



Model Driven Software Development using the Eclipse Modeling Project

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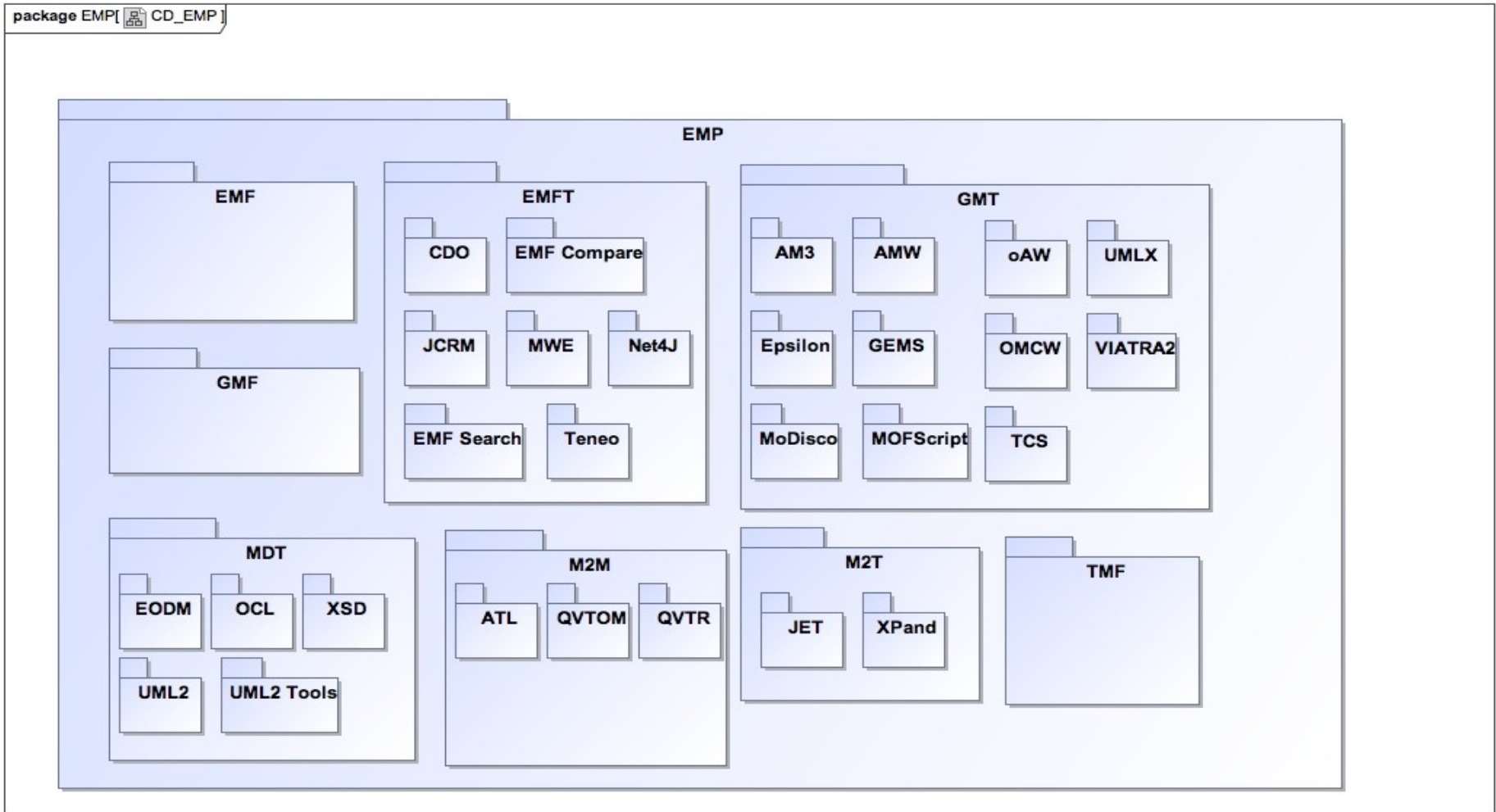
