

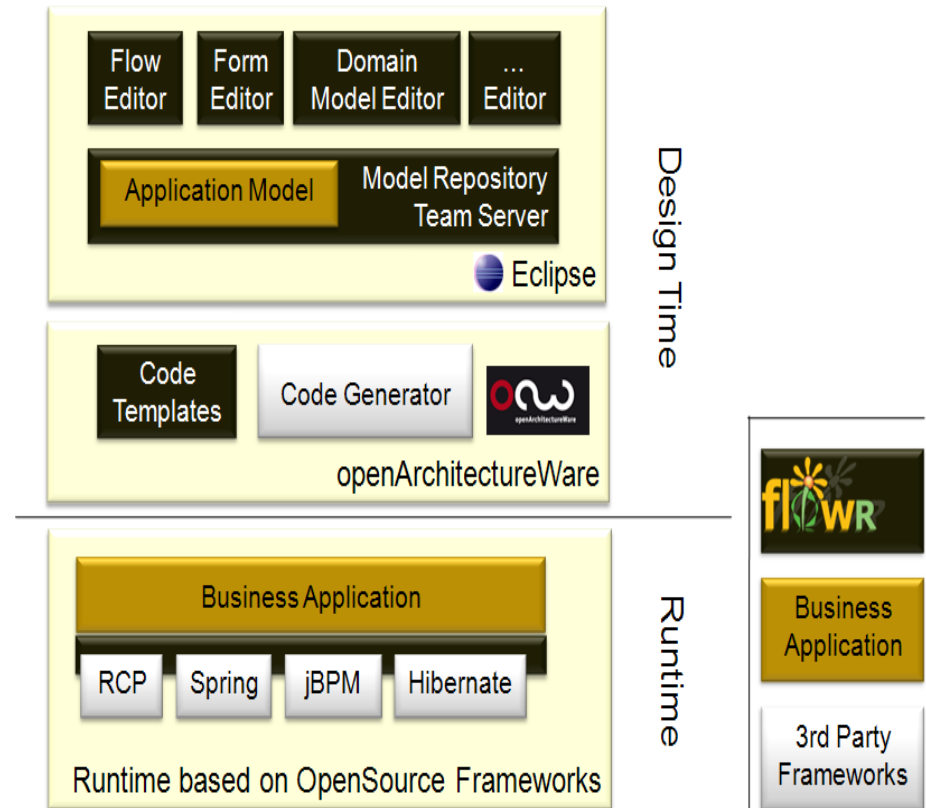
25.4. OpenSource Modelling Platform

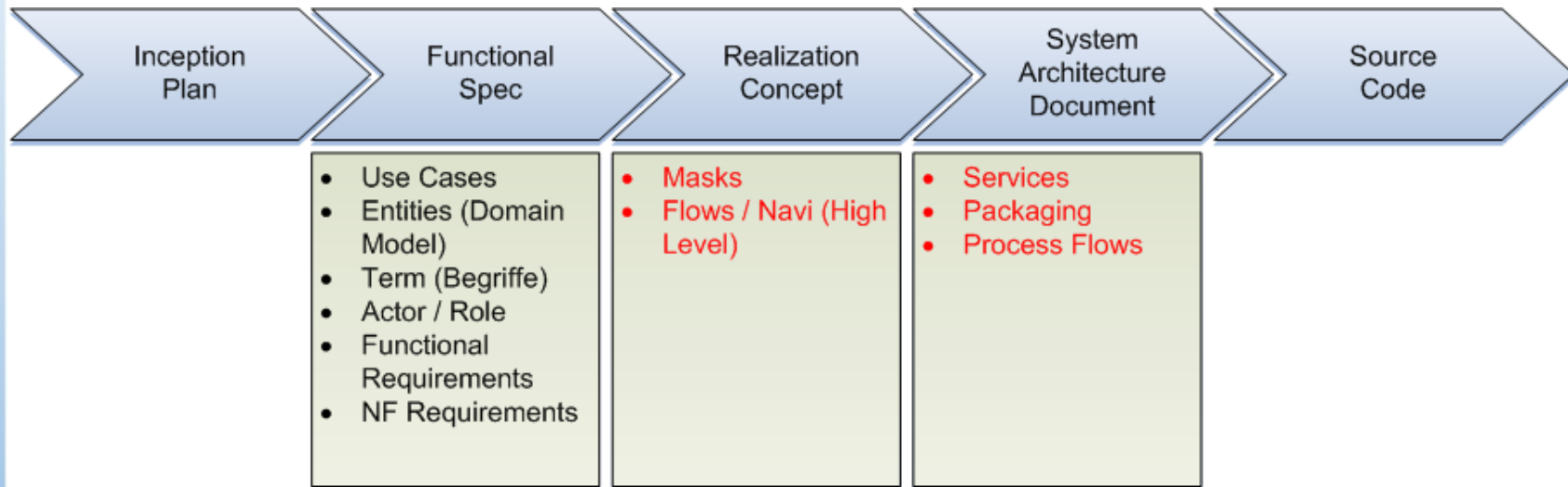


