

Managing Digital Resources in Alma

Asaf Kline | Director, Alma Product Management

General Availability

- From January 2016 – Enhanced functionality for management of digital resources in Alma

Digital Asset Management

This January 2016 release sees the culmination of Phase Two of Alma's enhanced support for the management of digital resources. This includes a focus on Special Collection workflows and processes. As part of this, Alma will be able to support large-scale staff ingest scenarios. The mechanism for bulk upload (ingest) will support different formats with an initial focus on MARC and CSV based files, and which will later be extended to Dublin Core.

Alma also provides easy-to-use wizards and upload utilities for staff to be able to create individual resources (e.g. 'quick catalog' a new representation), and manage content that has already been uploaded by other means. These enhancements and developments go hand-in-hand with new discovery and delivery capabilities for the end user.

Main Goals w/ Alma

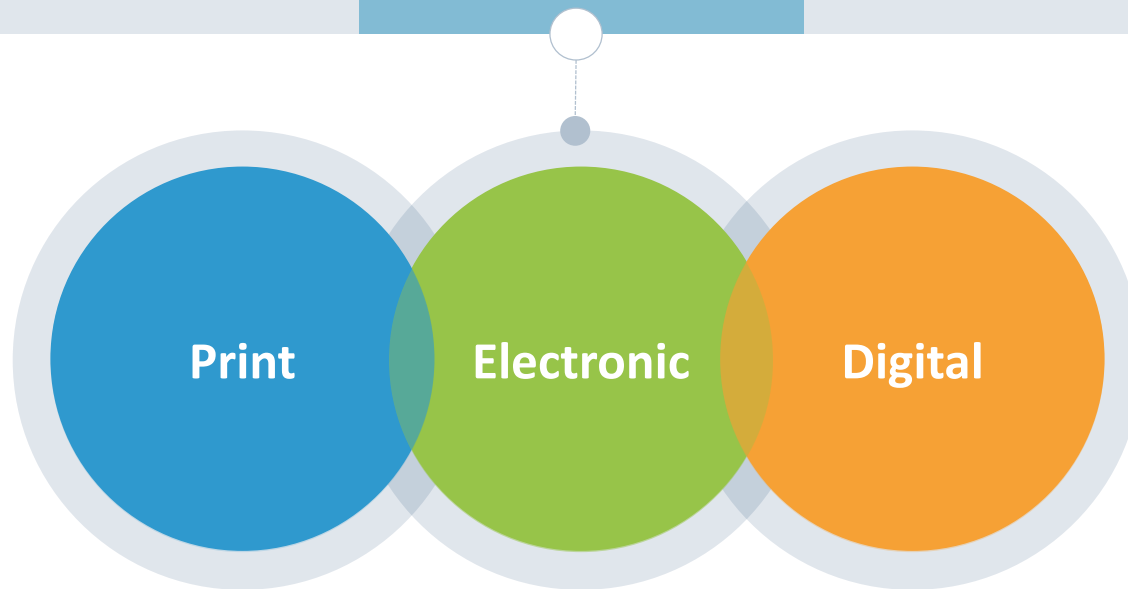
Simple

Integrated
Library
Workflows

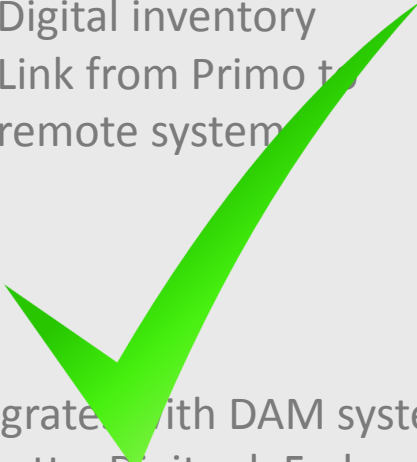
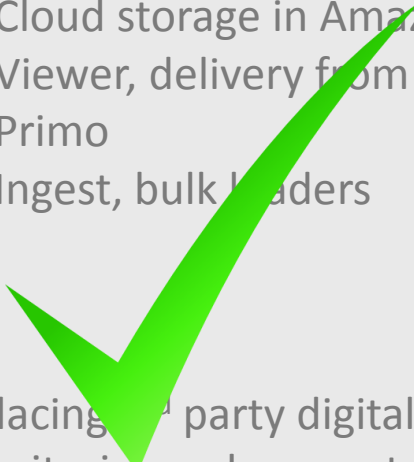


Enhanced
Discovery and
Delivery

New
(out-of-the-box)
Services



Where We Stand

Phase 1	Phase 2	Phase 3
Integration with Remote DAM Systems <ul style="list-style-type: none">• Harvest metadata• Digital inventory• Link from Primo to remote system  <p>Integrate with DAM systems (Rosetta, Digitool, Fedora, ContentDM)</p> <p>EOY 2014</p>	Special Collections Workflows <ul style="list-style-type: none">• Staff deposit• Cloud storage in Amazon• Viewer, delivery from Primo• Ingest, bulk loaders  <p>Replacing 3rd party digital repositories and support for cloud storage</p> <p>EOY 2015</p>	Institutional Repository Workflows <ul style="list-style-type: none">• End user deposit• Maintenance jobs• APIs/SWORD• Analytics <p>Replacements of institutional repositories including extended workflows coverage</p> <p>EOY 2016</p>

