



ebXML RegRep as Open Ontology Repository Server

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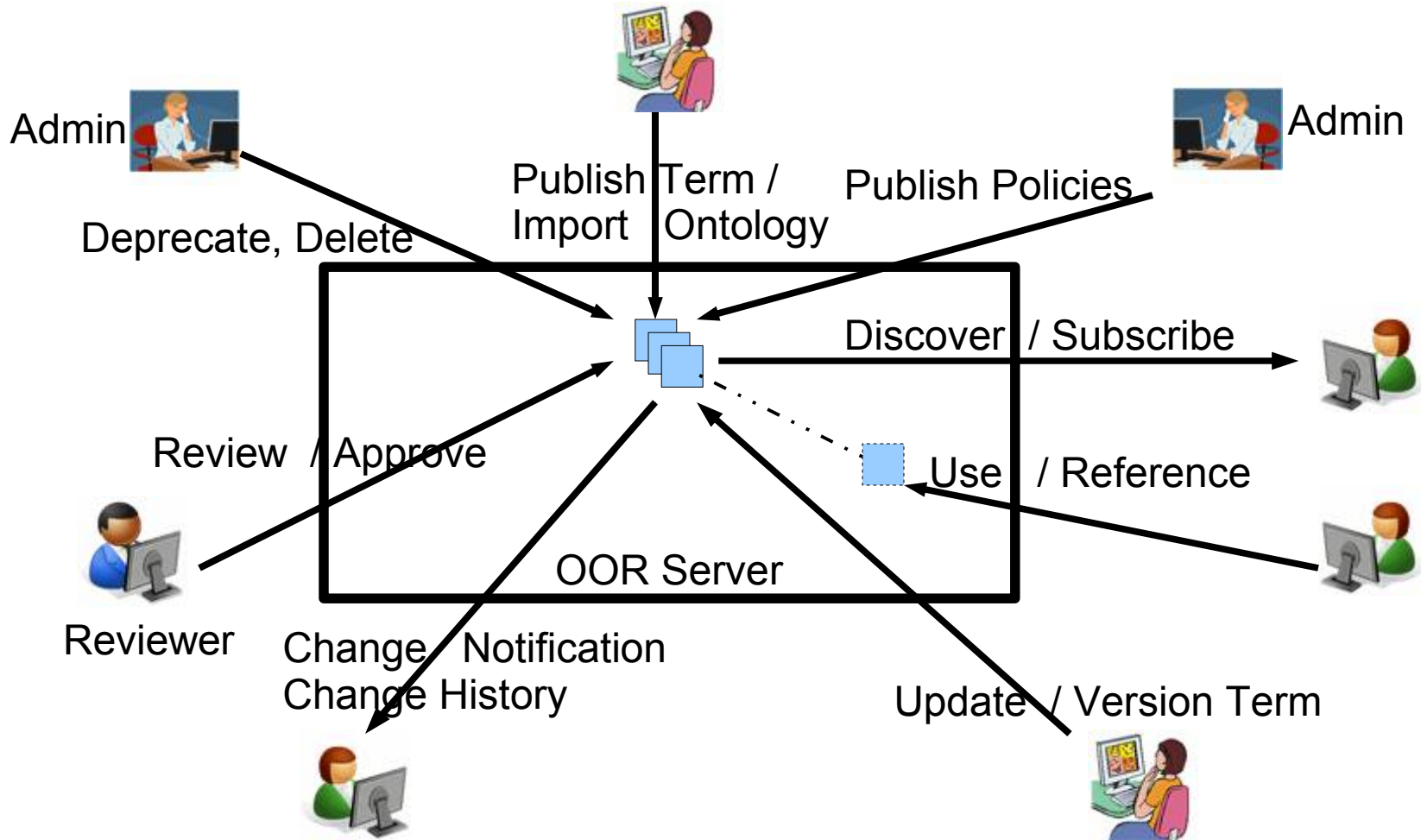
About the Speaker

- Founder and CTO - Wellfleet Software Corporation
- Lead Architect - freebXML Registry open source project
- Editor and contributor - OASIS ebXML RegRep standard
- Contributor - OGC WRS and Catalog specifications
- Co-chair - OASIS ebXML RegRep Semantic Content Management SC
- Specification Lead - Java API for XML Registries (JAXR) 1.0
- Previously:
 - Federated Information Management Architect - Sun Microsystems
 - Chief Technologist, Clinical Information Systems - Hewlett Packard

