Tracking Web services in library applications

Librarians have yet to see widespread adoption of Web services in library-oriented technology products. Rather, its adoption has been tentative and gradual. Recent events, however, reflect continued interest and steady movement toward wider acceptance.

Software developers are looking at addressing data in XML-based structures and the use of the Web services architecture for communicating with external systems. Many of the system-to-system protocols that have been developed for library automation predate XML and Web services and are based on different technologies. Z39.50, NCIP, and ISO ILL fall into this category of protocols that predate Web services.

Another relevant set of standards relating to business-to-business transactions between libraries and their suppliers are EDI (electronic document interchange) and X.12 (an U.S. implementation of the EDI messaging protocols). Library automation vendors have been struggling since the late 1980s to automate routine financial transactions using these protocols. Although EDI is now supported

Digital audio book services to replace tape

The era in which books on tape dominate the library market for narrated audio books is coming to a close. Library e-book vendors such as OverDrive and netLibrary are working on narrated digital audio book services to complement their existing e-book services.

Both new services will be based on the Windows Media Audio (WMA) file format, which can be played on the freely available Windows Media Player installed on nearly all PCs or downloaded to a dizzying array of portable playback devices.

The narrated digital talking book service from OverDrive is the first to

launch. Cleveland Public Library, King County Public Library in Washington state, and the Mid-Illinois Talking Book Center served as beta test sites for the new service. The digital audio books can be downloaded to a PC or laptop, burned to CDs, or transferred to one of literally hundreds of makes and models of devices that support WMA files.

Microsoft maintains a list of more than 500 consumer electronics devices capable of playing WMA files. End users of OverDrive's new system can stream the audio while connected to the Internet,

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Web services *from page 1*

in many automation systems, it has proven to be complex and difficult to implement.

The use of Web services is becoming standard practice in e-commerce business sectors. Some key concepts of the services-oriented architecture include:

- SOAP (Simple Object Access Protocol) for the transfer of information

- XML for structuring it

- WSDL (Web services definition language) to describe and define the service

- UDDI (universal description, discovery, and integration) to provide a directory of the services available within a given context

The number of library automation vendors interested in Web services continues to expand. As reported in the previous issue of *SLN,* a group of vendors involved with library automation and services have formed a group named the Vendor Initiative for Enabling Web Services, or VIEWS, as a forum for discussing, testing, and implementing Web services.

VIEWS was initially convened in June 2004, was chaired by VTLS COO Carl Grant, and included representatives from Dynix Corp.; Fretwell-Downing, Inc.; Index Data; MuseGlobal; OCLC; VTLS Inc. The group has since expanded with Endeavor Information Systems Inc. joining in July, Talis in August, and most recently The Library Corp. in September 2004. National Information Standards Organization (NISO) monitors the group and plays a role and keeps its members informed on its progress, but VIEWS itself is not an official NISO initiative.

Streamlining ordering & acquisitions

Library software developer Innovative Interfaces, Inc., makes the most recent product that uses Web services, but it is not involved with VIEWS. In mid-September, Innovative implemented Inventory Express, which allows a library using the Millennium automation system to connect to the systems of book vendors to streamline ordering and acquisitions.

Using Web services, Inventory Express makes this process more interactive through real-time communication between the library's automation system and the vendor's database.

The product operates with two of the key library book suppliers, Baker and Taylor and BWI. Work is underway to expand the vendors systems it supports and to extend the functionality to Amazon.com, Brodart, and Ingram Library Services. Innovative is working on many Web services-based initiatives that will help make Millennium a more open automation system.

The Westerville Public Library in Ohio was the first to implement Web Express. The library serves 80,000 patrons with a collection of more than 300,000 items and conducts more than 1.2 million circulation transactions annually.

> **Library software increasingly is part of an information infrastructure where it must co-exist and intercommunicate with systems from other industries.**

Westerville was the beta test site for Innovative's Millennium Access Plus (MAP) product in August 2001. The library, an early adopter of technologies, has consistently placed near the top in the Hennen's American Public Library Rating Index, ranking first in 1999 and second in 2003 among libraries of its size.

