NISO CORE: Cost of Resource Exchange

Ed Riding & Ted Koppel
June 10, 2009

Presentation Overview
- Definition of the Problem
- Participation
- Creation of the Solution
- Status Report
- Next Steps

The Problem
- E-Resource financials frequently not stored and processed in ERM
- ERM needs financials to calculate cost per use and help determine E-Resource purchases, renewals and cancellations
- How can the ERM take advantage of data stored and processed elsewhere?
- Multiple ILS and ERM vendors

History
- 2006 discussions between Ed Riding (SirsiDynix), Jeff Aipperspach (Serials Solutions), and Ted Koppel (then Ex Libris, now Auto-Graphics) needed to serve mutual customers
- Digital Library Federation (DLF) ERMI II "next-step" project
DLF ERMI II White Paper

- DLF ERMI II Subcommittee
  - Norm Medeiros, Haverford College
  - Adam Chandler, Cornell University
  - Linda Miller, Library of Congress
  - Angela Riggio, UCLA
- Questionnaire and personal interviews with ERMS and ILS product managers and librarians
- Created whitepaper with suggested data elements

Pre-NISO Activities

- Ed, Jeff, and Ted surveyed various ERM and ILS vendors to determine feasibility
  - Validated some data elements with vendors
- Discussed goals at ER&L 2007, at ALA Conference, and various other venues to determine interest, need, potential participants
- Approached NISO (November 2007) as standards development framework

NISO CORE Working Group

- NISO Business Information Topic Committee approved CORE Working Group
- Solicitation of Working Group members
  - 13 Vendors/Standards organizations
  - 6 Libraries
- First meeting: August 6, 2008
- DSFTU approved: March 31, 2009

NISO CORE WG Members

- Ted Koppel (Auto-Graphics)
- Ed Riding (Sirsi-Dynix)
- Kathy Klemperer, (EDItEUR)
- Nettie Lagace (Ex Libris)
- Brian Rosmaita (VTLS)
- Rose Nelson (Colorado Alliance)
- Joyce McDonough (Columbia)
- Debbie Logan (EBSCO)
- Bob McQuillan, (Innovative)
- Kelvin Watson (TLC/CARL)
- Dani Roach (Univ. of St Thomas)
- Mary Walker (Wichita State)
- Clara Ruttenberg (Georgetown)
- Bill Hoffman (Swets)
- Jeff Apperspach (Serials Solutions)
- Rafal Kasprowski (Rice)
- Gracemary Smulewitz (Rutgers)
- Candy Zemon (Polaris)
- Karen Wetzel (NISO)
- Mark Wilson (retired; XML advice)

Determined Goals

- Not just ERM--ILS exchange, but broader applications exist (vendors, consortia, etc.)
- Didn’t want to duplicate work of existing standards (SOH, etc.)
- Keep it simple and generic
- Define the data – not the application !!!

Working Group’s 2008 Activities

- August-September: wrote, designed, discussed Use Cases.
- October: analyzed use cases for common needs, vocabulary, and data elements
- October-November: Refined use cases to identified CORE elements
- November-December: XML message structure, transport mechanism
- December-March: Draft document
Solution

- XML Schema which defines the request and response payload
- Three type of queries
  - Request info for a single order
  - Request info for a single product
  - Request transaction info on all products
- Can filter any of these by access (subscription) or fiscal year date range

CORE Exchange

Request Elements

- Requester ID
- Order ID
- Product ID
- Customer ID
- Access Period (subscription) date range
- Payment Period (fiscal year) date range

Response Elements

- Requested data fields
- Product ID/Product Name
- Payment Amount, Payment Date, Currency
- Publisher, Medium, Platform
- Vendor, PO Number, Consortium ID
- Order ID, Invoice Number, Invoice Date, Line Item Number, Quantity, Library Fund Code

Current Status

- Draft Standard for Trial Use (DSFTU) released in March 2009 as NISO Z39.95-200x
- Draft standard period will be 12 months
- Invitations sent to all WG members
- Invitations to other vendors in progress
- Vendors need to be encouraged to include CORE in their priority list

During the DSFTU period ..

