MDE In A Sales Management System: A Case Study

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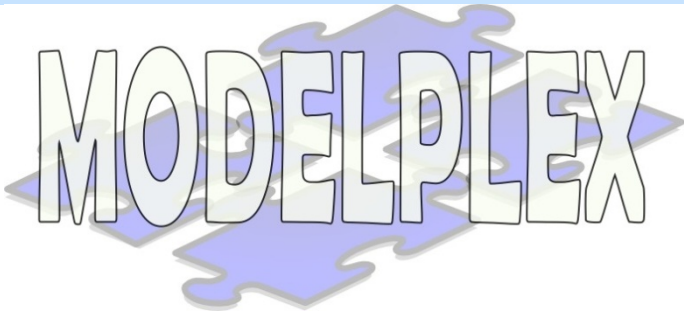
SAP, INRIA & TUD

Context of this work



- The present courseware has been elaborated in the context of the MODELPLEX European IST FP6 project (http://www.modelplex.org/).
- Co-funded by the European Commission, the MODELPLEX project involves 21 partners from 8 different countries.
- MODELPLEX aims at defining and developing a coherent infrastructure specifically for the application of MDE to the development and subsequent management of complex systems within a variety of industrial domains.
- To achieve the goal of large-scale adoption of MDE, MODELPLEX promotes the idea of a collaborative development of courseware dedicated to this domain.
- The MDE courseware provided here with the status of open-source software is produced under the EPL 1.0 license.

Outline

- Introduction
- Use Case Overview
- Model-Driven Performance Engineering for a back-end business process (work between TUD & SAP on part of the use case)
- Apply Global Model Management on Model-Driven Performance Engineering (current work between INRIA & SAP on part of the use case)
- Remaining work & challenges

