Metadata Reuse
A Discovery Framework for Authority Recommendation and ILS-DI based OPAC Functionalities

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Metadata Capital

Metadata is a necessary component of any digital information system

- **Positive aspect**
  - helps people and machines find, access, and use information

- **Challenges**
  - related to quality, cost, and standards that limit metadata effectiveness and most metadata operations are far from perfect
Metadata capital

Metadata capital, as first articulated, underscores metadata as an asset, the value of which may increase via reuse.

If good quality metadata is reused over time, there might be an increase in its value in comparison to the initial investment made to produce it.

Dataset available: Dryad - doi:10.5061/dryad.8c1p6
But the real problem is........

"metadata is like a toothbrush" - everyone knows they need it but nobody wants to use anyone else's
#codata2010

7:33 AM - 26 Oct 2010

2 RETWEETS
Metadata in Libraries

MARC family
- MARC for almost every countries

CCF
UNIMARC
MIBIS

MARC 21 family
- Bibliographic
- Authority
- Classification
- Holdings
- Community Information
  (Last update May 2017)

Generic
- DUBLIN CORE
- MODS (Metadata Object Description Schema)
- Schema.org

Domain-specific
- Categories for the Description of Works of Art (CDWA)
- VRA Core
- Lightweight Information Describing Objects (LIDO)
- Learning Resource Metadata Initiative (LRMI)
- Cataloguing Cultural Objects (CCO)

And the list may go on...........
Interoperability standards

- Managing Compound Objects
- Metadata Harvesting
- Repository Networks
- Usage Statistics
- Cross-System Content Transfer
- Author Identification
- Persistent Identifiers

COAR, 2013
## Candidate standards

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<td>Metadata Harvesting</td>
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<td>DRIVER, OpenAIRE, National repository networks, UK RepositoryNet+</td>
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<td>National Council for Scientific and Technological Development (Government)</td>
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<td>NARCIS</td>
<td>Royal Netherlands Academy of Arts and Sciences (KNAW) (Government)</td>
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<td>Scopus Author ID</td>
<td>Elsevier (Commercial)</td>
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<td>National Library of Medicine (NLM) (Government)</td>
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Major author identification systems (source: Martin Fenner, 2011)
Find and get over 549,796,110 Australian and online resources: books, images, historic newspapers, maps, music, archives and more

22,002 searches this hour

- Available online
- Australian content
- In my libraries

Search

Contribute
Join the community that's organising and improving this information resource.
- 9,020 newspaper text corrections today
- 1,317 images from users this month
- 17,619 items tagged this week
- 3,432 comments added this month
- 201 works merged or split this month
- 829 lists this month

Connect to others with similar interests on the Trove forum

Learn about Trove
A guide to Trove
- How to correct newspaper text
- How to order a copy of an item

News

The material of Finnish archives, libraries and museums with a single search

Find...

Advanced Search

Uncover historical images of where you are!

Show Images
First Possibility

Reuse of Authority Data in Discovery
Second Possibility

Regeneration of OPAC functionalities in Discovery Interface through metadata reuse
Reuse of Authority Data in Discovery
Why authority control in a keyword search environment?

Most of the national level DL systems (e.g. NDL, India; Trove, Australia etc) are Discovery systems based on keyword searching at the end user level.

Most DL systems use authority files during metadata encoding (In fact libraries are using some forms of authority control for the last several decades and libraries provide the largest chunk of records to national level DL Systems).

But DL systems fail to provide the benefit of resources discovery and authority search in the end user interface rather provides separate search interfaces for record search and authority search.

Without authority recommendation, a patron would be forced to search for “Smith, William, “Smith, W.C.”, “Smith, Bill,” etc. to find all the materials by this author.

Keyword searching often yields too many hits in discovery but authority integration may rightly point users towards the exact search phrase.

