Nearly 100 library staff from throughout the three-state MINITEX region came together last month to learn about the possibilities for seamlessly linking library users with diverse resources through products based upon the OpenURL standard. The daylong conference was sponsored by the Open Linking Working Group of the MINITEX/LDS Joint Standards Review Task Force, which is investigating the feasibility of a consortial purchase of an OpenURL software product.

OpenURL technology and products allow library staff to provide links to appropriate electronic resources and user services at critical points within the research process. To envision this process, consider patrons searching Education Abstracts and finding an ideal citation for their research. What steps are required next?

1) They must determine whether their library owns that item. Doing so may require many steps in a variety of systems.
2) They, then, have to figure out if the article is in print or electronic format and where it is located. Is it in the library? In another full-text index? On the Internet? In an e-journal?
3) Next, they have to retrieve that item -- either electronically or physically.
4) If they cannot find the item, they may need to use interlibrary loan or talk to a library staff person.
5) Then, they must continue their search for other sources and go down all those divergent paths again.

The promise of OpenURL technology and its products is that many if not all of these options will be brought to this user at the point of need – for example, from the Education Abstracts citation. For library users and staff alike, this is an exciting possibility indeed!

Conference Speakers and Vendor Presentations

Several speakers took part in the conference, the goal of which was to help library staff learn about how OpenURL technology works, about various products available in the marketplace and about the process of incorporating these products into libraries’ resource access system.

Guest speakers and their topics included:
- Harry E. Samuels, member of NISO Committee AX (which is developing the OpenURL standard), and Digital Library Projects Coordinator, Endeavor Information Systems: “OpenURL & Open Linking”
- Carey Hatch, Assistant Provost for Library & Information Services, SUNY System Administration: “Reference Linking with OpenURL: SUNY’s Consortial Experience”

Vendors and products discussed included:
- Gold Rush, developed by Colorado Alliance of Research Libraries
- LinkfinderPlus, developed by Endeavor Information Systems Incorporated
- Open Linking, developed by Fretwell-Downing, Inc.
- SFX, developed by Ex Libris

Angi Faiks, MINITEX Electronic Resources Librarian, and Michael Kathman, Director of Libraries and Media, College of St. Benedict/St. John’s University and Chair of the MINITEX/LDS Standards Task Force, introduced
the day’s program, described the Working Group’s activities to date, and summarized the Group’s discussion of a possible Request for Proposals (RFP) for a consortial OpenURL product purchase.

Michael Kathman, Activities of the Opening Linking Working Group

Kathman noted that the Working Group was formed in Spring 2002 to investigate the potential of reference linking provided by open linking software and to investigate open linking packages currently available in the marketplace. (A report on the Group’s work is available at the Standards Task Force’s website: http://www.minitex.umn.edu/committees/standards/) As part of its exploration, the Working Group decided to sponsor this educational day to share information with library staff and to discuss the benefits of open linking software, both in terms of facilitating greater use of resources available statewide through the Electronic Library for Minnesota (ELM) and in providing for integration of statewide and individually licensed resources for individual institutions.

If there is enough support from MINITEX participating libraries, the Working Group plans to prepare an RFP with a return deadline in late winter/early spring 2003.

Harry E. Samuels, “OpenURL & Open Linking”

Samuels provided an overview of the concept and goals of open linking, the development of the OpenURL standard, and a what-it-is/what-it-isn’t guide to help his listeners distinguish between OpenURL products and others (including such serials management systems as Serials Solutions or Journal Web Cite), which perform some similar functions.

Samuels explained that open linking and, specifically, the OpenURL standard were developed to answer a need for efficient and effective linking of users and electronic resources in the scholarly environment. Through OpenURL, a combination of metadata and link resolvers can seamlessly connect individual searchers with appropriate resources – helping library staff to optimize the use of electronic resources they have selected for their patrons and pointing the way for library users through the maze of available resources.