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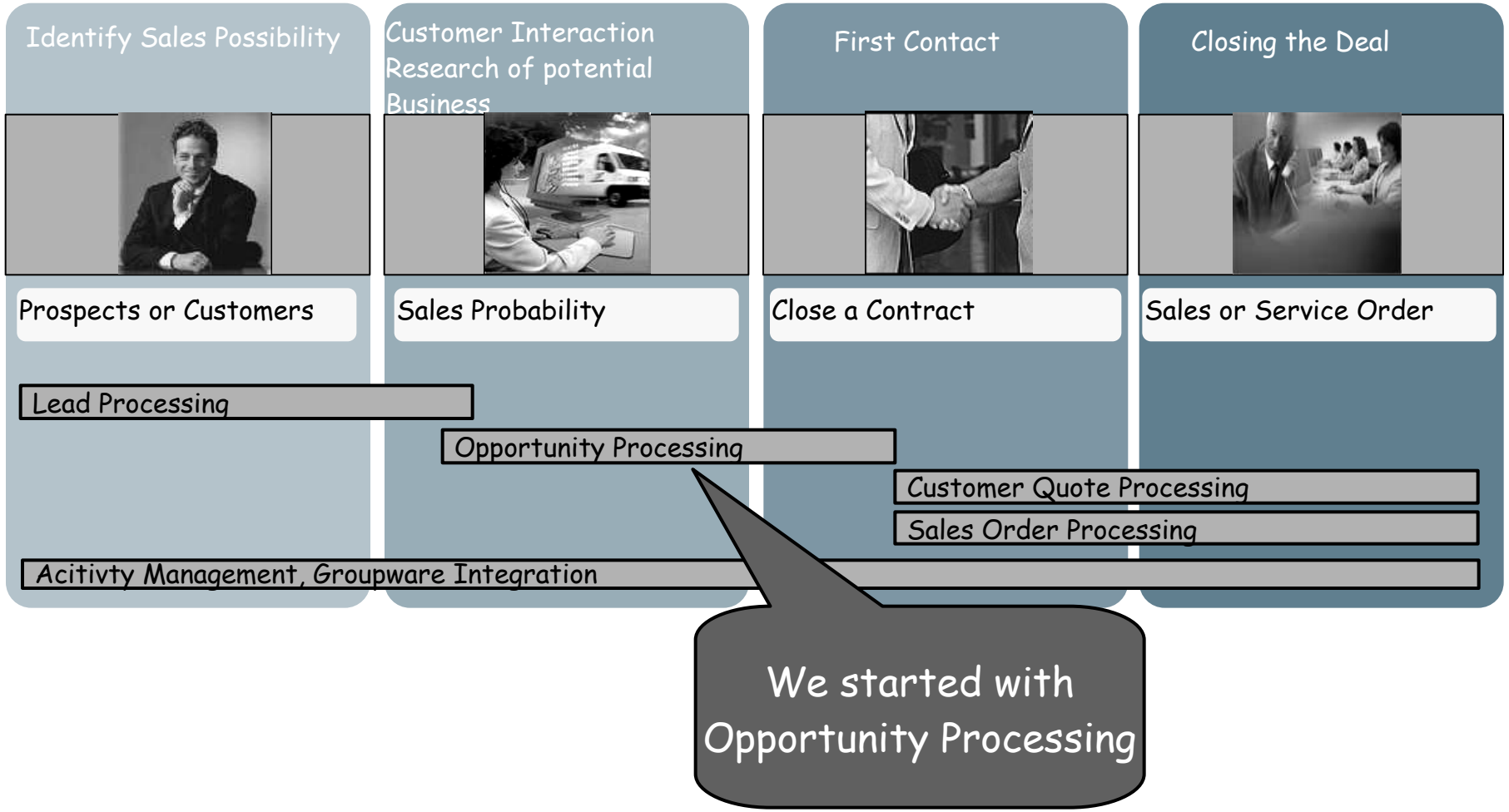
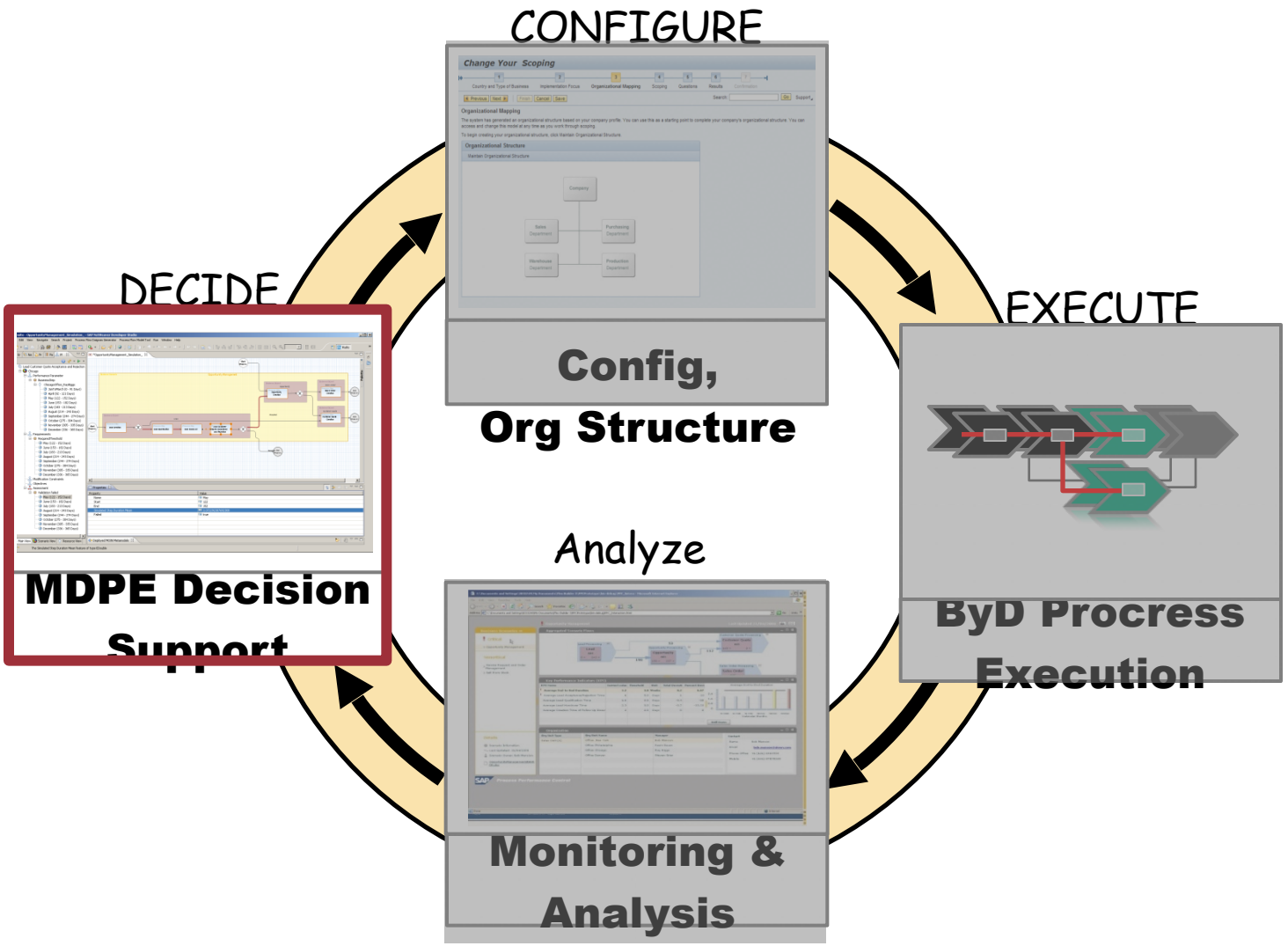
A Sales Management System