Automating book supplier workflow

The first library vendor to announce strategic interest in Web services for automating the workflow with book suppliers was Dynix. Dynix' vision of technology is being increasingly focused on broad industry standards, such as Web services, rather than on library-specific protocols.

In June 2003, Dynix published its Vendor Integration Protocol (VIP), proposing it as a standard that could be adopted by any library automation vendor or supplier. VIP provides system-to-system communication with external vendors using XML and SOAP. Using Web services a library staff member can check the availability of an item in the vendor's system and transfer the bibliographic and pricing data automatically.

Dynix has implemented VIP between its Horizon system and many library book suppliers including Baker and Taylor, BWI, and Ingram Library Services. In August 2004, the list of supported vendors expanded to include the Lighthouse collection development utility from United Library Services (ULS).

Extending services

Talis, a U.K.-based library automation company has adopted Web services as a key technology underlying its suite of products. The company views Web services, implemented in Java and XML as providing the underlying fabric for its Talis Information Environment, consisting of its suite of products and external information.

The Talis Prism product, a next-generation library interface, goes beyond traditional OPAC features, including broadcast search capabilities, personalization features, and integration with courseware and other external systems. The Talis Prism architecture includes support for both Web services using SOAP and traditional library standards such as Z39.50.

As noted in the July 2004 issue of *SLN,* Web services also finds use in metasearching. The Search and Retrieve Web Service (SRW) as well as specialized XML gateways also are beginning to play a larger role in the technologies that underlie metasearch environments.

Library software increasingly is part of an information infrastructure where it must co-exist and intercommunicate with systems from other industries. To thrive in a complex environment of multiple business systems, the ability to communicate through Web services in addition to library-specific protocols benefits libraries. Nonlibrary interfaces can help facilitate integration and increase opportunities to provide content to users.—*Marshall Breeding*

Contact: W3C consortia Web Services development, www.w3.org/2002/ws
Westerville Public Library, www.wpl.lib.oh.us
VIEWS initiative, www.niso.org/committees/VIEWS/VIEWS-info.html

TLC INTEGRATES new searching paradigm

The Library Corp. (TLC) plans to offer a radically new interface for its library systems based on technology licensed from MediaLab Solutions in The Netherlands. Called AquaBrowser, the technology provides a new searching paradigm for the library catalog, presenting to the searcher a visual array of related search terms that can be used to refine the search or guide the session through a trail of related concepts.

When performing a search, the system not only delivers the results but also produces a visual map of the concepts represented in the results, called the cloud of associations, that can be used to guide subsequent steps in the search process. The search engine goes beyond literal representation to include fuzzy matches, concepts related to word stems, or semantic similarities. A sophisticated ranking algorithm determines the order in which results are presented.

AquaBrowser operates through several layers of technology. Data Connectors extract relevant information from the source documents, which in a library catalog would be the MARC records. A system component called Knowledge Builder analyzes the extracted data, making use of integrated dictionaries and thesauruses and generates data on statistical frequency of words, concepts, and word clusters.

The heart of the system is a data engine that stores the data and creates cross-references and performs the search and retrieval functions. The context builder layer tracks the search session and produces search results, including both the ordered list of results and the cloud of associations.

BiblioMondo acquired by ISACSOFT

The four-year lull in mergers and acquisitions among the library automation companies was broken in September as Canadian e-learning technology company ISACSOFT acquired Montreal-based BiblioMondo. The purchase of BiblioMondo is but the latest and largest transaction to date in the formation of a company that will compete in the e-learning technology sector.

BiblioMondo offers two major library automation systems, Concerto, sold primarily in Europe, and PortFolio, which it offers in Canada and France. About a dozen libraries in the United States also have adopted PortFolio.

Concerto sells mostly to municipal libraries. PortFolio also is used primarily by publics but also sees some use in government agency, museum, and other special libraries. BiblioMondo has recently developed a suite of portal and metasearch products called ZONES that can operate with either Concerto or PortFolio.

BiblioMondo is a mid-sized privately held automation company, with revenues of $11.9 million in 2003. Though the company has a limited number of customer libraries in the United States, it has long been working toward gaining a larger presence, either through direct sales or through a business acquisition. The company is well known in Europe and Canada where its software is used by many municipal library systems.

