ISQ

INFORMATION STANDARDS QUARTERLY

WINTER 2009 | VOL 21 | ISSUE 1 | ISSN 1041-0031

SPECIAL ANNIVERSARY EDITION: PART ONE

NISO CELEBRATES 70 YEARS

METADATA MIX AND MATCH

USING STANDARDS TO TAME ERM

PERFECTING SINGLE SIGN-ON AUTHENTICATION

STATE OF THE STANDARDS & YEAR IN REVIEW

NISO
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May 13 - NISO/COUNTER Webinar: New Applications of Usage Data

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July 10–14 - NISO @ ALA Annual | *Chicago, IL*

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SEPTEMBER 2009

September 9 - NISO Webinar: Licensing Introductory Issues/SERU

OCTOBER 2009

October 12–13 - Library Resource Management Systems | *Boston, MA*
October 14 - NISO Webinar: MARC/RDA/Bibliographic Control

NOVEMBER 2009

November 11 - NISO Webinar: Data Systems Population/Data Migration

DECEMBER 2009

December 9 - NISO Webinar: ONIX-PL/ERMI Update

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NISO
How the information world CONNECTS

INFORMATION STANDARDS QUARTERLY (ISQ) is a publication by the National Information Standards Organization (NISO). ISQ is NISO's print and electronic magazine for communicating standards-based technology and best practices in library, publishing, and information technology, particularly where these three areas overlap. ISQ reports both on the progress of active developments and also on implementations, case studies, and best practices that show potentially replicable efforts.

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FOR A FULL LISTING OF RELEVANT LINKS IN THIS ISSUE, visit www.niso.org/publications/isq

CONNECT
TO HAVE AN IMPACT

WHY JOIN NISO

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As a NISO member, YOU shape the agenda.

Digital content is at the heart of your operations, so you want it organized, accessible, searchable, protected, and preserved. This is what NISO technical committees and working groups ensure. NISO employs a community approach to solve some of the most vexing issues in our community. As a voting member, you help determine the priorities of projects that NISO undertakes and ensure that consensus is reached on proposed standards.

Investment in NISO membership yields returns to YOUR bottom line.

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NISO enhances your image in the community.

By crediting members who are integral to developing standards and best practices, highlighting members' expertise through webinars and forums, and providing writing opportunities in NISO publications, **NISO makes it clear that member organizations are leaders in our information community.**

Your organization needs to be a driver, not a follower, of information services and technology.

Our members are THERE. They contribute their VOICE. They make a DIFFERENCE.

Todd Carpenter

FROM THE PUBLISHER

Over the past year, ISQ has undergone some significant transitions, as it moved from a newsletter to a more inclusive magazine. It is fitting that we've made these changes to invigorate ISQ just as NISO is expanding its scope as an organization. You will notice that with this issue, we've listened to reader feedback and improved the design. Behind the scenes, we have restructured the editorial and production processes at ISQ. **Cynthia Hodgson**, a long-time member of the NISO standards development team, has been appointed Managing Editor. **Jay Datema** continues to solicit and contribute articles as Content Editor. We are continuing to expand and diversify the content and improve the information you receive in ISQ.

We start off this 70th anniversary year with two retrospective articles. The first is one in a series of timelines we will have in ISQ this year looking back on NISO's first four decades. Part 1 covers the period from the organization's founding through its formal non-profit incorporation in the 1980s. The second retrospective article is our annual review of NISO's activities, reflecting on the work that was advanced in 2008. Looking forward, Jeremy Frumkin, Chair of NISO's Architecture Committee, discusses the strategic work that is underway by that committee.

This issue also includes an insightful feature article from Karen Coyle on metadata and the complexity of bibliographic data in a web-based world, focusing in particular on her work with the Open Library. Another feature by Abigail Bordeaux reviews the state of e-resource management and the need to streamline the processes that libraries use to administer their electronic collections. Jay Datema has contributed an editorial on usage measures and the impact that studying usage has had on our community. We have an editorial from NISO's Board Chairman, Oliver Pesch, on his selection of single sign-on authentication as the Chair's Initiative and a meeting report from a NISO webinar on this same topic.

NISO's predecessor, the Z39 committee, was founded during a challenging era—the Great Depression. Today we are facing another difficult environment, with long-established companies and organizations struggling to stay afloat. So we are pleased that NISO can still engage the community on important issues and make a positive impact on information distribution. Libraries have long realized that sharing resources reduces costs. By focusing on NISO's mission of developing standard methods for information distribution, management, re-use, and preservation, we can all succeed at doing more with a little less.

Todd Carpenter | *NISO Managing Director and ISQ Publisher*

SERU

SERU: A SHARED ELECTRONIC RESOURCE UNDERSTANDING (NISO-RP-7-2008)

IT'S TIME

SERU IS FOR YOU

An alternate to e-resource licenses

Libraries and Publishers save time and money.
SERU offers libraries and publishers the option to reference a set of common understandings as an alternative to negotiating a signed license agreement.

Developed by a NISO working group comprised of librarians, publishers, subscription agents, and lawyers, SERU is a recommended practice that is designed to streamline the acquisitions/sales process.

The SERU recommended practice is available for free download from: www.niso.org/standards/resources/RP-7-2008.pdf.

Libraries and publishers rapidly adopting SERU

More than 70 Libraries • Eight Consortia • Over 30 Publishers

Publishers and librarians agree on the products for which they wish to reference SERU and forgo a license agreement. The SERU Registry helps to identify publishers and libraries interested in using SERU for electronic resources. Publishers who wish to use SERU with any of their products and librarians who would like to request that SERU apply to some of their products are quickly joining, using, and appreciating the benefits of SERU. Follow their lead and sign up to the SERU Registry today! **www.niso.org/workrooms/seru/registry/**

Benefits of SERU include:

- ✓ Easier e-resource subscription transactions
- ✓ Rapid acquisition and minimal delay for access
- ✓ Time and cost savings for both libraries and publishers

How SERU can work for you

- ✓ Sign the registry to show your interest in using SERU
- ✓ Select products or services to which SERU may apply
- ✓ Reference SERU in the purchase documents
- ✓ Link to SERU on the NISO website

NISO

WWW.NISO.ORG/WORKROOMS/SERU/REGISTRY/

NISO CELEBRATES 70 YEARS

SPECIAL ANNIVERSARY EDITION: PART ONE

The National Information Standards Organization turns 70 this year and its publication, *Information Standards Quarterly (ISQ),* has just passed its 20th birthday. In the first three issues of ISQ in 2009, we will share with you some of NISO's milestones beginning with its inception as Committee Z39 of the American Standards Association (ASA) in 1939. In issue #4 of ISQ, we will look ahead to NISO's future.

1935

First Z39 standard published: Z39.1, *Reference Data for Periodicals*

1939

Committee Z39 created by the American Standards Association, led by the American Library Association.

1947

ISO TC46 on Information and Documentation formed. Z39 provides ongoing feedback on proposed standards.

1951

Council of National Library Associations (CNLA) takes over leadership of the Z39 committee.

1955

Z39 appoints its first U.S. delegate to ISO TC46: Eileen R. Cunningham.

1959

The second standard, Z39.4, *Basic Criteria for Indexes*, is published.

First newsletter, *News about Z39*, is issued.

1963

Third standard, Z39.5, *Periodical Title Abbreviations*, is published.

Abbreviated journal title example: Libr Inform Sci

1965

Z39 offices relocated to University of North Carolina at Chapel Hill.

1966

National Clearinghouse for *Periodical Title Word Abbreviations* established as first Z39 Maintenance Agency.

1935–1981

Look for the continuation of the timeline in the upcoming issues of ISQ

1967

Committee title becomes Z39 on Library Work, Documentation, and Related Publishing Practices.

1968

Z39.7, Library Statistics, is published.

1970

News about Z39 newsletter begins publication.

1971

Z39.2, Bibliographic Information Interchange on Magnetic Tape submitted to ISO and becomes ISO 2709:1973.

1972

Z39's work on a standard book number contributes to ISO 2108: 1972, *International Standard Book Number* (ISBN).

ISBN example: 0-83-896162-2

1973

Z39.21, Book Numbering, is published.

1974

Z39.9, Identification Number for Serial Publications forms the basis for ISO 2789:1974, International Standard Serial Number (ISSN).

ISSN example: 0028-8942

Z39.19, Guidelines for the Construction, Format, and Management of Monolingual Thesauri is published.

1977

CNLA Study Group appointed to review Z39 activities and recommend future directions.

Z39.29, Bibliographic References, is published.

1978

First Z39 Executive Council meets.

Robert Frase named Z39 Executive Director.

U.S. Postal Service requires inclusion of ISSN on periodicals mailed under second class postage.

1979

Voice of Z39 newsletter launched.

Z39 Bylaws ratified by membership.

1980

Participating membership fee established to provide funding for Z39.

Z39.42, Serials Holdings Statements at the Summary Level, is published.

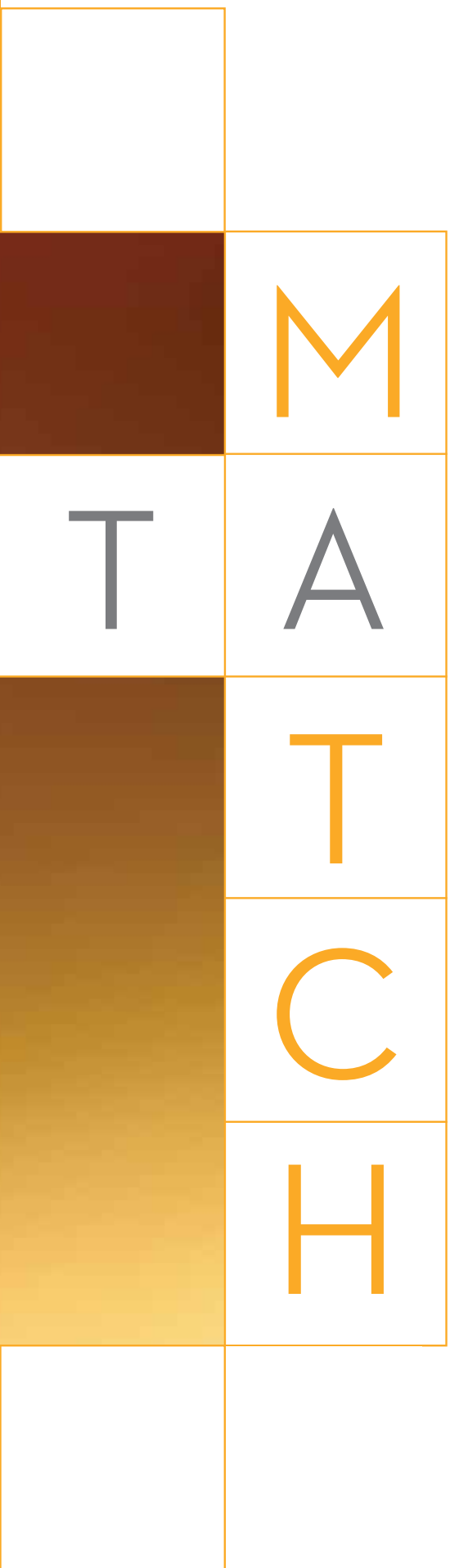
Holdings statement example: DLC -- 19931017 -- v.1(1983)

| FE | doi: 10.3789/isqv21n1.200904

AN METADATA IX

KAREN COYLE

It's not uncommon for those of us associated with libraries and library bibliographic data to think of bibliographic metadata as being specifically a record. It's also not uncommon for us to think of only one kind of record: the one we now call "MARC 21." In fact, our metadata standards generally define records as the unit of the standard, including the early NISO standard, ANSI Z39.2, *Information Interchange Format*, which defines the underlying format for the MARC 21 record.



Increasingly, however, I am finding that the record view doesn't match the complex bibliographic reality that we live in today. Work that I have been doing on the Open Library, a project by the Internet Archive, has helped me come to the conclusion that our future is about data, not records, and that our applications must be able to work with a mixture of data standards.

Beyond Library Bibliographic Data

I was asked to consult with the Internet Archive's Open Library project primarily to lend my expertise in bibliographic data. At the time that I stepped in, there was a database design and a database with some bibliographic data. Although I've never been a cataloger, I have spent decades working with library data in MARC format, and I therefore have some pre-conceived notions of what bibliographic data should look like. To my dismay, the Open Library data did not look anything like library bibliographic data. I learned, however, that there were some good reasons for this.

The first was that the Open Library was not limiting itself to library data. In fact, a great deal of the data in the database comes from other sources, including data obtained from Amazon.com, ONIX data from some individual publishers, and even some records that have been hand-keyed by Open Library users. The default user view of the bibliographic data is a combined display of elements from the various sources, yet it is also possible to drill back through the history of the bibliographic entry to see all of the data that has been submitted, including each change that has taken place. The bibliographic entry is not a fixed item but a growing organism whose evolution is visible.

Another reason the Open Library does not limit itself to the more rigorous library data style was that the Open Library allows editing of its data by the general public: people with no particular bibliographic training. It is obviously not possible to present concepts like "country of producing entity for archival films" or even "uniform title" to an untrained user base.

The Open Library programmers were not familiar with the standard library metadata record, and the standards were not compatible with the general suite of tools that the programmers commonly work with, such as HTML, CSS, and a host of XML-based tools. Although most of the team's communication is via e-mail or chat (the project's personnel are on three different continents), I could hear the virtual sighs as I explained the nature of the MARC record and of the MARC-8 character set. Fortunately, generous souls in the library community provide translation routines from MARC into XML and the Unicode standard character set.

Link Data, Not Records

The most compelling reason to deviate from the standard view posited by library bibliographic data, however, has to do with the concept of linked data. It is expected that data today will interact with a wide range of information resources. The Open Library uses an underlying data design that is commonly called a "triple store." In this design, data elements are simple key/value pairs that can be re-combined for a variety of uses. The individual units, such as "author = John Smith," are available to be used as needed in whatever context is appropriate. The emphasis is on the data, not on a particular record. Freed from a particular record structure, the data is also available to link out to similar data in other data stores. For example, any persons named in the Open Library database can be linked to entries in Wikipedia for that person or to a personal web page. It doesn't matter that each of these resources has a very different overall structure

CONTINUED »

and may share only that one data element in common. When you emphasize data, rather than records, the different information sources reveal themselves to be less different than you may have thought.

