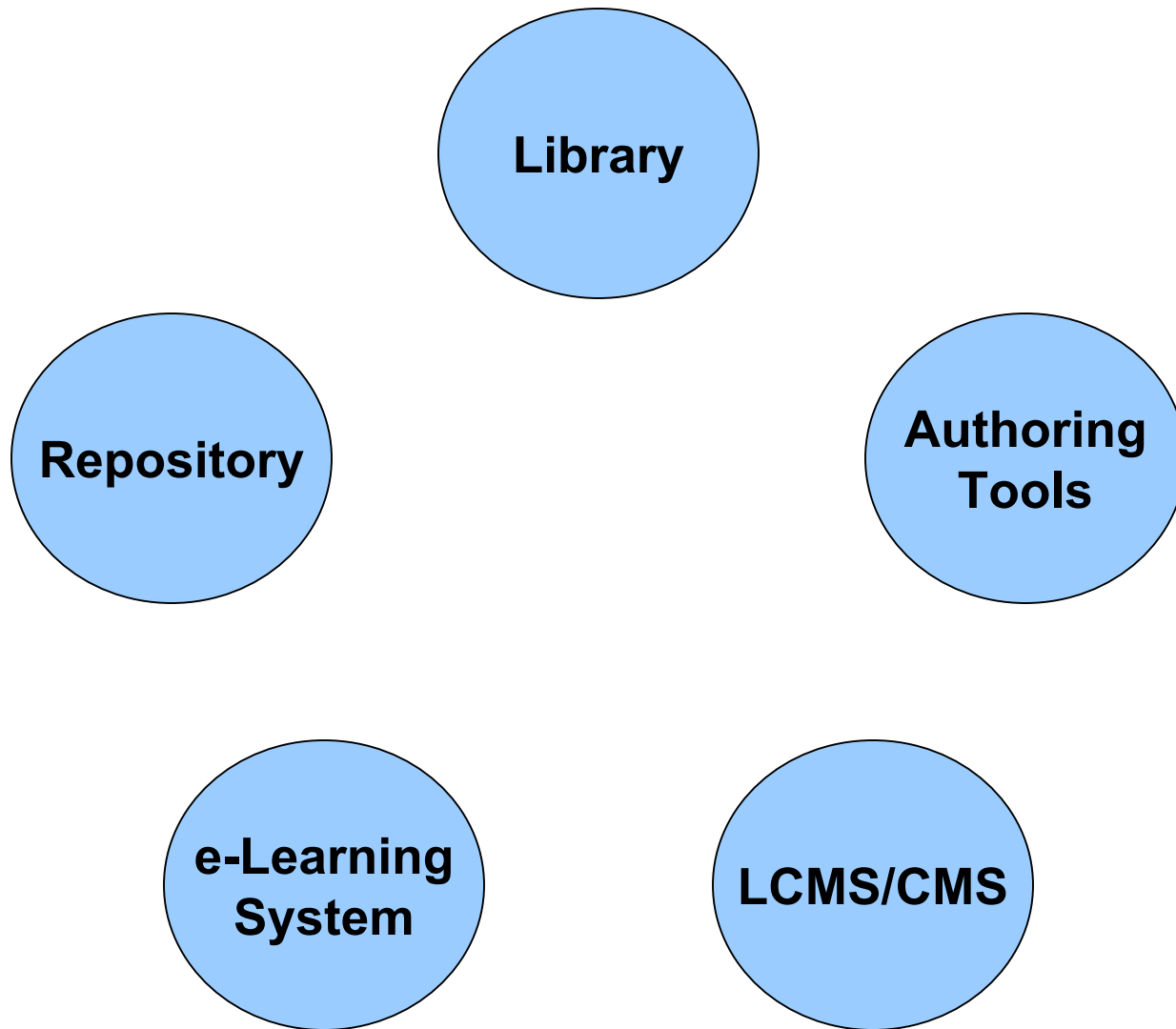# Another Step on the Bridge: Sharing Resource Lists between Content Repositories and E-Learning Systems

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Problem Space?

