



Introducing the Macquarie E-learning Centre of Excellence (MELCOE)

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Overview

- Why MELCOE?
 - The problem with e-learning today
- What is MELCOE?
- MELCOE's Research Agenda
- Opportunities for Collaboration

Why MELCOE?

- After the dot com hype, whither e-learning?
- The different dimensions of e-learning
 - Failed university business model?
 - Mediocre corporate training model?
 - The success of online course administration
 - The rise (and recognition) of Blended learning
 - The promise of resource sharing
- What about the “learning” in e-learning?

Why MELCOE?

- Many projects worldwide about sharing Learning Objects
(.....but what is a Learning Object?)
- Significant Government investment, eg Aust
 - \$70M TLF, \$50M Toolboxes, \$30+M AUTC
- Key requirements: Re-use & interoperability
- How?

Why MELCOE?

- Sharing and re-use require interoperability
- Interoperability requires:
 - Agreed technical standards
 - Proof of concept trials of standards implementation
 - Vendor (and OSS) adoption of standards
 - Systems integration of standards-compliant systems
 - Market education and adoption

The Problem

- Failure to understand the importance of e-learning standards for successful sharing
 - We will look back in wonder that it was debatable
- “Thousand flower bloom” funding approach is no longer defensible
 - Massive waste of time/money on one-off resources
- No one e-learning system will do everything
 - Integration is a necessary requirement

The Solution?

- E-learning standards are the essential foundation for interoperability and re-use
- But...immaturity of current e-learning standards
 - Insufficient practical implementation to date
 - Requires robust standards and systems integration
 - Iterative development of standards based on implementation experience



What is MELCOE?

Vision

"To become an international leader in research, development and implementation of e-learning architectures and infrastructure using open standards"

What is MELCOE?

Mission

- To foster projects which develop multi-party open standards-based e-learning environments.
- To support research into the architectures and infrastructure necessary to support e-learning systems integration, and to contribute these research outcomes global standards development efforts.



MELCOE Goals

1. To develop testbeds and prototypes which demonstrate the use of open standards and specifications for e-learning systems integration.
2. To contribute to international e-learning standards development based on the outcomes of testbeds and prototypes.
3. To work across all education sectors (universities, schools, vocational education and corporate training) in e-learning infrastructure development, both nationally and internationally.
4. To provide internationally recognised research leadership in the development of e-learning architectures and infrastructure models
5. To disseminate information about best practice in the development and implementation of e-learning infrastructure and standards
6. To collaborate with education, government and corporate partners to solve complex e-learning problems



MELCOE's Research Agenda

- Current Research areas of interest include:
 - Learning Objects
 - Digital Repositories
 - Digital Rights Management for Education
 - Learning Design
 - Federated Access and Identity Management

