Shopping in the ERMS Aisle: Reviewing Vendor and Open Source Offerings and Hints for

the Busy Shopper

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A NEW CHALLENGE

The rapid expansion of electronic collections, with the accompanying complexities of

packages, consortia, shifting holdings, and license negotiations, has created a recognized need in

libraries for new tools to track and maintain digital resources.   This need was formally

recognized with the 2004 publication of a report from the Digital Library Federation. This report

outlined the requirements for an Electronic Resource Management System and has been the

touchstone for development since its release[1].

Many libraries and even consortia are in the process of selecting and implementing an

ERMS. While the DLF requirements serve as a reference for understanding basic functionality,

each library must still navigate an array of competing products and the practical considerations

of local implementation and support. Initial questions include choosing among local

development, external open source options, or vendor produced offerings. A number of libraries

have taken the first route and built their ERMS; examples of these tools are well-documented in

the literature[2]. Over the years, however, locally-produced systems can be labour-intensive to

build and sustain, requiring resources to create the data that populates the ERMS, maintain the

software, and keep the local system in harmony with emerging standards and functionality.

Without keeping systems in harmony with developments in the wider marketplace, the local

solution will not be able to take advantage of collaborative data creation and sharing projects, or

of enhancements such as SUSHI which leverage standards to create new functions and

expectations. Accordingly, many libraries, likely a majority, have turned to external commercial or open source solutions.

THE STATE OF THE MARKETPLACE

Key to ERMS shopping is an understanding the range of products in the marketplace. This chapter provides a basic overview of offerings, focusing on commercial products. Some space is given to open source tools, particularly the CUFTS database. Each product is described briefly, including the history of its development and key features[3]. The information given represents the state of the ERMS industry in mid-2006.

The content in this chapter is partly based on two previous projects. The first was a presentation given at the 2006 Canadian Library Association Conference in Ottawa on June 16, 2006, "Electronic Resource Management Systems (ERMS): Overview and Implementation". The presenters were Helen Clarke (University of Calgary), Jane Binksma (Ryerson University), and Kevin Stranack (Simon Fraser University)[4]. The other source of content was work carried out in 2005-2006 by the University of Calgary, the University of Alberta, and The Alberta Library to investigate ERMS's for a multi-library, consortia environment[5] (this work concentrated on products from Innovative Interfaces, Endeavour Information Systems, SerialsSolutions/SirsiDynix, and Ex Libris).

COMMERCIAL VENDOR OFFERINGS

The electronic resource management systems featured in this section are vendor offered commercial products.   All vendors are well known in the library community and many also provide integrated library systems (ILS). Nine systems are reviewed: ERM from Innovative

Interfaces; Gold Rush from the Colorado Alliance of Research Libraries; HERMIS from Otto Harrasowitz, KG; Meridian from Edeavour Information Systems; TeRMS from TDNET; Verde from Ex Libris; and Verify from VTLS. Due to their 2006 partnership, the products from SerialsSolutions and SirsiDynix will be covered together.

ERM (Innovative Interfaces)

Launched in March 2004, Innovative Interfaces was "first out of the gate"[6] with an ERMS product, dubbed ERM. It was developed in partnership with the University of Washington, Washington State University, Ohio State University, University of Glasgow, and University of Western Australia, between spring 2002 to early 2004[7]. As essentially the earliest available ERMS from a for-profit vendor, ERM boasts the largest number of installations with over 170 libraries with the system[8].

In terms of important features, Innovative's ERM will operate in consortia environments as well as single-library situations; it manages license and rights information with reporting options; it provides significant local control in terms of producing reports; and it can operate as a standalone system or can be integrated with Innovative's Millennium ILS. Some functions, such as order payment and tracking, do require additional modules to be fully optimized.

The website for ERM from Innovative Interfaces is www.iii.com/mill/digital.shtml#erm.

Gold Rush (Colorado Alliance of Research Libraries)

Though the Innovative ERM was the first *for-profit* ERMS, it was not the first *commercially-available* ERMS. This honor goes to Gold Rush from the non-profit Colorado Alliance of Research Libraries (CARL). Produced in partnership with The Library Corporation (TLC), Gold Rush arrived on the market in 2003. Originally developed for the CARL members

as a central registry of databases[9], Gold Rush is part of suite of electronic product management tools including a link resolver, a subscription management system, and a collection analyzer. A hosted service, Gold Rush is probably the least expensive of the commercial products. According to the Gold Rush home page, there are 27 live Gold Rush sites as of the beginning of October 2006.

