OCLC™ RLG Programs

Collective services, Collective collections

And the standards needed to realize this

Janifer Gatenby, OCLC

Libraries, [archives and museums] acting collectively

- Greater need to create collective collection
- To make collective collection smarter & curate together
- Collective services
  - discovery, consortial borrowing, reference, storage
- Therefore need to share more data
- Libraries [et al.] now have multiple data stores in data silos
    - Physical collection: **ILS**
    - Electronic collection: **Digital content system, repository**
    - Licensed and accessed: **Electronic resource management, Resolver**
    - [and specials collections and archives]
    - [and what about scientific data stores]
    - [and what about free web data]
- Need to identify data beneficial to share
- Need standards for sharing

Sharable data: When Aggregation is Beneficial

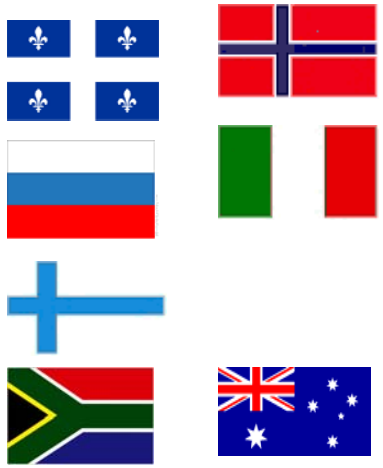
- More effective exposure in a web scale site (metadata)
- To attract users and user contribution
- Avoid redundant data management (suppliers details, supplier suggestions)
- Collective knowledge - tasks less complicated or more accurate (serial prediction)
- New knowledge via deduction or mining (holdings count indicating rareness and popularity, supplier performance, enriched name metadata)
- Most effective management of links and imported enriched data
- Comparison of collections; facilitating the management of combined collections

Optimum location of data

- Globally sharable data
  - bibliographic metadata, holdings, issue level holdings, suppliers, statistics, reference query and answer pairs

- Data that can be shared within one or more cooperatives to which the library belongs
  - selection / rejection decisions, weeding reasons, borrower / user information

- Local data that is not shared
  - budgets, invoice details, some user information



The network level

Global

- Exposure of collections
- Exposure of services
- Management of exposure data
  - Links, mining, user contribution
- Curation of rare & priceless
- Electronic delivery architecture

Regional & National

- Management of the collective collection
- Provision of delivery services
- Global physical delivery architecture

Sharing data – Standards gaps

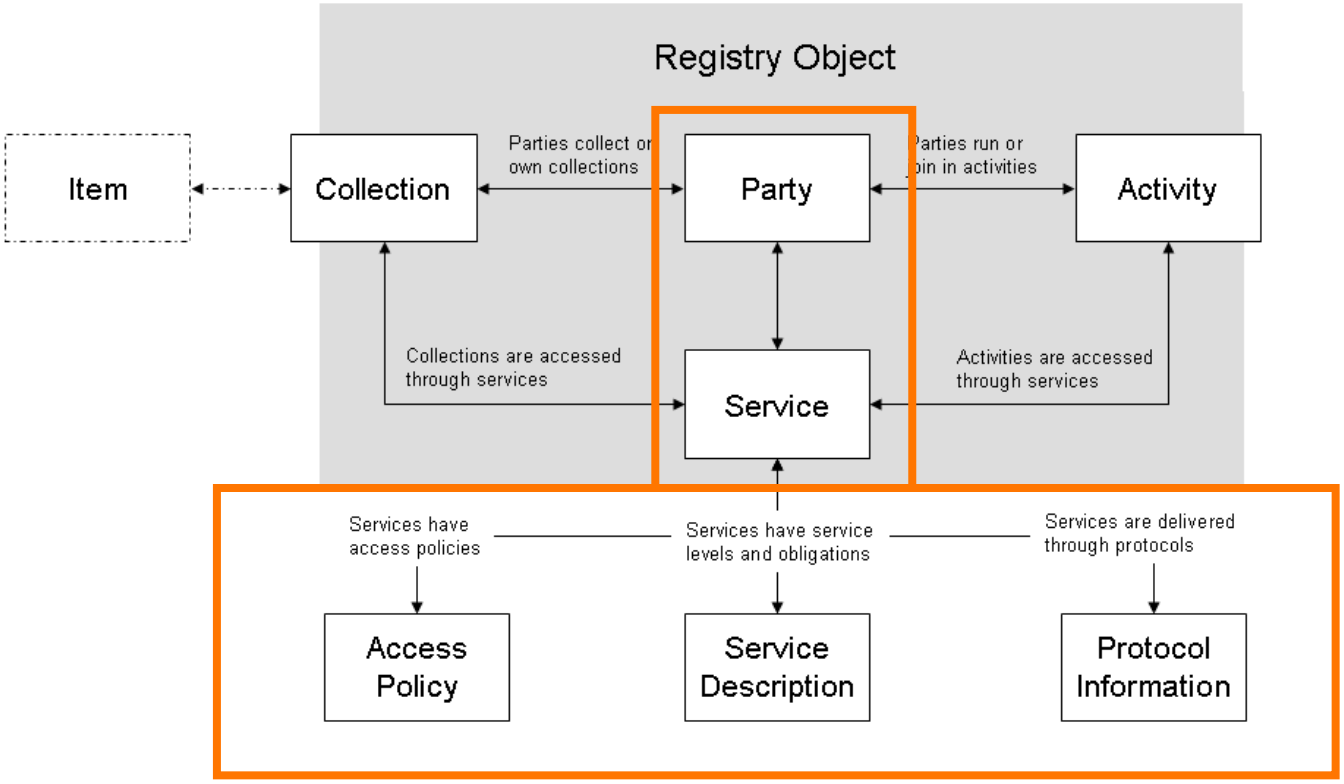
- Use existing search protocols
  - SRU, OASIS SR, OpenSearch [Z39.50] ++
- Use existing update / posting / feed protocols
  - SRU record update, Atom publishing, OAIPMH, OpenURL, RSS ++
- Define data schemas
  - **Registry enquiry**
  - **Holdings (ISO 20775)**
  - **Reference Knowledge base**
  - **Request (Request notification)**
- Define search attributes (context sets)
  - **Registry enquiry**
  - **Holdings**
  - **Reference Knowledge base**
  - **Request**