In absence of the integration of authority recommendation in discovery, a searcher need to determine first which name/term is to use in authority search interface, and then the searcher search that particular name/term in discovery.
Subjects: Before & after authorities processing

Metadata BEFORE

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<td>2</td>
</tr>
<tr>
<td>Earth—Mantle</td>
<td>67</td>
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<td>Earth (Planet)—Mantle</td>
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</table>

Metadata AFTER

See ref to correct term

See also refs

Consolidates

Old forms and the new form of a subject heading separate the collection.

Authority control brings your holdings together.

Example based on LCSH
Names: Before & after authorities processing

Metadata BEFORE

SHARE Working Conference, 2nd, Montréal, Québec, 1976
Sharp, Alan, 1934-
Smith, Henry Atterbury, b. 1872
Sharp, William, fl. 1766-1767
Smith, Hobart Muir, 1912-
Smith, Hobart M. (Hobart Muir), 1912-2013

Metadata AFTER

SHARE Working Conference (2nd : 1976 : Montréal, Québec)
Sharp, Alan, 1934-2013
Sharp, William, active 1766-1767
Smith, Henry Atterbury, 1872-
Smith, Hobart Muir, 1912-2013
Smith, Hobart M. (Hobart Muir), 1912-2013

Old forms and the new form of a name heading separate the collection.
Authority control brings your holdings together.

Example based on VIAF
Sacred works: Before & after authorities processing

### Metadata BEFORE

- **Bible. Genesis—Criticism, interpretation, etc.** 1
- **Bible. Mark—Criticism, interpretation, etc.** 2
- **Bible. N.T. Mark—Criticism, interpretation, etc.** 49
- **Bible. N.T.—Criticism, interpretation, etc.** 153
- **Bible. New Testament—Criticism, interpretation, etc.** 1
- **Bible. O.T. Genesis—Criticism, interpretation, etc.** 57
- **Bible. O.T.—Criticism, interpretation, etc.** 307
- **Bible. Old Testament—Criticism, interpretation, etc.** 1
- **Koran--Criticism, interpretation, etc.** 37
- **Qur’an--Criticism, interpretation, etc.** 1

### Metadata AFTER

- **Bible. Genesis—Criticism, interpretation, etc.** 58
- **Bible. Mark—Criticism, interpretation, etc.** 52
- **Bible. New Testament—Criticism, interpretation, etc.** 154
- **Bible. Old Testament—Criticism, interpretation, etc.** 308
- **Qur’an--Criticism, interpretation, etc.** 38

### Updates to LC

Consolidates

Even non-authorized headings are reformatted.

Example based on LCSH
Other benefits....

Authority control provides the user with the term that is currently used and also adds current term to tag cloud

Authority record points to other works by the same author under a different name (including pseudonym)

Uniform titles authority further enhance discovery
  • Critical for music searches, scores & sound recordings. Popular form of title is in uniform title.
  • Search on popular name without authority cross reference in place. Work is lost!
FAST (Faceted Application of Subject Terminology) in Koha
The Library of Congress

SOURCE OF HEADINGS: Library of Congress Online Catalog

Authority Headings Search

- Search Text: [blank]
- Search Type: [dropdown]
  - Subject Authority Headings
  - Name Authority Headings
  - Title Authority Headings
  - Name/Title Authority Headings
  - Keyword Authorities (All)

- Search History
- Selected Results
  - Records per page: 25

You Searched: SUBJECTS containing: birds

Select a specific heading to display the titles for that heading or follow a cross-reference to get to a more appropriate heading.