The website for Gold Rush is http://grweb.coalliance.org/index.cfm?fuseaction=intro.

HERMIS (Harrasowitz)

Harrasowitz is the only serial subscription vendor with what can be deemed a full ERMS; others, such as EBSCO, provide tools that work with electronic resource management systems and offer some of the features of an ERMS, but not as a separate module[10]. Hosted by Harrasowitz with no local loading and operating independently of a library's ILS[11], HERMIS 3.0 is web-based and includes OttoSerials 3.0, Harrasowitz's serials management system.

The Hermis 3.0 website is www.harrassowitz.de/periodicals_e-journals.html.

Meridian (Endeavour Information Systems)

Meridian emerged from Endeavour in general release in June 2005 after a development period that included partnerships with Columbia University, London School of Economics, Princeton University, and University of Pittsburgh. The latest release, Meridian 1.5 was launched in June 2006. Meridian can operate in conjunction with Endeavour's Millennium ILS or can act as a standalone system.

Some notable features of Meridian: It manages license and rights information well, tracks incidents at all levels, and has a history tab. It presents powerful reporting and statistics software. Meridian also has some consortia features though more fulsome consortia support will

be coming in a future release. As well, Endeavour enjoys good reputation for training and consulting services, though these are at additional cost[12].

The website for Meridian is www.endinfosys.com/software/meridian.html

e-Resource Manager (TDNET)

Perhaps the least well-known of the commercial ERM systems, TDNet began development on their e-Resource Manager in 2004, based on earlier TDNet modules[13]. The product was released the following year. Available as a hosted web-based service or in a locally-loaded environment, TDNet e-Resource Manager brings together a "searcher-analyzer", a fulltext resolver, a journals manager, and a holdings manager. Two notable features that it does not appear to support are the tracking of subscription life cycles and contact history for negotiation of licenses[14]. e-Resource Manager has been applied in consortial situations, such as in Denmark[15].

The TeRMS website is www.tdnet.com/site/page.asp?ID=461A&Parent=457.

Verde (Ex Libris)

Verde from Ex Libris was developed in conjunction with Harvard University and the Massachusetts Institute of Technology and emerged in general release in August 2005. Version 2.0 came out several months later, in spring 2006. Sometimes considered to be one of the more complex ERM products, it was designed as a standalone system but can also act as part of an integrated environment. The number of installations of Verde has increased in 2006, including a large sale to the Ontario Council of University Libraries (OCUL) in Canada.

Verde exhibits a number of important features. It supports order and payment tracking, the management of historic records, library workflows (this came with version 2.0). It manages

licensing information and supplies good reporting and statistics features. It also has the

advantage of having a strong connection to a knowledge base, initially created for Ex Libris'

linking software, SFX. Lastly, Verde supports a variety of consortial models, something that

was part of the design from the onset[16].

The website for Verde www.exlibrisgroup.com/verde.htm.

Verify (VTLS)

Developed with the Tri-College Consortium (Bryn Mawr, Haverford, and Swarthmore

colleges) in Pennsylvania, Verify is a product from Visionary Technology in Library Solutions

(VTLS). Though released a little after many of the other ERM systems, Verify seems to be as

fulsome a resource management product as many of the other offerings. It is available as either a

standalone or a component product and is not targeted specifically at VTLS customers[17].

The Verify website is www.vtls.com/products/verify.shtml.

Serials Solutions and SirsiDynix

In 2005, both Serials Solutions and SirsiDynix were developing separate ERM systems.

Serials Solutions had an ERMS (simply called Electronic Resource Management System) and

SirsiDynix, a recently merged ILS vendor, was developing the Horizon Information

Management System. Version 1.0 of the Serials Solutions product was released in September of

2005 and had some installations, while the SirsiDynix ERMS was set for release at the end of the

year. A few months later, however, in April 2006, an agreement was reached between the two

parties for SirsiDynix to resell the Serials Solutions suite of products, including the ERMS[18]. As

of mid-2006, the Serials Solutions ERMS was available from both vendors.

