



IMS Open Technical Forum

27 February 2002
Sydney, Australia



Digital Rights Management and Digital Repositories

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Overview



- ◆ Introduction to DRM
- ◆ DRM Modeling
- ◆ Open Digital Rights Language (ODRL)
- ◆ Education and DRM
- ◆ **DRM and IMS and OKI**
- ◆ Learning Object Xchange
- ◆ Conclusion

DRM Definition

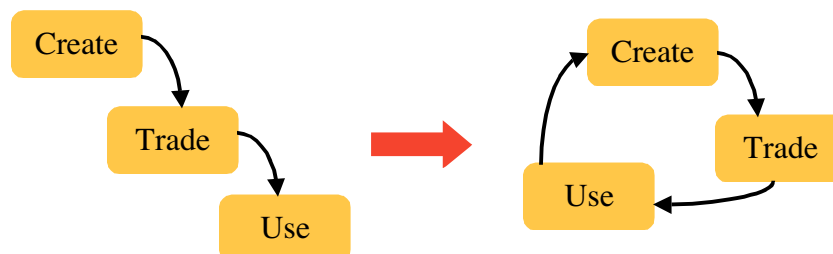


- ◆ Digital Rights Management (DRM) has always had a "security/protection" emphasis
 - ◆ Digital Rights **Enforcement**
- ◆ DR"**M**" is broader and includes
 - ◆ **description, identification, trading, protection, monitoring and tracking** of all forms of rights usages over both **tangible** and **intangible assets** including management of **rights holders** relationships
- ◆ DRM must address end-to-end management of digital assets
 - ◆ Technical, Business, Legal, Social needs
- ◆ DRM is an asset management approach, not a magic "bolt-on" utility

New Opportunities

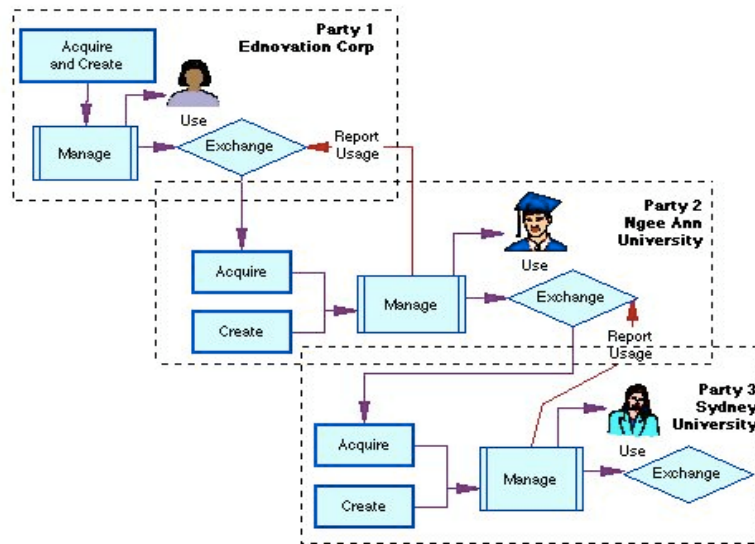


- ◆ From "Creation Waterfall" to "Creation Life-Cycle"
 - ◆ Blurring creation/use towards re-creation/re-use
 - ◆ **Pay for usage, not possession**

