Welcome to the 3rd Joint Eclipse/OMG Workshop

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Overview

- Organisations
- Specifications/Projects
  - core commonality
  - advanced divergence
The Organisations

The Object Management Group

- international
- open membership
  - corporate members
  - corporate representatives
- not-for-profit
- computer industry consortium

➔ open specifications

The Eclipse Foundation

- international
- open membership
  - corporate members
  - independent committers
- not-for-profit
- open source community

➔ open source projects
Lifecycle Processes

OMG Specification
- 'unpaid' corporate representatives
- RFI - Request For Information
- RFP - Request For Proposal
- LOI - Letter Of Intent
  - (revised) submissions
- FTF - Finalization Task Force
  - major version
- RTF - Revision Task Force
  - minor versions

Eclipse Project
- 'unpaid' individual committers
- Declaration
- Creation Review
  - 'annual' incubation releases
- Graduation Review
  - 'annual' releases
- Promotion Review
  - sub-projects
- Termination Review
OMG Task Forces develop enterprise integration standards for a wide range of technologies, including:

- Real-time
- Embedded and Specialized Systems
- Analysis & Design
- Architecture-Driven Modernization
- Middleware
Eclipse

Projects are focused on building an extensible development platform, runtimes and application frameworks for building, deploying and managing software across the entire software lifecycle.

The Eclipse projects can be conceptually organized into seven different "pillars" or categories:

- Enterprise Java - Web Tools Platform (WTP), Data Tools Platform (DTP)
- Eclipse RT - Equinox, Rich Client Platform (RCP), Rich Ajax Platform (RAP)
- Eclipse SOA - Service Oriented Architecture Tools (STP)
- Pulsar - Mobile - Embedded and Device Development
- Language IDEs - Java (JDT), C++ (CDT), PHP (PDT), ...
- Modeling - EMF, GMP, MDT, M2M, M2T, PMF, TMF, ...
- Application Frameworks - Graphical Editor Framework (GEF), ... BIRT
Core Modeling Specifications/Projects

- XML
- XMI
- MOF
- UML
- SysML
- OCL
- MOFM2T
- QVT

Exchange

- DOM, SAX
- XSD
- EMF
- EMFT
- MDT - Model Development Tools

Define

- data
- HUTN
- (Epsilon)
- UML2
- Papyrus
- OCL
- Acceleo
- QVTd
- QVTo

Compute

- to-text
- to-model

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Eclipse Java Modeling Projects

- **Exchange**
  - **XML**
  - **XMI**
  - **MOF**
  - **UML**

- **Define**
  - **UML2**
  - **XSD**
  - **EMF**

- **System**
  - **OCL**
  - **QVT**
  - **M2T**

- **Compute**
  - **Xcore**
  - **Xbase**
  - **Xpand**

- **Model**
  - **Xtext**
  - **Xtend2**

- **Extend**
  - **Annotated EBNF**

- **Convert**
  - **to-text**
  - **to-model**

- **To-Value**
  - **data**

- **Define**
  - **XML**
  - **XMI**
  - **MOF**
  - **UML**

- **Compute**
  - **M2T**
  - **Xcore**
  - **Xbase**
  - **Xpand**
  - **Xtend2**

- **Model**
  - **Xtext**

- **Extend**
  - **Annotated EBNF**
Detailed Eclipse Modeling

- EMF (mature)
  - Compare, Query, Transaction, Validation
- EMFT (Technology- incubation)
  - [emfatic], [featuremodel], [Index], [Refactor], [Search]

Alternative Eclipse Modeling

- M2T
  - JET, Xpand, [MOFscript]
- M2M
  - ATL, Epsilon, Henshin, Viatra2, [GMT/AMW]
OMG Modeling Evolution

- Tree
- Exchange
- Graph
- Data
- Define system
- UML
- OCL
- QVT
- MOF
- SMOF
- XMI
- XSD
- XML
- MOFVD
- MOFFOL
- MEF
- SIMF
- M2T
- ALF
- Versioning
- Life cycle
- (Dynamic) Multi-classification
- No more profiles
- Semantically meaningful models
- Executable models
- Java-like OCL-like action language