Serials Solutions' ERMS is a hosted product and is a component of a suite of related products (e-journal portal, A-Z list, MARC record service, open URL linker, federated search tool). Like Verde, it has the advantage of a strong connection to an already-developed knowledge base. The Serials Solutions ERMS provides many basic electronic management features but it also appears that development is still underway for a number of aspects of the system, including data importation (promised for 2007) and reporting. Integration with SirsiDynix is planned for future releases.

The website for Serials Solutions' ERMS is www.serialssolutions.com/promotion/ERMS/.

The website for SirsiDynix's Horizon ERMS is www.dynix.com/products/erm/.

Open Source Electronic Resource Management Systems

As with other electronic tools employed by libraries, vendor-created systems dominate the electronic resource management system environment and have gained the most notice. However, some open source ERM systems do exist. For example, it could be said that all of the locally-produced systems (see note 1 at the end of the chapter) are nominally open source though most have not been installed beyond their originating libraries. Gold Rush has some freely available aspects but it is primarily a commercial product, albeit one produced by a non-profit organization. Beyond this, the only tool that the authors identified as ERMS-like, open source, and having a significant uptake is CUFTS. While CUFTS lacks some ERMS features, it's continued development points in this direction. Developed by the Simon Fraser Library for the Council of Prairie and Pacific University Libraries (COPPUL) in western Canada, CUFTS is an open URL linker and has companion tools, also open source, which can be used with the CUFTS knowledge base; these include a journal search tool, a resource comparison tool, and a MARC

record service. CUFTS is being used by a number of COPPUL member libraries and many libraries internationally. At this point, CUFTS can not be called a full-fledged ERM; a proposal has been put forth to expand CUFTS to a fully-featured ERMS, providing an open source ERM option for libraries everywhere.

The CUFTS website is http://cufts.lib.sfu.ca/.

CONSIDERATIONS BEYOND THE BASIC REQUIREMENTS

In many ways, the ERMS "industry" is an excellent example of how quickly a problem can be identified and a range of solutions can be created and made available. In approximately half a decade, difficulties relating to the management of electronic resources (new themselves) were noted, solutions were proposed, standards came together, and tools were produced, in almost all cases underpinned by the DLI ERMI standards.

The library community is now at the stage where ERM systems are being installed in larger numbers and ERMS providers and their products are gaining greater recognition, with some systems going into their second iteration. This being said, the ERMS "industry" is still in its early stages or infancy, especially in comparison to the ILS industry, which is now decades-long. This leaves many important questions to be answered and directions to be followed in the future.

The Consortial Environment

To start, how is the consortial environment going to affect ERMS development? It is a fair assumption that most electronic products are purchased in concert with other libraries, usually as part of an official consortium. At the same time, libraries buy many e-products individually. This results in suites of holdings with mixed origins in terms of acquisition.

Libraries and consortia face growing challenges in detailing the structure of purchases and ensuring consistent information is available at all levels. Consortia support is an issue of growing importance in the ERMS community, and in selecting a system the ability to support a variety of purchasing models, exchange data, and maintain local customization are critical considerations.   As of writing, it appears that the available ERM products can handle "standalone" purchases but provide a mix of capabilities when it comes to coping with the multi-level nature of group-purchased resources.

Working With Other Library Tools

A further consideration is how well an ERMS works with already-established tools in the library. Data exchange is the critical element. Initially, the concern is how to pull data from existing systems (the catalogue, A-Z lists, and in-house databases) into the ERMS. However, once the ERMS is implemented, there is a natural desire to pull data from the system for use in other products, for example, the desire to export downtime information and display it in the catalogue or database listings. Many ERM products are marketed as being able to operate as standalone modules; for instance, Company X says that their ERMS will share data with the ILS from Company Y. This is accurate for some situations but perhaps not for all; during the investigations carried out by the authors and their colleagues, it became clear that some ERM systems, despite being advertised as "standalone", didn't communicate that well (or at all) with modules from other providers and that it might be best to buy, say, an acquisitions module from the same firm as the ERMS in order to more fully exploit the features of the ERMS. Conversely, a few ERM systems are built to only work with modules from the same company. The amount of local work needed to create filters, and import/export mechanisms is a critical issue.

The Knowledge Base

A related issue is the quality, source and completeness of the knowledge base.   A

knowledge base, built from information about the e-resources that an ERMS supports, is the key

product of an ERMS; essentially, if there is no knowledge base, there is no functioning ERMS.

