Enabling Contextual Collaboration in Open Ontology Repository

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Join the TC!

• Homepage
  - http://oasis-open.org/committees/icom

• More info on current developments
  - http://wiki.oasis-open.org/icom
Integrated Collaboration Object Model

For collaborative creation of global networked knowledge to

• assist humans, organizations, and systems
• augment individual or collective learning and problem solving
• encompass multidisciplinary contributions
• increase innovation and knowledge production on individual, organizational, and global levels
Network of Collaboration Entities

An ontology of user interests and expertise can permeate OOR
ICOM Framework

For integrating a broad range of domain models
ICOM Encompasses and Improves on Existing Standards
Encompass LDAP Directory
Encompass CMIS Document, Version Control
Encompass MIME, IMAP, SMTP
Collaboration Ontology Permeates OOR

• Collaboration ontology is not just the Tbox concepts but also a dynamic collection of Abox statements
  – Discussion threads are related to ontological resources
  – Ontological resources are related to data, publication, evidence in general content repository

• Knowledgebase for a dynamic Abox ontology of participants’ interests and expertise (see Ontolog OWL-2 panel and ICOM presentation)
ICOM Containers are active/reactive entities

• Outbox, Calendar, Task List, Forum are reactive entities
  – A unified message created in an Outbox will be delivered into recipient Inboxes.
  – An occurrence created in a Calendar will be delivered into participant Calendars.
  – An announcement in a Forum will be posted or retracted at specified times.

• Conference and Chat Room are highly active entities

• Support rule-based policies and workflows on events in a Container
Policy and Workflows in Containers Induce Business Logics

• ICOM integrates collaboration services which support business logics for well-defined collaboration activities, such as messaging, scheduling, coordination, etc.

• Various rule engines and workflow engines can provide the business logics for OOR containers

• Model of Containers with events, policies, and workflows can supplement the behavioral aspects in OOR
Integration of Services for ICOM

Composite Collaboration Applications

Intelligent Personal Agents Runtime

Inferences using OWL, SPARQL, SWRL
- faceted search and relational navigation
- message filtering and prioritizing agents
- semantic subscription agents
- personalized calendar scheduling agents

Java, C#, JSON Bindings

RDF Triple Store

ICOM

Collaboration Services

Email Calendar

Document Address Book

Conference Presence

IMAP and CalDAV CMIS repository Beehive or WebEx OOR, BioPortal, COLORE
Status of ICOM JPA Source Code Contribution

- Oracle is contributing the JPA prototype framework source code to the ICOM TC for proof of concept of interoperability.
- ICOM TC proposes to incubate the source code under the GlassFish¹ umbrella, which adopts CDDL² V1 or GPL V2 licenses.
- ICOM POJO classes, portable to any JPA runtime, should be released under Library GPL license.

¹ https://glassfish.dev.java.net/
² Common Development and Distribution License
Java Persistence API for ICOM
Federation of ICOM Persistence Unit Providers

ICOM Model (POJO)

ICOM Persistence Unit Provider

ICOM Persistence Unit Provider

ICOM Persistence Unit Provider

Federation of Java Persistence Unit Providers

Eclipse Rich Client Platform

WSDL SOAP

REST JSON

RDF OWL 2

Oxford University

Stanford University

University of Toronto
Summary

• ICOM builds upon existing content management and collaboration solutions
• ICOM is a common bridge between diverse applications
• ICOM leads to more effective collaboration on ontologies at local, enterprise, and international levels.
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Peter Yim and Patrick Durusau provided valuable comments for the preparation for this presentation.