



# Model Development Tools (MDT) Ganymede Simultaneous Release

June 4<sup>th</sup>, 2008

# Model Development Tools (MDT)

- Model Development Tools (MDT) is an Eclipse [Modeling](http://www.eclipse.org/modeling/mdt/) sub-project at <http://www.eclipse.org/modeling/mdt/>
- Inspired by the Eclipse community's need for more end user "tooling" from the Modeling project
- Purpose of MDT is to provide extensible frameworks and exemplary tools for the metamodels within the scope of the Modeling project
- MDT consists of components: [BPMN2](#), [EODM](#), [IMM](#), [OCL](#), [OCL Tools](#), [SBVR](#), [UML2](#), [UML2 Tools](#), and [XSD](#)
- Project lead is [Kenn Hussey](#) (Embarcadero Technologies)
- Committers currently from [IBM](#), [Borland](#), [Embarcadero Technologies](#), [Adaptive](#), [XML™ Modeling](#), and [Soyatec](#)

# MDT Ganymede Release Talking Points

- MDT Ganymede Themes
  - End-to-End MDSD
  - Improved Usability
  - Upgrade Path
  - Technology Trends
  - Ease of Use
- The project lead certifies that the requirements for [Eclipse Quality](#) APIs have been met for this release
- All significant contributions, non-committer code contributions, and third-party libraries have received IP clearance
- End-of-life issues
  - EODM component to undergo a continuation review due to inactivity
  - `http://www.eclipse.org/uml2/1.1.0/GenModel` namespace URI now obsolete, superseded by `http://www.eclipse.org/uml2/2.2.0/GenModel`
- 17 (15) committers from 8 (2) organizations in 5 (3) countries

# Outline

- Features
- Non-Code Aspects
- APIs
- Architectural Issues
- Tool Usability
- End-of-Life
- Bugzilla
- Standards
- UI Usability
- Schedule
- Communities
- IP Issues
- Project Plan

# Features

- Ganymede development plan at [http://www.eclipse.org/modeling/mdt/docs/plans/mdt\\_project\\_plan\\_1\\_1.html](http://www.eclipse.org/modeling/mdt/docs/plans/mdt_project_plan_1_1.html)
- 11 (24) committed, 9 (7) deferred plan items
- New & Noteworthy documentation at [http://wiki.eclipse.org/index.php/MDT\\_1.1\\_New\\_and\\_Noteworthy](http://wiki.eclipse.org/index.php/MDT_1.1_New_and_Noteworthy)
- Release notes available at <http://www.eclipse.org/modeling/mdt/news/relnotes.php>

# Features – OCL™ 1.2

- 3 (7) committed, 0 (2) deferred plan items
- *End-to-End MDSD*
  - [Grammar Extensibility](#). Refactored the grammar definition and API for extensibility, esp. for QVT. Contribution from the community.
  - [Problem Reporting](#). Enhanced problem reporting for construction of OCL and QVT editors. Contribution from the community.
  - EValidators for OCL. Implementation of EValidators for extensible validation of OCL abstract syntax models.
- *Improved Usability*
  - Ecore Reflection. Provide access to the implicit Ecore APIs for reflection. Contribution from the community.
  - [Unnamed association ends](#). Implement navigation of unnamed association ends (advanced OCL specification compliance point).

# Features – UML2 2.2

- 4 (7) committed, 2 (3) deferred plan items
- *End-to-End MDSD*
  - [Profile Support for Ecore Annotations](#). Users now have the ability to specify the EAnnotations they would like to see in the final Ecore.
  - [Support for \(de\)serialization to/from CMOF](#). A resource implementation has been provided that supports loading/saving UML® models in CMOF format. Support has been integrated into the sample UML editor and importer framework (to allow creating of EMF projects from CMOF models).
- *Technology Trends*
  - [UML 2.1.2 Compliance](#). Support has been provided for interchange (XML®) compliance with UML 2.1.2.
- *Upgrade Path*
  - [Eclipse 3.4 / EMF 2.4 Compatibility](#). Maintained release currency with EMF 2.4 (and Eclipse 3.4). Changes have been made to align with EMF features and bug fixes.

# Features – UML2 Tools 0.8

- 3 (4) committed, 6 (1) deferred plan items
- *End-to-End MDSD*
  - [Composite Structure Diagrams](#). Provided a GMF-based editor for UML composite structure diagrams.
  - [Deployment Diagrams](#). Provided a GMF-based editor for UML deployment diagrams.
  - [Use Case Diagrams](#). Provided a GMF-based editor for UML use case diagrams.



## Features – XSD 2.4

- 1 (1) committed, 1 (1) deferred plan items
- *Ease of Use*
  - [Improved Diagnostics](#). Provide better diagnostics for unresolved directives.

