



Smart Libraries™

Formerly Library Systems Newsletter™

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Smarter Libraries through Technology:

The Maturing Market of Open Source Software for Libraries

By Marshall Breeding

I've been following the progress of the open source ILS movement since its inception. It has been interesting to watch the open source products come onto the scene and rise to become a significant portion of the library automation arena. From its beginnings in New Zealand in 1999, Koha has been implemented in thousands of libraries all around the world. My lib-web-cats database documents its use in more than 2,500 libraries, and I am aware of hundreds of others that I haven't had a chance to capture in the

directory. OPALS has become a significant player for automation in K-12 school libraries. Although Follett dominates this arena with its Destiny ILS, OPALS competes well within the second-tier options such as Atrium from Book Systems, Alexandria, and Mandarin Oasis. Kuali OLE seems on the brink of seeing its first production in academic libraries. (Watch this space for news later this year.) Evergreen has gained a strong position among consortia of public libraries in the United States.

In today's challenging times of lean budgets and rising patron expectations, libraries depend on technology more than ever. It's crucial to have the right software for the job, and at the best financial value. Some of the initial success of the open source ILS movement can be attributed to fervor for its philosophical approach and negative reactions regarding vendors of proprietary products. Frustrated by the perceived difficulties of proprietary software, some libraries were willing to accept more modest functionality, with the expectation that the products would gain features over time through collaborative open-source software development.

Open source ILS now stands as a routine segment of the library software landscape. Library decision makers today judge systems on their merits across a variety of factors. Few libraries have the

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luxury to limit their options to only those offered under the terms of an open source license. I have seen examples in the past where the library specified an open source license as a requirement for consideration. Most libraries today take a more neutral approach on this issue, meaning open source products do not receive preferential treatment. It's also the case that after a decade of development, open source ILS products such as Koha, Evergreen, and OPALS have gained a competitive complement of features.

I see service and support and forward development as the key critical issues today for the open source ILS sector. Libraries today tend to have fewer technical personnel at their disposal. They need a reliable automation system the fewest complications possible. It's essential that their systems operate without interruption, perform with rapid response times. Any problems in the software need to be repaired promptly. Open source ILS vendors must also make advances in features and functionality at a pace consistent with the rest of the industry.

The trend toward libraries opting for software as a service or vendor-hosted systems continues to build. As libraries choose how to allocate their time and resources, maintaining local servers has fallen as a priority, especially now that reliable and affordable alternatives have become standard fare. Ever fewer libraries consider the operation of a data center as a top priority and seem increasingly willing to shift to hosted systems so that they can focus on more strategic activities better aligned with their core areas of expertise. In step with that trend, we see that the open source support providers, at least those in the United States, provide hosting as part of their service offering.

As libraries engage with a provider of an automation system such as an ILS, they come with expectations of ongoing development. Without an ambitious agenda of development,

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any automation product will eventually lag behind. Libraries expect an incremental advancement in the features available. Evolutionary development may not always be able to re-shape a system adequately as libraries experience fundamental changes in what they do. The transition in academic library collections from print to primarily electronic resources, for example, has driven an opportunity for the new generation of library services platforms.

Any vendor of library automation systems for libraries must hone strategies to deliver hosted systems, provide a compelling package of customer support services, and define and execute an ambitious roadmap of software development. These concerns apply across software products based on either proprietary and open source licenses.

In this issue of *Smart Libraries Newsletter*, we explore the strategies of company involved in the open source support business. Our coverage of the new Sequoia platform launched by Equinox Software provides an interesting example of how the company strategy has evolved to focus more on delivering the best, most appealing system and service offerings, even to libraries that may not be as philosophically inclined toward open source. It's a strategy that extends the approach of community-based open source software development with vendor-controlled processes that aim to produce a comprehensive ILS solution for libraries. It will be interesting to follow this next phase of the open source ILS sector and its ability to compete in an industry where proprietary products continue to dominate.