Need to be based on agreed models

and on standard identifiers

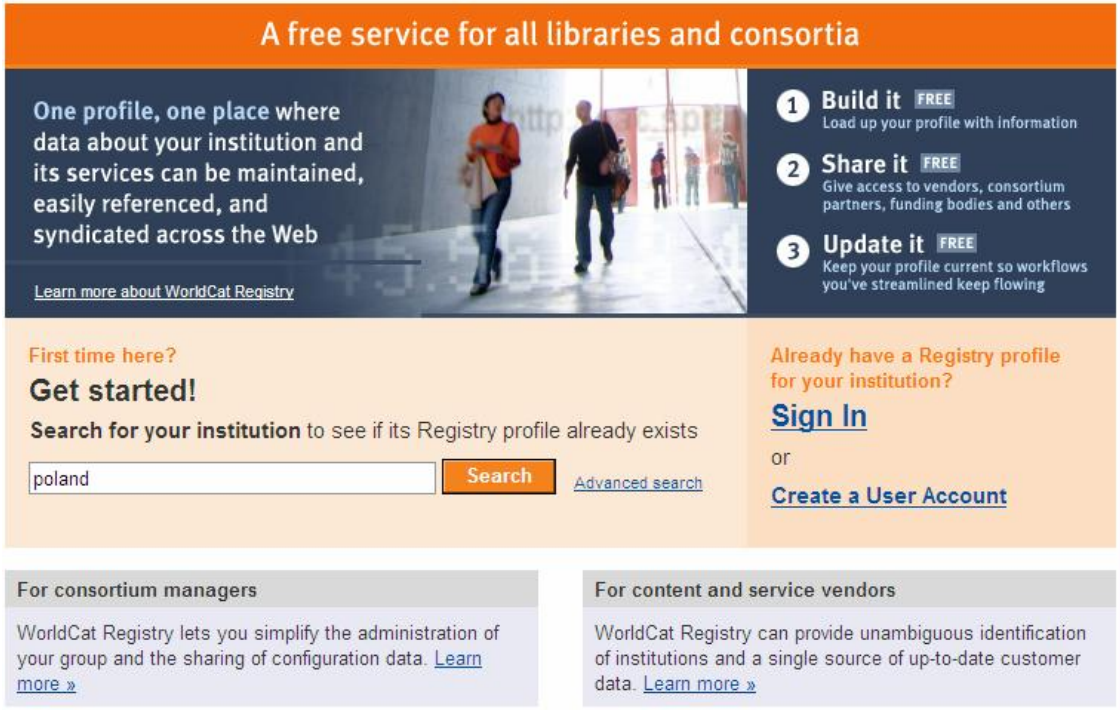
Registries - Model

- ISO 2146 – Registry services for libraries and related organisations



OCLC Registry

- OPAC links
- Resolver links
- Reference & other services
- Policies



Now that discovery is at all levels – regional, national, global, there is a need for national and international registries

Currently working on:

- XML schemas of 2146
  - Institution (Party)
  - Services
- Support for ISIL ISO 15111 International Standard Library identifier

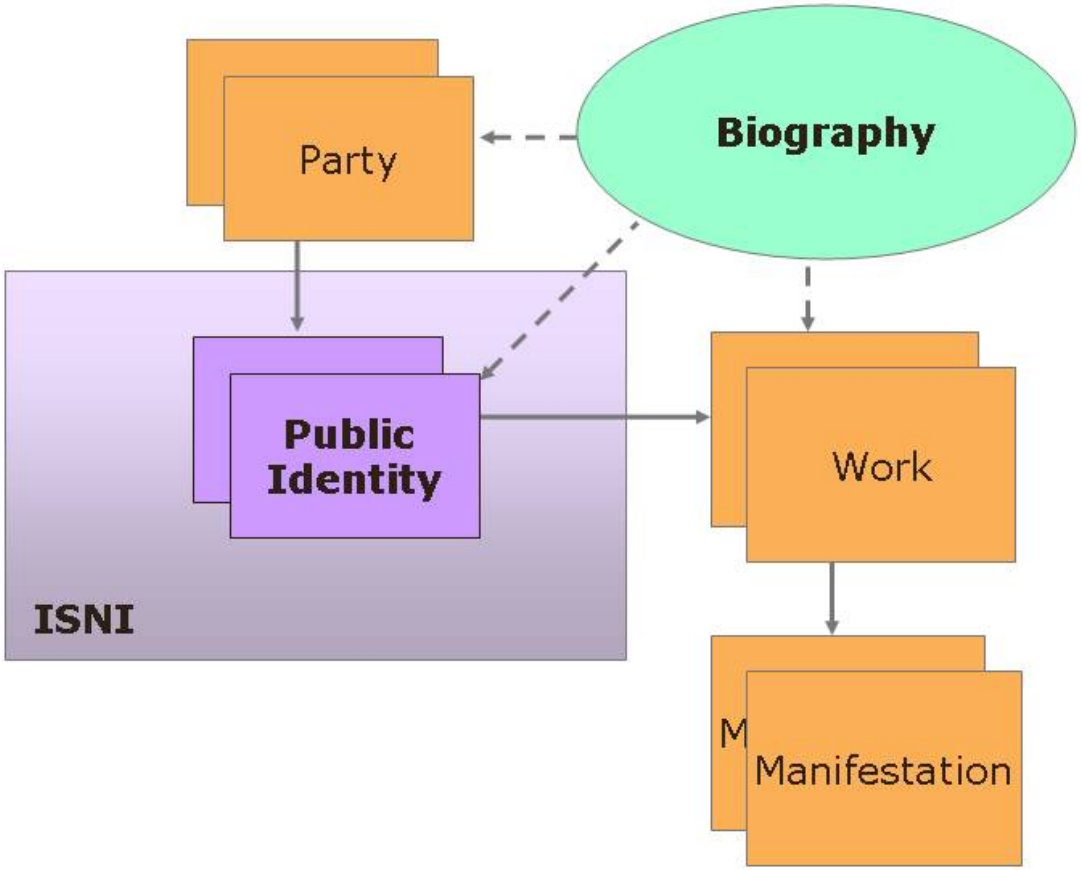
- New NISO working group on institutional identifiers
  - Scope: all institutions in the supply chain of publications

Collections

- New work item on ISCI – International Standard Collection Identifier
  - Dependent on ISIL and on broadening of scope of ISIL to include collections

- Need to consider an international collection registry

ISO 27729 – ISNI International Standard Name Identifier



Focus on in copyright, in print

Delivery

- Request Transfer Message
- ISO Holdings Schema
- Request Notification Message

The same copy can be retrieved from:

Google Books: http://books.google.com/

Request Transfer Message

- Discovery increasingly separated from delivery; **discovery is miles ahead**
- Request Transfer Message
  - For transferring a request from a discovery environment to a delivery environment
  - Uses OpenURL
    - XML schemas rather than Key value pairs
    - Defines Requester (first), Referent, Service
  - Allows incorporation of existing XML schemas (uses http POST)
    - Bibliographic description, holdings, rights management