Library

Repository

Authoring Tools

e-Learning System

LCMS/CMS

Problem Space? Needs?

- Library Course Reserve RLs *and* CMS RLs *and* (other sources)?? - a potential for a standard, non-proprietary format for RLs

- Enable & reduce cost of tool building for RL creation and exchange

- Leverage federated searching tools to capture MD records for Resources intended for RLs

- Raise profile & ease of use of costly, under-used library content sources

Problem Space? Needs?

- Need to incorporate External (for example Library) resources into Learner delivered content, activities, and assessments.

- Need to avoid re-creation or duplication of resources inside e-Learning systems.

- Need to continually improve Faculty and Learner experience and achieve better teaching/learning results.

- Need to "take" an External Resource, "add" to it additional pedagogical context, "use" it in the course, and "track" learner activity for continual improvement.
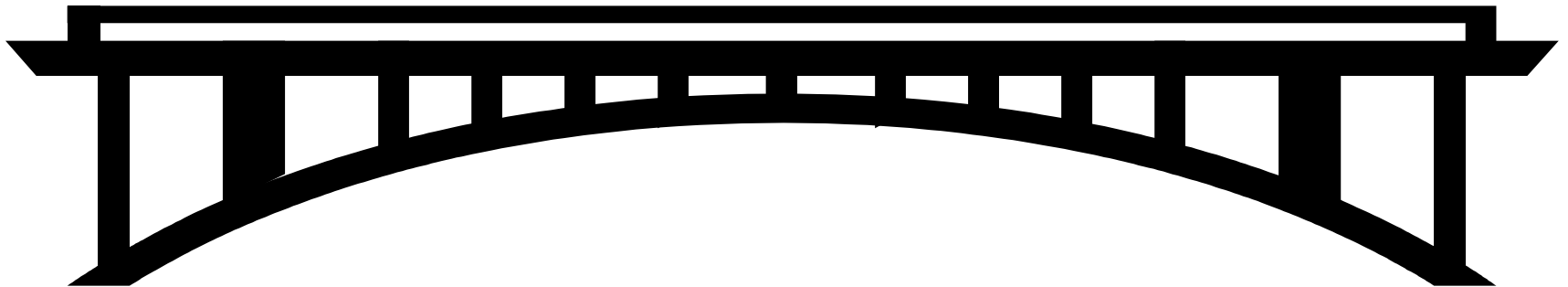
The Bridge …

Library Systems

Content Repositories
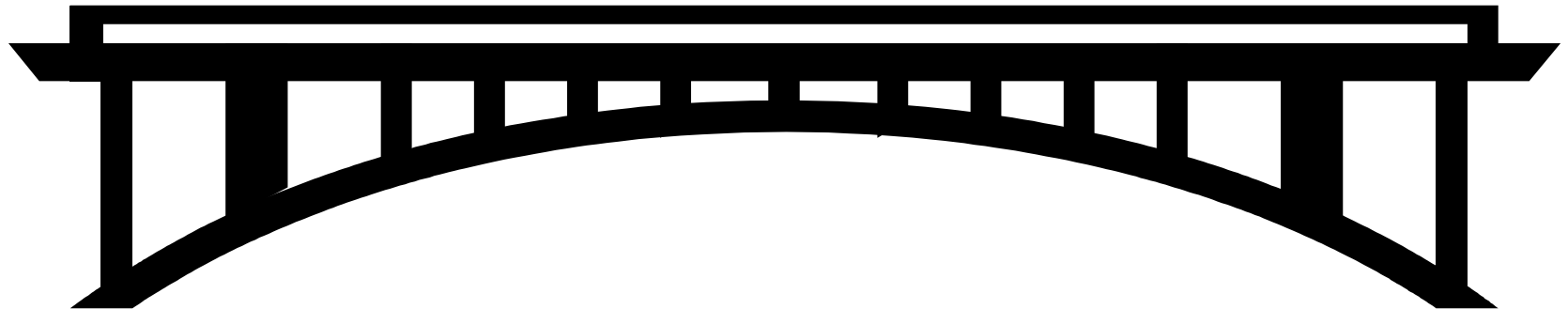
LCMS/CMS

e-Learning System

Steps on the Bridge ….