It's true that the data presented by Amazon and the publishers is oriented toward the immediate marketing needs of those organizations, while the library data takes a longer and broader view of the bibliographic universe. But semantically, the similarities outweigh the differences, particularly in the eyes of the users, who easily understand these two entries to represent the same book:

1. **Run for Your Life**
   James Patterson
   In Stock
   Little, Brown and Company
   February 2, 2009
   Hardcover

2. **Author: Patterson, James, 1947–**
   Title: Run for your life : a novel / James Patterson and Michael Ledwidge
   Imprint: New York : Little, Brown and Co., 2009
   1 copy on shelf

The first is from Amazon, the second from a library catalog. Each in its own input record format is very different, but the data itself is more alike than it is different.

You can take advantage of both the similarities and the differences when you can store the data apart from any particular record format. For example, your author data can take multiple forms, each one being an authoritative form of the author's name in a particular context:

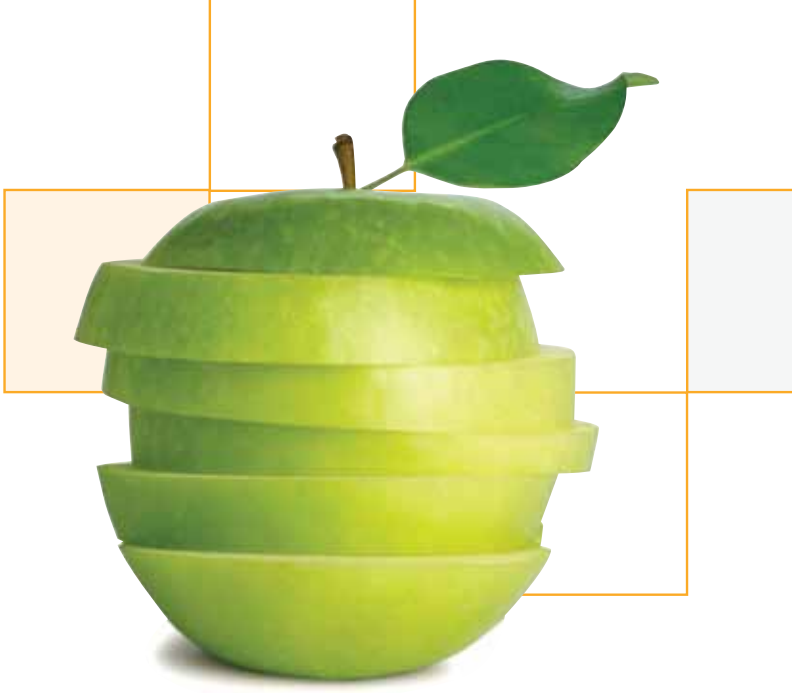
http://www.amazon.com/James-Patterson/e/B000APZGGS
↳ Displayed as: James Patterson

lccn:n78086409
↳ Displayed as: Patterson, James, 1947-

http://openlibrary.org/a/OL22258A
↳ Displayed as: James Patterson 1947-

http://en.wikipedia.org/wiki/James_Patterson
↳ Displayed as: James Patterson

Each of these is standard in its own environment, and each can be considered standard outside of that environment if it is identified clearly as to its source and has a unique identifier within that source. For these purposes, Uniform Resource Identifiers (URIs) are ideal, but other identifier formats can still be useful.



The "smart up" method allows you to merge and modify data using the best information you have.

Smart Up, Not Dumb Down

It's an unfortunate fact that many systems combine data from different sources using only the "dumb down" method, reducing the metadata to the few matching elements and resulting in the least rich metadata record possible. This results in a tremendous loss of data and an inferior user experience. The "smart up" method uses all or most of the data from the different sources, resulting in enhanced information. For example, the Open Library record is able to link to any number of information sources both from its pages for books and its pages for authors, in part because it can store linkable data from any source without having to be concerned about fitting that data into a particular record format. It also means that it can create a display that is richer than any one data source. The web pages for books combine subject headings from library data as well as the publisher's BISAC subjects. The web pages for authors can carry the biographical information that publishers include in their marketing data, yet can still be linked to name authorities records used by libraries to record the decisions about the author's identity.

The "smart up" method also allows you to merge and modify data using the best information you have. As we all know, matching the names of persons across systems is highly problematic. Although libraries put a great deal of effort into the identification of named persons and of corporate entities, the name forms that they choose to use as identifiers are not the ones used by any other community. Combining information from many sources allows you to make inferences based on the context of the data, so author names that are similar, though not identical, but share links to titles and publication information can be brought together

as likely matches. The more of this contextual data you have, the more sure you can be that your matches represent the same resource.

Metadata Dynamics

Once you accept that metadata does not have to represent a single source of data or a single defined record format, it becomes easier to see that metadata can be dynamic—that it can exist in multiple versions or in an assortment of views at the same moment in time. The Open Library uses the Wiki concept of change control, capturing each change to its content as an addressable web page.

Because of the mashed-up nature of the Open Library display, it is important to consider the original data sources as a continuing part of the information product. The design for the eXtensible Catalog (XC) is built around this same capability, facilitating both an incremental development of applications, but also potentially allowing the development of multiple applications from the same set of data. The days in which we discarded everything but the most recent version of a database record are over; versioning is in, which means keeping a history of all input and all changes to the bibliographic data. Ideally, it also means knowing where each data element originated, thereby retaining the ability to recreate a coherent, standards-based record when needed.

Mix and Match Metadata is the Future

It may seem that the Open Library is an anomalous project, and therefore not one that provides lessons we can apply elsewhere, but I see evidence that this type of project is in fact the new norm. Increasingly, we will be creating information services that accept and manipulate data that comes from multiple sources, each one based on different standards or no standards at all. We can plan for that eventuality, as evidenced by the XC project, but this means making a shift in our thinking about metadata. In particular, we need to move from an emphasis on records to an emphasis on data.

Much of what has been possible in the Open Library is because its main inputs—the library and the publisher data—themselves are heavily populated with standardized elements. It's clear that a data store can be open, dynamic and still adhere to standards, as long as the standards are applied to individual data elements. As we move more toward linked open data, it becomes vital that data elements adhere to standards so that they will be usable in a variety of contexts, or at least outside of the one context of the originating system. Those of us creating and using bibliographic data will need to develop a shared set or sets of element standards that are well-defined and web-ready. This means basing our data on data standards, not record standards. Examples of data standards are the Resource Description Framework (RDF) and Simple Knowledge Organization System (SKOS) of the World Wide Web Consortium, and the foundation standards of the Dublin Core Metadata Initiative, in particular the Abstract Model and the model for Application Profiles.

I would wager that we are seeing the end of the "pure" library cataloging record that contains only library-provided data. The future will be about data more than records, and the data will come from heterogeneous sources. This requires us to be more thorough in our data definitions, but also to design data knowing that it will have uses independent of a single, controlling record. This has important implications for how we engage in standards development from this point forward. We should no longer be defining data that is bound to a single record, but should be considering the broader context in which our applications and our data will interact. Not every data element will have a sibling in Wikipedia, but we should begin our standards work with the assumption that no data need is an island, and that no community has the only voice on any topic. | FE | doi: 10.3789/isqv21n1.200905

KAREN COYLE <www.kcoyle.net> is a librarian and a consultant in the area of digital libraries. She worked for over 20 years at the University of California in the California Digital Library as a developer specializing in metadata. Karen has served on library and information standards committees, including the MARBI committee advising on MARC standards, the NISO OpenURL committee, and currently the NISO Architecture Committee. She writes and speaks frequently on technical topics ranging from metadata development, technology management, system design, and on policy areas such as copyright and privacy.

RELEVANT LINKS

Dublin Core Metadata Initiative
www.dublincore.org
www.dublincore.org/documents/abstract-model/
www.dublincore.org/documents/singapore-framework/

The eXtensible Catalog (XC)
www.extensiblecatalog.org

MARC 21
www.loc.gov/marc

Open Library
www.openlibrary.org

Tim Berners-Lee on Linked Data Design
www.w3.org/DesignIssues/LinkedData.html

Wikipedia
en.wikipedia.org

World Wide Web Consortium
www.w3.org

w3.org/RDF
www.w3.org/2004/02/skos/

ABIGAIL BORDEAUX

USING STAN to Tame Electronic Resources Management

Most libraries have long since passed the point of numbering their e-collections in the hundreds or even the low thousands, and one might reasonably wonder when the e-journal A to Z list, that obligatory page of library websites, might go the way of the electric eraser. Between the number of titles themselves, along with their coverage, usage, license terms, and other types of information, electronic resources have become big data. ▸

This data may be stored in several different systems, including a provider's, making complete retrieval and analysis a challenge. The ARL statistics survey prompts an annual scramble in many libraries, as staff try to find the notes they kept from the previous year and then count their electronic content in the same way.

Exhortations to make data work harder, first popularized as a saying by OCLC's Lorcan Dempsey, apply not only to data traditionally stored in the ILS, but also to ERM data, which could be used for everything from revealing usage patterns among scholars to assessing collection strengths and weaknesses. As data proliferates, so does demand for increasingly sophisticated reporting, including overlap analysis, cost-per-use data, and detailed financial information. When combined with the current economic climate, this demand represents one of the most pressing needs for librarians and providers.

The sheer quantity of electronic resource data and metadata, with thousands of books and journals, is changing the way librarians work with electronic resources. It is no longer possible to touch every title in the collection. In an ideal world, perhaps we could verify e-access to each title and coverage range and "claim" those we cannot reach, but aggregator databases, big deals, and e-book bundles make this an impossible task, albeit resulting in a bonanza of content for library users. To accommodate this quantity while still providing reliable and complete access requires smart automated tools. Such tools need to go beyond standard link checker functionality to determine whether full text content is as fully accessible as it should be and to notify library staff of potential problems. Additional ERM functions beg for similarly automated tools, such as one to manage authentication requirements and support proxy configuration, which is sometimes necessary at the individual title level.

Where Are We Going; Where Have We Been?

When I took a job with the title Electronic Resource Access Librarian in September of 2000, I thought I was taking a cataloging job. I quickly found myself sending IP address ranges off to vendors (sometimes explaining what "Class B"

DARDS

and little asterisks meant), providing a second pair of eyes to review license agreements (each one radically different from the next), collating usage data (often copying and pasting from e-mail messages into spreadsheets), and carefully tracking invoice and payment information (in still more spreadsheets, outside our ILS, which wasn't always well suited to the data at hand). Before I knew what was happening, I was flying home from Atlanta with a two-inch binder from the Association of Research Libraries' Basic Licensing Workshop weighing down my carry-on luggage. The results of my negotiating skills profile caused some uneasiness in the pit of my stomach; perhaps I lacked the chutzpah for the job.

Thankfully, the landscape has changed dramatically since that first year of my e-resource management career. License review can be routine since publishers have started signing onto NISO's *Shared Electronic Resource Understanding (SERU)* Recommended Practice. IP access to content is often a given, and we have the COUNTER and SUSHI standards for managing usage data. Additional standards are underway, including CORE, I², and KBART to help address outstanding challenges, and emerging trends indicate that more standardization will be needed in the future.

Mainstreaming E-resource Management

It is not uncommon for research libraries to spend more than half of the materials budget on electronic resources, according to the *ARL Statistics 2006-2007*. While staffing levels for

CONTINUED »

While staffing levels for processing and managing electronic materials haven't kept up with expenditures, the trend is clear: e-resources are no longer novelties under the domain of one librarian or a small group of cutting-edge staff.

President Obama has brought Web 2.0 to whitehouse.gov, and Twitter and Facebook are in the news on an almost-daily basis. You can hardly turn on the TV or open your virtual newspaper these days without reading about the latest mobile phone platform or social web application.

processing and managing electronic materials haven't kept up with expenditures, the trend is clear: e-resources are no longer novelties under the domain of one librarian or a small group of cutting-edge staff. Acquisitions and serials librarians handle electronic content as well as print, often dividing responsibilities between monograph and serial acquisitions rather than according to medium.

More work is needed, though, to align staffing levels and workflows with a primarily electronic-oriented environment. There are still many electronic resource librarians working outside acquisitions and serials departments and handling a disproportionate segment of the budget and title count, sometimes on their own. Resistance to change and concerns about auditing, which may continue to emphasize processes associated with print, are just two of the reasons that staffing arrangements may not keep pace with the quantity and type of incoming materials; indeed, consulting businesses are doing a brisk business helping libraries navigate the sea of organizational change as they transition to an electronic-oriented organization.

As current ERM functions become mainstreamed, we will start to think of materials that moved from print to electronic formats during the 1990s and 2000s as "traditional" e-resources, and the challenges of ERM will shift to managing new types of born-digital titles, collections, and repositories, as well as those materials, including many reference titles, that are just now migrating to web-based formats. These new types of resources will encompass formats, features, and perhaps subscription and pricing models that are not necessarily familiar. New dialogue will need to happen between librarians and these providers, who may be unfamiliar with norms we have come to expect, such as standards-compliant usage statistics reporting.

At this juncture there is an opportunity to increase the level of standardization in libraries' electronic resource management practices. There will always be local policies to inform local procedures (for example, those governing accounting and financial practices), but the sudden introduction and fast-paced development of e-resources led many libraries to invent their own workflows and procedures simultaneously in order to handle the influx (and led providers to develop idiosyncratic sales, pricing, and delivery practices). The result is less standardization related to electronic resources than to other formats. Libraries therefore expect and demand varying and sometimes contradictory functionality in ERM systems, experience high overhead in training new staff, and engage in extensive customization of cooperative cataloging records.

There is no one easy or obvious solution to such a state of affairs; in addition to the standards initiatives discussed below, the electronic resource community can take advantage of organizations such as the Electronic Resources & Libraries conference and virtual community, the Electronic Resources in Libraries (ERIL) discussion list, and serials organizations North American Serials Interest Group (NASIG) and UK Serials Group (UKSG). These forums cut across software systems and segments of the e-resources chain to provide places for sharing ideas and information.

