Recent developments in open-source library systems

Paul Chandler

Recent years have seen increasing consolidation among vendors in the Integrated Library System (ILS) market. Consequences for libraries can vary from minor (renegotiating contracts and forging relationships with new vendor representatives) to major upheavals (costly upgrades or system replacement, data migration, staff retraining). An ILS represents not only a large initial investment for a library, but also incurs significant recurrent expenditure for licensing fees and technical support. As the nerve-centre of any library, ILS shortcomings quickly produce staff and user unhappiness. All in all, it's a sensitive area at every level of library use and management from top (funding bodies) to bottom (casual users). The recent announcement by SirsiDynix (itself the result of a 2005 merger) that it would not proceed with the development of Horizon 8.0 seems to have caused especially widespread dismay in the library world, no doubt because of its significant reputation and market share. Dissatisfaction seems to be spreading: anxieties produced by the effects of corporate mergers and vendor lock-in are now picking up pre-existing complaints about a lack of technical innovation among commercial ILS products and the perceived unresponsiveness of large corporations to user needs.[1]

A consequence has been increased interest in Open Source (OS) library systems. We are perhaps on the brink of major change in the ILS market, and the highly-respected Karen Schneider has predicted that 2007 will see interest in OS solutions reach a tipping-point.[2]

I don't claim any particular technical expertise about library

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1 See, for example, Karen Schneider's now-famous posts on "How OPACS suck": <http://www.techsource.ala.org/ blog/2006/05/how-opacs-suck-part-3-the-big-picture.html>

2 "Evergreen, the open source ILS, will reach a tipping point in 2007—just enough new customers to put it on the brink of being to the ILS what Apache has become for web servers: the common-sense choice." <http://freerangelibrarian.com/ 2007/01/trends_trends_trends.php>

automation matters, but simply want to call attention to two noteworthy open-source ILS initiatives which may be of interest to ANZTLA members as they consider the future directions of their library software installations. I'm not an expert on, or even an experienced user of, either program: I've merely explored their demonstration interfaces, made a few inquiries, searched the web for user commentary, and think it's worth reporting briefly in case readers may like to explore further. Other emerging developments of interest include the University of Rochester's eXtensible Catalog <http://www.extensiblecatalog.info>, but as this is a pilot project exploring differerent data models rather than an implementable replacement for existing commercial software, I don't address this or other such projects here.[3]

First, a word about Open Source software. Unlike proprietary systems, OS software makes the source code freely available to users, who may adapt and develop it further. The hoped-for result is that programs will then develop incrementally through collaborative effort. Although only about a decade old in its present form, the OS movement has speedily produced some highly complex and significant programs and software suites, including the web-browser Mozilla Firefox, the office suite OpenOffice, the web servers Apache and Tomcat, and the operating system Linux. Some large companies, which perhaps would have once developed in-house software proprietarily, have realised that it can be in their financial interest to make source code freely available in order to increase the user and developer base and thereby spread the cost of ongoing development.

However, it has become a commonplace that OS software is "free as in kittens, not free as in beer": i.e., while the program and its source code are free, it cannot be expected that there will be no cost of ownership. Such costs may include installation and set-up, staff training, technical support, and so on. However, in nearly all cases, the absence of initial purchase costs and recurrent licence fees will represent significant savings to a library, and sometimes very substantial savings indeed. There is no vendor lock-in for support services, and the user base is more empowered to determine development directions. The greater the user base which an OS program attracts, the more secure its future and the more immune it becomes to the dead-end of program abandonment which often results from the failure or merger of commercial vendors. The uptake of particular OS programs by large institutions (state enterprises, universities, large companies and the like) is a sign which can inspire particular confidence, as it is likely to bring a level of investment and overall direction in further development of a kind which will generally not be possible for a dispersed user base, however enthusiastic it may be.

Technical support for OS programs has traditionally been through informal user groups, which are inevitably of varied competence, accessibility, helpfulness and resourcefulness. However, the increasing success of the OS model has also generated commercial technical support services, and the additional confidence that comes from reliable and accessible paid support will often need to be considered by library administrators and policy makers.

Koha

The first of the significant open-source ILS was Koha. Originally developed for

3 Current discussion about new data formats and the like, in the context of the FRBR model and the Dublin Core Initiative and other such models, has far-reaching implications but these are not relevant here; see, for example, "Framework for a Bibliographic Future" <http://futurelib.pbwiki.com/> and its links.

Horowhenua Library Trust in New Zealand, it has been under development since 1999, and is currently at version 2.2.8 (12/3/2007), with version 3.0 expected later this year.[4] Koha is a quite complete integrated library system, including modules for circulation, cataloging, acquisitions and orders, serials, reserves, patron management, and branch relationships. It is MARC21 compliant, and includes a Z39.50 client, though it's not entirely clear to me if at this stage it also includes a Z39.50 server, though it is mentioned in the documentation. The OPAC is web-based and so can be accessed with any browser, and its design can be easily adapted to the needs of a particular library, as can be seen from the variety of sample OPAC presentations at the Koha site <http://koha.org/ showcase/ opacs.html>.

An early adopter of Koha was Nelsonville Public Library in Athens County, Ohio, which has seven branches, 250,000 items, and approximately 650,000 transactions a year. The largest collection appears to be North East University (2 million records). However, Koha developers claim that scalability will not be an issue: future versions will adopt the Zebra database engine, and early tests show a one-second search time on a 5 million record database on a fairly modest server, and version 3.0 has been tested in the 14 million record Library of Congress data set.

