

Cooperation and Competition: National Learning Object Repositories



Stephen Downes
July 28, 2006

1. What is a Repository

- “A set of services... for the management and dissemination of digital materials created by the institution and its community members... An institutional repository is not simply a fixed set of software and hardware.” – Clifford A. Lynch, [Institutional Repositories](#)

Role of Repositories

- Open access to, and re-use of, scholarly materials
- Serving particular communities
 - subject-based or institutional communities
 - content types, eg images or learning materials.
- Interoperable with systems used to support learning and teaching
 - Virtual/Managed/Personal Learning Environments
 - Authoring tools, Assessment systems, ePortfolios, etc.
 - Other repositories, portals and library systems.

Rachel Heery and Andy Powell, [Digital Repositories Roadmap: Looking Forward](#)

2. Examples of Repositories

- Comprehensive list:
- http://www.uwm.edu/Dept/CIE/AOP/LO_collections.html
- Another list - <http://elearning.utsa.edu/guides/LO-repositories.htm>
- Clifford A. Lynch and Joan K. Lippincott: [Institutional Repository Deployment in the United States as of Early 2005](#), [D-Lib](#)

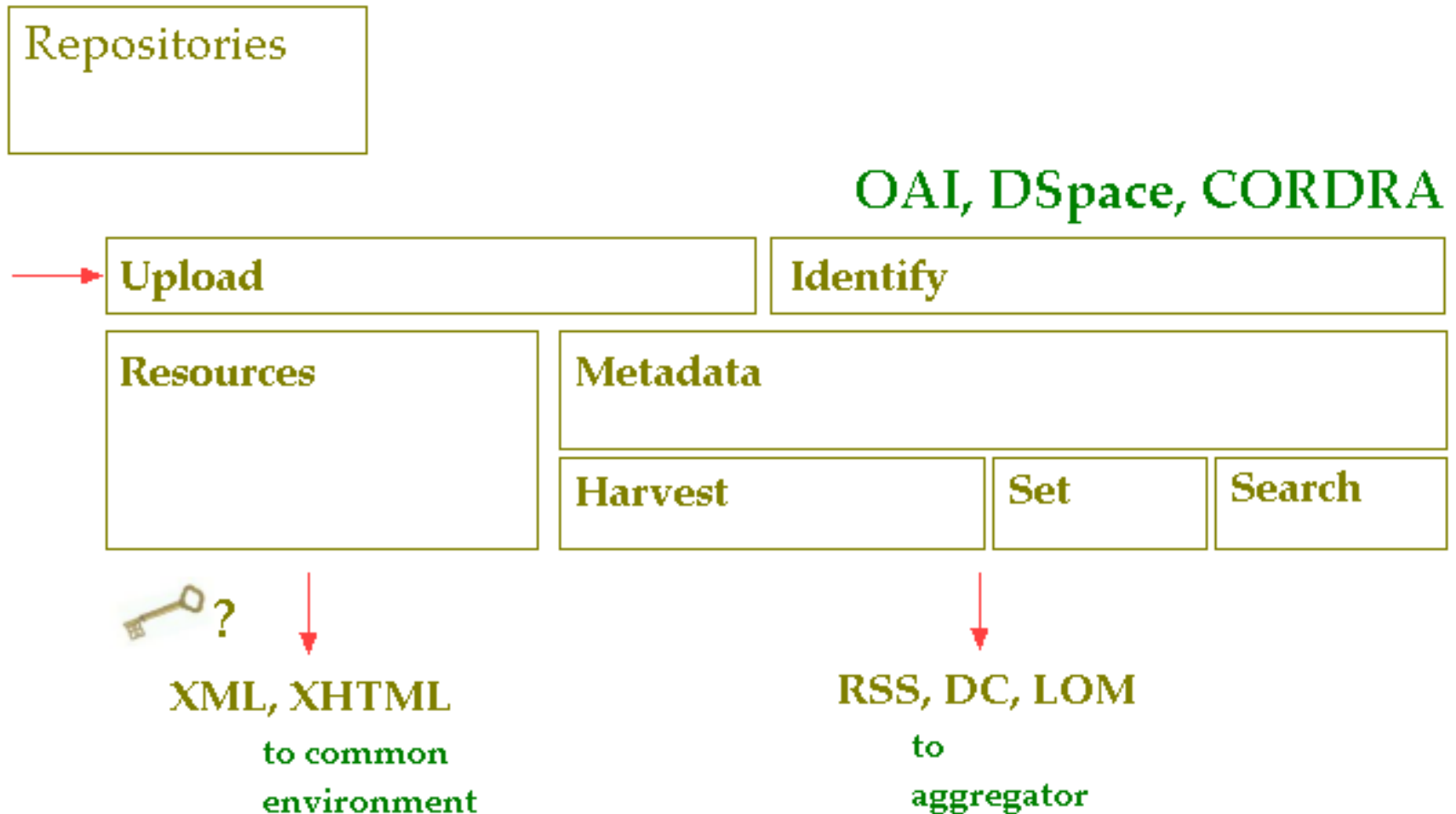
What Repositories Contain

- Academic papers
- Geospatial Data – to integrate with eg Google Maps
- Learning Materials or publicly-funded learning objects
- Data -- making raw research data available on an open access basis.