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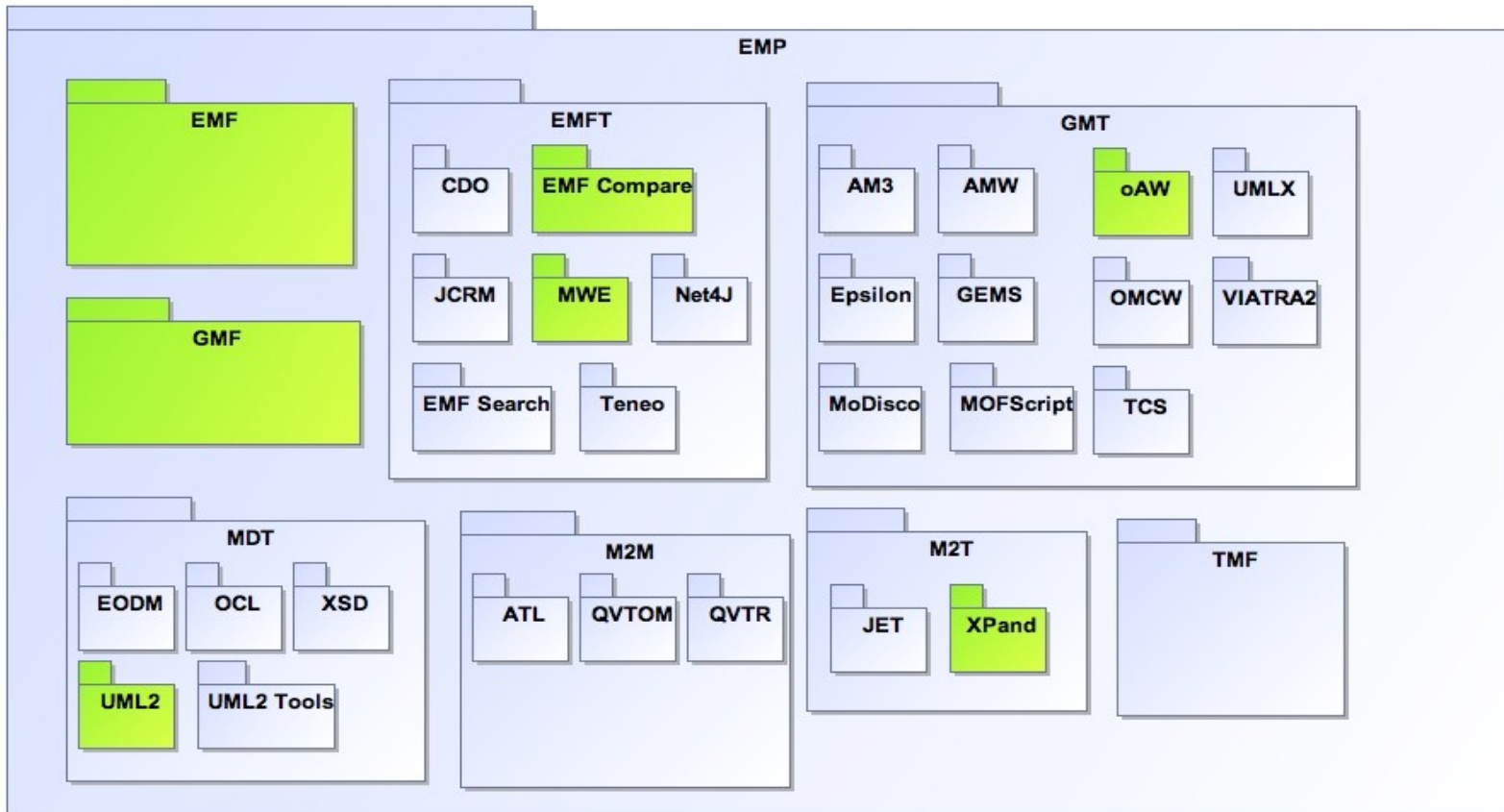
https://www.xing.com/profile/Karsten_Thoms

