Toward a Distributed Learning Object Repository Network

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Overview

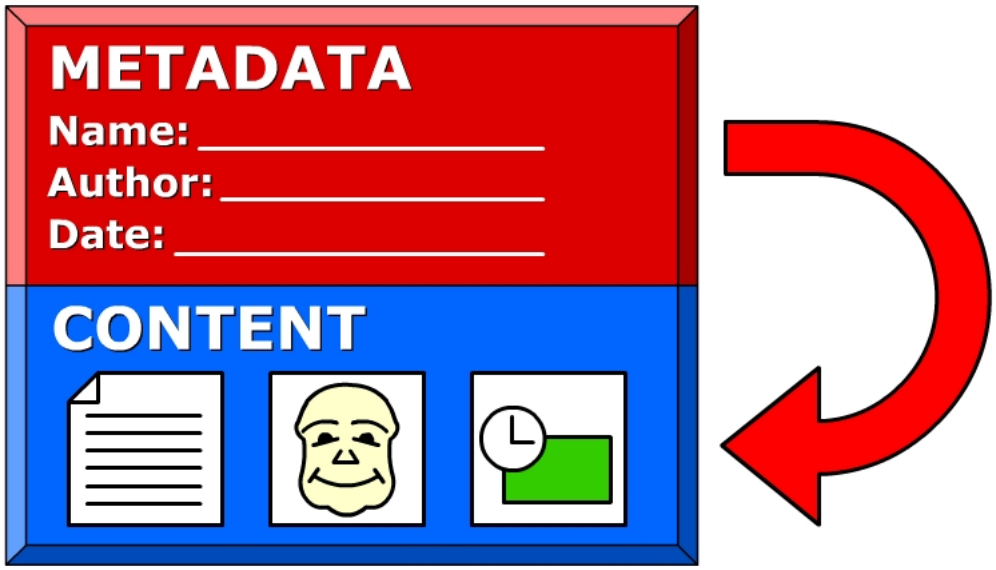
- Learning Objects and Learning Object Metadata
- 2. Wrappers, or, How to Think About Learning Objects
- 3. Huge Ugly LCMSs
- 4. A POOL of Distributed Repositories
- 5. Pan-Canadian Learning Object Repositories

Overview (cont.)

- 6. The NB Connection
- 7. Layering Metadata on Metadata
- 8. A Marketplace of Services

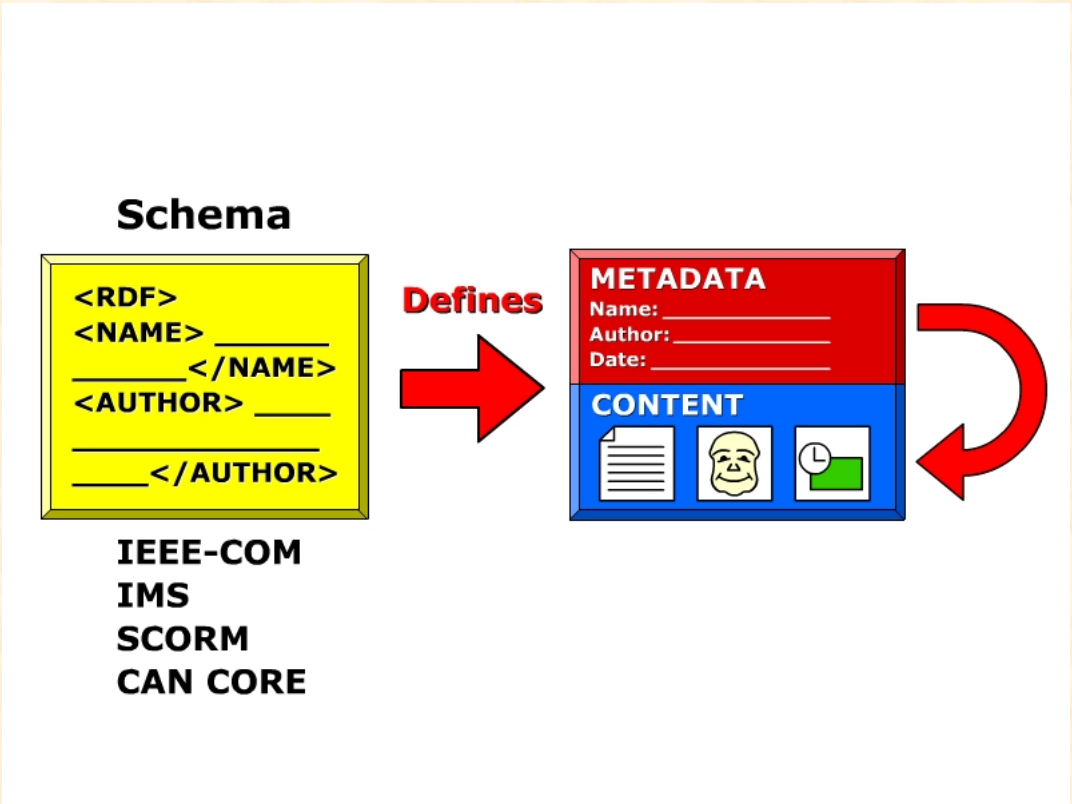
1. Learning Objects and Learning Object Metadata