Two Flavors of Managing Digital Resources in Alma

COMPLETE

Alma provides metadata management and file storage



REMOTE

Alma manages metadata while the files are managed in another system



Remote Digital Asset Management

Remote Digital Repositories				Back
Find : <input type="text"/> in : Type <input type="text"/> Go				
Add Remote Repository Instance				1 - 16 of 16 Records Columns <input type="button" value="Tools"/>
	Remote Repository Name	Remote System Type	Format	
1	marc profile	DIGITOOL	OAI MARC21 Bibliographic	<input type="button" value="Actions"/>
2	WSU DSpace	DSPACE	OAI DC Format	<input type="button" value="Actions"/>
3	Rosetta OAI Qualified DC format	ROSETTA	OAI Qualified DC Format	<input type="button" value="Actions"/>
4	Rosetta OAI DC format	ROSETTA	OAI DC Format	<input type="button" value="Actions"/>
5	Omeka OAI DC format	OMEKA	OAI DC Format	<input type="button" value="Actions"/>
6	Kingston EPrints OAI DC format	EPRINTS	OAI DC Format	<input type="button" value="Actions"/>
7	Fedora OAI Qualified DC format	FEDORA	OAI Qualified DC Format	<input type="button" value="Actions"/>
8	Fedora OAI DC format	FEDORA	OAI DC Format	<input type="button" value="Actions"/>
9	Equella OAI Qualified DC format	EQUELLA	OAI Qualified DC Format	<input type="button" value="Actions"/>
10	Equella OAI DC format	EQUELLA	OAI DC Format	<input type="button" value="Actions"/>
11	Digital Repository	DIGITAL_COMMONS	OAI DC Format	<input type="button" value="Actions"/>
12	Digital Commons OAI DC format	DIGITAL_COMMONS	OAI DC Format	<input type="button" value="Actions"/>
13	DigiTool OAI DC format	DIGITOOL	OAI DC Format	<input type="button" value="Actions"/>
14	D-Space Simple Archive format	DSPACE	Simple Archive Format	<input type="button" value="Actions"/>
15	D-Space OAI Qualified DC format	DSPACE	OAI Qualified DC Format	<input type="button" value="Actions"/>
16	D-Space OAI DC format	DSPACE	OAI DC Format	<input type="button" value="Actions"/>
Add Remote Repository Instance				1 - 16 of 16 Records <input type="button" value="Tools"/>

Repository

Key Focus Areas - 2015



Cloud Storage and Digital Inventory

Leverage Amazon S3 as cloud storage service.
Enhance inventory data model for digital resources
(search, management)



Staff interfaces

One by one wizards for ad hoc staff creation of
resources
bulk upload capabilities for large scale processing
of digital resources



Collections

Organize library resources into hierarchical
structures for ongoing management and enhanced
discovery



Infrastructure

Leverage Amazon for storage and bandwidth – doesn't affect core Ex Libris services and data centers



Trusted Brand

Digital content *is* the asset- storage in a trusted repository with 99.999999999% durability



Security

Utilize Amazon's security infrastructure to provide data silos and ensure secure access



Third Party Tools

There are many third party tools which integrate with Amazon's storage service, providing institutions with direct access to their resources



Global distribution

Amazon S3 is available globally in [multiple AWS regions](#), allowing fast access and compliance with data residency requirements

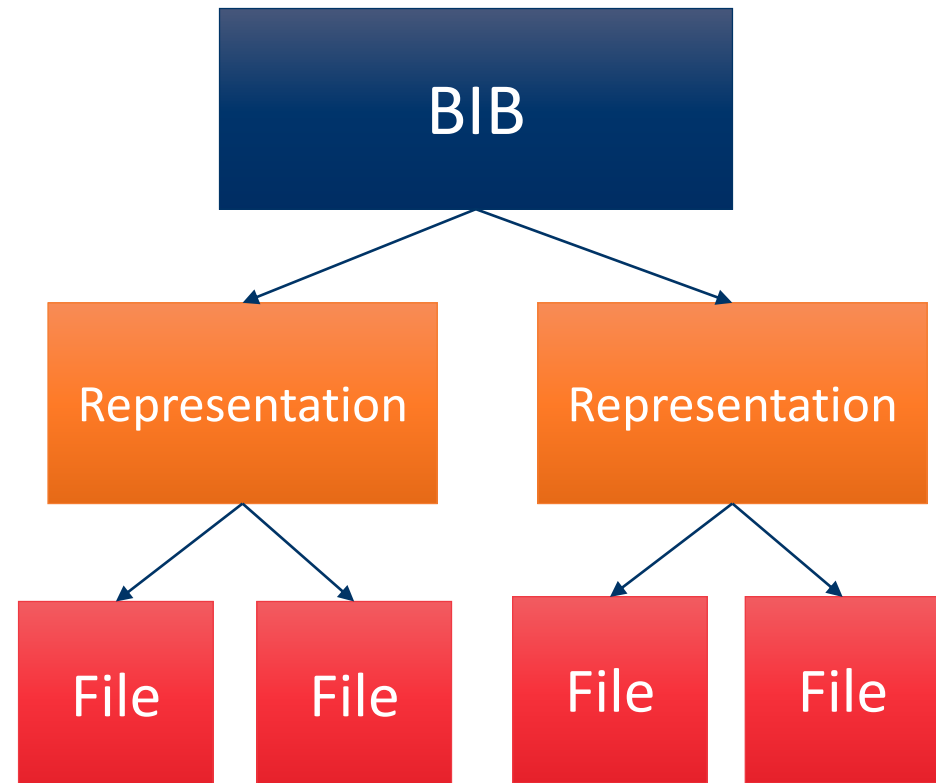


Cost Effective

Storage is a commodity and prices are coming down. Storage and bandwidth costs are cheaper than private cloud