- Academy of Natural Sciences of Philadelphia. Birds of North America (0)
  - See: Birds of North America
- Adams, John Luther, 1933-10,000 birds (0)
- Adams, John Luther, 1933- Three continents of the birds (0)
- Adivasi–India–Pohn Catoline Wildlife and Birds Sanctuary, (1)
- Air sacs (of birds) (0)
  - See: Air sacs (Bird anatomy)
LCSH/MARC lists in Omeka
In WorldCat too!!
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<th>Pictures, photos, objects</th>
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<tbody>
<tr>
<td>Subject: &quot;death penalty&quot;</td>
<td>Subject: &quot;capital punishment&quot;</td>
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Refine your results:

Books

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<th>Journal or magazine article (8,868)</th>
<th>Other article (28,629)</th>
<th>Book (2,951)</th>
<th>Illustrated (922)</th>
<th>Photograph (1,125)</th>
<th>Sound (661)</th>
<th>Other sound (665)</th>
<th>Video (443)</th>
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<td>Freely available (801)</td>
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Pictures, photos, objects

<table>
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<tr>
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<td>Capital punishment; new furor in an...</td>
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<td>... Capital punishment: the inevitability of caprice and mistake / Charles L. Black, Jr. Capital ...</td>
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</tbody>
</table>

At 117 libraries

Effective warnings. (capital punishment... | Capitalizing on capital punishment.... |
| Sane, Pierre | Ohle, Mary Ann;... |
| ... Capital punishment: the inevitability of caprice and mistake / Charles L. Black, Jr. Capital ... | At 17 libraries |

Unspeakingly wrong. (capital punishment... | The death penalty. (arguments for an... |
| Hansen, Mark | Why Houston leads in death row case... |
| ... Capital punishment: the inevitability of caprice and mistake / Charles L. Black, Jr. Capital ... | Capital punishment: new furor in an... |
| At 17 libraries | O'Gorman, Samuel... |
Authority Integration in Discovery
FAST was last updated on 4/14/2017.

- **Download the FAST (Faceted Application of Subject Terminology) Data in MARC XML**
  - All files (zip: 105MB)
    - By Facet
      - Personal Names (zip: 39MB)
      - Corporate Names (zip: 24MB)
      - Event (zip: 961kB)
    - Uniform Titles (zip: 4MB)
    - Chronological (zip: 2kB)
    - Topical (zip: 20MB)
    - Geographic (zip: 15MB)
    - Form/Genre (zip: 59kB)

- **Download the FAST (Faceted Application of Subject Terminology) Data in RDF (Linked Data Format N-Triples)**
  - All files (zip: 250MB)
    - By Facet
      - Personal Names (zip: 98MB)
      - Corporate Names (zip: 60MB)
      - Event (zip: 2MB)
      - Uniform Titles (zip: 8MB)
      - Chronological (zip: 66kB)
    - Topical (zip: 52MB)
    - Geographic (zip: 28MB)
    - Form/Genre (zip: 237kB)

- **Download the FAST (Faceted Application of Subject Terminology) Data in ISO MARC**
  - All files (zip: 105MB)
    - By Facet (Longer Facets are in several files)
      - Personal Names 01234567 (zip: all less than 10MB)
      - Corporate Names 01234 (zip: all less than 10MB)
      - Event (zip: 1MB)
      - Uniform Titles (zip: 6MB)
      - Chronological (zip: 27kB)
      - Topical 0123 (zip: all less than 10MB)
      - Geographic 012 (zip: all less than 10MB)
      - Form/Genre (zip: 132kB)

- **FAST (Faceted Application of Subject Terminology) Data ODC-BY license**

---

[TopRecommendations]
- Author[] = "AuthorFacets"
- Author[] = "SpellingSuggestions"
- Author[] = "AuthorityRecommend:record_type:Personal Names:source:ILS-FAST:__resultlimit__:50"
- Subject[] = "AuthorityRecommend:record_type:Topical:source:ILS-FAST:__resultlimit__:50"
- Title[] = "AuthorityRecommend:record_type:Uniform Titles:source:ILS-FAST:__resultlimit__:50"
Regeneration of OPAC functionalities in Discovery Interface through metadata reuse
Backdrop

till date most of the national-level and global-scale union catalogues support only finding function of catalogue and

• neglecting the other OPAC functionalities such as
  - real-time availability status,
  - holds placement etc and
  - extended search features like full-text search
National Union Catalogue
IndCat