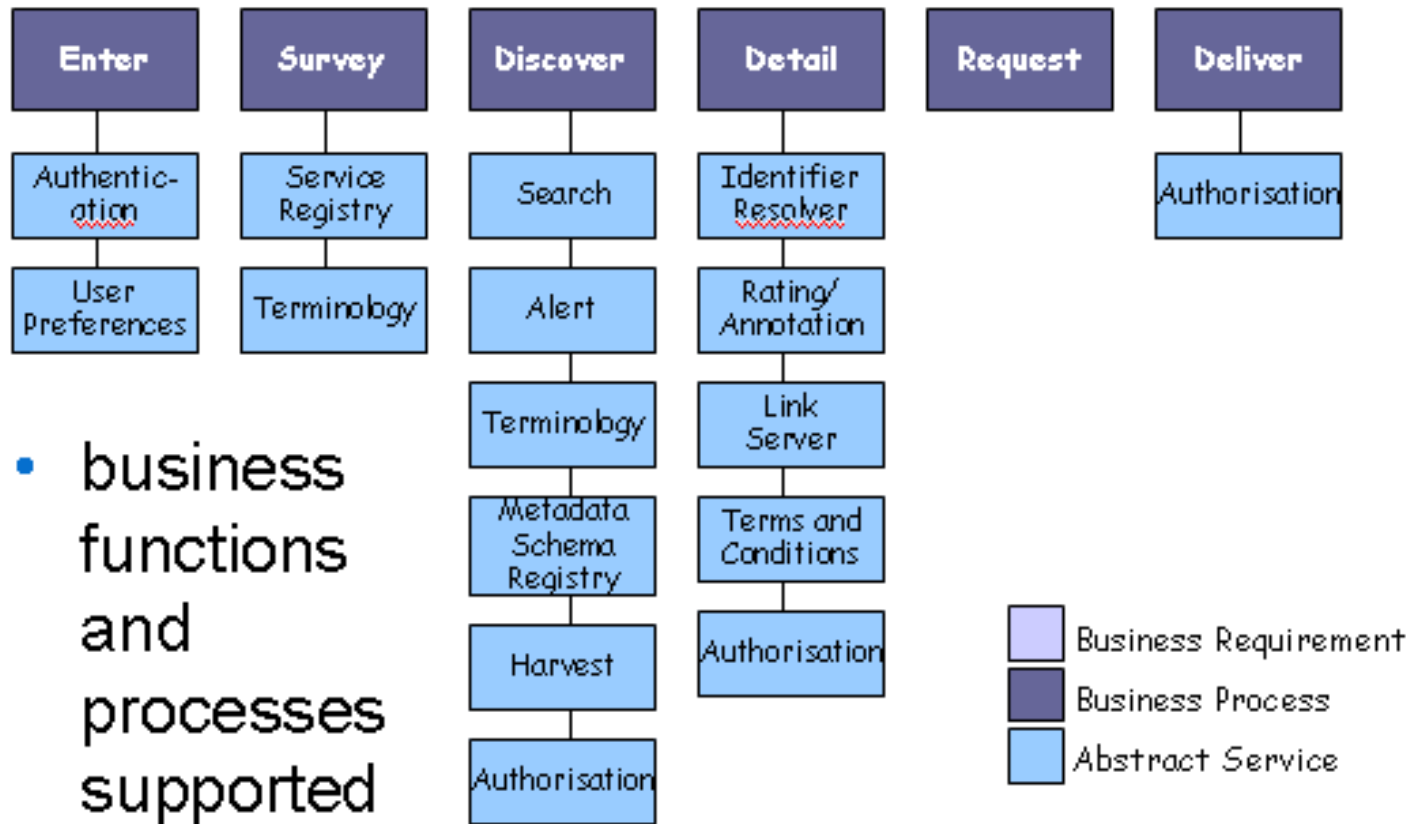
Rachel Heery and Andy Powell, [Digital Repositories Roadmap: looking forward](#)

Amber Thomas and Andrew Rothery, [Online Repositories for Learning Materials: The User Perspective](#)

A Simple Model...