MarcXchange

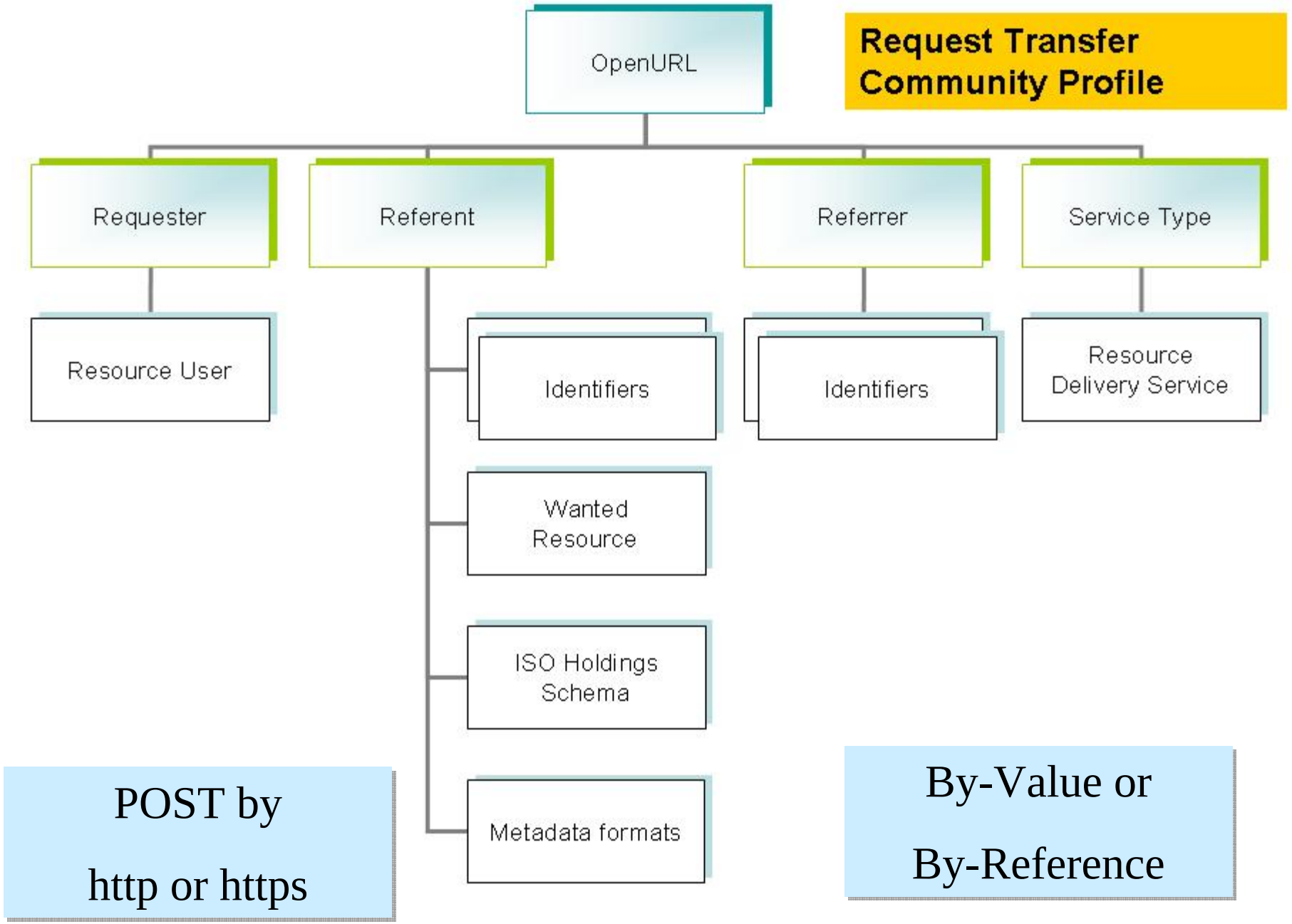
OASIS XACML

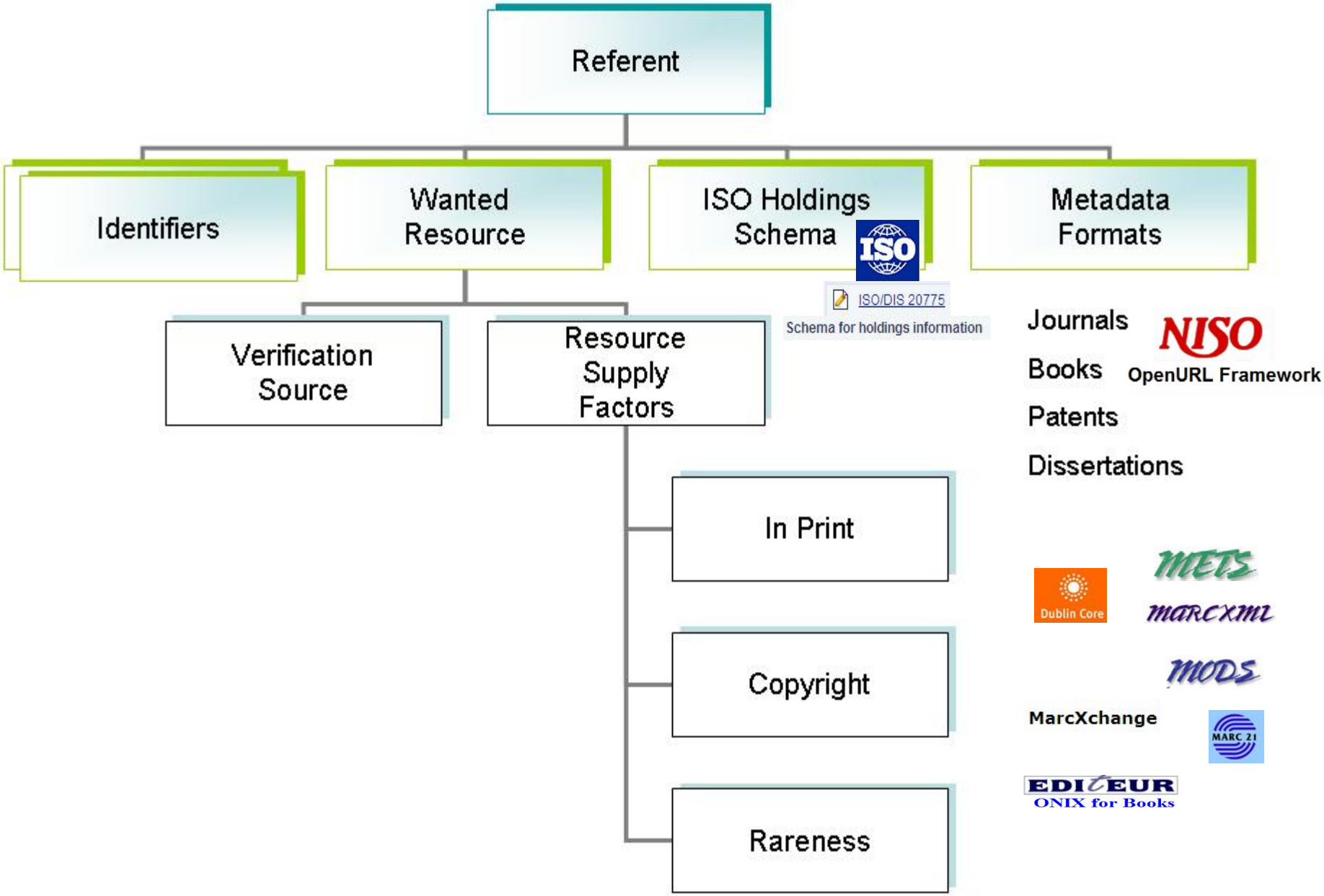
MARCXML

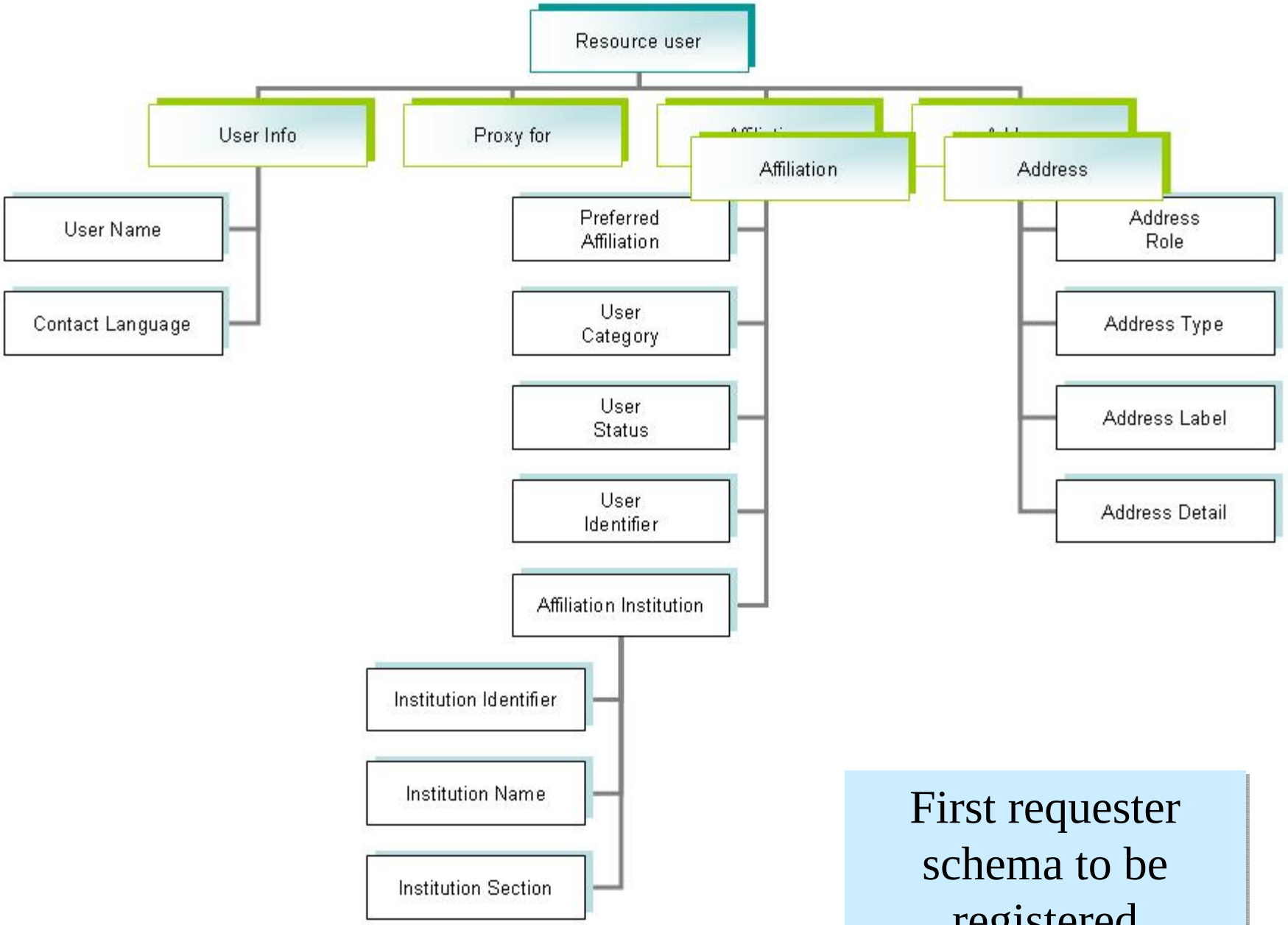
METS

ISO/DIS 20775

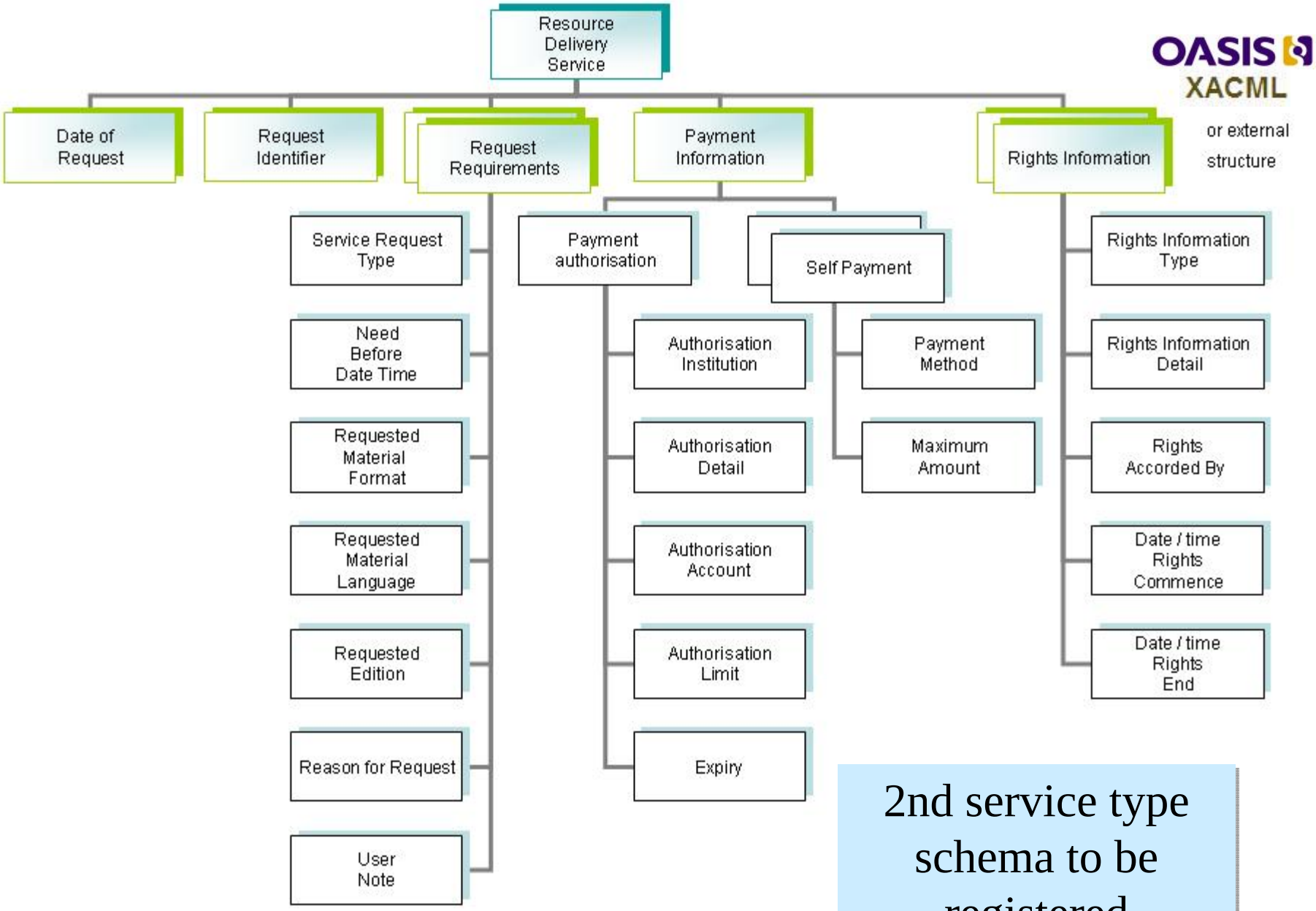
Schema for holdings information

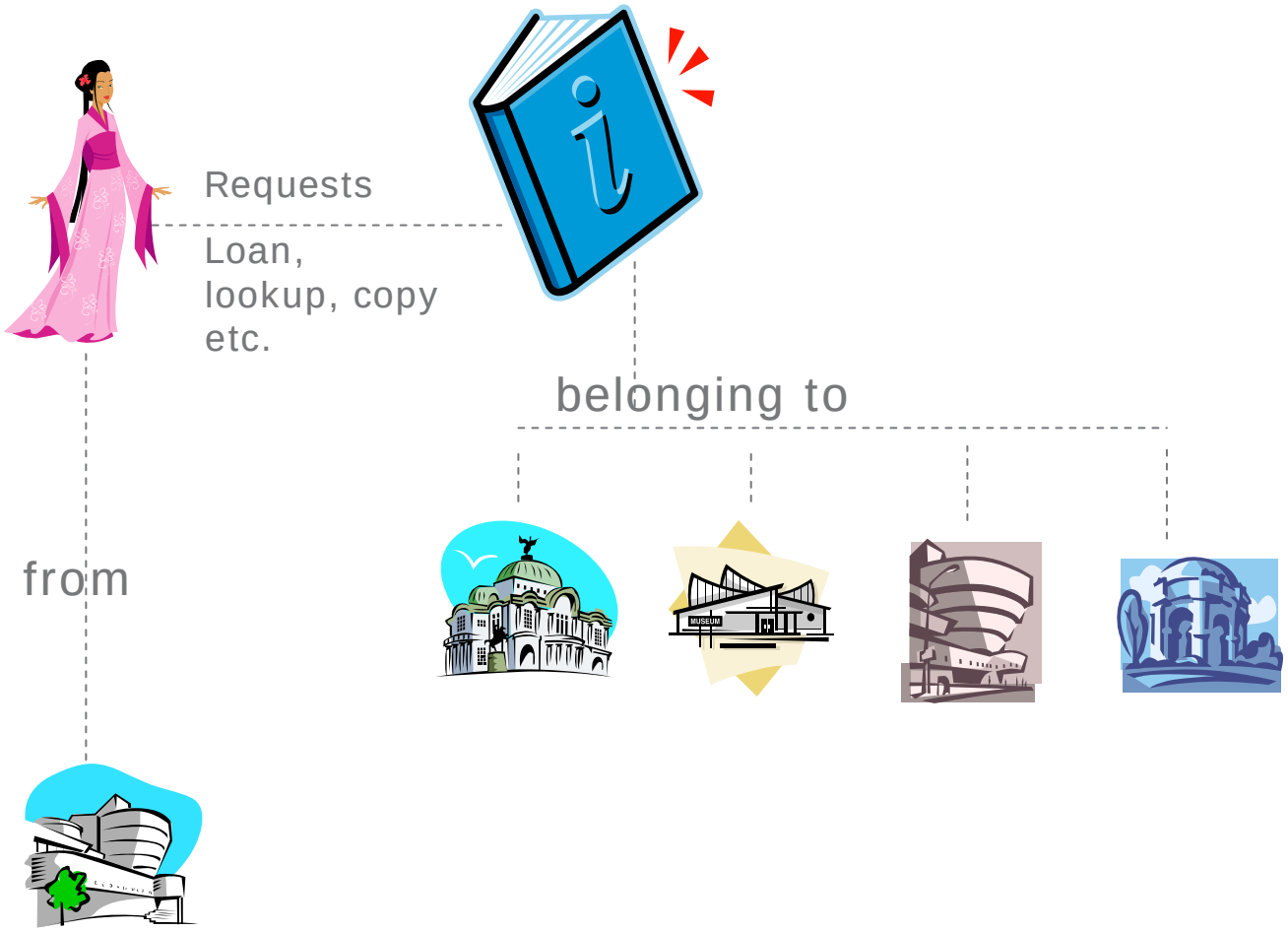

OpenURL
Request Transfer Community Profile
Requester
Referent
Referrer
Service Type
Resource User
Identifiers
Identifiers
Resource Delivery Service
Wanted Resource
ISO Holdings Schema
Metadata formats
POST by http or https