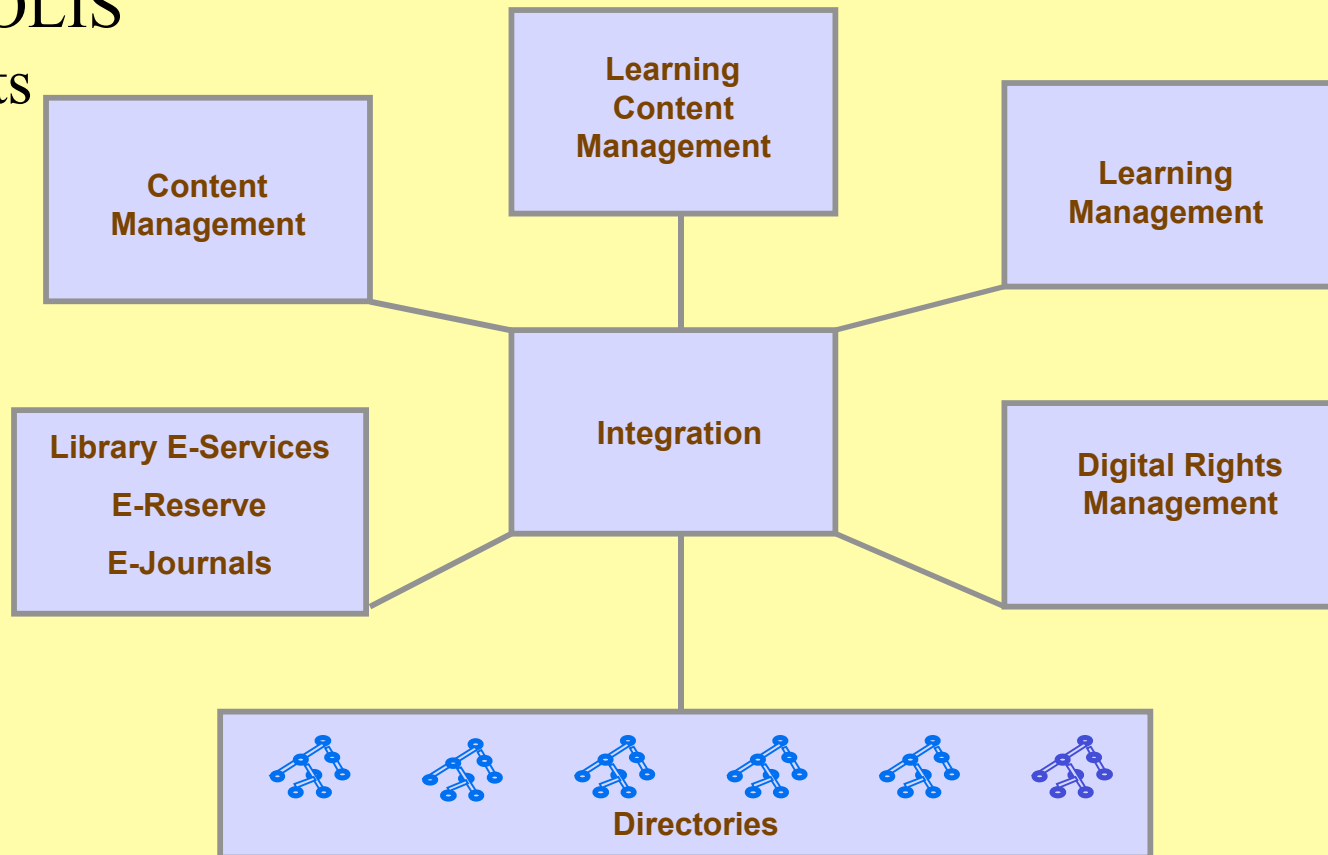


MELCOE's Research Agenda

- MELCOE Guiding Frameworks:
 - COLIS Service Chunks
 - COLIS Global Use Case
 - Layered Learning Object Hierarchy
 - IMS Digital Repositories
 - Education IT Logical Architecture

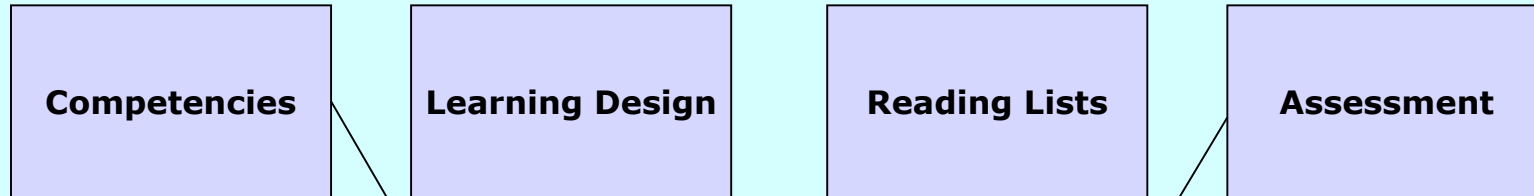
COLIS “Service Chunks”