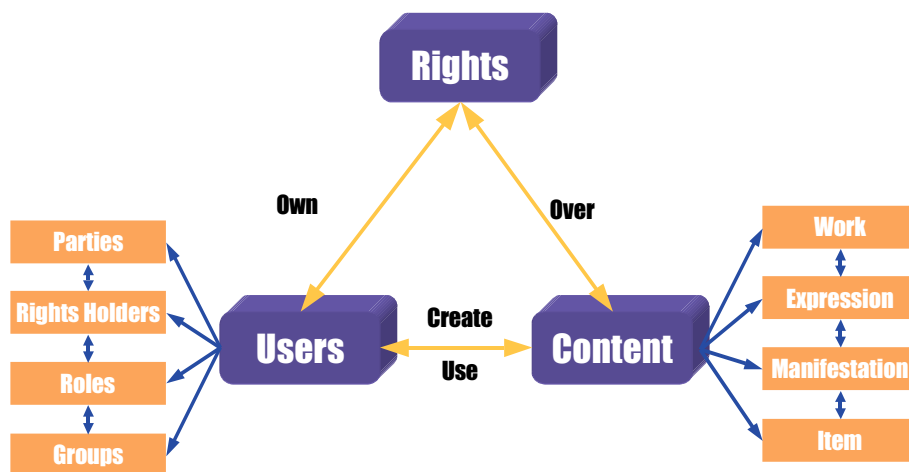


- ◆ Share the rights - Share the revenue
 - ◆ Layers of Rights

Layers of Rights



Rights Information Model

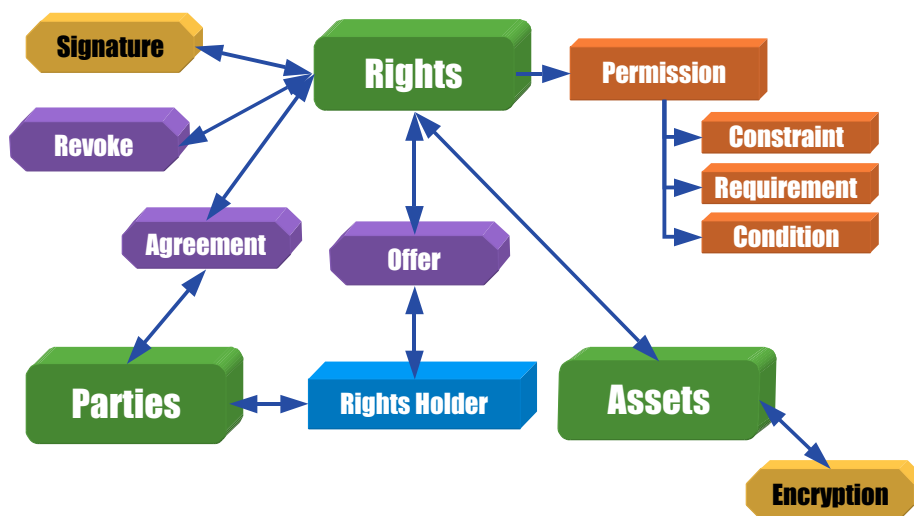


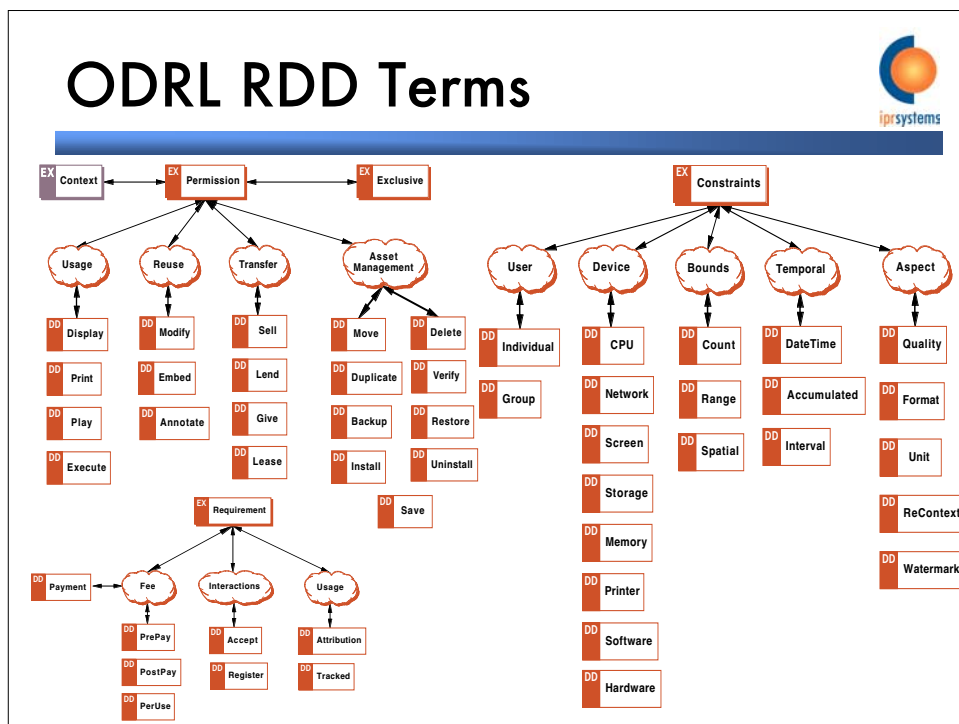
Open Digital Rights Language

- ◆ Developed by IPR Systems
 - ◆ Incorporated MRV (Nokia)
 - ◆ Merged XMCL (Real Networks)
- ◆ Defines both Expression Language and Data Dictionary
- ◆ No License Requirements
- ◆ <http://odrl.net>
- ◆ Also Supported By:



ODRL Model





DRX - Permission Offer

Display Permission Format Constraint

Unit Constraint (Pages)
Range Constraint \$0 Requirement

7 Usage rights & pricing

Usage	Pages	Online	Price
Preview	<input type="text" value="5"/>	Low-resolution Image (GIF)	free

Licence Usage	Download	Price