By-Value or By-Reference


Referent
Identifiers
Wanted Resource
ISO Holdings Schema
Metadata Formats
ISO/DIS 20775
Schema for holdings information
Verification Source
Resource Supply Factors
In Print
Copyright
Rareness
Journals
Books
Patents
Dissertations
NISO
OpenURL Framework
METS
Dublin Core
MARCXML
MODS
MarcXchange
MARC 21
EDICEUR
ONIX for Books



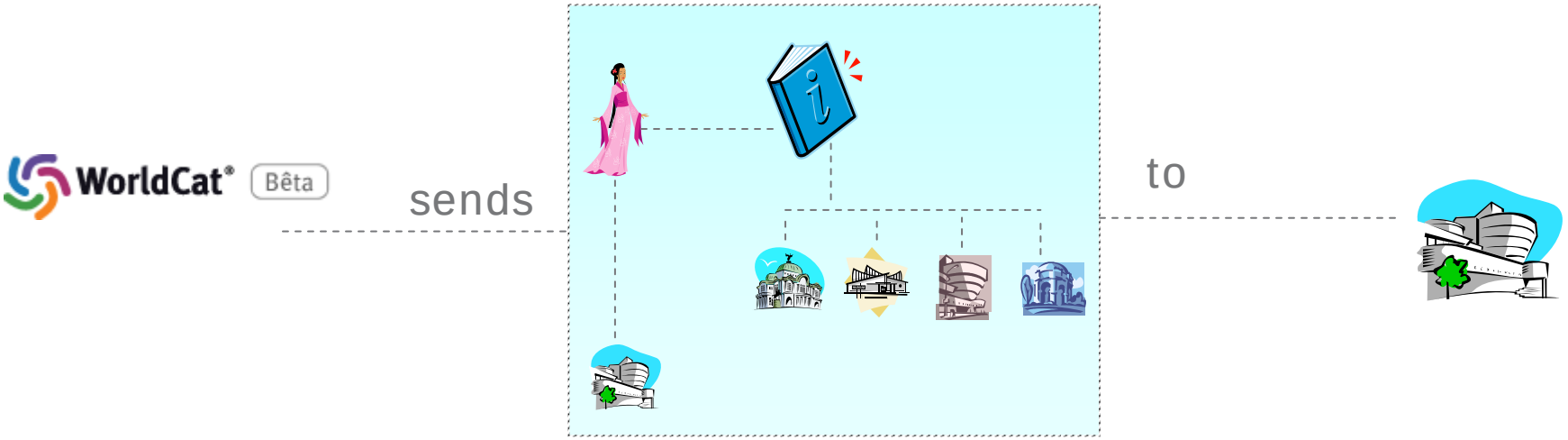
First requester schema to be registered


Resource Delivery Service
Date of Request
Request Identifier
Request Requirements
Payment Information
Rights Information
Service Request Type
Need Before Date Time
Requested Material Format
Requested Material Language
Requested Edition
Reason for Request
User Note
Payment authorisation
Self Payment
Authorisation Institution
Authorisation Detail
Authorisation Account
Authorisation Limit
Expiry
Payment Method
Maximum Amount
Rights Information Type
Rights Information Detail
Rights Accorded By
Date / time Rights Commence
Date / time Rights End
OASIS
XACML
or external structure
2nd service type schema to be registered