Online Catalogue of Books

Search Result(s) found 617 for your search term library automation

Select All Clear All

1. Library Automation
   Author: Rani K Ravichandra
   Publisher & Place: New Age International, Calcutta, 1996

2. Library Automation
   Author: Rani K Ravichandra
   Publisher & Place: Wiley Eastern, New Delhi, 1992

3. Library Automation In Transitional Societies: Lessons From Eastern Europe
   Author: Lars Andrew
   Publisher & Place: Oxford University Press, Oxford, 2000

4. Human Aspects Of Library Automation
   Author: Hans Aare
   Publisher & Place: Aldershot, Gower, 1998

   Author: Cohn John M

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Last Updated (mm/dd/yyyy) : 03/03/2017 11:52:40

Total number of visits: 505205
### Bibliographic Details

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### OPAC List

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<td><a href="http://opac.csirmc.res.in/">http://opac.csirmc.res.in/</a></td>
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</table>
Search Results

From knowledge abstraction to management: using Ranganathan’s faceted schema to...
Suman, Aparajita.
CSIR - National Science Library (NSL-NICL)
INTER LIBRARY LOAN FOR CSIR LABORATORY STAFF

Bibliographic information organization in the semantic web /
Willer, Mima.; Dunsire, Gordon.
CSIR - National Science Library (NSL-NICL)
INTER LIBRARY LOAN FOR CSIR LABORATORY STAFF

Web animation and interactivity the ultimate guide to web design
Christine Saucier
CSIR - National Science Library (NSL-NICL)
INTER LIBRARY LOAN FOR CSIR LABORATORY STAFF | VIEW ORIGINAL

Web dot com web margdarshika (in Marathi)
Arunjit Singh; Prabhvir Sahami
CSIR - National Science Library (NSL-NICL)
INTER LIBRARY LOAN FOR CSIR LABORATORY STAFF | VIEW ORIGINAL

Web dot com web margdarshika (in Hindi)
Arunjit Singh; Prabhvir Sahami
CSIR - National Science Library (NSL-NICL)
1. Web scale reasoning / guest editors : Z. Huang ... [et al].
   World Scientific 2010
   Printed
   Online

2. The experienced English housekeeper : for the use of ladies, housekeepers, cooks, &c. Written purely from Practice; Dedicated To
   The Hon. Lady Elizabeth Warburton, Whom the Author lately served as Housekeeper: Consisting of several hundred original
   receipts, most of which never appeared in Print. Part I. Lemon-Pickle, Browning for all Sorts of made Dishes, Soups, Fish, plain
   Meat. Game, made Dishes, both hot and cold. Pies, Puddings, &c. Part II. All Kinds of Confectionary, particularly the Gold and
   Silver Wet for covering of sweetmeats, and Desert of Spun Sugar; with Directions to set out a Table in the most elegant Manner,
   and in the modern Taste. Floating Islands, Fish Ponds, Transparent Puddings, ... Whips, &c. Part III. Pickling, Potting, and
   Colarising, Wine, Vinegars, Catuphu, ... with two most valuable Receipts, one for refining Malt Liquors, the other for curing Add
   Wines; and a correct List of every Thing in scale for every Month in the Year. By Elizabeth Raffald. A new edition, in which are
   inserted some celebrated receipts by other modern authors. / [By Raffald, Elizabeth 1703-1781.]
   Raffald, Elizabeth 1703-1781.
   London : published for the booksellers ; and printed and sold by H. and G. Moseley, Market Place, Gainsborough 1800
   Printed
   Online (6)

3. Web scale knowledge representation, retrieval and reasoning. Proceedings of the 2012 international workshop on
   ACM.
   Printed

4. Web-scale multimedia corpus. Proceedings of the 1st workshop on
   ACM.
   Printed

5. Web-scale knowledge representation retrieval and reasoning. Proceedings of the 4th international workshop on
   ACM.
   Printed

6. WSAC: Web-Scale Multimedia Corpus
   [S.l.] : [n.n.]
Building web-scale libraries - book - Lorcán Dempsey and Brian Lavoie.

