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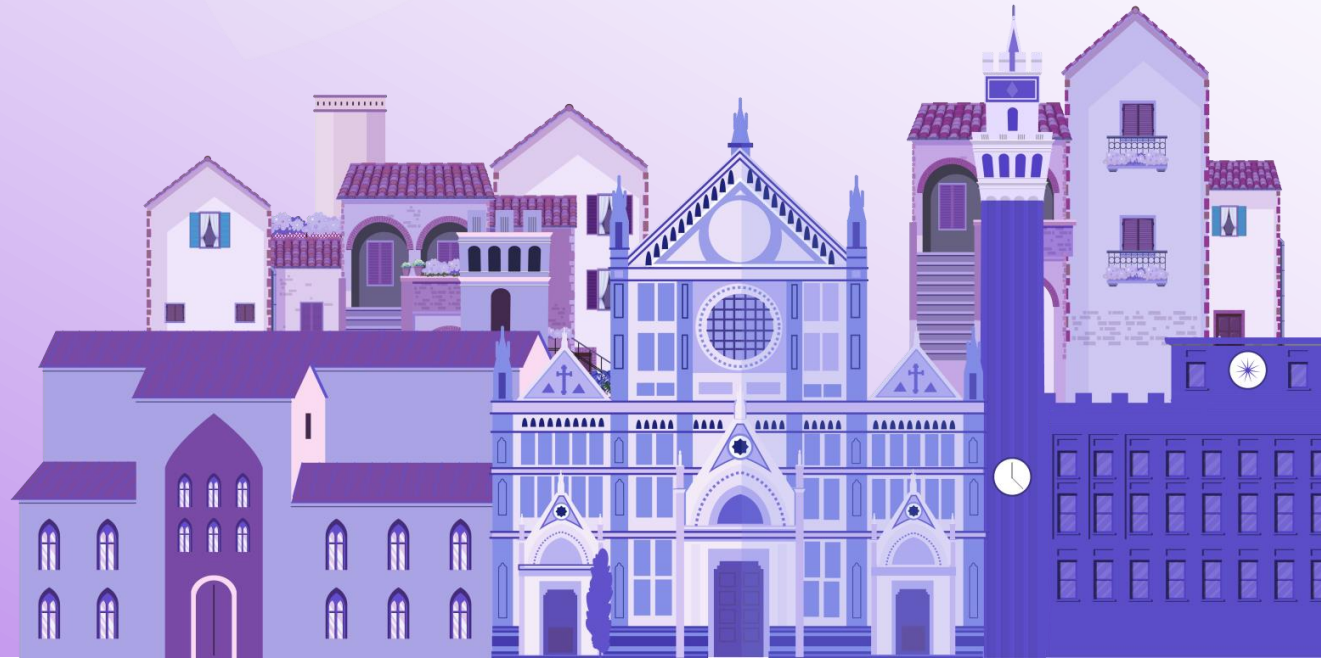
Advancing Authority Management and Metadata Transformation

Exploring Flexibility, Optimization, and Practical Tools



Erez Shabo | Alma Product Manager

Agenda

- Our Goal for this Session
- Enhancing Flexibility in Authority Handling
- Metadata Transformation Tools
- Looking Forward
- Practical Insights and Takeaways