MDPE for Opportunity Management



Closed Loop of Continuous Process Optimization for business processes



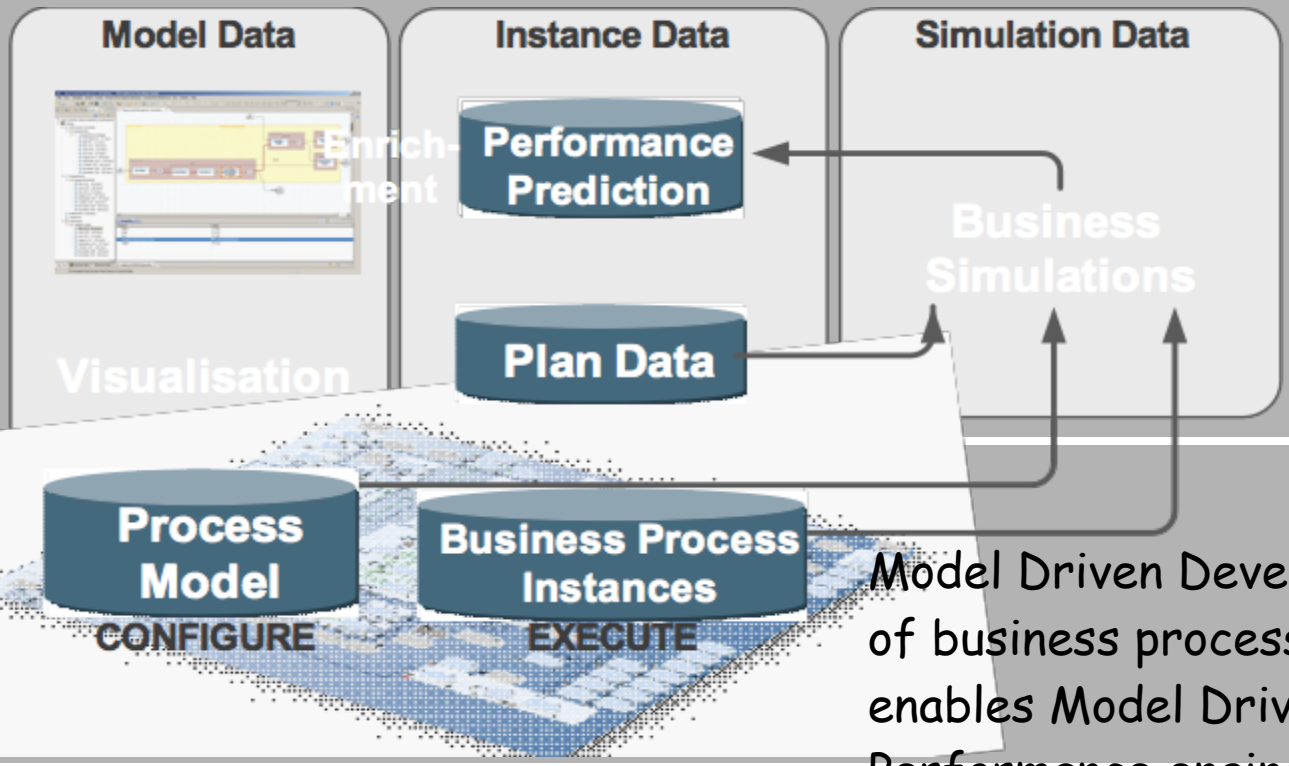
BPPM Decision Support

Architecture & Data Flow

Business Process Performance Decision Support

Business simulations are based on different data sources

- Historic Data (Business Process Instances from SAP Business Process Platform)
- Plan Data (e.g. Sales Planning)
- Process Models



SAP Platform

Model Driven Development of business processes enables Model Driven Performance engineering as