Author: Dempsey, Lorcán.
ISBN: 1856044308 (hbk.)
1856044308 (hbk.)
Contents: As networks of information provision and consumption, the 'new' web-scale network 'what is a library? a framework for yesterday and tomorrow' Web 2.0, platforms, and the library? Applications for library organization, collections, and services.
Summary: Advances in technology have overlaid our landscape with increasingly rich networks, and the web is simply the current state of this ongoing process of network evolution. As new models of communication, collaboration, consumption, and provision codify around this web-based network, this has introduced pressures for adaptation and change in all aspects of society, including libraries. The library of today is an artifact of older networks, built to support the provision of information in printed form. One of the salient features of the new web-based network is scale, in terms of both the ability to concentrate resources and capacities, and the means to deliver them to consumers all over the world. Library structures must adapt to these imperatives. In short, we must build web-scale libraries. This book proposes a new framework for exploring this transition to the library of the future. The implications of this framework are illustrated by a new model of the library built around Web 2.0 concepts in a platform environment, and examples are offered of how the pattern of transaction costs prevailing in the web-scale environment might impact upon library organization, collections, and services. Chapters cover the following key topics such as: networks of information provision and consumption, the 'new' web-scale network 'what is a library? a framework for yesterday and tomorrow' Web 2.0, platforms, and the library? applications for library organization, collections, and services. Libraries need to rethink themselves and create value in this new environment which has altered the terms of reference for information, and the conduct of learning and scholarship is changing. All library and information professionals attempting to meet this challenge will find this book of great interest.

Biography: Lorcán Dempsey is Vice President and Chief Strategist, DCLC and Brian Lavoie, Consulting Research Scientist, DCLC.


Other names: Lavoie, Brian F.

Language: English

Direct Link: http://copac.jisc.ac.uk/141826590?style=html&title=Building%20web-scale%20libraries%2C%20networks%20and

Format: Printed

Note: Documents located on Copac may be available for loan. To borrow a document, make an inter-library loan request via a library of which you are a member, for instance your university library.
### Holdings information at the University of Oxford Libraries for:

Building web-scale libraries: libraries, networks and services / Lorcan Dempsey and Brian Lavoie.
Dempsey, Lorcan.
London : Facet 2009

Live circulation data is not available for this item.

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More details about: University of Oxford Libraries

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*Note: Documents recorded on Copac may be available for loan. To try to borrow a document, make an inter-library loan request via a library of which you are a member, for instance your university library.*
Global Union Catalogue - WorldCat
Global Union Catalogue - WorldCat
Facts in a nutshell

- No union catalogue (national or global) is using ILS to design union catalogue;
- Union catalogues are not using ILS as end user interface but Discovery Interface (DI) as single-point search entity;
- Union catalogues are mostly depending on the process of harvesting to gather metadata of books (manifestation level) in a central index inside a discovery service;
- Most of these services have successfully implemented FRBRized display (gathering all manifestation of the same work in the display);
- Most of these services implemented Deduplication (gathering all items of the same manifestation in one place);
- But almost all of these services (except one – ohiolink) failed to implement minimum OPAC functionalities like real-time item availability status, holds placement/reservation, login with respective library credentials etc.

Why? Simple dear, ILS can’t talk to DI
Achievements of Ohiolink
What is ILS-DI?

“From the standpoint of libraries it would be ideal to be able to mix-and-match ILS and discovery platforms to suit local needs. To create such a rich environment the library and vendor community will need agreement on the specific technical details of how discovery and ILS systems are to integrate.”