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Our Goal for this Session

Explore
new authority management capabilities

Examine
metadata transformation techniques

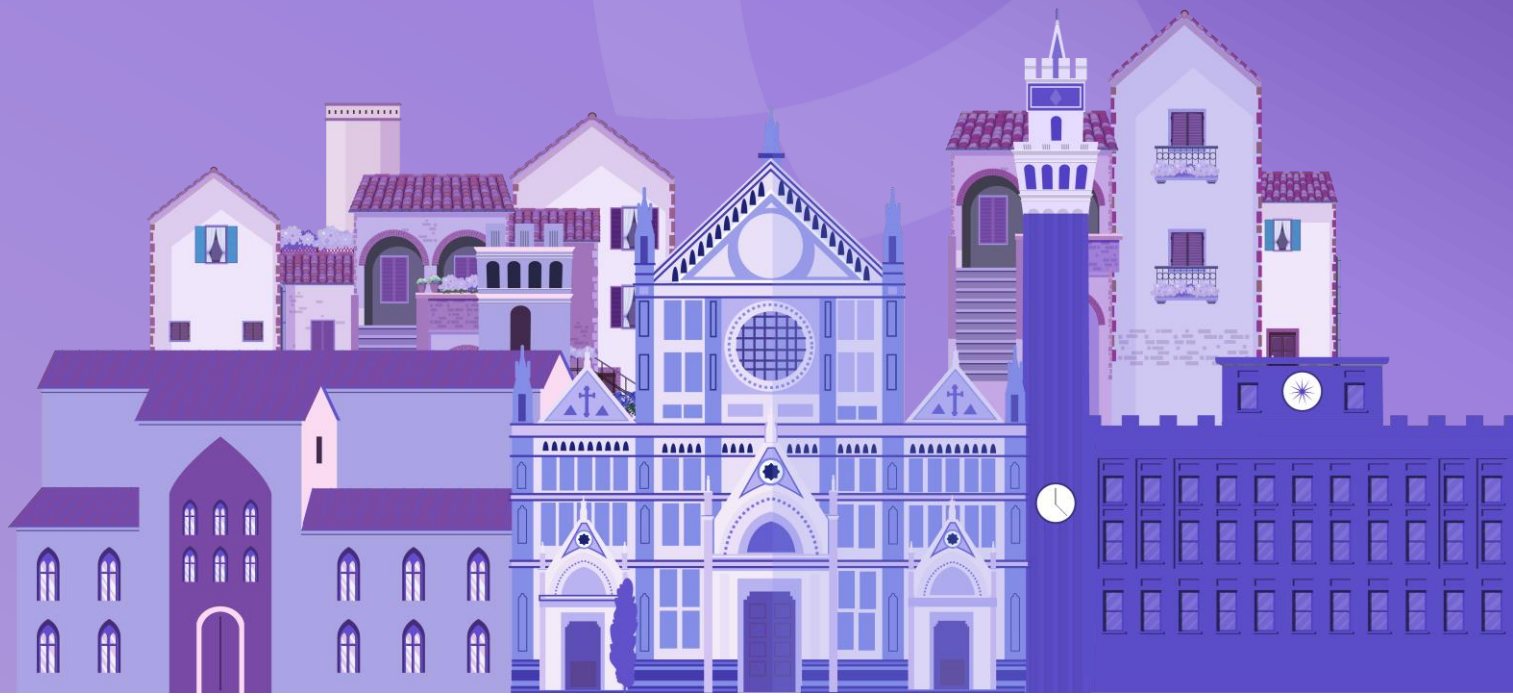
Provide
actionable strategies to streamline workflows

Support
consistent and accurate metadata management

We Value Our Collaboration with the Community

Alma Authority Focus Group

Thank You!