BiblioMondo was formed in October 1999 with the acquisition of the U.K.-based company named ALS International by the Canadian-based company named Best-Seller. These two companies developed Concerto and PortFolio, respectively.

Following the completion of the acquisition, the new combined company took the name BiblioMondo. Between September 1999 and September 2004 the company attracted about CDN $18.6 million in venture capital investments.

ISACSOFT, a publicly traded company, acquired BiblioMondo in a transaction expected to be completed by the beginning of October 2004 valued at about CDN $13M. The new company will be valued at about CDN $70M. Ian M. Ferguson, the president and CEO of BiblioMondo was named the Chief Operating Officer of ISACSOFT. In this merger, the venture capital firms exit from their role in the company, and ownership transfers to the shareholders of ISACSOFT.

ISACSOFT offers many interactive learning programs used in specialized training and distance education and offers services related to localization (translating software into a local language) of software and language translation. ISACSOFT sees in BiblioMondo not only technologies that complement its existing products and services, but also a new channel for sales and marketing.

ISACSOFT, founded in April 2003 by Ronald Brisebois, who formerly headed COGNICASE, is the second largest computer services company in Canada. Brisebois serves as president, CEO, and chairman of the board of ISACSOFT.

In January 2003 COGNICASE was acquired by CGI, its larger rival in a hostile takeover. Following this acquisition, Brisebois began assembling the company now known as ISACSOFT through a series of strategic business acquisitions.

The dynamics of this acquisition differ significantly from those where two direct competitors in the library automation field merge. ISACSOFT comes from outside the library industry and has no interest in shelving either of the automation systems offered by BiblioMondo.

Quite the contrary, it is interested in developing BiblioMondo systems. The ZONES portal technologies are complimentary to the e-learning products and services offered by ISACSOFT. In this merger, the library products and services, the management, and personnel of the company are expected to remain intact. By becoming part of a larger company, BiblioMondo gains access to increased resources for development and marketing.

Before its acquisition, BiblioMondo's objectives included expansion into the U.S. automation market. In 1993, when the company operated under the name Best-Seller, Inc., it launched a U.S. division headed by industry veterans Joan Frye Williams and Janet L. Bruman. That sales effort yielded limited results in North American sales south of the Canadian border.

Librarians should watch BiblioMondo in the next few years to observe how a library automation that is managed by a larger entity will be able to focus on the interest of libraries and how its development and marketing strategies evolve.—*MB*

Contact: Bibliomondo, www.bibliomondo.com
ISACSOFT, www.isacsoft.com

The user interface also presents a graphical representation of the results.

AquaBrowser will be available for all TLC's library automation systems (Library.Solution, Carl.Solution, and Carl.X) as an added-cost option. Pricing has not been announced.

Many library organizations have made use of the AquaBrowser technology from MediaLab, including the Dutch Association for Public Libraries, the Rotterdam Library, The National Library Board of Singapore, the Eindhoven Public Library, and the Utrecht Public Library.

BiblioMondo, a library automation company based in Montreal, Canada, has licensed AquaBrowser for use in its ZONES suite of portal and metasearch products. MediaLab also markets its technology to government agencies, organizations involved in electronic publishing, and others with large amounts of information.

Last June TLC announced a similar agreement with Endeca Technologies to integrate its Guided Navigation search interface with its library automation systems. The company indicates that both alternatives will be available to TLC customer libraries.—*MB*

OpenReader consortium promises relief

Many librarians and patrons are tired of the varying file formats, DRM (digital rights management), and reader software incompatibilities for e-books. The Open-Reader Consortium is trying to make the reading technologies supporting e-book users and e-book–collecting libraries easier, open, and universal.

DODL DAWDLES NO MORE

The Digital Library Federation (DLF) is finally launching an initiative announced in May 2003 called the Distributed Open Digital Library (DODL). Various committees have been formed to work on DODL, and this fall a director of the initiative is being hired.