- Peter Brantley, DLF Executive Director, 23/05/2007

http://blogs.lib.berkeley.edu/shimenawa.php/2007/05/23/ils_abstraction_api
Berkeley Accord, 2008

- Basic set of functionality essential for libraries to take advantage of new discovery systems (ILS-BDI)
- Agreement from April 4, 2008
- Harvesting
  - Full and incremental, bib and holdings/circ
- Availability
  - Real-time availability of item
- Linking
  - Stable link to item in OPAC providing request links

- Talis
- Ex Libris
- LibLime
- BiblioCommons
- SirsiDynix
- Polaris Library Systems
- VTLS
- California Digital Library
- OCLC
- AquaBrowser
ILS-DI Standard

DLF ILS Discovery Interface Task Group (ILS-DI)
Technical Recommendation

An API for effective interoperation between integrated library systems and external discovery applications

June 4, 2008

ILS-DI Task Group Members

John Mark Ockerbloom, Univ. of Penn. (chair)
Terry Reese, Oregon State Univ.
Patricia Martin, California Digital Library
Emily Lynema, North Carolina State Univ.
Todd Grappone, Univ. of Southern California
Dave Kennedy, Univ. of Maryland
David Bucknum, Library of Congress
Dianne McCutcheon, National Library of Medicine

https://old.diglib.org/architectures/ilstdi/DLF_ILS_Discovery_1.0.pdf
What OAI/PMH compatibility is doing?
Beyond book indexing

Brenner, Diane.
Rowland, Marilyn.

Includes bibliographical references and index.

Preface / Enid L. Zafran -- Introduction / Diane Brenner &amp; Marilyn Rowland -- Contributors -- Pt. 1. Beyond standalone indexes: The world of embedded indexing / Jan C. Wright ; Indexing computer-related documents / Lynn Moncrief -- Pt. 2. Beyond the book: Subject-oriented web indexing / Dwight Walker ; Web indexing--anchors away! / Kevin Broccoli &amp; Gerry Van Ravenswaay ; Ripping out the pages / Seth Maislin ; Field-based indexing: &lt;Meta&gt; tags / Marilyn J. Rowland ; Envisioning the word / X Bonnie Woods ; How to index windows-based online help / Susan Holbert -- Pt. 4. Beyond traditional marketing: Web site design for indexers / Marilyn J. Rowland ; Putting sample indexes on your web site.

Indexing.
Computer network resources.
Electronic information resources.
Web sites.

URN:ISBN:1573870811
<record>
   <datafield ind1="1" tag="700" ind2="">
      <subfield code="a">Brenner, Diane.</subfield>
      <subfield code="9">4</subfield>
   </datafield>

   <datafield ind1="1" tag="700" ind2="">
      <subfield code="a">Rowland, Marilyn.</subfield>
      <subfield code="9">5</subfield>
   </datafield>

   <datafield ind1="1" tag="700" ind2="">
      <subfield code="2">ddc</subfield>
      <subfield code="c">BK</subfield>
   </datafield>
</record>
What ILS-DI can do additionally?
ILS-DI

Level 1: Basic discovery interfaces
- HarvestBibliographicRecords (Use OAI-PMH instead)
- HarvestExpandedRecords (Use OAI-PMH instead)
- GetAvailability
- GoToBibliographicRequestPage (Use OPAC instead)

Level 2: Elementary OPAC supplement
- HarvestAuthorityRecords (Use OAI-PMH instead)
- HarvestHoldingsRecords (Use OAI-PMH instead)
- GetRecords
- Search (Use SRU instead)
- Scan (Use SRU instead)
- GetAuthorityRecords
- OutputRewritablePage (Not supported yet)
- OutputIntermediateFormat (Not supported yet)

Level 3: Elementary OPAC alternative
- LookupPatron
- AuthenticatePatron
- GetPatronInfo
- GetPatronStatus
- GetServices
- RenewLoan
- HoldTitle
- HoldItem
- CancelHold
- RecallItem (Not supported by Koha)
- CancelRecall (Not supported by Koha)

Level 4: Robust/domain specific discovery platforms
- SearchCourseReserves (Not supported yet)
- Explain (Not supported yet)
ILS-DI call in REST fashion

http://localhost:7001/cgi-bin/koha/ilsdi.pl?service=GetAvailability&id=1+2&id_type=item