<input type="checkbox"/> Read	<input checked="" type="radio"/> Secure <input type="radio"/> Not Secure	<input type="text" value="\$0.00"/>
<input checked="" type="checkbox"/> Print & Read	<input checked="" type="radio"/> Secure <input type="radio"/> Not Secure	<input type="text" value="\$10.00"/>

Display and/or Print
Permission

CPU Constraint

Requirement

DRM Education Studies



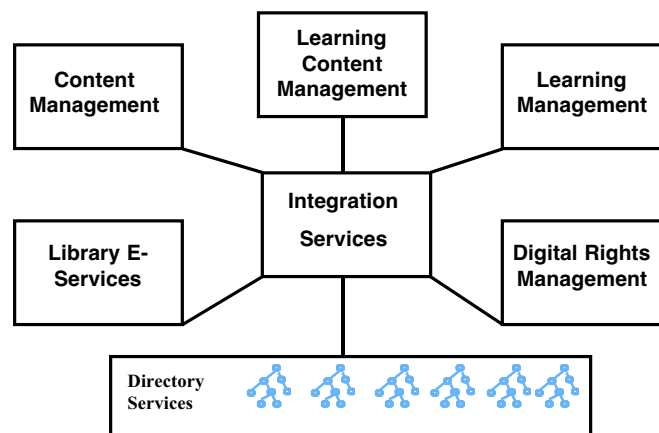
- ◆ SOCCI/TLF
 - ◆ DRM Business and System Requirements
 - ◆ Education Architecture Functional Requirements
 - ◆ <http://www.thelearningfederation.edu.au>
- ◆ Department of Education Science and Training (DEST)
 - ◆ DRM Requirements from Scenarios
 - ◆ Recommendations for Standards activities
 - ◆ IMS DRM work item
 - ◆ Liaison with OpenEBook Forum
 - ◆ Propose ODRL as base model