# Non-Code Aspects

- All components hosted at single [Web site](#), [Wiki](#)
- [Documentation](#) (FAQ, Javadoc, articles, etc.) available for OCL, UML2, UML2 Tools, XSD; updates complete or underway
- Example features/plugin-ins available for all components
- Packaging of XSD SDK changed for M5 to contain only source and documentation
- XSD will have a separate (from EMF) site contribution file for the next release

# APIs

- The project lead certifies that the requirements for [Eclipse Quality](#) APIs have been met for this release
- Non-API in “internal” namespace
- Some ‘discouraged access’ warnings in cases of metamodel extension (plug-in compatibility restricted to minor version)
- Previously internal API for the OCL concrete syntax (grammar and parser) refactored for extensibility and published for consumption by QVT and other consumers
- Some metadata<sup>™</sup> constants deprecated in UML2
- GMF Runtime represents bulk of API for UML2 Tools
- Deprecated methods in XSD marked with @Deprecated annotation

# Architectural Issues

- OCL grammar/parser refactorings contributed in support of language extensibility
- Extensible validation in OCL is provided by new EValidators for the abstract syntax model (validation visitor was not extensible)
- Outstanding issues in reusability/extensibility of the OCL Standard Library implementation for clients such as QVT
- Introduction of a new extension point in UML2 to register profiles; this makes discovery and maintenance of profiles simpler
- Introduction of content types for UML, CMOF resources; this will help associate the appropriate default editors with their respective resources

# Tool Usability

- Implementation of an additional OCL specification compliance point (navigation of unnamed association ends) improves usability of OCL for UML models, especially in working with profiles
- UML2 supports a new [camel case](#) option when importing UML models to Ecore (also exposed via an example action in the UML editor)
- Use of font and color item provider support from EMF to indicate abstract classes in the UML editor
- Saving as XMI or CMOF from the UML editor has been enhanced to save all related files at once
- Three new diagram types supported by UML2 Tools
- XSD users can now install the examples through wizards located under the “Example” category
- Categories of the XSD wizards revised to simplify the user’s out-of-box experience

# End-of-Life

- EODM will undergo a continuation due to inactivity
- Metadata constants related to `Property` specializing `TemplateableElement` have been deprecated in UML2
- <http://www.eclipse.org/uml2/1.1.0/GenModel> namespace URI now obsolete, superseded by <http://www.eclipse.org/uml2/2.2.0/GenModel>

# Bugzilla (as of May 19, 2008)

	Status					
	NEW	ASSIGNED	RESOLVED	VERIFIED	CLOSED	Total
blocker	.	.	3	13	1	17
critical	1	.	1	26	1	29
major	5	.	6	110	5	126
normal	99	14	78	757	11	959
minor	5	.	2	26	1	34
trivial	2	.	.	8	.	10
enhancement	41	4	9	148	3	205
Total	153	18	99	1088	22	1380

# Bugzilla – OCL (as of May 19, 2008)

	Status				Total
	NEW	RESOLVED	VERIFIED	CLOSED	
blocker	.	.	<u>4</u>	.	<u>4</u>
critical	.	<u>1</u>	<u>13</u>	.	<u>14</u>
major	.	<u>4</u>	<u>49</u>	<u>1</u>	<u>54</u>
normal	<u>7</u>	<u>7</u>	<u>110</u>	<u>1</u>	<u>125</u>
minor	<u>1</u>	<u>1</u>	<u>9</u>	.	<u>11</u>
trivial	<u>1</u>	.	<u>2</u>	.	<u>3</u>
enhancement	<u>9</u>	<u>2</u>	<u>24</u>	.	<u>35</u>
Total	<u>18</u>	<u>15</u>	<u>211</u>	<u>2</u>	<u>246</u>



# Bugzilla – UML2 (as of May 19, 2008)

	Status					
	NEW	ASSIGNED	RESOLVED	VERIFIED	CLOSED	Total
blocker	.	.	.	<u>2</u>	<u>1</u>	<u>3</u>
critical	.	.	.	<u>6</u>	<u>1</u>	<u>7</u>
major	<u>3</u>	.	.	<u>41</u>	<u>3</u>	<u>47</u>
normal	<u>9</u>	.	<u>11</u>	<u>241</u>	<u>5</u>	<u>266</u>
minor	<u>2</u>	.	.	<u>8</u>	<u>1</u>	<u>11</u>
trivial	<u>1</u>	.	.	<u>3</u>	.	<u>4</u>
enhancement	<u>14</u>	<u>4</u>	<u>3</u>	<u>80</u>	<u>3</u>	<u>104</u>
Total	<u>29</u>	<u>4</u>	<u>14</u>	<u>381</u>	<u>14</u>	<u>442</u>