Equinox Launches Sequoia: New ILS Service Based on Evergreen

In a move to further strengthen its ability to deliver stable and reliable automation to libraries, Equinox Software has launched a new hosting program called Sequoia. Equinox positions Sequoia as a comprehensive software-as-a-service ILS offering based on a new hosting platform with full-service support. It is based on a technical environment for its data centers that manages and provisions software applications with the flexibility to meet the needs of its largest or smallest library customers in a way that minimizes the possibility for downtime and delivers optimal performance. Going forward, Equinox intends to focus strategically on

delivering automation to libraries based on open source software hosted on its Sequoia service platform and to transition away from providing support for self-hosted installations. The open source Evergreen ILS will continue as its primary offering for larger libraries and consortia, supplemented by Koha for mid-sized or small libraries preferring a stand-alone implementation. Equinox will continue to provide support for its existing self-hosted clients, but plans to focus on Sequoia-based installations as it markets its services to new potential customers. Equinox will encourage its self-hosted sites to migrate to Sequoia.

Sequoia Technology

Equinox has developed Sequoia as its internal scaleable platform to manage the hardware and software resources to support its hosted customers. Sequoia consists of proprietary control software developed by Equinox and layers of redundant data center components. Sequoia has been specifically designed to interact with Evergreen, taking advantage of its multi-tenant architecture to provision the software for any given library's installation. It has been designed to allocate access to Evergreen resources through the OpenSRF messaging middleware layer, including the ability to provision individual modules.

Sequoia is based on a layered set of hardware and software components managed through control software administered by Equinox to provision resources for the hosted installations of its customer libraries. Some of the components include a database layer with multiple levels of redundancy, multiple web service instances with load balancing, and the use of many virtual instances of Evergreen components distributed among the physical server resources.

Sequoia supports Evergreen at the component level. Equinox also plans to provide support for other open source library applications through Sequoia including Koha and the Fulfillment platform for managing interlibrary loan transactions.

The architecture of Sequoia enables Equinox to make optimal use of hardware resources within its data centers and to allocate more than ample resources needed to support each customer installation. Sequoia takes advantage of techniques well established in the software-as-a-service industry, developed to interact with Evergreen's OpenSRF-based architecture.

Equinox developed the Sequoia technology as its proprietary data center control environment, and it will not be released under an open source license. Sequoia functionality remain entirely separate from Evergreen or other open source applications that will be provisioned its customers. The Sequoia technology resides in the domain of data center management or infrastructure-as-a-service providers and not in the library software arena. As such, it would only be of use to organizations that offer hosting services and not to individual libraries interested in operating their own instances of Evergreen.

Sequoia has been designed to enable libraries to integrate third party products with their ILS. While its architecture includes multiple layers of firewalls to protect internal components, it also supports self-check kiosks, automated return and sorting equipment, payment systems, or other authorized third

party applications to safely interact with the library's instance of their ILS.

Service and Support

Sequoia includes a new package of service and support that complements the new hosting platform. Although Equinox Software negotiates specific terms of service with each of their customers, the Sequoia program includes a variety of standard features. For data security, databases and other customer data is protected through multiple layers of replication and backup.

Equinox has also launched a new service component it calls Active Integrated Maintenance, or AIM, which consists of development and quality assurance for repairing any defects encountered in Evergreen, Koha, or Fulfillment. AIM is designed to provide similar software maintenance to what libraries expect from vendors of proprietary software— where reported bugs are promptly referred to the software development team rather than waiting for an open source development community to address issues. AIM will be included in the price for customers of Sequoia hosting services and offered through a separate fee to self-hosted sites. Fixes produced through AIM will be automatically applied to the version of Evergreen hosted by Equinox through Sequoia and will be made available self-hosted AIM subscribers via access to the current Equinox release of Evergreen.

While AIM provides a process for addressing problems that libraries might encounter with the current version of Evergreen, it isn't intended to involve the creation of new features in the application. To advance the functionality of Evergreen and related software, Equinox has initiated another new service it calls Idea Lab. This service generates a pool of funding that will be applied to development projects that Equinox defines, based its own vision of what is needed to advance Evergreen with consideration of ideas and projects articulated by its customers. The subscription to Sequoia includes an automatic contribution to Idea Lab. Self-hosted sites can also subscribe to Idea Lab to gain a voice in its development agenda and to benefit more immediately from the software it products. Equinox anticipates that all the software produced through Idea Lab will be released through open source software licenses, either as part of Evergreen or as discrete tools or applications.

New Strategy for Evergreen

Equinox has also changed the way that it deploys the Evergreen software. Prior to the transition to Sequoia, Equinox Software has maintained a policy of providing support for the

stable versions of Evergreen released by its developer community. While Equinox Software participates in the development community, many others individuals and organizations are involved as well.