- Vendors write their applications to use CORE
- Testers report problems to WG
- WG considers solutions
- If necessary, WG will create and publish additional updates in drafts/updates
- Depending on testing, final standard could be ratified by April 2010
CORE Purpose

CORE defines an XML schema to facilitate the exchange of financial information related to the acquisition of library resources between systems. The two systems may be within the same organization, e.g., an ILS and an ERMS, or from two different organizations, e.g., a subscription agent and a library.

Please contact

- Ted Koppel (tpk@auto-graphics.com)
- Ed Riding (ed.riding@sirsidynix.com)
- CORE site: www.niso.org/workrooms/core
- CORE DSFTU: www.niso.org/standards/z39-95/

Agenda: please remain seated...

- “Web-scale management services” (1,000 feet)
- Web-scale (10,000 feet)
- Web-scale in the context of libraries (5,000 feet)
- An opportunity for truly next-generation library management services (500 feet)
- Descriptions and “timelines” (100 feet)
- Landing

“A first step...”

OCLC announces strategy to move library management services to Web scale

Moving library management services to Web scale

Andrew K. Pace
Executive Director, Networked Library Services

NISO

ECLC: The world's libraries, connected.

WEB-scale enhancement of library management services

- A step in the ongoing effort to make library management services more accessible and effective
- Enables libraries to share resources and information
- Facilitates better cooperation and collaboration between libraries

Web-scale management services

- The first cooperative library management service
- An enhancement of WorldCat service

WorldCat Resource Sharing

- Group Resource Sharing
- Patron Management
- Circulation
- WorldCat Local

WorldCat

WorldCat Local

“quick start”

ACQUSITIONS

KNOWLEDGE BASE

LICENSE MANAGEMENT

ILS SYSTEMS

LINK RESOLVERS

Resource Sharing

Group Resource Sharing

Patron Management

Circulation

WorldCat Local

WorldCat

“Quick Start”

Acquisitions

Knowledge Base

License Management

ILS Systems

Link Resolvers

Resource Sharing
The web is all about scale, finding ways to attract the most users for centralized resources, spreading those costs over larger and larger audiences as the technology gets more and more capable.

"[There is] a major theme of web 2.0 that people haven't yet tweaked to. It's really about data and who owns and controls, or gives the best access to, a class of data."

- Tim O'Reilly, April 2007

On average, businesses spend 70% of their time building and maintaining and worrying about infrastructure, and 30% of their time focused on the ideas that propel their business forward.

Web-scale computing is helping to invert the 70/30 ratio, enabling you to spend your energy creating the difference that will make your business successful.

Amazon
Why OCLC and Web-scale management services?

- **Inability of current systems** to deal with changing environments
  - Libraries are required to add more and more local systems to enhance services and deal with the changing nature of library collections
- **Few alternatives**
  - Many “new” solutions preserve legacy workflows and the network-free nature of stand-alone systems; most are built on old technology
  - Few definitive opportunities to reduce the Total Cost of Ownership (TCO) of running local systems
- **OCLC remains uniquely positioned** to create change
  - Leverage the power of the cooperative; starting with WorldCat
  - Provide a Web-scale solution with enough functionality and newly integrated

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**“Library Web-Scale”**

| Libraries Worldwide | 1,212,383 |
| Books: physical processing | 15,517,196,010 |
| Back-office transactions | 61,879,349 |
| OPAC searches | 36,555,852,000 |
| Database searches | 105,607,800,600 |
| Circulation | 4,983,393,968 |
| + Adds/deletes; patron record maintenance, etc |

**Annual Transactions**

166,041,975,140 transactions/year

18,954,563 transactions/day, 5,265 transactions/second

Worldwide libraries and worldwide library transactions

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**OCLC Strategy**

**Build Web-scale for libraries**

- Create a compelling user environment
- Make WorldCat Grid Services a valued part of library operations
- Increase OCLC’s global relevance and position of trust
- Create system-wide efficiencies in library management