A demonstration librarian interface can be explored at <http://koha.liblime. com/>. I won't attempt to describe the features in detail. I was impressed with the integrated access from one screen to all librarian functions, including circulation and cataloguing, authority, serials, reports and acquisitions functions. There is a budgeting function for orders and even a programmable exchange rate function. Various cataloguing entry templates, called frameworks, can be created to suit different media and cataloguing levels, including the most detailed and comprehensive. The System Administration interface appears to allow tweaking of every imaginable parameter. This level of end-user control means there is a certain complexity in the default interface, and I imagine many librarians would want to work with a technician to achieve a suitably simplified initial set-up. Original MARC records can be easily created, or they can be imported from a file, or copied from a Z39.50 search.

Koha claims there are about 300 libraries presently using it. There is a smattering of university libraries in South America, mainly Argentina, and some significant institutional libraries in France, but in general the listed users tend to be smaller institutes, many of which would be comparable to our theological libraries. Market penetration outside the English-speaking world is reassuring for libraries with foreign language materials and the special issues they generate (display and searching of accented characters, and so on); the interface even allows language switching for use in multi-lingual areas.

Support is provided by the usual OS user groups, but there are also seven commercial companies currently listed as providing paid support services, including several in Australia and New Zealand.

Evergreen

Evergreen began development in 2004 as a project of the Public Library System in the American state of Georgia, which has 252 libraries, 1.6 million cardholders and 8 million items; it was implemented in September 2006.[5] Where Koha began as

4 I have drawn much of the following information from the Koha website <www.koha.org> and a test-run of the demonstration user and librarian interfaces on the Koha Showcase page.

5 An account of Evergreen's development by Jonathon

an ILS for stand-alone libraries and later developed consortial features, Evergreen was conceived from the ground up as a massively-scaled standards-compliant integrated system to operate across an extensive network. It is not presently as complete as Koha: it includes cataloguing and circulation modules but acquisitions and serials are still under development. However, Evergreen has quickly attracted very substantial attention, particularly in North America, partly for its sheer elegance and partly because it has proven itself in an extremely demanding environment, where it also produced massive capital and recurrent cost savings. Recently the University of Windsor has joined the Evergreen development team, and the financier George Soros has funded an Evergreen-based "library-in-a-box" project to develop an easily-installable version for distribution especially in resource-poor areas. Consequently, its development path seems assured.

The Evergreen OPAC, called PINES <http://demo.gapines.org/> is a remarkable piece of work, elegant and simple but very powerful, with beautifully integrated user access not only to expected features such as detailed holding information and MARC-format display, but also to book cover artwork, summaries, tables of contents, reviews, and so on, all very clearly set out. In concept it is similar to the web interfaces likely to be most familiar to users, such as Google and Amazon, and includes features which web users are now coming to expect, such as auto spell-checking and alternate suggestions for misspellings.

Librarian features are accessed through the Evergreen Staff Client, of which a demonstration version is available for download here <http://www.open-ils.org/cvs.html>. While its conceptual and design elegance is evident it is also clear that in some important respects it is in an earlier stage of development than the more feature-rich Koha. Acquisitions and serials modules are lacking, and since most of the current Evergreen libraries use OCLC for MARC cataloguing, easy creation of local MARC records seems not to have been highly developed yet. There is an integrated Z39.50 client, but apparently no Z39.50 server. Evergreen has a highly developed hierarchical permission system which reflects its origins in a very large networked consortium and which would make it particularly suitable for multi-branch libraries.

As for Koha, support can be found from the usual OS user groups, and commercial support is also developing, including a support company spun off by the Evergreen development team <http://esilibrary.com>.

Conclusion

Both these programs are in rapid evolution. Evergreen's origins in a large state-funded system no doubt means there is a very solid base for further development, which will be further consolidated as other stakeholders come aboard. I gather many potential users are holding back from Evergreen until its missing modules and enhanced reporting functions are provided in version 2.0 (projected mid-2008), at which point it may well achieve a very rapid increase in acceptance. Koha is soon to release a major upgrade to version 3.0. Because they are OS projects, there is likely to be a certain amount of feature cross-over between them as far as the underlying architectures allow.

Libraries are rightly risk-averse. Changes in library systems can be very costly

Weber, "Evergreen: Your Homegrown ILS" is at <http://www.libraryjournal.com/article/CA6396354.html>. Another account by Michael Stutz, "Librarians stake their future on open source" is at <http://enterprise.linux.com/enterprise/06/12/04/1538214.shtml?tid=101>.

and disruptive and can disorient staff and users alike. Workflow problems and work backlogs can quickly become major difficulties. Data migration makes even the most intrepid librarian understandably nervous. In the past open-source solutions were seen as high-risk enterprises, unreliably supported by geeks and enthusiasts, and unsuitable for critical functions. However, this is a picture that has already changed dramatically. Given the instability of the ILS industry, it may be that open-source library software is actually now about to become a lower risk prospect than traditional proprietary commercial solutions, with the added attractions of greater technological innovation and substantial cost reduction. 2007 could indeed represent a tipping-point for interest and confidence in OS library systems.

At the very least, especially if your library is unhappy with or concerned about its current ILS, it should be well worthwhile to keep an eye on the development of these two programs, to which I simply call attention. Some more technically adept ANZTLA member may wish to investigate further and give a more detailed and