1. Content – any digital resource
    1. Presumed to be educational material
    2. More likely to be self-contained
    3. Think of as more like an application than like a book chapter


METADATA
Name: _____
Author: _____
Date: _____
CONTENT

Metadata – describes the digital resource

1. Base on specifications – IMS – the metadata language
2. Defined by standards - IEEE-LOM – the metadata syntax
3. Used in application profiles – SCORM, CanCore – the metadata semantics

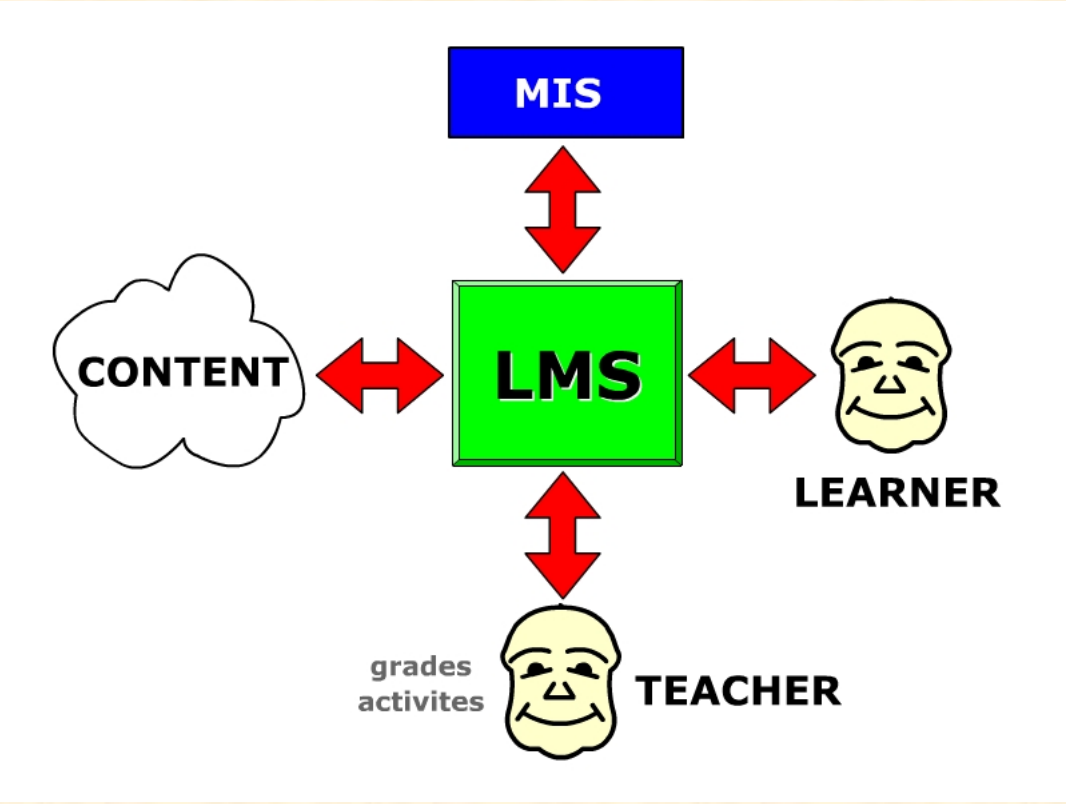

Schema
<RDF>
<NAME> _____
_____</NAME>
<AUTHOR> _____
_____
_____</AUTHOR>
Defines
METADATA
Name: _____
Author: _____
Date: _____
CONTENT
IEEE-COM
IMS
SCORM
CAN CORE

