AT&T Government Solutions, Inc.

Lewis Hart *Patrick Emery*

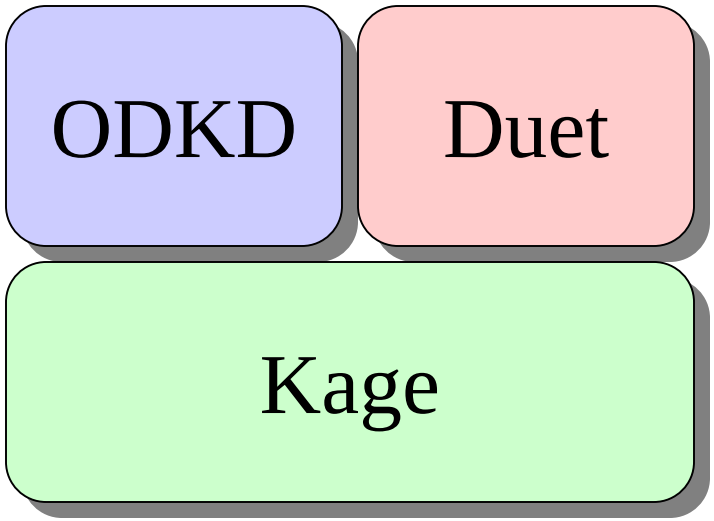
Key Goals

The CODIP program provides frameworks and components for intelligent processing of information based on its semantics.

- **Application of an UML technology to leverage existing resources to provide knowledge engineering capability.**
- **Ontological processing components and services that can bring built-in knowledge processing capability to applications.**