Evolution of ERM Systems

As e-resources join the mainstream and the data associated with them continues to grow, the systems used to manage electronic resources have become more elaborate and mature and are now poised to evolve with traditional library management systems into the next generation of library management tools.

Currently, libraries' electronic resource management systems run the gamut from simple spreadsheets and ad hoc relational databases to complex homegrown, open source, and proprietary ERM systems. But whether a library uses a system

ECONOMIC IMPACT

Requests for basic and advanced reporting will crescendo to a triple forte, as libraries are faced with the necessity of justifying subscription costs and cutting, at a minimum, those resources that do not meet designated criteria for retention.

that is closely aligned with its ILS or something that stands entirely alone, the ILS is the burger and the ERM is the side of fries. The next stage in the evolution of the ERM will draw us toward systems that truly mainstream e-resource management functions. This can and will happen in several different ways. It may be that some ERM systems are expanded to support the traditional functions of an ILS and support print and other formats, or that closely aligned ERM and ILS systems merge together. And it may be that new systems are built from the ground up to synthesize and capitalize on the developments of the 2000s. There will be tension between the desire for best-of-breed modularity in the tools used by libraries, including link resolving and metasearching, and the desire for simplified data management and integration of functionality.

More Data in More Places

The 2009 Horizon Report identified the mobile web and cloud computing as its two short-term emerging technologies. President Obama has brought Web 2.0 to whitehouse.gov, and Twitter and Facebook are in the news on an almost-daily basis. You can hardly turn on the TV or open your virtual newspaper these days without reading about the latest mobile phone platform or social web application.

Thus far, most licensed electronic resources remain cloistered within the walls of their proprietary platforms, but pressure from library users will increase as the younger half of the Net Generation pursues not only graduate education, but also careers in academia. New library users who relied on Google as the starting point for their undergraduate research may be surprised by the search and display conventions of many electronic resources, and by the limited ways they can reuse, post, clip, and share content. Similarly, they will expect to be able to search, find, read, and share content from a mobile device, and e-resource user interfaces need to be updated to meet expectations.

These developments on the open web have implications for electronic resource management. Librarians will find themselves lobbying on behalf of their constituents for mobile-friendly interfaces to licensed resources, as well as

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Ongoing ERMI-Related Work

The second phase of DLF's Electronic Resource Management Initiative (ERMI) came to a close last fall, with the final report of Phase II published in December 2008. A number of NISO standards projects were launched at least in part due to the ERMI initiative, including: the Standardized Usage Statistics Harvesting Initiative (SUSHI), Cost of Resource Exchange (CORE), and cooperative work between NISO and EDItEUR on the ONIX for Publication Licenses (ONIX-PL).

However, there is still a great deal of work that can be done to improve how organizations organize and manage their digital resources and on how ERM systems should evolve. Anticipating this need, the DLF has asked NISO to take a leadership role in reviewing the existing ERMI framework and in any new standards work that may build on ERMI to provide enhanced ERM functionality.

At ALA Midwinter in Denver earlier this year, NISO hosted a series of conversations with engaged developers, vendors, and end users of library electronic resource management systems to discuss what areas were most pressing. As a follow-up, NISO focused the second of its monthly Open Standards Teleconferences on the issue of ERM systems and their development needs. A sub-group of the NISO Business Information Topic Committee is reviewing the feedback from these meetings and will shortly propose a new project proposal to assess the current state of the ERMI terms dictionary and studying the initial ERMI specification to determine which areas described in the initial report are in need of further development.

A vote among NISO voting members on whether to launch the new work project is expected later this spring.

RELEVANT LINKS

The DLF Electronic Resources Management Initiative
www.diglib.org/pubs/dlfermi0408/

DLF Electronic Resources Management Initiative, Phase II: Final Report (December 2008)
www.diglib.org/standards/ERMI2_Final_Report_20081230.pdf

Electronic Resource Management: The Report of the DLF Initiative (August 2004).
www.diglib.org/standards/dlf-erm02.htm

NISO/Digital Library Federation Workshop (May, 2002)
www.library.cornell.edu/cts/elicensestudy/nisodlf/home.htm

NISO Business Information Topic Committee
www.niso.org/topics/businfo/

RELEVANT LINKS

2009 Horizon Report
www.educause.edu/ELI/2009HorizonReport/163616

ARL Statistics Survey
www.arl.org/stats/annualsurveys/arlstats/

ARL Environmental Scan Transformational Times
www.arl.org/bm~doc/transformational-times.pdf

CORE Working Group
www.niso.org/workrooms/core

COUNTER Codes of Practice
www.projectcounter.org/code_practice.html

ER&L
www.electroniclibrarian.org

ERIL list
listserv.binghamton.edu/scripts/wa.exe?AO=ERIL-L

I² Working Group
www.niso.org/workrooms/i2

KBART Working Group
www.niso.org/workrooms/kbart
www.uksg.org/kbart

LOCKSS
www.lockss.org/lockss/

NASIG
www.nasig.org

OpenURL Registry
www.openurl.info/registry

Portico
www.portico.org

Shared Electronic Resource Understanding (SERU)
www.niso.org/workrooms/seru

SUSHI Resources
www.niso.org/workrooms/sushi

UKSG
www.uksg.org

White Paper on Interoperability between Acquisitions Modules of Integrated Library Systems and Electronic Resource Management Systems
www.diglib.org/standards/ERMI_Interop_Report_20080108.pdf

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for a suite of tools that allow easy use and reuse of data within certain parameters that respect intellectual property. Providers that find a sweet spot allowing licensed content to play in the social web while still protecting their rights will be rewarded with higher usage of their products. Current mechanisms for authentication, already strained when library users start their research process outside the library and thus outside the authenticated environment libraries offer, will be stressed even further as users want to share links and embed pointers and content in various social websites.

Economic Impact on ERM

The current economic situation will impact electronic resource management in interesting and sometimes contradictory ways. As staff positions are frozen or even eliminated, librarians may be called to take on additional responsibilities, and staff may become cross-trained faster than initially anticipated. Requests for basic and advanced reporting will crescendo to a triple forte, as libraries are faced with the necessity of justifying subscription costs and cutting, at a minimum, those resources that do not meet designated criteria for retention. Cost per usage is just one example of such data; libraries will want to quickly determine a resource's reliability, support for features such as OpenURL, and other factors to be considered during a collection review. In contrast, cutbacks to capital expenditures that result in the delay or cancellation of building projects may in turn accelerate acceptance of electronic access as the preferred format, even for monographs. Where libraries expected to gain breathing room for their stacks or to add remote storage, they will instead think long and hard about how to keep collections up to date with no additional physical space. The current economic downturn may impact the pace of mainstreaming e-resources in library organizations.

The impact of the recession on publishing will also affect e-resource management. A new environmental scan from ARL titled *Transformation Times* outlines some trends in scholarly communication that stem from the economic downturn. Librarians have already experienced content changing hands and publishers merging and consolidating platforms. This activity can be expected to increase, and the archiving initiatives that have gained traction among libraries over the past several years, such as LOCKSS and Portico, may be put to the test as some content ceases to be available at all.

Standards to the Rescue

Three NISO working groups are of particular interest for electronic resource management and promise to have a direct impact on many of the trends discussed.

Standardization in ERM practices is increasing through formal NISO processes and informal communication among participants in the electronic resources chain. Active and developing standards offer a common starting point for discussing many of the complexities surrounding ERM, including system developments, contractual agreements, and metadata requirements. As the ERM community evolves to address new challenges and trends in scholarly communication, publishing, and technology, standards will continue to play a critical role, offering increased efficiency and decision-making support, and helping us tame electronic resource management. | FE |

doi: 10.3789/isqv21n1.200906

1

The I² Working Group

(Institutional Identifiers – pronounced "Eye Two")

I² is one to watch for a standards-based approach to managing institutional identification. The goal of the Working Group, co-chaired by Tina Feick of HARRASSOWITZ and Grace Agnew of Rutgers, is to develop an identifier to support a wide variety of transactions among many types of organizations, for example, libraries, publishers, agents, and consortia. The Working Group builds on the Journal Supply Chain Efficiency Improvement Pilot, but has implications well beyond journal management.

2

The Cost of Resource Exchange (CORE) Working Group

CORE aims to standardize the exchange of financial information between the ILS and ERMS and, by extension, among related business systems and applications. The CORE Working Group, co-chaired by Jeff Aipperspach of Serials Solutions and Ted Koppel of Auto-Graphics, builds on the *White Paper on Interoperability between Acquisitions Modules of Integrated Library Systems and Electronic Resource Management Systems* that was produced by Norm Medeiros and others as part of the second phase of the Digital Library Federation's Electronic Resource Management Initiative. CORE has adopted the recommendation of the white paper to determine a small set of core acquisition data elements that can realistically be included in such a standard. CORE has clear short- to medium-term implications for the ease of interoperability between the ILS and ERMS, but promises to outlive the need for such interoperability by providing a mechanism for the exchange of data among additional business applications. The Working Group has issued a draft standard for trial use, which is available from the NISO website.

3

The NISO/UKSG Knowledge Base and Related Tools (KBART) Working Group

KBART is addressing issues surrounding OpenURL and the databases, or knowledge bases, that support it. Knowledge bases were initially created to support OpenURL linking—indeed, OpenURL relies on accurate data to link properly from an article's citation to its full text as well as to provide other services—and can be seen as an outgrowth of it. As libraries formalize their e-resource management processes, it makes sense to leverage the data included in knowledge bases and maintain it cooperatively, managing at the local level only that data which is truly local. However, use of knowledge bases, whether for OpenURL or other purposes, quickly reveals shortcomings in the data and in providers' use of the OpenURL standard. KBART, co-chaired by Peter McCracken of Serials Solutions and Charlie Rappel of TBI Communications, brings together various stakeholders, including publishers, libraries, and the vendors of link resolver and ERM systems, to wrestle with and solve the problems that prevent knowledge bases and OpenURL implementations from attaining 100% accuracy. The group is currently drafting its report to provide guidance, offer best practices, and educate providers.

ABIGAIL BORDEAUX is a Systems Librarian at the Office for Information Systems, Harvard University Library, and has been trying to tame ERM in academic libraries and the library automation industry since 2000. She is an active member of the North American Serials Interest Group (NASIG) and manages the ERIL discussion list. She can be found online at www.abigailbordeaux.net and on Facebook, where she created the group "Once a cataloger, always a cataloger."

NCIP VERSION 2.0

ANSI/NISO Z39.83 2008 – NISO CIRCULATION INTERCHANGE PROTOCOL (NCIP), PARTS 1 AND 2

A BETTER NCIP

The recently revised *NISO Circulation Interchange Protocol* (ANSI/NISO Z39.83 - 2008) makes the NCIP standard more useful, more implementable, and more broadly applicable.

Automates exchange of information between circulation and resource sharing systems

NCIP is an open standard for the exchange of circulation data, providing a solution to the need for interoperability among disparate circulation, interlibrary loan, and related applications. This 2008 revision, led by the NCIP Implementers Group and with support of the NCIP Maintenance Agency, EnvisionWare, addresses the implementation barriers and defined problems of the 2002 version.

Saves staff time

NCIP can save up to 75% of staff time by automatically communicating changes between systems thereby eliminating the need for manual input in those systems.

Simplifies implementation

The newly defined NCIP core message set supports up to 80% of the most commonly used resource sharing and self-service transactions between systems in just 9 messages. By focusing on these core messages, implementers are able to provide the primary functionality with minimal development effort.

INTEROPERABLE

NCIP simplifies the process of connecting disparate systems. This translates into time and cost savings when implementing support for circulation functions between systems.

SECURE

NCIP allows data to be securely communicated between systems.

EXTENSIBLE

NCIP defines an extension mechanism that allows the protocol to adapt to unanticipated future uses. Extensions also identify needed functions and features that could be incorporated in future versions of the protocol.

NISO

WWW.NCIP.INFO

OP [OPINION]

A judgment formed about something;
a personal view, attitude, or appraisal

Jay Datema

JAY DATEMA

Are You Paying Attention?

Not for the first time, the glut of incoming information threatens to push out useful knowledge into merely a cloud of data. And there's no doubt that activity streams and linked data are two of the more interesting things to aid research in this onrushing surge of information. In this screen-mediated age, the advantages of deep focus and hyper attention are mixed up like never before, since the advantage accrues to the company that can collect the most data, aggregate it, and repurpose it to willing marketers.

N. Katherine Hayles does an excellent job of distinguishing between the uses of hyper and deep attention without privileging either. Her point is simple, "Deep attention is superb for solving complex problems represented in a single medium, but it comes at the price of environment alertness and flexibility of response. Hyper attention excels at negotiating rapidly changing environments in which multiple foci compete for attention; its disadvantage is impatience with focusing for long periods on a noninteractive object such as a Victorian novel or complicated math problem."

Does Data Matter?

The MESUR project is one of the more interesting research projects going, now living on as a product from Ex Libris called bx. Under the hood, MESUR looks at the research patterns of searches, not simply the number of hits, and stores the information as triples, or subject-predicate-object information in RDF, the resource description framework. RDF triple stores can put the best of us to sleep, so one way of thinking about it is smart filters. Having semantic information available allows computers to distinguish between "Apple" the fruit and "Apple" the computer.

In use, semantic differentiation gives striking information gains. I recently picked up the novel *Desperate Characters*, by Paula Fox. While reading it, I remembered that I first heard it mentioned in an essay by Jonathan Franzen, who wrote the foreword to the edition I purchased. This essay was published in *Harper's*, and the RDF framework in use on harpers.org gave me a way to see articles by Franzen as well as articles that were about him. This semantic disambiguation is the obverse of the fire hose of information that is monetized from advertisements.

Since MESUR is pulling information from CalTech and Los Alamos National Laboratory' SFX link resolver service logs, there's an immediate relevance filter applied, given the scientists who are using the information contained in the logs, it's possible to see if a given IP address belonging to a faculty member or department goes through an involved research process or a short one. The researcher's clickstream is captured and fed back for better analysis. Any subsequent researcher who clicks on a similar SFX link has a recommender system seeded with ten billion clickstreams. This promises researchers a smarter Works Cited, so that they can see what's relevant in their field prior to publication. Competition just got smarter.