2. Wrappers, or, How to Think About Learning Objects

1. Learning Management Systems
2. Wrappers

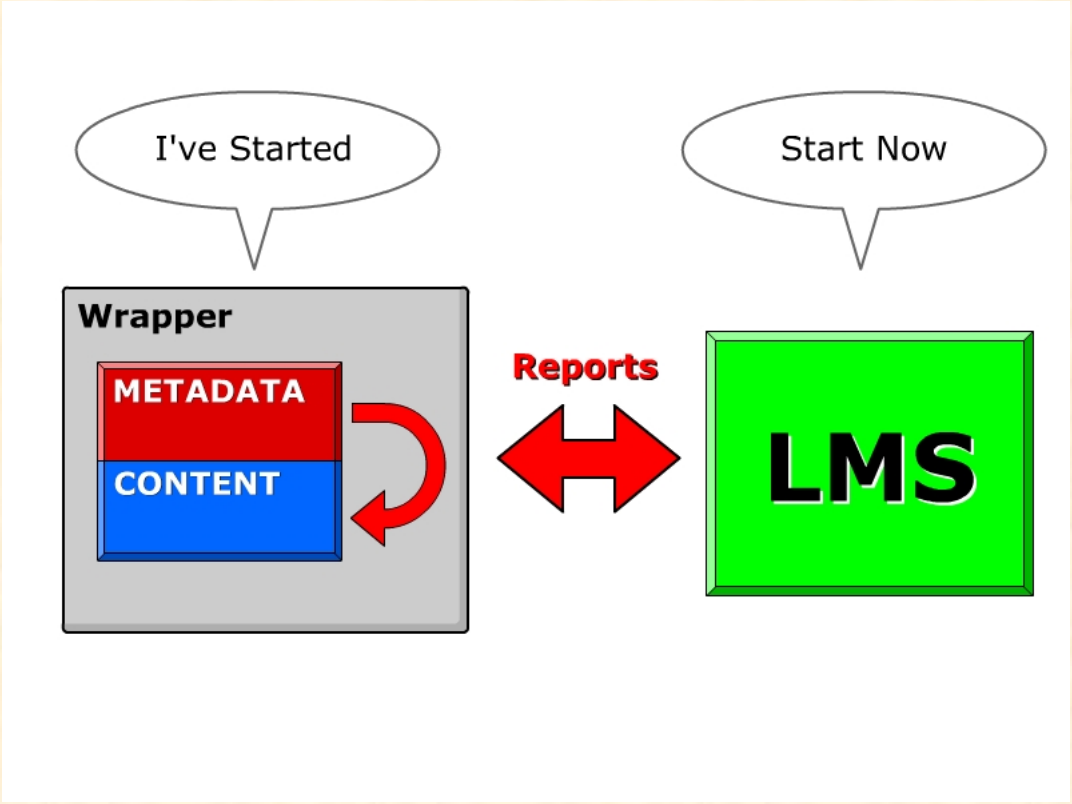
Learning Management System – runs the LO