Repository Services

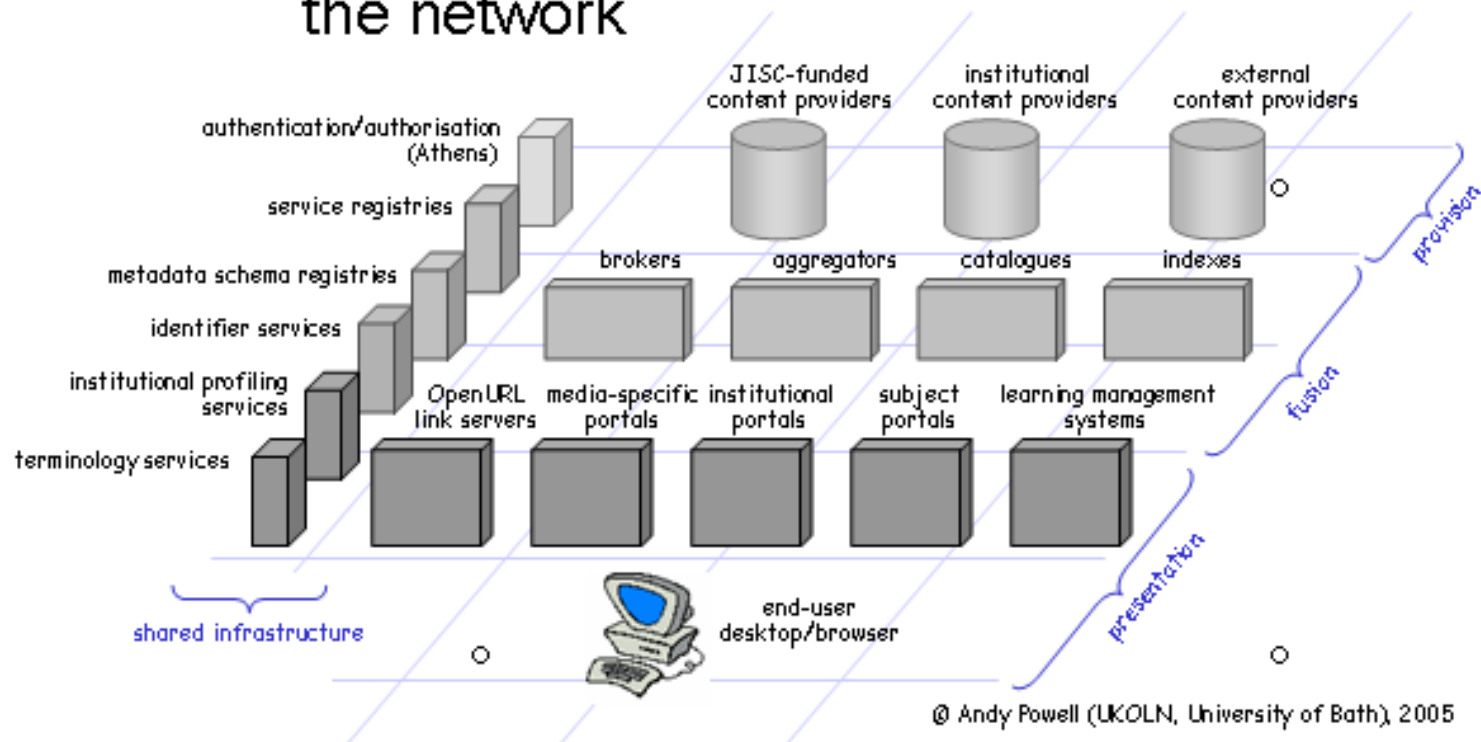


- business functions and processes supported by services

The "discovery to delivery" business requirement in the DLF Service Framework (Andy Powell) [Presentation](#) | [Audio](#)

Repository in a Network

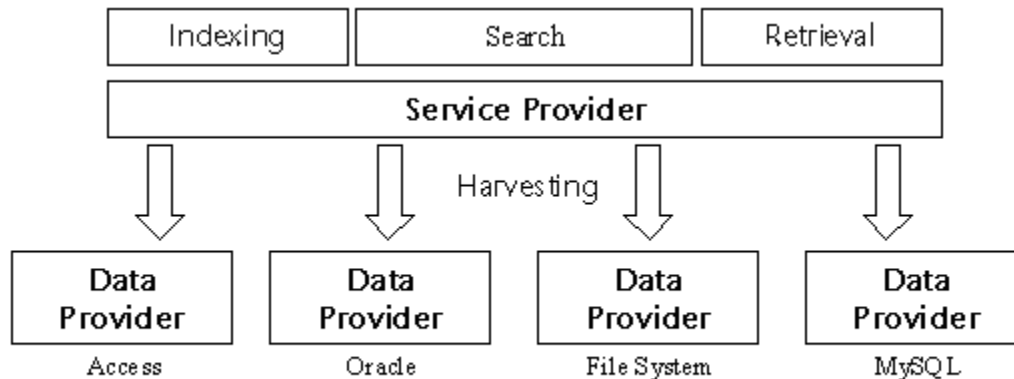
- the set of service bindings deployed on the network



The "discovery to delivery" business requirement in the DLF Service Framework (Andy Powell) [Presentation](#) | [Audio](#)

Open Archives Initiative

- OAI – <http://www.openarchives.org>
- Oaister - <http://oaister.umdl.umich.edu/o/oaister/>



http://www.niwi.knaw.nl/nl/geschiedenis/projecten/xpast_copy1/oai/

OAI Tools

- OAI Tools - <http://www.openarchives.org/tools/tools.html>
 - DSpace - <http://dspace.org/>
 - DSpace is an open source digital asset management software platform that enables institutions to capture and describe digital content.
 - EPrints - <http://www.eprints.org/>
 - Software to run centralised, discipline-based as well as distributed, institution-based archives of scholarly publications.
 - Fedora - <http://www.fedora.info/>
 - An open source digital repository architecture that allows packaging of content and distributed services associated with that content.

