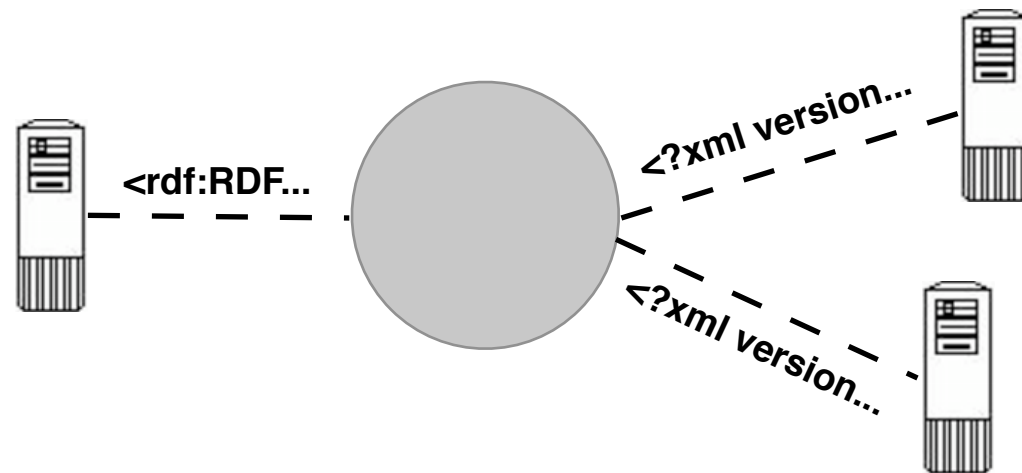


The Dublin Core Metadata Registry

Tools Development With Registry Web Services: An Overview



Göttingen State & University Library

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<http://oclc.org/research/staff/wagner.htm>



Overview

- Registries are...
 - resolution services
 - provide access to information about objects
 - Ubiquitous
 - ebXML and UDDI registries
 - Information registries
 - Metadata registries
 - metadata registries provide access to information about metadata terms that are used to describe objects



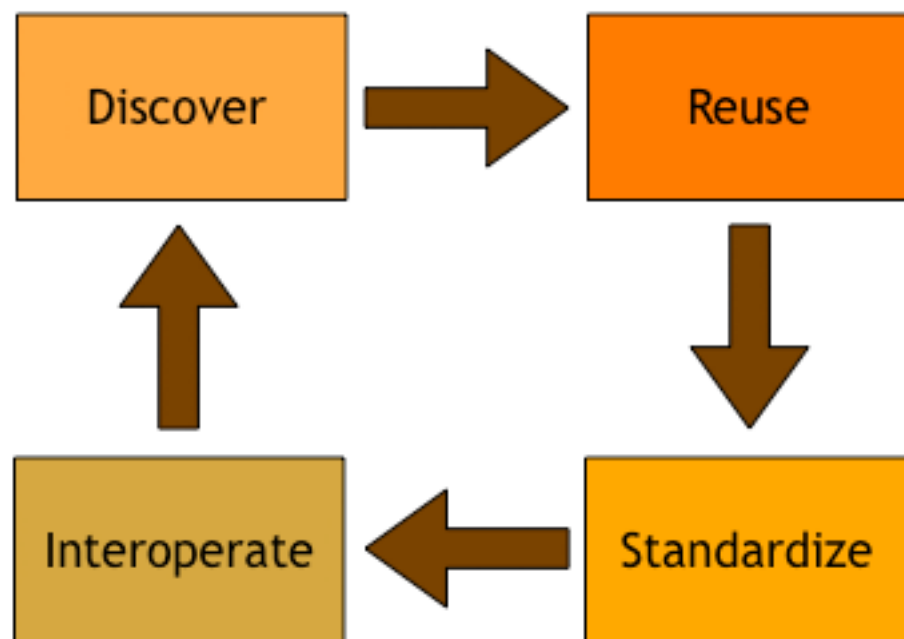
Registry Working Group

- Established December 1999
- Chaired by:
 - Rachel Heery, UKOLN
 - Harry Wagner, OCLC
- Provide a forum for input and discussion of registry-related issues
- Development of a registry to serve the DCMI community:
 - Serve as an authoritative, and trusted, source of in-depth information about metadata vocabularies and the relationship between registered terms
 - Provide this information in a format suitable for both humans and applications