Original COLIS Components

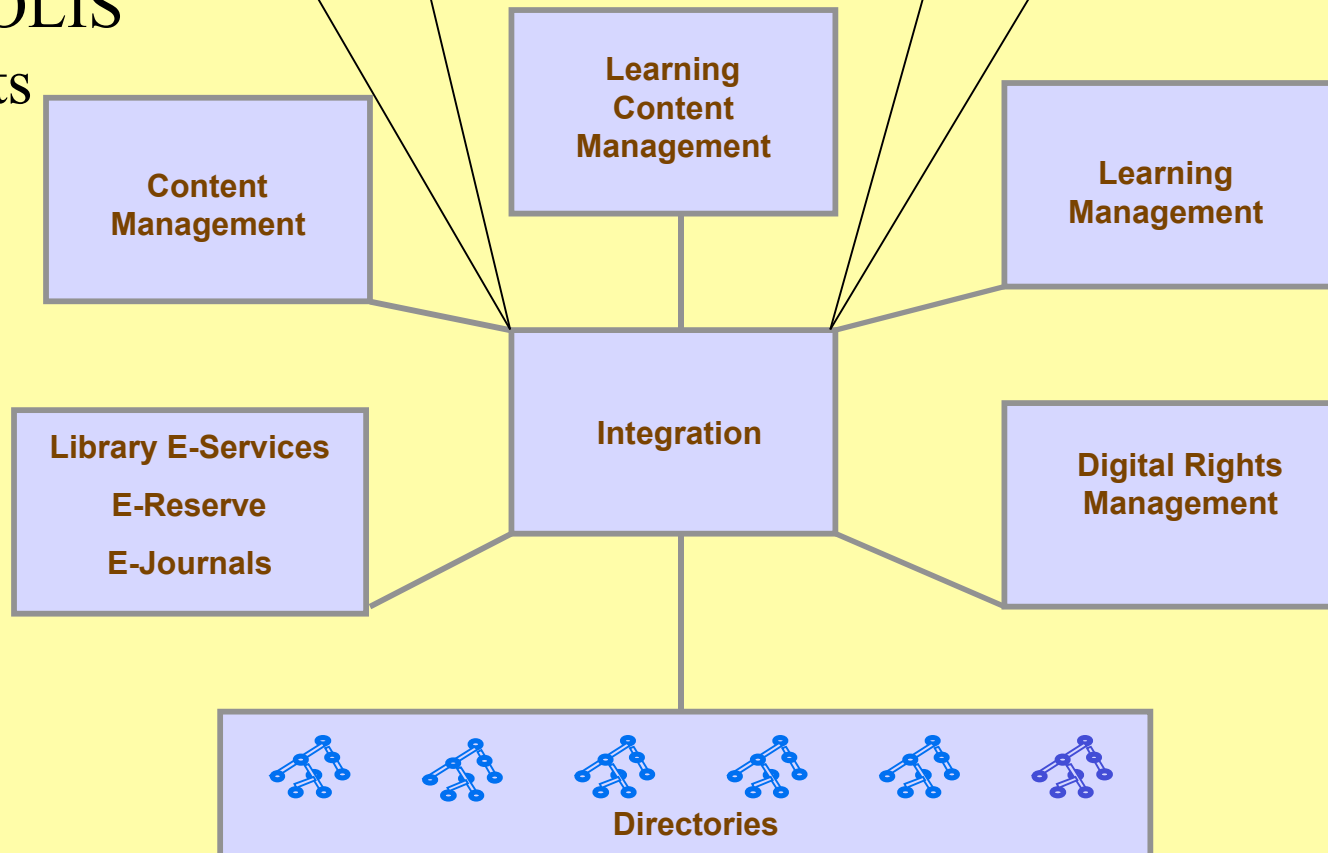


COLIS “Service Chunks”