User wants a resource not owned by her library / institution

Request formulated into OpenURL Request Transfer Message (RTM)



WorldCat sends **Request Transfer Message** to User's Library's Delivery System

ISO Holdings

- MODS, MARC21 Holdings, COPAC, ONIX
  - Designed for bulk reporting of **STABLE** information
- ISO Holdings
  - Designed to respond to enquiries
    - Availability and Usage
  - Stable and dynamic information
  - Copy equivalence query specific – individual copy, manifestation, work, result set levels

3 uses:

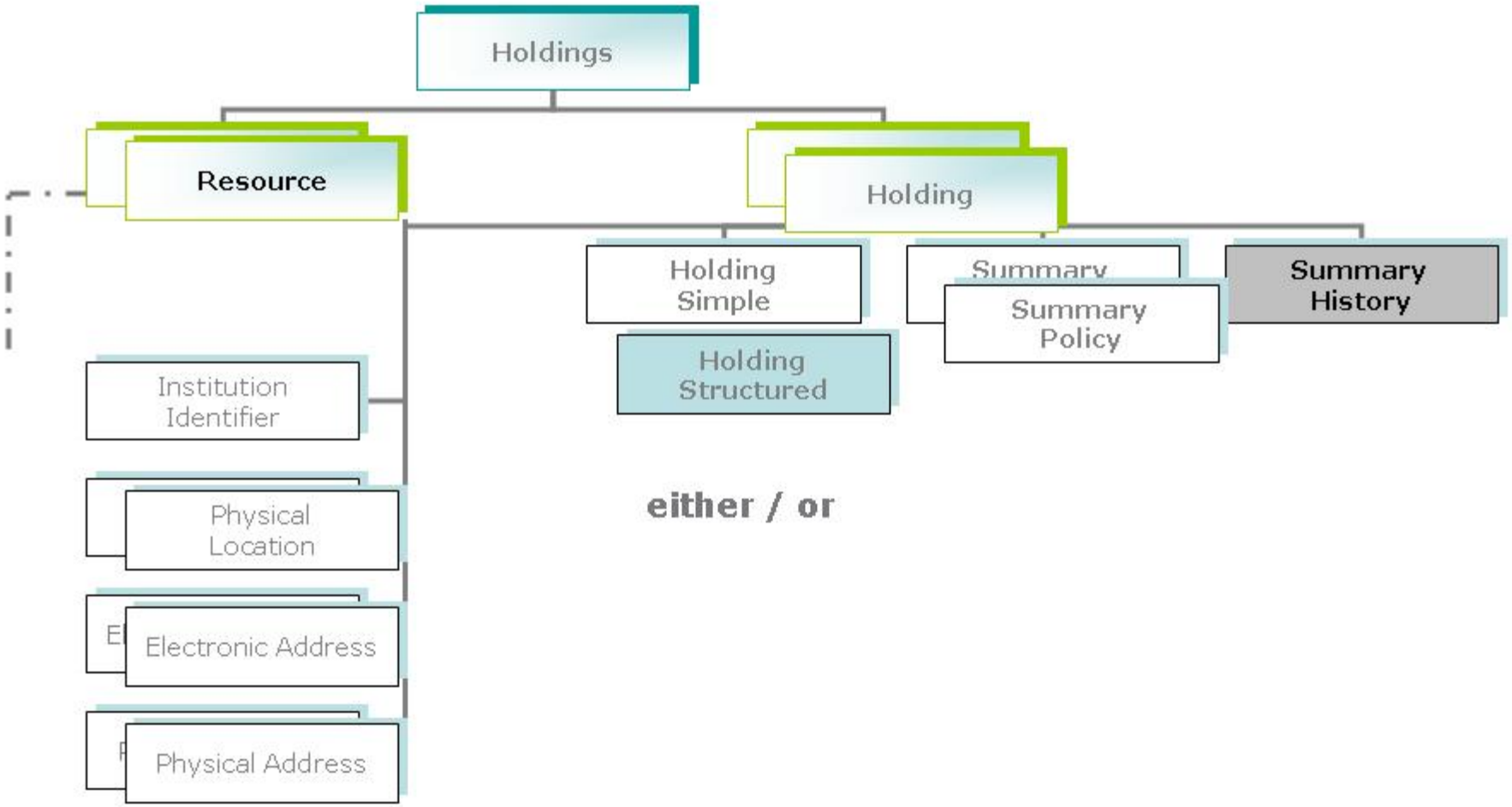
Request transfer

Enquiry [SRU] response schema

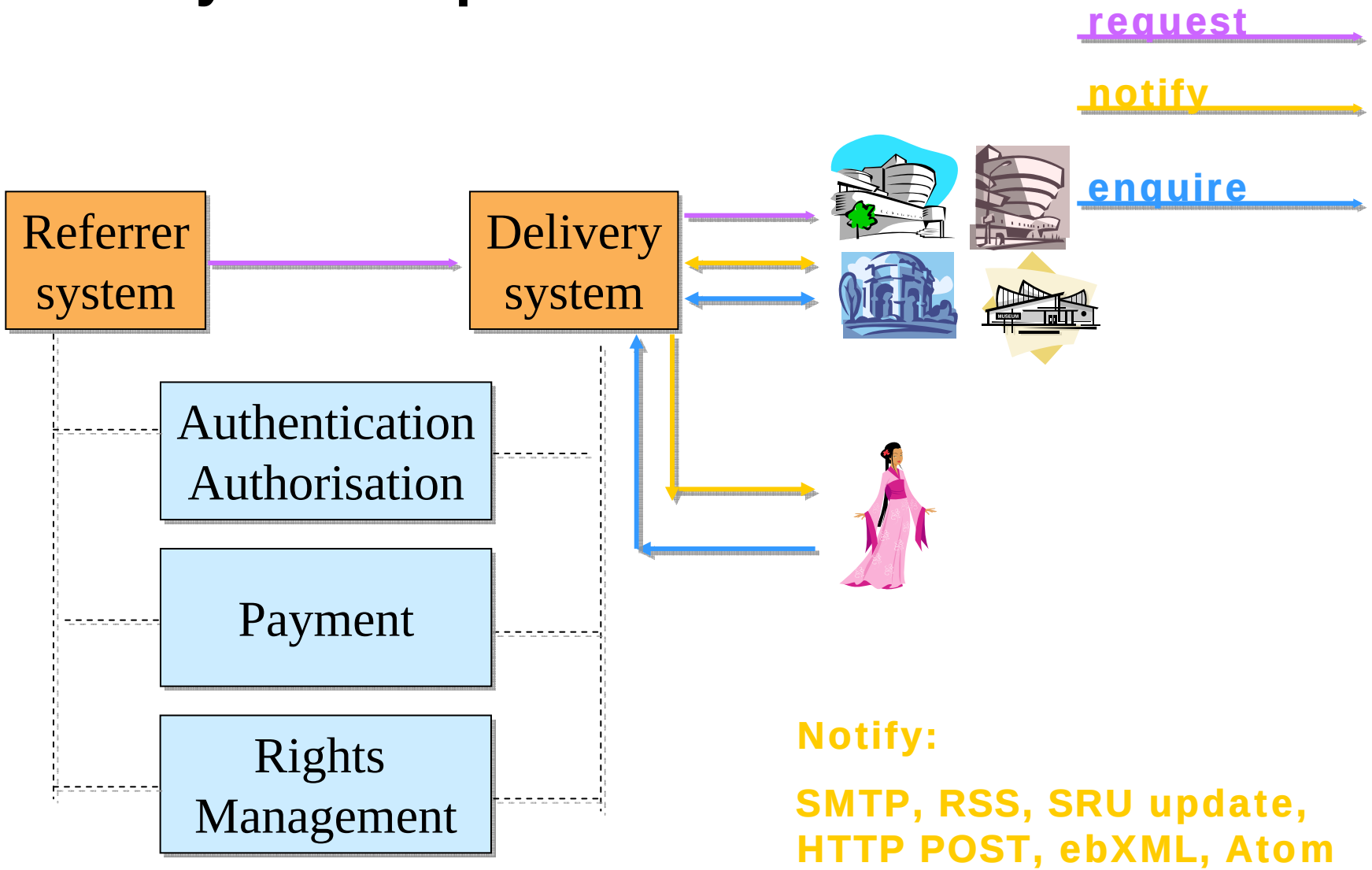
Reporting holdings usage and resource statistics