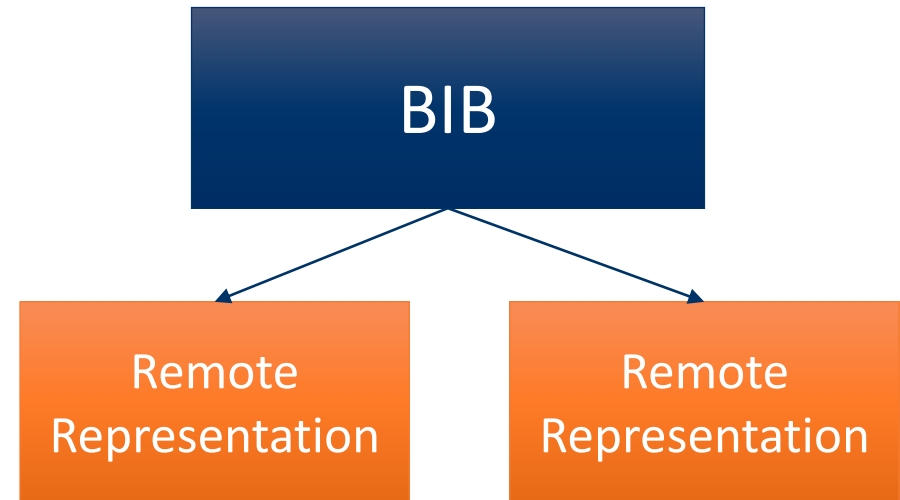


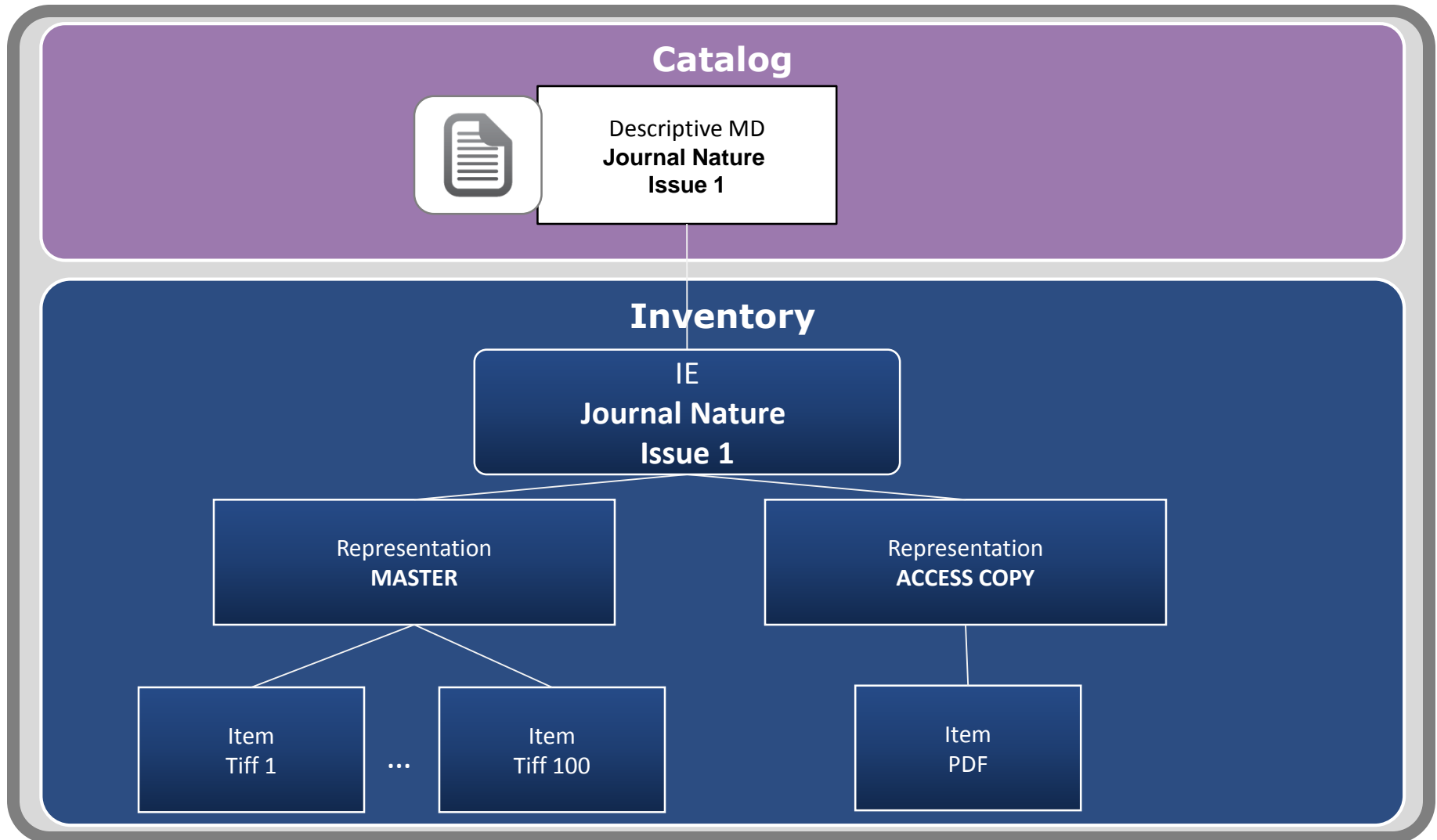
- Digital content managed in Alma
- Bibliographic metadata managed in Alma
- Files stored in Alma cloud
- Delivery links provided in “view it”