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**Web-scale management for libraries**

Creating system-wide efficiencies in library management workflows

- Libraries have added more systems to support online public access catalogs, ERM, acquisitions, digital asset management, and access to licensed resources.
- Libraries have made significant investments in computer resources and infrastructure.
- Libraries have a fragmented presence on the Web, where they must compete with search engines and other information resources in meeting the information needs of people.
- Libraries back-office systems remain antiquated, preserving legacy workflows created for print-only collections.

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**Evolving from local library systems**

A web-scale strategy would provide libraries with computer hardware and software infrastructure on the Web, where they could use the workflow applications they need.

Rather than buying, implementing, and maintaining software themselves, libraries could use an application without having to worry about the technology that supports the application, freeing libraries to focus on running their organizations and serving their users.
Building Web-scale Management Services
A truly “next-generation” of Library Management Services

- A Web-based platform for all basic library management functionality
- Reduced Total Cost of Ownership (TCO) and increased efficiency through a unified management platform for all types of materials, regardless of format or method of acquisition
- A flexible and customizable workflow platform
- Network effects by sharing applications and data between libraries
- Concentrated data registries and repositories
- A Service-Oriented Architecture (SOA) for interoperability with local environments and 3rd party business process systems (e.g., financial management, HR systems, and course management)

Components (major sea-change in orange)

Circulation & Delivery
- Patron Management; Checkout/Checkin; Renewal; Holds; Notification; Billing; Self-checkout; Patron self-service/Reports

Acquisitions & Serials (print and licensed)
- Resource discovery; vendor management; Purchase order, invoice, and subscription management, budgets/fund management, serials management, inventory management/de-accession, reports, licensed resource management/Reports

License Management
- License Forecasting; ILI Fulfillment services; License Workflow & Negotiations; SERS / Onix PL Support; License Term Management; COUNTER / Sush/Reporting; Reports

Workflow
- Workflow engine; Task assignment; Task management; Configuration; Standard Activities and Processes; Graphical view and editor for library workflows

Service Configuration
- Unified OCLC Product and service configuration

Cooperative Intelligence / Analytics
- Coordinated fund management; Collection management; Coordinated collection development; Usage statistics and Cost Per User; Real-time circulation data; Collection shifting / offline storage; Recommender services (staff & patrons); Order list companions; Knowledgebase change tracking; Collection profile sharing; Enhanced resource information

More details: building from existing web-scale

- Built as a logical extension to the WorldCat Local public interface—putting the pieces back together again

- Connexion is the cataloging client for web-scale management services, but....

- Item-level metadata maintenance, a new multi-format acquisitions service, up-stream metadata capture, and integrated selection begins the process of creating a truly next generation metadata management component
Next steps: Strategy and Tactics

- Test/pilot sites to be named soon
- Library Advisory Council ("Strategy")
  - Strategic direction, reality checks, and moral support
- Library Steering Committees ("Tactics")
  - Access Services, Technical Services, Systems, and Management Workflow experts

Next steps: Brass Tacks

- Agile methodology
  - develop, test, pilot...develop, test, pilot...develop, test, pilot
- Site Testing, Pilot, and Roll-out
  - Service Configuration already available for WorldCat Local and WorldCat Local "quick start"
  - Circulation component testing begins in the U.S. this month (!!); pilot release in the fall; continued test/pilot through mid-year 2010
  - Print and licensed Acquisitions & serials, Workflow, and License Manager development well underway; test and pilot in functional phases beginning in 2010
- Interoperability Assessment
  - 3rd party business process systems; library business process systems; OCLC Developers Network and API development
- Internationalisation and Localisation