ISO Holdings

- Holdings Simple
  - Summary availability for easy display
  - Copies interchangeable (multiple copies of a manifestation, periodical article, work, any copy of any work in a result set)
- Holdings Structured
  - Copies not interchangeable, so no summary availability
  - Server presents structure (multi-part work, serial); subsequent selection process


Holdings
Resource
Holding
Holding Simple
Summary
Summary Policy
Summary History
Holding Structured
Institution Identifier
Physical Location
Electronic Address
Physical Address
either / or

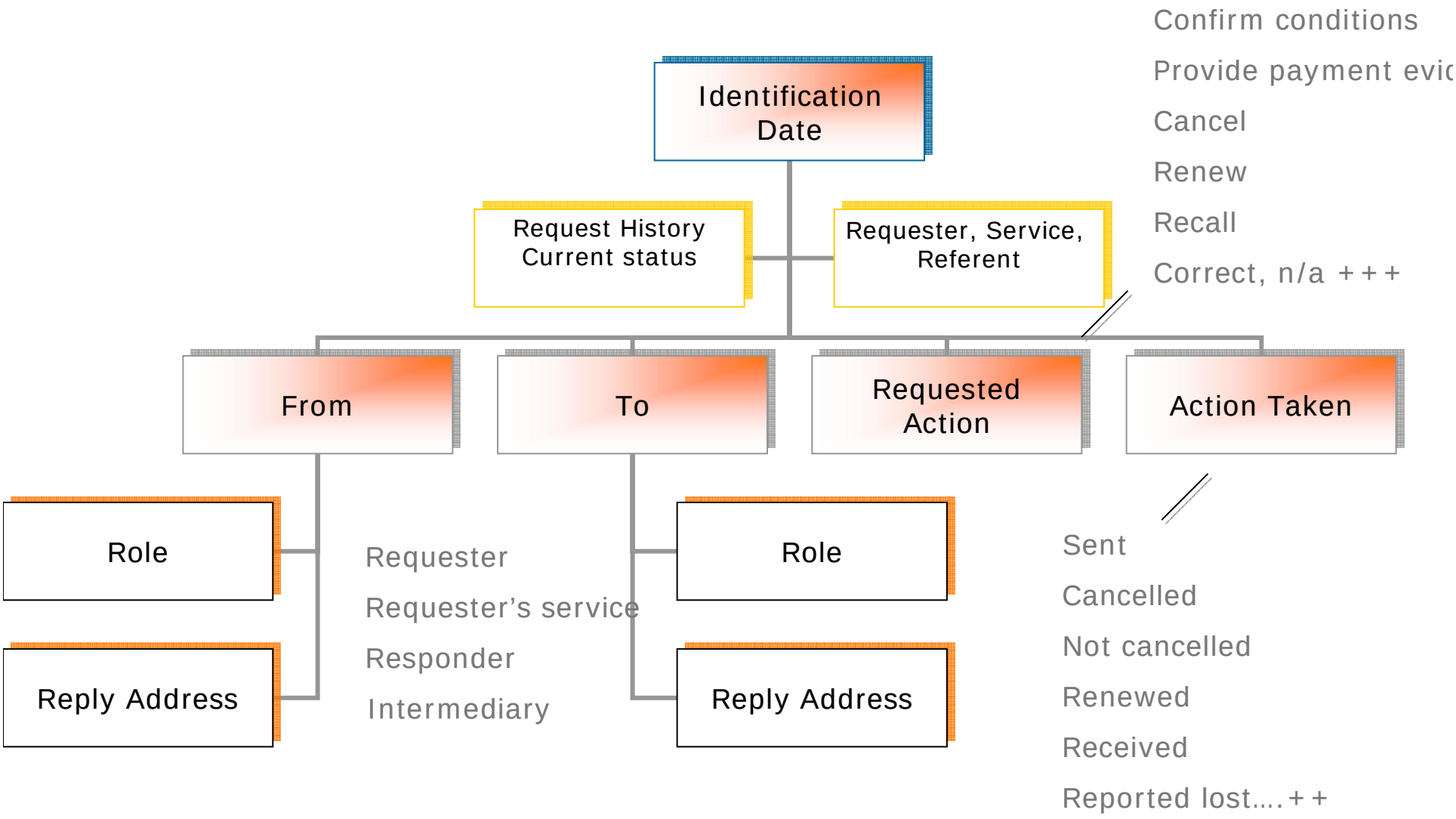
Anatomy of a Request



Notify:

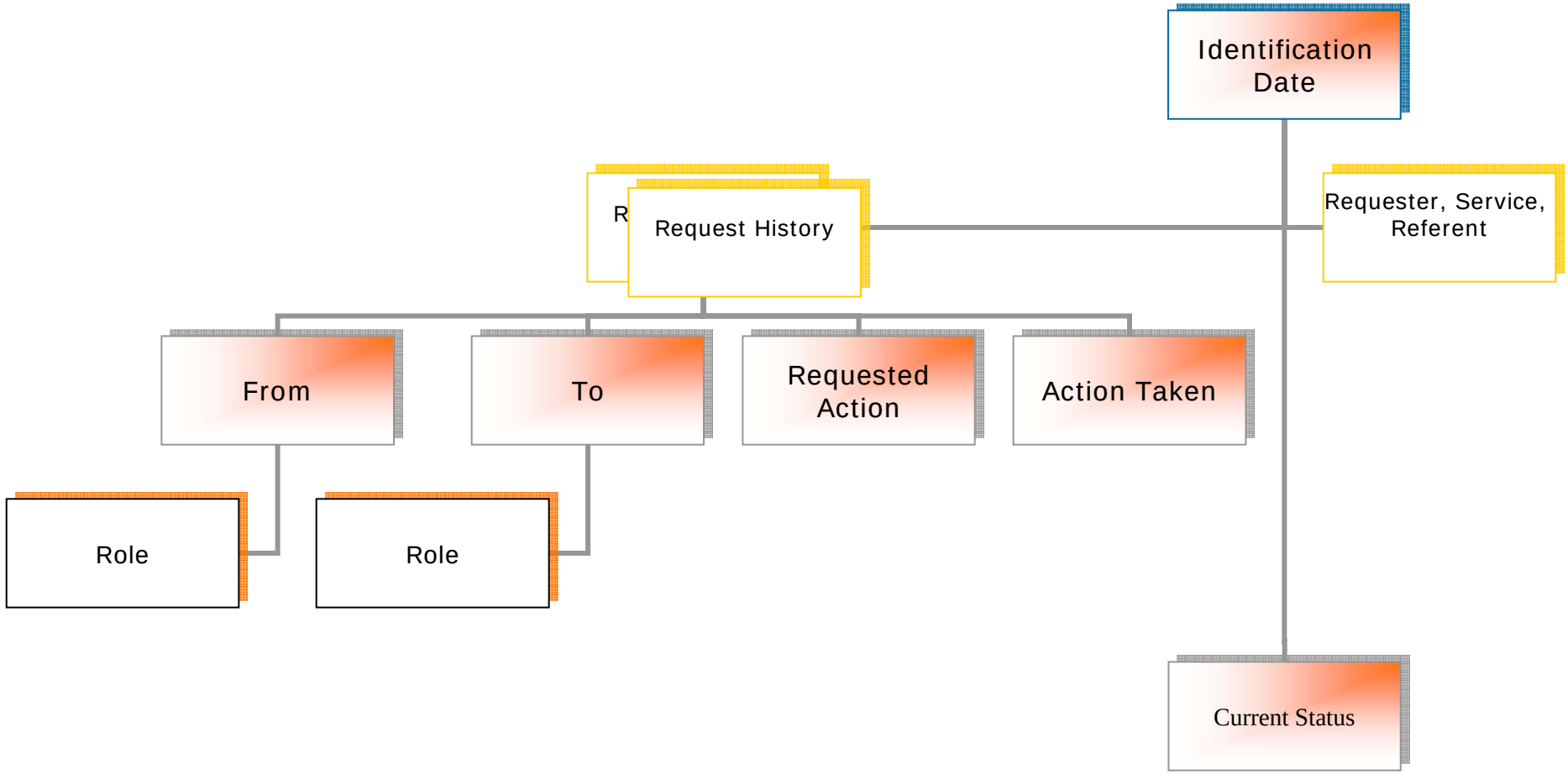
SMTP, RSS, SRU update, HTTP POST, ebXML, Atom

Request Notification



Request Enquiry

[same schema]



WARC – Web Archiving ISO 28500

- Internet application layer protocols, such as HTTP, DNS, and FTP
- Ability to store all control information from the harvesting protocol (e.g., request headers), not just response information.
- Ability to store both the payload content and control information from mainstream
- Ability to store arbitrary metadata linked to other stored data (e.g., subject classifier, discovered language, encoding)
- Support for data compression and maintenance of data record integrity.
- Ability to store a duplicate detection event linked to other stored data (to reduce storage in the presence of identical or substantially similar resources).
- Ability to store the results of data transformations linked to other stored data
- Support handling of overly long records by truncation or segmentation where desired
- Ability to be extended without disruption to existing functionality

Who involved?

- Members of the International Internet Preservation Consortium: IIPC
- Los Alamos National Laboratory
- California Digital Library

- Discussion in the standard working group on the IIPC forum : http://netpreserve.org/forum/index.php

ISO 8459 – Bibliographic Data Elements

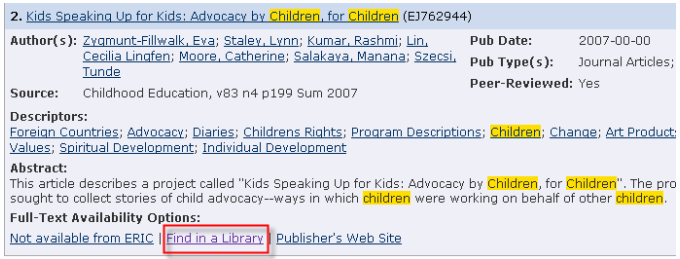
- 587 data elements, over 1200 examples and synonyms
  - Scope – data exchanged
- Reference standard for new standards & schemas (NCIP, ISO Holdings, Request Transfer Message)
- Tool for system design where using multiple protocols
- Mappings database at OCLC Office of Research
  - Jean Godby and Devon Smith
  - Over 1500 mappings
  - ISO ILL, EDIFACT EDItEUR, Z39.50, OpenURL, OpenURL Request Transfer Message, ISO 2146, OAIPMH, SRU, SRU record update, NCIP

Mappings database

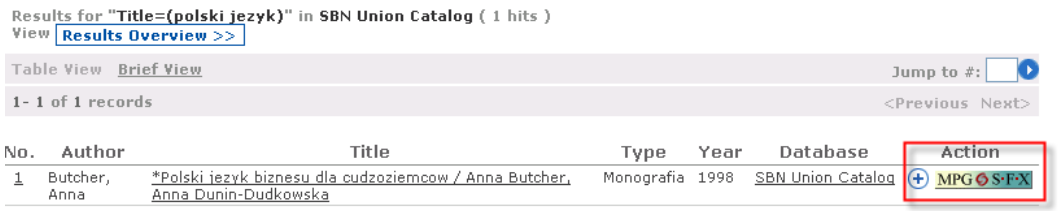
uri:ns:iso-8459:request-status	
Label	Request status [en-US]
Description	Code indicating the receipt status of an ordered item. [en-US]
Definition	5 5212 = Acquisitions status & 1 152 merged [en-US]
Is Defined By	uri:ns:iso-8459:
RDF Type	Property
Equivalent To	status [ISO 8459_1]
Equivalent To	requestStatusType [NCIP Z39.83]
Equivalent To	acquisitionsStatus [ISO 8459_5]
Equivalent To	orderStatus [EDIFACT/EDIteur]
Has Example	orderLineStatus [EDIFACT/EDIteur]
Has Example	onOrder [ISO 8459_5]
Has Example	completed [ISO 8459_5]
Has Example	notCurrentlyReceivedSerials [ISO 8459_5]
Has Example	currentlyReceivedSerial [ISO 8459_5]

Registries – Machine level services

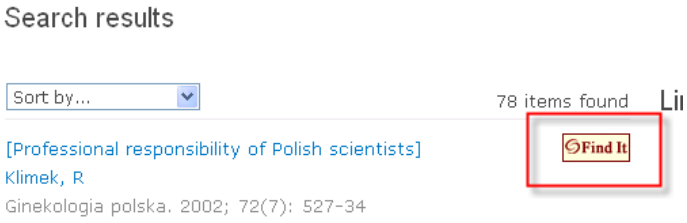
ERIC Education Resources Information Center



MAX-PLANCK-GESELLSCHAFT
QuickSearch | MetaSearch



EthicShare Community



Completing the picture

- New environment
  - Users accustomed to self service
  - Systems interoperating with many different systems for discrete functions
- Standards needs
  - Discrete tasks; authenticate, request, pay, deliver, enquire, notify
  - Systems not standards should control work flow
  - Standards frameworks provide guidance on how systems should employ diverse standards within processes