Applications and Products

- **Three primary product areas support of these goals:**

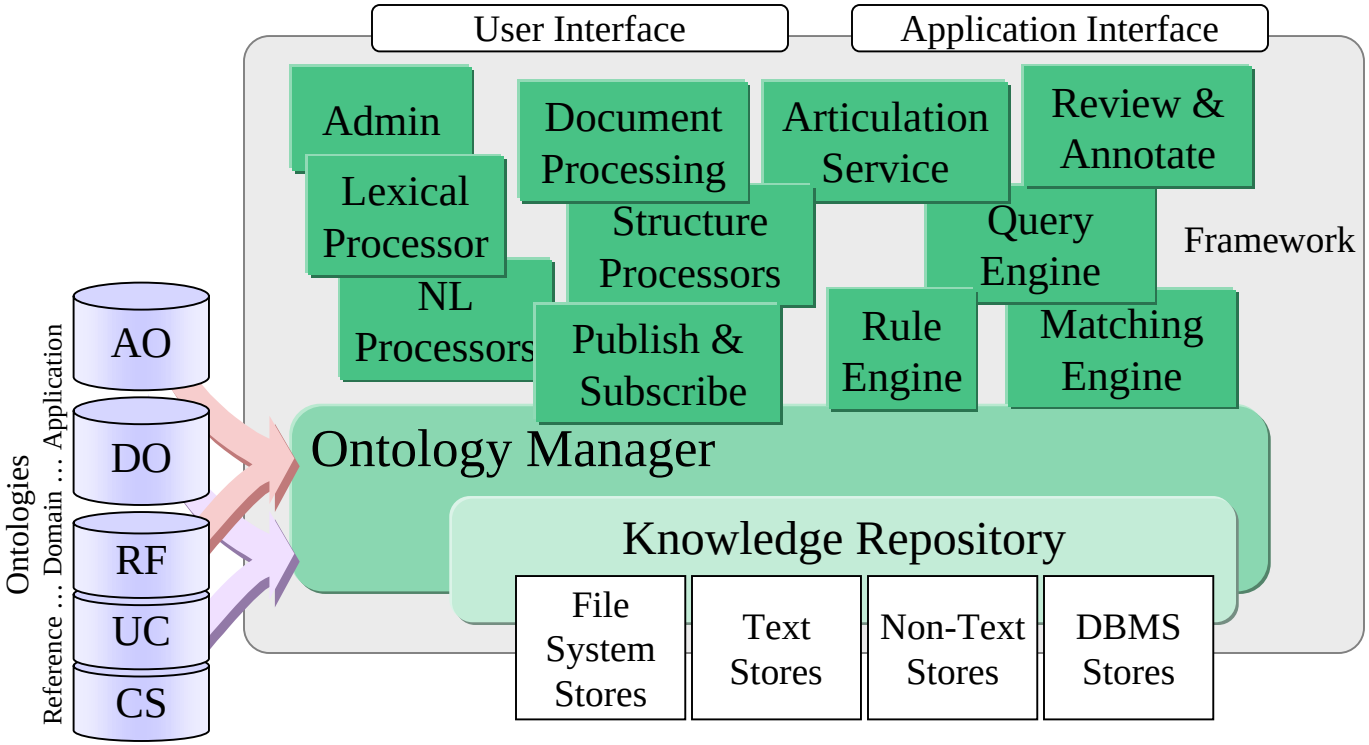


  - Duet to support visualization, application and management of ontologies using the UML/MOF engineering standards,
  - Kage to support applications with analysis, translation, and repository functionality, and
  - ODKD for semantics based publication of information to subscribers.

- **These products are built from library of reusable components that may be integrated into other applications.**

