ATL 2.0
Ganymede Simultaneous Release

ATL PMC

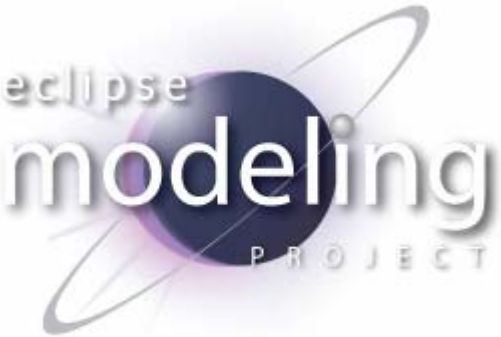
May, 2008

Overview

- Introduction
- Features
- Non-code Aspects
- Testing and Packaging
- Community & Support
- Intellectual Properties
- Project Plan

Introduction

- ATL : ATLAS Transformation Language
- ATL is a language and a Virtual Machine dedicated to model transformation
- ATL is an Eclipse Model-to-Model (M2M) component, inside of the Eclipse Modeling Project (EMP)
- ATL has been moved from GMT to M2M in 2007

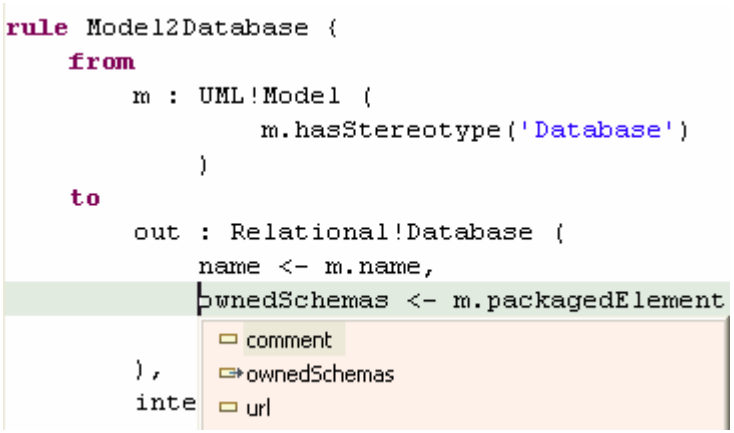


Features (core)

- A syntax adapted to Model To Model transformation
  - Hybrid (Declarative and Imperative)
  - Model navigation using OCL
- A Virtual Machine
  - Executes ATL transformations pre-compiled into low level transformation-specific bytecode
  - Provides execution environment for any transformation language
    - The M2M QVT Relational project is based on the ATL Virtual Machine
      http://wiki.eclipse.org/M2M/Relational_QVT_Language_(QVTR)
    - A use case implements a QVT Operational Mappings compiler
      http://www.eclipse.org/m2m/atl/usecases/QVT2ATLVM/

Features (UI)

- An Eclipse based IDE
  - Project nature and builder
  - Perspective, wizards
  - A Launch Configuration type
  - A textual Editor
- ATL editor
  - Syntax color
  - Code assist
  - Outline



Non-code aspects

- Wiki-based FAQ, User Guide, and Tips & Tricks
- Web site:
  - ATL Transformation Zoo
    - 100+ scenarios, with contributions from the community
  - Complete use cases (20+, with contributions from the community)
  - Articles
- On the wiki
  - Advanced user documentation
  - Developer documentation
- Help plugin, containing Javadoc

Testing and Packaging

- ATL uses the Modeling Project Releng system to build and promote versions, which is also used by: EMF, EMFT, M2T, and MDT components
- Each new build is tested with Eclipse 3.4, 3.3, 3.2
- ATL is integrated into the Ganymede update site since January 2008
- A non regression test suite checks that the engine still executes correctly existing transformations
  - Reuse of ATL Transformation Zoo
  - Resulting models are compared using EMF Compare
  - Non regression evaluated for
    - Parsing
    - Compilation
    - Execution
- A set of benchmarks also checks ATL Virtual Machine performances

Community and support

- Newsgroup : very active community, more than 2000 posts since its creation
- EclipseCon 2008 : tutorial

  http://www.eclipsecon.org/2008/index.php?page=sub/&id=402
- Publications about ATL :

  http://www.eclipse.org/m2m/atl/publication.php
- Bugzilla :

Severity \ Status	NEW	ASSIGNED	REOPENED	RESOLVED	CLOSED	Total
critical	.	.	.	3	.	3
normal	12	1	1	31	4	49
minor	.	.	.	2	.	2
enhancement	1	.	.	7	.	8
Total	13	1	1	43	4	**62**

IP Issues

- All plugins contain appropriate about and license files
- IP process followed
- A third-party library is used : antlr 3.0
  - IPzilla CQ 1548
  - Use of the matching ORBIT library for build
- IP Log available at
  http://www.eclipse.org/modeling/m2m/atl/eclipse-project-ip-log.csv
- Released under EPL

Project Plan

- Planned improvements:
  - Performance
    - Specific language constructs for “in-place” transformations (prototypes already working)
    - Compile-time optimizations
  - Architecture
  - Tests coverage
  - Clarify API for users