



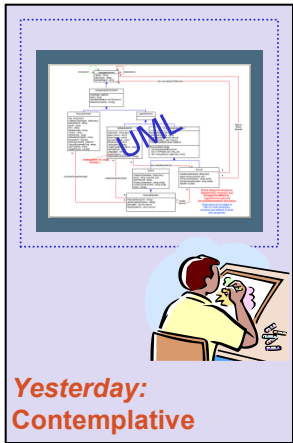
WP3 - Model Engineering

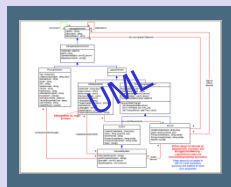
D3.2.d “Global Model Management Traceability Extension “

Hugo Bruneliere (INRIA)


MODELPLEX Interim Review, Brussels (Belgium),
27th of March 2009



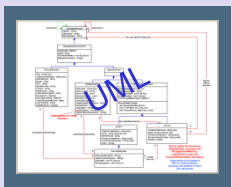




UML

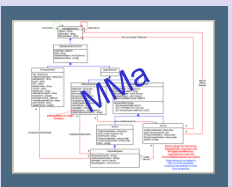



Yesterday:
Contemplative




UML

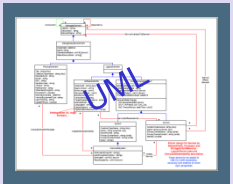
ATL




MMA



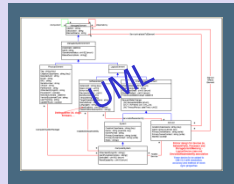
Today:
Towards automation
(Model Transformation)



UML

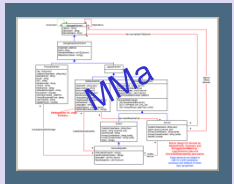



**Yesterday:
Contemplative**




UML

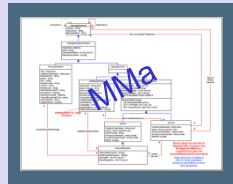
ATL



MMA




**Today:
Towards automation
(Model Transformation)**

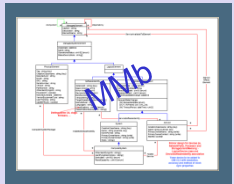


MMA

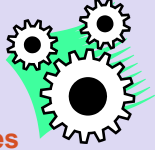
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AMW

