Taking Control of Library Metadata and Websites using the eXtensible Catalog

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**eXtensible Catalog** is open source, user-centered, next generation software for libraries.

- Four software components can be used independently to address a particular need
- Combined to provide an end-to-end discovery system to connect library users with resources.
XC Software Overview

• User Interface
  – Faceted, FRBRized, customizable search interface
  – Web application framework for libraries

• Metadata Tools
  – Automated processing of large batches of metadata

• Connectivity Tools
  – Between XC and an ILS
  – Harvest and synchronize metadata with OAI-PMH
  – Circulation and authentication with NCIP
XC Software Components

User Interface for searching and browsing

Library Website (on Drupal)
- XC Drupal Toolkit

Tools for automated processing of large batches of metadata
- XC Metadata Services Toolkit
- XC NCIP Toolkit
- XC OAI Toolkit
- MARCXML

Tools for connectivity between XC and an ILS
- Integrated Library System
- Repository
- Circ. Status/Req. Authentication
User Interface for searching and browsing

Tools for automated processing of large batches of metadata

Tools for connectivity between XC and an ILS
Drupal Toolkit

Features

• Adds support for library metadata to Drupal
• Single search interface across:
  – Library catalog
  – Digital repository
  – Website resources
• Faceted browsing of results
• FRBRized metadata
• Extensive customization
• Integration with ILS circulation system
Drupal Toolkit: Search Interface

Features:
- Simple keyword search
- Facets
- Customizable metadata display
- Circulation status
- Syndetic Solutions content
- Why am I getting these results for my query?
Form to customize element display:
Determines how to display the creator element on the results screen.

The “element template” box allows libraries to write simple PHP code and offers more flexibility.

All options are pre-filled with “good” defaults.
• Create custom web applications to browse catalog content by filling out web forms
• Pre-set search limits, customized facets
• Possibilities:
  – Search/Browse eJournals
  – Search/Browse databases
  – Search/Browse collections
• Example: browsable list of videos and DVDs created without any programming
This example allows users to browse a subset of the catalog: the videos and DVDs collection.

On this page, users can browse by language.

Other tabs support browse by director and genre.

Limits can be set for format: VHS or DVD.
## Drupal Toolkit: Provided Modules

The Drupal Toolkit is actually a collection of Drupal add-on modules:

- OAI-PMH Harvester
- Metadata Import and export
- MySQL and Solr storage
- NCIP Integration
- Authentication
- EZProxy
- Syndetic Solutions
- Search

<table>
<thead>
<tr>
<th>Enabled</th>
<th>Name</th>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>EZProxy URL Rewrite</strong></td>
<td>6.x-1.1</td>
<td>Rewrite URL links based on a user's IP address and other advanced options; allowing IP-protected content to be forwarded to an EZProxy or another proxy referral server</td>
</tr>
<tr>
<td></td>
<td><strong>ILS</strong></td>
<td>6.x-1.1</td>
<td>ILS settings</td>
</tr>
<tr>
<td></td>
<td><strong>Metadata Import and Export</strong></td>
<td>6.x-1.1</td>
<td>Import and export metadata to and from the XC system</td>
</tr>
<tr>
<td></td>
<td><strong>NCIP Integration</strong></td>
<td>6.x-1.1</td>
<td>Client and library for NSU Circulation Interchange Protocol (NCIP/239-93) Required by: NCIP Toolkit Integration (enabled), ILS (enabled)</td>
</tr>
<tr>
<td></td>
<td><strong>OAI Harvester</strong></td>
<td>6.x-1.1</td>
<td>OAI-PMH Harvester</td>
</tr>
<tr>
<td></td>
<td><strong>OAI-DC Schema</strong></td>
<td>6.x-1.1</td>
<td>Handles import and export of Dublin Core (oai_dc) schema records</td>
</tr>
<tr>
<td></td>
<td><strong>Syndetics Solution</strong></td>
<td>0.x-1.1</td>
<td>Syndetics Solution services</td>
</tr>
<tr>
<td></td>
<td><strong>XC Authentication</strong></td>
<td>6.x-1.1</td>
<td>Delivers Drupal user account login and registration for XC to external authentication system</td>
</tr>
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<td></td>
<td><strong>XC Browse</strong></td>
<td>6.x-1.1</td>
<td>Integrate the extensible catalog (XC) into a Drupal environment</td>
</tr>
<tr>
<td></td>
<td><strong>XC Core</strong></td>
<td>6.x-1.1</td>
<td>Adds support for creating, managing, and manipulating metadata structures and their containers facilitates the import, export, storage, retrieval, and relational organization of metadata</td>
</tr>
<tr>
<td></td>
<td><strong>XC Metadata</strong></td>
<td>6.x-1.1</td>
<td>Connects to NCIP Toolkit instances</td>
</tr>
<tr>
<td></td>
<td><strong>XC OAI Harvester Bridge</strong></td>
<td>6.x-1.1</td>
<td>Handles the import of metadata into XC via OAI-PMH. This is a bridge between OAI Harvester and XC modules</td>
</tr>
<tr>
<td></td>
<td><strong>XC Schema</strong></td>
<td>6.x-1.1</td>
<td>Handles import and export of extensible catalog (xc) schema records</td>
</tr>
<tr>
<td></td>
<td><strong>XC Search</strong></td>
<td>6.x-1.1</td>
<td>Searching records in the XC system</td>
</tr>
<tr>
<td></td>
<td><strong>XC Solr</strong></td>
<td>6.x-1.1</td>
<td>Handles storage, retrieval, and search of metadata to, from, and on multiple Apache Solr servers</td>
</tr>
<tr>
<td></td>
<td><strong>XC SQL Database Storage</strong></td>
<td>6.x-1.1</td>
<td>Handles storage and retrieval of metadata using sets of SQL database tables</td>
</tr>
<tr>
<td></td>
<td><strong>XC Utility</strong></td>
<td>6.x-1.1</td>
<td>Utility functions for the rest of XC modules</td>
</tr>
</tbody>
</table>
Metadata Services Toolkit