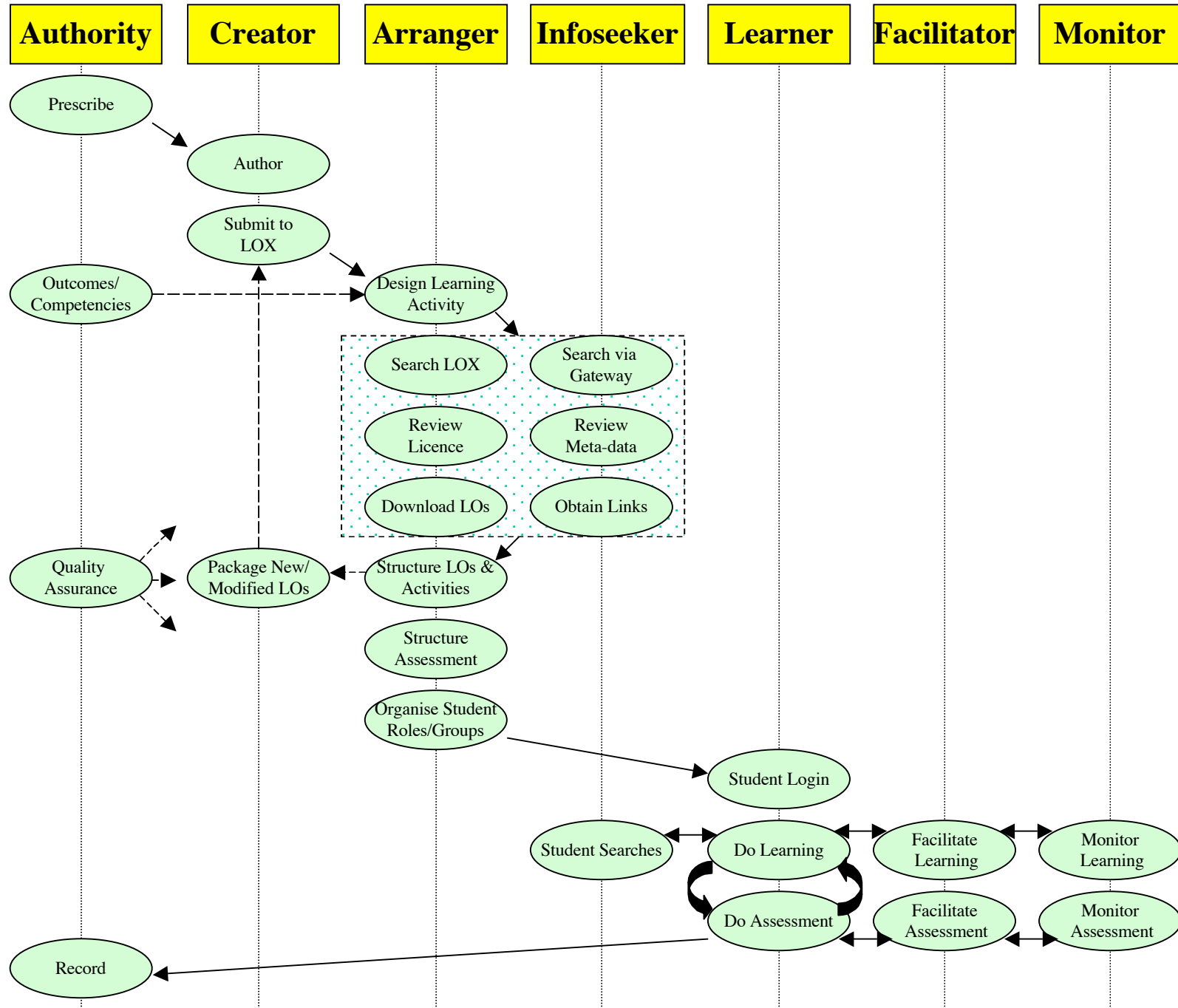
Proposed new components



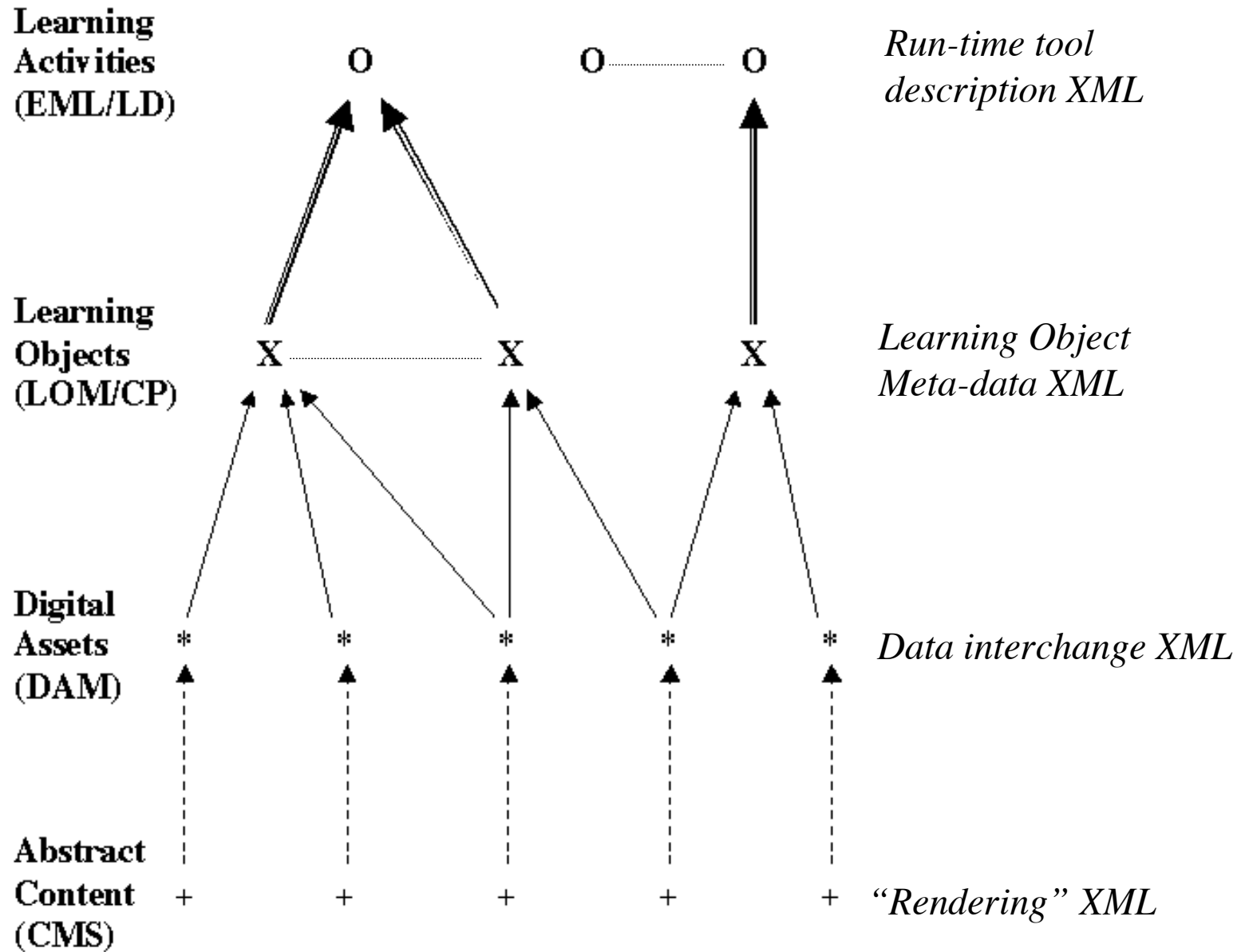
Original COLIS
Components



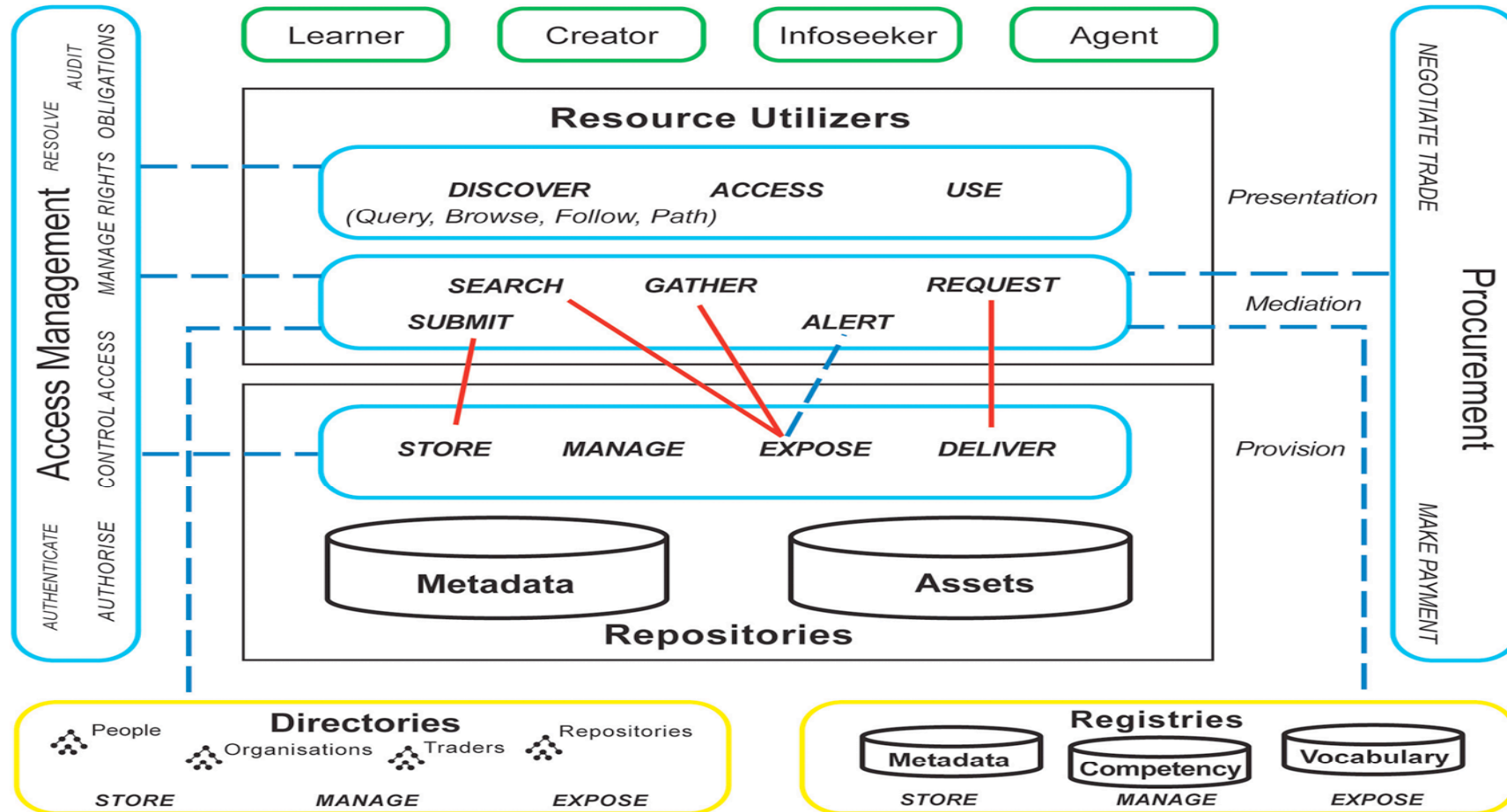
COLIS Global Use Case: Latest Version (Nov 02)



Layered Learning Object Hierarchy



DRI Model



Legend

- Entity - Roles
- Entity - Functional Components
- Entity - Services
- First phase addressed interactions between functional components
- Second phase addressed interactions between functional components

Education IT Logical Architecture

Client

Security / Authentication

Directory Services

Application Modules

ERP Finance and HR; Library systems; Student Information System
Learning Management System; Learning Content Management System
Customer Relationship Management; Content Management System
Computer Assisted Assessment, etc

Messaging, Integration, Workflow

A Current (ideal) University IT environment

Client

Web Browser

Security / Authentication

Portal Login / Single Sign On

Directory Services

LDAP/X.500 Directory Services

Application Modules

ERP Finance
& HR

Student
Information
System

Library
systems

Learning
Management
System

Messaging, Integration, Workflow

Core Services - Workflow

Core Services - Integration APIs

Opportunities for Collaboration

- MELCOE is seeking collaborations with all education sectors and corporate training for
 - Research into e-learning standards
 - Proof of concept e-learning systems integration
 - Linking e-learning to SIS/HRMIS
 - Solving complex e-learning/knowledge management problems