The ATLAS Transformation Language (ATL) project

Transforming models with ATL

ATLAS Group
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eclipse **M2M/ATL project's website: http://www.eclipse.org/m2m/atl/**
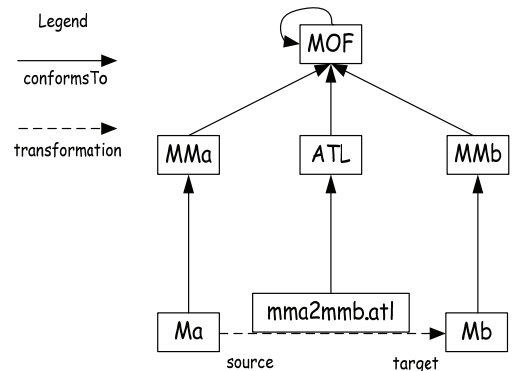**Contacts:**   Frédéric Jouault - frederic.jouault@univ-nantes.fr
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ATL Project Goals

ATL (ATLAS Transformation Language) is a model transformation language and toolkit. In the field of Model-Driven Engineering (MDE), ATL provides ways to produce a set of target models from a set of source models.
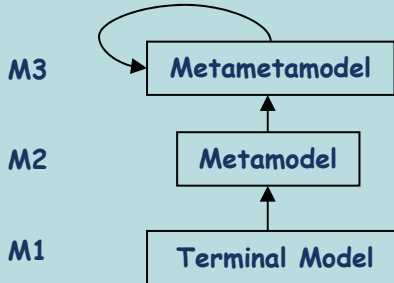
Developed on top of the Eclipse platform, the ATL Integrated Environnement (IDE) provides a number of standard development tools (syntax highlighting, debugger, etc.) that aims to ease development of ATL transformations. The ATL project includes also a library of ATL transformations.

Operational Context of ATL

Principles

• A **model transformation** is the automatic creation of target models from source models.
• Model transformation is not only about M1 to M1 transformations (e.g. promotion from M1 to M2).
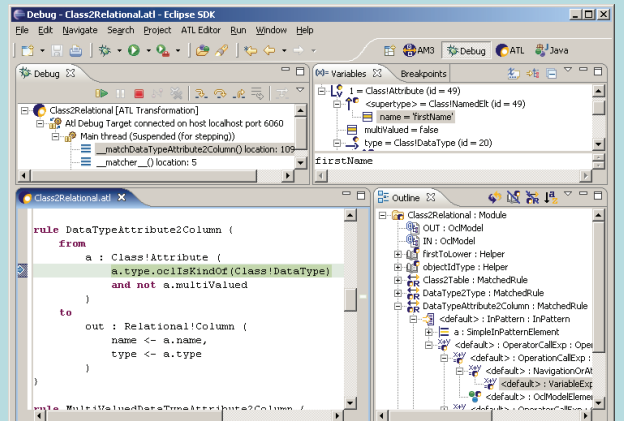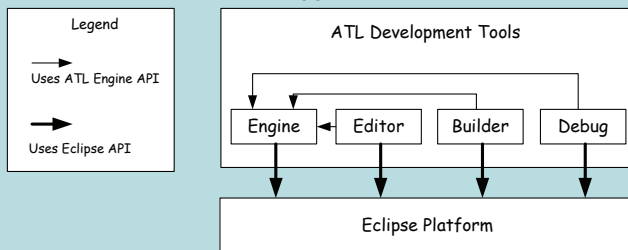

ATL Overview

• Source models and target models are distinct:
  • **Source** models are **read-only** (they can only be navigated, not modified)
  • **Target** models are **write-only** (they cannot be navigated)
• The language is a **declarative-imperative hybrid**
• A declarative rule specifies:
  • a source pattern to be **matched** in the source models
  • a target pattern to be created in the target models for each match during rule **application**
• An imperative rule is basically a procedure
  • It can contain a declarative target pattern or an action block (i.e. a sequence of statements) or both
• Recommended programming style: **declarative**

ATL Tools

• **Execution Engine:**
  • Virtual machine,
  • ATL to bytecode compiler,
• **Integrated Development Environment (IDE) for:**
  • Editor with syntax highlighting and outline,
  • Execution support with launch configurations,
  • Source-level debugger

Team:
http://www.sciences.univ-nantes.fr/lina/ATLAS/
http://www.sciences.univ-nantes.fr/lina/atl/

Other Tools:
http://www.eclipse.org/gmt/am3/
http://www.eclipse.org/gmt/amw/
http://www.eclipse.org/gmt/modisco/