Eclipse Modeling Project - Overview

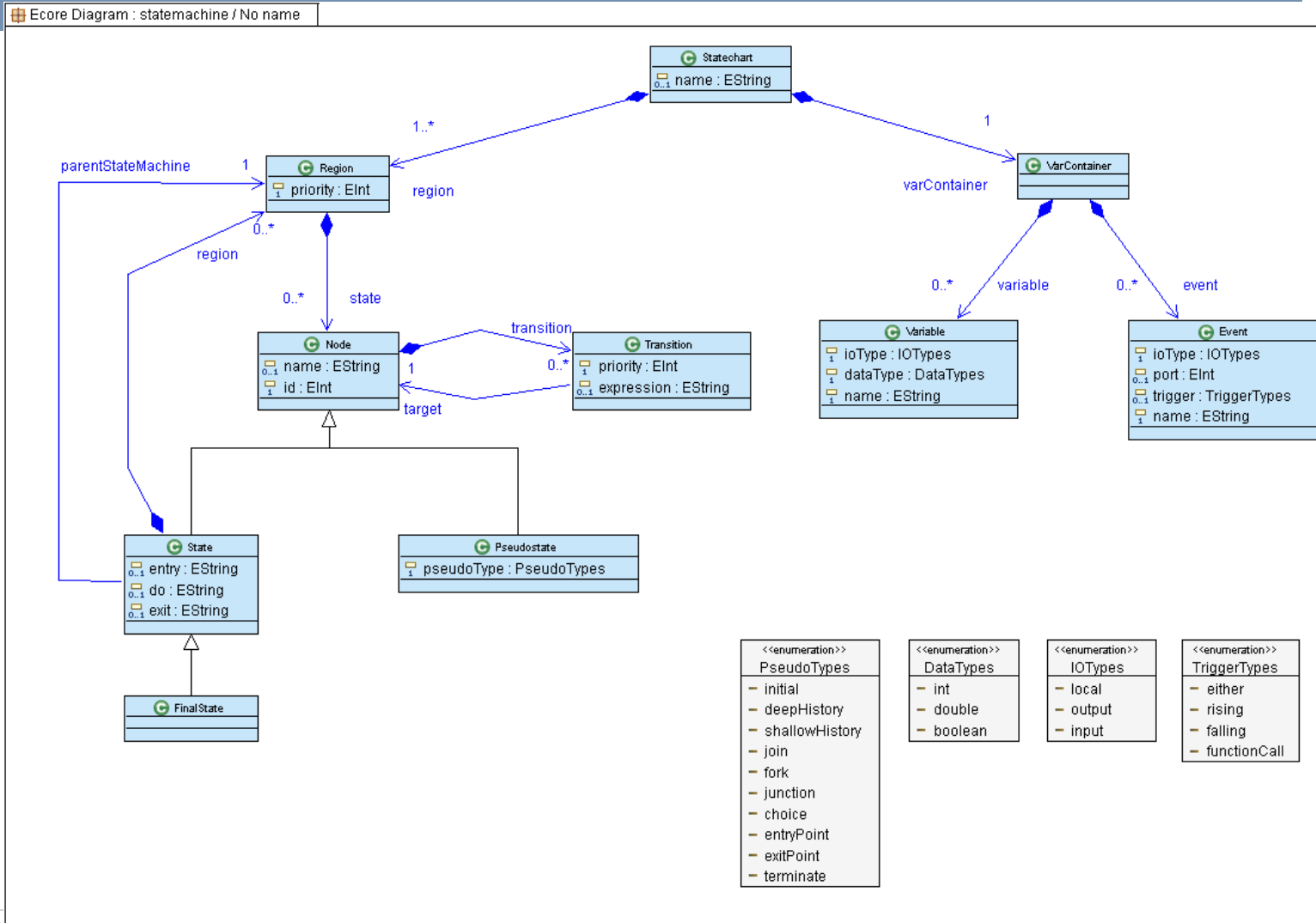


Eclipse Modeling Project - Excerpt

package EMP[CD_EMP1]