1. Like a more flexible web browser
2. Recording and tracking features
3. May communicate with management systems


MIS
CONTENT
LMS
LEARNER
grades
activites
TEACHER

Wrappers – communicate with LMS

1. Attached to learning objects
2. Reports start, stop, errors
3. Turns ordinary text into a computer program


I've Started
Start Now
Wrapper
METADATA
CONTENT
Reports
LMS

3. Huge Ugly LCMSs

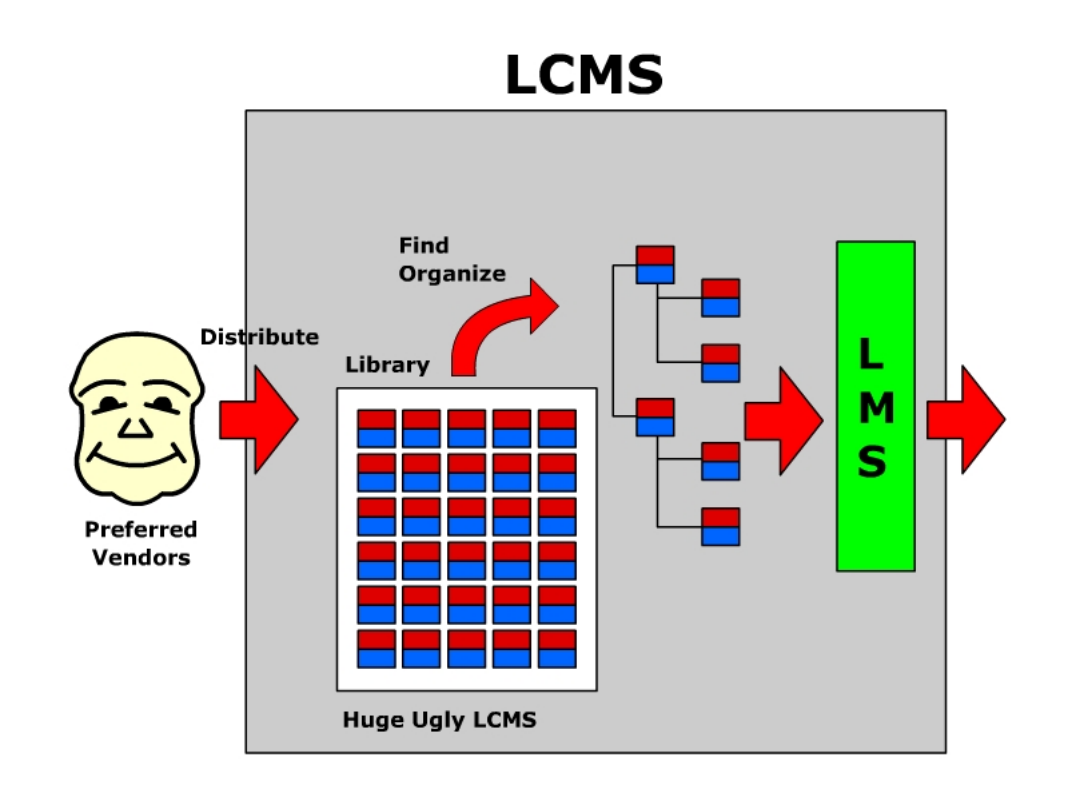
1. Learning Content Management Systems
2. Learning Object Libraries

Learning Content Management System

1. More or less an authoring tool
2. Provides access to learning objects
3. Tools to organize learning objects

Learning Object Libraries (LOL)