URL   **SSO**   **System Integrations**   **Interop. Spec.**

Who? IMS Global -- Digital Library SIG

- E-Learning communities

  - Teaching & Learning Institutions

  - Commercial CMS vendors

  - Tool builders

- Digital Library communities

  - Content providers

  - Library system vendors

  - Library staff supporting teaching & learning

What? Specification for facilitating the sharing of Lists

- Of both discrete resources & aggregations

- Based on commonly understood Use case scenarios

- Of limited scope initially, but designed to be extensible

  - From "Reading Lists" ➜ "Collections"

What's in the RLI Spec?

Information and Data Models

XML bindings to IMS-CP and IEEE LOM

Web Service Interfaces

Best Practices

Conformance Requirements

How? Leveraging of existing standards to specify MD elements

- ISO 690-2, part 2: Bibliographic references to electronic documents

- Location schemas
  - OpenURL (SAP-1 for citations)
  - DOI
  - PURLs

# ISO 690-2, part 2: Bibliographic references to electronic documents

- Scope

  - Intended for use by authors & editors who want to compile references for inclusion in a bibliography

  - Does NOT apply to full bib descriptions req'd by librarians, indexers, descriptive & analytic bibliographers, etc.

  - Specifies elements to be included -- (as well as prescribed order, conventions for transcription & presentation of information, but RLI spec does not require conformance to the latter)

Location Schemas: Use or provide for building by use of key MD elements

- OpenURL, San Antonio Profile 1 (for citations)

- DOI

- PURLs

Strategy: core MD elements for both Resources & RLs

- For a discrete Resource, whole or part of whole

- For RLs, single or nested

- Provide for Annotations at either level for use *and* re-use of Resource & RLs
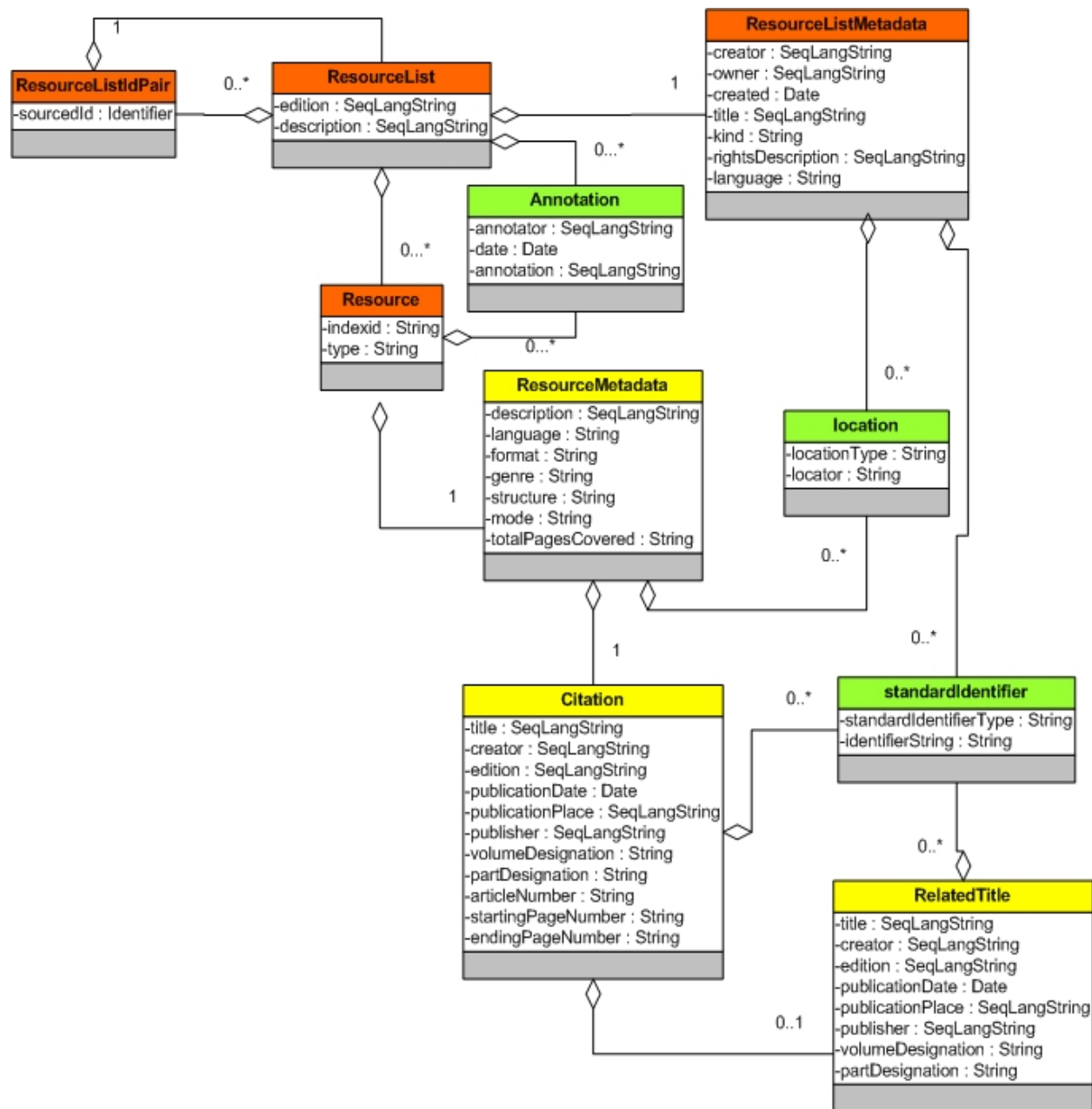
Strategy for Bindings: Comparison of MD schemes