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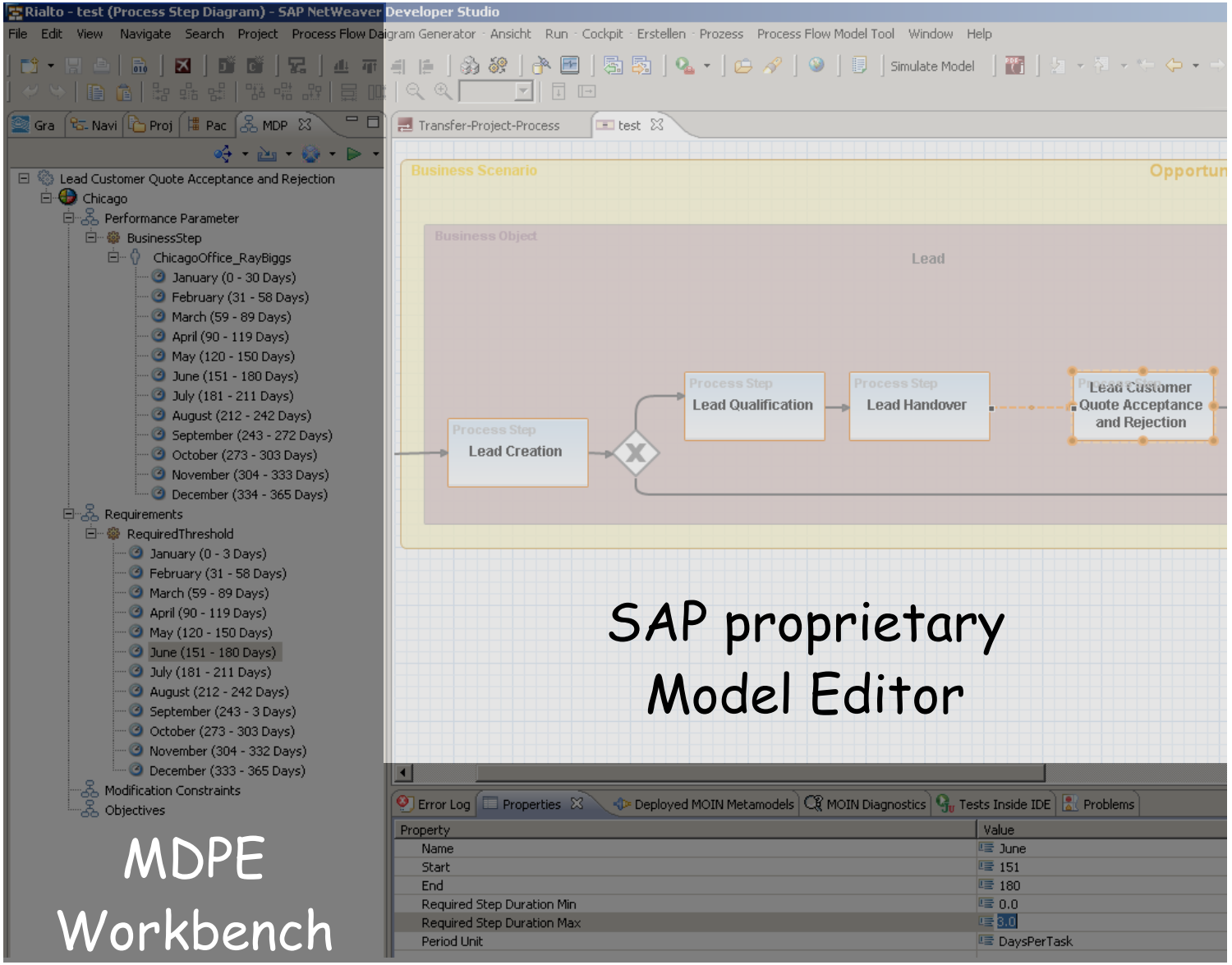
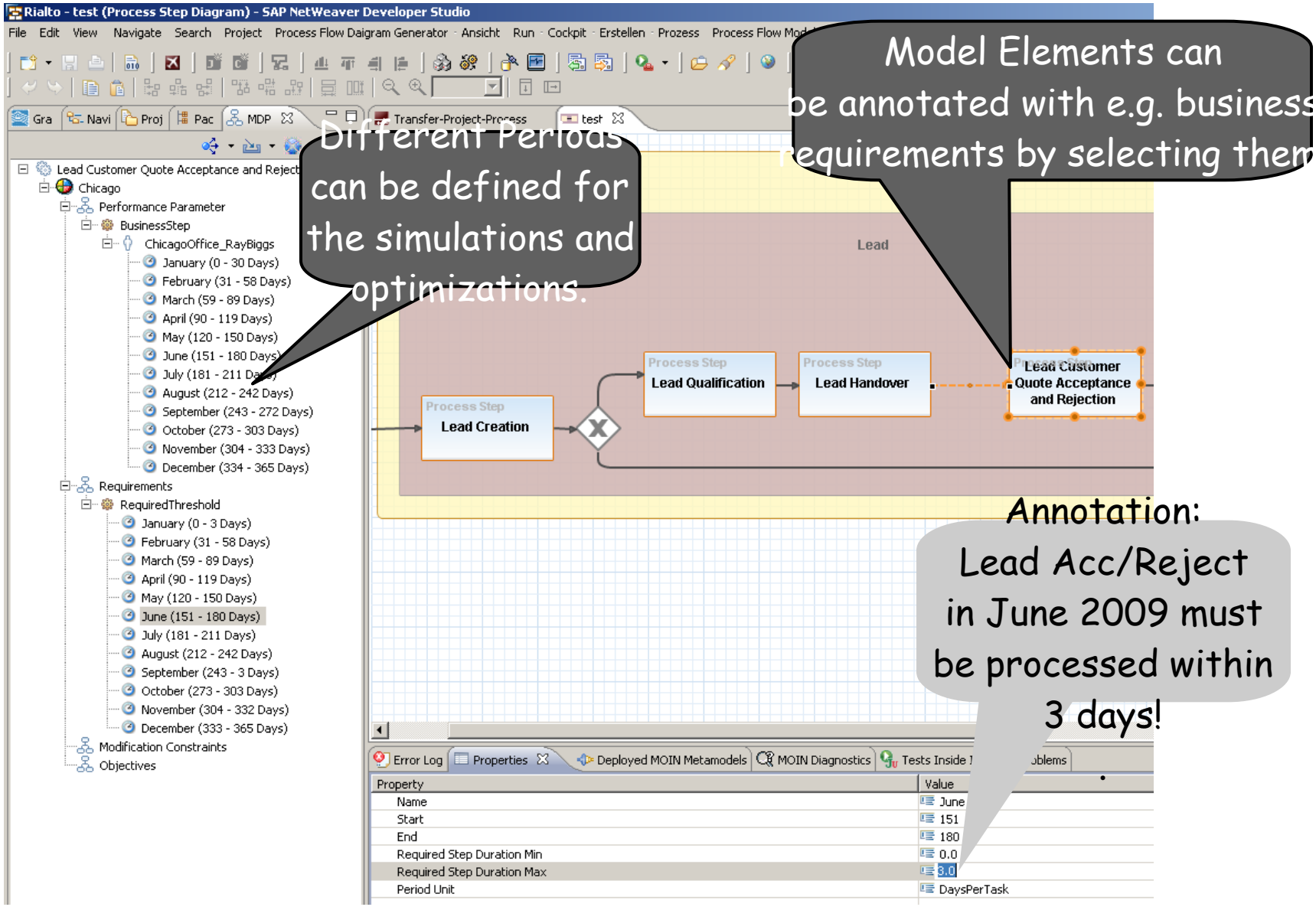
