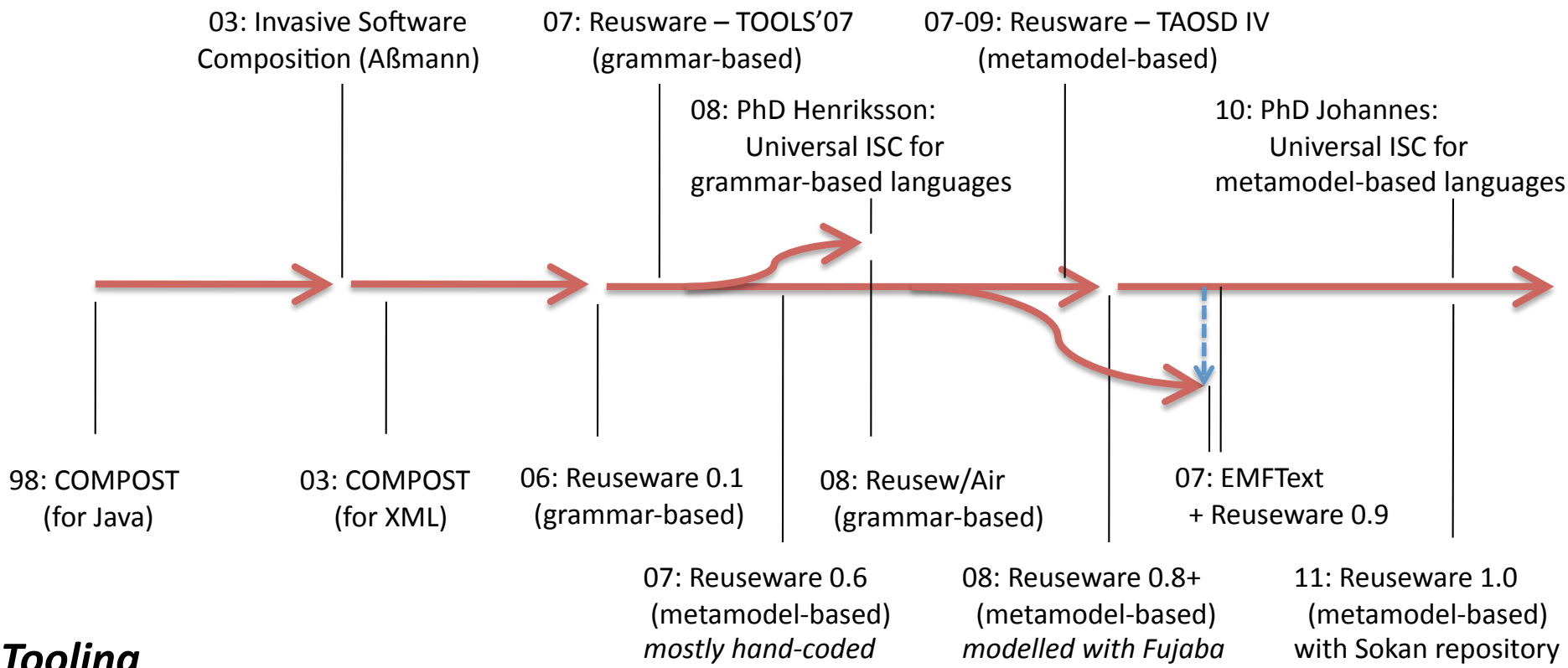
reuseware
composition framework
1.0

Architecture Overview

http://svn-st.inf.tu-dresden.de/svn/reuseware/trunk/Reuseware/

History

Theory – Invasive Software Composition



Tooling

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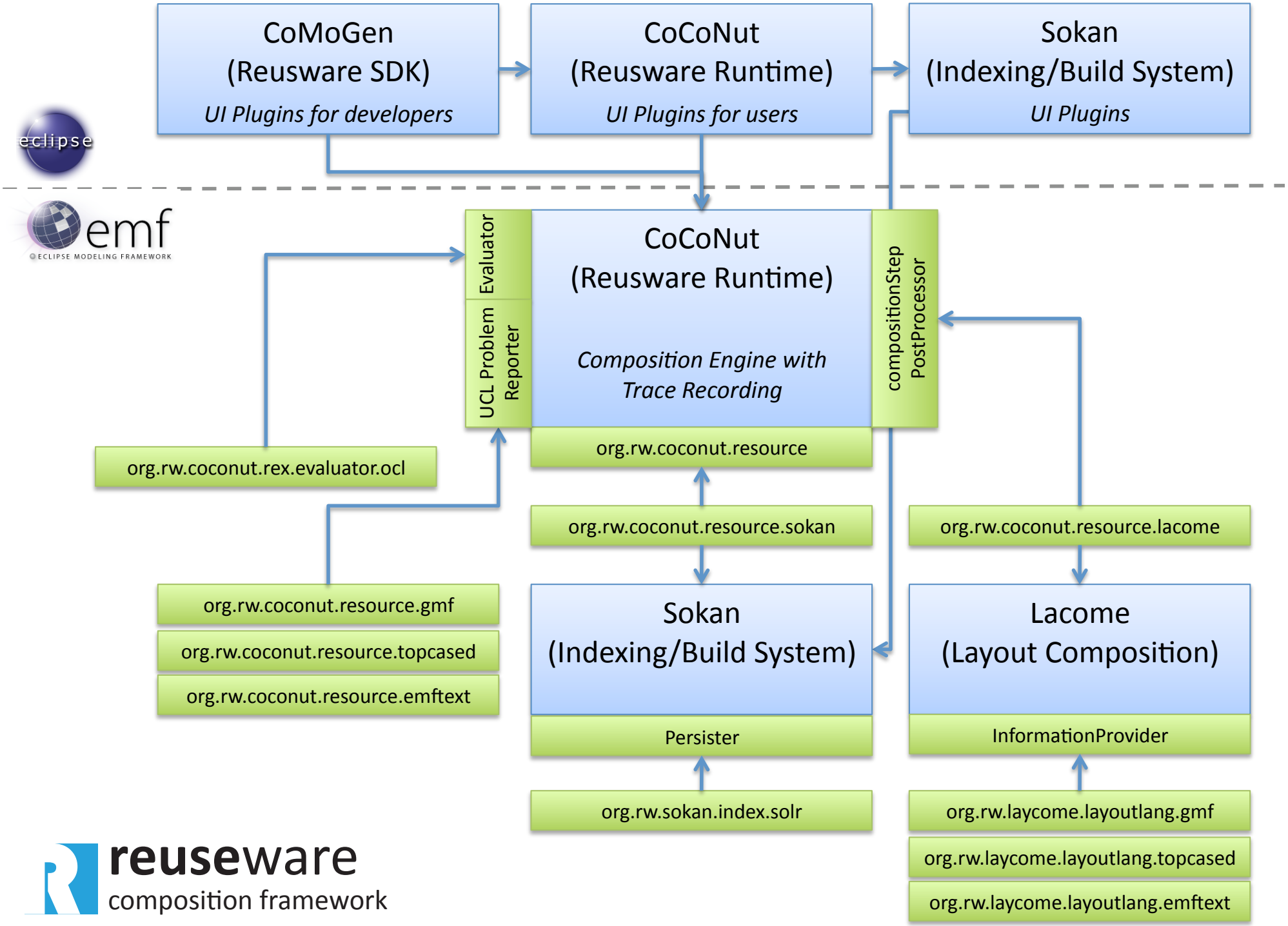
CoMoGen
(Reusware SDK)
UI Plugins for developers
CoCoNut
(Reusware Runtime)