User Interface for searching and browsing

Tools for automated processing of large batches of metadata

Tools for connectivity between XC and an ILS
**Metadata Services Toolkit**

**Features:**

New type of staff client for processing large batches of metadata through an orchestrated set of services.

Harvest from multiple sources (silos) to address format and quality issues.

Clean up, transform, and aggregate metadata.

Automatic synchronization propagates changes in source metadata through services and on to discovery interface.
Functions:

- Add Repositories
- Schedule Harvests
- Add Metadata Services
- Add Processing Rules
- Browse Records
- View Logs
- Set up Users/Groups
MST Service Orchestration: Add Processing Rule

Metadata Services Toolkit

Select Source & Service

- External Repositories
  - Test repository

Select Source for records to be Processed

Input Records to Services
- Normalization Service
- Transformation Service

Output Records from Services
- Normalization Service
- Transformation Service

1. Select Source & Service
2. Select Sets & Formats & Services
MST: Browse Records

"Browse Records" includes full-text search and faceted browse.

Examples of Facets:
- Repository
- Service
- Schema
- Errors
Library staff use “Browse Records” to verify that services are functioning properly and to debug any issues.

The MST preserves the original record and new records produced by each metadata service. Navigation links take you to predecessor and successor records.
User Interface for searching and browsing

Library Website (on Drupal)

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XC Metadata Services Toolkit

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XC NCIP Toolkit

XC OAI Toolkit

Integrated Library System

Repository

Circ. Status/Req. Authentication

MARCXML

DC
**ILS Connectivity**

**XC OAI Toolkit + XC NCIP Toolkit =**

Connectivity between a range of ILSs and XC software

Standards-based to enable other next-generation catalog products to work with many legacy ILSs
Overview:

Expose ILS metadata to XC’s next generation catalog interface and metadata tools.

Synchronize ongoing changes in ILS records with XC software automatically.
**Compatibility:**

The XC OAI Toolkit works with virtually any ILS that includes MARC export capabilities.

- Voyager ILS
- Aleph ILS
- NTT ILS
- III ILS
- III/Oracle
- ...

ILS system administrators can program the OAI Toolkit with a familiar scripting language. No Java programming is required to make the OAI Toolkit work with a particular ILS.
Overview

Enable XC’s next generation catalog interface access to ILS authentication, circulation and patron services.

Example Requests

- Circulation status lookup
- Renew an item
- Lookup patron information
Compatibility:

The XC NCIP Toolkit works with many Integrated Library Systems.

- Voyager ILS
- Aleph ILS
- NTT ILS
- III ILS
- III/Oracle
- ...

Build your own Java driver to allow the NCIP Toolkit to support an additional ILS.

The NCIP Toolkit allows developers to focus on interfacing with their ILS rather than learning the details of the NCIP protocol.
• Download XC software at www.eXtensibleCatalog.org
• Post bugs, questions, enhancement requests to XC Google Code or Drupal software sites
• New XC website: sign up for a mailing list
  – Announcements
  – General Discussion
  – Developer Discussion
• Become an eXtensible Catalog Organization (XCO) Sponsor
• Apply for invitation to XCO Meeting, May 6, 2010 Charlotte, NC
Download XC software at eXtensibleCatalog.org