Achievo Deutschland AG
Tom Herrmann

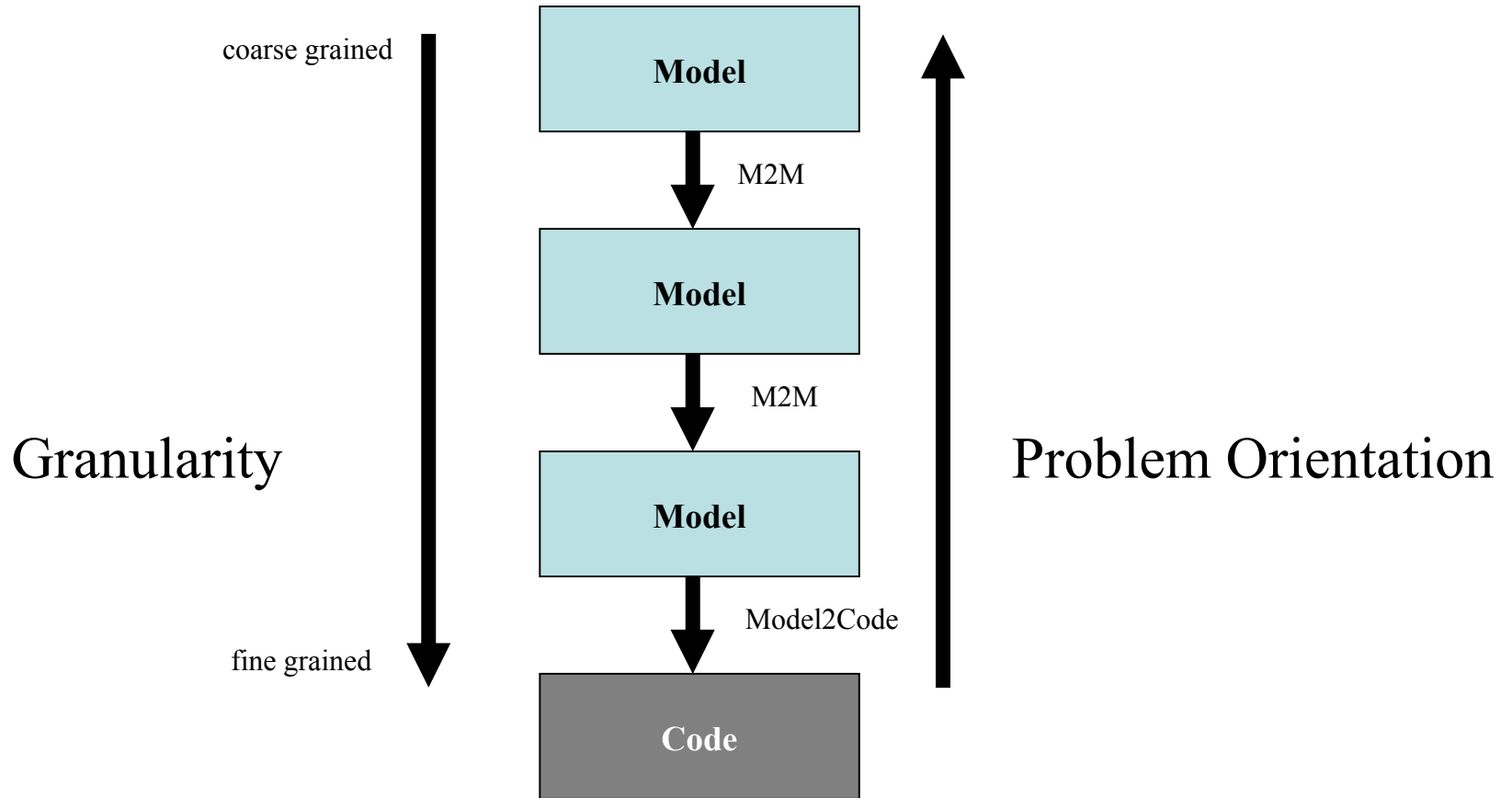
25.4 Flowr von Achievo (Dresden), www.flowr.org