Going forward, Equinox will maintain an internally approved version of Evergreen in which it will apply features and fixes that may not yet be available in the community version. All code that Equinox develops for its version will be promptly contributed back into the community development stream. Equinox is careful to assert that it will not produce a fork of Evergreen, but has only adjusted its implementation policy so that it can produce and apply new code to its production instances in advance of the public release cycles.

Commitment to Open Source

Brad LaJeunesse, President of Equinox software, emphasizes that although the company has made some changes in the way that it manages its hosting services, the company remains fully dedicated to the principles of open source software. Even though its current policies now include developing and implementing code through its own development and quality assurance processes and placing them into production exclusively for its own customers, it will continue to remain true to the requirements and spirit of open source software licenses. Equinox Software states that it remains committed to working closely with the broader community of Evergreen developers beyond its own organization.

Business Strategy

One of the key challenges in the open source software support business involves cultivating long-term customers. Especially when a consortium or library chooses to host Evergreen on its own on-premises equipment, it may eventually opt to forgo external support. Partially in response to this scenario, Equinox has shifted its strategy to focus on cultivating libraries for its hosting services. Sequoia, according to LaJeunesse, allows Equinox to provide a superior automation environment for the library at a lower cost than a library would be able to accomplish using its own local hardware and personnel or through a competing service provider.

Sequoia has also been designed to optimize the ability of Equinox Software to compete with vendors of proprietary systems in an increasingly competitive industry. LaJeunesse states that library directors and other decision-makers today care less about whether the software of a potential new ILS is open source or has a proprietary license, but are concerned rather with the system's ability to deliver needed features, operate without interruption, and come at an affordable price. Sequoia

Equinox intends to focus strategically on delivering automation to libraries based on open source software hosted on its Sequoia service platform and to transition away from providing support for self-hosted installations.

allows Equinox Software to better compete with the proprietary products on the market without compromising the values and benefits inherent in open source software development. It gives the company the ability to take full responsibility for every aspect of the ILS that it provides for its customers rather than to defer to the vagaries of relying on an open source support community for immediate concerns. As a comprehensive offering, Sequoia subscribers can be assured that they will not need to maintain in-house programmers to operate an open source ILS any more than they would had they selected a proprietary system.

Equinox Software Company Background

Equinox Software traces its beginnings to the development team that created the open source Evergreen ILS for the PINES consortium of public libraries supported through the Georgia Public Library System. GPLS initiated a development effort to develop an open source integrated library system to replace the Sirsi Unicorn installation that was then used to support the PINES consortium of 44 libraries in the state, including 249 individual facilities. The Evergreen development team included Brad LaJeunesse, Jason Etheridge, Mike Rylander, and Bill Erickson. The initial version of Evergreen was placed into production for the PINES consortium on September 5, 2006.

In February 2007 the development team was spun off from GPLS to form a new company called Equinox Software to continue the development of Evergreen, provide support services for PINES, and to promote and support Evergreen for other library organizations that might be interested in an open source ILS. The company has grown over the years with a growing customer base of consortium and stand-alone libraries taking advantages of its hosting, development, and support services surrounding Evergreen, Koha, and related products. The company currently employs around 20 full-time employees. More than 700 libraries representing almost 1,400 individual facilities currently use Evergreen.

Flow: Proquest's New Platform for Citation Management and Research Collaboration

Building on the longstanding success of RefWorks, ProQuest launched Flow in April 2013 as its new generation platform for citation management and facilitating collaboration among researchers with analytics on the use patterns of resources. As a tool that sits between content and the researcher, Flow can be seen as a critical product for libraries and for ProQuest in its role as a content provider. Through RefWorks, ProQuest and its parent company CIG have been involved in citation management for more than a decade. Flow is positioned to move beyond basic citation management, providing an environment to foster engagement among researchers and a new layer of end-user interactions across its product lines. ProQuest announced in January 2014 that it is offering of a free version of Flow to qualified researchers.

The RefWorks Legacy

A mature and well-established reference management tool, RefWorks is used by more than 3 million individual researchers and more than 1,200 research organizations subscribe as institutions, according to ProQuest reports. The majority of users are associated with academic institutions, but the product also finds use in corporate settings and government agencies.