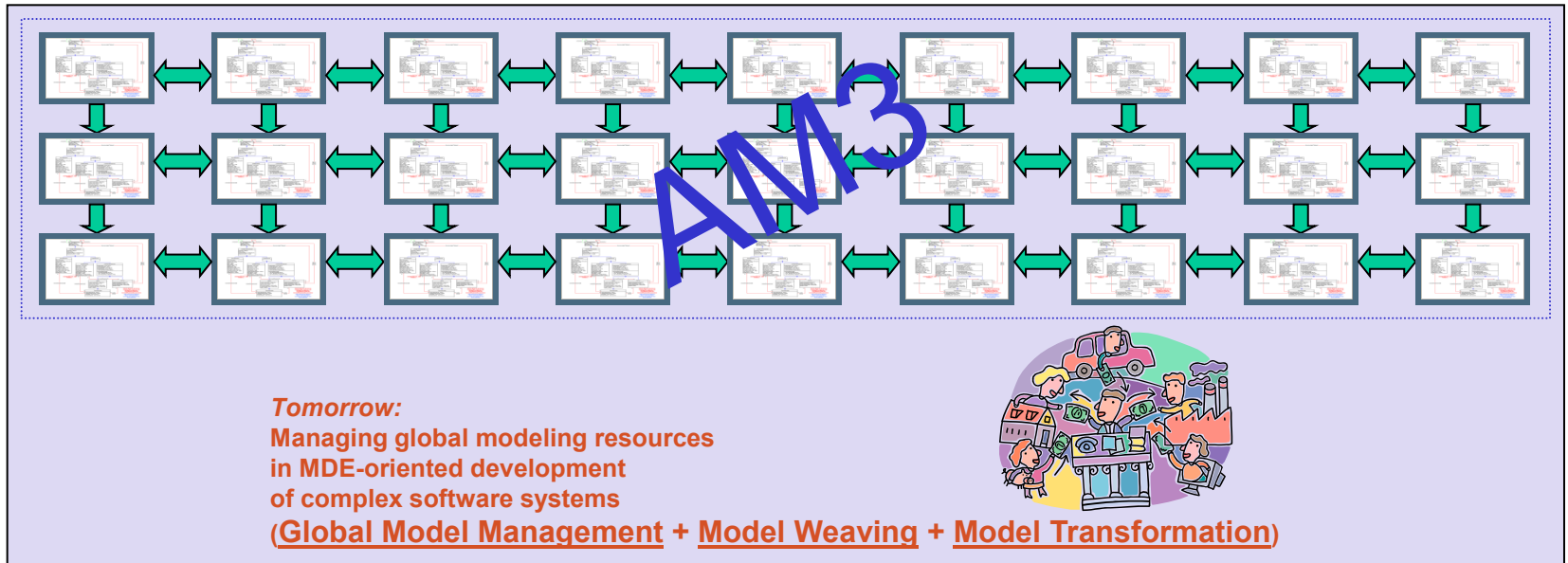
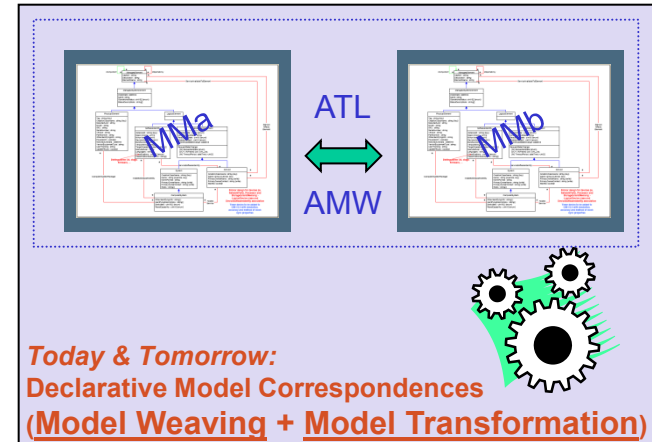
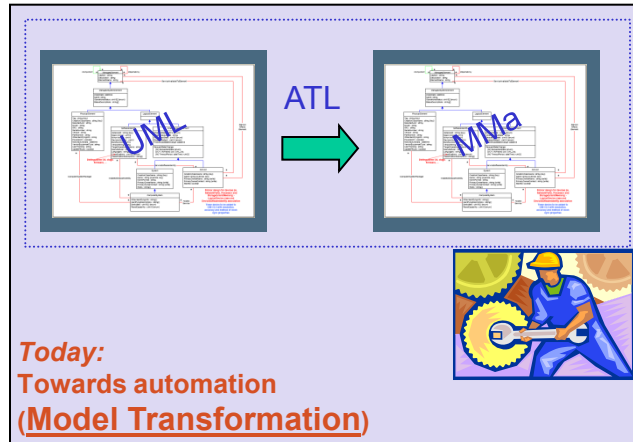
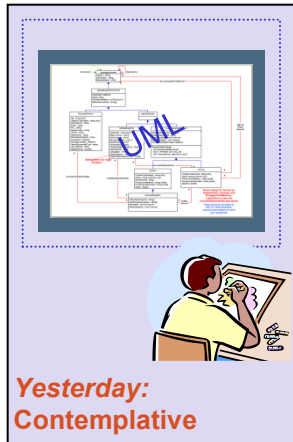


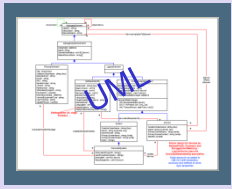
MMb




**Today & Tomorrow:
Declarative Model Correspondences
(Model Weaving + Model Transformation)**



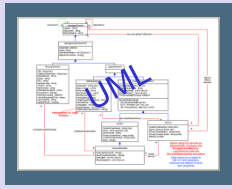


UML


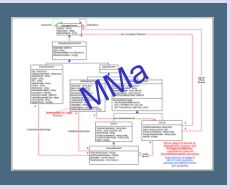


**Yesterday:
Contemplative**




UML

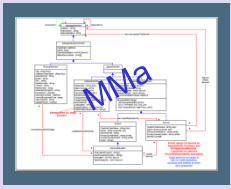
ATL

MMA




**Today:
Towards automation
(Model Transformation)**

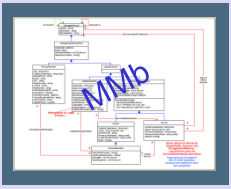


MMA

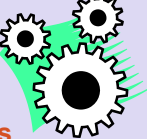
ATL



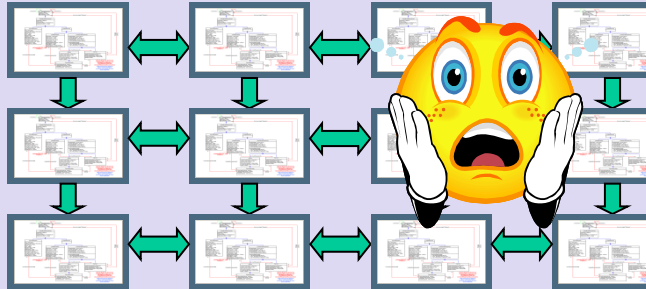
AMW



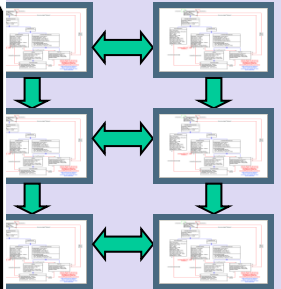
MMb



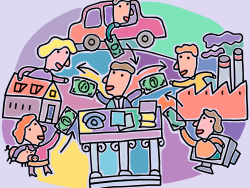
**Today & Tomorrow:
Declarative Model Correspondences
(Model Weaving + Model Transformation)**