Agenda

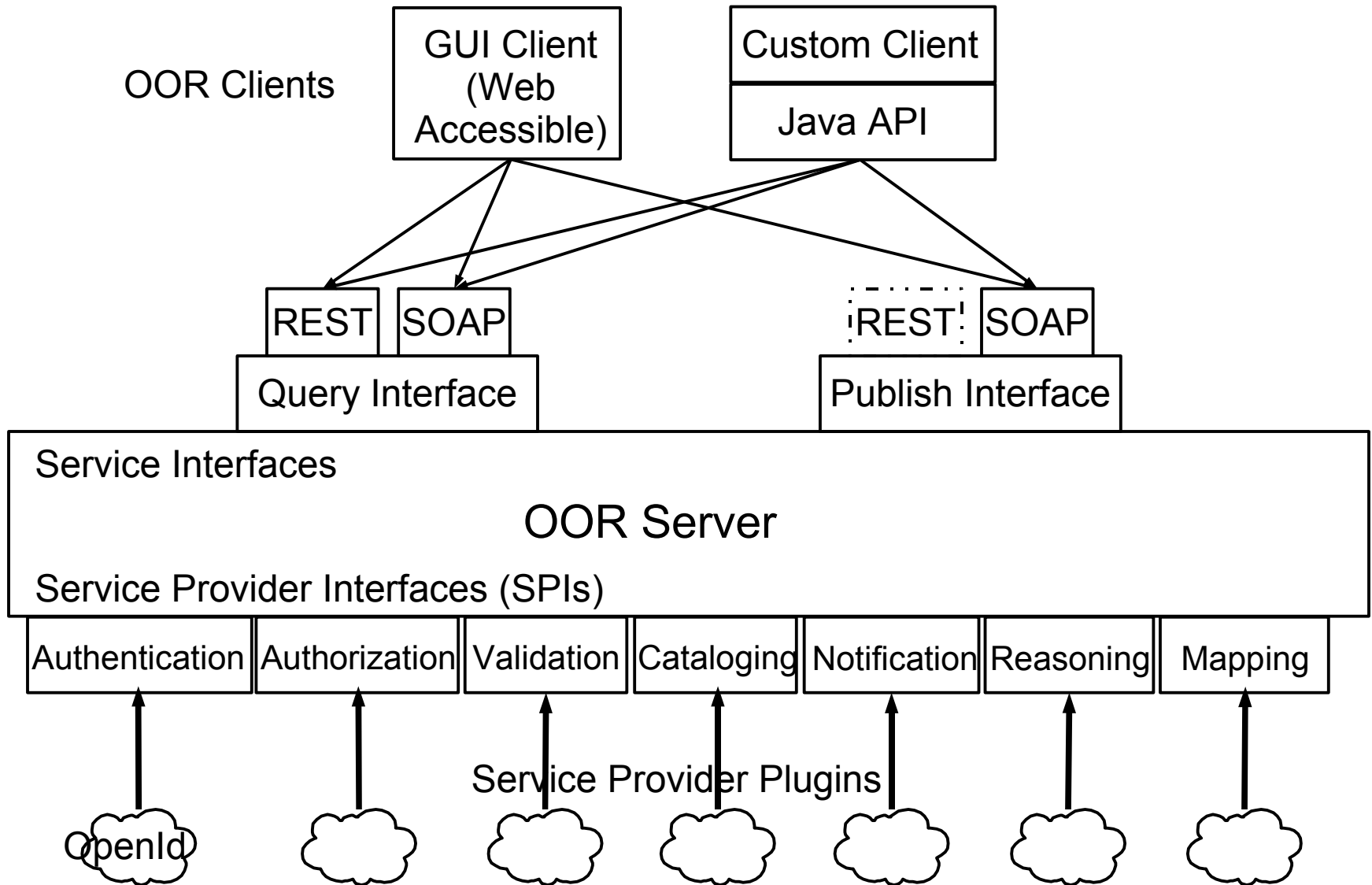
- OOR Use Cases
- OOR Architecture
- ebXML RegRep: Overview
- OASIS ebXML RegRep as OOR Server
- Summary
- Discussion