# Bugzilla – UML2 Tools (as of May 19, 2008)

Severity	Status					
	NEW	ASSIGNED	RESOLVED	VERIFIED	CLOSED	Total
blocker	.	.	<u>1</u>	<u>3</u>	.	<u>4</u>
critical	<u>1</u>	.	.	<u>3</u>	.	<u>4</u>
major	.	.	<u>1</u>	<u>4</u>	<u>1</u>	<u>6</u>
normal	<u>76</u>	<u>10</u>	<u>41</u>	<u>215</u>	<u>1</u>	<u>343</u>
minor	<u>2</u>	.	<u>1</u>	<u>1</u>	.	<u>4</u>
enhancement	<u>6</u>	.	<u>3</u>	<u>13</u>	.	<u>22</u>
Total	<u>85</u>	<u>10</u>	<u>47</u>	<u>239</u>	<u>2</u>	<u>383</u>

# Bugzilla – XSD (as of May 19, 2008)

	Status					
	NEW	ASSIGNED	RESOLVED	VERIFIED	CLOSED	Total
blocker	.	.	<u>1</u>	<u>2</u>	.	<u>3</u>
critical	.	.	.	<u>4</u>	.	<u>4</u>
major	.	.	<u>1</u>	<u>11</u>	.	<u>12</u>
normal	<u>1</u>	<u>1</u>	<u>19</u>	<u>141</u>	<u>4</u>	<u>166</u>
minor	.	.	.	<u>7</u>	.	<u>7</u>
trivial	.	.	.	<u>3</u>	.	<u>3</u>
enhancement	<u>4</u>	.	<u>1</u>	<u>29</u>	.	<u>34</u>
Total	<u>5</u>	<u>1</u>	<u>22</u>	<u>197</u>	<u>4</u>	<u>229</u>

# Standards

- Object Constraint Language (OCL) 2.1 revision underway; MDT OCL 1.2 compliant (with extensions) with [2.0 formal version](#)
- Unified Modeling Language™ (UML) 2.2 revision underway; MDT UML2 2.2 compliant with [2.1.2 formal version](#); next release (UML2 3.0) will be compliant with UML 2.2
- XSD compliant with [XML Schema 1.0](#) W3C standard; plan item to investigate 1.1 support was deferred

# UI Usability

- MDT components conform to Eclipse User Interface Guidelines
- Eclipse platform standard i18n support used where applicable/possible; stand-alone deployment uses equivalent J2SE APIs
- ICU4J is used but optional; stand-alone deployments delegate to corresponding J2SE 5.0 APIs when ICU not available
- As with all Ganymede projects, availability of language packs is pending readiness of Babel, the Eclipse Globalization Project
- Eclipse platform APIs used to provide accessible UI

# Schedule

- As a whole, MDT is a “+3” project (OCL – “+1”, UML2 – “+1”, UML2 Tools – “+3”, XSD – “+1”)
- M2 met on October 3
- M3 met on November 16
- M4 met on January 8
- M5 met on February 20
- M6 slipped from April 9 to April 10
- M7 slipped from May 7 to May 12

# Communities

- Increased interaction in [Bugzilla](#) and on [newsgroups](#)
- MDT represented at EclipseWorld 2007, EclipseCon 2008 (short/long talks, tutorials, BoFs) and Eclipse/OMG™ symposium
- MDT is among the most active projects at Eclipse (fourth “most popular” in terms of downloads)
- 3 committers from one organization (IBM) removed; 5 committers from four organizations (Adaptive, Hamburg University of Technology, Soyatec, XML Modeling) added
- 4 new components (BPMN2, OCL Tools, IMM, SBVR) and 2 proposals ([Papyrus](#), SysML) since Europa release
- Collaboration with Eclipse projects ([DTP](#), [M2M](#), [GMT](#), [STP](#)) and elsewhere
- Efforts to build user communities for EODM, UML2 Tools still an issue

# IP Issues

The MDT project leadership verifies that:

- the about files and use licenses are in place as per the [Guidelines to Legal Documentation](#).
- all contributions (code, documentation, images, etc) have been committed by individuals who are either Members of the Foundation, or have signed the appropriate Committer Agreement. In either case, these are individuals who have signed, and are abiding by, the Eclipse IP Policy.
- all significant contributions have been reviewed by the Foundation's legal staff.
- all non-Committer code contributions, including third-party libraries, have been documented in the release and reviewed by the Foundation's legal staff.
- all Contribution Questionnaires have been completed.
- the "provider" field of each plug-in is set to "Eclipse.org".
- the "copyright" field of each feature is set to the copyright owner (the Eclipse Foundation is *rarely* the copyright owner).
- any third-party logos or trademarks included in the distribution (icons, help file logos, etc) have been licensed under the EPL.
- any fonts or similar third-party images included in the distribution (e.g. in PDF or EPS files) have been licensed under the EPL.
- The MDT project IP log is located at <http://www.eclipse.org/modeling/mdt/eclipse-project-ip-log.csv>
- Committers Christian W. Damus and Kenn Hussey changed employment (from IBM to Zeligsoft, Inc. and Embarcadero Technologies, respectively)



# Project Plan

- A draft development plan for next release of MDT is not yet available

# Legal Notices

- **OMG** and **Unified Modeling Language** are trademarks of the Object Management Group
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