E-Framework

Sample User Agents

VLE / LMS	Portal	Student Enrolment Portlet	Library System
Timetabling	Authoring applications	Assignment marking tool	

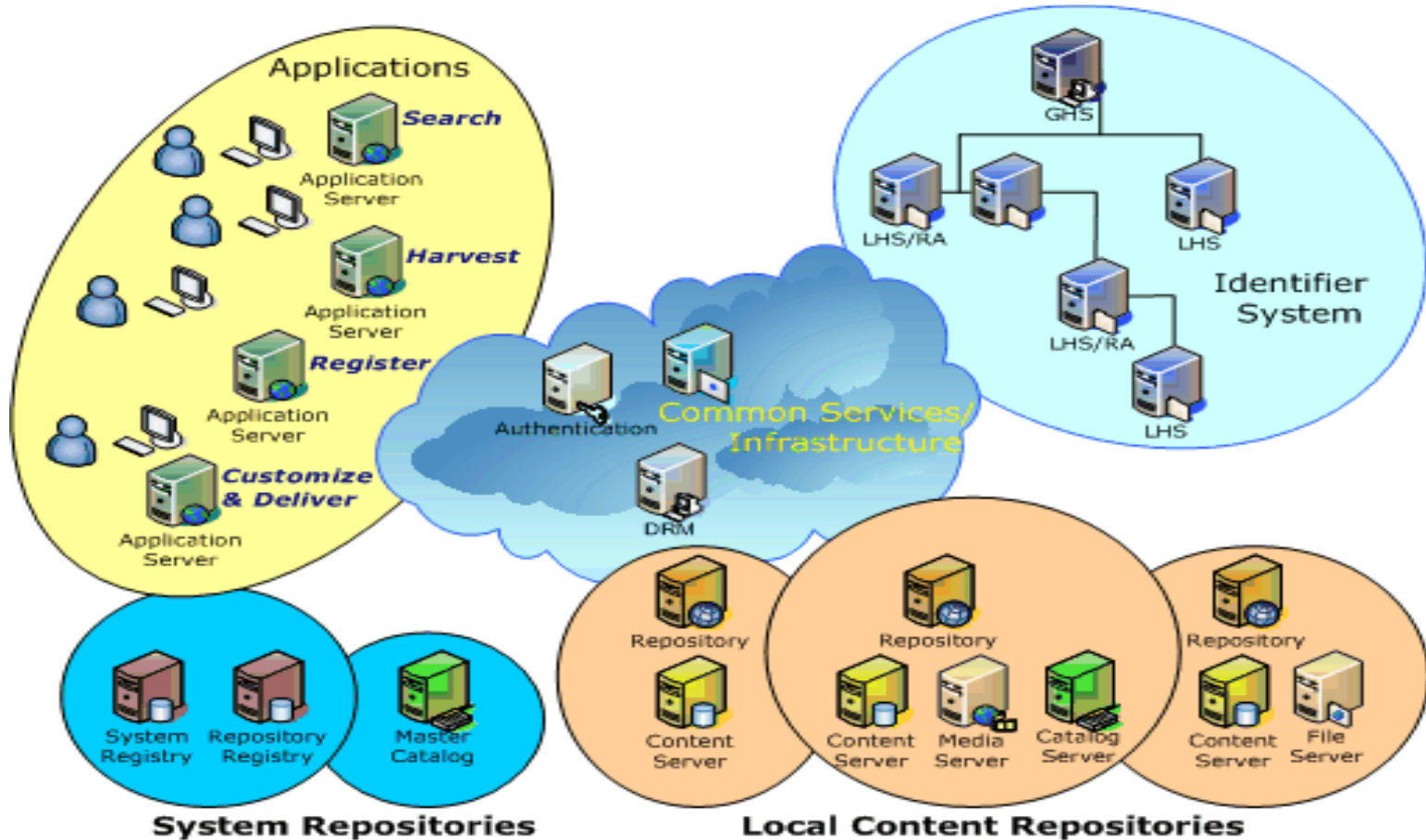
Learning Domain Services

Sequencing	Activity Management	Course Management	Resource List
Assessment	Grading	Competency	ePortfolio
Learning Flow	Activity Author	Marking	Curriculum
Course Validation	Quality Assurance	Personal Development	Reporting
Tracking			

Common Services

Messaging	Authentication	Authorisation	Resolver
DRM	Metadata Schema Registry	Logging	Identifier
Filing	Workflow	Search	Service Registry
Mapping	Presence	Rules	Harvesting
E-mail management	Scheduling	Content Management	Packaging
Archiving	Rating / Annotation	Terminology	User Preferences
Chat	Federated Search	Group	Person
Role	Member	Calendar	Metadata Management
Format Conversion	Alert	AV conferencing	Context
Whiteboard	Forum		

CORDRA



Wilbert Kraan and Jon Mason, [Issues in Federating Repositories: A Report on the First International CORDRA Workshop](#)

Daniel R. Rehak, William Blackmon, [An Introduction to CORDRA](#)