1. The system of choice by most LCMSs
2. Learning objects stored on site
3. Proprietary material, proprietary formats

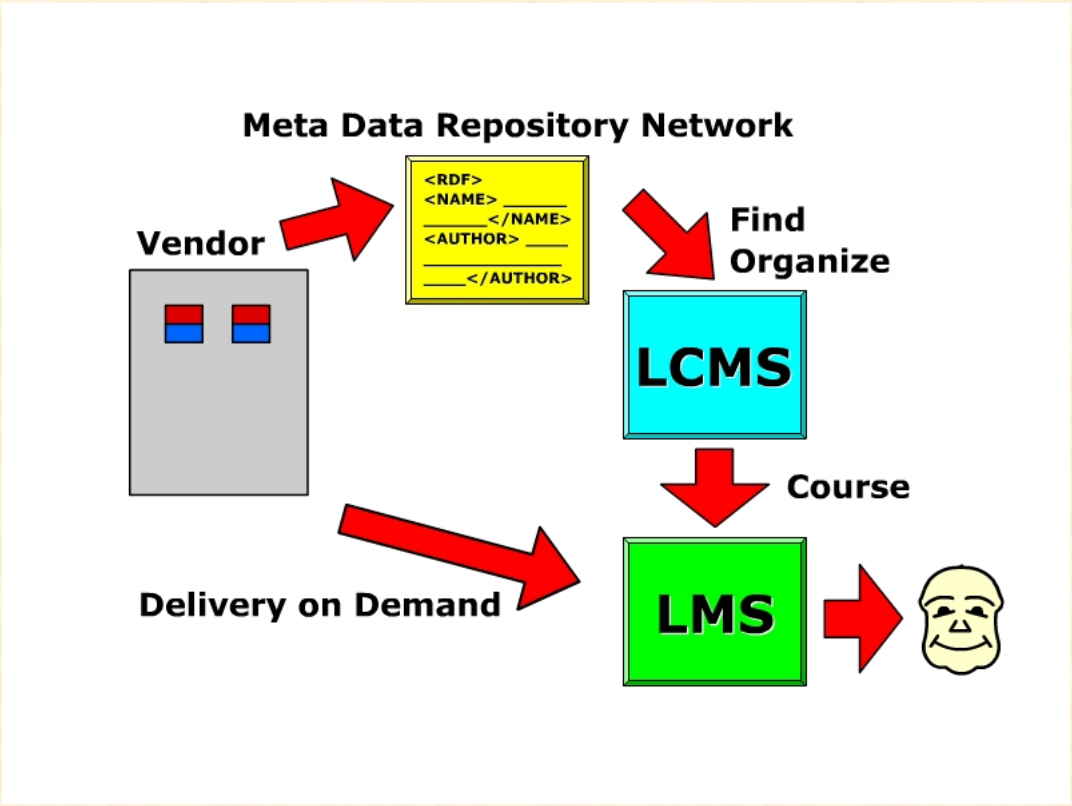

LCMS
Find
Organize
Distribute
Library
L
M
S
Preferred
Vendors
Huge Ugly LCMS

4. A POOL of Distributed Repositories

1. A Better Way
2. POOL – LO Repository Network

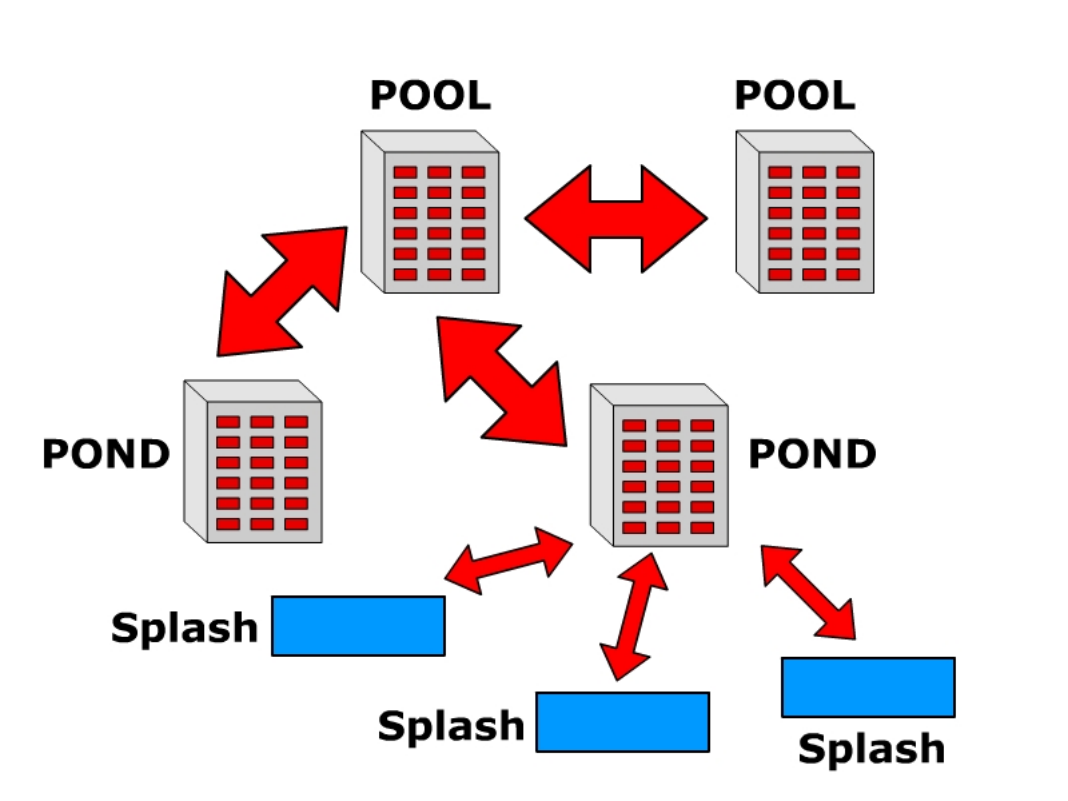
A better way

1. Store Learning Objects on vendors' servers
2. Provide access to LO metadata
3. Deliver LO as needed to the LMS


Meta Data Repository Network
<RDF>
<NAME> _____
_____</NAME>
<AUTHOR> ____
_____
____</AUTHOR>
Vendor
Find
Organize
LCMS
Course
Delivery on Demand
LMS

POOL – LO repository network

1. Like the web, distributed
2. Desktop applications
3. Feed metadata through P2P system


POOL
POOL
POND
POND
Splash
Splash
Splash

5. Pan-Canadian Learning Object Repositories

1. CANARIE Funding Project – about $3.5 million
    1. May 31 application deadline, fall start
    2. To build networks of repositories
    3. Implementation Trials and Work Packages
2. Builds on Existing Projects
    1. Work must be coordinated
    2. Work must be CanCore compliant
    3. (But that's a moving target, as we shall see)
3. Canadian Repository Action Group (CRAG)
    1. Intended to maintain existing projects
    2. National Representation
    3. May submit common proposal