DODL will help librarians to build on and leverage the existing digital library collections, services, infrastructure, and expertise at DLF member libraries to construct a large, cooperative digital library. DLF member libraries will be the first beneficiaries of this collaborative effort.

DLF member libraries will be able to:

- Contribute digital content to DODL

- Develop digital library services

- Engage in applied research related to digital library standards, procedures, administration, and use

- Engage in collaborative strategic planning

- Develop best practices for evaluating the success of DODL and other digital libraries in relation to the research, teaching, learning, and service activities of universities

One of the first phases of the actual construction of DODL will be an OAI-compliant (Open Archives Initiative) metadata repository harvested from the digital libraries at DLF member libraries.

The DODL initiative will be funded through contributions from DLF, its member libraries, and external funding organizations. Several DLF members will be actively involved in the initial development of DODL, including the California Digital Library, Emory University, Indiana University, Johns Hopkins University, the Library of Congress, New York University, Stanford University, the University of Illinois at Urbana-Champaign, and the Universities of Michigan, Minnesota, and Virginia.

Most of DLF's 36-member institutions are libraries at major U.S. research universities, but recently DLF expanded its membership beyond U.S.-based institutions. In January 2004 the British Library joined.

The vision of DODL has been around since the DLF formed in 1995. Although its vision has taken years to gain traction, the persistent need and advent of new software tools and standards indicate that something will appear soon. The DODL vision encompasses both public domain and copyrighted digital content, but the first materials to be collected probably will be public domain materials in the humanities and social sciences.—*TP*

Contact: Digital Library Federation, www.diglib.org
Open Archives Initiative, www.openarchives.org

Updated QUESTIONPOINT debuts

OCLC released an upgraded Question-Point system for reference librarians worldwide Oct. 10. An overarching goal of the new release and related efforts with QuestionPoint is to further integrate its various software and service components.

QuesionPoint is trying to become as easy as e-mail and Googlishly simple. Based on more than nine months of study, and with considerable feedback from reference librarians and end users worldwide, the new system sports several major developments.

The chat module for the virtual reference librarian and the overall question management interface have received the most changes with this release.

With the new release, librarians can more easily communicate and share expertise from within QuestionPoint. Instant messaging is possible among two or more librarians from the same institution or coverage group. A librarian who is monitoring QuestionPoint can even transfer a question to another monitoring librarian in the same library or coverage group. In general, fewer windows are involved now when a librarian is staffing a QuestionPoint virtual desk, and more activities and functions can be monitored from the main window.

The number of statuses for questions has been boiled down to three: new, pending, or answered. When librarians answer a question, selecting personal and institutional scripts is easier than in previous versions of QuestionPoint, as well as adding attachments.

Efforts have been made to integrate Knowledge Base (QuestionPoint's database of previously asked and answered questions) into the process of providing reference service. Librarians can now easily access Knowledge Base to help patrons. Batch processing capabilities also have been added in several functional areas, including claiming and assigning questions, and in interacting with Knowledge Base.

QuestionPoint patrons also receive perks with this new release. Direct patron access to both the global and the local Knowledge Bases can be configured. A library also can allow patrons to search the Knowledge Bases via a simple search interface added to the library's website.

The changes to the Administration and Profile modules of QuestionPoint have been minor.

The related QuestionPoint Enhanced Communications system, built on software from Convey Systems, soon will undergo a similar lengthy and extended review. The interface has been translated into French, and the pricing model is being revised. QP Enhanced promises reliable voice-over-IP communication, true application sharing, real-time video display, and other advanced reference features.—*TP*

Contact: QuestionPoint,
    www.questionpoint.org
Convey Systems,
    www.conveysystems.com

Tom Peters joins SLN

Tom Peters joins SLN as a contributing editor. He is the founder of TAP Information Services (www.tapinformation.com), which provides many services supporting libraries, consortia, government agencies, publishers, and other information-intensive organizations. Peters has worked previously at the Committee on Institutional Cooperation (CIC, the academic consortium of the Big Ten universities and the University of Chicago), Western Illinois University in Macomb, Northern Illinois University in DeKalb, Minnesota State University at Mankato, and the University of Missouri at Kansas City. At Grinnell College he majored in English and philosophy. He earned an MLS from the University of Iowa. His second master's degree (in English) was completed at the University of Missouri at Kansas City. His library experience includes reference service, library instruction, collection management, and administration.