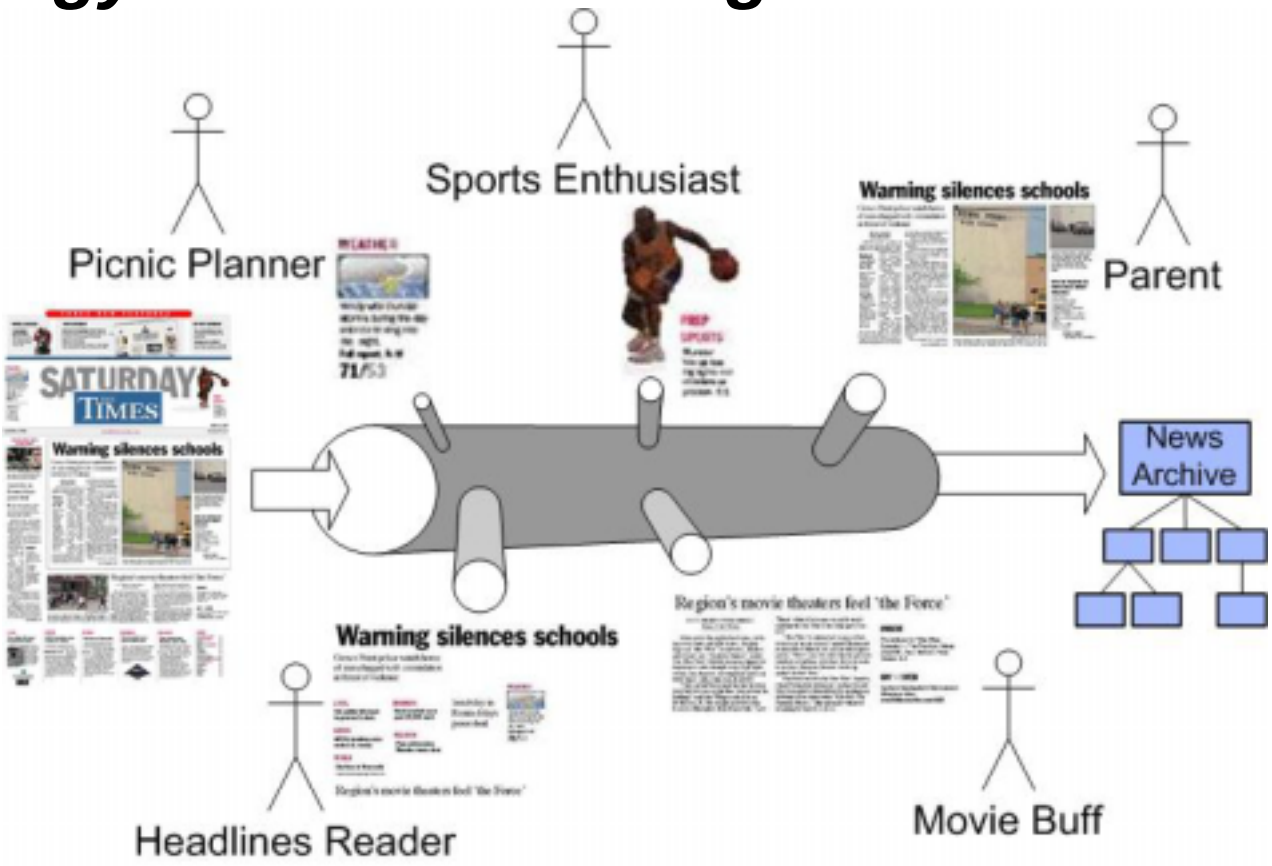
Kage

Knowledge Access Engine



- **Framework for Intelligent Information Systems and implementation of ODM.**
  - Integration of Open Source and third party NetBeans MDR, Kaon, Jess, Apache, and
  - AT&T developed components

Ontology Driven Knowledge Dissemination



- **Ontology-based content-defined publication channels**
- **Topical Repository – hierarchical archive of information**

- **Publishers provide OWL Annotations linked to message content**
- **Matching content blocks are published to subscribers of the matching channels**

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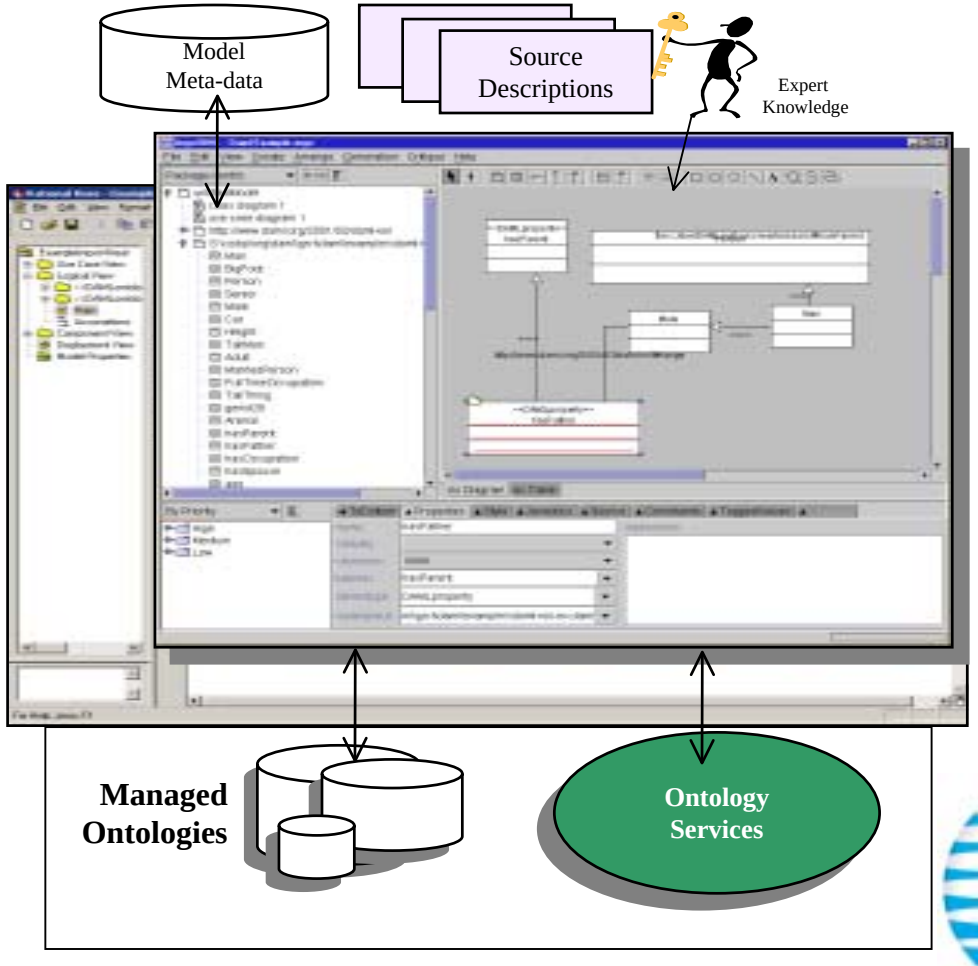
Duet