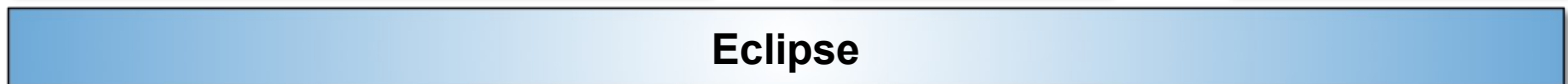
- Ein **Screen Flow** ist eine Abfolge von Masken oder Formularen in Informationssystemen (z.B. SAP-Anwendungen) (Screen/Seiten-Folgen)
 - Webshops
 - Versicherungsfälle
 - Internet Banking
- Flowr ist eine MetaCase-Umgebung zur Generierung von Screen-Flow-Anwendungen
- Metamodellierung in EMF
- Codegenerierung in OAW
- Ursprung in Dresden

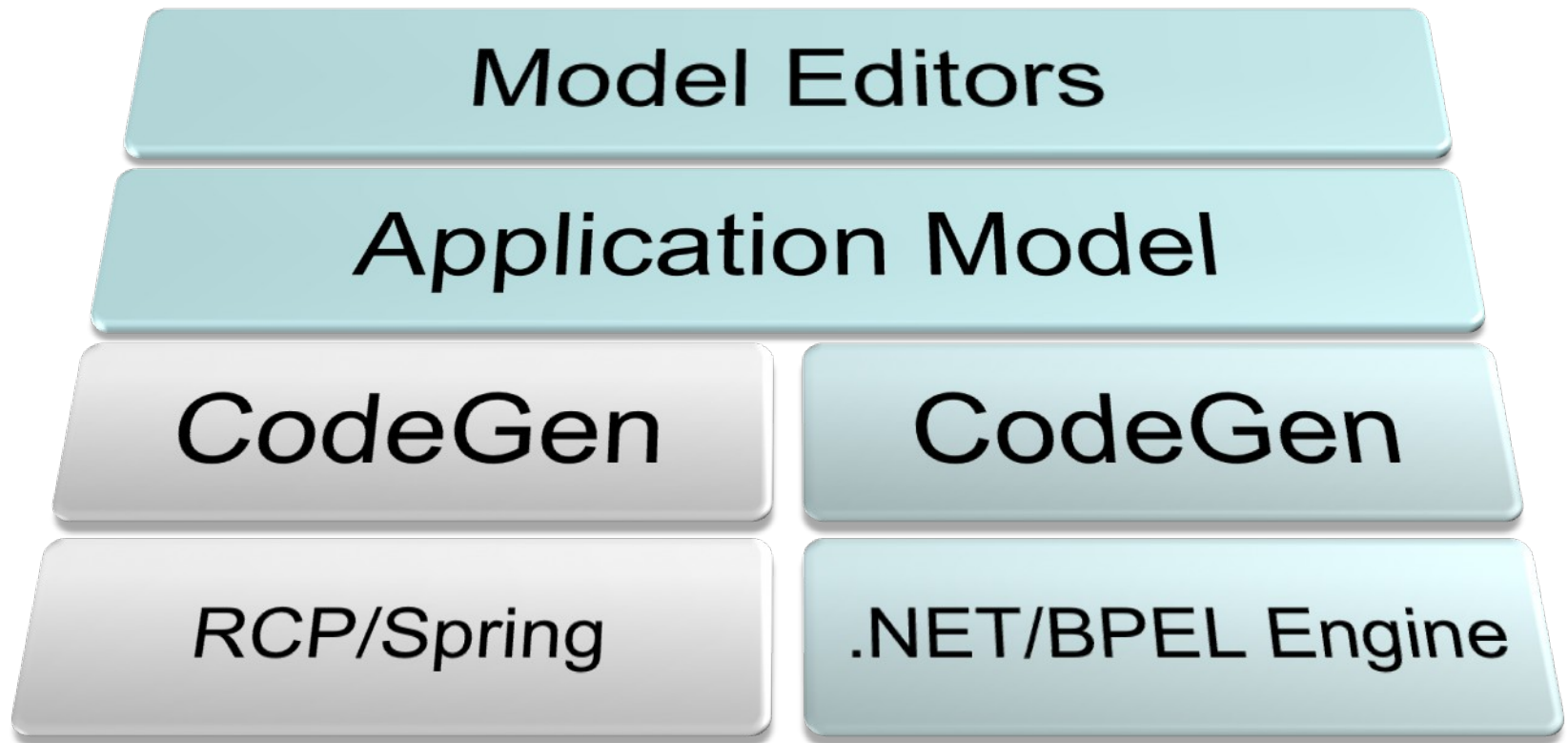




Activity	Example
Application Specific Modelling	<p>ScreenFlow</p>
Implementation Specific Modelling	<p>UML Diagram</p> <pre> classDiagram class ServiceResponse class ServiceRequest { +getId() : Serializable } class ServiceRequestContext { -requestContext } ServiceRequestContext "1" -- "*" ServiceResponse ServiceRequestContext "*" -- "1" ServiceRequest class Serializable { <<Serializable>> } ServiceRequestContext .. > Serializable </pre>