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N. Katherine Hayles' point is simple:
"Deep attention is superb for solving complex problems represented in a single medium, but it comes at the price of environment alertness and flexibility of response."

SOURCE: N. Katherine Hayles, Hyper and Deep Attention:
The Generational Divide in Cognitive Modes, *Profession*, 2007, pp. 187–199.

http://www.wordle.net/

Standards-Based Description

Attention.xml, first proposed in 2004 as an open standard by Technorati technologist Tantek Çelik and journalist Steve Gilmor, promised to give priority to items that users want to see. The problem they articulated was that feed overload is real and the need to see new items and what friends are also reading requires a standard that allows for collaborative reading and organizing.

The Attention.xml standard seems to have been absorbed into Technorati, but the concept lives on in the latest beta of Apple's browser Safari, which lists Top Sites by usage and recent history, as does the Firefox add-in Speed Dial. And, of course, Google Reader has Top Recommendations, which tries to leverage the enormous corpus of data it collects into useful information.

Richard Powers' novel *Galatea* 2.2 describes an attempt to train a neural network to recognize the Great Books, but finds socializing online to be a failing project: "The web was a neighborhood more efficiently lonely than the one it replaced. Its solitude was bigger and faster. When relentless intelligence finally completed its program, when the terminal drop box brought the last barefoot, abused child on line and everyone could at last say anything to everyone else in existence, it seemed to me we'd still have nothing to say to each other and many more ways not to say it." Machine learning has its limits, including whether the human chooses to pay attention to the machine in a hyper or deep way.

Privacy has long returned to norms first seen in small-town America before World War II, and our sense of self is next up on the block.

Hunch, a web application designed by Caterina Fake, well known as co-founder of Flickr, is a new example of machine learning. The site offers to "help you make decisions and gets smarter the more you use it." After signing up, you're given a list of preferences to answer. Some are standard marketing questions, like how many people live in your household, but others are clever or winsome. The answers are used to construct a probability model, which is used when you answer "Today, I'm making a decision about..." As the application is a work in progress, it's not yet a replacement for a clever reference librarian, even if its model is quite similar to the classic reference interview. It turns out that machines are best at giving advice about other machines, and if the list of results incorporates something larger than the open Web, then the technology could represent a leap forward. Already, it does a brilliant job at leveraging deep attention to the hypersprawling web of information.

How to Achieve True Greatness

Privacy has long returned to norms first seen in small-town America before World War II, and our sense of self is next up on the block. This is as old as the Renaissance described in Baldesar Castiglione's *The Book of the Courtier* and as new as twitter, the new party line, which gives ambient awareness of people and events.

In this age of information overload, it seems like a non sequitur that technology could solve what it created. And yet, since the business model of the 21st century is based on data and widgets made of code, not things, there is plenty of incentive to fix the problem of attention. Remember, Google started as a way to assign importance based on who was linking to whom.

This balance is probably best handled by libraries, with their obsessive attention to user privacy and reader needs, and librarians are the frontier between the machine and the person. The open question is: will the need to curate attention be overwhelming to those doing the filtering?

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RELEVANT LINKS

Attention.xml
www.tantek.com/presentations/2005/01/attentionxml.html

Book of the Courtier
www.worldcat.org/wcpa/oclc/4690688

Ex Libris Advances Its Open Platform Strategy
newsbreaks.infotoday.com/nbReader.asp?ArticleId=52583

Galatea 2.2
www.worldcat.org/oclc/31607027

Google Reader
reader.google.com

Hunch.com
www.hunch.com

Hyper and Deep Attention
dx.doi.org/10.1632/prof.2007.2007.1.187

Jonathan Franzen as Harper's Subject
www.harpers.org/subjects/JonathanFranzen

MESUR
www.mesur.org/
www.niso.org/news/events/2008/webinars/measures/resources/nisoperformancewebinar14nov08.pdf

Safari beta
www.apple.com/safari/

Speed Dial
addons.mozilla.org/en-US/firefox/addon/4810

QA [QUESTION & ANSWER]

Rob Walsh

Interview with Gail Wanner
Incoming Chair of the NCIP Implementers Group

"NCIP enables libraries to automate resource sharing and traditional interlibrary loan tasks, provides a simple tool for patron authentication, and has a wealth of potential uses that have not yet been developed."

ROB WALSH | NCIP Maintenance Agency

An Interview with Gail Wanner, NCIP-IG Chair

NCIP, the NISO Circulation Interchange Protocol (ANSI/NISO Z39.83) was revised in 2008. Gail Wanner was elected on January 28, 2009 to succeed Candy Zemon as the chairperson for the NCIP Implementers Group. Many in the NISO community may know Gail through her work with various standards efforts or through her position as Resource Sharing Specialist at SirsiDynix. For those who do not know Gail, this is your chance to learn more about her and her ideas for the NCIP standard and the Implementers Group. As the lead of the NCIP Maintenance Agency, which works closely with the Implementers Group, I had the opportunity to interview Gail recently, and I talked with her about standards in general and NCIP in particular.

Q Why have you been regularly involved in standards development?

I have always believed in the ideal that libraries should be able to work cooperatively to provide information their users want and need. This may be the result of working in public libraries in the Denver area, where there were many libraries and our users were very mobile. Early in my library life I also learned of the practical need for standards. I was involved in projects to provide access to the Denver Public Library catalog and some academic catalogs throughout the metropolitan area. These projects were attempted before Z39.50, NCIP, and many other new standards; although they succeeded in the short-term, maintaining them proved extremely costly. When I went to work for a small company that created an ILL product called URSA, we used proprietary methods to link resource sharing to local circulation systems, but again, it required constant monitoring to keep everything in sync. When a committee was formed to define NCIP, I began my involvement with standards and the more I work with standards, the more strongly I advocate their use from both practical and idealistic perspectives.

Q How does your position at SirsiDynix relate to the various standards with which you are involved and specifically to the NCIP standard?

My focus at SirsiDynix is on our resource sharing products—URSA and Reciprocal Borrowing—and both of them are developed around NCIP. Other people in the company also work on NCIP from the ILS side, and that allows us to share our experiences. We also use several other standards, including ISO ILL [ISO 10160 and 10161] to send requests outside URSA, and Z39.50 for doing virtual catalog searches. Having knowledge of NCIP from the standards perspective helps me in my work at SirsiDynix, and my work at SirsiDynix helps me understand the power of NCIP, as well as its challenges.

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Q What makes NCIP valuable to libraries?

NCIP enables libraries to automate resource sharing and traditional interlibrary loan tasks, provides a simple tool for patron authentication, and has a wealth of potential uses that have not yet been developed. One early implementation of NCIP was as a management tool for materials that are sent to a bookbinder. NCIP is a "Swiss army knife" standard with flexible message pairs that can be combined in a variety of ways to link circulation systems to each other and to other systems.

Q Why do you think NCIP has been slow to take hold in the library industry?

Besides the natural lag in adopting new technologies, I believe there are several reasons that version 1 of NCIP has not been adopted as quickly as the Implementers Group hoped.

NCIP is still relatively new and some of the same attributes that make it valuable also make it complex. There is confusion about what NCIP compliance means since there is no minimum core set of messages that must be used. This has given rise to the myth that NCIP can't be implemented, even though several vendors have successful products that use NCIP.

NCIP uses implementation profiles. This has led to challenges because there are a number of profiles in production and each uses a slightly different mix of messages and responses. That obviously increases the effort needed to implement it, especially for applications that serve as responders to multiple NCIP initiation systems.

Architecture and terminology vary between circulation systems, and that makes it difficult to determine whether one system supports a concept in the same way as another. The same term may have a totally different meaning in the two systems, and that introduces ambiguity. These sorts of differences have led to slower initial implementations.

The first version of the standard needed changes and streamlining so that new implementations can be done more quickly. It also did not offer many advantages over SIP2, a widely implemented protocol, particularly for self-service applications. NCIP version 2, which was published in late 2008, addresses many of the issues that we believe were preventing wider implementation.

Q What plans do you and the Implementers Group have to help NCIP gain wider adoption?

I want to emphasize the successes that NCIP has already had and reduce confusion by educating librarians and vendors on how the profiles can be used to describe a discrete set of functionality. We also need to help new implementers come up to speed on NCIP quickly so that vendors are more likely to adopt NCIP. Until people understand that NCIP is not "one size fits all," there will continue to be confusion about what it means to be NCIP compliant and what benefits will be achieved. There are also a number of actions that the Implementers Group may take to reduce confusion over profiles: creating and publishing a "harmonized" profile, simplifying the format of profiles, and making the functionality of each profile more readily apparent, for example. It might also be possible to come up with some ways to make testing easier and less time-consuming. There have already been discussions about such activities, and we are putting together a plan to accomplish them. Finally, we hope to continue improving support for self-service applications. Version 2 provided some needed changes in this area, but they represent only a fraction of what we think we can do over time.

Q What do you hope the NCIP Implementers Group can accomplish in the coming year and over a longer term?

Short-term, we need to focus on promoting the adoption of NCIP version 2 by vendors. With version 2, we now have the ability to add extensions, and we'll need a mechanism for tracking and publishing them so that vendors will not reinvent the wheel for their own applications. As with all standards and software in general, there is a need for ongoing refinement. As vendors implement version 2, we will continue to define and adopt changes, with input from users and as agreed upon by the group. Starting immediately and continuing over the long-term, we need to educate librarians and vendors about NCIP and emphasize success stories. Encouraging the improvement of library staff efficiency and enabling the creation of new library services are the ultimate goals for NCIP, and we hope to engage current and attract new members to the Implementers Group to achieve this goal.

Q How can those who are interested in NCIP become more involved in the NCIP community?

All NCIP meetings and conference calls are open, and both vendors and librarians can participate. We especially welcome librarians to attend, even if only as observers, since their input is extremely useful during discussions. Meeting minutes are published on the NCIP Implementers Group website (www.ncip.info), and anyone who is interested may view them. There is an NCIP Implementers Group e-mail list open to anyone with an interest in NCIP. Details for subscribing to this list are available at the NCIP website. Finally, interested people can contact me, the Maintenance Agency, or NISO with questions or comments. | QA |

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Oliver Pesch
Jeremy Frumkin

OLIVER PESCH

Perfecting Single Sign-On (SSO) Authentication in an Imperfect World

This year NISO has launched a new Chair's Initiative—a project of the chair of NISO's Board of Directors, focusing on a specific issue that would benefit from study and the development of a recommended practice or standard. In this column, Oliver Pesch, NISO's current Board of Directors Chair, discusses his chosen issue of perfecting seamless item-level linking through single sign-on authentication technologies in a networked information environment.

Background and Problem Statement

Accessing information in a networked environment has been a reality for most user communities for over a decade. With the advent of hosted aggregated full text databases and the proliferation of e-journals and e-books, a user's search for information often takes her to a number of different online hosts and platforms. When those information resources are commercial products, each platform requires the user to be authenticated, and as a result, that user may have a different identity on each platform. The problems caused by having to manage multiple identities have led to the development of so-called "Single Sign-On" (SSO) authentication technologies, the best known examples being Athens and Shibboleth. With these technologies, the user can access all compliant content platforms using the same identity. Athens and Shibboleth have both been designed in a way that makes the authentication process (and thus the site-to-site navigation) completely invisible if the user already has an active session.

The idea behind SSO authentication options like Athens and Shibboleth is that the user should be able to move seamlessly between sites without being confronted with authentication challenges. Both Athens and Shibboleth work almost perfectly when the user accesses a compliant site and that site knows the authentication method to use. (Most sites support multiple authentication methods.) The most common method for a content site knowing the authentication method is by having the user access the site using a special login URL specific for the particular method (e.g. http://content.example.com/athens_login.aspx). When libraries set up their access pages for the resources they subscribe to, they will often use the appropriate login URL and thus achieve the seamless access desired for their users. However, if a user accesses a content site using the generic login option, she will most likely be presented with a login screen with the option to select the Athens or Shibboleth link. The user must be trained to click the appropriate link to gain access.

While the library can control the "front door" access by using the appropriate URLs on the library's resources page, they have far less control when it comes to item-level linking. More and more access to content sites comes as a result of linking from other sites, not through a site's own search pages. Many publishers are reporting that more than one half of their full text access links come from Google alone. To complicate matters, from the SSO perspective, the links between sites, even if they are driven by a link resolver, tend to be generic in nature.

More and more access to content sites comes as a result of linking from other sites, not through a site's own search pages. Many publishers are reporting that more than one half of their full text access links come from Google alone.

For scholarly information, access using the DOI tends to be one of the most prolific linking mechanisms. So users accessing content via such links are most likely to be confronted with an authentication challenge when they arrive at the new site—even if they have an active SSO session.

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Making the SSO environment work better and smarter will certainly help increase the success of users getting to the content to which they are entitled; however, it is probably fair to say that the majority of content hosts do not yet support these SSO authentication technologies. Library users are required to operate in an environment that includes a mix of authentication technologies with IP authentication being the most common. An effective solution needs to address this hybrid environment, and at the very least, take into consideration the needs of IP authentication and proxy servers and how they interoperate with SSO authentication technologies.

How NISO Can Help

I have proposed a new NISO project to explore options and create recommended practices to allow a content site to know which authentication method to use without special login URLs. Possible solutions range from providing a generic mechanism for passing the user's authentication method from site to site, use of cookies to remember the authentication method that was used the last time the site was accessed by that computer, and/or providing a mechanism to discover if the user has an active session for one of the common SSO authentication methods.

The expectation is that there is a continuum of options with varying levels of complexity that can be employed by content sites that will greatly improve the seamless access experience for users authenticated with the most common SSO technologies.

Statement of Work

My goal for this proposed work item is to explore practical solutions for improving the success of SSO authentication technologies for providing a seamless experience for the user and to promote the adoption of one or more of these solutions to make the access improvements a reality. To achieve this objective I propose the following work tasks:

- Create a white-paper that describes the problem and explores possible solutions.
- Conduct a web seminar or thought leader meeting to further engage the community.
- Convene a NISO working group to explore the problem and deliver one or more Best Practice documents describing possible solutions, and implement an education and adoption plan for encouraging implementation of the solution(s).