- Digital content managed in external system
- Bibliographic metadata managed in Alma
- Alma maintains links to remote materials
- Delivery links provided in “view it”





Staff Interfaces – One by One



- Quick and easy creation of digital representations
- Single Representation, Multiple Files
- New or Existing Title

Representation Details [Car](#)

Descriptive Information

☒ New ☐ Existing

Placement of new record ☐ Network ☒ Institution

Title *

Creator

Description

Date Type

Collection *

Suppress from Discovery ☐

Representation Details

Remote ☐

Usage Type * Library *

Label

Note

Public Note

Entity Type Access Rights Policy

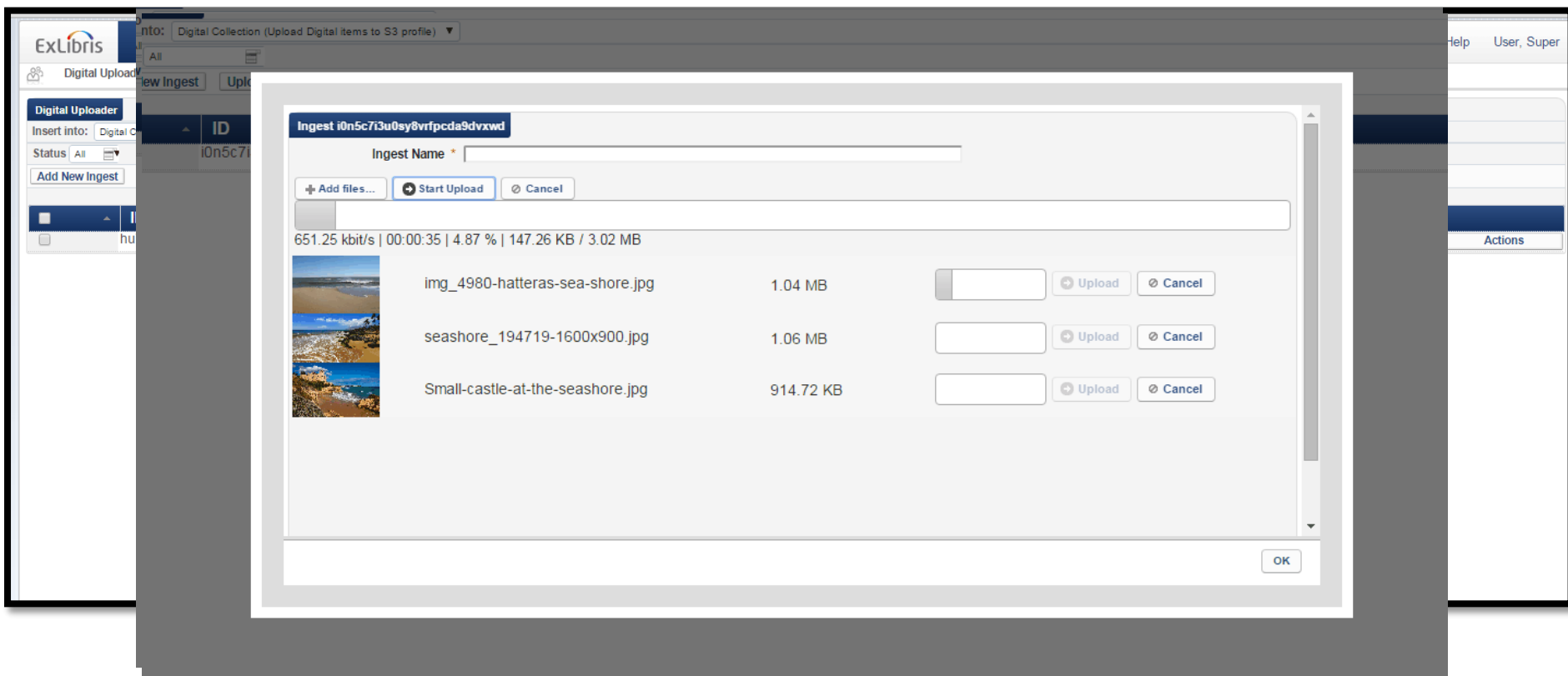
File Upload

Please select title and collection in order to upload files

Staff Interfaces – Bulk



- Geared for larger sized uploads
- Any supported import format (CSV, MARC, DC)
- Multiple Title, Representations





All Digital resources are organized around collections

ExLibris
Alma University

Alma

Tasks
Analytics
Currently at: Main Library - Main Circula...