Open Repository Networks

- ROARMAP (Registry of Open Access Repository Material Archiving Policies) <http://www.eprints.org/signup/fulllist.php> and ROAR (Registry of Open Access Repositories) <http://archives.eprints.org/> now list: 497 institutional repositories registered to date 29 institutional or funder self-archiving policies 10 self-archiving mandates 4 funder self-archiving mandates (Peter Suber, email, July 23)

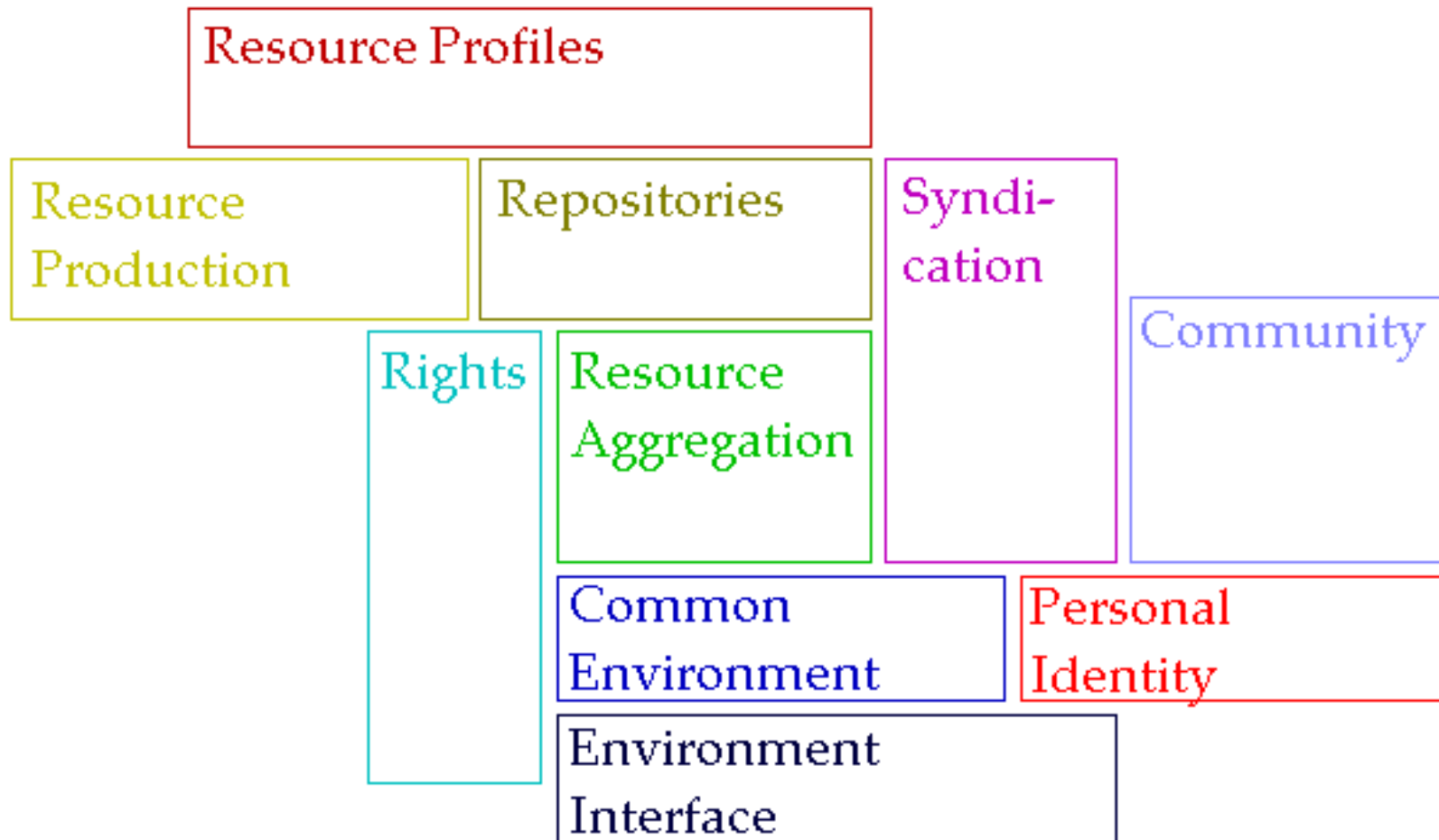
Roadmap?

- Simple object model eg Dublin Core?
- Develop complex object model...
 - A way to model them, to instantiate them
 - A way to identify them & their parts
 - Create ‘content-sensitive links’
- Service Models
 - ‘Putting’, ‘getting’ and ‘deleting’ content and metadata
 - Access management, such as Shibboleth.
 - Licensing, DRM solutions (and much more)

Rachel Heery and Andy Powell, [Digital Repositories Roadmap: Looking Forward](#)

Andy Powell, [A ‘service oriented’ view of the JISC Information Environment.](#)

Architecture



Issues in Repositories

- Usability
- Content and community development
- Intellectual property
- Tech standards (let grassroots develop)
- Quality assessment
- Sustainability

From Richard G. Baraniuk, [Connexions: An Educational Technology Case Study](#)

Data Input



- "What would be really cool is if a new microcontent type of 'learning object' was defined - letting you enter some IEEE LOM-ish metadata about a resource that's used as a learning object."

