



Smart LibrariesTM

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50 East Huron Street, Chicago, Illinois 60611-2795, USA



Smarter Libraries through Technology:

Advancing from Marketing Hype to Substantive Developments

By Marshall Breeding

In the last year or so I have observed an ever growing interest by libraries in cloud computing. More of the conferences where I speak are focused on exploring the topic. Cloud computing is mentioned frequently in technical articles in the field, in blog postings, on twitter, and in product marketing. Libraries are keen to sort out the hype versus the reality of "the cloud."

The companies that provide products and services for libraries are rapidly shifting their offerings to some flavor of cloud-based technologies. The library

technology arena is currently divided between applications operated through locally housed servers and services delivered through cloud technologies. Consistent with trends in consumer and other IT sectors, I anticipate the shift toward cloud technologies to accelerate.

With the growing importance of cloud computing, it's important for those involved in libraries to be well informed regarding the nature of the technology and the how the products and services that they currently use or intend to acquire fit within this trend. Cloud computing tends to be used quite loosely, representing a variety of specific technical architectures or delivery mechanisms. A number of different sources are available that detail the characteristics of each of the related concepts, including software as a service, infrastructure as a service, or platform as a service. My latest book, for example, *Cloud Computing in Libraries* covered this topic.

The evolution from hype to reality that we're currently experiencing with cloud technologies seems to me quite similar to what we saw with "Web 2.0." Beginning around 2005, Web 2.0 was all the rage in the broader IT space and quickly found its way as a pervasive theme in almost every library conference. The original intent of Web 2.0 was to highlight the social and dynamic nature of new destinations and apps.

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Fundamentally, Web 2.0 relied on engagement and participation rather than simply a flat, one-dimensional set of Web pages delivering content. It extended beyond text, encompassing all forms of media, especially images, audio, and video. Web 2.0 emphasized the social dimension of technology services. In my view, Web 2.0 was a nice way to help describe the evolution toward the nature of the Web as it exists today. What comes after Web 2.0? It's just the Web. We no longer need to characterize those concepts as something new or special. They are inherent to the common understanding and experience of the Web today.

Companies that produce technologies are naturally interested in any tack that will help promote their products. Vendors want their product associated with hot trends. In the days of intense interest in Web 2.0, it seemed that every library product was promoted in that guise. In some cases, the association was a bit of a stretch. Products that had always had some kind of patron personalization were newly labeled as Web 2.0. But along with superficial marketing came substantive development. Developers recognized both the interest by libraries in these kinds of features and the inherent benefits of applications built with deeper connections to patron interactions. In my view, hype can mature into reality.

I see the same dynamic in play with cloud computing. Today, cloud computing seems to be *the* tech topic in the forefront. Although opinions remain mixed, a growing number of libraries seem interested in shifting away from traditional models of local computing and investigating services delivered "in the cloud." Vendors seem anxious to tap into that interest any way they can as they position their products. The expression *cloudwashing* pokes fun at legacy applications now marketed using the vocabulary of cloud computing without the requisite development work to transform their architecture.

An increasing number of the strategic library products available today have been built from the ground up using modern cloud-based architecture and technologies.

Library technology products seem now to have reached an increasing level of maturity relative to the trend of cloud computing. A few years ago, as cloud computing was beginning to gain wide acceptance, we may have seen a bit of cloudwashing, with only incremental changes made to adjust existing products in ways that could be positioned as using cloud computing. Some companies rebranded their offerings for hosting applications from the term *application service provider*, popular in the 1990s, to *software as a service*. These initial efforts have also led to more concerted efforts to either reengineer existing products or to develop entirely new services that conform to a more contemporary vision of cloud computing.

It has been interesting to observe the industry advance from an initial stage of cloud computing as marketing hype to substantive development. An increasing number of the strategic library products available today have been built from the ground up using modern cloud-based architecture and technologies. We're in a phase now where the model of client-server computing that prevailed in the previous decade is giving way to Web-based and cloud computing. These transitions naturally take many years to complete, both in terms of the development of products and in their implementation by libraries. But we're well along the way to an era where cloud computing dominates the library computing scene.

Editor's Note:

The weeks prior to major library conferences, such as the American Library Association Midwinter Meeting or Annual Conference, often mean a slump in news announcements from the companies that provide services to libraries. Many companies hold on to public announcements of major developments or

accomplishments until the conference. Since it has been a relatively quiet month in library technology, this month's issue of Smart Libraries Newsletter will consist of a series of shorter stories that update products or projects and an excerpt from my book on cloud computing.