UI Plugins for users
Sokan
(Indexing/Build System)
UI Plugins
eclipse
emf
ECLIPSE MODELING FRAMEWORK
Evaluator
UCL Problem Reporter
CoCoNut
(Reusware Runtime)
Composition Engine with
Trace Recording
compositionStep
PostProcessor
org.rw.coconut.rex.evaluator.ocl
org.rw.coconut.resource
org.rw.coconut.resource.sokan
org.rw.coconut.resource.lacome
org.rw.coconut.resource.gmf
org.rw.coconut.resource.topcased
org.rw.coconut.resource.emftext
Sokan
(Indexing/Build System)
Lacome
(Layout Composition)
Persister
InformationProvider
org.rw.sokan.index.solr
org.rw.laycome.layoutlang.gmf
org.rw.laycome.layoutlang.topcased
org.rw.laycome.layoutlang.emftext
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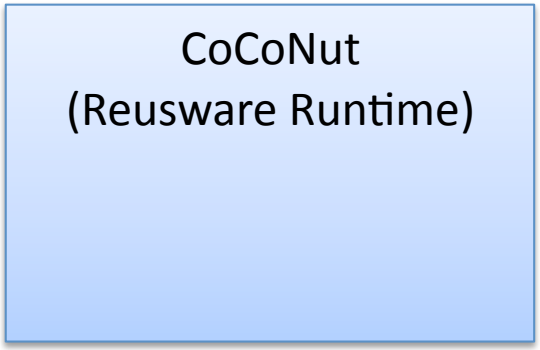
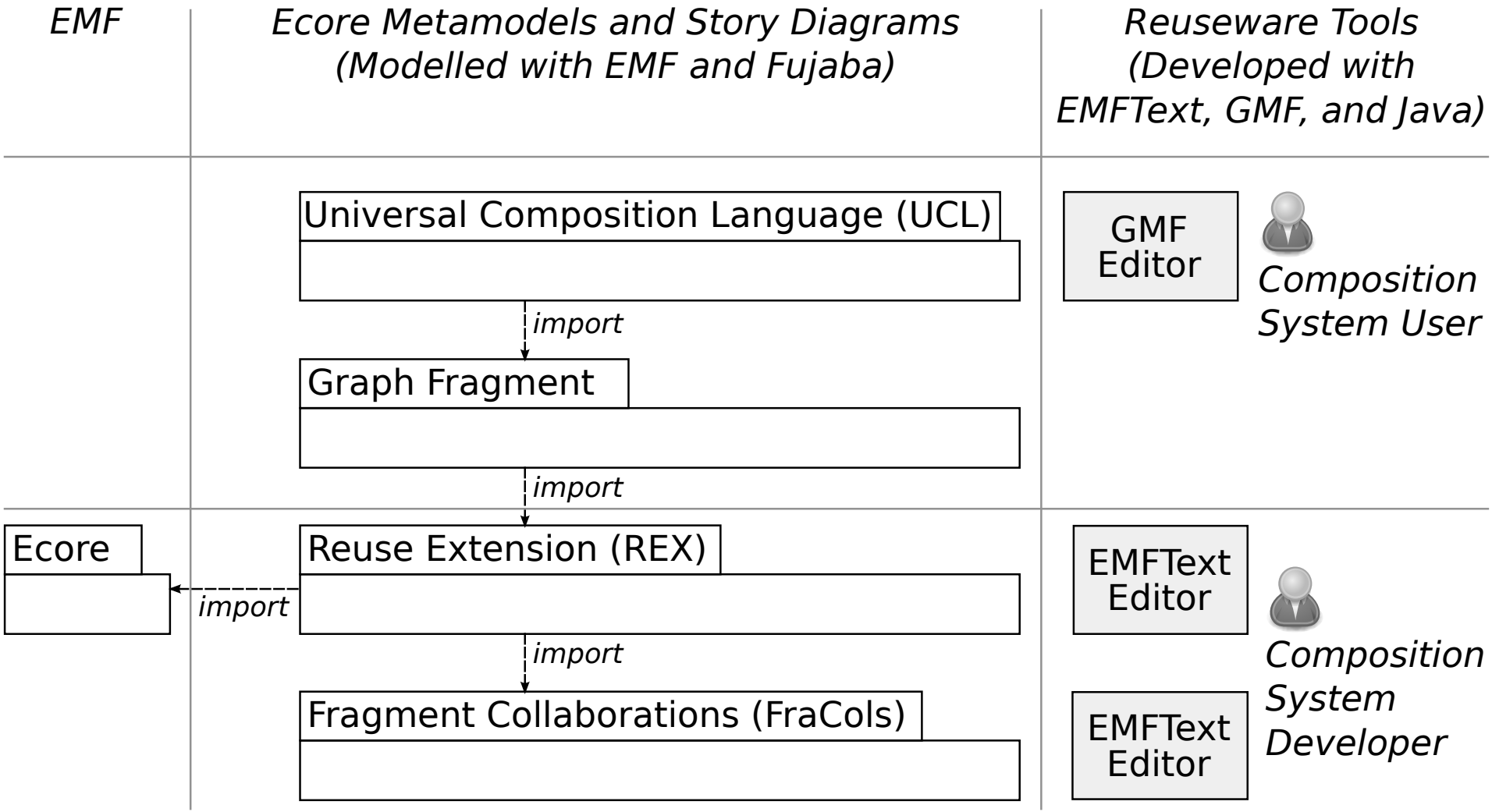
Sokan
(Indexing/Build System)