Partners and Participation

I would encourage NISO to engage the following organizations/types in the project to best ensure a successful outcome:

- Librarians implementing SSO authentication methods such as Athens and Shibboleth, to represent users.
- Athens and Shibboleth representatives to help explore/implement authentication discovery options.
- Representatives of commercial content hosting systems, including publishers, A&I services, and aggregated full text databases who would need to implement any authentication solutions.
- Representatives of web search engines, such as Google and Yahoo, who may be able to introduce personalization options to pass along authentication preferences.
- CrossRef to represent the DOI community since any authentication processed via a URL would need to be passed along in DOI-based linking.

I look forward to working with the NISO community in finding solutions to single sign-on authentication. | NR |

doi: 10.3789/isqv21n1.200910

OLIVER PESCH <opesch@ebsco.com> is Chief Strategist, EBSCO Information Services (www.ebsco.com).

SSO Authentication Webinar

To kick off the proposed initiative, NISO held a webinar on *SSO Authentication: Understanding the Pieces of the Puzzle* on February 11 to provide several perspectives on the issue. See page 27 for a report on the Authentication webinar. Additionally, a proposal for a new NISO work item on single sign-on authentication has been approved by NISO's Discovery to Delivery Topic Committee and is at ballot to the NISO voting membership for their agreement to begin a new work project and to elicit expressions of interest in participating in the work. NISO Working Group participation is not limited to NISO members.

JEREMY FRUMKIN

NISO's Architecture Committee: Providing Strategic Direction

The NISO Architecture Committee (AC) is rapidly moving forward with an active agenda.

As the key strategic committee for NISO's standards development work, the AC provides strategic input, coordination, and audit review of the portfolio of NISO standards as well as a structure for bringing in new ideas and initiatives to the NISO standards process. The AC is also a forum for engaging the broader community and advises the NISO Board and staff at the strategic level. The AC is critical to the success of NISO's Topic Committees (TCs) and gives them support when needed.

In this context, I am excited about the work of the AC over the next year. The committee will be working with the TCs and the NISO community to identify standards areas where NISO can play a key role. Last year NISO held four Thought Leader meetings to identify where NISO can help with solutions in the areas of institutional repositories, digital libraries and collections, e-learning, and research data. Their recommendations are currently in review by the AC for prioritization and selection of potential new work items for NISO.

While the AC is NISO's strategic arm, the TCs are the tactical groups. In 2008, the newly formed TCs reviewed their entire portfolio of existing standards and launched several new projects. The AC, which includes the TC chairs as members, will be reviewing their progress on a quarterly basis to provide feedback, address any issues, and to ensure coordination of the overall NISO strategy through the TCs' work.

The AC will also be vital in the engagement of outreach and partnership activities where it would benefit the NISO community. We will be strengthening relationships that already exist and identifying organizations where new relationships need to be built.

This promises to be a busy year for the Architecture Committee, but one that I am sure will allow the AC to move forward with its envisioned role in the NISO organizational framework. | NR |

doi:10.3789/isqv21n1.200910

JEREMY FRUMKIN is the Chief Technology Strategist and Assistant Dean, University of Arizona Libraries, and Chair of NISO's Architecture Committee.

Members of the NISO Architecture Committee, 2009–2010:

Jeremy Frumkin (Chair)
University of Arizona

Oren Beit Arie
Ex Libris, Inc.

Julia Blixrud
Association of Research Libraries

Todd Carpenter
NISO

Karen Coyle
Digital Library Consultant

Mike Crandall
University of Washington

Lorcan Dempsey
OCLC

Kathleen Folger
University of Michigan Library

Ted Koppel
Auto-Graphics, Inc.

Clifford Lynch (advisor)
Coalition for Networked Information

Sally McCallum
Library of Congress

Clifford Morgan
John Wiley & Sons, Inc.

Tony O'Brien
OCLC

Even Owens
Portico

Oliver Pesch,
EBSCO Information Services

Tim Shearer
University of North Carolina at Chapel Hill

Helen Szigeti
HighWire Press

Jenny Walker
CredoReference

Karen Wetzel
NISO

RELEVANT LINKS

Architecture Committee
www.niso.org/about/directory/architecture

Topic Committees
www.niso.org/topics/

Thought Leader Meetings
www.niso.org/topics/tl/

SUSHI READY

ANSI/NISO Z39.93-2007
THE STANDARDIZED USAGE STATISTICS HARVESTING INITIATIVE (SUSHI) PROTOCOL

Easy Access to COUNTER Reports

SUSHI is a protocol that can be used by electronic resource management (ERM) and other systems to automate the transport of COUNTER formatted usage statistics. It can also be used to retrieve non-COUNTER reports that meet the specified requirements for retrieval by SUSHI.

Standard, Schema, WSDL...

The SUSHI standard is the high-level framework in which the SUSHI Schema, SUSHI WSDL, and COUNTER reports operate. The SUSHI WSDL describes how the client and server sides of the web services transaction will interoperate. The schema describes the XML that is used to perform the SUSHI operation. A COUNTER XML report is the actual payload of the transaction.

Available Schemas

Three supporting XML schemas are posted on the NISO website: two SUSHI schemas which are basically retrieval envelopes for the XML-formatted COUNTER report, and a COUNTER reports schema, which in turn creates an XML-formatted version of the requested report.

SUPPORT FOR IMPLEMENTATION

Schemas and Greatly Improved Supporting Materials
NOW AVAILABLE to Assist Adoption

The NISO SUSHI Standing Advisory Committee announced in November 2008 the approval and final release of SUSHI schemas (and related files) providing full support of Release 3 of the COUNTER *Code of Practice for Journals and Databases*. Notable in this latest release of the COUNTER *Code of Practice* is the requirement that content providers implement SUSHI as a means of delivering their reports (deadline: August 2009).

With the schemas now finalized, content providers can be confident about setting their development agendas for implementing SUSHI. In addition, you can now find on the SUSHI website:

- ✓ Clear graphical representations of the schemas.
- ✓ FAQs that are being updated and include sections specifically for librarians and for developers.
- ✓ And even more support documents, presentation materials, and other resources.

NISO

WWW.NISO.ORG/WORKROOMS/SUSHI

CR [CONFERENCE REPORT]

Cynthia Hodgson

CYNTHIA HODGSON

Single Sign-On Authentication: A NISO Webinar

NISO's February 11 webinar focused on understanding the pieces of the puzzle surrounding single sign-on authentication, the topic chosen by NISO's Board Chairman, Oliver Pesch, as his Chair's Initiative (see page 23). Speakers provided their perspectives and experiences in dealing with user authentication to multiple library resources from different vendors and on different platforms.

First up was **Adam Chandler (Cornell University Library)** who referenced John Law's article on "Observing Student Researchers in Their Native Habitat." Law found that authentication barriers were one of the chief inhibitors to success in using library resources, and that many students were using Google as their primary research tool. Chandler provided a number of screenshots of what happened when Cornell University students tried to access the library's licensed resources from Google. Typical results were a rejection of access, offers for free trial access, homepages with no clear indication of where to go next, and many different types of log-in screens. Fortunately, 90% of the requests to the Cornell link resolver coming from Google Scholar in January 2009 were from on campus, where IP-based authentication occurs automatically. What is needed for the library users, Chandler emphasized, was a consistent log-in link on both the home and article pages, consistent terminology for log-in options, and a "where are you from" (WAYF) menu for all the different types of authentication technologies.

Next were presentations discussing two of the most prominent authentication technologies: Shibboleth and Athens. **Steven Carmody (Brown University)** reviewed the InCommon Library/Shibboleth project to provide integrated access to licensed library resources regardless of user location, while also meeting users' needs for consistency and vendors' needs for reliable authentication. The final recommendation of Phase 1 was to use a combination of Shibboleth and a single sign-on enabled proxy. Among the benefits that Carmody identified were a single log-in for users for the entire browser session, reduced cost of support by librarians in IP and proxy maintenance, no maintenance of user password information by vendors, and receipt of central usage statistics by library administrators. In Phase 2 they will be doing vendor identification, pilot testing, and recommending standards to content providers.

Keith Dixon (Eduserv), with colleagues David Orrell and Lyn Norris, then presented their experiences in access and identity management. Dixon stated that authentication basically involves trust—balancing the risks to access and user privacy with the usability of services and monitoring for management. Among the approaches available are IP authentication (a trusted "pipe") and EXProxy (a trusted third party "pipe"), both of which cause second log-ins due to the lack of personalization. Security Assertion Markup Language (SAML), an OASIS open standard, is a language and protocol that works on a federated trust model, but has no managed service included. Shibboleth, which utilizes SAML, was defined as a technology enabler. Athens is a technology, services, and a federation, which mediates a trusted relationship. Dixon went on to review a case study of the Phillips Research Library that replaced its own proxy server with a combination of EXProxy and Athens local authentication.

Jerry Ward (ProQuest) closed the webinar with a content provider's perspective. He explained that support costs for authentication can be huge as companies are forced to support everything from individual system-assigned usernames and passwords to Shibboleth. The problems are especially visible now with link resolvers that are directing users from one system to another more than ever before. He also cited the issue of users starting their research at Google because it has the easiest entry, even though it doesn't necessarily give them access to the types of high-quality resources that are available to them through their libraries. The barriers to entry for library resources need to be removed; with changes in technology, Ward feels the problem can be solved with a reasonable effort and in a way that most people can use. He concluded with the assertion that it is time for a common standard. Just as OpenURL brought linking into common usage, so can a standard single sign-on authentication system have a similar impact on usage. | CR | doi: 10.3789/isqv21n1/200909

CYNTHIA HODGSON is a Technical Editor and Consultant to NISO and the Managing Editor of Information Standards Quarterly.

RELEVANT LINKS

SSO Authentication webinar slides & resources:
www.niso.org/news/events/2009/authentication09/resources

InCommon/Shibboleth project:
www.incommon.org/library

Shibboleth
shibboleth.internet2.edu/

Athens
www.athensams.net/

NW [NOTEWORTHY]

Four NISO standards have failed to receive the required number of members (15% of NISO's voting membership) joining a reaffirmation ballot voting pool.

Feedback Requested on NISO Standards Being Considered for Possible Withdrawal

NISO recognizes that its standards require regular review to remain effective. For ANSI/NISO standards under periodic maintenance, this must be completed not later than five (5) years after the ANSI approval date. The first step is the establishment of a voting pool and four NISO standards have failed to receive the required number of members (15% of NISO's voting membership) joining a reaffirmation ballot voting pool. Those standards will need to be reviewed by the NISO Board of Directors to determine whether administrative withdrawal, downgrading of these publications (i.e., to a recommended practice), or other steps are called for.

Prior to taking such action, NISO is seeking input from the community on whether any of these standards are being used, and if so, in what context. If you are actively using any of these standards or have comments on why they should be continued as ANSI/NISO published standards, please contact NISO (www.niso.org/contact/) with information on the value of these standards to your organization.

The four standards, listed below, are available for free download and review from the standards public comment page (www.niso.org/standards/comments/) of the NISO website. ■

1. Z39.32-1996 (R2002), Information on Microfiche Headers
2. Z39.62-2000, Eye-legible Information on Microfilm Leaders and Trailers and on Containers of Processed Microfilm on Open Reels
3. Z39.73-1994 (2001), Single-Tier Steel Bracket Library Shelving
4. Z39.74-1996 (R2002), Guides to Accompany Microform Sets

Community Version of Framework for Building Good Digital Collections

NISO has released the online community version of the *Framework of Guidance for Building Good Digital Collections*, which establishes principles for creating, managing, and preserving digital collections, digital objects, metadata, and projects. The revision of the Framework and development of the online version was supported in large part by the Institute of Museum and Library Services (IMLS).

The Framework will be useful to libraries and other cultural heritage organizations planning projects to create digital collections, and funding organizations that want to encourage development of good digital collections. The new community version of the Framework was created to allow for ongoing contributions, comments, and updates from librarians, archivists, curators, and other information professionals.

IMLS developed the first version of the Framework in 2000 and transferred maintenance of the guidelines to NISO in September 2003. A second edition was issued in 2004 and the current third edition in early 2008. The community version was launched in November 2008.

Resources cited in the Framework were selected to be authoritative, useful, and current. However, because of the dynamic nature of the digital information environment, the list of important resources is always changing. A community version will allow the Framework to become a living document continually updated by experts engaged in digital collections.

The Framework website (framework.niso.org/) provides the full text of the document and information on how to contribute. ■

NISO Circulation Interchange Protocol Revised

A two-part revision to the NCIP standard, ANSI/NISO Z39.83-1-2008, *NISO Circulation Interchange Part 1: Protocol (NCIP)* and NISO Z39.83-2-2008, *NISO Circulation Interchange Protocol (NCIP) Part 2: Implementation Profile*, has been published on the NISO website.

NCIP defines a protocol for the exchange of messages between and among computer-based applications to enable them to perform the functions necessary to lend and borrow items, to provide controlled access to electronic resources, and to facilitate co-operative management of these functions.

The revision—led by the NCIP Implementers Group with support from EnvisionWare, the Maintenance Agency—streamlines and simplifies the requirements, improves usability, and addresses concerns raised by self-service and broker applications. These changes effectively remove many of the hurdles to implementation, in a true example of collaboration and revision-by-consensus.

For more information and copies of the standard and accompanying schema, visit the NCIP website (www.niso.org/workrooms/ncip). ■

International ISTC Agency Open for Business

ISO 21047, *Information and documentation – International Standard Text Code*, has been officially published, and the ISTC Agency is open for business. Founded in 2008, The International ISTC Agency is responsible for the promotion, coordination, and supervision of the International Standard Text Code (ISTC) standard and system. A consortium made up of Bowker, Nielsen, CISAC (International Confederation of Societies of Authors and Composers), and IFFRO (The International Federation of Reproduction Rights Organizations) were appointed to manage the Agency.