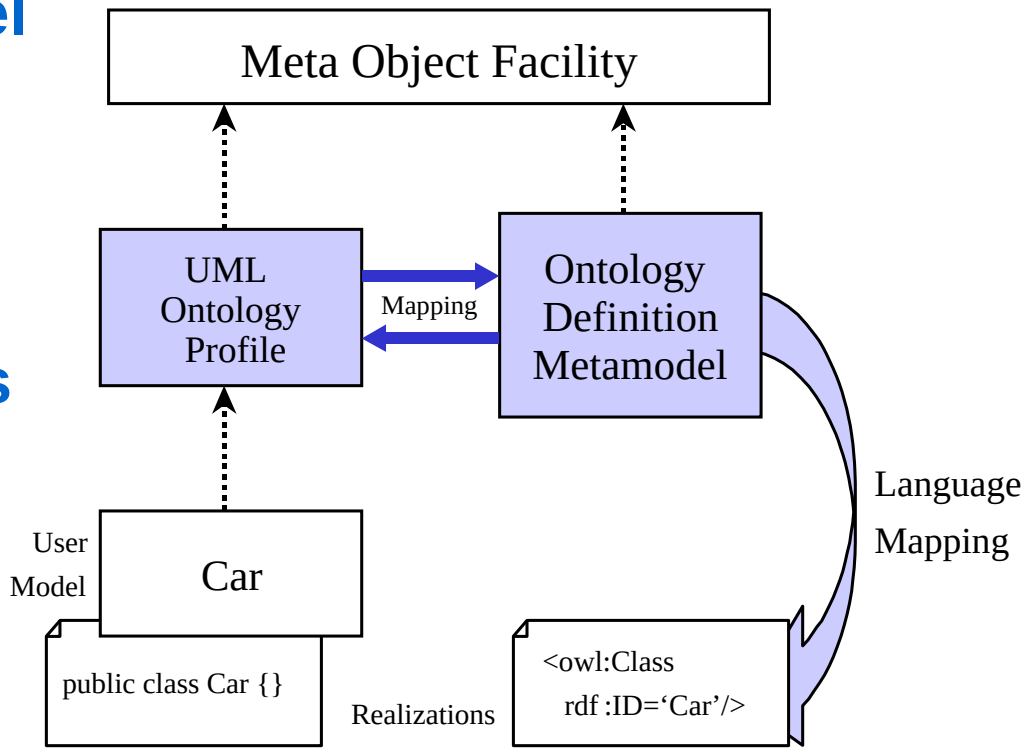
Visualization and Engineering of OWL Ontologies

- **Current version**
  - Standalone file based
    - » XMI V1.1
    - » UML V1.4
  - Import and Export OWL
- **Future version**
  - Will migrate to OMG Ontology Definition Meta-model standard.
    - » UML/MOF 2.0
  - Integration with Model Driven Architecture tools and IDEs
  - Enhanced access to web services and ontology repositories.