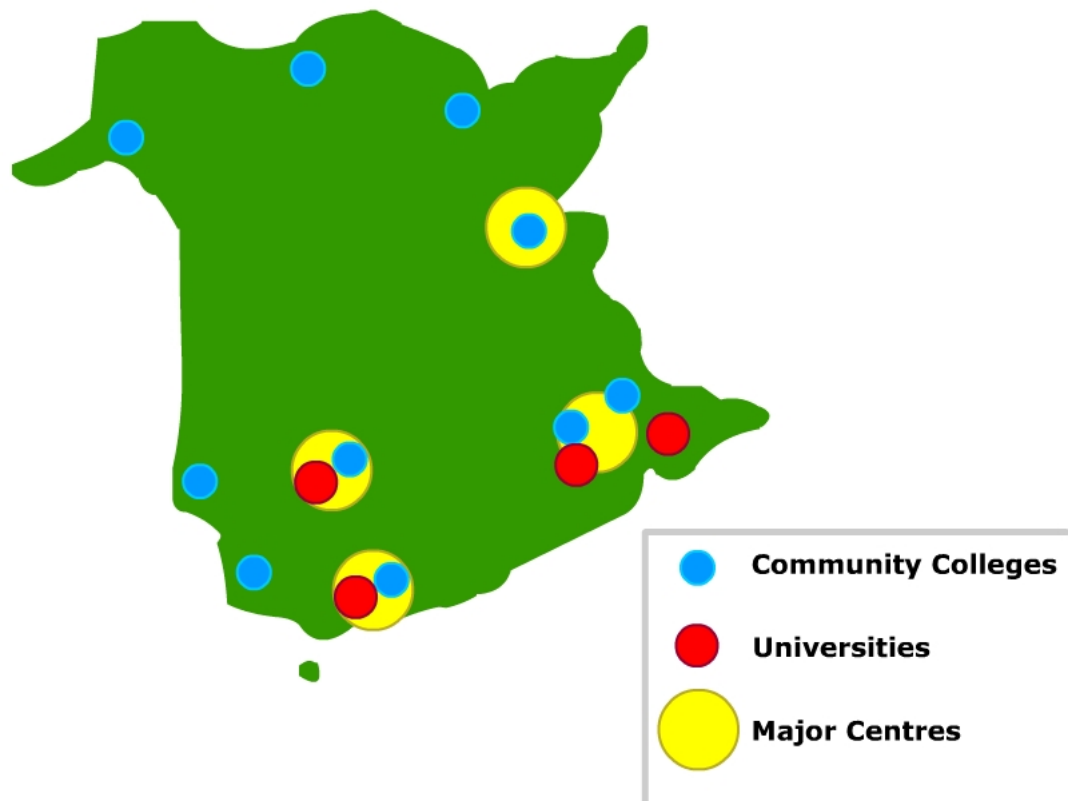
Athabasca
Learning Commons
SFU
T2T2

6. The NB Connection

1. NB's History of Involvement
2. Proposed NB Contribution

NB's history of involvement

1. Many E-Learning Companies in corporate, government learning
2. TeleEducation & E-Text Centre in POOL and Cancore
3. Many individual initiatives, eg. NBCC