Help
Asaf Kline

Collection Resource Editor

Cancel Save

Art Collection

General Details

Name*

Art Collection

Title

Art Collection

Description

A collection of works of art by two famous painters - Pablo Picasso and Vincent van Gogh. This collection also includes books on art in general

External System

External ID

Library *

Main Library

Replace

Sub-collections (2)

Title List (14)

Sub-collections

Find :

in :

Collection Name

Go

Add Sub-collection

Move Selected

Delete Selected

1 - 2 of 2 Records

Columns

Tools

	Collection ID	Name	Description	Total Members	
1	8118989650000121	Picasso Collection - books and reproductions	Pablo Ruiz y Picasso, also known as Pablo Picasso - 25 October 1881 – 8 April 1973), was a Spanish painter, sculptor, printmaker, ceramicist, stage designer, poet and playwright. As one of the greatest and most influential artists of the 20th century, he is known for co-founding the Cubist movement, the invention of constructed sculpture, the co-invention of collage, and for the wide variety of styles that he helped develop and explore. Among his most famous works are the proto-Cubist Les Femmes d'Alger (O.J. No. 14) (1911), and Guernica (1937), a portrayal of the Bombing of Guernica by the German and Italian airforces at the behest of the Spanish nationalist government during the Spanish Civil War.	6	Action
2	8121920000000121	Van Gogh Pictures and Books	Collection of books on Van Gogh as well as reproductions of famous works of his art. Vincent Willem van Gogh (30 March 1853 – 29 July 1890) was a post-Impressionist painter. He was a Dutch artist whose work had a far-reaching influence on 20th-century art. His output includes portraits, self portraits, landscapes and still lifes of cypresses, wheat fields and sunflowers. He drew as a child but did not paint until his late twenties; he completed many of his best-known works during the last two years of his life. In just over a decade, he produced more than 2,100 artworks, including 860 oil paintings and more than 1,300 watercolors, drawings, sketches and prints	6	Action




- Provides a different end user access to your collections

Find Databases | Library Search | Collection Discovery | Citation Linker | A to Z | Help | Language: English


All Records Course Reserves

digital items x Alma University Search Advanced Search Browse Search


Collections >




Harvard theses and dissertations
A collection of Harvar...
[View collection](#)




Van Gogh Digitized Paintings
Collection of Van Gog...
[View collection](#)



Washington State University Research Exchange
Research Exchange i...
[View collection](#)



ILO - a collection of ILO publications
The International Lab...
[View collection](#)



Van Gogh Digitized Paintings

☆ **Porto**

● Online access

[View It](#) [Details](#) [Get It](#)

Title: Porto
Collection: Van Gogh Digitized Paintings >
Subjects: Photographic Archive
Description: Pictures about Porto

Customer Example – UMass Dartmouth

- Ex Libris and UMass Dartmouth have been collaborating on moving some of their existing digital collections to Alma and Primo
- Managed in various systems (e.g. Omeka)

The screenshot displays the UMass Dartmouth library website. At the top left is the UMass Dartmouth logo, followed by the text "Claire T. Carney University Library" and a "PRIMO Search" button. On the top right, there are links for "Guest", "e-Shelf", "My Account", and "Sign in". Below these are links for "New Advanced Search", "Journals A-Z", "Library Home", and "Help". A navigation bar contains links for "Articles, UMassD Collections & More", "UMassD Collections Only", and "Print Course Reserves". A search bar with the text "digital" and a "Search" button is present, along with links for "Advanced Search" and "Browse Books and Media". The main content area is titled "Collections" and features four collection cards, each with a "View collection" button:

- Archives of the Center for Jewish Culture
- UMass Dartmouth Historical Archives
- Postcard Collection PC9
- American Popular and Theatrical Music Collection of Scores MC52

An Opportunity

Integrated workflows

Easy 'onboarding'

Leverage existing staff core capabilities

Low TCO

Key Focus Areas - 2016

Dublin Core

Special
Representations

Bulk Management

End User Deposit

Metadata Management

- Enhanced editing capabilities
- “Quick Cataloging”
- Normalization


Import

- Dublin Core as a ‘target’ format for import
- Load as is or crosswalk from CSV

Export

- Publishing
- Z39.50/SRU
- Ad-hoc Export

Dublin Core

 Profile Details

Profile Qualified Dublin Core

Family DCMI

Type Bibliographic

Usage BIB_MMS

Fields

Normalization Processes

Validation Processes

Validation Exception Profile List

Find :

123▶▶Go

1 - 20 of 105

	Field	Encoding Schema	Description
1	dc:title	-	Title
2	dc:subject	-	Subject
3	dc:subject	dcterms:LCSH	Subject LCSH
4	dc:subject	dcterms:MESH	Subject MESH
5	dc:subject	dcterms:DDC	Subject DDC
6	dc:subject	dcterms:LCC	Subject LCC
7	dc:subject	dcterms:UDC	Subject UDC
8	dc:description	-	Description
9	dc:date	-	Date
10	dc:type	-	Type
11	dc:type	dcterms:DCMIType	Type DCMI
12	dc:format	-	Format
13	dc:format	dcterms:IMT	Format IMT
14	dc:identifier	-	Identifier
15	dc:identifier	dcterms:URI	Identifier URI

	Profile	Family	Type
1	MARC21 Authority	MARC21	Authority
2	MARC21 Bibliographic	MARC21	Bibliographic
3	MARC21 Holding	MARC21	Holding
4	Qualified Dublin Core	DCMI	Bibliographic

Special Representations

- Alma supports additional cataloging on the representation level to denote enum/chron and descriptive metadata that describes the content of the representation.
- A representation requiring special cataloging will have an Entity Type according to the following:
 - (Journal) Issue
 - Article
 - (Book) Chapter
 - Audiovisual