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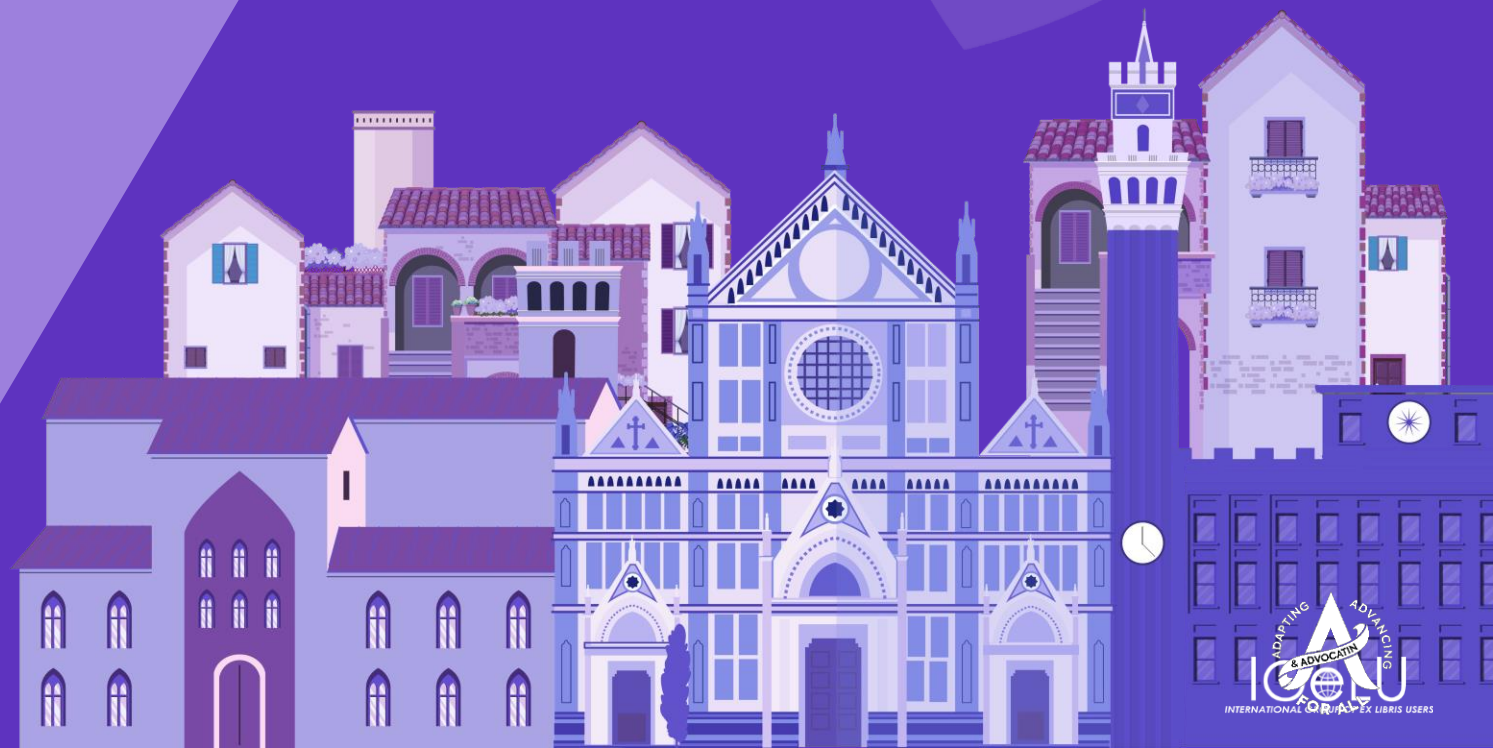
Enhancing Flexibility in Authority Handling



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What are the Key Challenges?

Authority records are foundational, but discrepancies and variations frequently arise

- Variant headings
- Embedded diacritics
- Partial or inconsistent authority data

Recent Advancements in Authority Control

Linking Rules Enhancement	Flipping Linked Headings	Partial Linking of Names and Titles
Already available	Already available	Already available

Linking Rules Enhancement

New linking rules parameters for greater granularity and control:

Subfield Codes = Not Identical: Compares both the content and the subfield codes

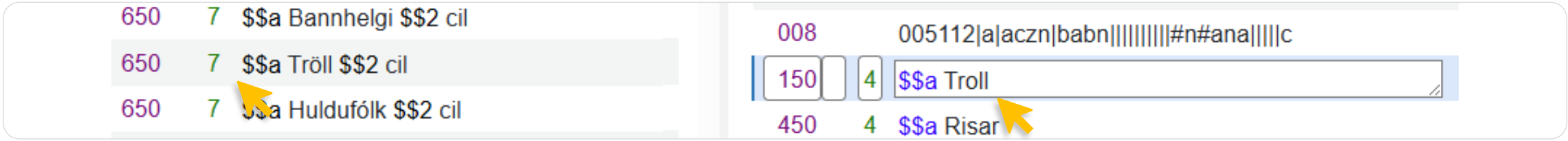
- Bib headings: 600 $$a Shakespeare, William, $$d 1564–1616 **$$x** Comedies
- Authority: 400 $$a Shakespeare, William, $$d 1564–1616. **$$t** Comedies