- Sokan (as independent component)
  - Containers/Folders marked as stores
  - Every file (artefact) has unique ID (Java classpath concept)
  - Indexers/Generators can be plugged in
    - Cache information in index
    - Generate new artefacts
    - Model dependencies between Indexers/Generators
    - Builder in workspace for instant update of index/generated artef.

- ReuseResources (realised with Sokan)
  - Fragment — Any file
    - Defined by user: Composition interface automatically computed
  - UCL Composition Programs
    - Defined by user or generated (see REXcl)
  - FraCol (Fragment Collaboration) – *.fracol
    - Defined by developer
  - REXcm (Component Model Specifications) – *.rex
    - Defined by developer: Controls composition interface computation
  - REXcl (Composition Language Specifications) – *.rex
    - Defined by developer: Controls generation of UCL files
  - REX Activator – *.rex_activator
    - Defined by user: Activate REXcl or REXcm for namespace



- CoCoNut
  - Generated from Fujaba model (see next slide)
  - Records tracing during composition execution
    - Utility class: **SyncEcoreUtil**
  - Uses external evaluator for embedded expression language
    - Interface: **Evaluator**
    - MDT OCL currently used
  - Extension point for post processors
    - Interface: **CompositionStepPostProcessor**
    - Currently used for layout composition by Lacome / uses tracing
  - Extension point for problem feedback
    - Interface: **CompositionProblemReporter**
    - Implementations for GMF, Topcased, EMFText / uses tracing



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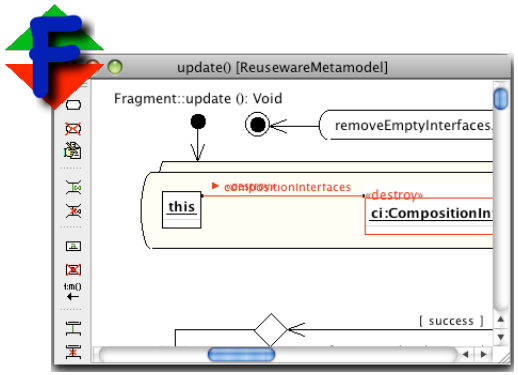
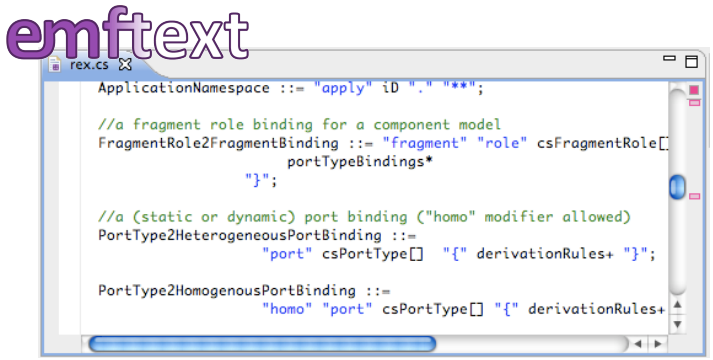
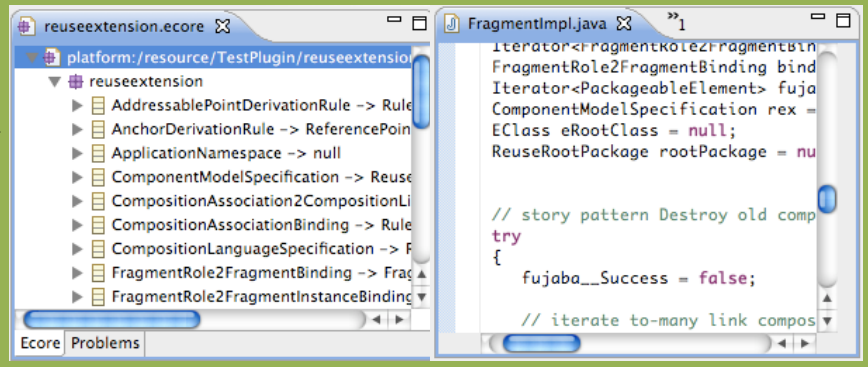
Code Generation



Fujaba EMF Code Generation (**Customized**)



generated



emftext

- Distributing Ecore Files
- JET/EMF Code Generation
- EMFText Code Generation

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