Additional information

Questions/comments about Web-scale management services
- Hectic Pace blog
  - http://community.oclc.org/hecticpace/
- OCLC Product Works
  - http://www.oclc.org/productworks/
- WorldCat Local "quick start" Web site
  - http://www.oclc.org/worldcatlocal/quickstart
- Register for ongoing email updates about WorldCat services
  - https://www.oclc.org/email/subscribe.htm

Thank you!
pacea@oclc.org

Open discovery of library resources

The Digital Library Federation's ILS-Discovery Interface recommendations

John Mark Ockerbloom
NISO Webinar
June 10, 2009

Questions I'll address

- Why do we need standard discovery APIs for ILS's?
- What are the DLF ILS-DI recommendations, and how did they come about?
- How can the recommendations be implemented?
- What can be done to advance the recommendations, and further promote interoperable discovery?
Your ILS is too small

Discovery in a library framework

... or facet-based browsing...

... or community use ...

... inside or outside “the OPAC”...
…highlighting what’s special in your library

...or an enterprise framework...

...but, however your ILS evolves

Libraries should have the power to make their resources discoverable in whatever ways best serve their patrons

Our data, our destinies

ILS-DI: Services supporting discovery, from search to use

• Finding relevant resources (discovery)
• Acquiring them (delivery)
• Managing their usage (patron services)

• We’re not addressing other integration:
  – Acquisitions integration (e.g. with financial systems)
  – Cataloging integration (e.g. with external cataloging partners inside and outside “librarian” community, multiple forms of catalog data beyond MARC)
  – Item management (physical or digital)

The ILS-DI task group

• John Mark Ockerbloom, Penn (chair)
• David Bucknum, Library of Congress
• Todd Grappone, USC
• Dave Kennedy, University of Maryland

• Emily Lynema, NC State
• Patricia Martin, California Digital Library
• Dianne McCutcheon, National Library of Medicine
• Perry Reese, Oregon State

The ILS-DI steering group

• Peter Brantley, DLF (chair)
• Dale Flecker, Harvard

• Marty Karthur, Cornell
• Terry Ryan, UCLA
• Robert Wolven, Columbia
How this came together

- **Spring 2007 DLF forum:** Open discussion among library representatives surfaced need for standards
- **September 2007 survey:** Survey of library professionals clarified interests, priorities, requirements, for standard interfaces
- **November 2007 presentation:** First recommendation draft released, discussed at fall DLF forum
- **March 2008 summit:** Vendors and developers met to agree on basic discovery interfaces (BDI): “Berkeley Accord”
- **June 2008 publication:** First official recommendation
- **August 2008 followup summit:** Developers discuss implementation strategy, revisions to specifications
- **December 2008 revision:** Published, task group done

A layered recommendation

- **Service requirements**
  - 4 basic types of services: Data aggregation, Real-time search and queries, Patron services, OPAC interaction
  - E.g. “We need ways to extract bibliographic data from the ILS so it can be indexed and searched in other applications”
- **Functions**
  - 25 functions specifying particular behaviors, input, outputs, semantics for desired services
  - But in a technology-independent way
  - E.g. HarvestBibliographicRecords, HarvestExpandedRecords functions specify ways to get bibliographic data
- **Bindings**
  - Specific technologies, interfaces for functions (at least 1 for each)
  - Specifies protocols and data standards in implementation-independent way
  - E.g. OAI-PMH profiles for the Harvest...Records functions
  - Multiple bindings can exist for a given function, but it’s useful to recommend one preferred binding

Basic discovery interfaces: “Level 1” of interoperability

- 1. Export bibliographic data for indexing, search
  - Functions: HarvestBibliographicRecords, HarvestExpandedRecords
  - Incremental harvesting must be supported
  - Recommended binding: OAI-PMH
- 2. Identify available items from a search:
  - Function: GetAvailability
  - Multiple-Item queries must be supported
  - Recommended binding: REST/HTTP with XML response
- 3. Let users request items (via the OPAC)
  - Behavior: GoToBibliographicRequestPage
  - Recommended binding: URL template (can be OpenURL)
  - Recommendation includes
    - Detailed specs of 1 recommended binding for each function above
    - Commitment by many vendors to support it: “Berkeley Accord”