These are considered **not identical**

Diacritics = Not Identical: Diacritics are not normalized

- Bib headings: 650 $$a Tröll $$2 cil
- Authority: 150 $$a Troll

Not a match due to encoding differences

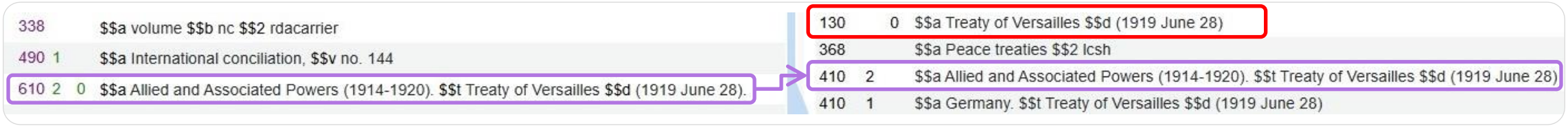


Flipping Linked Headings

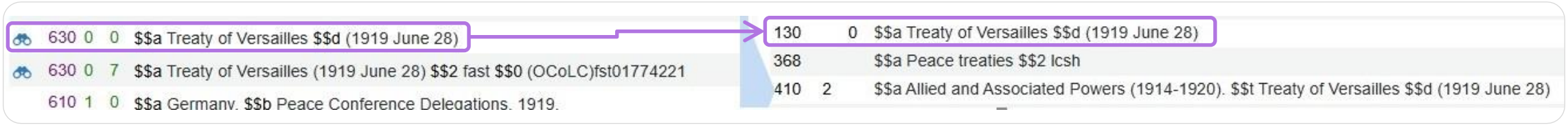
A new capability allowing the update of bib headings linked via cross-references in different fields by flipping them to the preferred term and updating the tag (e.g., 610 in the bib linking to 410 in authority, with the preferred term in 130).

- **Bib headings:** 610 $$a Allied and Associated Powers (1914–1920). $$t Treaty of Versailles $$d (1919 June 28)
- **Auth non-preferred:** 410 $$a Allied and Associated Powers (1914–1920). $$t Treaty of Versailles $$d (1919 June 28)
- **Auth preferred:** 130 $$a Treaty of Versailles $$d (1919 June 28)

Before Linking and Correction –



After Linking and Correction –



Partial Linking of Names and Titles

Introducing a new name/title partial linking algorithm that progressively removes unmatched subfields in bib headings to identify the best authority match.

- **Bib headings:** 110 $$a American Library Association. $$b Annual Conference **$$n (82nd: $$d 1963: $$c Chicago, Ill.)**
- **Authority:** 110 $$a American Library Association. $$b Annual Conference