Polaris Library Systems and 3M deliver Integration of E-Books

As public libraries continue to see expanding interest in loans of e-books, the need to integrate this service into their online catalogs becomes critical. The May 2012 issue of *Smart Libraries Newsletter* reported on work underway at Polaris Library Systems and 3M Library Systems to develop an e-book lending service fully integrated into the Polaris PowerPAC and Mobile

PAC online catalog interfaces. This integration would allow library patrons to not only more easily discover, check-out, and download e-books, but to also view and manage both print and online loans through their library account. To facilitate technical processing, MARC records are automatically added to the library's catalog as they are purchased from the 3M Cloud Library without the need for batch

loads. Circulation reports generated by Polaris will include activity related to both physical and electronic books.

Work on the integrated service has come to fruition, going into production at the Baltimore County Public Library in Maryland in December 2012. The 3M Cloud Library, a relative newcomer to the library e-book arena, was launched in the Baltimore Public Library in August 2012.

SirsiDynix Rolls Out eResource Central with Axis 360 E-Book Integration

SirsiDynix created eResource Central as a new product designed to integrate electronic and print content for both library management and patron access. The initiative to develop eResource central was first announced in January 2012. (See the March and June issues of *Smart Libraries Newsletter* for more detailed information.)

The basic concepts behind eResource Central include providing a cloud-based repository to facilitate globally the management of electronic content, such as e-book collections, but in a way that can be integrated and discovered through each library's local ILS and discovery environment. This arrangement avoids much of the redundancy involved when each library manages e-book collections individually.

eResource Central operates with both of the strategic ILS products offered by SirsiDynix, Symphony and Horizon,

through the Web Services add-on available for both products. It can be accessed through the family of interface products, dubbed by the company as "BLUE Cloud" that includes:

- Enterprise discovery interface,
- Portfolio, an enhanced version of Enterprise that includes digital asset management capabilities,
- BookMyne, the company's interface product for mobile devices, and
- Social Library, a native Facebook application.

The company reports that eResource Central will be available to all its customers that have implemented one of the BLUE Cloud interfaces, approximately 750 SirsiDynix customer sites.

The SirsiDynix eResource Central product aims to greatly simplify the discovery and downloading of e-books by library patrons and to

ease the work for libraries in managing these collections. It has been designed to work with any e-book platform with the APIs needed for the integration. Until now, eResource Central has been working with freely available e-book collections such as those available through the Open Library (<http://openlibrary.org>) and Project Gutenberg (<http://www.gutenberg.org>).

SirsiDynix has now completed work with Baker & Taylor to integrate the Axis 360 digital media collection and management platform into eResource Central. Axis 360 offers a collection of over 300,000 titles from which libraries can select to add to their collections of electronic materials.

The arrangement with Baker & Taylor is not exclusive. SirsiDynix reports that it plans similar integration capabilities with other e-book providers in the future.

Boopsie Extends its Mobile Platform to Include Library Event Information

Boopsie, a company that specializes in providing products that deliver library service to patrons with mobile devices, has extended its offerings to include online event information through a partnership with Trumba Corporation. To take advantage of this capability, the library must subscribe to both Boopsie's mobile platform and to Trumba Connect.

Trumba Connect allows organizations of all types to publish their calendar of events and activities on the Web, with features to support event registration with customizable forms, secure payments for fee-based events, automated communications with clients, and tools for monitoring registrations. Calendars can easily be integrated into the organization's Facebook page and visitors can share and comment on events through Facebook, Twitter, and LinkedIn. Trumba Connect provides support for mobile devices. Although used in higher education

and libraries, Trumba also finds use in the corporations, online newspapers, health clubs, and membership associations.

The partnership between Boopsie and Trumba allows libraries that subscribe to Trumba Connect to be able to deliver its calendars directly through the Boopsie native mobile app. This partnership falls in the context of the "Boopsie Star Program" of products that can be integrated and delivered through the Boopsie mobile platform, allowing libraries to offer a variety of services to their users with mobile devices through a unified mobile app. Other partners include the Overdrive e-book platform, Mango Languages, Credo Reference, EBSCOhost, the LibraryH3lp virtual reference, Gale Cengage Learning, and Recorded Books.