The ISTC provides a means of uniquely and persistently identifying textual works in information systems, and facilitates the exchange of information about such works between publishers, authors and author associations, collective management organizations, libraries, search engines, and others on an international level.

ISTC registration will operate through designated registration agencies. Bowker and Nielsen Book have been authorized as the first two ISTC Registration Agencies. Both are offering pilot programs that will provide free registration of ISTCs on a semi-limited basis through May 2009. Within these programs, participants are encouraged to exchange required metadata about their works and groupings of works that are intended for ISTC assignment, for which selected portions shall be validated for ISTC assignments for free during the pilot program period.

The International ISTC Agency encourages other entities that wish to apply to become an ISTC Registration Agency to participate in the expression of interest process.

The ISTC standard is part of the ISO committee, TC46, Information and documentation, SC9, Identification and description. NISO is the current Secretariat for this committee. ■

RELEVANT LINKS

ISTC Agency website
www.ISTC-International.org

ISTC Pilot Program website
www.istc-international.org/index.php?ci_id=1821

ISO TC46/SC9 committee
www.niso.org/international/sc9/

New Implementations for the DAISY/NISO Talking Book Standard

An OpenOffice "Save as DAISY" extension for the for the Digital Talking Book (ANSI/NISO Z39.86) DAISY/NISO standard has been released. Documents created in OpenOffice can now be exported to the DAISY format. The OpenOffice extension joins the previously announced "Save as Daisy" plug-in for Microsoft Word in allowing vision-impaired users to create DAISY documents on the fly from standard word processing software. Both of the "Save as DAISY" software packages are free and open-source and are also useful in creating e-books from Word or OpenOffice documents.

Also announced for use with DAISY, is the release of AMIS 3, a free and open source DAISY player for Windows. AMIS, which stands for Adaptive Multimedia Information System, is a software program for DAISY books that is self-voicing, meaning that no specialized screen-reading software is needed in order for it to be used by visually impaired people. New in this version are improved stability, support for Windows Vista, keyboard shortcuts, customizable toolbars, and support for text-only books. AMIS is developed and supported by the DAISY Consortium, the maintenance agency for the NISO/DAISY standard.

The DAISY MathML modular extension combines the W3C MathML specification with the DAISY specification to present mathematical content in an accessible format for the visually impaired. The format is being used in a two-year study called SMART, conducted at the University of Louisville and the University of Kentucky, to examine the potential positive outcome of creating digital accessible math textbook content constructed using the DAISY MathML modular extension. ■

RELEVANT LINKS

OpenOffice Save as DAISY
odt2dtbook.sourceforge.net/

Microsoft Word Save as DAISY
sourceforge.net/projects/openxml-daisy/

AMIS 3
daisy.org/projects/amis/

DAISY MathML
www.daisy.org/projects/mathml/

SMART project
www.ihdi.uky.edu/ilssa/projects/smart.asp

Digital Talking Book standard
www.niso.org/workrooms/daisy

Federal Agencies Collaborate on Guidelines for Digitization

The Federal Agencies Digitization Guidelines Initiative project has released a draft guideline on *TIFF Image Metadata* (version 1.0) to provide a minimal set of recommended embedded metadata for TIFF images in historical and cultural heritage projects.

A number of federal agencies began meeting in 2007 to identify common practices for digitizing cultural heritage materials in a sustainable way. The effort became formalized under the Federal Agencies Digitization Guidelines name and a website was created to share their work. Participation is voluntary; federal agencies represented on the National Digital Information Infrastructure and Preservation Program (NDIIPP) National Digital Strategy Advisory Board formed the initial core of the group's membership. A number of NISO members are among the participating agencies including the Library of Congress, the National Agricultural Library, the National Archives and Records Administration, the National Library of Medicine, and the U.S. Government Printing Office.

A draft *Digital Imaging Framework* was previously released by the Initiative to describe and validate imaging performance and quality, using existing international standards to the extent possible. The *TIFF Image Metadata* guidelines were developed by the initiative's Still Image Working Group, which is focusing on image content such as books, manuscripts, maps, and photographic prints and negatives. An Audio-Visual Working Group, focused on sound, video, and motion picture film, is currently developing *Recorded Sound Digitization* guidelines. ■

RELEVANT LINKS

Federal Agencies Digitization Guidelines Initiative
www.digitizationguidelines.gov/

TIFF Image Metadata Guidelines (v. 1.0)
www.digitizationguidelines.gov/stillimages/documents/TIFF_Metadata_Final.pdf

Digital Imaging Framework
www.digitizationguidelines.gov/stillimages/documents/Digital_Imaging_Framework.pdf

ARL Statistics "Counting Serial Titles" Webcast Archive Now Available

The Association of Research Libraries (ARL) hosted a webinar on *Counting Serial Titles* for its member libraries on December 10, 2008. The streaming video, presentation slides, and supporting reference material from that webinar are now available to the public on ARL's website.

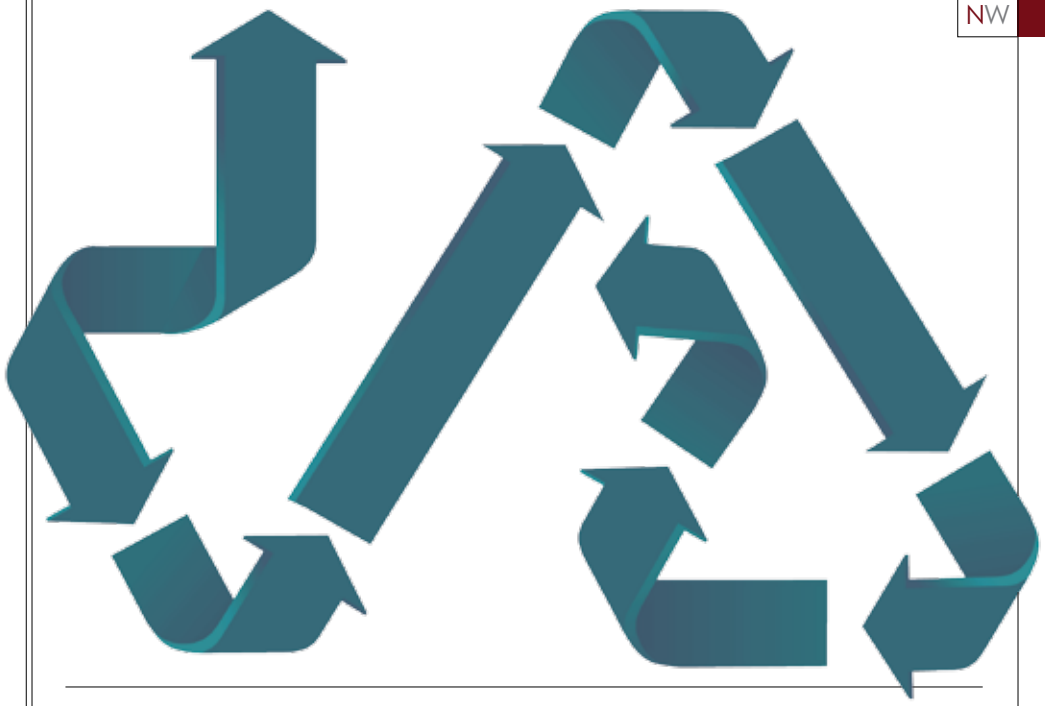
The webcast reported on the findings of the ARL Ad Hoc Task Force on Best Practices for Counting Serial Titles and the way the work of the group has informed changes in the *ARL Statistics 2007–08* survey. Martha Kyrillidou (Director, ARL Statistics and Service Quality Programs) and Julia Blixud (Assistant Executive Director, External Relations) provided background on the work of the task force and how the revised definitions are working for libraries. Joyce McDonough (Director, Continuing and Electronic Resources Management, Columbia University), a member of the task force, discussed her engagement with the task force and how her library implemented new counting procedures for serials. Among the items discussed in the webinar were the first year outcomes of collecting data on serial titles instead of subscriptions and best practices for de-duplication of counts.

ARL Statistics is a series of annual publications that describe the collections, expenditures, staffing, and service activities for ARL member libraries. Statistics have been collected and published annually for the members of the Association since 1961–62. ■

RELEVANT LINKS

ARL Counting Serials Titles webcast
www.arl.org/stats/annualsurveys/arlstats/08statmail.shtml

ARL Statistics
www.arl.org/stats/annualsurveys/arlstats/



The release of the Object Reuse and Exchange (OAI-ORE) specification follows two years of development and testing with international experts from the publishing, web, library, repository, and eScience communities.

Object Reuse and Exchange Production Release

The Open Archives Initiative has released the production version of the *Object Reuse and Exchange* (OAI-ORE) specification. ORE defines standards for the description and exchange of aggregations of web resources. These aggregations, sometimes called compound digital objects, may combine distributed resources with multiple media types including text, images, data, and video. The goal of these standards is to expose the rich content in these aggregations to applications that support authoring, deposit, exchange, visualization, reuse, and preservation.

This release follows two years of development and testing with international experts from the publishing, web, library, repository, and eScience communities. Concern over the ephemeral nature of web information and the lack of a standard way to identify a web aggregation or describe the constituents and boundary of an aggregation were driving forces behind the ORE effort. ORE solves these problems by creating an Aggregation resource and a Resource Map with assigned URIs, along with a Proxy resource. ORE builds on existing web architecture including the W3C web architecture, the Semantic Web (including Linked Data and Cool URIs), RDF, and Atom syndication. Examples of aggregations where ORE could be used are: multiple page web documents, multiple format documents in institutional repositories, scholarly data sets, and online photo and music collections.

Documents in the release describe the ORE data model and detail the machine-readable descriptions of aggregations expressed in the Atom syndication format, RDF/XML, and RDFa. The release includes a Primer and User Guides in addition to the specification documents. ■

RELEVANT LINKS

OAI/ORE Specification
www.openarchives.org/ore/

The ISSN International Centre, headquartered in Paris, was created in 1976, following an agreement between UNESCO and the French government. The ISSN network consists of 87 National Centres, a Regional Centre for South East Asia and the International Centre.

ISSN International Centre Implements Software System for ISSN-L

The ISSN International Centre, based in Paris, France, announced that it has accepted a customized software system for managing ISSN-L that was developed by VTLS Inc. The ISSN-L (which stands for linking ISSN) was a new feature of the revised ISSN standard (ISO 3297:2007) to enable collocation, or linking, among the different media versions of a continuing resource. Since a different ISSN is required for each format of a continuing resource, users felt a method was needed to tie together all the different versions that were actually the same resource.

To manage the assignment of both ISSNs and ISSN-Ls, the ISSN International Centre developed a detailed set of specifications to automate most of the daily functions associated with creating and managing the new ISSN-Ls. The project also required the migration of the existing data (more than 1 million records) using a complex set of rules for assigning the ISSN-L to each existing record. Additionally, software had to be developed to automatically assign ISSN-L in real time during the cataloging process or to accept a cataloger-assigned ISSN-L.

The ISSN Centre worked closely with VTLS, their selected software vendor, until January 2009, when the system was completed and accepted. Françoise Pelle, director of the ISSN International Centre stated, "We are very happy that VTLS was able to develop and deliver a software system to meet the complex set of requirements for ISSN-L. We have met our goal to put in production an automated system that increases the reliability of the data and reduces the workload of our day-to-day operations. We appreciate the long partnership that the Centre has had with VTLS."

The ISSN International Centre, headquartered in Paris, was created in 1976, following an agreement between UNESCO and the French government. The ISSN network consists of 87 National Centres, a Regional Centre for South East Asia and the International Centre. The main purpose of the Centre is to maintain, manage, and promote the ISSN Register; to coach the National Centres in assigning and cataloging continuing resources and to create bibliographic records for continuing resources published in countries without a National Centre. ■

RELEVANT LINKS

What is an ISSN-L?
www.issn.org/2-22637-What-is-an-ISSN-L.php

ISSN International Centre
www.issn.org

VTLS, Inc.
www.vtls.com/

DLF Report Evaluates Metadata Tools

The Digital Library Federation (DLF) Aquifer Initiative has published a commissioned report, *Future Directions in Metadata Remediation for Metadata Aggregators*, authored by Greta de Groat, Discovery Metadata Librarian at Stanford University Libraries, and funded by The Gladys Krieble Delmas Foundation.

The report evaluates existing metadata tools and services for applicability in digital library and other cultural heritage environments. Ten categories of services where metadata could be applied are discussed, e.g., genre, names, and geographic information, with a listing and assessment of applicable metadata tools. "The results of the research show that a handful of tools are usable as-is, but many tools need more work to be generally applicable in a variety of environments and significant development would be required to create a robust and well-defined set of metadata remediation services."

The report is available for free download from the DLF website (www.diglib.org/aquifer/dlf110.pdf) and in print-on-demand from Amazon.com. ■

Dublin Core Metadata Initiative (DCMI) Incorporates in Singapore

The Dublin Core Metadata Initiative (DCMI) has completed the legal steps for incorporation as a public, not-for-profit Company limited by Guarantee in Singapore. The founding members of the new legal entity are the National Library Board Singapore and the National Library of Finland. The other DCMI Affiliates, the Joint Information Systems Commission (JISC) in the UK, the National Library, National Archives and the State Services Commission of New Zealand, and the National Library of Korea, will become Members in the weeks ahead.

DCMI Managing Director Makx Dekkers stated, "The incorporation of DCMI as an independent legal entity underlines once more the independence that has always been one of our main characteristics. With our Members and Partners we are looking forward to continuing and extending our support for the global metadata community." DCMI assures that as an independently incorporated entity, they will continue its work as an open, consensus-based organization with open participation and with free and unrestricted availability of its documentation.

The Dublin Core Metadata Initiative is also the maintenance agency for the NISO standard, *The Dublin Core Metadata Element Set* (ANSI/NISO Z39.85). ■

RDA First Full Draft Released

The Joint Steering Committee for Development of RDA released the first full draft of the *Resource Description and Access (RDA)* in November 2008 with the comments deadline ending on February 2, 2009. In March, the committee reviews comments and finalizes needed changes to the draft.