The need for effective resource linking grew along with the amount and variety of scholarly communication on the World Wide Web. Internet search engines like Google can identify thousands of sources of electronic information, and libraries offer access to hundreds of electronic databases. But, these resources “know little about the user or what the user has access to – so the link may or may not be usable,” Samuels said. Linking on the Web consists of a source reaching out to targets and bringing back information and providing a link to information available at the target. In Open Linking, a link resolver is interposed between the source and the targets; this resolver

- accepts metadata from a source and presents links based on logical and business rules administered locally.
- it puts link resolutions into the hands of the library.
- it knows the user’s context and what the user has access to.

OpenURL, which is administered by the National Information Standards Organization (NISO), adds an additional element to the Open Linking process by providing “a standard way to send metadata to a link resolver” – thus making it possible for libraries, content providers, and software developers to depend upon the interoperability and robustness of the linking process. Samuels provided his listeners with a primer on how OpenURLs are constructed and about how they provide a dependable, manageable link between user and resource. NISO Committee AX is working to complete a draft of the standard with the goal of it being released as a standard for trial use after review by NISO’s voting members, which includes the MINITEX Library Information Network.
Samuels explained that a local link resolver connects the user and the “appropriate copy” by retaining information about “which [electronic resources] . . . the end-user has access to.” Often, this information is provided by library staff. A universal resolver, on the other hand, identifies the target, but lacks the end-user’s authorized access profile information.

Samuels concluded by discussing what OpenURL systems “are not.”

- They are not portals, which “typically bring together resources in one interface.” Resources retrieved through OpenURL may come from diverse sources with varying interfaces.

- They are not search and retrieval systems that “search across databases, bring results lists back, and can present the results individually.” These, typically, lack the access profile information needed to eliminate targets that will produce dead-end searches for the individual user.

- They are not serials management systems, like Serials Solutions or Journal Web Cite, “which specialize in knowing where electronic journals are on the web. They meld your subscription data with their data to give you links to journals.” Serial management systems provide lists of electronic journals to which a user’s library has access, and “hot links can, in turn, be presented to patrons as browse-able/search-able lists that your patrons can use to find electronic journals.” As indicated by the name, the focus of these services is serials, while OpenURL can be used to provide informed links to divergent resources.

The standardization that is the hallmark of OpenURL-based systems will mean that “once a source has been OpenURL enabled, it can be retrieved from any resolver.” It is no longer “linked to a specific OpenURL product.”

Carey Hatch, “Reference Linking with OpenURL: SUNY’s Consortial Experience”

Hatch described the SUNY system’s decision process, pilot project, and plans for full implementation of an OpenURL product in its consortial setting. As he noted, the SUNY system has a reach similar to that of MnSCU in Minnesota (including academic institutions from large state universities to two-year community and technical colleges), although SUNY’s number of campuses and students is much larger. Also, the SUNY system is in the midst of implementing Ex Libris’ Aleph 500 as its shared integrated library management system as are the libraries of the University of Minnesota and MnSCU/PALS.

Hatch said the SUNY system decided to implement an OpenURL product (specifically, SFX from Ex Libris), in part, to reduce the multiplicity of interfaces that students face as they seek to use electronic resources licensed by the SUNY system and by individual libraries. Funds were available because of a delay in implementation of a statewide delivery contract.

SUNY’s OpenURL pilot included participation by Binghamton (a large University Center), Fredonia (a four-year college), and Cobleskill (a two-year technical college) using a single dual processor Linux server located at the Information Technology Exchange Center, which provides software support for the entire SUNY system. Hatch explained that his office developed the “instructions and files for campus configuration of shared resources,” which the pilot libraries input along with information about resources specific to their campuses.
Findings of the pilot project included:

- The pilot libraries were able to complete their part of the work for the OpenURL system within two months – switching to production use by the agreed upon target date.
- “Updates have to be run centrally and take approximately 20 minutes per library.”
- “System and network utilization is minimal.”
- “You need hooks to ISSN or ISBN – many electronic resources may not have them.”
- “Faculty, staff and reference librarians love it.”
- “Interesting by-products include electronic journal list and statistics.”