ProQuest's parent company, Cambridge Information Group (CIG), has been involved with RefWorks since its inception. RefWorks was founded in May 2001 through a partnership among founders Matt Dunie, Earl B. Beutler, and a team of experts in database management, with partial financial support from CIG. Cambridge Scientific Abstracts (CSA), one of the original portfolio companies of CIG, lent assistance with sales and marketing in the early phase of the company. ProQuest, with the backing of CIG, acquired full ownership of RefWorks in January 2008 and in subsequent months combined the company into its COS (Community of Science) unit to form RefWorks-COS. CSA launched Community of Scholars in February 2006.

The introduction of Flow does not spell the demise of RefWorks. In introducing Flow as a new offering in this space, ProQuest remains careful not to disrupt the current RefWorks user base, but to entice them to migrate voluntarily. ProQuest recognizes the long transition cycles in library products. According to Eric VanGordon, Product Manager of RefWorks for ProQuest, RefWorks will be supported and developed for many years to come.

Brief Tour of Flow

Flow builds on the mature citation management functionality of RefWorks to deliver new capabilities, especially through new ways of supporting the workflow of researchers and in delivering analytics on the use of scholarly resources to libraries. The product supports the workflow of the researcher throughout the process of collecting and organizing resources to the logistics of incorporating references in the writing of scholarly papers.

Simplified Capture of References

The functionality of Flow begins with the ability to easily gather resources. It offers a widget that can be dropped onto the bookmark bar of any major browser to enable one-click capture. At a minimum, Flow will automatically import the metadata describing the resource needed to support citation management. Depending on the resource, the capture can be accomplished from the results list or from the full display of the reference.

For supported content delivery platforms, the full text, including the PDF version of the resource will also be downloaded into the user's account in Flow. The platforms where full text capture has been enabled include ProQuest, JSTOR, PubMed Central, HighWire Press, and Wiley with support for others under development. All documents are fully indexed allowing users to rapidly search for keywords and terms within a document or across their documents stored in Flow through a persistently presented search box. Flow includes an option to connect to the user's Dropbox account, allowing documents to be individually deposited. Taking advantage of the automatic feature to save to Dropbox allows one to access documents even without a live connection to Flow.

ProQuest emphasizes that Flow does not provide any capabilities to capture content beyond that which the researcher is entitled to access through their library's subscriptions, free resources, or open access repositories. Flow simply acts as an agent on behalf of the user. It gets metadata and full text through parsing Web pages presented to the user and not through APIs that would require cooperation by the content provider.

Flow also allows users to manually enter citation details and to import citations from other reference management applications. Initially Flow includes tools to automatically import from ProQuest's own RefWorks and from Elsevier Mendeley, with support for Zotero and others planned for the near future.

Organizing Resources

Flow provides the ability to organize resources according to collection folders, in which multiple levels of sub-collections can be defined. Users create and populate folders through easy drag and drop actions. Documents, either represented as citations or as full-text, can be organized into virtual folders based on any meaningful structure that will assist the researcher.

Tools for Inserting Citations and Bibliographies

Flow also provides tools to assist in the tedious task of incorporating citations and references into documents. Plug-ins are provided for Microsoft Word for both Windows and Mac OSX to insert and manipulate citations in the document and in a bibliography.

Collaboration

The next layer of functionality centers on collaboration: users can share their collections of resources and access resources shared with them by others. Collections remain private by default, but users can enable sharing for any folder or sub-folder that they have defined. The collaborative universe varies depending on whether a researcher is using the free version or if associated with a subscribing institution. For non-institutional users, collections can be shared among others that have set up accounts in Flow. Institutional users can easily interact with departments or groups that may have been configured by the library that administers Flow for the organization. Shared collections can be collaboratively populated with resources.

ProQuest has developed Flow on a new platform with a more modern interface, workflow management capabilities, and other features that would be difficult to implement on the existing RefWorks Platform.

User Engagement Layer

Flow has been designed to easily integrate into the company's

Flow includes an option to connect to the user's Dropbox account.

other products, including the ProQuest Platform that delivers access to its databases and content offerings, Pivot, and potentially other product lines. The ProQuest Platform currently includes a user account feature, which will be supplemented and eventually replaced with the user and collaboration tools form the Flow platform. Flow has already been integrated into Pivot, ProQuest's service for connecting researchers with grants and other funding opportunities. Going forward, ProQuest positions Flow as its strategic tool for end user content management.

Free, Premium, and Institutional Options

In January 2014 ProQuest announced the free availability of Flow to researchers even if not affiliated with a subscribing institution. This free version is available only to those affiliated with a university or other educational institution, as validated by the user's institutional e-mail address during the registration process. Flow is not available to the general public not associated with a college or university.