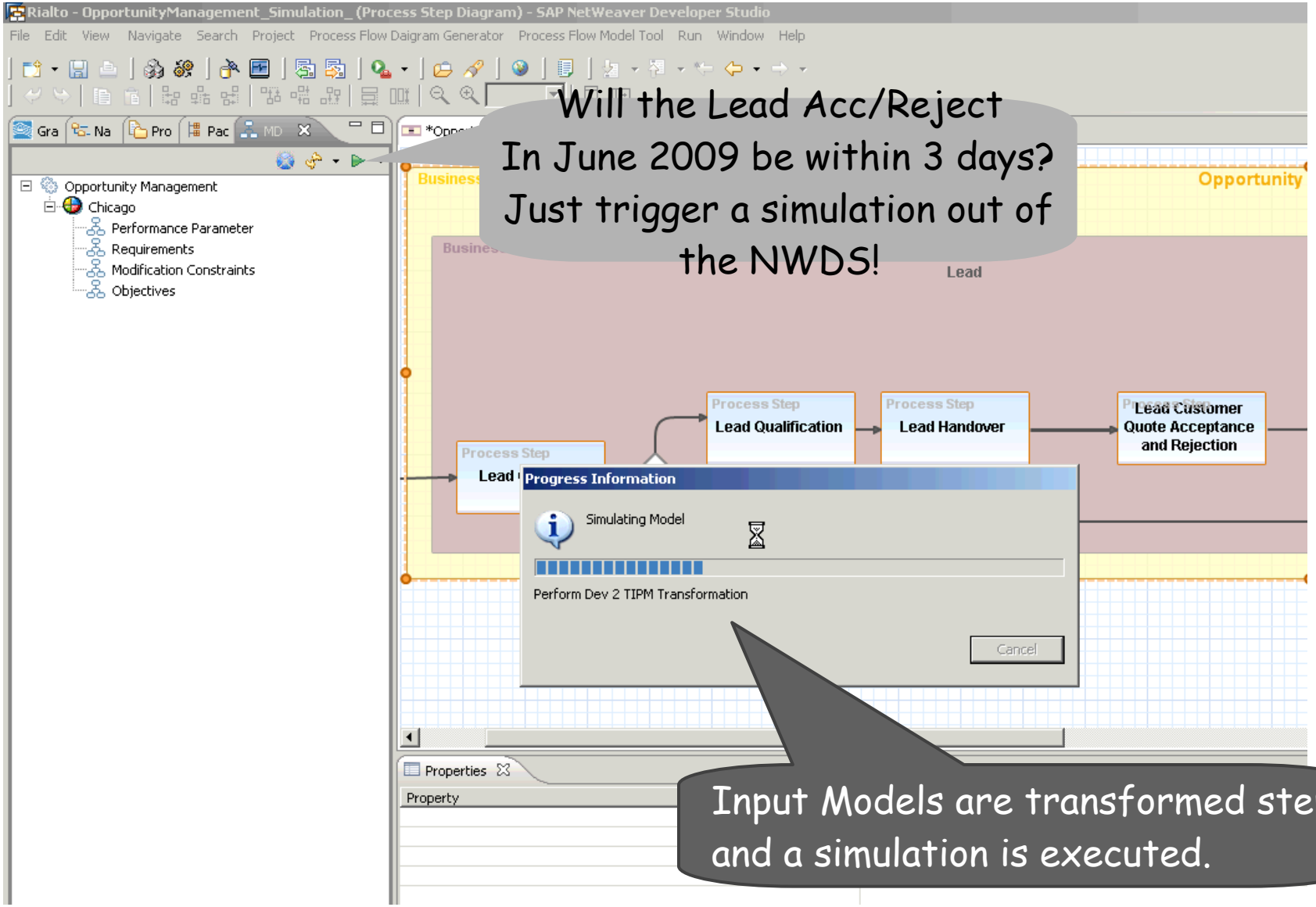
Screenshot 1: Integration between the Decision Support Workbench and SAP's NetWeaver Developer studio (NWDS)