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```xml
<dlf:collection xsi:schemaLocation="http://diglib.org/ilsdi/1.1 http://diglib.org/architectures/ilsdi/schemas/1.1/dlfexpanded.xsd">
  <dlf:record>
    <dlf:bibliographic id="1"/>
    <dlf:items>
      <dlf:item id="1">
        <dlf:simpleavailability>
          <dlf:identifier>1</dlf:identifier>
          <dlf:availabilitystatus>available</dlf:availabilitystatus>
          <dlf:location>Library1</dlf:location>
        </dlf:simpleavailability>
      </dlf:item>
    </dlf:items>
  </dlf:record>
  <dlf:record>
    <dlf:bibliographic id="1"/>
    <dlf:items>
      <dlf:item id="2">
        <dlf:simpleavailability>
          <dlf:identifier>2</dlf:identifier>
          <dlf:availabilitystatus>available</dlf:availabilitystatus>
          <dlf:location>Library1</dlf:location>
        </dlf:simpleavailability>
      </dlf:item>
    </dlf:items>
  </dlf:record>
</dlf:collection>
```
ILS-DI call in REST fashion

http://localhost:7001/cgi-bin/koha/ilsdi.pl?service=GetPatronInfo&patron_id=2&show_contact=0&show_loans=1

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<GetPatronInfo>
  <updated_on>2017-08-23 20:13:55</updated_on>
  <sort1/>
  <firstname>Library1</firstname>
  <country/>
  <categorycode>FC</categorycode>
  <state/>
  <checkprevcheckout>inherit</checkprevcheckout>
  <sort2/>
  <title/>
  <B_address2/>
  <othernames/>
  <borrowernumber>2</borrowernumber>
  <B_state/>
  <login_attempts>0</login_attempts>
  <cardnumber>fc-lib1-001</cardnumber>
  <borrowernotes/>
  <contactname/>
  <branchcode>LIB1</branchcode>
  <branchname>Library1</branchname>
  <surname>User1</surname>
  <allcontactstate/>
  <privacy_guarantor_checkouts>0</privacy_guarantor_checkouts>
  <dateexpiry>2018-08-23</dateexpiry>
  <B_streethnumber/>
  <privacy>1</privacy>
  <dateenrolled>2017-08-23</dateenrolled>
  <lang>default</lang>
  <loans/>
  <category_type>P</category_type>
  <opacnote/>
  <initials/>
  <B_country/>
  <sex/>
  <contactnote/>
  <allcontactcountry/>
  <description>Faculty (Library 1)</description>
</GetPatronInfo>
```
## The prototype

**Five Koha Instances (ILS) → OAI/PMH and ILSDI embedded → Fifty Records X Five Instances → VuFind (DI)**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Standard</th>
<th>Software</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILS layer</td>
<td>OAI/PMH version 2.0</td>
<td>–</td>
<td>The only globally agreed-upon data harvesting standard (support to act as <strong>data provider in the protocol</strong>)</td>
</tr>
<tr>
<td></td>
<td>ILS-DI recommendation version 1.1</td>
<td>-</td>
<td>The only global-scale standard for the <strong>ILS to interact with discovery services</strong></td>
</tr>
<tr>
<td>Middleware</td>
<td>ILS-DI</td>
<td>Multibackend driver on the basis of ILS-DI</td>
<td>Supports OAI/PMH (through C4::OAI::Sets) and ILS-DI (through C4::ILS-DI::Services)</td>
</tr>
<tr>
<td>Discovery Layer</td>
<td>OAI/PMH version 2.0</td>
<td>–</td>
<td>The only globally agreed-upon data harvesting standard (support to act as <strong>service provider in the protocol</strong>)</td>
</tr>
<tr>
<td></td>
<td>ILS-DI recommendation version 1.1</td>
<td>-</td>
<td>The only global-scale standard for the <strong>discovery to interact with ILS</strong></td>
</tr>
<tr>
<td></td>
<td>VuFind version 4.0</td>
<td></td>
<td>Supports OAI/PMH (<strong>service provider</strong>) and ILS-DI (<strong>through KohaILSDI driver</strong>)</td>
</tr>
</tbody>
</table>
Issue 1