Single OOR Node: Typical Use Cases

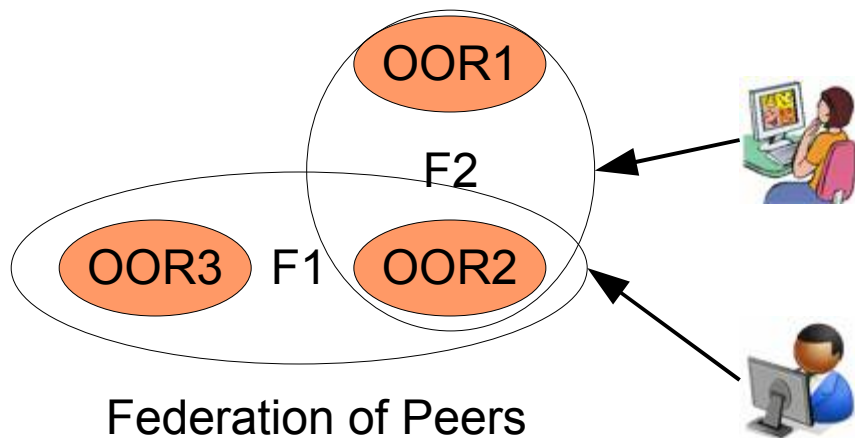


Note: Use cases start at 12 o'clock and goes clockwise

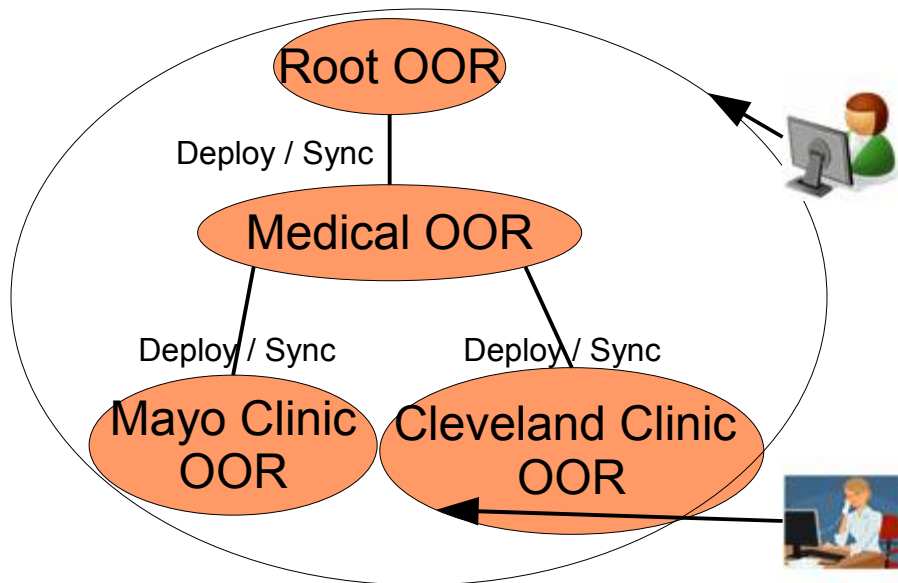
Single OOR Node: Hi Level Architecture



OOR Federation: Hi Level Architecture



Federation of Peers



Hierarchical Federation

- Multiple OORs work together as one
- Organizations maintain admin autonomy over local OOR
- Access control is enforced
- Single sign-on or federated identity management
- Replication of data is possible but not required
- Federated search seamlessly returns results from multiple OORs
- Federation of federations

OASIS ebXML RegRep

- A generic registry / repository standard
 - ebRIM = meta infomodel, ebRS = services and protocols
 - Approved as OASIS and ISO standards
 - Version 4 of RegRep expected in 2008
 - Highly extensible
- Not specifically an Ontology repository, but can be made so
 - ebXML RegRep Profile for OWL-Lite is an approved specification
- Has rich feature set to support use cases and architecture
 - Extensible metamodel, extensible protocol, stored queries, extensible relationships, service model, validation, cataloging, subscription & notification, role-based access control and authorization, change history, federation / federated query, SOAP and REST bindings, Java API (JAXR)
- freebXML Registry provides a royalty-free open source impl
- Is more a toolkit than an out-of-box solution

Future Direction - OASIS RegRep 4.0

- REST and SOAP 1.2 interface
- Open Search 1.1 for search interface, ATOM 1.0 for response
- Choice of MTOM / XOP for binary content and Xlink for external content
- Full text indexing
- Slot extensibility – enables GML and other content as value
- First class type extensibility as alternative to Slots
- Pluggable Repositories modules (e.g. svn, cvs, other, ...)
- Checkout / checkin / lock / merge
- Alignment with WS-Notification, SOAP12-MTOM, XACML 2.0, WSS 1.1, WS-Addressing

ebXML RegRep as an OOR Server: A Proposal

- Build upon RegRep 4.0 impl from Wellfleet Software
- Implement OWL-Lite Profile (modulo RegRep 4)
- RegRep does not provide Ontology specific UI, use Protege
- Integrate RegRep 4.0 with Protege such that
 - RegRep serves as backend for Multi-user Protege client
 - Protege reasoning engine serves as Reasoning plugin for RegRep
- Initially deploy a single Root OOR instance with pilot users playing various roles in the collaborative ontology management use cases
 - Use OpenID as distributed identity management solution
- Later facilitate deployment of Community-specific OORs (e.g. Medical, GIS, Defense ...)

Issues

- Not an out-of-the-box solution – requires some development
- Potentially overlaps with goals of Protege's client-server
 - Needs collaboration with Protege team to harmonize

Summary

- ebXML RegRep has many of the features needed for OOR
 - Has strong suite of generic information management functions
 - Has an approved profile of ebXML RegRep for OWL-Lite
 - Version 4 has extension features that will allow more direct representation of ontologies
- Protege has strong suite of tools for ontology creation, visualization and utilization in creating knowledge bases
- Both ebXML RegRep and Protege are highly extensible
- Protege as front end, and ebXML RegRep as backend, leverages the best of both

Together, Protege and ebXML RegRep may be a thing of beauty



Related Links

- OASIS ebXML RegRep:
<http://www.oasis-open.org/committees/regrep>
<http://ebxmlrr.sourceforge.net/wiki/Overview>
- Protege:
<http://protege.stanford.edu>
- Open Ontology Repository (OOR):
<http://ontolog.cim3.net/cgi-bin/wiki.pl?OpenOntologyRepository>
- Open ID:
<http://openid.net/what/>



Discussion

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