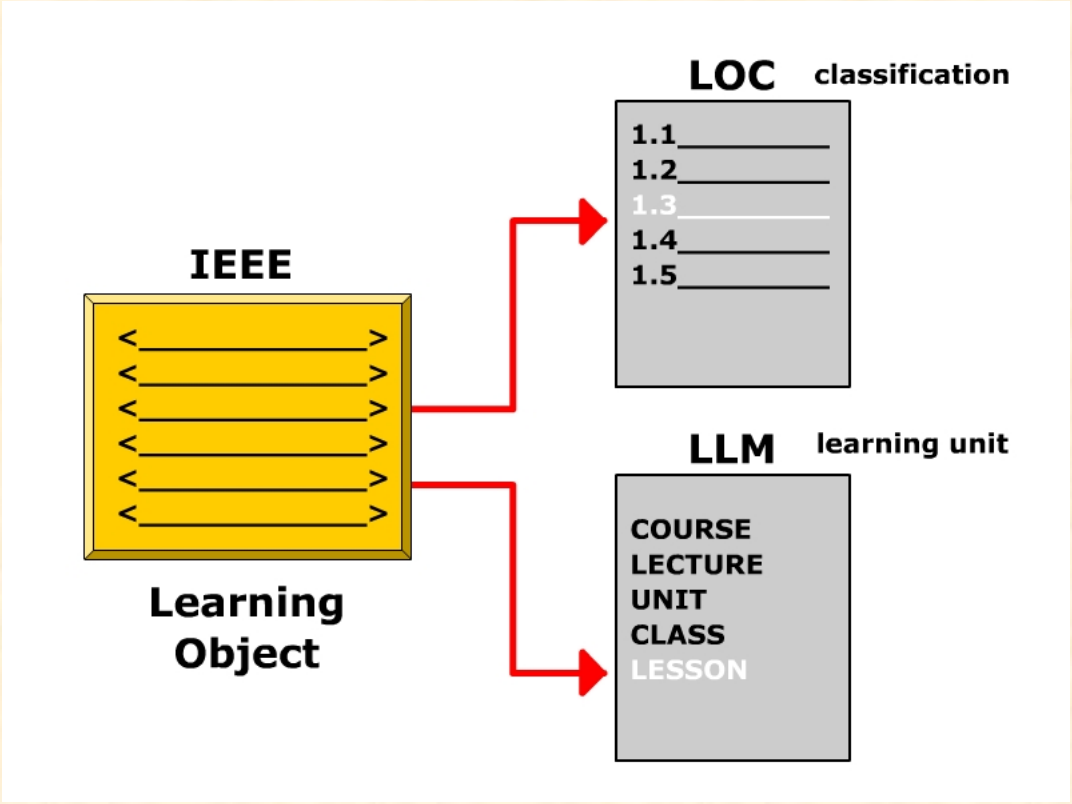

Community Colleges
Universities
Major Centres

Proposed NB Contribution

1. Host learning object registry
2. Continue work with CanCore in metadata development
3. Provide Digital Rights Management systems

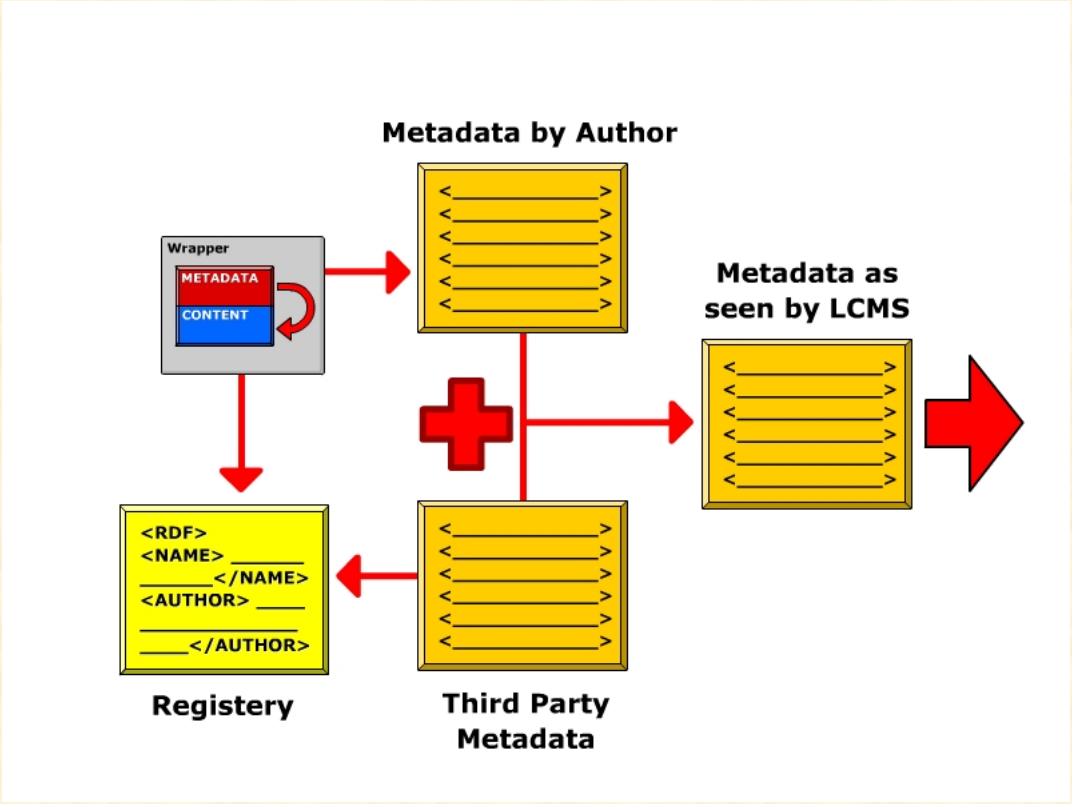
7. Layering Metadata on Metadata

1. Beyond IEEE, Beyond SCORM
    1. IMS, IEEE leave room for extensions (eg. Classification)
    2. These extensions refer to additional specifications, schemas
    3. Allows for more detailed descriptions of learning objects
2. Example: classification of subject material
    1. Refer to external classification system, eg. Library of Congress
    2. Assign LoC classification number to Learning Object
    3. Allows LoC based searches, curricula, etc.