Journal Issue	Chapter	Article	Audiovisual
-	Author	Author	Creator
-	Title	Title	Title
-	Number	-	Track
Volume	-	Volume	-
Issue	-	Issue	-
Date	-	Date	-
-	Start	Start	Start
-	End	End	End

Special Representations

Resource description [Mixed content of Digital items Mixed content PDF, Audio, Video, jpg and otehr files 1945](#)

Label **v:1 i: 1, 2016** Usage Type Master [View all representations](#)

Properties Remote Properties Notes



PID 32448792720001021

Delivery URL <http://hdl.handle.net/aaa>

Usage Type master Library [Open](#)

Label v:1 i: 1, 2016

Public Note

Entity Type Issue

Volume 1 Issue 1 Date 2016

[Auto-Generate Label](#)

[Cancel](#) [Save](#)

Special Representations

Representation Label Template Rules Cancel

Rules List

Filter All

Columns

	Enabled	Move Up	Move Down	Rule Name	Description	Updated By	Update Date	
1	<input checked="" type="checkbox"/>			v:vol i:issue . date	-	Implementer, Ex Libris	22/02/2016	<input type="button" value="Actions"/>

Cancel

Representation Label Template Setup Editor Cancel

Representation Label Template Setup

Name *

Description

Created By Implementer, Ex Libris Created On 22/02/2016

Updated By Implementer, Ex Libris Updated On 22/02/2016

Input Parameters

Columns

	Name	Operator	Value	
1	Entity Type	=	Issue	<input type="button" value="Delete"/>

Name Operator Value

Output Parameters

Prefix1	<input type="text" value="v:"/>	Field1	<input type="text" value="Volume (Article, Issue)"/>	Suffix1	<input type="text"/>
Prefix2	<input type="text" value="i:"/>	Field2	<input type="text" value="Issue (Article, Issue)"/>	Suffix2	<input type="text" value="."/>
Prefix3	<input type="text"/>	Field3	<input type="text" value="Date (Article, Issue)"/>	Suffix3	<input type="text"/>
Prefix4	<input type="text"/>	Field4	<input type="text"/>	Suffix4	<input type="text"/>
Prefix5	<input type="text"/>	Field5	<input type="text"/>	Suffix5	<input type="text"/>
Prefix6	<input type="text"/>	Field6	<input type="text"/>	Suffix6	<input type="text"/>
Prefix7	<input type="text"/>	Field7	<input type="text"/>	Suffix7	<input type="text"/>
Prefix8	<input type="text"/>	Field8	<input type="text"/>	Suffix8	<input type="text"/>

Cancel

Special Representations

- Extended data model can also be used in staff search

Advanced Search - Add Conditions

All titles	Intellectual Entity	Representation	Digital files
<input checked="" type="checkbox"/> Keywords	<input type="checkbox"/> IE PID	<input type="checkbox"/> Public Note	<input type="checkbox"/> Extension
<input type="checkbox"/> Title		<input type="checkbox"/> AR policy name	<input type="checkbox"/> File Label
<input type="checkbox"/> Uniform title		<input type="checkbox"/> Creator	<input type="checkbox"/> File PID
<input type="checkbox"/> Serial Title		<input type="checkbox"/> Date	<input type="checkbox"/> Size (bytes)
<input type="checkbox"/> Creator		<input type="checkbox"/> Entity type	
<input type="checkbox"/> Names		<input type="checkbox"/> Issue	
<input type="checkbox"/> Subjects		<input type="checkbox"/> Library	
<input type="checkbox"/> Subjects (LC)		<input type="checkbox"/> Representation Label	
<input type="checkbox"/> Medical Subjects (MeSH)		<input type="checkbox"/> Representation PID	
<input type="checkbox"/> Series		<input type="checkbox"/> Title	
<input type="checkbox"/> Publisher		<input type="checkbox"/> Usage Type	
<input type="checkbox"/> Dewey decimal class number		<input type="checkbox"/> Volume	
<input type="checkbox"/> UDC			
<input type="checkbox"/> Other Classification Number			

[Cancel](#) **Add Conditions**

Special Representations

- Creation and management of Representations with additional enum/chron and descriptive data can be done via APIs
- The ViewIt has been enhanced to better present special representation data
 - Sort
 - Search
 - Title level descriptive data


Bulk Management

- Provide capabilities for performing ongoing batch changes and operations
 - Export
 - Global changes (Metadata and Inventory)
 - Collection tree export as EAD
- A full set of Digital Inventory APIs will support custom services

Digital Representations

Method	Description
GET /almaws/v1/bibs/{mms_id}/representations	Retrieve Representations
POST /almaws/v1/bibs/{mms_id}/representations	Create Representation
GET /almaws/v1/bibs/{mms_id}/representations/{rep_id}	Retrieve Representation Details
PUT /almaws/v1/bibs/{mms_id}/representations/{rep_id}	Updates Representation
DELETE /almaws/v1/bibs/{mms_id}/representations/{rep_id}	Delete Representation
GET /almaws/v1/bibs/{mms_id}/representations/{rep_id}/files	Retrieve Representation Files' Details

Bulk Management


 Publishing Profile Details

Profile Id	Profile Name
Profile Name *	<input type="text"/>
Profile Description	<input type="text"/>

Status ☒ Active ☐ Inactive

Scheduling [Email Notifications](#)

Content

Set name * 

Publish on: ☒ Bibliographic level
☐ Holdings/Portfolio/Representation level
☐ Item/Portfolio level