Boopsie reports that its mobile applications have been implemented in over 2,500 libraries or universities.

See: Boopsie.com/library

Innovative Interfaces Opens New Corporate Office in Ireland

Innovative Interfaces, Inc. has expanded its international operations by establishing a new office in Dublin, Ireland. This office initially will be staffed by eight individuals. The company currently has a limited number of clients in this region, including The County Clare Library service and several academic libraries. In 2011 five libraries in Ireland and Northern Ireland, UK selected Millennium. Innovative already maintains European offices in the United Kingdom and in Spain, as well as several others throughout the Asia Pacific region.

This move follows the company's change in ownership status reported in previous issues of *Smart Libraries Newsletter* and the installation of a new management team. It can be taken as an early indicator of an interest to expand more deeply into selected international regions. Innovative has library clients in more than 50 countries throughout the globe. That number continues to grow as the Institute of Social Sciences Information recently became the first library in Vietnam to select Millennium.

Open Source Update

Kuali OLE: Open Source Enterprise Software for Academic Libraries

The Kuali OLE project continues its progress toward the creation of an open source enterprise level library services platform. If the current timeline of the project holds, the initial 1.0 release of the software will be completed in the first quarter of

2013 with a system ready for implementation by investing partners choosing to be early adopters.

Each of the organizations involved in the Kuali OLE project have made financial contributions in addition to in-kind efforts represented by the involvement of their personnel. Additional funding has been provided by the Andrew W. Mellon Foundation. The original Kuali OLE investing partner institutions

include Indiana University (lead institution), Duke University, the University of Chicago, selected members of the University of Florida system, the University of Maryland, Lehigh University, University of Michigan, University of Pennsylvania, and North Carolina State University.

Kuali OLE, with the JISC organization in the United Kingdom, has facilitated a related project called the Global Open Knowledgebase (GOKb) to create an open access repository of e-journal holdings required for the efficient management of electronic resources. (See: <http://gokb.org/>)

Kuali OLE is designed for academic and research libraries, challenging the library management products offered under proprietary licenses. So far, firm commitments to Kuali OLE have been limited to those involved with the project from its onset. In recent months, additional institutions have begun to show serious consideration.

The original group expanded in June 2012 when Villanova University joined as an additional investing partner. Villanova University Libraries have a longstanding commitment to open source software, having led the development of the VuFind discovery interface and the VuDL digital library management platform.

The Bloomsbury Library Management System Consortium of the University of London in the United Kingdom announced in November 2012 that they had selected the Kuali OLE as the basis of their next library management system. This is a “decision in principle” dependent on further investigation and development and not necessarily a formal tender outcome. This group comprises the Senate House Libraries and the libraries of the Bloomsbury Colleges, which including Birkbeck College, Institute of Education, London School of Hygiene and Tropical Medicine, Royal Veterinary College, and the

School of Advanced Studies. The libraries currently are supported by various ILS implementations:

- The Senate House Libraries — Millennium
- Schools of Advanced Studies — Millennium
- Birkbeck Library — Horizon with a VuFind discovery interface
- Institute of Education — Sirsi-Dynix Symphony
- London School of Hygiene and Tropical Medicine — SirsiDynix Symphony
- Royal Veterinary College — Sirsi-Dynix Symphony

The implementation project will bring these libraries together into a shared library management system based on Kuali OLE.

See: <http://www.blms.ac.uk/>

Koha and LibLime Koha

Koha continues to increase its presence among libraries in the United States and internationally. Based on the original open source Koha software developed in New Zealand, two distinct lines of activity continue: one takes place through a globally distributed group of interested individuals and organizations, and another through the efforts of a single commercial company.

The global project, which channels its work through the koha-community.org domain, continues the broad-based global collaborative development of Koha. Koha development takes place through a group of individuals distributed throughout the world that cooperate to produce new versions of the software, manage quality assurance, and create documentation. This group elects a release manager for each major version, as well as other individuals responsible for quality assur-

ance or maintenance of previous versions. Several commercial companies participate in koha-community.org, including ByWater Solutions and Equinox Software in the United States, BibLibre in France, and dozens of other companies and organizations in different regions of the world.