DRM and Education

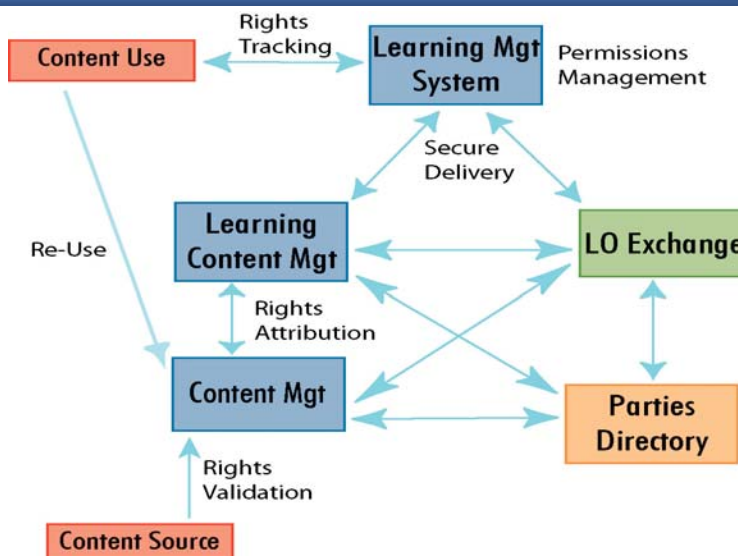


- ◆ Education Sector has unique characteristics
 - ◆ Creation of Learning Objects
 - ◆ Longer time period
 - ◆ "Re-Use"
 - ◆ Multi-part
 - ◆ Multi-Format
 - ◆ Sequencing
 - ◆ Trusted User base
 - ◆ Upstream and Downstream
- ◆ DRM needs to interoperate with Learning Object Management Systems (LOMS)

From Chunks to...



