OBJECT MANAGEMENT GROUP

An introduction to OMG's Ontology work

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Introducing OMG

- **A successful forum for creating open integration standards in the computer industry**
  - **Platforms: UML, ODM, BPMN, SBVR, CORBA & related work**
  - **Domain: Finance, C4I, Healthcare, etc.**

- **An industrial consortium with vendor and user members**
  - **Implementation must be available from OMG member**
  - **Not-for-profit**

- **Interfaces freely available to all**
  - **Visit http://www.omg.org**

- **Decisions taken by members**

Worldwide Membership

Adaptive	Cordys	HP	NASA	Saab Sys.
Adelard LLP	CSC	Hitachi	NEC	SAP
Agile Birds	Deere & Co.	Honda	NIST	Softeam
Amadeus	Deloitte	IBM	Nokia	Software AG
Appian	EADS	INRIA	Northrop	Soluta.net
Atego	Eclipse Fndn.	JARA	NTT Data	Sparx
Axway	EFF	Lockheed	Objektum	State Street
BAE Systems	EPFL	Mayo Clinic	Oracle	Thales
Boeing	Fujitsu	MEGA	Phast	Thematix
Brunel U.	G. Dynamics	Mentor G'ics	PrismTech	Toshiba
CA	Gen. Electric	Microsoft	Raytheon	U. Frankfurt
Camunda	Gnome Fndn.	MITRE	Rolls-Royce	Unisys
Citi	HDMA	NARA	RTI	(250+ more)

Liaisons & Reciprocal Memberships

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Ontology SIG

- **Focal point for OMG work on knowledge representation, conceptual modelling, reasoning, all things "Semantic Web"**
  - **Launches new specification work (by helping draft RFPs)**
  - **Monitors related activities within & beyond OMG**
  - **Assists OMG development of domain-specific vocabularies**

- **Brings together software engineers with experts in KR, consistency checking, etc**
  - **Advises Domain groups on adopting ontology technologies**
  - **Helps capture OMG's Domain knowledge in reusable forms**

- **Chaired by Roy Bell (Raytheon), Evan Wallace (NIST)**

Ontology Definition Metamodel

- **Bridges UML modelling & popular ontology languages:**
  - **Resource Description Framework & RDF Schema (RDF/S)**
  - **Web Ontology Language (OWL)**
  - **Topic Maps (TM)**
  - **Common Logic (CL)**

- **Supports interchange & management of vocabularies & ontologies with MOF/XMI tools and repositories**
  - **Profiles & standard graphical representation for developing vocabularies and ontologies in UML tools**
  - **Currently being revised to support OWL 2**

Semantics of Business Vocabulary & Rules

- **MOF metamodel for vocabularies & rules describing business**
  - **Formal, precise, unambiguous but easy-to-understand**
  - **Based on first-order predicate logic, with limited extensions**

- **Two precise, non-normative human-readable text syntaxes**
  - **"Structured English"**
  - **RuleSpeak - Business Rule Solutions' established notation**

- **Structural rules define vocabulary of non-primitive terms**
  - **"A Car Hire Customer has at least one of: a Reservation, an in-progress car hire, a car hire completed in last 5 years"**

- **Operative Rules governing the conduct of business activities**
  - **"A Customer who seems drunk must not be given hire car"**

Date Time Vocabulary

- **Specifies rich vocabulary of dates and times, including custom calendars & schedules, for use with SBVR**

- **Builds on ISO 8601, VIM, & lessons learned from OWL Time and other similar efforts**
  - **Contains transformations to Common Logic**
  - **Equivalent OWL 2 representation in progress**

Common Terminology Service Release 2

- **SOA specification for the usage, management, and maintenance of terminologies and ontologies**
  - **Based on joint work by HL7 & Ontology SIG**

- **CTS1 used in healthcare for some time**
  - **New standard reflects lessons learned, aims for Domain independence**

Work in Progress

- **Application Programming Interfaces to Knowledge Bases RFP**
  - **Solicits KB APIs, esp. REST interfaces for RDF/S & OWL**
  - **Initial submissions due Feb 2013**

- **Financial Industry Business Ontology**
  - **EDM Council plans to submit financial institution vocabs**

- **Information Exchange Framework Policy Vocabulary RFP**
  - **Solicits rules governing information sharing & protection**
  - **Revised submission available, next revision due Feb 2013**

- **MOF to RDF Structural Mapping supporting Linked Open Data**
  - **Solicits MOF/RDF mapping to aid integrating MDA & LOD**
  - **Initial submission available, revision due Nov 2012**

For more information

- **Download published specifications from OMG web page**
  - **http://www.omg.org/spec**
  - **No registration, fees or IPR restrictions (that we know of)**

- **Join OMG to participate in relevant Work in Progress**
  - **http://www.omg.org/be-a-member-a.htm**

- **Attend planned Ontology Information Day**
  - **At OMG TC Meeting, 18 – 22 March 2013, Reston, VA, USA**

- **Contact Ontology SIG chairs (or me)**
  - **Evan Wallace, NIST, evan.wallace@nist.gov**
  - **Roy Bell, Raytheon, rmbell@raytheon.com**
  - **Andrew Watson, OMG, andrew@omg.org**