The most recent version of the software is Koha 3.10.0. In addition to enhancements to functionality in each of its modules, considerable work has been executed to improve its technical infrastructure for performance and scalability. As an application written in the Perl programming language, Koha has historically been an interpreted environment that involves a separate process for each task or page request. Through a framework called Plack (<http://plackperl.org/>), Perl-based applications such as Koha can operate through a shared process, avoiding the overhead of loading Perl with each request and resulting in significantly enhanced performance. Koha 3.8.0 included the support for Plack in the online catalog; 3.10.0 extends compatibility to the staff interface. Led by BibLibre, work is also underway to incorporate the Apache Solr technology into Koha to improve search and retrieval performance. BibLibre has been supporting installations in France using Solr since 2010. Work is underway for the planned 3.12 release to provide dual support for Zebra, the indexing technology developed by Index Data and supported by Koha since 2005, and Solr. Though Solr is a more powerful search technology, it significantly adds to the complexity of a Koha installation. Maintaining support for Zebra will allow libraries to choose between a more complex and powerful installation that may require a cluster of servers or a simpler configuration that can operate on a single server.

ByWater Solutions, the dominant provider of services surrounding Koha in

the United States, continues to attract many new client libraries. Recent additions include the Lebanon Public Libraries in New Hampshire (migrating from SirsiDynix Symphony) and The New England School of Acupuncture (from CyberTools for Libraries).

In New Zealand, the home country of Koha, Catalyst IT provides commercial development, support, and hosting services. In December 2012, Catalyst IT worked with the New Zealand National Institute of Water and Atmospheric Research to migrate their data from a former SirsiDynix Symphony system to Koha.

LibLime, a division of PTFS, develops a separate fork of software based on Koha. LibLime offers its software through the koha.org domain, acquired through earlier business transactions, and through its own liblime.com site. While the two versions of the software share common heritage, they have become increasingly divergent since around March 2010, when PTFS acquired LibLime. PTFS/LibLime calls their version of the software LibLime Koha and LibLime Academic Koha. LibLime Academic Koha was created in partnership with Westchester Academic Library Directors Organization (WALDO), which sponsored many of the enhancements of interest to its academic library members. LibLime Koha and LibLime Academic Koha continue to be open source, but a privately maintained fork. For nearly three years, new and modified code developed by LibLime programmers has not been incorporated into Koha as developed through the koha-community.org participants.

LibLime Koha and LibLime Academic Koha follow a separate set of version enumerations. Support for Plack was introduced in LibLime Koha beginning with its version 4.8, released

in November 2011. LibLime announced the availability of LibLime Academic Koha 5.0 in July 2012, which included enhancements such as linked authority control and support for RDA cataloging rules. LibLime has also extended its software to use Plack and Solr. The implementation for the South Central Library System, supporting 42 member libraries with combined holdings of 2.3 million items, has been using SOLR since October 2012 with significant improvement in performance.

In recent weeks, LibLime has announced the implementation of LibLime Academic Koha at the University of Advancing Technology, new members joining consortia using LibLime Koha.

Evergreen: Open source ILS for Consortia

Evergreen, originally developed for and by the Georgia Pines libraries, continues to see interest, mostly among consortia of public libraries. A number of consortia of public libraries in the North America are based on Evergreen, including Georgia PINES (280+ member libraries), The British Columbia SITKA consortium (120 libraries in BC and Manitoba), Pennsylvania Integrated Library System (44 member libraries), three regional library systems in Massachusetts (204+ combined members), East Central Regional Library in Minnesota (15 members), the Missouri Evergreen Consortium (19 members), and the SAGE Library Consortium in Oregon. The King County Library System, a major urban library, has used Evergreen since 2009. In recent months the Virginia Evergreen consortium has been formed, with an initial set of 22 libraries participating. LYRASIS Library Technology Services provides migration, support and hosting services for Virginia Evergreen.

People in the News

Axiell, a major library automation provider in Scandinavia and the United Kingdom, announced some changes in its executive management. **Grant Palmer** joins the company to fill the position of Managing Director of Axiell UK. Palmer comes to the company from Lorensbergs, a UK-based company that provides a suite of applications to help libraries manage public computers, printing, wireless networks, facilities scheduling, and event booking. Axiell UK traces its corporate history to a company called DS that developed the Open Galaxy integrated library system adopted by many public and academic libraries in the United Kingdom. OpenGalaxy is currently used

by around 70 library services in the UK, representing over 1,300 individual library facilities.