DRM LOMS Framework

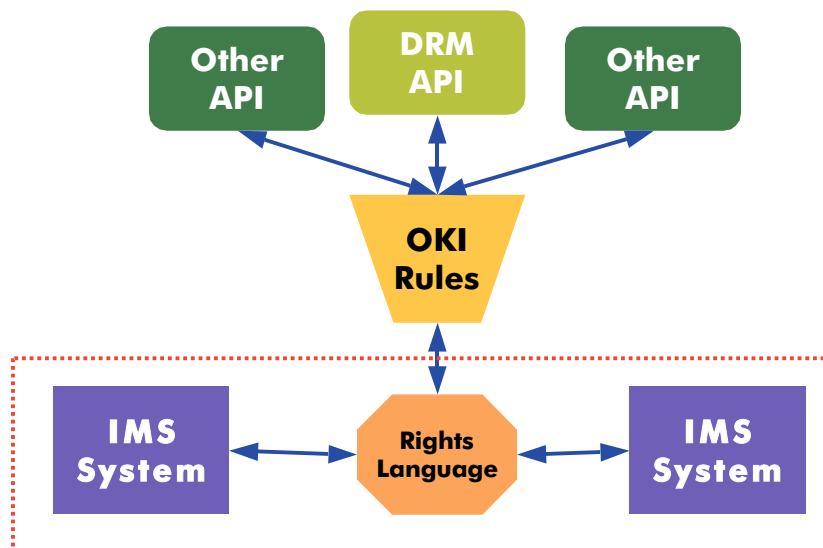


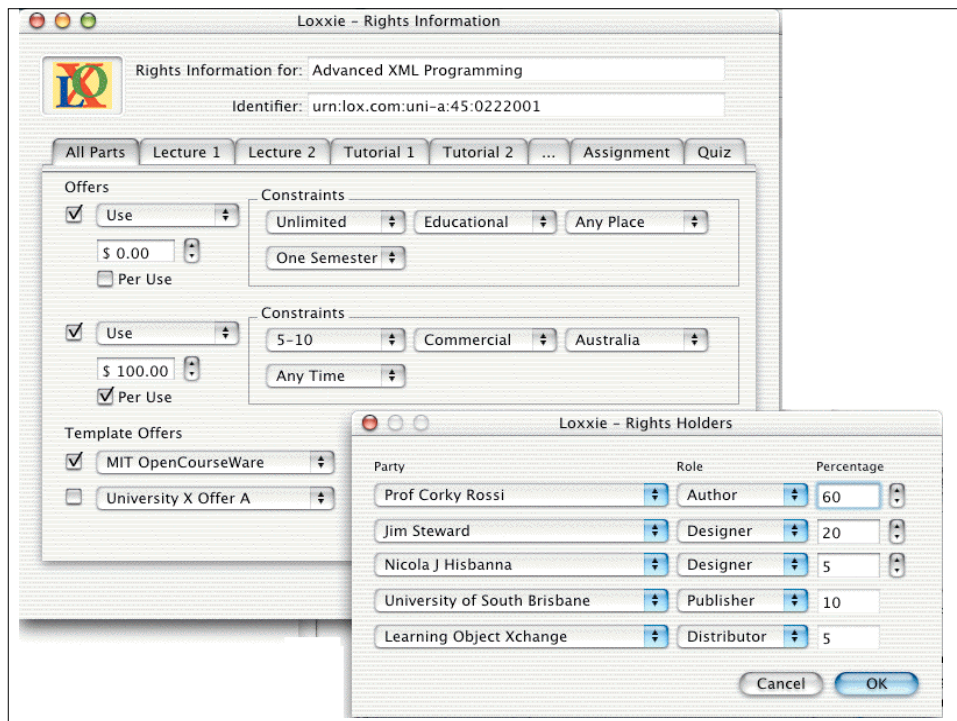
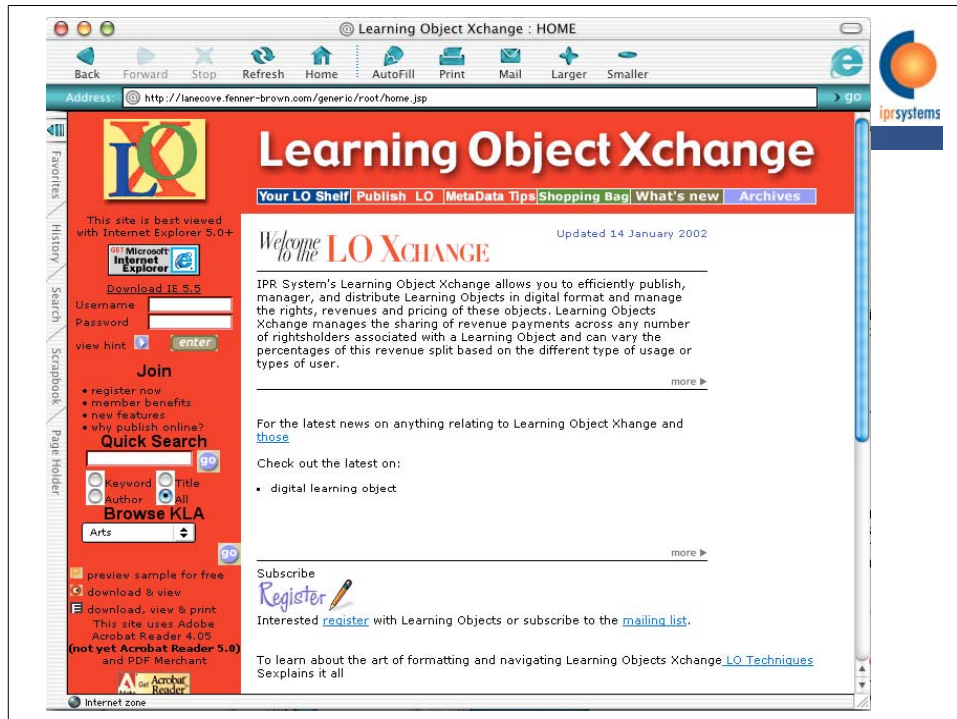
DRM and IMS



- ◆ DRM Work Item proposal
- ◆ Develop **Rights Language** supporting a number of IMS specifications:
 - ◆ **Metadata and Packaging**
 - ◆ Description and Delivery
 - ◆ **Digital Repositories**
 - ◆ Discovery and Retrieval
 - ◆ **Enterprise**
 - ◆ Parties and Access
- ◆ Develop **Rights Terms** (data dictionary) of specific e-learning permissions
- ◆ Define **Rights Behaviour** across e-learning architecture

DRM and IMS and OKI





Conclusion



- ◆ DRM is emerging as a new mechanism to
 - ◆ Manage rights on existing content
 - ◆ Enable innovative new online education models
- ◆ DRM standardisation important
 - ◆ Input needed from all groups and sectors
- ◆ IMS DRM activity critical to meet needs of online learning community
 - ◆ IMS DRM Briefing Paper