Need for Traceability



**Tomorrow:
Managing global modeling resources
in MDE-oriented development
of complex software systems
(Global Model Management + Model Weaving + Model Transformation)**






- The **AM3** GMM Prototype
 - Available from *Eclipse.org*



- Megamodeling: represent references to models and relationships between them as models (called ***megamodels***)
 - Similar to a metadata repository on involved modeling artifacts
- Generic & extensible solution applied to **Traceability**:





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Problem

- Create traceability links
- Represent traceability links
- Use traceability links (navigation)





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<u>Problem</u>	<u>Solution</u>
• Create traceability links	Higher Order Transformations or HOTs (M2M)
• Represent traceability links	GMM + Model Weaving
• Use traceability links (navigation)	GMM + Model Weaving





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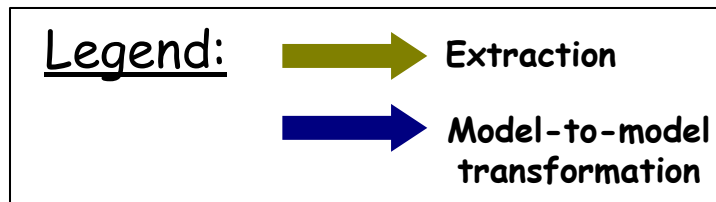
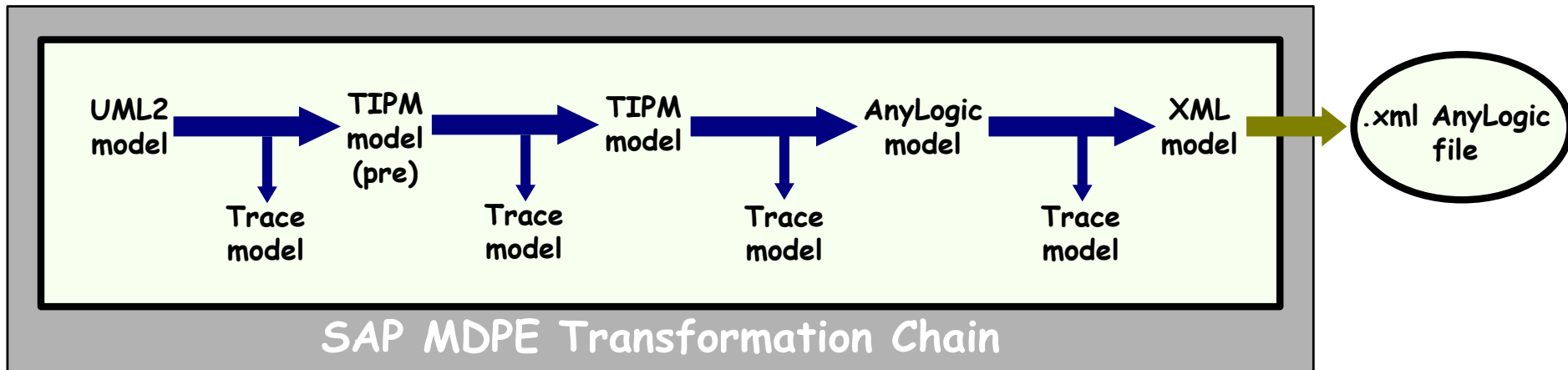
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<u>Potential Applications</u>
• Inter-DSLs' navigability
• Transformation Chain's Traceability
• Tool Interoperability
• Etc





- Subset of the overall MDPE process: UML2 to AnyLogic
 - Simplified view



- Demo...





Due date	Month 28 (December 2008)
Delivered date	Month 28 (December 2008)
Contributors	INRIA

Description:

- Outline
 - This report describes an extension of the Global Model Management (GMM) prototype, developed within Task 2.1, providing support for traceability: building and storage of cross-DSL and model-to-model transformation traces as well as corresponding models within the GMM environment.
- Main objective
 - Provide a generic and extensible traceability support, based on model-to-model transformation and model weaving, directly integrated within the GMM prototype

Achievements:

- Automated Traceability Support in M2M transformation with ATL
 - Based on a Higher-Order Transformation (HOT) and model weaving
- Generic Inter-Model Navigation Support
 - Directly applicable to traceability
- Integration of these features to the GMM prototype