- IEEE-LOM, but look to possibilities of:

  - MODS (& MARC to MODS)

  - Dublin Core simple and DC Citation application profile draft

  - ONIX
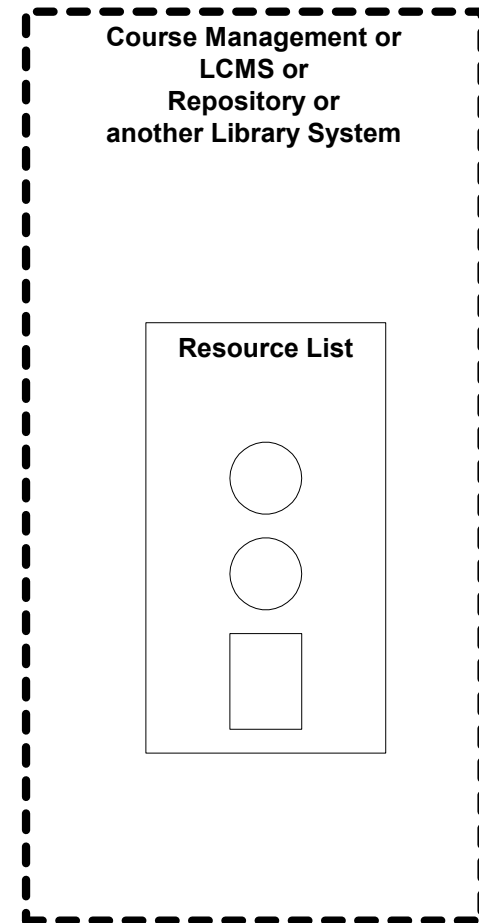
  - PRISM

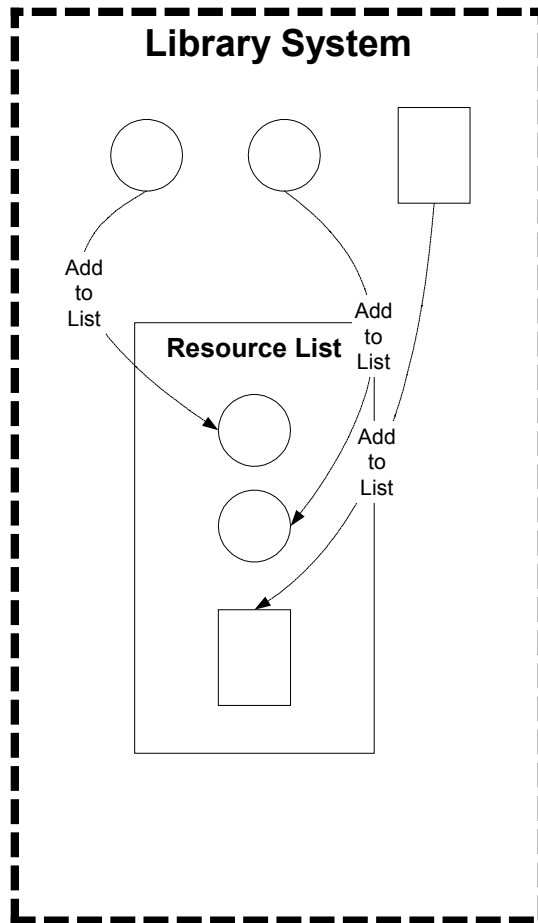 for future bindings; would this be useful?