Output format

Publishing Mode ☒ Incremental ☐ Full ☐ Date Range ☐ Republish Set

Publishing Protocol

FTP ☐

OAI ☐

Z39.50 ☐

End User Deposit

Approval Workflow

- Submitted material may require staff mediation
- Approve, Decline, Modify
- Based on Deposit 'Profiles'

SWORD

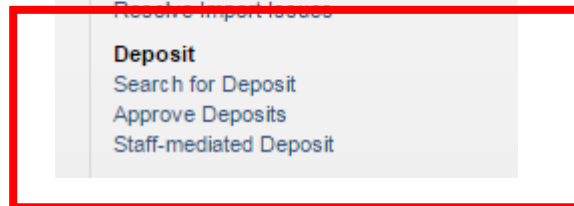
- Well known standard
- Custom deposit applications
- Freely available SWORD code libraries


Deposit "Widget"

- Built in End User UI
- Quick submission of descriptive data and files

End User Deposit

- Add Digital Representation
- Manage Inventory**
 - Community Zone Updates Task List
 - Manage Electronic Resource Activation
 - Network Harvesting Report List
 - Shelf Report
- Import**
 - Import
 - Upload Single Record From File
 - Monitor and View Imports
 - Resolve Import Issues
- Deposit**
 - Search for Deposit
 - Approve Deposits
 - Staff-mediated Deposit



 **Approve Deposits** [Back](#) [Assign](#)

Limit results to:

- [Deposit Profile](#)
- [Art Deposit profile \(1\)](#)
- [Library](#)
- [Art Library \(1\)](#)

☐ Assigned to Me ☒ Unassigned ☐ Assigned to Others

Find :

1 - 1 of 1

	ID	Title	Deposit Profile	Library	Submission Date	Status	Status Date
1 <input type="checkbox"/>	778060410000121	test	Art Deposit profile	Art Library	11/07/2016	Submitted	11/07/2016

[Back](#) [Assign](#)

End User Deposit



Staff-mediated Deposit

Descriptive Information

Deposit on behalf of *

Title *

Abstract

Date 15/08/2016 14:26

Creator

Type

Representation Details

Usage Type * Library

Label

Note

Public Note

Entity Type Access Rights Policy

File Upload

Please select title and collection in order to upload files

End User Deposit

Deposit

[Deposit Profiles](#)[Deposit Return Reasons](#)[Deposit Decline Reasons](#)[Patron Deposit Templates](#)

General



Deposit Profile

Details

Name * Art Deposit profile

Description

Status Active

Post-submission Record Processing

Collection Assignment * Digital Collection



Library Art Library

Access Right Policy



Auto-approve ☐

Post-approval Record Processing

Unsuppress bibliographic record ☐

Enrich bibliographic record ☒

Generate a representation note ☒

Validation

Public Instructions this is an instructions

Metadata Schema * Dublin Core

User Group Any

Extensibility and Open Platform

- [Expose collections](#) and digital resources in 3rd party systems
 - Institutional / Library Portal
 - Custom collection-specific web presence
- [Bulk ingest](#) from digitization
 - Direct access to Amazon Web Services
 - API-based execution of MD Import
- [Custom viewers](#) for special content types
 - REST APIs to retrieve files with signed links
- End User Deposit
 - Support for SWORD deposit standard
 - REST APIs for digital representations

Extensibility and Open Platform – End User Deposit

[My Alma Library](#) [Home](#) [Library Card ▾](#) [Digital Collections ▾](#) [Catalog](#) [Login](#)

Welcome to My Alma Library

This is your library, extended. This site was built with the Alma REST APIs. More information is available at the Ex Libris Developer Network.

[Learn more »](#)

Library Card

All your personal library information in one place. View and update here.

[Library Card](#)

Digital Collections

The library has a rich gallery of digital collections. Get direct access to our collections here.

[Digital Collections](#)

Catalog

Search our catalog, check availability real-time, request physical items and view digital material on-line.

[Catalog](#)

Use Case #1

“We have an existing CONTENTdm installation that holds our Special Collection images files”

- ✓ Manage Digital Resources in Alma
- ✓ Collection management in Alma
- ✓ Collection discovery in Primo

“We have an existing FEDORA repository that has custom interfaces supporting special content (digitized newspapers with OCR)”

✓ Alma Remote Repository Integration

Use Case #3

“We have are thinking of establishing an Institutional Repository, initially focused on ETD, but will eventually also engage with faculty for receipt of publications and articles”

- ✓ Manage Digital Resources in Alma
- ✓ Custom deposit via SWORD
- ✓ Built-in deposit via End User UI

Migration (How Do We Get Them There)