EMF - Eclipse Modeling Framework

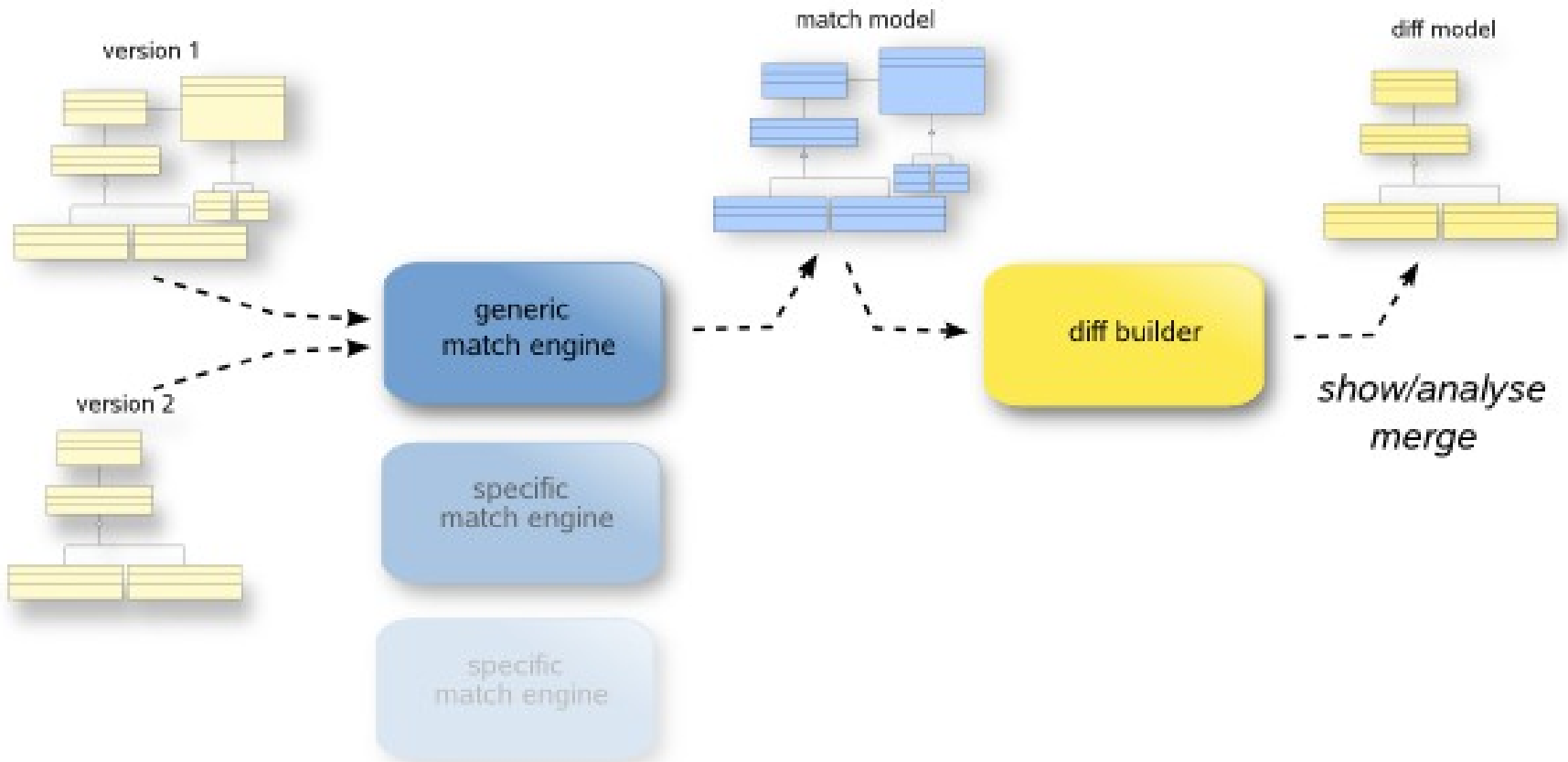


EMF UML2

- EMF basierte Implementierung des UML2 Standards
- Von vielen gängigen UML Tools unterstützt
- Wichtiges Modell Austauschformat

- IBM Rational Software Architect
- MagicDraw UML
- TopCased
- Omondo
- Papyrus UML
- Apollo
- ...