Audio book *from page 1*

download the entire book, or download just parts.

OverDrive also has developed end-user software that works with Windows Media Player (Version 9 and higher) to improve the user's ability to navigate through and interact with digital audio books. The digital files have been marked up to enable navigation directly to chapters, sections, and pages.

To guard against copyright infringement and piracy, OverDrive uses Microsoft Rights Manager as its digital rights management (DRM) technology. OverDrive says its new service is accessible to blind and visually impaired users who use screen reader software, such as JAWS for Windows and WindowEyes.

Both companies are taking an integrative approach to their digital audio book services. NetLibrary plans to weave its WMA-based narrated digital audio books into its overall content offerings. At OverDrive, client libraries will be able to use the existing Digital Library Reserve system to manage their digital audio book collections.

OverDrive initially plans to distribute its digital audio books through libraries, publishers, and retailers—but not directly to consumers—and netLibrary plans to begin distribution with its existing library and consortial customers.

If content is not king, it at least is a member of the immediate royal family. OverDrive's opening-day audio collection focuses on current and recent fiction, especially genre fiction, with representative selections of nonfiction and classics. The collection contains both unabridged and abridged narrations recorded in digital stereo.

OverDrive has a major content agreement with Brilliance Audio and continues to reach agreements with other publishers to expand and diversify the collection. The exact nature and scope of netLibrary's opening-day collection remains to be seen, but announcements about the service mention best-sellers, book club favorites, and award-winning authors.

Audible.com, another leading purveyor of digital audio books, focuses more on the consumer market. Audible.com reported operating in the black in both the first and second quarters of 2004 (third quarter earnings were not available at press time).

Audible.com should see healthy competition from OverDrive, netLibrary, and startup companies such as Paperback Digital (which is using the MP3 compression format, not WMA) as the field grows crowded in the fourth quarter of 2004 and beyond.

Interestingly, companies are taking various tacks for file compression and the resulting sound quality. Audible.com offers four levels of sound quality. OverDrive offers just one, and netLibrary plans to offer two, akin to the sound quality of radio and commercial music CDs.—*Tom Peters*

Contact: Microsoft list of consumer electronics devices for playing WMA files, www.microsoft.com/windows/windowsmedia/devices/alldevices.aspx

OverDrive, www.overdrive.com/audiobooks/chooseus.asp

netLibrary, www.netlibrary.com/Gateway.aspx

Audible.com, www.audible.com

Paperback Digital, www.paperbackdigital.com

OpenReader *from page 5*

OpenReader, an open-source system that will be based on XML and other pertinent standards, is being designed to maximize the accessibility, usability, and interoperability of digital content of all types that is intended primarily for a page-like display.
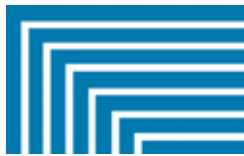
OpenReader may be a boon for publishers and content creators, who would welcome a sustainable, universal e-reader format that is based on current standards and provides high-quality output.

Readers and the libraries that serve them would no longer need to download and maintain current versions of the many proprietary e-reader systems on the market. Readers also will have greater control of on-screen information.

In terms of functionality, OpenReader plans several innovative features, such as a sophisticated supersearch feature and booklets, which will use the out-of-spine aspect of the Open eBook Publication Structure (OeBPS), Version 1.2. Booklets will enable the end user to customize how notes, images, annotations, and other information are displayed.

The OpenReader Consortium plans to make its end-user reader software cross-platform, so that Microsoft Windows, Mac, Linux, Palm, and other OS users will not need to wait. A library management module is planned for the first implementation of OpenReader. The initial release date of OpenReader has not been announced.—*TP*

Contact: OpenReader Consortium, www.openreader.org

Open eBook Publication Structure, www.openebook.org

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Digital audio books coming

Smart Libraries Newsletter

Smart Libraries Newsletter delivers hard data and innovative insights about the world of library technology, every month.

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