Step 1

Export Data from Existing System



Files
OAI-PMH



Step 2

Import Data to Alma

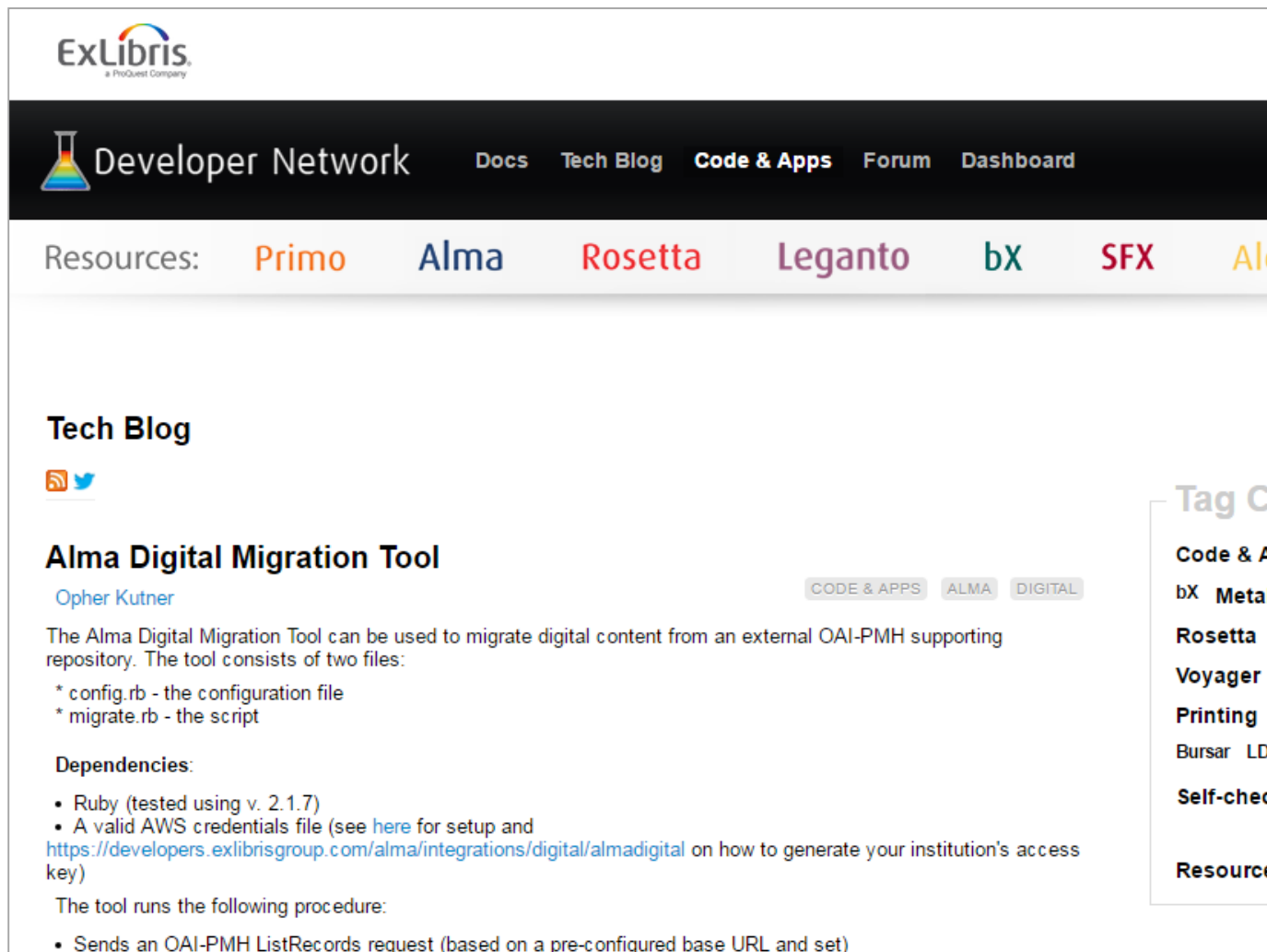


Digital Uploader
Amazon 3rd Party Utilities



Where Can I Find More Information

<https://developers.exlibrisgroup.com/blog/Alma-Digital-Migration-Tool>





The screenshot shows the ExLibris Developer Network interface. At the top, the ExLibris logo is visible. Below it, a navigation bar includes 'Developer Network' and links to 'Docs', 'Tech Blog', 'Code & Apps', 'Forum', and 'Dashboard'. A 'Resources' section lists various products: Primo, Alma, Rosetta, Leganto, bX, SFX, and Ale. The main content area is titled 'Tech Blog' and features a post for the 'Alma Digital Migration Tool' by Opher Kutner. The post includes a description of the tool, its components (config.rb and migrate.rb), dependencies (Ruby 2.1.7 and AWS credentials), and the procedure it follows (sending an OAI-PMH ListRecords request). A 'Tag Cloud' on the right lists categories like 'Code & Apps', 'bX', 'MetaL', 'Rosetta', 'Voyager', 'Printing', 'Bursar LDA', 'Self-check', and 'Resource-'. The page also has social media icons for RSS and Twitter.

ExLibris
a ProQuest Company

Developer Network Docs Tech Blog Code & Apps Forum Dashboard

Resources: Primo Alma Rosetta Leganto bX SFX Ale

Tech Blog

Alma Digital Migration Tool

Opher Kutner

CODE & APPS ALMA DIGITAL

The Alma Digital Migration Tool can be used to migrate digital content from an external OAI-PMH supporting repository. The tool consists of two files:

- * config.rb - the configuration file
- * migrate.rb - the script

Dependencies:

- Ruby (tested using v. 2.1.7)
- A valid AWS credentials file (see [here](#) for setup and <https://developers.exlibrisgroup.com/alma/integrations/digital/almadigital> on how to generate your institution's access key)

The tool runs the following procedure:

- Sends an OAI-PMH ListRecords request (based on a pre-configured base URL and set)

Tag Cloud

- Code & Apps
- bX MetaL
- Rosetta
- Voyager
- Printing
- Bursar LDA
- Self-check
- Resource-

THANK YOU

asaf.kline@exlibrisgroup.com