RDA represents a new approach to and total revision of the Anglo-American Cataloging Rules, 2nd edition (AACR2). Described as the "cataloguing standard for the 21st century, RDA goes beyond earlier cataloguing codes in that it provides guidelines on cataloguing digital resources and a stronger emphasis on helping users find, identify, select, and obtain the information they want. RDA also supports clustering of bibliographic records to show relationships between works and their creators."

In addition to revising the text, RDA includes an extensive re-design and layout, which can be commented on through a wiki set up for that express purpose. An online product is also planned; a demonstration of projected functionality was given at the IFLA Conference in August 2008.

The final release of RDA is expected in the third quarter of 2009, however its implementation is planned to follow a phased approach so that libraries and other affected organizations will have sufficient time to plan. | NW |

RELEVANT LINKS

RDA Full Draft
www.rdaonline.org/constituencyreview/

RDA Brochure:
www.collectionscanada.gc.ca/jsc/docs/rdabrochure-eng.pdf

RDA Wiki
www.publishing.ala.org/RDA/index.php?title=Main_Page

RDA Demonstration at IFLA Conference
www.collectionscanada.gc.ca/jsc/docs/iflasatellite-20080808-demo.pdf

RDA goes beyond earlier cataloguing codes in that it provides guidelines on cataloguing digital resources and a stronger emphasis on helping users find, identify, select, and obtain the information they want.

CORE

CORE (COST OF RESOURCE EXCHANGE) DRAFT STANDARD FOR TRIAL USE (DSFTU)

ONE YEAR TRIAL USE UNDERWAY

We need
YOUR HELP!

To ensure that the standard is effective, easily implementable, and functional, the CORE Working Group is looking for trial participants who will be asked to implement the CORE protocol in their own organization (or with another trial implementer), participate in a discussion list during the trial to share experiences, and provide feedback on any needed changes to the protocol prior to final issuance of the standard. The Working Group will be available during the trial to provide guidance and answer questions. Please visit www.niso.org/contact to indicate your interest and provide contact information.

TRIAL USE DOCUMENT PUBLISHED

Trial Period From April 1, 2009 – March 31, 2010

The purpose of the Cost of Resource Exchange (CORE) specification is to facilitate the transfer of cost and related financial information from one system to another. This transfer may be from an Integrated Library System (ILS) Acquisitions module (the data source) to an Electronic Resource Management System (ERMS) (the data recipient), both belonging to the same library; from a book or serials vendor to the library's ERMS; or it may be a transfer of cost and transaction data among members of a consortium.

Using the defined CORE XML data schema, this standard provides a common method of requesting cost-related information for a specific electronic resource, a set of resources, or all resources that the library owns, within the boundaries of a subscription period.

The CORE protocol has been generalized in order to be useful for a variety of trading partners, and the CORE Working Group has endeavored to identify data elements that are supported by ILS, ERMS, and serial vendors.

Simple design

The terse CORE XML data schema, intended to encourage rapid implementation and light-weight profiles, uses an object-oriented approach. A system on either end of the exchange needs only to create a one-time interface to the CORE protocol and can then exchange data with any other CORE-compliant system.

Fast development

The CORE Working Group was first convened in August 2008; the draft standard was completed in March 2009, just seven months later. The Working Group built on the work of a subcommittee of the DLF Electronic Resource Management Initiative, Phase II, and its published White Paper on Interoperability.

NISO

WWW.NISO.ORG/WORKROOMS/CORE

SD [STANDARDS IN DEVELOPMENT]

SPECIAL EDITION

STATE OF THE STANDARDS AND YEAR IN REVIEW

This comprehensive report on NISO's standards and initiatives appears in the first issue of the year of ISQ to keep you informed of the scope and status of NISO's program on an annual basis. If you have questions about any of the standards or development programs, contact the NISO office by phone (301.654.2512), via e-mail (nisohq@niso.org), or visit the Standards section of the NISO website (www.niso.org/standards).

NISO 2008 YEAR IN REVIEW

CYNTHIA HODGSON & KAREN WETZEL

After a couple of transitional years while NISO adjusted its strategic direction and reorganized, the NISO community made great strides in 2008. The new governance structure with an Architecture Committee and three Topic Committees went into full operation launching a number of new initiatives and completing several existing projects. New technology tools were released to support the committees and working groups and communications were revamped to better update and educate the community on NISO activities.

New Initiatives

Two new initiatives were launched in 2008. *The Knowledge Base And Related Tools* (KBART) working group will develop a recommended practice to improve the creation of, provision of data to, and implementation of knowledge bases that are used in OpenURL applications. The Cost Of Resource Exchange (CORE) working group will develop a standard protocol to exchange cost-related information between integrated library systems (ILS) and electronic resource management systems (ERMS).

Additionally, a working group was established for the revision of the *Specifications for the Digital Talking Book* standard (Z39.86) in collaboration with the DAISY Consortium, the maintenance agency for the standard.

NISO held its first ever Thought Leaders Meetings, a new approach for identifying potential standards initiatives through a forum of experts. The four meetings held, with funding support by the Mellon Foundation, were on the topics of Institutional Repositories, Digital Libraries and Collections, E-learning Systems, and Research Data. Recommendations from the meetings are under review to prioritize and select new initiatives for NISO to undertake.

Progressing Initiatives

The *Metrics & Statistics for Libraries and Information Providers Data Dictionary* standard (Z39.7) was changed to continuous maintenance, the first standard of this type in NISO's history. In alignment with its continuous nature, this standard now exists only in an online version.

A community version of the *Framework of Guidance for Building Good Digital Collections* (with funding from IMLS) was launched, allowing individuals to provide input and feedback on recommended resources.

New versions of two ONIX for Serials message formats (a joint project with EDItEUR) were released: the *Serials Release Notification* (SRN) and the *Serials Products and Subscription* (SPS). Both standards are currently in field trial.

The DAISY Consortium, maintenance agency for Z39.86, *Specifications for the Digital Talking Book*, announced the release of DAISY converter plug-ins for Microsoft Word and OpenOffice, a revision of the Structure Guidelines on the correct usage and application of DAISY XML, and an update of the DTD (dtbook) used in the text content creation of DAISY books.

The schemas for the *Standardized Usage Statistics Harvesting Protocol* (SUSHI) standard ((ANSI/NISO Z39.93-2007) were updated to support Release 3 of the COUNTER *Code of Practice for Journals and Databases*, which now requires SUSHI support as part of its compliance.

New or Revised Standards & Recommended Practices

The second version of the *NISO Circulation Interchange Protocol* (NCIP) standard (ANSI/NISO Z39.83-2008) was published in two parts: the Protocol and Implementation Profile 1. This version was streamlined and simplified to address implementation issues and contains significant changes in error handling and extensibility.

NISO issued three new recommended practices in 2008. *SERU: A Shared Electronic Resource Understanding* (NISO-RP-7-2008) offers publishers and librarians the opportunity to save both the time and the costs associated with a negotiated and signed license agreement for electronic resources by agreeing to operate within a framework of shared understanding and good faith. By the end of the year, the SERU Registry of those interested in using SERU with trading partners included 27 publishers/content providers, 72 libraries, and 8 consortia.

RFID in US Libraries (NISO RP-6-2008) identifies best practices for the use of radio frequency identification (RFID) in library applications with the goal of promoting interoperability of RFID systems and products without special effort or intervention on the part of the customer.

Journal Article Versions (NISO-RP-8-2008), a joint project with ALPSP, provides a simple, practical way of describing the different versions of scholarly journal articles that typically appear online before, during, and after formal journal publication.

Communications

In the communications arena, *Information Standards Quarterly* (ISQ) was redesigned as a full-size magazine with expanded coverage and an Editorial Board to provide guidance. The *Newsline* e-newsletter was also revamped for design consistency and improved user navigation. A *Standards Bearer* blog was launched to supplement the more formal communications.

NISO's website had a comprehensive redesign that included a suite of back-end collaboration tools for the working groups and committees.

As 2009 shapes up to be another year full of new standards developments, be sure you stay informed by signing up for *Newsline* (send an e-mail to Newsline-subscribe@list.niso.org), subscribing to *ISQ* (see inside back cover), or reading the Standards Bearer blog (www.niso.org/blog/).

Educational Programs

NISO held its largest ever series of educational programs in 2008 with five in-person forums and seven webinars. Forums addressed the topics of Digital Preservation, Next Generation Discovery, Digital Formats Beyond Serials, Metadata in a Digital Age, and Collaborative Library Resource Sharing.

A webinar series on Demystifying Standards was kicked off with an introductory session, followed by programs on specific standards areas: OpenURL, ONIX for Publication Licenses, SUSHI, Name Identifiers, Performance Measures, and ONIX for Serials.

Slide presentations from all 2008 events are available from the NISO website (www.niso.org/news/events/2008/). | SD |

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ISO TC46 2008 YEAR IN REVIEW

CYNTHIA HODGSON

NISO has been the U.S. liaison group for ISO's Technical Committee 46 (TC46) on Information and Documentation for decades. Officially designated by ANSI as the Technical Advisory Group (TAG) for TC46, NISO submits the U.S. votes and comments on all TC46 standards, based on the ballot results from NISO voting members. In 2008, NISO submitted U.S. votes and comments on 12 draft standards, 10 systematic reviews, and 3 new work items. ▸

SC4

Technical Interoperability

(Secretariat: Standards of New Zealand)

Two standards from the SC4 group were published in 2008. ISO 2709, *Format for Information Exchange*, defines the structure widely used in the information community for global interchange of metadata including MARC cataloging data. This fourth edition clarifies the use of Unicode with UTF-8 encoding. Also published was a new standard on *MarcXchange* (ISO 25577) that specifies an XML-based exchange format for bibliographic records and other types of metadata.

Three additional standards have been approved for publication, which is expected in early 2009. *The Dublin Core Metadata Element Set* (ISO 15836) was revised on a fast track approval to match the changes in NISO's version (Z39.85) that was issued in 2007. *The Schema for Holdings Information* (ISO 20775) is a new standard that defines the format for exchanging holdings information for any type of resource, primarily in response to a query. The *WARC File Format* (ISO 28500)—WARC stands for Web ARChive—is a new standard that provides a method to structure, manage, and store data objects with multiple resource records and files, such as a website.

Three development projects made significant progress last year. The previous five-part standard on *Classification of Bibliographic Data Elements for Use in Data Interchange* (ISO 8459) is being merged into a single standard for its second edition. The Draft International Standard (DIS) version was approved and a final ballot on the standard is expected in early 2009. The first edition of *Registry Services for Libraries and Related Organizations* (ISO 2146) was also issued as a DIS, with balloting to close in early 2009. And the new three-part standard on *Data Model for use of RFID in Libraries* was approved at the Committee Draft level for advancement to DIS. Included is a standard data model for encoding information on RFID tags for library applications and two specific encoding methods.

A new project was approved to revise ISO 15511, *International Standard Identifier for Libraries and Related*

Organizations (ISIL). The revision is needed to remove ambiguities and errors identified by the Registration Authority and to support the new collection identifiers standard (ISO 27730) underway in SC9.

The three part ILL standard (ISO 10160, 10161-1, and 10161-2) was confirmed following a lengthy systematic review. This standard has been under discussion for several years. Some SC4 members felt that it had become obsolete in its current form and needed to be revised from the ground up. However, there was no support to undertake such a major project at this time, especially due to uncertainties about what direction to take in a revision. Since many existing library systems support this standard, the decision was made to confirm it so it would still be an active standard.

SC8 Quality – Statistics and Performance Evaluation

(Secretariat: Deutsches Institute für Normung)

Two second edition standards from the SC8 group were published in 2008. ISO 11620:2008, *Information and Documentation – Library Performance Indicators*, incorporates the performance indicators for electronic and traditional library services and resources into a single document, and includes technical updates for both types. ISO 9707:2008, *Information and Documentation – Statistics on the Production and Distribution of Books, Newspapers, Periodicals and Electronic Publications*, was revised to address technology changes in publishing and to add statistics on the production of electronic publications.

SC9 Identification and Description

(Secretariat: ANSI/NISO)

In 2008, NISO, as ANSI's appointee, took over the Secretariat role for SC9. This subcommittee is responsible for some of the best known and most widely used standards in our community, including the International Standard Book Number (ISBN) and the International Standard Serial Number (ISSN). Todd Carpenter as Secretary is working closely with the new Chairperson, Dr. Oh Sam Gyun, appointed by the Korean Agency for Technology and Standards to advance the work of this committee.

There are three active SC9 working groups developing new ISO standards: ISO 27729, *International Standard Name Identifier* (ISNI); ISO 27730, *International Standard Collection Identifier* (ISCI); and ISO 26324, *The Digital Object Identifier System*. Both ISNI and DOI were revised and are waiting for issuance by ISO for balloting at the Draft International Standard (DIS) stage. The DOI standard (ISO 26324) defines the complete system for assigning and managing Digital Object Identifiers. (The NISO DOI standard, Z39.84, defines only the syntax of the identifier.) ISNI (ISO 27729) creates a new identifier for the public identify of the parties involved in the digital content supply chain. A Call for Interest in proposals for the ISNI Registration Authority was issued simultaneously with the submittal of the ISNI standard for the next ballot. The ISCI standard (ISO 27730), which defines an identifier for a collection that builds on the ISIL standard, was issued as a Committee Draft (CD) and approved for advancement to the DIS level.

Three revisions of existing standards are underway. A second edition of ISO 10957, *International Standard Music Number*, was approved for publication and is expected in the first half of 2009. ISO 690, *Bibliographic References*, was revised and balloted as a DIS, with a ballot ending in early 2009. ISO 25964, *Thesauri and Interoperability with Other Vocabularies*, though technically a new standard, is actually a revision and merger of two previous standards: ISO 2788 on monolingual thesauri and ISO 5964 on multilingual thesauri. Part 1 of the new standard, *Thesauri for Information Retrieval*, was issued as a CD ballot ending in March 2009.

A new project was approved to revise ISO 3901, *International Standard Recording Code* (ISRC). An updated terms of reference describing the project scope and charter were issued along with a call for participation.