Impact

Streamlined workflows

Less manual intervention needed for authority maintenance

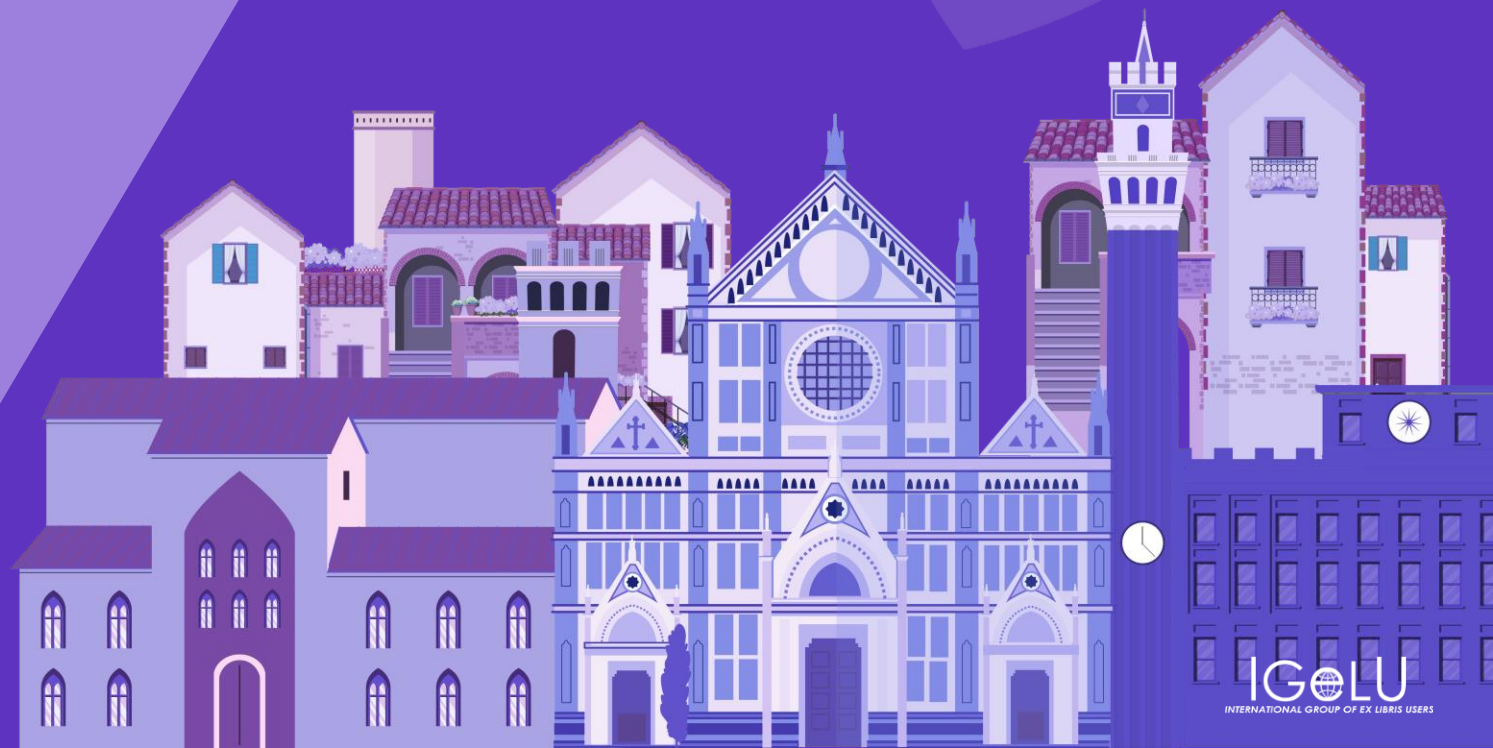
Improved data quality

Enhanced consistency between bibliographic and authority records

Scalability

Better handling of diverse cataloging practices across institutions

Metadata Transformation Tools



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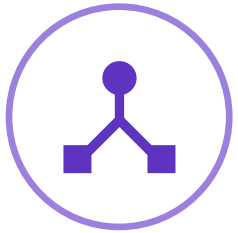
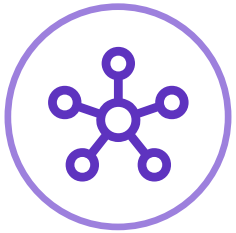
Why does metadata normalization matter?



Needed for cross-platform interoperability



Supports consistency between local and shared metadata systems

Reduces manual intervention and errors

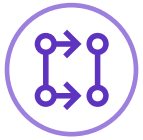
Practical Tools for Metadata Normalization

Alma provides robust tools for metadata manipulation, primarily through **DROOLS**

DROOLS: A rule-based engine used across various workflows such as saving records, copy cataloging from external sources, and automating metadata corrections

To enhance flexibility, Alma now also supports **XSL**

XSL: A full-featured programming language, enabling more complex and nuanced metadata transformations



XSL complements DROOLS by handling scenarios that require advanced logic or structural manipulation