LOC
classification
1.1
1.2
1.3
1.4
1.5
IEEE
<
<
<
<
<
<
Learning
Object
LLM
learning unit
COURSE
LECTURE
UNIT
CLASS
LESSON

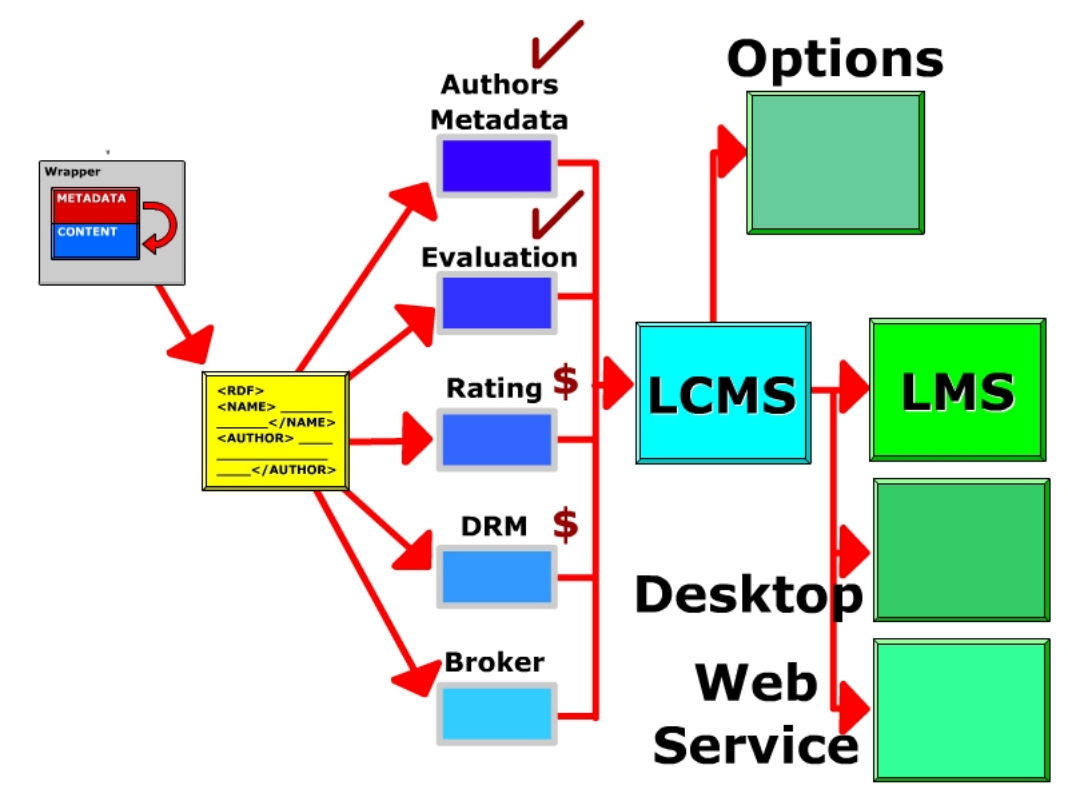
8. A Marketplace of Services

1. Core idea – allow multiple parties to describe learning objects
    1. Third party information essential, eg., in evaluating
    2. Third party metadata refers to object (through registry index)
    3. This info used (if desired) by the LO consumer


Metadata by Author
Wrapper
METADATA
CONTENT
Metadata as seen by LCMS
<RDF>
<NAME> _____
_____</NAME>
<AUTHOR> ____
_____
____</AUTHOR>
Registery
Third Party Metadata

Some Third Party Services

1. Classification by professional associations or libraries
2. Rankings or evaluations by the Siskel and Ebert of Learning Objects
3. Assignment of payment or DRM information


Wrapper
METADATA
CONTENT
<RDF>
<NAME> _____
_____</NAME>
<AUTHOR> ____
_____
____</AUTHOR>
Authors
Metadata
Evaluation
Rating $
DRM $
Broker
Options
LCMS
LMS
Desktop
Web
Service