Strategy for Bindings: Comparison of packaging and transfer protocols

- IMS – Content Packaging, but look to

- METS and possibly
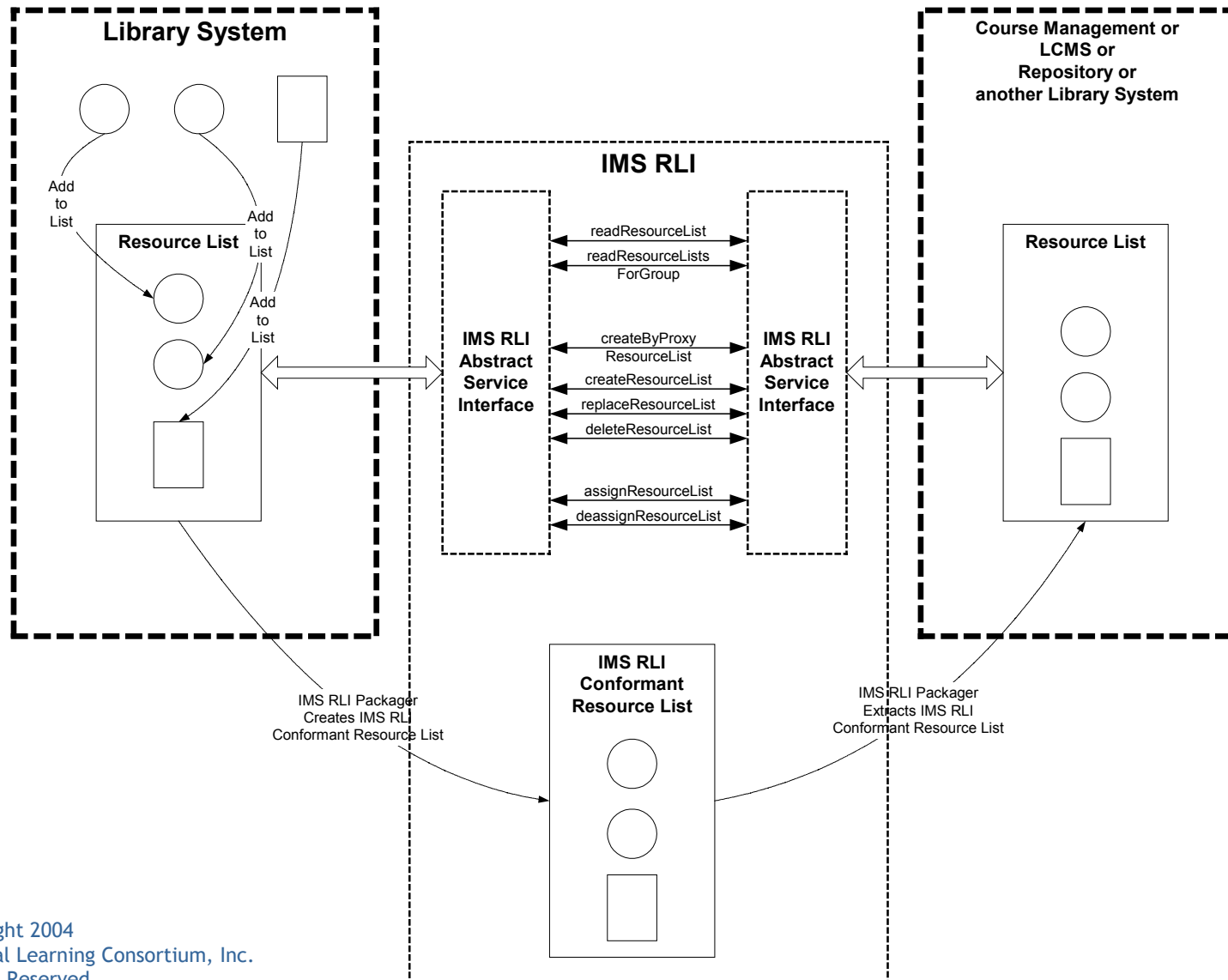
- RSS

  for future bindings – would this be useful?

Architecture…?

Library System

Resource List

Add to List

Add to List

Add to List

Course Management or LCMS or Repository or another Library System

Resource List

Architecture Model

Library System

Add to List

Add to List

Add to List

Resource List

IMS RLI

IMS RLI Abstract Service Interface

readResourceList
readResourceLists ForGroup

createByProxy ResourceList
createResourceList
replaceResourceList
deleteResourceList

assignResourceList
deassignResourceList

IMS RLI Abstract Service Interface

Course Management or LCMS or Repository or another Library System

Resource List

IMS RLI Packager Creates IMS RLI Conformant Resource List

IMS RLI Conformant Resource List

IMS RLI Packager Extracts IMS RLI Conformant Resource List

Resource List Manager Operations

Operation	Description
createResourceList	Request the creation of a populated 'ResourceList' on the target system, where the source system is responsible for the allocation of the identifier for the ResourceList.
createByProxyResourceList	Request the creation of a populated 'ResourceList' on the target system, where the target system is responsible for the allocation of the identifier for the ResourceList.
readResourceList	Read the full contents of the identified 'ResourceList. The target must return all of the data it has for the identified 'ResourceList'.
readResourceListsforGroup	Read the full contents of the set of "ResourceLists" associated with the identified "Group".
replaceResourceList	Write new content into the identified 'ResourceList' record. The target must write the new data into the 'ResourceList' record. This is a destructive update of the original information.
deleteResourceList	Request the deletion of a 'ResourceList'. The Resource List and any associations between the Resource List and Groups are deleted.
assignResourceList	Request the target system associate the identified "ResourceList" with the identified "Group" and any constraints that apply to the association
deassignResourceList	Request the target system remove the association between the identified "ResourceList" and the identified "Group".