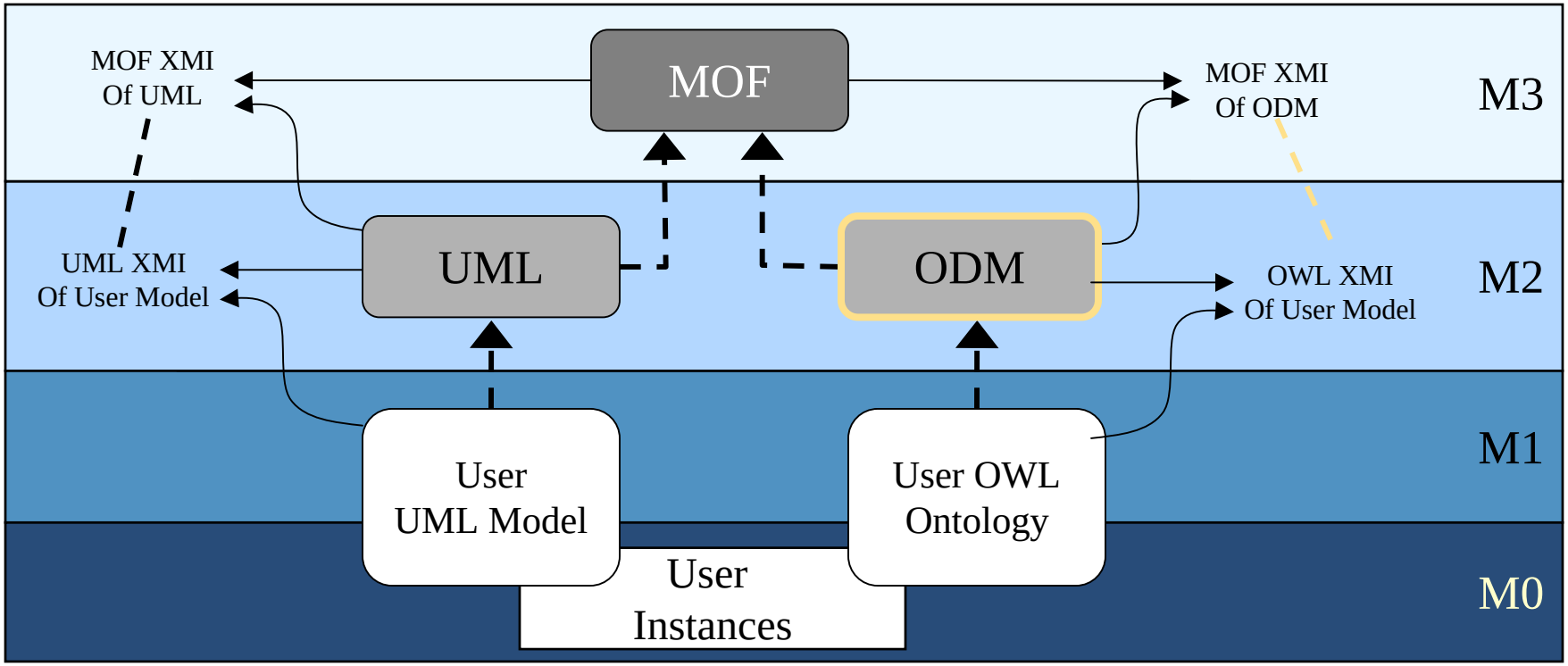


ODM RFP Scope of Proposals Sought

- **A standard meta-model for ontology modeling**
- **A UML2 Profile for depicting Ontologies**
- **With at least mappings**
  - –Between ODM and the profile
  - –Between ODM and the W3C OWL/DL