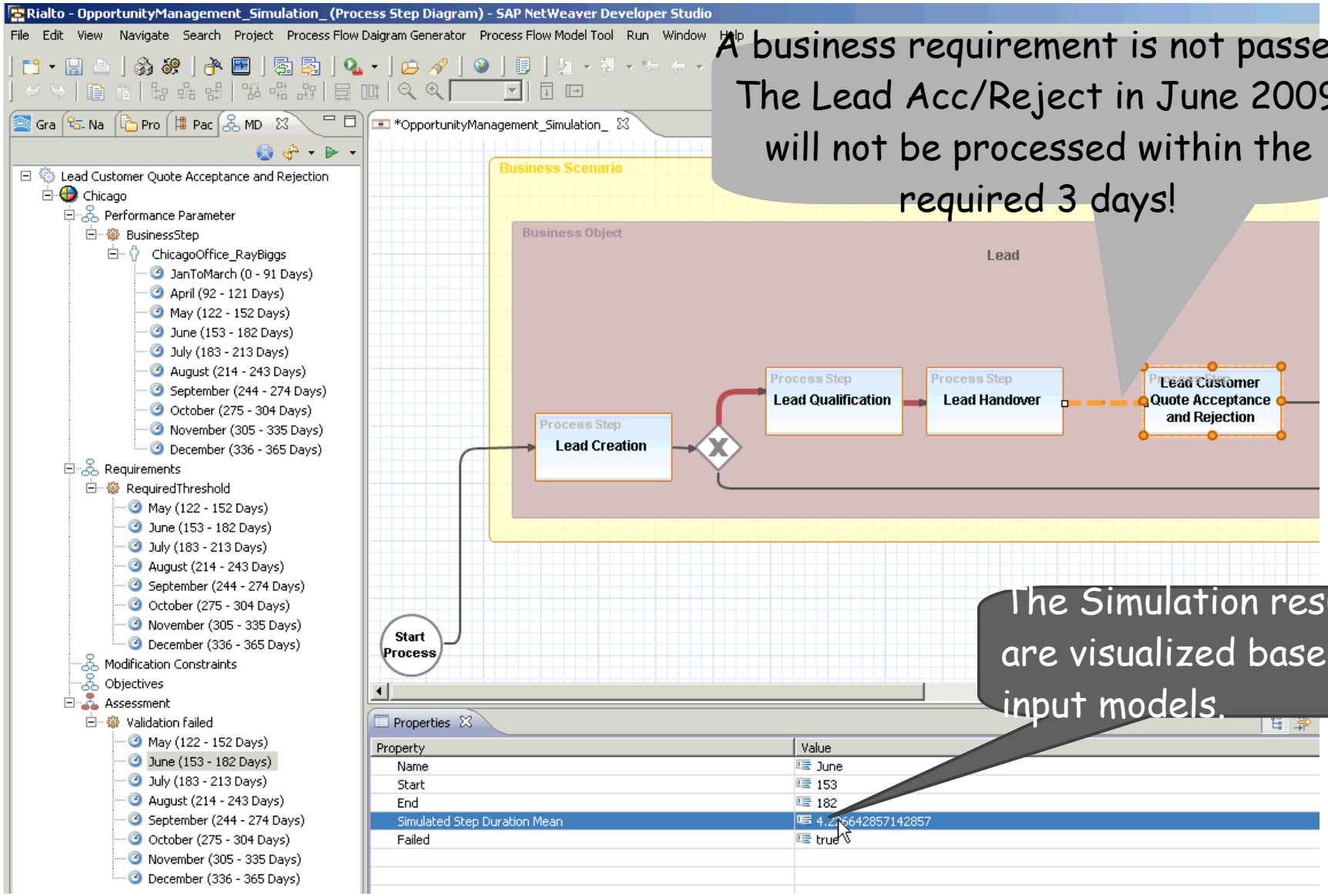
Screenshot 2: Annotation of ProcessStep models with e.g. Business Requirements