The free version of Flow provides access to up to 2GB for the storage of citations and documents and a limit on sharing collections with only 10 other accounts. Support for the free version will take place through a community site providing documentation and help for most problems. The Premium version increases the storage to 10 GB, offering collection sharing with 25 accounts and support through phone and e-mail. Users associated with an institutional subscription also are allocated 10 GB of storage plus the ability to share with an unlimited number of other researchers within the organization and beyond.

Institutional users gain a suite of additional capabilities, primarily involving the ability to make use of data describing the use patterns by researchers within their organization. The data made available through Flow is designed to help the library shape its collections and service offerings. Providing free access to the researchers reduces the barrier of entry. It should result in broader adoption and increase the body of use data generated to support analytics.

Users of the free version of Flow can upgrade to the Premium version for \$9 per month. Subscription fees for institutions are negotiated based on the size of its user population and other parameters.

Library Technology News

SirsiDynix releases Service Pack 4 and BLUEcloud commerce for Symphony 3.4.1

LEHI, UTAH (January 13, 2014) – SirsiDynix announced today that Service Pack 4 for Symphony 3.4.1 has been released. This service pack brings many new features to Symphony, including the highly-requested additions of email checkout receipts and User Categories 6-12. Service Pack 4 also includes BLUEcloud Commerce integration, giving Symphony a native payment processing solution available at no extra charge. BLUEcloud Commerce allows libraries to accept cash, credit card, and debit card payments for fines, fees, donations, and sales. It tracks all financial transactions within Symphony and provides additional reports for financial auditing. If libraries choose to charge a convenience fee, BLUEcloud Commerce can provide revenue-neutral payment processing; higher convenience fees can augment library budgets.

The updates in Service Pack 4 for Symphony 3.4.1 include the following:

- **BLUEcloud Commerce Integration:** BLUEcloud Commerce provides an integrated Point of Sale system in Java Workflows, allowing libraries to accept cash and card payments for fees, donations, and sales at library workstations. It also allows libraries to accept credit and debit card payments through their OPACs. New reports give libraries a detailed picture of all their financial transactions. Libraries can choose to supplement their budgets with higher convenience fees on credit card payments.
- **Email Checkout Receipts:** Library staff can email checkout receipts to library users through the Checkout Wizard. Staff can email a receipt for the current transaction, a receipt with all of the library user's checkouts, or a custom message. Staff can also configure email templates in multiple languages; Workflows will send email receipts in the preferred language marked in the library user's Demographics details.
- **User Categories 6-12:** The highly-requested addition of User Categories 6-12 gives libraries more ways to analyze and understand their library communities.
- **Various fixes** as described in the Service Pack 4 release notes for a full description of fixes.

OCLC library data now supplementing Yelp.com listings

DUBLIN, Ohio, USA, December 10, 2013—OCLC is working with Yelp to increase public access to local library information.

Yelp is integrating information from the database of library listings maintained through the OCLC Library Spotlight program to supplement existing library listings on Yelp.com. Information provided through OCLC has already been added to over 1,400 library listings on Yelp.com, ensuring that accurate addresses, phone numbers, hours and other information will be available in addition to information already listed on Yelp.

The OCLC Library Spotlight program offers a free, easy-to-use service with which any library can add, edit and update its own profile that will then appear on online listing sites. Yelp is the first to work with OCLC, which will incorporate more partners in the future to give libraries greater visibility on the Web. Libraries can already claim their free account and use a suite of business tools on Yelp. The Library Spotlight program improves access to online library information by providing a convenient way for Internet services to update multiple library listings at once, at scale.

“Once a library’s profile is established in the Library Spotlight program, the data can be shared with strategic partners like Yelp, driving traffic and interest to the local library,” said Chip Nilges, OCLC Vice President, Business Development. “The program enables participating libraries to benefit from OCLC’s extensive network of partnerships. It’s fast, easy and free to participate in the program. And it has the potential to literally put every library on the map.”

The Library Spotlight program also uses data from the WorldCat Registry to pre-populate information about thousands of library locations. Libraries can use the Library Spotlight program to update and enhance that information, or create a new account if none exists.

The partnership between OCLC and Yelp was first announced in April. The initial feed of library data is now available on Yelp. OCLC will provide Yelp with additional profiles and updates on a regular basis.

More about the OCLC Library Spotlight program is at www.worldcat.org/spotlight/organization/.



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