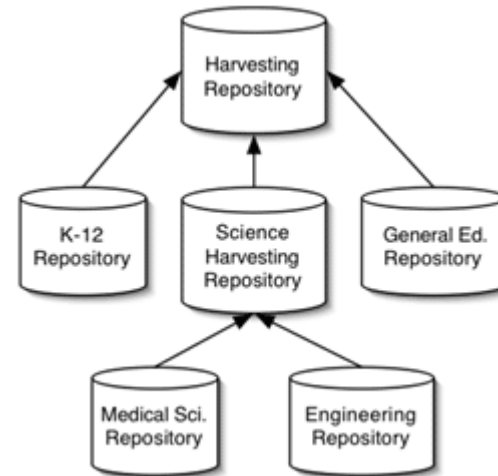
D'Arcy Norman, [Structured Blogging: Semantic Web for the Rest of Us?](#)
See also microformats.org

Alternative Repositories

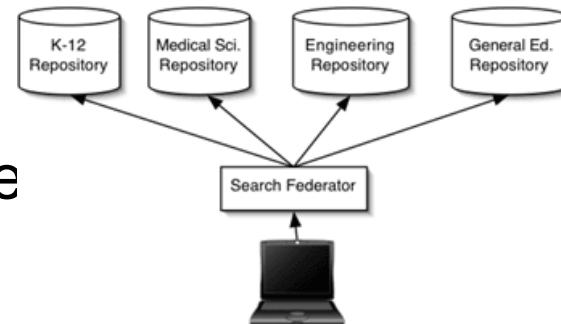
- YouTube
 - Gardner Campbell, [Surprised by YouTube](#), “massively and unpredictably scaled repositories of public domain materials “
- Drupal
 - [Drupal as Learning Object Repository](#), “There is no need for CAREO (or its ilk) anymore. “
 - [New version of Drupal](#) - 4.7.0
- Wiki
 - Scott Leslie, [Hieraki - Hierarchical Wiki Software](#) - think of it as a merger between outlining and collaborative authoring
 - Noc, a [learning object repository](#) built on top of Hieraki.

Harvest vs Federation

- Metadata Harvesting
 - Occurs asynchronously
 - Results in "collections of collections"
 - OAI-PMH, RSS



- Federated Searching
 - Occurs synchronously
 - Produces collated search results from different source
 - ECL, SQI, SRW/SRU



Search or Structure

- Survey (browse) vs Discover...
- David Wiley [On Distributed Tools and Mashups](#): "if we fully distribute data and go searching around for it whenever we need it, it doesn't take that many users before the query traffic eats up all available bandwidth."
- The self-organizing network

Quality and Review

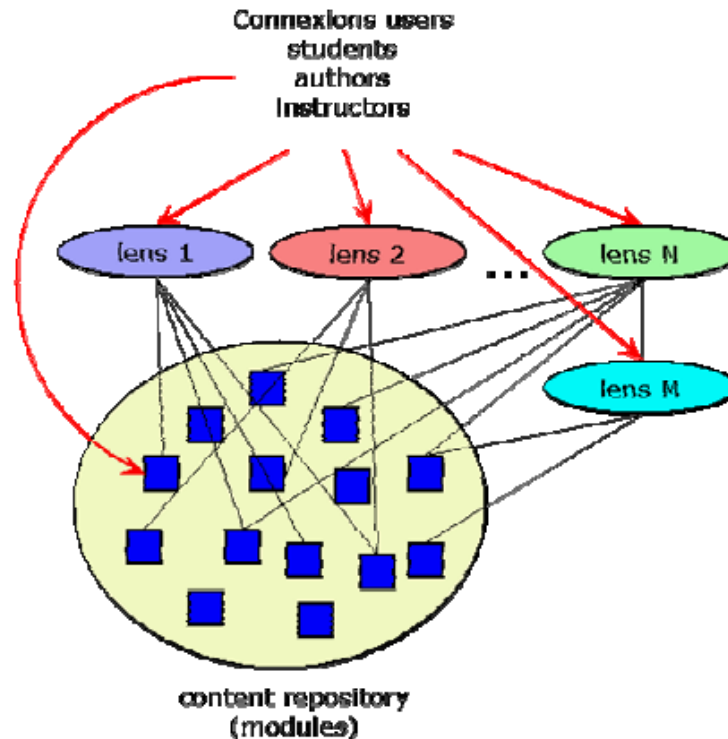
Post-publication Review: *Lenses*

- *Distributed* peer review
- View modules/courses through *lenses* (filters)
- Each lens has its own *focus*
- Lenses provided by *3rd parties*