Screenshot 3: Running Business Performance Decision Support out of the NWDS



Screenshot 4: Visualization of Business Performance Decision Support results



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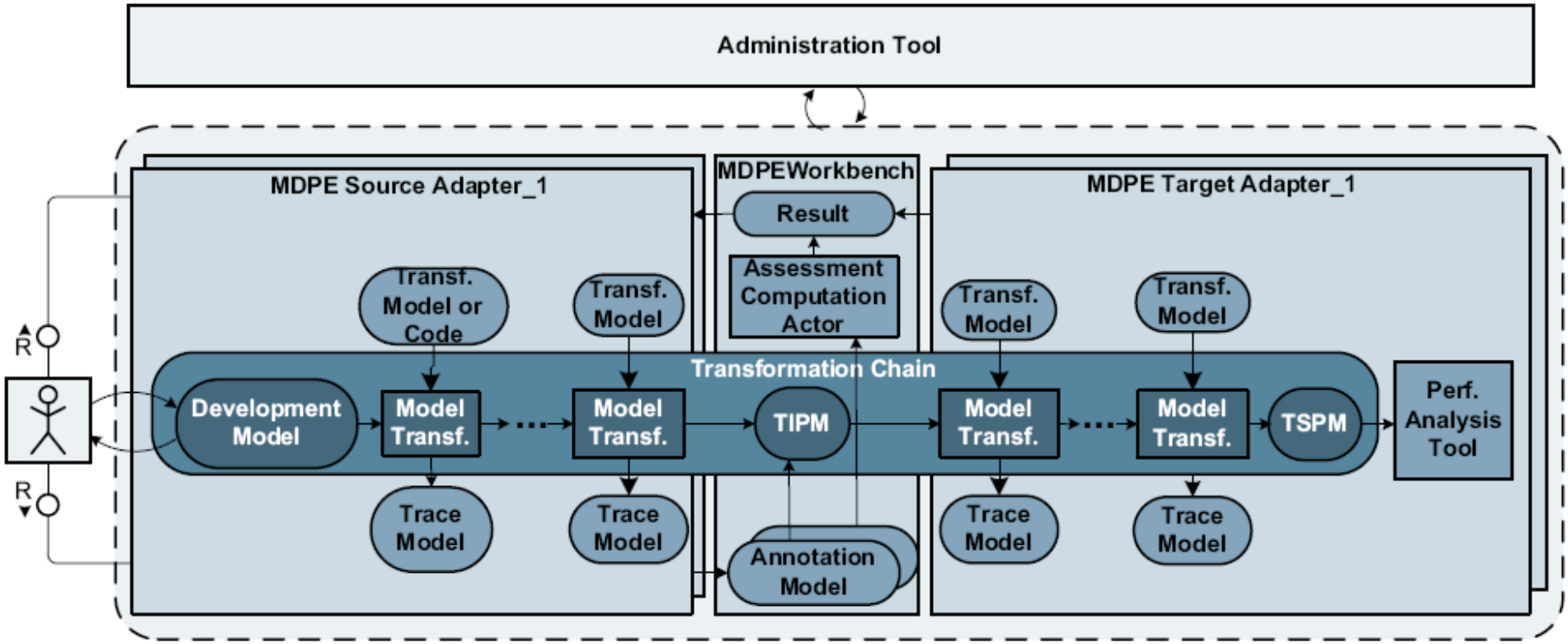
Megamodelling and Model Driven Performance Engineering

- Model Driven Performance Engineering involves numerous interrelated modelling artefacts which taking part in a long model transformation chain
- Megamodelling enables us to systematically deal with numerous modelling artefacts involved in the Model Driven Performance Engineering Process



Megamodelling and Model Driven Performance Engineering

AM3 Megamodelling tool:

- deal with the numerous modelling artefacts involved in the Model Driven Performance Engineering process
  - http://www.eclipse.org/gmt/am3/

ATL Model-to-Model Transformation tool:

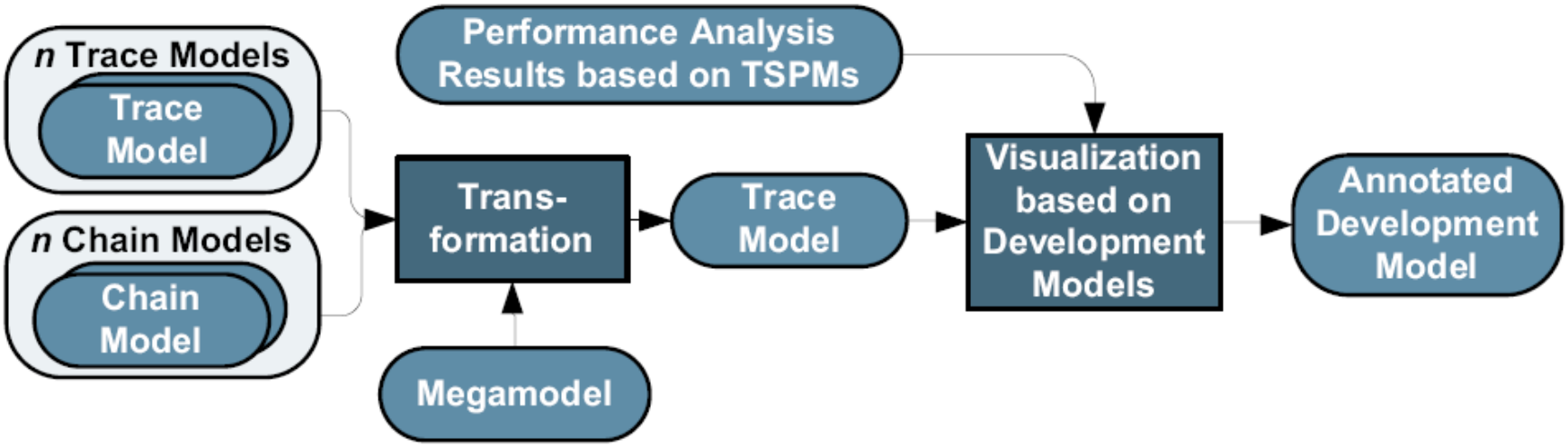
- implement most of the transformations from the MDPE transformation chain
  - http://www.eclipse.org/m2m/atl/