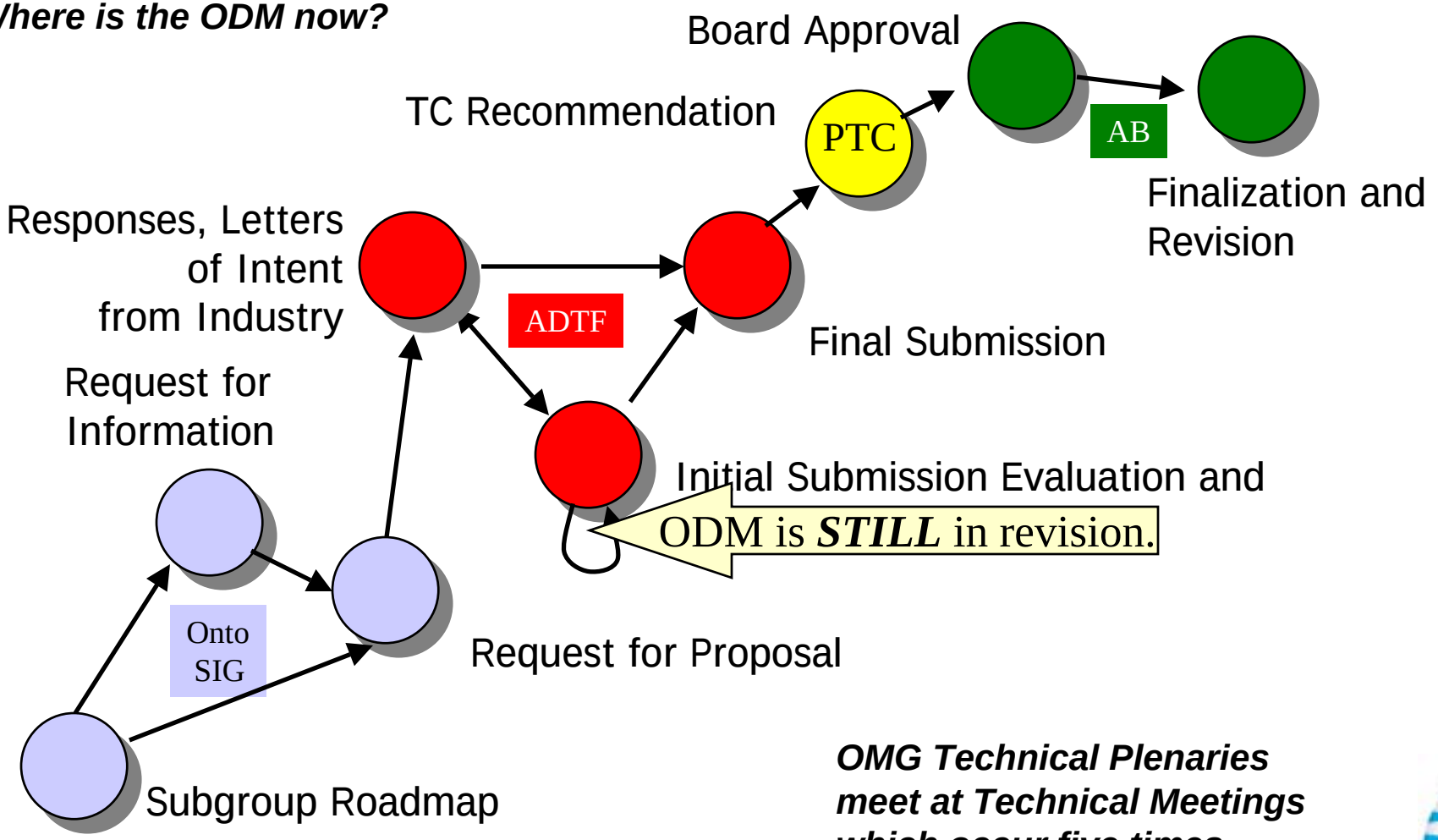
Why MOF Based Modeling is Important



- **ODM provides**
  - Broader interoperation within Model Driven Architecture process
  - MDA tools access to to OWL and reasoning for MDA tools
  - UML notation for OWL and OWL interpretation of UML

OMG Adoption Process

Where is the ODM now?