Professional society
University, School board
Publisher, Colleagues

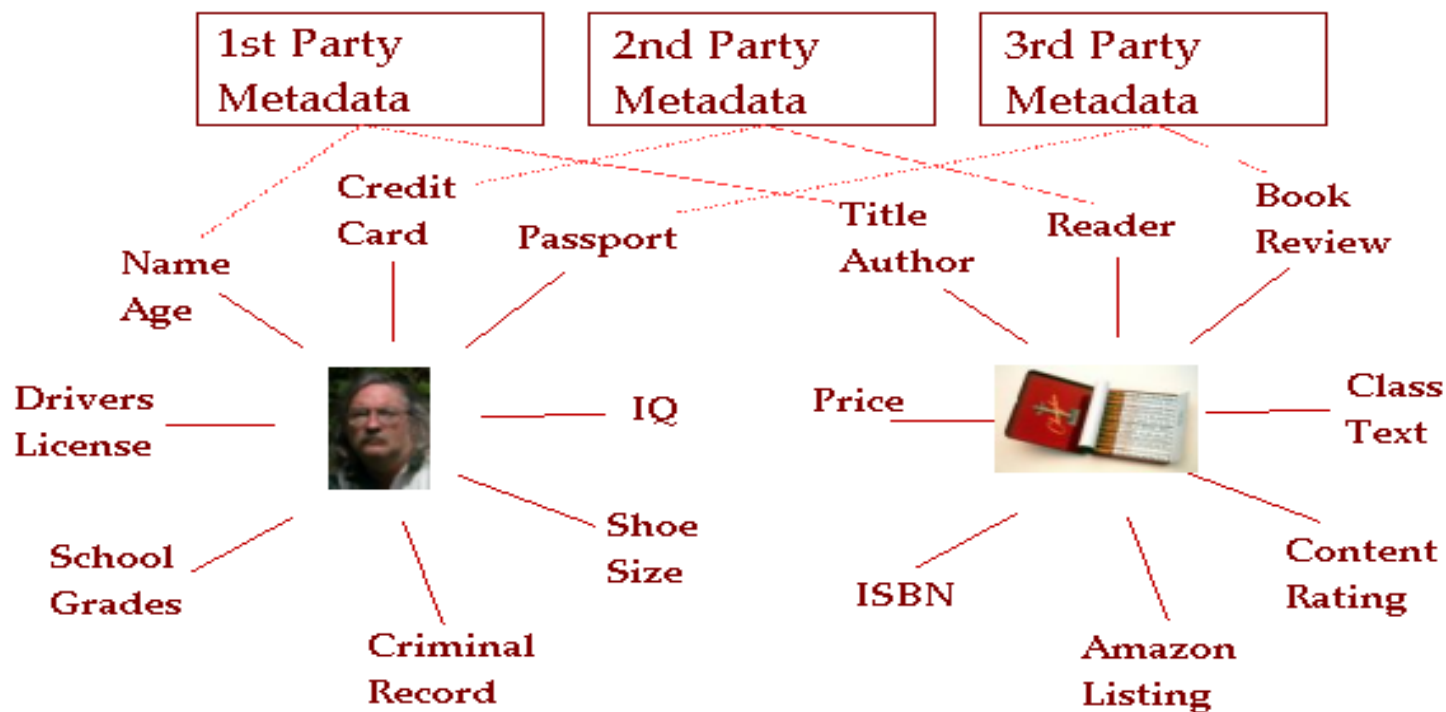
Most popular, linked
Collaborative filtering
User rating