Project Goals

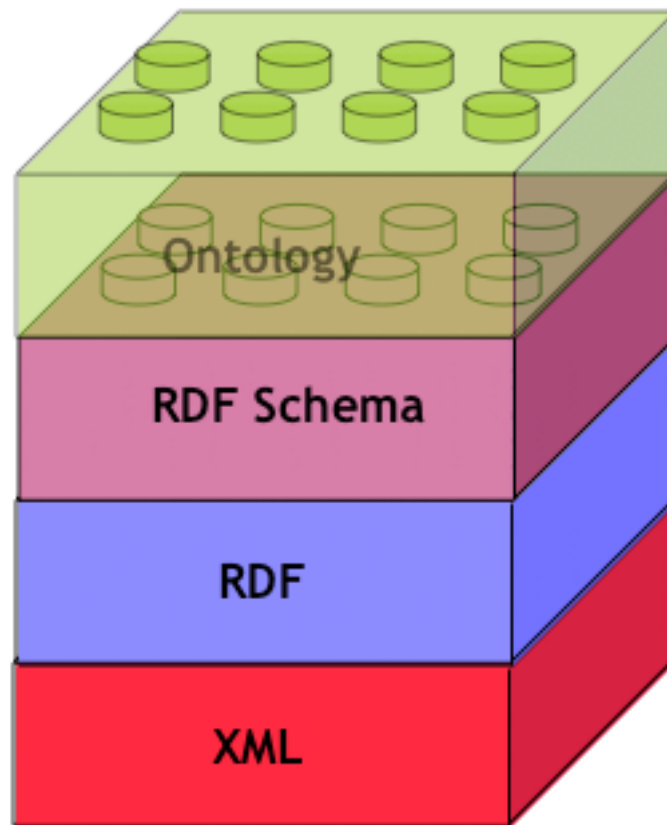
- Simplify the discovery of terms and illustrate the relationship between terms.
- Promote the reuse of metadata terms
- Provide a trusted source of information about the DCMI element set and related vocabularies.
- Make the registry available to the metadata community as an open-source project, built entirely upon open-standards.





Registry Technology Stack

- XML used for serialization & exchange
- RDF / RDFS used to describe classes and associated properties
- Ontology support for advanced inferencing