Define to-text
Compute to-value
to-model

[Image of a diagram showing relationships between OMG standards and their uses in modeling evolution.]
Business

BPMN - Business Process Modeling Notation
BPMN2 - Business Process Model and Notation
SoaML - Service oriented architecture Modeling Language
MDT/BPMN2

PRR - Production Rule Representation
BRE - Business Rules and Rule Engine
SBVR - Semantics of Business Vocabulary and Business Rules[MDT/SBVR]

BMM - Business Motivation Model
BPMM - Business Process Maturity Model
BPDM - Business Process Definition Metamodel
OSM - Organizational Structure Metamodel
ASTM - Abstract Syntax Tree Metamodel
KDM - Knowledge Discovery Metamodel
SMM - Software Metrics Metamodel

UPDM - Unified Profile for DoDAF and MODAF

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Advanced Modeling

- Testing
  
  Model-level Testing and Debugging
  UML Testing Profile

- Real-Time ...
  
  UML Profile for Modeling and Analysis of Real-time and Embedded Systems (MARTE)
  UML Profile for Modeling QoS and Fault Tolerance Characteristics and Mechanisms
  [UML Profile for Schedulability, Performance and Time]

- Process
  
  SPEM - Software Process Engineering Metamodel
Diagrams

• Specifications
  DD - Diagram Definition
  UMLDI - Diagram Interchange

• Tooling
  - Tools/GEF - Graphical Editor Framework
  - GMP - Graphical Modeling Project
    Graphical Modeling Framework Notation
    Graphical Modeling Framework Runtime
    Graphical Modeling Framework Tooling
    Graphiti

• Practice
  - Models
    Ecore Tools, [UML2 Tools], Papyrus
  - Transformation
    [GMT/GEEMS], EMFT/Henshin, [GMT/UMLX]
Widgets

- SWT - Standard Widget Toolkit
  - de facto standards - Swing, AWT, ...
- Text
  - SWT AbstractTextEditor
  - Technology/IMP - IDE Meta-Tooling Project
  - TMF/Xtext
- Forms
  - PMF - Presentation Modeling Framework
  - [Tools/VE] - Visual Editor
  - EMFT/EEF - Extensible Editing Framework
Utility

- **Client/Server**
  - EMF/Client, EMF/Net4J

- **Repository**
  - Connected Data Objects - EMF/CDO
    - EMF/Store, EMF/Teneo, EMF/Texo

- **Content**
  - GMT/AM3
  - CWM - Common Warehouse Metamodel
  - IMM - Information Management Metamodel
  - ODM - Ontology Definition Metamodel
  - RAS - Reusable Asset Specification

- **Message**
  - CWMMIP - Common Warehouse Metamodel Metadata Interchange Patterns
  - MDMI - Model Driven Message Interoperability
Usage

• Workflow
  WMF - Workflow Management Facility
  EMFT/MWE - Model Workflow Engine
  Technology/JWT - Java Workflow Tooling

• Model Lifecycle
  MDT/Modisco

• Integration
  EMFT/EGF - Eclipse Generation Framework
  [EMFT/MST] - Model Specification Tools
  EMFT/Sphinx

• Build
  [EMFT/b3]
  Tools/Buckminster
  Tools/Tycho
Other Profiles

UML Profile for Enterprise Application Integration (EAI)
UML Profile for Enterprise Distributed Object Computing (EDOC)
UML Profile for CORBA
UML Profile for CORBA Component Model (CCM)
UML Profile for CORBA & CORBA Component Model (CCCMP)
UML Profile for Data Distribution
UML Profile for Software Radio
PIM and PSM for Smart Antenna
UML Profile for System on a Chip (SoC)
UML Profile for Voice

Technology/Voice Tools Project
Domain Specifications

Healthcare  [Technology/Open Healthcare Framework]
Finance  [Technology/Open Financial Market Platform]
Manufacturing
Government
Biotech
C4I - Consultation, Command, Control, Communications, and Intelligence

Security  Technology/Higgins
Summary

- Eclipse and have OMG have much in common
  - processes
  - core domains
- Eclipse and OMG diverge
  - Eclipse implementations are not standardised
    - user interfaces
    - tooling
    - experiment
  - OMG profiles and meta-models are not coded
    - implementation is automated
Questions