Learning assessment rating



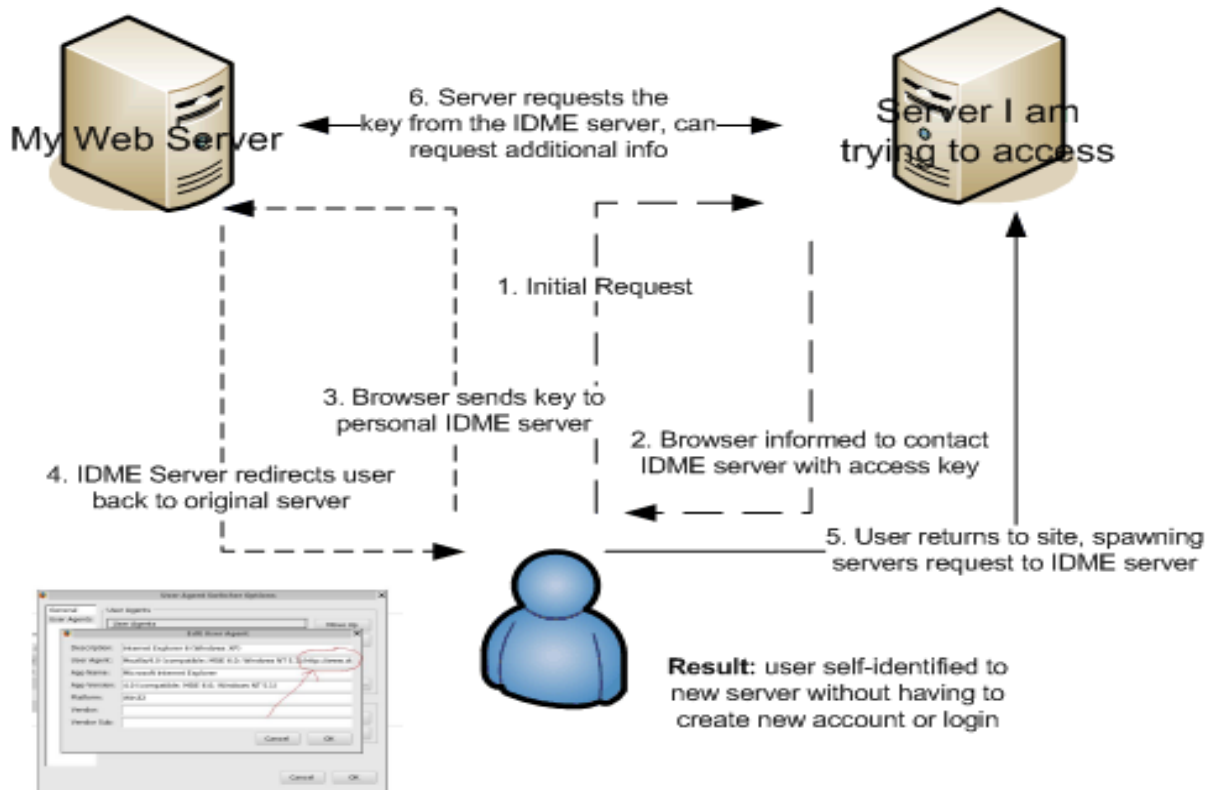
Resource Profiles

Resource Profiles



Authentication and Identity

Personal Identity

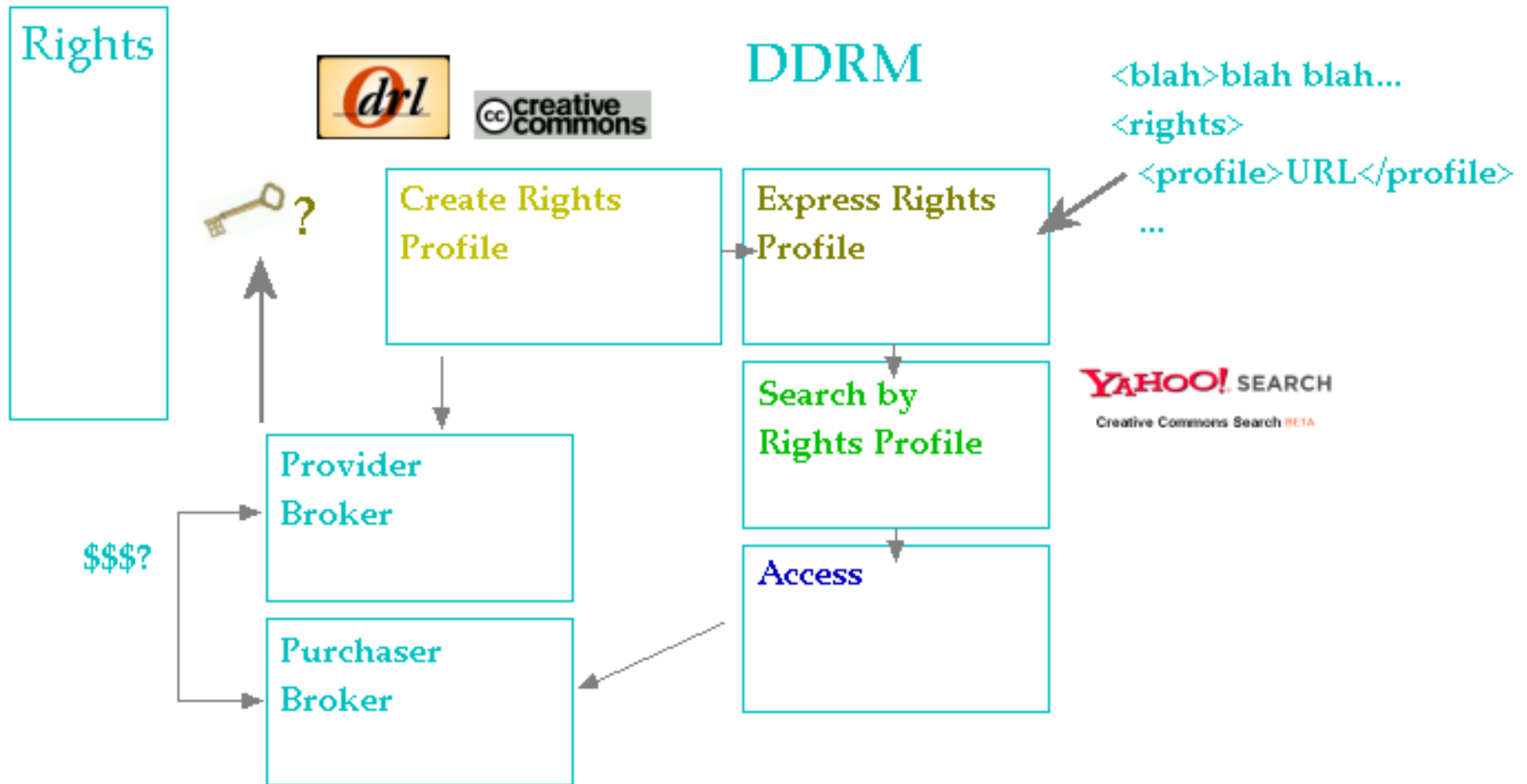


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IDENTITY

Rights and Access



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