No library wants to build one from scratch (it can be very time-consuming) or manually maintain

all the information in the ERMS. Accordingly, being able to rely on receiving some key data,

especially data that changes frequently such as package title contents, is a good thing. The

quality of the data provided by the ERMS and its completeness are essential steps in evaluation.

Some vendors provide no supporting data, others allow importation from the ILS or third party

vendors, and others provide a regularly updated service as part of the product offering. For

example, Serials Solutions and Verde integrate their existing title and holdings contents services

into their ERMS. This may lead potential buyers toward certain providers and away from others.

A general weakness in ERM systems is that the diversity of the digital collection is not

captured or addressed. The most pressing example of this is the lack of support for e-book

packages, the same information on holdings and title changes that are often provided for e-

journal packages is needed for e-book collections. ERMS vendors the authors have spoken to

appear to be aware of this problem, but no real progress or even concrete plans have been

announced. This gap will prove an increasing challenge as formats such as sound files, digital

images, and streaming video become a standard part of digital collections.

Future Developments

There are questions about future developments and the vendor's commitment to

maximizing emerging standards to create new functionality. To use just one example, how are

ERMS vendors dealing with the SUSHI (Standardized Usage Statistics Harvesting Initiative)

protocol, which is designed "to automate the transport of COUNTER formatted usage statistics"[19]. In this case, it was mentioned at the September 2006 National Information Standards Organization (NISO) workshop, "Managing Electronic Collections: Strategies from Content to User"[20], that Endeavour, Ex Libris, Innovative Interfaces, and Serials Solutions were all building the SUSHI protocol into their ERM products for late 2006 and early-to-mid 2006 releases. ERMS vendors should be aware of these new issues and initiatives as they work with their products. Tied to this is the need to investigate the vendor's plans for future releases, question how consistently they have met release deadlines in the past, and inquire as to what implementation, troubleshooting and upgrading support they will guarantee supplying.

Selecting and Planning For Implementation

In addition to questions that should be asked of the vendor, another issue to be confronted is that selecting and planning for implementation requires internal reflection and decisions. There are the usual questions associated with the purchase of any complicated piece of library technology. What sorts of software and hardware purchases are required to support the product? How long will it take to set-up and turn into a functioning tool? What is the ease of use in practice? How much maintenance of the data is required? How much does a library have to change workflow in order to accommodate an ERMS and how much can the ERMS be changed to accommodate the workflow? What is the cost structure, both now and in the future? As the ERMS industry is so new, the answers to these common questions are not well known and the answers are still being discovered, sometimes the hard way.

A key pitfall is underestimating the time and effort required to implement the ERMS. In their investigations the Universities of Alberta and Calgary, and The Alberta Library called the references provided by vendors. Each reference emphasized this issue; they felt they had not

been prepared for the amount of advance work needed before ERMS implementation could begin. The various functional units of the Library involved needed to meet and decide on standards for the description and entry of data ranging from financial information to licensing details. This requires a substantial institutional commitment to implementation as staffing resources need to be permanently allocated across the organization. A twelve to eighteen month implementation timeline should be considered standard. If an implementation involves other partners, then these implementation questions will likely be further complicated and formal agreements with detailed expectations will be required.

A second internal question is consideration of the resources available for implementation. For example, ideally an ERMS would dynamically share data with other knowledge bases, such as the catalogue, A-Z lists, subject guides, database lists, etc. In practice no ERMS will provide out of the box interoperability with all library systems. Deciding before hand how and if data will be exchanged among systems is critical to successful implementation. A library with substantial internal technology support may be able to design and support filters and dynamic mechanisms for the exchange of data. Libraries with limited resources will need to decide priorities, for example giving up dynamic linking for scheduled downloads or selecting a "lite" implementation with emphasis on key data elements and products.

A choice may be made to open the ERMS to public staff rather then populate the OPAC and database listings for troubleshooting and rights information. Tied to this is working with pubic services to understand what data is of interest to users. An ERMS holds a great deal of information and the temptation to over populate public access sites should be avoided. The various user groups of an ERMS, such as public services staff, don't necessarily need to access the complete range of data that can be in an ERMS, especially one that has a large amount of

data. These decisions will affect the value given to interface design in selection. Libraries also

need to start sharing information about implementations and how different decisions affect

usability.