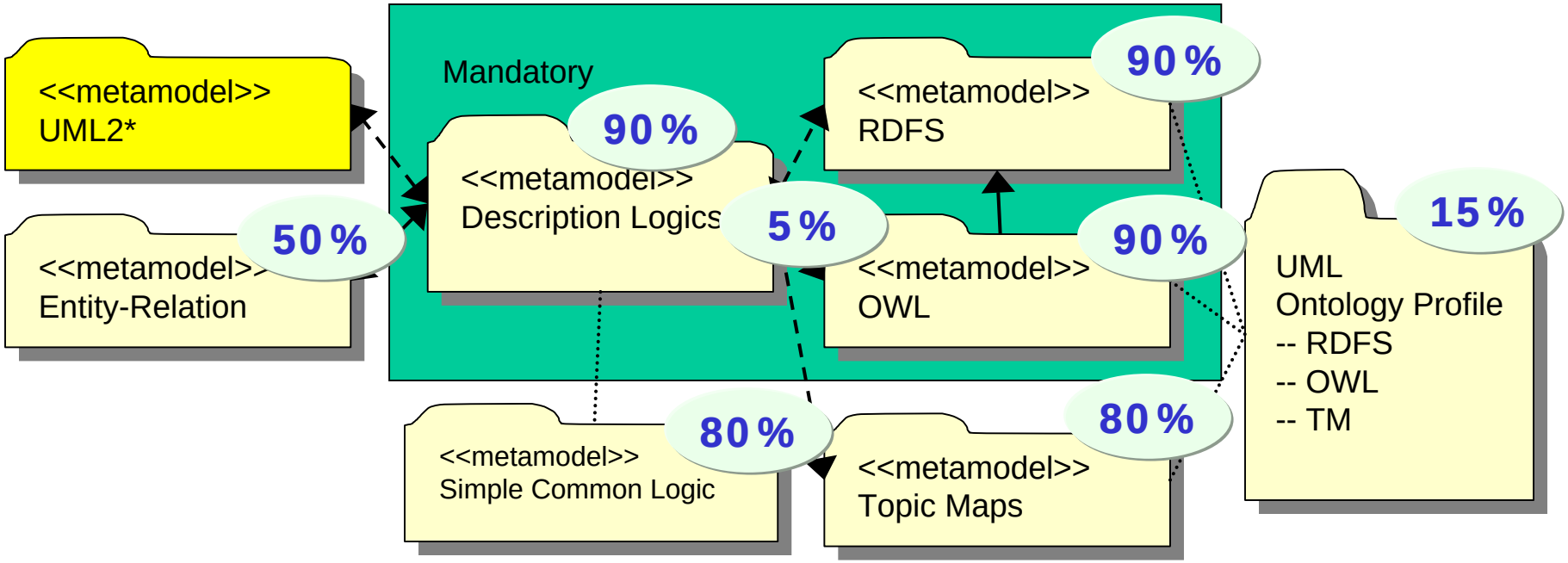


OMG Technical Plenaries meet at Technical Meetings which occur five times annually.

ODM Components

DRAFT

…and current status.



- **Collection of: MOF Meta-models, QVT** Mappings, and UML Profiles**

*UML2 metamodel is an existing OMG standard ** QVT is an in process OMG standard

extension mapping dependency

ODM Schedule

- March 28th 2003 – RFP Released
- August 18th - Initial Submissions
- September 9th - Presented to ATF Plenary

- June ~21st 2004 – Status presentation to ADTF

- October 11th – Revised Submissions deadline
- November ~2nd – Revised Presentations
- February 2005 – ADTF & PTC votes to Recommend
- April 2005 – Board of Directors votes to Adopt

No further schedule slip for the revised submission is anticipated.

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2004 Goals

- **Ontology Definition Metamodel**
  - Completion of the OMG ODM Standard
  - Model Driven Semantic Web participation
- **Duet**
  - Implementation of ODM Standard for Stand version
  - Complete enhanced plug-ins for Poseidon for UML and Rational Rose.
- **Open Source CODIP software on SemWebCentral**
  - Components of Kage & ODKD
    - » Current versions (with minor updates)
  - Duet and ODM implementation
    - » As development project