A simple call: GetAvailability

Request:

http://devfranklin.library.upenn.edu/cgi-bin/availability?id=2837207&id_type=bib

Response:

```
  <dlf:record>
    <dlf:simpleavailability>
      <dlf:identifier>2837207</dlf:identifier>
      <dlf:availabilitystatus>available</dlf:availabilitystatus>
      <dlf:availabilitymsg>Not Charged</dlf:availabilitymsg>
      <dlf:location>Van Pelt Library; Call No. PS153 .N5 H37 2008</dlf:location>
    </dlf:simpleavailability>
  </dlf:record>
</dlf:collection>
```

Higher levels of interoperability

- **Level 2:** Elementary OPAC supplement
  - Add real-time search, browse, record retrieval
    - (possible bindings: SRU, OpenSearch)
  - Also add authority harvesting, OPAC embed/transform
- **Level 3:** Elementary OPAC alternative
  - Add direct patron functions (status, hold, recall, renew...)
    - (possible bindings: NCIP subsets; OpenURL)
- **Level 4:** Rich / domain specific discovery
  - Add course reserve search for academic libraries
  - Add Explain, reflective interfaces
  - Add more options to functions above
  - We don’t fully specify these levels, but give abstract function definitions, recommend 1 or more binding technologies for each function, and encourage experimentation, implementation, and eventual standardization

Implementing Basic Discovery Interfaces on an existing ILS

- **GoToBibliographicRequestPage**
  - Already in Voyager 7 (based on bibids)
  - Just need to turn it on
- **GetAvailability**
  - Implemented at Penn on Voyager’s database tables
  - Implemented at Duke on Aleph’s X-Services
- **HarvestBibliographicRecords**
  - OAI-PMH MARC record exporter for Voyager implemented by Finnish national library
  - Slight adjustments needed to meet ILS-DI semantics
- **HarvestExpandedRecords**
  - An extension of the HarvestBibliographicRecords implementation
  - Future work
Implementing the interfaces generally

• Direct ILS supplier support best
  – Could be built directly into new versions of ILSs
  – Or as add-on, alternative, or overlay to vendor-specific APIs
  – Many vendors agreed to support Basic Discovery Interfaces
    » Talis / Ex Libris / LibLime / Ebsco / StruGia / Polaris Library Systems / VLS / California Digital Library / OCLC / AquaBrowser
  – Priority depends on customer request and feedback
• Useful interfaces...
  – Fully and openly document interface binding details
  – Have as few IP encumbrances as possible
  – Ideally, provide both server and client implementations
    » Open source clients may be particularly useful for discovery application development
    » Open source services can be debugged, improved by vendors, community

Building on the recommendations

• DLF recommendation at stable point
  DLF task group done its task, DLF itself folding into CLIR
• Time now for implementation, advocacy, extensions
  – ILS Vendors and developers: Providing ILS-DI APIs
  – Libraries, app developers: Requesting, testing, using APIs
  – Extended interfaces (e.g. enhanced GetAvailability)
  – Alternative interfaces (e.g. Jangle’s Atom-based APIs)
  – Non-ILS-based collections (e.g. Online Books, repositories)
• Eventually, further standards work useful
  – Revisiting Basic Discovery level, specifying higher levels
  – Process should be lightweight, with peer review, fairness
  – Needs a sponsor, and a sustainability model

Where to learn more, and participate

• The DLF recommendation:
  – http://diglib.org/architectures/ilsdi/
• A discussion group:
  – ils-di@googlegroups.com
• Tracking follow-on and related work:
  – http://everybodyislibraries.com/
• Questions about presentation, task group:
  – Contact me at ockerblo@pobox.upenn.edu
• Support for the interfaces in your ILS:
  – Contact your ILS provider

Thank you!