Jim Burton, who has been the Managing Director of Axiell UK since March 2008, shortly after the acquisition of DS, shifts to a new position as Vice President of Professional Services for Axiell Group. Burton advanced to the General Manager of DS following the advancement of Nigel Pegg into the management structure of Axiell Group. Burton first became involved in the library automation industry in 2000, when he founded Esprit Limited. Pegg retired from Axiell Group board of directors in 2011.

Henrik Been was appointed the new Vice President of Products for Axiell Group, with responsibility for oversight of the company's products through all phases from development to marketing. Been was previously affiliated with QlikTEch, a Swedish software company.

Atlas Systems also announced some management shifts. Atlas developed ILLiad, a utility that helps libraries manage their inter-library loan operations, Ares for electronic reserves, and Aeon for the management of special collections. ILLiad is exclusively dis-

tributed by OCLC. **Jason Glover** continues as the President and CEO of the company. **Stephanie Spires** will advance to a newly created role of Chief Service Officer. **Kathy Posten** has been promoted to Director of Information Technology Services, a new division of the company formed to manage the company's technical infrastructure that supports its internal operations and customer hosting. This unit will also manage the implementation of a new customer relationship management system. Atlas reports that these changes come in response to increasing its capacity to provide service for its growing customer base.

Service and Support in a Cloud Computing Environment

The following is an excerpt from Marshall Breeding's book in The TECH SET series, Cloud Computing for Libraries.

As a library makes increased use of cloud computing services, it needs to reassess its structures for service and support of technology. In a model where the library relies on local computing infrastructure, it is essential to have technology personnel on hand who are responsible for its operation and maintenance. How many and what type of personnel involved would be proportional to the quantity and complexity of the applications the library has to support. The procedures, and their documentation, will need to be adjusted to clarify what service tasks continue to be directed to local library personnel and which need to be directed to an external provider. Yet, the use of cloud-based applications does not mean that in all cases library staff would contact the provider directly. For major applications such as the ILS, routine problems and requests would continue to be directed to the designated manager of that system in the library, who would then either satisfy the request if possible or open a service call with the provider. For most operational issues, whether the application is provided through software as a service (SaaS) or operates on local computers should be largely transparent. The differences lie more in the impact it makes on the personnel who deal directly with technology.

As an organization shifts portions of its computing infrastructure to cloudbased services, its burden for providing technical support and services to its general population should generally diminish. Lightening the load for such support services ranks as one of the key goals gained in moving to this approach. Deployment of SaaS and Infrastructure as a Service (IaaS) removes many layers of technology that would otherwise require considerable in-house support.

That said, responsibilities for support do not vanish entirely. Regardless of how an organization deploys the applications involved in its operations or in how it serves its constituents, it must have processes in place to deliver high-quality services. By not having to allocate as many resources to lowerlevel infrastructure issues, the organization can focus more on the higherlevel issues that have a more direct impact on its users.

For libraries, moving to cloud computing for its core automation or discovery services enables an upward shift in the focus of its services. One of the most appealing characteristics involves allowing libraries to spend less time with routine technical maintenance and pay more attention to the needs of patrons. Again, less time devoted to deep technical tasks such as server and operating system maintenance translates into more resources that can be channeled into other activities.

To the extent that cloud-based automation systems live up to their potential for increased reliability, the library should spend less time dealing with system failures. It would be unrealistic to assume that issues would never arise. Especially consider that problems with the library's connectivity to the Internet will remain as the most critical vulnerability. When problems occur, designated personnel in the library become the intermediaries who work with the vendor to resolve the failure.

With the onus of service and support more on the shoulders of the vendors supplying the software application to the library, their quality and responsiveness become critical for the library. Clear procedures and lines of communication need to be in place so that any problems experienced can be reported promptly to the vendor. Depending on the service arrangement, requests and problems may need to be submitted through a specific individual or department in the library.



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February 2013 Advancing from Marketing Hype to Substantive Developments

Smart Libraries Newsletter

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The 2013 subscription price is \$85 in the United States and \$95 internationally.

ALA Techsource purchases fund advocacy, awareness, and accreditation programs for library professionals worldwide.

Production and design by the American Library Association
Production Technology Unit.

Smart Libraries Newsletter is published monthly by ALA TechSource, a publishing imprint of the American Library Association.

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