Resource List Manager Operations
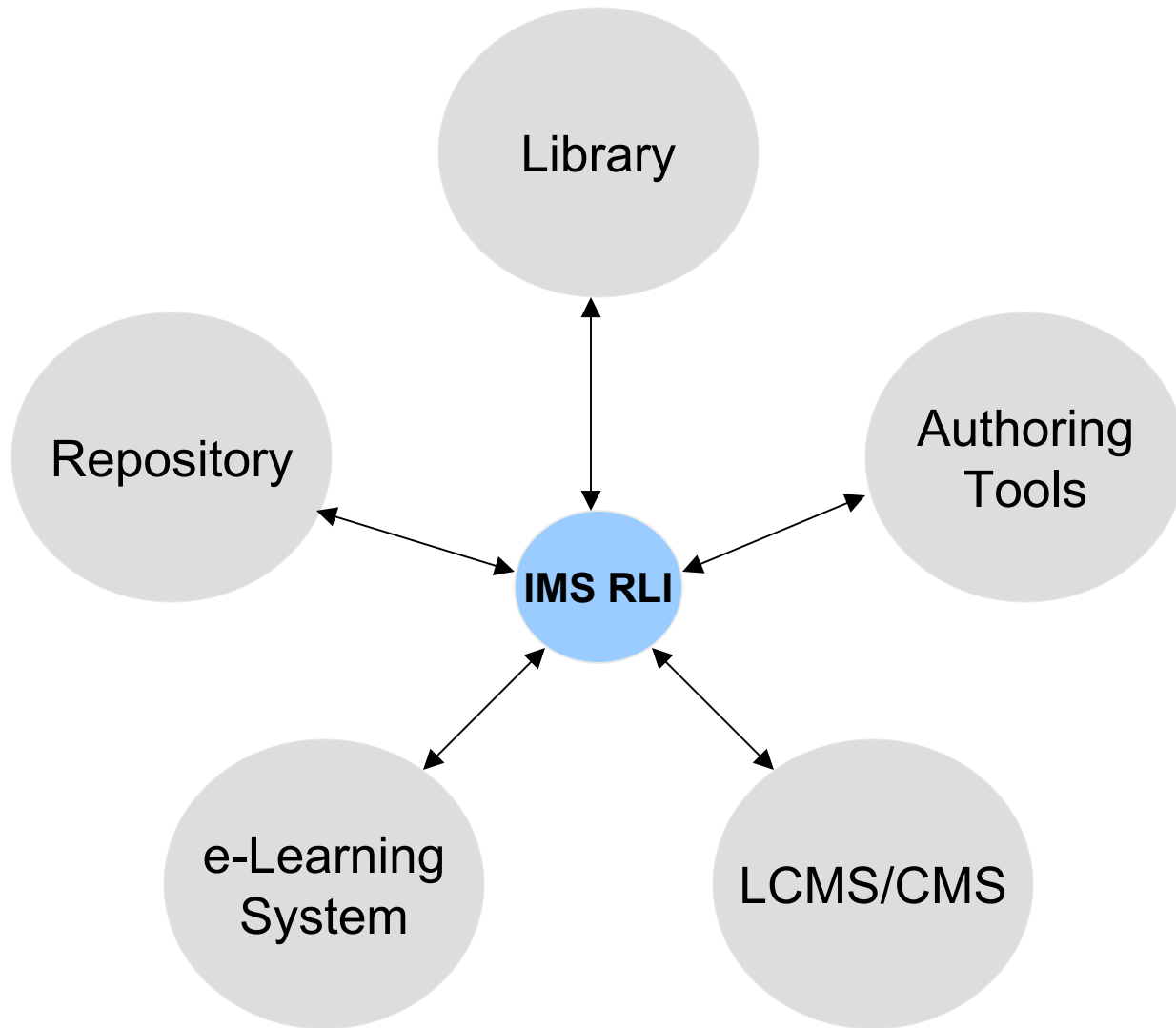
IMS RLI Best Practices

- Stakeholders

- Relationship to other Specifications/Standards

- Conceptual Model Discussion

- System Description and Behaviors Discussion

- Validation

- Conformance

- Extensibility

IMS RLI Conformance Requirements

- Conformance Statements

  - Information Model

  - XML Bindings

  - Behaviors

- Conformance Claims

Status of specification process

- Public draft base docs out soon for public comment

- Comment period and then final documents released

- Seeking MD & content transfer protocol specialists to assist with bindings METS & MODS or DC Citation, RSS & DC Citation

- Looking for reference implementators
  - Tools built into CMS products
  - Tools built into ILS products
  - Separate, modular tools that would integrate with both or either of above