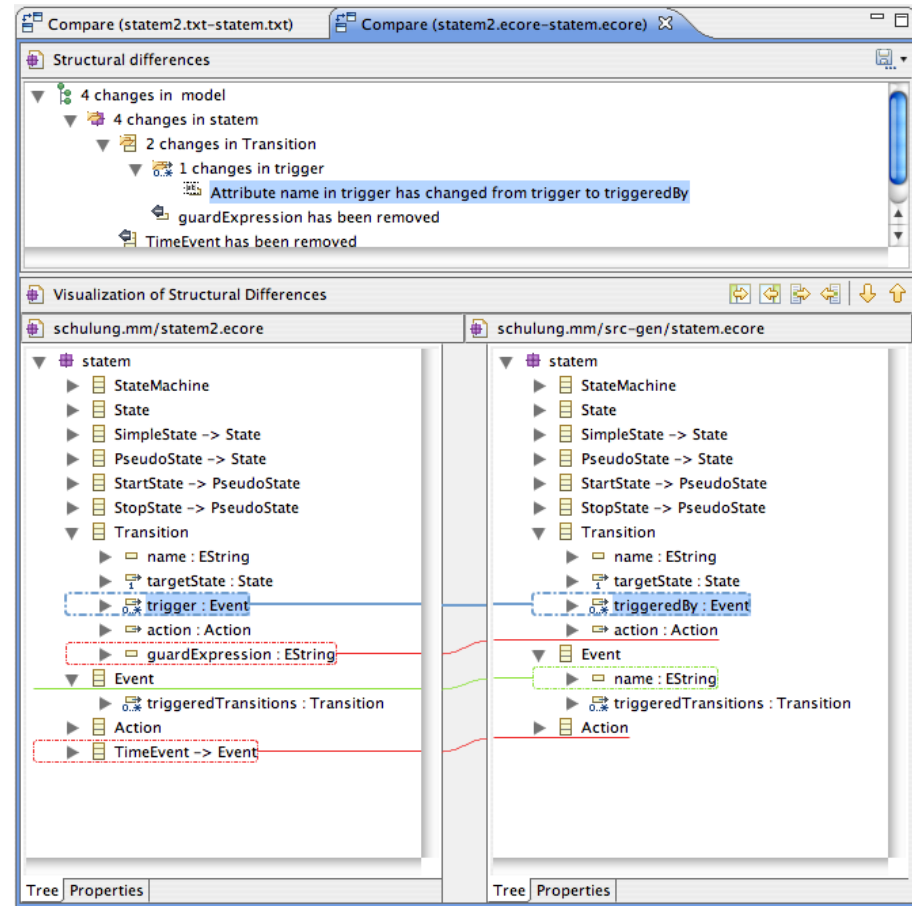
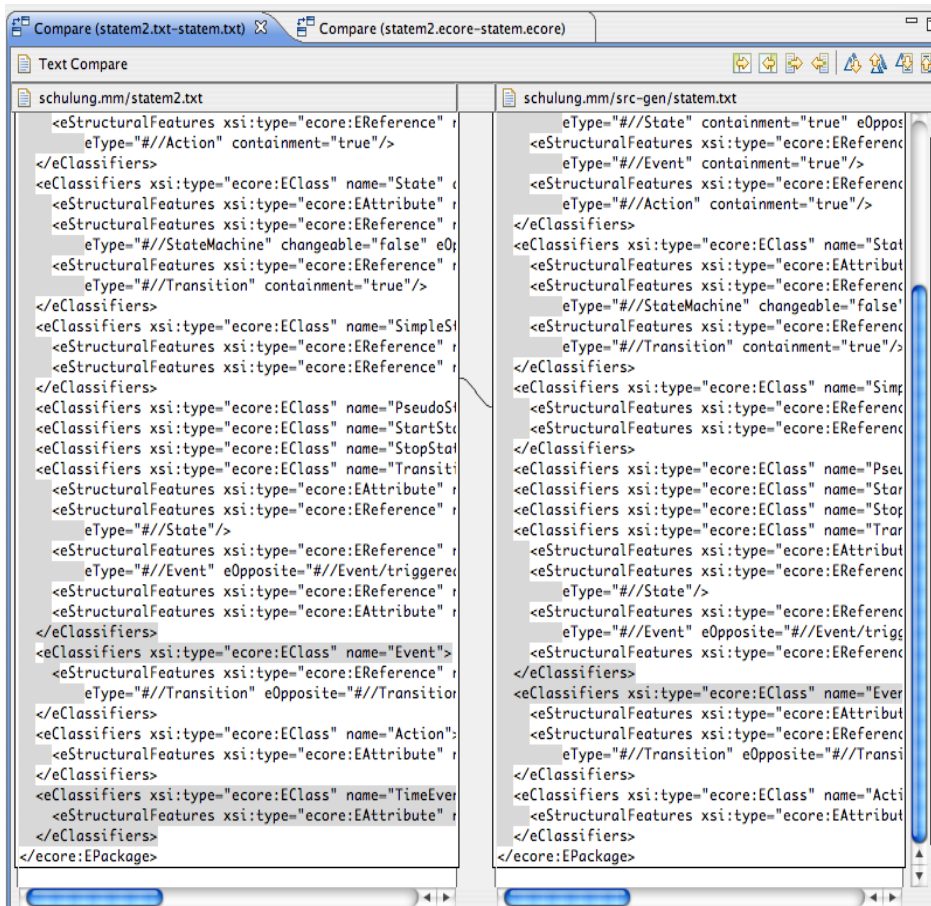
EMF Compare