Normalization Rules Using DROOLS

Add a period to the end of subfield $$a of MARC field 245 if there is not already a period and if subfield $$n exists

Add a period to the end of subfield a if there is not already a period and if subfield n exists

Rule | Normalization | Drool

```
rule "Add a period to the end of subfield a if there is not already a period and if subfield n exists"
when
(exists "245.{*,*}.n.*")
then
suffix "245.a" with "." if (not exists "245.a.*.")
end
```

Normalization Rules Using XSL

Checks to see if there is a datafield with value “041”. If there is already a datafield with value “041” then do not do anything. If there is not already a datafield with value “041” then create a new datafield with value “041” and in subfield “a” of the new datafield with value “041” put the value of positions 35–37 from controlfield with value “008”.

Check 041 content

Rule | Normalization | XSL

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">

  <!-- Identity transform to copy everything as-is by default -->
  <xsl:template match="@*|node()">
    <xsl:copy>
      <xsl:apply-templates select="@*|node()"/>
    </xsl:copy>
  </xsl:template>

  <!-- Special template for the record element -->
  <xsl:template match="record">
    <xsl:copy>
      <xsl:apply-templates select="@*"/>

      <!-- First, copy all existing elements -->
      <xsl:apply-templates select="node()"/>

      <!-- Now check if datafield 041 exists -->
      <xsl:if test="not(datafield[@tag='041'])">
        <!-- If it doesn't exist, create it with the language from 008 -->
        <xsl:variable name="langCode">
          <xsl:value-of select="substring(controlfield[@tag='008'], 36, 3)"/>
        </xsl:variable>

        <!-- Only create the datafield if we have a non-empty language code -->
        <xsl:if test="string-length($langCode) > 0">
          <datafield tag="041" ind1=" " ind2=" ">
            <subfield code="a">
              <xsl:value-of select="$langCode"/>
            </subfield>
          </datafield>
        </xsl:if>
      </xsl:if>
    </xsl:copy>
  </xsl:template>
```

Evaluation: DROOLS and XSL

Feature/Capability	DROOLS	XSL
Type	Rule-based logic	Full programming language (XML-based)
Complexity	Simpler conditional logic, easier for basic use cases	Suitable for advanced, structured transformations
Best Use Cases	Field/value matching	• Reformatting XML • Complex field restructuring
Flexibility	Suitable for predefined condition handling	Supports nested logic, looping, templates
Ease of Use	More accessible for non-developers	Requires technical expertise in XSL and XML
When should I use it?	Ideal for common use cases	Ideal for complex or edge-case transformations

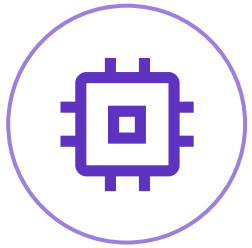
Looking Forward

Full Indexing of Bibliographic Metadata

Enable a flexible indexing infrastructure that allows institutions to create and manage custom search indexes, supporting diverse discovery needs and optimizing access to bibliographic data

Partial Linking for Subject Subdivisions

Extends partial linking logic to subject subdivisions, enabling better authority control and minimizing unmatched headings



Enhanced Metadata Workflows with AI

Introduce AI-assisted tools to support and streamline various metadata processes, enabling more efficient, accurate, and scalable metadata management

Practical Insights and Takeaways

Flexibility Enhancements

- Implementing smarter linking strategies reduces errors and manual work
- Partial linking expands the scope of authority control without forcing rigid structures

Tool Selection

- Choose DROOLS for direct, efficient metadata normalization tasks
- Use XSL for complex rule evaluation and more intricate metadata decision processes

Overall Benefits

- Improved governance and workflow optimization
- More accurate, consistent data management
- Reduced staff workload through automation

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Thank You

Erez Shabo
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Your feedback drives the next generation of valuable solutions

See real impact

The improvements you experience today are direct results of feedback from customers like you

Shape the future

Help us prioritize improvements that will continue to add value to your work

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