Based on experience gained during the pilot, 56 SUNY campuses agreed to participate in the OpenURL program, and it was decided that a Sun V8-80 with four processors, eight gigabytes of memory, and minimal disk would be needed to support full OpenURL implementation. Each campus may send two people to regional training sessions, which take one day and are presented in collaboration with the vendor. “Trainees are given information to review prior to the training and are added to the SUNY listserv one week prior to training,” Hatch said. Staff from the pilot sites have agreed to act as mentors.

Twenty-four SUNY sites were trained during October and November, and 29 sites will be trained in February-April 2003. The plan “is that all participating campuses will be publicly available by fall semester 2003.”

Hatch said the expected role of the SUNYConnect central office is to:

- Foster communication among libraries
- Provide instructions and resource files for configuration of University-wide electronic resources
- Provide application assistance as required
- Application maintenance – updates, fixes, new releases
- Maintain appropriate technology infrastructure.

On the other hand, the role of the individual campus libraries is to:

- Configure and maintain the application as determined by library’s electronic resources
- Work with electronic resource providers as necessary to configure and maintain the application
- Report problems to the vendor
- Report available fixes to OLIS [the central integrated library system support team]
- Promote use of OpenURL on campus
Hatch noted that some questions remain, such as the hardware configuration that will be needed to support the service when implemented fully and whether the planned one-day training and periodic follow-up conference calls will be adequate. But, overall, the libraries involved in SUNY’s pilot project found, “OpenURL is fun, high impact and requires a modest effort for the benefit.”

Vendors and OpenURL Products

The remainder of the conference was devoted to exploring the features of various OpenURL products.

Essentially, the OpenURL component of each vendor’s package functions in a similar manner. They begin to diverge significantly only when a vendor offers unique add-on features. All the products offer an interface that enables library staff to indicate resources owned by their library. Also, they all provide a customizable user interface, which offers appropriate links to patrons during their research process (i.e. link to full text of the appropriate article, connection to a reference librarian, link to a form for interlibrary loan). Each of the vendors offers a variety of software hosting options.

The differences among the products include:

**Gold Rush, Colorado Alliance:** Gold Rush combines OpenURL with e-resources data to provide for subscription management and collection analysis allowing the product to do some of the tasks of a serials management system. For example, data from 400 aggregators, publishers, and indexing/abstracting services can be compared to assess coverage overlap. It can be implemented in any library environment and is not dependant upon any other library systems. This product was created for library consortia but can be used for individual libraries as well.

To learn more, visit: [http://goldrush.coalliance.org](http://goldrush.coalliance.org)

**LinkFinder Plus, Endeavor Information Systems:** This is a standard OpenURL product. It can be implemented in any library environment and is not dependant upon any other Endeavor systems.

To learn more, visit: [http://www.endinfosys.com/prods/linkfinderplus.htm](http://www.endinfosys.com/prods/linkfinderplus.htm)

**Open Linking, Fretwell-Downing:** The main difference between this product and the others is that it currently operates as an add-in to Fretwell-Downing’s ZPORTAL software and must work within the ZPORTAL environment. While MnLINK has a contract with Fretwell-Downing to use ZPORTAL to replace OCLC’s SiteSearch as a basis for the MnLINK Gateway, the contract does not include the Open Linking component.

To learn more, visit: [http://www.fdgroup.com/fdi/marketing/ol2_leaflet.pdf](http://www.fdgroup.com/fdi/marketing/ol2_leaflet.pdf)

**SFX, Ex Libris:** This is a standard OpenURL product. SFX is the only OpenURL product implemented in the MINITEX region thus far. It can be implemented in any library environment and is not dependant upon any other Ex Libris system.

To learn more, visit: [http://www.sfxit.com](http://www.sfxit.com)

**More OpenURL products** will come into the market. For example, representatives for 1Cate, by Openly Informatics ([http://www.openly.com/1cate/](http://www.openly.com/1cate/)), were unable to attend the Nov. 19 conference. Other products, such as Serials Solutions, are working to add OpenURL components ([http://www.serialssolutions.com/journallinker.asp](http://www.serialssolutions.com/journallinker.asp))