A third issue is being open to the organizational and procedural changes an ERMS will

necessitate or enable. Any major technology has this potential, and for an ERMS decisions

regarding which units enter data, when data is entered, and how troubleshooting issues are

addressed may lead to changes in job descriptions and unit responsibilities. Anticipating this

through implementation plans that capture this potential and provide mechanisms for enabling

change will help realize a full return on the considerable investment of money, staff, and time an

ERMS entails.

A fourth element for consideration is how the information in an ERMS may be used for

product evaluation and performance assessment. Going beyond the high profile example of

usage statistics, consideration should be given to information on title and holdings stability,

down time, use provisions, archival rights, and service response. The inclusion of this data in

negotiating license renewal is an issue that requires more exploration.

CONCLUSION

In the end, electronic resource management systems will continue to develop, at least for

the next few to several years. Some ERMS will flourish and grow, some will die, and some will

merge. How long the ERMS lasts is another question. The ILS has a fairly long history but

some in the library world are predicting that the demise of ILS will come, perhaps soon. Will the

ERMS last as long as the ILS has? Will the ERMS become the new ILS? Regardless, to state

the obvious proverb, these are interesting times, especially in terms of the management of

electronic resources.

NOTES

1. Timothy Jewell et al., "Electronic Resource Management: Report of the DLF ERM Initiative," Digital Library Federation, http://www.diglib.org/pubs/dlf102/ (accessed October 10, 2006)

2. The following articles discuss some locally-developed ERMS systems (there are others).

Virtual Electronic Resource Access (VERA), MIT:

Duranceau, Ellen Finnie. "License Tracking." *Serials Review* 26, no. 3 (October 2000): 69-73. http://www.sciencedirect.com/science/journal/00987913 (accessed September 22, 2006).

Hennig, Nicole. "Improving Access to E-Journals and Databases at the MIT Libraries: Building a Database-Backed Web Site Called 'Vera'." *The Serials Librarian* 41, no. ¾ (2002): 227-54. http://www.haworthpress.com.ezproxy.lib.ucalgary.ca/store/E-Text/View_EText.asp?sid=W29AKGCCHARE8N9BP6CWA97P3EC15L08&a=3&s=J123&v=41&i=3%2F4&fn=J123v41n03%5F19 (accessed October 4, 2006).

E-Matrix, North Carolina State University (NCSU) libraries:

Myer, Stephen, and Maria Collins. "E-Matrix – Choosing to Grow Your Own Electronic Resource Management System." *Serials Review* 32, no. 2 (June 2006): 103-5. http://www.sciencedirect.com/science/journal/00987913 (accessed March 27, 2006)

Electronic Resource Licensing Center (ERLIC), Penn State Libraries:

Alan, Robert. "Electronic Resource Management: Transition form In-House /Vendor Approach." *The Serials Librarian* 47, no. 4 (2005): 17-25. http://www.haworthpress.com.ezproxy.lib.ucalgary.ca/store/E-Text/View_EText.asp?sid=W29AKGCCHARE8N9BP6CWA97P3EC15L08&a=3&s=J123&v=47&i=4&fn=J123v47n04%5F03 (accessed October 4, 2006).

Taylor Periodical Administration System (TAPS), Taylor University:

Oberg, Steve. "Which Route Do I Take? A Viewpoint on Locally Developed Versus Commercially Available Journal Management Solutions." *Serials Review* 30, no. 2 (2004): 122-26. http://dx.doi.org/10.1016/j.serrev.2004.03.002 (accessed March 27, 2006).

Wissman, Matthew, Steve Oberg, and Dan Bowell. "Taylor Periodical Administration System." http://eprints.rclis.org/archive/00005898/ (accessed March 27, 2006).

The Hopkins Electronic Resource Management System (HERMES), Johns Hopkins University libraries:

Cyzyk, Mark, and Nathan D.M. Robertson. "HERMES: The Hopkins Electronic Resource Management System." *Information Technologies and Libraries* 22, no. 1 (March 2003): 12-17. http://proquest.umi.com.ezproxy.lib.ucalgary.ca/pqdweb?index=6&did=323298371&SrchMode=3&sid=1&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1160094423&clientId=12303&aid=1 (accessed October 4, 2006).

Database of Library Licensed Electronic Resources (DOLLeR), University of Illinois at Chicago Library:

Stefancu, Mircea, and Alex BlossJay Lambrecht. "All About DOLLeR: Managing Electronic Resources at the University of Illinois at Chicago Library." *Serials Review* 30, no. 3 (2004): 194-205. http://dx.doi.org/10.1016/j.serrev.2004.06.001 (accessed March 27, 2006).