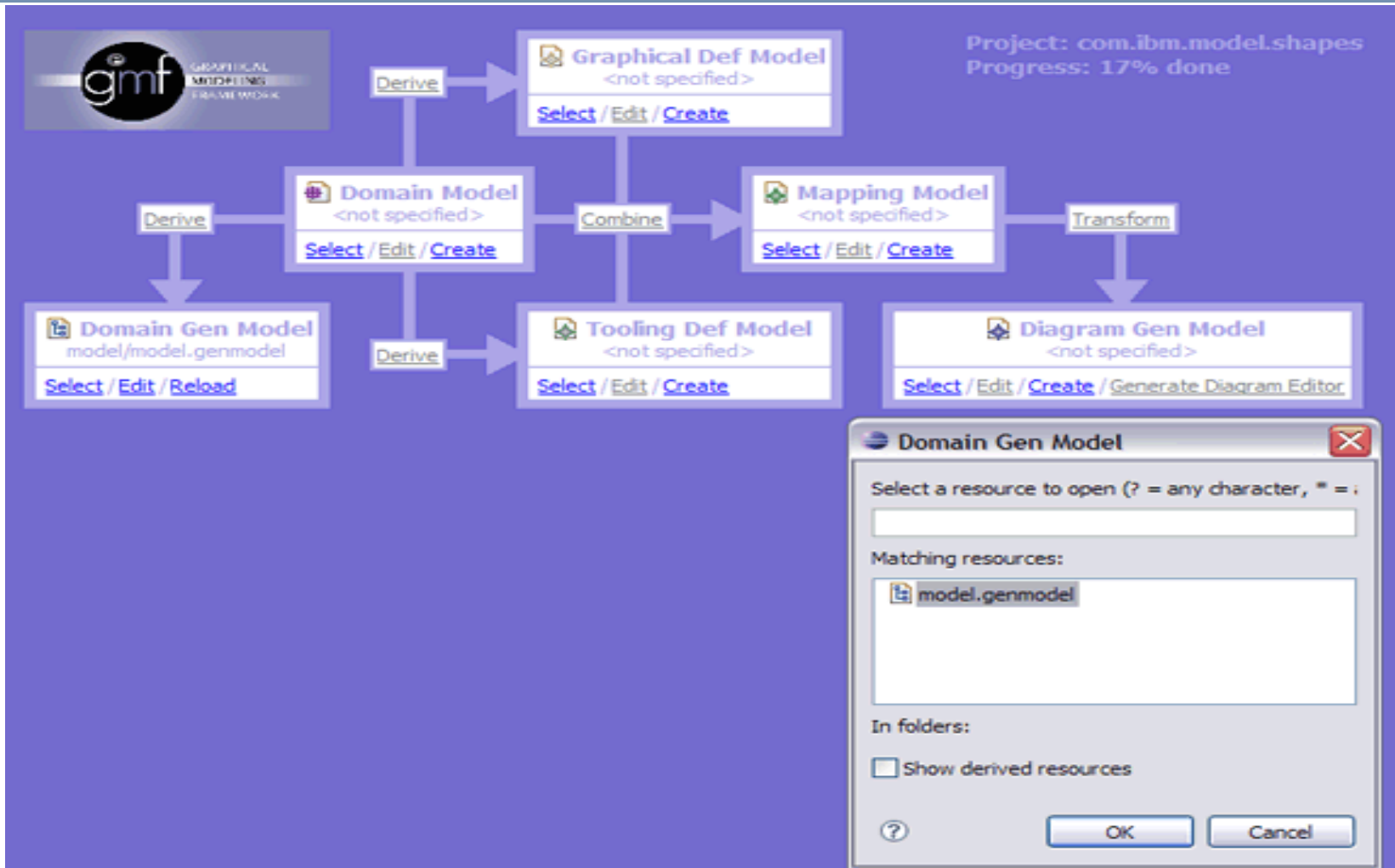
EMF Compare

Without EMF Compare

With EMF Compare



GMF – Graphical Modeling Framework



GMF generated editor with oAW Live Validation

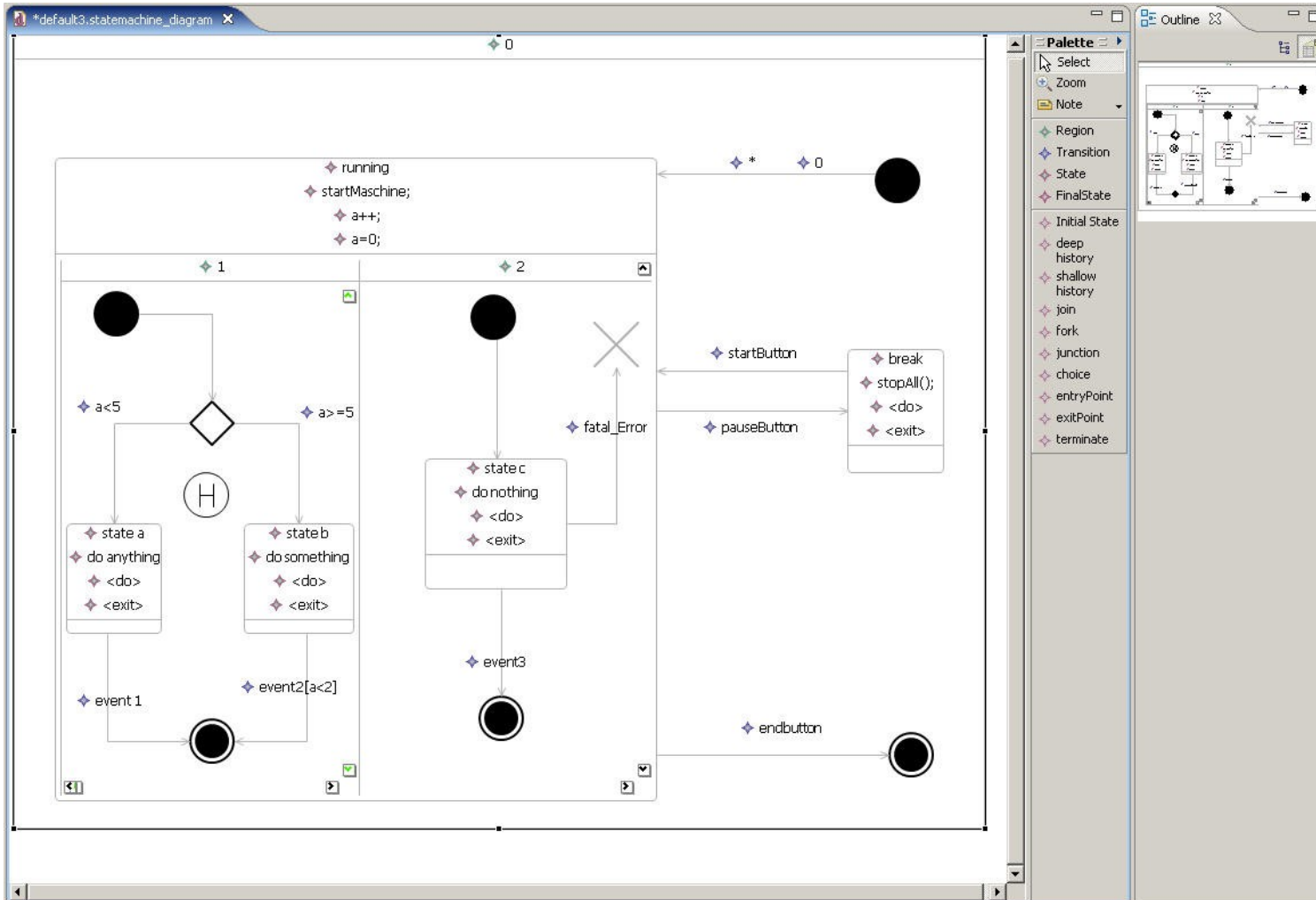
The diagram shows a state machine for a CD player with states: Start, OFF, OnAndWaiting, Playing, Stop, and Lonely State. Transitions include 'test' from Start to OFF, 'Press On Button' from OFF to OnAndWaiting, 'play' from OnAndWaiting to Playing, and 'stop' from Playing to OnAndWaiting. A 'Lonely State' is also present. A yellow note says 'just a note'. A red circle highlights the 'Stop' state with a warning icon, and a green circle highlights a state with a red 'X' error icon.

Problems | @ Javadoc | Declaration | Properties | Recipes

2 errors, 1 warning, 0 infos (Filter matched 3 of 23 items)

Description	Resource	Path	Location
✖ can only have one transition	CDPlayer.statem	schulung.example/model	<StateMachin
✖ exactly one start state required	CDPlayer.statem	schulung.example/model	<StateMachin
⚠ no transition pointing to this state	CDPlayer.statem	schulung.example/model	<StateMachin

GMF generated Editor



oAW Xpand Editor



Java - Root.xpt - Eclipse SDK

The screenshot shows the Eclipse IDE interface with the following components:

- Package Explorer:** Shows a project structure for 'oaw4.demo.emf.datamodel.generator' with sub-packages like 'src', 'datamodel', and 'templates'. The file 'Root.xpt' is selected in the 'templates' folder.
- Root.xpt Editor:** Displays Xpand code with macros like «DEFINE», «EXPAND», «FOREACH», and «ENDFOREACH». A code completion popup is visible over the line:


```
public void «a.setterName()»( «a.type» value ) {
```

 The popup lists several methods, with 'compareTo(Object) Integer - Object' selected.
- Outline:** Lists the project's classes and templates, including 'Root : data::DataModel', 'Entity : data::Entity', and 'Impl : data::PersistentEntity'.
- Problems:** Shows a single error: 'Couldn't find property 'UnknownFeature' for type 'data::Attribute''. The error table is as follows:

