development and support of its existing products. To the extent that libraries have embraced its vision and execution of services for electronic resources, Serials Solutions anticipates that this new product will support its position in the marketplace as it takes on this much more ambitious endeavor.

—Marshall Breeding

Library Technology News in Brief

Excerpted from Press Releases Posted on Marshall Breeding's Website (<http://www.librarytechnology.org/>)

LibLime Academic Koha features MARC authority and MARC holding support

Bethesda, MD – July 7, 2011 -For over two years, LibLime has worked with Westchester Academic Library Directors Organization (WALDO), to build an ILS specifically for academic libraries. LibLime Academic Koha is the result. Designed, tested and used by academic librarians, LibLime Academic Koha offers the right platform for making an ILS be all that it can be. With LibLime and WALDO, academic librarians have the opportunity to work with like-minded professionals toward a shared goal of designing software that works for them.

LibLime Academic Koha has specific tools for authority records. With LibLime Academic Koha librarians can import MARC authority records, replace a brief or "stub" authority record with an updated record and link authority records to bibliographic records via the user interface. The workflow for managing this aspect of cataloging was designed by librarians and is user friendly and intuitive.

LibLime Academic Koha features full support for summary (or holding) records. Summary records can be created, edited, and deleted using specially built cataloging tools. Linking the summary record to a bibliographic or item record is also done with these tools. Summary and item records can be edited or deleted in batches as well.

Axiell strengthens its business by creating a new company to focus on Archives, Museums and Local Studies

Effective from 1st July 2011, Axiell announces the launch of a new company specialising in Collection management for Archives, Local Studies and Museums. The new company, Axiell CALM Limited, previously operated as a separate business unit within Axiell Ltd, supplying the Calm collection management system used by over 400 Archives, Museums and Records Offices.

Malcolm Howitt, previously Axiell Business Manager for Calm, has been appointed Managing Director of Axiell CALM. He says, "At Group level in Axiell we reviewed how to offer

the best service to the archives and museums sector. The new organisational structure gives us the opportunity to develop and expand on the range of solutions we can offer to clients in the UK and internationally, and signals our intention to continue to support them in building the best services possible for their own user communities.”

He adds, “From a product and services perspective, this is a very positive step by the board of Axiell Group in acknowledging the strength of the Calm brand, investing in a growing portfolio for the future, and aiming to strengthen Axiell as the Cultural Services partner of choice.”

More than 400 archives and museums use Calm as their collection management system, including the Parliamentary Archives, Surrey History Centre, Transport for London and the Wellcome Library.

The new company will continue to operate from Axiell UK’s head office in Nottingham, from where services such as administration, support and development will continue to be delivered.

Axiell Limited is part of the wider Axiell Group AB which provides products and services to the Cultural Services sector across the UK and in Scandinavia. Axiell Group is a supplier of IT systems and services dedicated to libraries, archives and museums and places great emphasis on development.

Blackboard to be acquired by Providence Equity Partners for \$45.00 share in cash or \$1.64 billion

WASHINGTON, July 1, 2011 — Blackboard Inc. (NASDAQ: BBBB) today announced it has entered into a definitive agreement under which Blackboard will be acquired by an investor group led by affiliates of Providence Equity Partners (“Providence”) in an all-cash transaction valued at approximately \$1.64 billion, plus the assumption of approximately \$130 million in net debt.

Pursuant to the terms of the agreement, Blackboard’s stockholders will receive \$45.00 in cash for each share of Blackboard common stock. The transaction represents a 21 percent premium over the closing price of \$37.16 per share on April 18, 2011, the day before Blackboard publicly announced that it was evaluating strategic alternatives.

The agreement between Blackboard and Providence concludes a process that began in March 2011, when Blackboard’s Board of Directors formed a Transaction Committee consisting of independent Directors to conduct a comprehensive review of strategic alternatives that included discussions with potential strategic and financial buyers. Acting upon the recommendation of the Transaction Committee, and in consultation with the Transaction

Committee’s outside financial and legal advisors, the Board unanimously approved the transaction and recommends that Blackboard’s stockholders adopt the acquisition agreement.

Joseph Cowan, Chairman of the Transaction Committee, stated, “We believe this agreement provides a meaningful and immediate cash premium for all our stockholders and recommend that they support the proposed transaction.”

“This compelling transaction is the result of a comprehensive evaluation of our strategic alternatives, and we firmly believe it delivers significant value to all Blackboard stockholders,” said Michael Chasen, Blackboard’s President and Chief Executive Officer. “In Providence, we will have a partner who brings a deep understanding of the international education marketplace and shares our vision of providing educators with exceptional technology solutions and services to meet their evolving needs over the long-term. We look forward to welcoming Providence to the Blackboard team.”

“We are very familiar with Blackboard through our extensive education investments over the years and have tremendous respect for what the Blackboard team has accomplished,” said Peter Wilde, a Managing Director at Providence. “Given its exceptional brand, technologies, client base and the depth of its team, we believe Blackboard will continue to drive and benefit from the increasing penetration of digital technologies and content in schools around the world. We are excited to put our resources and hands-on experience in the education and communications sectors toward supporting Blackboard’s growth over the long-term.”

Providence is the leading global private equity firm focused on media, communications, information services and education investments. The firm’s current education industry investments include Archipelago Learning, Ascend Learning, Catalpa, Edline, Education Management Corporation and Study Group.

The transaction is subject to approval of a majority of the outstanding shares of Blackboard common stock and other customary closing conditions and regulatory approvals. The transaction is anticipated to close during the fourth quarter of 2011. Upon closing, Blackboard will become a privately held company, remain headquartered in Washington, DC and continue to be led by its existing senior management team.

The transaction will be financed through a combination of equity and debt. BofA Merrill Lynch, Deutsche Bank and Morgan Stanley provided debt financing commitments.

Barclays Capital acted as financial advisor to the Board of Directors and provided a fairness opinion in connection with the transaction. Dewey & LeBoeuf LLP acted as legal advisor to the Board of Directors in connection with the transaction. Weil, Gotshal & Manges LLP served as legal counsel to Providence in connection with the transaction.



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