AMW Model Weaving tool:

- define, represent and handle traceability models and annotation models
  - http://www.eclipse.org/gmt/amw/

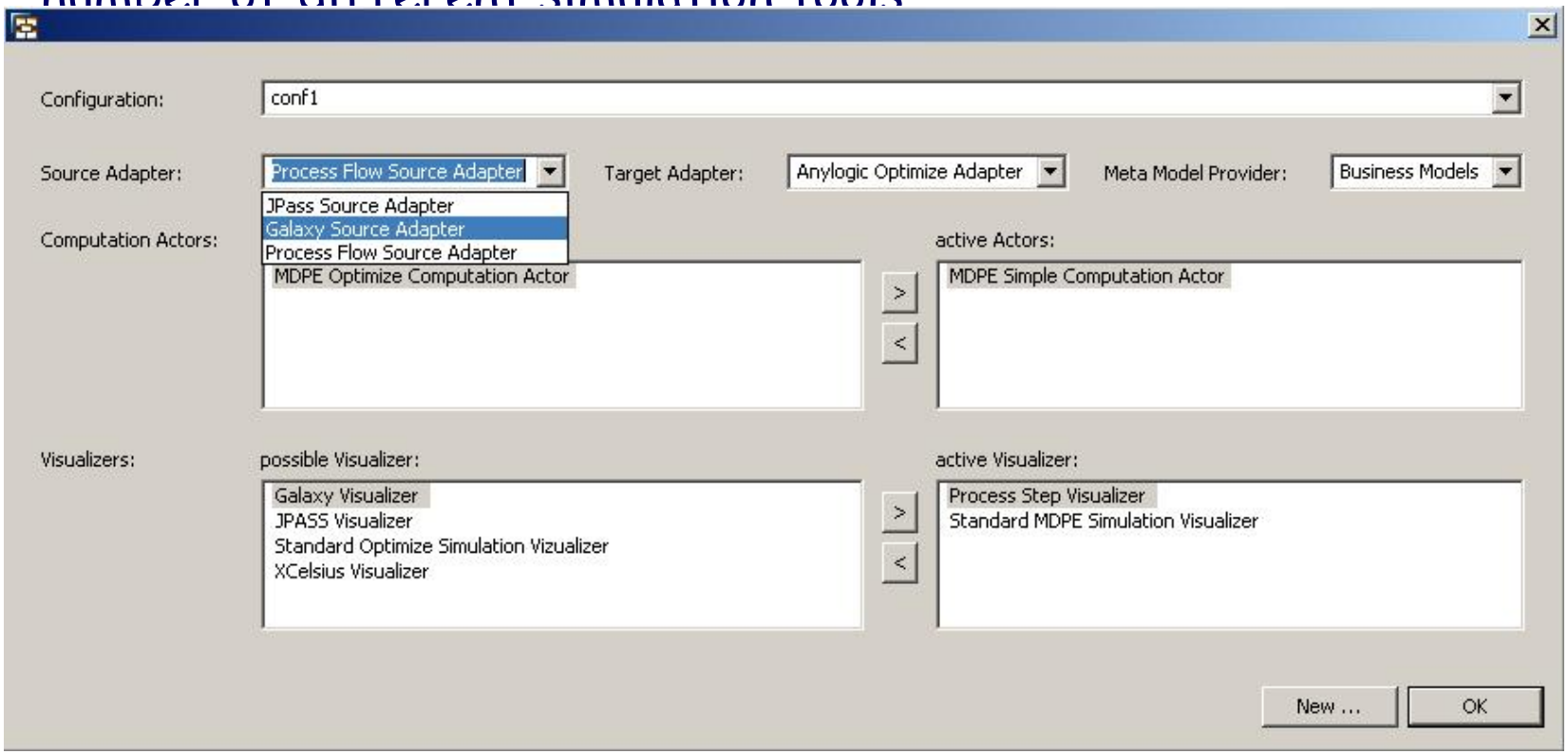
Usage example for the megamodel: Tracing

- The megamodel enables us to navigate from models in our transformation chain to its related trace models.
- This navigation is required to trace performance analysis results back to the original development models



Usage example for the megamodel: Administration Tool

- The megamodel is the underlying data source for the MDPE Administration tool
- The MDPE Administration tool is required to use MDPE as extension for a number of modelling tools and together with a number of different simulation tools



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Remaining Work and Challenges

- Applying MDPE for the more complex xWURST scenario (Composite Application on top of a back-end process such as Opportunity Management)
- Dealing with uncertainties in the input data of MDPE
- Integration of the Model Driven Performance Engineering Workbench in a general V&V Workbench
- Experimenting with a number of different simulation engines
- Gain customer feedback on automatically generated business simulations
- Model Driven Performance Engineering as a Service?
- Improvements of the current user interface