Description	Resource
Couldn't find property 'UnknownFeature' for type 'data::Attribute'	Root.xpt

oAW Generierung – Command Line / Ant



```

Default
thoms:~/Documents/Events/20071127_EclipseDemoCamp/eclipse/workspace/HibernateCartridge thoms$ ant
Buildfile: build.xml

clean:
[delete] Deleting 14 files from /Users/thoms/Documents/Events/20071127_EclipseDemoCamp/eclipse/workspace/HibernateCartridge/src/generated

generate:
[java] 0 INFO WorkflowRunner -----
[java] 604 INFO WorkflowRunner - openArchitectureWare 4.2.0, Build 200709162219NGT
[java] 605 INFO WorkflowRunner - (c) 2005-2007 openarchitectureware.org and contributors
[java] 606 INFO WorkflowRunner -----
[java] 606 INFO WorkflowRunner - running workflow: workflow.oaw
[java] 607 INFO WorkflowRunner -----
[java] 3815 INFO CompositeComponent - XmlReader: file 'src/main/resources/example-model.uml' => slot 'model'
[java] 4012 INFO CompositeComponent - Workflow: executing workflow org/fornax/cartridges/uml2/hibernate/hibernate.oaw in workflow.oaw:29
[java] 4016 INFO CompositeComponent - TextConfigurationReader: loading global configuration model (text) from hibernateConfig.txt
[java] 4017 INFO CompositeComponent - FeatureComponent: executing feature org/fornax/cartridges/uml2/hibernate/hibernate.oaw in org/fornax/cartridges/uml2
/hibernate/hibernate.oaw:60
[java] 4018 INFO CompositeComponent - XtendComponent: executing 'org::fornax::cartridges::uml2::hibernate::extensions::ModelTransformation'
[java] 4787 INFO IOExtensions -----
[java] 4794 INFO IOExtensions - Starting Modelmodifications
[java] 4796 INFO IOExtensions - Naming unnamed association-ends
[java] 5890 INFO IOExtensions - Creating default-keys
[java] 6456 INFO IOExtensions -----
[java] 6457 INFO CompositeComponent - CheckComponent: slot model check file(s): org::fornax::cartridges::uml2::hibernate::checks::Constraints org::fornax:
:cartridges::uml2::hibernate::checks::AssociationChecks
[java] 6570 INFO CompositeComponent - FeatureComponent: executing feature org/fornax/cartridges/uml2/hibernate/hibernate.oaw in org/fornax/cartridges/uml2
/hibernate/hibernate.oaw:98
[java] 6572 INFO ConditionalComponent - Generator(hibernateCartridge_mapping_generator): generating 'org::fornax::cartridges::uml2::hibernate::templates::
feature_mappings::Root FOR model' => directory 'null'
[java] 7118 WARN GlobalVarExpression - Global variable 'list_set_property' is null. Is it configured?
[java] 7377 INFO Generator - Written 6 files to outlet [default](/Users/thoms/Documents/Events/20071127_EclipseDemoCamp/eclipse/workspace/Hibera
teCartridge/src/generated/resources)

```

oAW Generierung – Eclipse integriert



The screenshot displays the Eclipse IDE interface. On the left, a project tree shows a workspace named 'schulung.example' with a sub-project 'src'. The 'src' folder contains several files and sub-folders, including 'sm', 'Auktion.oaw', 'CDPlayer.oaw', 'example.oaw', 'mikrowelle', and 'src-gen'. A context menu is open over the 'src' folder, listing various actions such as 'New', 'Open', 'Copy', 'Paste', 'Delete', 'Build Path', 'Refactor', 'Import...', 'Export...', 'Refresh', 'Assign Working Sets...', 'Validate', 'Run As', 'Debug As', 'Team', 'Compare With', 'Replace With', 'Source', and 'Properties'. The 'Run As' submenu is expanded, showing a list of Maven2 build tasks: '1 Maven2 build', '2 Maven2 build...', '3 Maven2 clean', '4 Maven2 generate sources', '5 Maven2 install', '6 Maven2 test', and '7 oAW Workflow'. The console window on the right shows the output of the 'Run As' action, displaying log messages from the 'WorkflowRunner' and 'openArchitectureWare' components. The log output includes information about the workflow execution, such as 'running workflow: example.oaw' and 'Workflow: executing workflow wf-backend.oaw in wf-statemachine-v2.oaw:31'. The log also shows the execution of various components, including 'Generator', 'RecipeCreator', and 'Writer', and the completion of the workflow in 1422ms.

Resources

- Eclipse Modeling Project: http://wiki.eclipse.org/Modeling_Project
- Eclipse Modeling Framework: <http://www.eclipse.org/modeling/emf/>
- Graphical Modeling Framework: <http://www.eclipse.org/gmf/>
- Eclipse MDT UML2: <http://wiki.eclipse.org/MDT-UML2>
- EMF Compare: http://wiki.eclipse.org/index.php/EMF_Compare
- openArchitectureWare:
 - <http://www.openarchitectureware.org/>
 - <http://www.eclipse.org/gmt/oaw/doc/>
- The Fornax Platform:
<http://www.fornax-platform.org/cp/display/fornax/Fornax>

Resourcen