3. A number of very good detailed surveys of ERMS products have been published. These include:

Collins, Maria. "Electronic Resource Management Systems: Understanding the Players and How to Make the Right Choice for Your Library." *Serials Review* 31, no. 2 (2005): 125-40. http://dx.doi.org/10.1016/j.serrev.2005.02.005 (accessed October 4, 2006).

Duranceau, Ellen Finnie. "Electronic Resource Management Systems from ILS Vendors." *Against the Grain* 16, no. 4 (September 2004): 91-93, 95.

Duranceau, Ellen Finnie. "Electronic Resource Management Systems, Part II: Offerings from Serial Vendors and Serial Vendors and Serial Data Vendors." *Against the Grain* 17, no. 3 (June 2005): 59-60, 62-66.

Meyer, Stephen. "Helping You Buy: Electronic Resource Management Systems." *Computers in Libraries* 25, no. 10 (November/December 2005): 19-24. http://search.ebscohost.com.ezproxy.lib.ucalgary.ca/login.aspx?direct=true&db=aph&AN=18707040&site=ehost-live (accessed March 27, 2006).

4. The PowerPoint for this presentation can be found in a few locations:

http://www.cla.ca/resources/cla2006/Presentations/Binksma.ERMS.ppt (CLA 2006 Resource Centre)
http://eprints.rclis.org/archive/00007421/ (E-LIS: the open archive for library and information science)

5. For more information about this project, please contact the authors.

6. Norm Medeiros, "Electronic Resources Management: An Update," *OCLC Systems & Services: International Digital Library Perspectives* 21, no. 2 (2005): 93. http://www.emeraldinsight.com/Insight/viewContentItem.do?contentType=Article&contentId=1502394 (accessed March 27, 2006).

7. Diane Grover and Theodore Fons, "The Innovative Electronic Resource Management System: A Development Partnership," *Serials Review* 30, no. 2 (2004):110. http://dx.doi.org/10.1016/j.serrev.2004.03.003 (accessed March 27, 2006).

8. As an illustration of the early dominance in installations of the Innovative ERM, in mid-2005, one of the authors attempted to find a library in Canada with an ERMS that had not implemented this system.   There were no responders who indicated otherwise (though it was possible that some non-Innovative ERMS sites did not respond to the author's listserv messages).

9. Elizabeth S. Meagher and Christopher C. Brown, "Gold Rush: Integrated Access to Aggregated Journal Text Through the OPAC," *Library Resources & Technical Services* 48, no. 1 (January 2004): 72. http://search.ebscohost.com.ezproxy.lib.ucalgary.ca/login.aspx?direct=true&db=aph&AN=12657031&site=ehost-live (accessed October 4, 2006).

10. Duranceau, "Electronic Resource Management Systems, Part II," 62.

11. Ibid.

12. Collins, "Electronic Resource Management Systems." 128.

13. Ibid, 136.

14. Meyer, "Helping You Buy," 21.

15. Anette Schneider, "A Nationwide Solution for the Management of Electronic Resources," *Serials* 18, no. 1 (March 2005): 59-63 . http://www.tdnet.com/site/upload/files/Denmarks%20DEF%20Article%20Testimonial%20March%202005(3).pdf (accessed October 7, 2006).

16. Tamar Sadeh and Mark Ellingsen, "Electronic Resource Management Systems: The Need and the Realization," *New Library World* 106, no.5/6: 216. http://www.emeraldinsight.com/Insight/viewContentItem.do?contentType=Article&contentId=1501637 (accessed March 27, 2006).

17. Duranceau, "Electronic Resource Management Systems," 94.

18. The press release for the Serials Solutions-SirsiDynix agreement can be found at http://www.sirsidynix.com/Newsevents/Releases/2006/20060425_serials_erms_marc.pdf#search=%22sirsidynix%20serials%20solutions%22).

19. NISO Standardized Usage Statistics Harvesting Initiative (SUSHI), "SUSHI FAQ", National Information Standards Organization, http://www.writely.com/View.aspx?docid=d2dhjwd_63tkkwf (accessed October 7, 2006).

20. The website for this workshop is http://www.niso.org/news/events_workshops/Collections-06-wkshp.html.