How to provide Unique bibid for records from different Koha instances?
Issue 2

- How to make KohaILSDI driver Multibackend ready?

```
[Katalog]
; database host, port, user, password, database
host      = localhost
port      = 3306
username  = koha_library1
password  = kohakoha
database  = koha_library1

; Url to the ILS-DI API
url       = http://localhost:7001/cgi-bin/koha/ilsdi.pl
```
# The Multibackend Driver

<table>
<thead>
<tr>
<th>Koha Instance 1</th>
<th>OAI/PMH (Data Provider)</th>
<th>Koha ILSDI driver for Instance 1</th>
<th>Multi-Backend DRIVER</th>
<th>DISCOV ERY LAYER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koha Instance 2</td>
<td>OAI/PMH (Data Provider)</td>
<td>Koha ILSDI driver for Instance 2</td>
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<td></td>
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<tr>
<td>Koha Instance 3</td>
<td>ILS-DI services</td>
<td>Koha ILSDI driver for Instance 3</td>
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<td></td>
</tr>
<tr>
<td>Koha Instance 4</td>
<td>ILS-DI services</td>
<td>Koha ILSDI driver for Instance 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koha Instance 5</td>
<td>ILS-DI services</td>
<td>Koha ILSDI driver for Instance 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Achivements..

1. allow users to search holdings of different libraries from a single-point access with unique biblio ID for each object coming from different instances of a single ILS or single instance of different ILSs;

2. display real-time item level availability status in the end user interface of the prototype union catalogue through developing an appropriate middleware (multibackend driver) that can communicate with individual ILSs through a set of globally agreed-upon standard (say ILS-DI);

3. facilitate login of end users in the union catalogue by using the respective ILS login as allotted by individual libraries to their users.

Federated search in Discovery Interface (DI)
Real-time item availability status from multiple libraries in DI
Patron functionalities (same services as available in OPAC)
Final words before demonstration..

Koha 17.05.x
as
ILS

OAI/PMH
ILSDI
ILSDI driver
Multibackend driver

Vufind 4.x
as
DI

Direct Database Call
(Past)

ILSDI Call in REST fashion
(still ILS datastructure dependent)
(Present)

ILSDI Call in RESTFul
(ILS datastructure independent)
(Future)
KohaCat Discovery

mechanization of library -- Subject

Search: mechanization of library

No Results!

Your search - mechanization of library - did not match any resources.

See also:
Libraries Automation

You have been searching in the "KohaCat Discovery" tab. You may find something in one of the other tabs:

Try widening your search to All Fields.

You may be able to get more results by adjusting your search query.
- Performing a fuzzy search may retrieve terms with similar spellings: mechanization of library~.
- Adding a wildcard symbol may retrieve word variants: mechanization of library*.

Search Options
- Search History
- Advanced Search

Find More
- Browse the Catalog
- Browse Alphabetically
- Explore Channels

Need Help?
- Search Tips
- Ask a Librarian
- FAQs
An automation primer for school library media centers and small libraries / by Schultz-Jones, Barbara. Published 2006

Table of Contents: "...Automation systems defined -- Automation system features -- Web access -- Technical considerations..."

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<tr>
<th>Location</th>
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<td>027.8/0285 SCH/A</td>
<td>Available</td>
</tr>
</tbody>
</table>

Save to List
Your request was successful. Your Holds and Recalls.
Your Holds and Recalls

Cancel Selected Holds  Cancel All Holds

An automation primer for school library media centers and small libraries
by: Schultz-Jones, Barbara.

Book

Pickup Location: Library2
Created: 10/25/2017 | Expires: N/A
Queue Position: 1
Thank you......