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The final contractual and administrative issues for an International Standard Text Code (ISTC) Registration Authority were resolved, eliminating the last requirement for publication of ISO 21047, which is expected around April 2009.

Three standards were reaffirmed in 2008 after systematic review: ISO 999, *Guidelines for the content, organization and presentation of indexes*; ISO 5963, *Methods for Examining Documents, Determining Their Subjects, and Selecting Indexing Terms*; and ISO 15706-1, *International Standard Audiovisual Number* (ISAN) -- *Part 1: Audiovisual Work Identifier.* The ISBN standard (ISO 2108) was also approved for confirmation, which should take place in 2009.

An amendment to the ISAN standard (ISO 15706-1/Amd1:2008) was published to address alternate codings and editorial changes.

SC11

Archives and Records Management

(Secretariat: Standards Australia)

SC11 has proposed converting their standards into an ISO Management Standards System (MSS)—a family of related standards building on one another that together encompass a coordinated system for managing records. The most well-known examples of ISO MSS standards are the ISO 9000 *Quality Management* series and the ISO 14000 *Environmental Management* series. The approval for the SC11 conversion to MSS is underway within TC46; the ISO Technical Management Board has the final approval.

A number of new projects were initiated in 2008 to begin filling out gaps in the envisioned management system. Preliminary participation was solicited for two critical "umbrella" standards for the new management system; the two projects will be formally voted on in 2009. *Records Management Systems – Fundamentals and Vocabulary* will specify the fundamental principles and vocabulary that all the other standards will adhere to. *Records Management Systems – Requirements* will specify how to develop a records policy and objectives and to measure and monitor performance.

Among the new projects that began work in 2008 is a technical report on *Risk Assessment for Records Systems* that will provide guidance on the application of risk assessment for records systems within the ISO 15489 (*Records Management*) framework to avoid and contain any risks that might impede the ability to receive, curate, and provide access to authentic and understandable digital information. The report will be based on the DRAMBORA (Digital Repository Audit Model Based on Risk) methodology, which was developed in Europe and the U.K. for institutional repositories.

Another technical report approved for development is the *Implementation Guidelines for Digitisation of Records* to provide guidance for the process of digitizing records under the ISO 15489 framework to ensure proof of authenticity, reliability, and integrity of the electronic version. The project will build on an existing New Zealand standard.

While the digitization technical report addresses conversion from paper to electronic, the approved project *Digital Records Conversion and Migration Process* standard will outline the recordkeeping requirements and procedures for the conversion and migration of records already in digital form to preserve their integrity over time. This project is expected to adopt or modify the U.S. standard, ANSI/ARMA 16-2007, *The Digital Records Conversion Process*.

Reports and standards already in development that advanced during 2008 include ISO/DIS 23081-2, *Records Management Processes for Metadata — Part 2: Conceptual and Implementation Issues* and ISO/PDTR 15801, *Information Stored Electronically — Recommendations for Trustworthiness*.

The first edition of ISO/TR 26122:2008, *Information and Documentation — Work Process Analysis for Records* was published. This technical report describes how to conduct a precise mapping of the work processes used for records at three levels: function, activity, and transaction.

TC46/SC11 works closely with TC171/SC2, Document Management Applications / Application Issues, through a liaison arrangement. Among other projects, the two groups have formed a Joint Ad Hoc Committee to review the definitions of relevant terms associated with the umbrella term of "electronic document management systems" from applicable ISO standards and other documents. The two SCs have agreed to co-locate their fall 2009 meetings in Orlando and have invited each others' delegates to participate in the other group's meeting. To provide greater coordination, SC11 has appointed one of their member bodies to act as a contact for SC11 input into TC171/SC2 documents, and provide feedback to SC11. The contact will be rotated on an annual basis; New Zealand will be the first appointee.

Summary

International standardization has become more important and of greater interest in our global economy than ever before. Some U.S. national organizations have chosen to work only on international efforts or to adopt international standards instead of developing national versions. Many countries outside the U.S. have been adopting ISO standards for some time. If you would like to become more involved with any of the ISO TC46 committees, contact the NISO office. | SD |

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NISO STANDARDS PORTFOLIO

In Development

Listed below are the NISO working groups that are currently developing new or revised standards, recommended practices, or reports. Refer to the NISO website (www.niso.org/workrooms/) and *Newsline* (www.niso.org/publications/newsline/) for updates on the working group activities.

DSFTU STANDS FOR DRAFT STANDARD FOR TRIAL USE.

WORKING GROUP	STATUS
Cost of Resource Exchange (CORE) Co-chairs: Ed Riding, Ted Koppel	**Z39.95-200x, Cost of Resource Exchange (CORE) Protocol** **Issued as DSFTU in March.**
DAISY/NISO Standard Advisory Committee Chair: George Kerscher	**Z39.86, Specifications for the Digital Talking Book** **Standard revision in development.**
Institutional Identifiers (I^2) Chair: Tina Feick, Grace Agnew	**Standard in development.**
Knowledge Base and Related Tools (KBART) **Joint project with UKSG** Chair: Peter McCracken, Charlie Rapple	**Recommended Practice in development.**
Metasearch Initiative TG2, Collection and Service Descriptions Chair: Juha Hakala	**Z39.91-200x, Collection Description Specification** **Z39.92-200x, Information Retrieval Service Description Specification** **Draft Standards for Trial Use**
ONIX-PL (Publication Licenses) *Joint project with EDItEUR* Chair: Alicia Wise	**ONIX-PL, v1.0 issued by EDItEUR.** **Pursuing educational activities to promote adoption.**

In Revision

The following are published and approved NISO standards that are in the process of being revised.

DESIGNATION	TITLE
ANSI/NISO Z39.86 – 200X	**Specifications for the Digital Talking Book**

Five Year Review

The following published and approved NISO standards will begin the five-year review process in 2009.

DESIGNATION	TITLE
ANSI/NISO Z39.18-2005	Scientific and Technical Reports – Preparation, Presentation and Preservation
ANSI/NISO Z39.19-2005	Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies
ANSI/NISO Z39.29-2005	Bibliographic References
ANSI/NISO Z39.84-2005	Syntax for the Digital Object Identifier
ANSI/NISO Z39.88-2004	The OpenURL Framework for Context-Sensitive Services

Published and Approved NISO Standards

The following NISO standards are approved and published. The notation R, e.g. R2002, indicates that the standard was reaffirmed in the specified year. Free downloadable copies of the standards are available from: www.niso.org/standards/.

DESIGNATION	TITLES
ANSI/NISO Z39.2-1994 (R2001)	Information Interchange Format
ANSI/NISO Z39.7 [under continuous maintenance]	Information Services and Use: Metrics and statistics for libraries and information providers – Data Dictionary
ANSI/NISO Z39.9-1992 (R2001)	International Standard Serial Numbering (ISSN)
ANSI/NISO Z39.14-1997 (R2002)	Guidelines for Abstracts
ANSI/NISO Z39.18-2005	Scientific and Technical Reports – Preparation, Presentation, and Preservation
ANSI/NISO Z39.19-2005	Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies
ANSI/NISO Z39.20-1999	Criteria for Price Indexes for Print Library Materials
ANSI/NISO Z39.23-1997 (R2002)	Standard Technical Report Number Format and Creation
ANSI/NISO Z39.26-1997 (R2002)	Micropublishing Product Information
ANSI/NISO Z39.29-2005	Bibliographic References
ANSI/NISO Z39.32-1996 (R2002)	Information on Microfiche Headers
ANSI/NISO Z39.41-1997 (R2002)	Printed Information on Spines
ANSI/NISO Z39.43-1993 (R2006)	Standard Address Number (SAN) for the Publishing Industry
ANSI/NISO Z39.47-1993 (R2003)	Extended Latin Alphabet Coded Character Set for Bibliographic Use (ANSEL)
ANSI/NISO Z39.48-1992 (R2002)	Permanence of Paper for Publications and Documents in Libraries and Archives

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PUBLISHED AND APPROVED NISO STANDARDS CONTINUED »

DESIGNATION	TITLES
ANSI/NISO Z39.50-2003	Information Retrieval: Application Service Definition & Protocol Specification
ANSI/NISO Z39.53-2001	Codes for the Representation of Languages for Information Interchange
ANSI/NISO Z39.56-1996 (R2002)	Serial Item and Contribution Identifier (SICI)
ANSI/NISO Z39.62-2000	Eye Legible Information on Microfilm Leaders and Trailers and on Containers of Processed Microfilm on Open Reels
ANSI/NISO Z39.64-1989 (R2002)	East Asian Character Code (EACC) for Bibliographic Use
ANSI/NISO Z39.71-2006	Holdings Statements for Bibliographic Items
ANSI/NISO Z39.73-1994 (R2001)	Single-Tier Steel Bracket Library Shelving
ANSI/NISO Z39.74-1996 (R2002)	Guides to Accompany Microform Sets
ANSI/NISO Z39.76-1996 (R2002)	Data Elements for Binding Library Materials
ANSI/NISO Z39.77-2001	Guidelines for Information About Preservation Products
ANSI/NISO Z39.78-2000 (R2006)	Library Binding
ANSI/NISO Z39.79-2001	Environmental Conditions for Exhibiting Library and Archival Materials
ANSI/NISO Z39.82-2001	Title Pages for Conference Publications
ANSI/NISO Z39.83-1-2008	NISO Circulation Interchange, Part 1: Protocol (NCIP)
ANSI/NISO Z39.83-2-2008	NISO Circulation Interchange Protocol (NCIP), Part 2: Protocol Implementation Profile 1
ANSI/NISO Z39.84-2005	Syntax for the Digital Object Identifier
ANSI/NISO Z39.85-2007	Dublin Core Metadata Element Set
ANSI/NISO Z39.86-2005	Specifications for the Digital Talking Book
ANSI/NISO Z39.87-2006	Data Dictionary – Technical Metadata for Still Images
ANSI/NISO Z39.88-2004	The OpenURL Framework for Context-Sensitive Services
ANSI/NISO Z39. 89-2003	The U.S. National Z39.50 Profile for Library Applications
ANSI/NISO Z39.93-2007	The Standardized Usage Statistics Harvesting Initiative (SUSHI) Protocol
ANSI/NISO/ISO 12083-1995 (R2002)	Electronic Manuscript Preparation and Markup U.S. adoption of ISO 12083.

Withdrawn NISO Standards

In accordance with NISO procedures, standards may be withdrawn because they are superseded by a newer standard, a national version is withdrawn in favor of an international equivalent, or the content is deemed to be obsolete. In accordance with ANSI procedure, all American National Standards that are not revised or reaffirmed within ten years following ANSI approval are automatically administratively withdrawn. A listing of withdrawn standards can be obtained at: www.niso.org/standards/.

NISO Recommended Practices

NISO Recommended Practices are best practices or guidelines for methods, materials, or practices in order to give guidance to the user. These documents usually represent a leading edge, exceptional model, or proven industry practice. All elements of Recommended Practices are discretionary and may be used as stated or modified by the user to meet specific needs. Free downloadable copies of these documents are available from: www.niso.org/publications/rp/

TITLE	DESIGNATION
Framework of Guidance for Building Good Digital Collections 3rd edition, 2007	
Ranking of Authentication and Access Methods Available to the Metasearch Environment	NISO RP-2005-01
Search and Retrieval Results Set Metadata, version 1.0	NISO-RP-2005-02
Search and Retrieval Citation Level Data Elements, version 1.0	NISO RP-2005-03
Best Practices for Designing Web Services in the Library Context	NISO RP-2006-01
NISO Metasearch XML Gateway Implementers Guide, version 1.0	NISO RP-2006-02
RFID in U.S. Libraries	NISO RP-6-2008
SERU: A Shared Electronic Resource Understanding	NISO RP-7-2008
Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group	NISO RP-8-2008

NISO Technical Reports

NISO Technical Reports provide useful information about a particular topic, but do not make specific recommendations about practices to follow. They are thus "descriptive" rather than "prescriptive" in nature. Proposed standards that do not result in consensus are often published as technical reports. Free downloadable copies of these documents are available from: www.niso.org/publications/tr/

TITLE	DESIGNATION
Environmental Guidelines for the Storage of Paper Records by William K. Wilson	NISO TR01-1995
Guidelines for Indexes and Related Information Retrieval Devices by James D. Anderson	NISO TR02-1997
Guidelines for Alphabetical Arrangement of Letters & Sorting of Numerals & Other Symbols by Hans H. Wellisch	NISO TR03-1997
Networked Reference Services: Question / Answer Transaction Protocol	NISO TR04-2006

ISQ CALL FOR CONTRIBUTIONS

The editors of *Information Standards Quarterly* (ISQ) are seeking contributions from the NISO and general information communities to future issues of ISQ.

AUTHORS ARE ENCOURAGED TO E-MAIL THE CONTENT EDITOR (EDITOR@NISO.ORG) WITH PROPOSALS PRIOR TO SUBMITTING FULL MANUSCRIPTS.

***ISQ* is NISO's print and electronic magazine for communicating standards-based technology and best practices in library, publishing, and information technology, particularly where these three areas overlap. *ISQ* reports both on the progress of active developments and also on implementations, case studies, and best practices that show potentially replicable efforts.**

■ **THE STANDARDS / BEST PRACTICES** covered in *ISQ* are not limited to those produced by NISO. Discussions of formal and defacto standards and best practices of any organization in relevant areas of library, publishing, and information technology are candidates for inclusion.

■ **FEATURES** may be case studies, implementation experiences, best practice sharing, descriptions and explanations of standards or technology, comparisons or evaluations of standards or technology, summaries of recently issued reports or recommendations, or progress reports on ongoing research or development activities that have reached some significant milestone. Articles pertaining to a particular "product" should be presented as a case study or an implementation experience and not come across as marketing for the product.

■ **COLUMNS** may be opinion pieces, reports on relevant conferences or workshops, brief descriptions of a standard or technology, or interviews. Negative opinion pieces should be written in a constructive criticism manner. Note that the editors may elect to print "point-counterpoint" companion opinion pieces.

■ **ARTICLES** should not have been published previously in another magazine or journal, or be available in a final version on a publicly available website at the time of *ISQ* publication.

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