All XML Solution

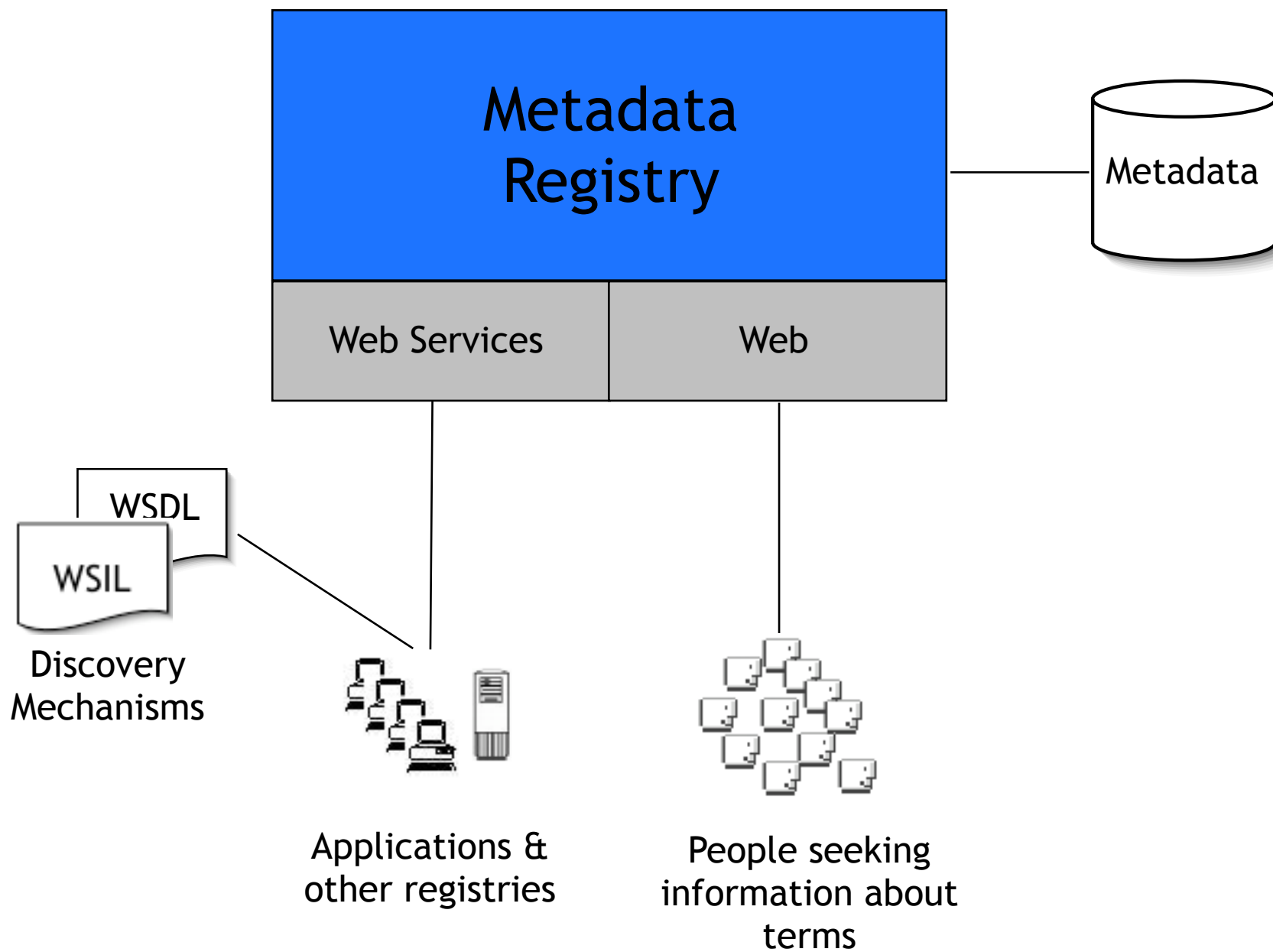


Couldn't this have been done using just XML?

Yes, but...

- Monolithic approaches have proven unsuccessful
- XML not designed for this
- Would everyone (anyone?) be able to understand and interoperate with the Registry content?

Registry Interfaces





Application Interfaces

- Collection of Web services
- Provides access to registry content to applications & other registries:
 - list item summary
 - list supported languages
 - list item detail
 - get updates
 - ...
- Summary & item-level information about metadata terms and their properties is provided
- Information provided in all supported languages
- Data is provided in RDF/XML format, suitable for application use
- Supports both SOAP and REST style services
- Distributed registries can easily deploy new services

SOAP Interface

- SOAP (Simple Object Access Protocol)
- XML based protocol that enables applications to exchange data over HTTP
- Registry SOAP interface was developed with the Apache Axis toolkit
- Supports the inter-registry communication interface
- Platform and language independent
- Support for discovery mechanisms (WSDL / WSIL)
- Automated client generation software readily available
 - Mind Electric's GLUE
 - IBMs Alphaworks
 - ...
- Sample application: DCMI Translate tool
 - <http://wip.dublincore.org/translate/>

REST Interface

- REST (REpresentational State Transfer)
- Lightweight protocol for exchanging XML data between applications
- URI based, relied on standard HTTP (i.g., GET, POST, etc.) requests
- Requests typically take form of a URL:
 - <http://dublincore.org/dcregistry/listItemSummary>
 - <http://dublincore.org/dcregistry/getUpdates?date=20030101&lang=en-US>
- Platform and language neutral
- No standard discovery mechanisms
- Sample usage:
 - http://dublincore.org/dcregistry/pageDisplayServlet?page=help_en-US.xsl#H11

Service Discovery (WSIL)

- Web Services Inspection Language
- Distributed discovery mechanism
- Lightweight counterpart to UDDI
- Provides access to list of available services and the service descriptions(WSDL) for each service
- Relies on conventions
 - <http://dublincore.org/services/inspection.wsil>
- XML format suitable for application processing
- Example code to demonstrate usage:
 - http://dublincore.org/dcregistry/pageDisplayServlet?page=help_en-US.xsl

Usage

■ Potential

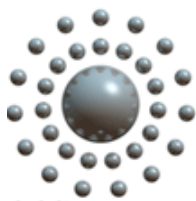
- Inter-metadata registry communication
 - Discovery & reuse
- Metadata applications
 - Instance data creation
 - Schema & application profile creation
 - Ontology design
 - Metadata crosswalks & mappings
 - Authority control
 - ...

■ Actual

- Interest in experimentation (~1000 calls/month)
- No visible application usage patterns
- No recognizable WSIL discovery activity
- REST usage exceeds SOAP by 4:1+

Danke!

- DCMI Metadata registry: <http://dublincore.org/dcregistry/>
- WG home page: <http://dublincore.org/groups/registry/>
- Mailing list: <http://www.jiscmail.ac.uk/lists/DC-REGISTRY.html>



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