Activity	<p>Example</p> <pre> public interface OidFactoryReferenceSingleton { Oid newOid (String type); public final static OidFactoryReference ref = new OidFactoryReference (); public final static class OidFactoryReference implements OidFactory { public Oid newOid(String type) { return ref ().newOid(type); } private OidFactory ref () { return (OidFactory) SingletonManager.getSingleton (OidFactory.class); } } } // OidFactoryDelegator </pre>







- ▶ flowR is a generic design environment to build multi channel solutions using MDSD
- ▶ flowR is a Modelling Framework that can be used with any Generator Framework with EMF capabilities
- ▶ flowR is not a Generator Framework itself (i.e. oAW or AndroMDA)
- ▶ flowR is not a Runtime Framework

What does it provide?

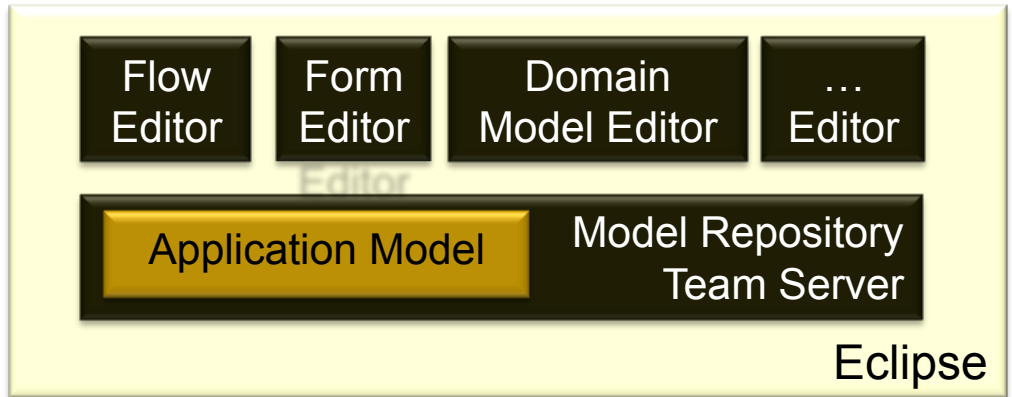
- ▶ An example integration of a full MDSD stack using other OpenSource Frameworks
- ▶ A team server to share models
- ▶ A component model to organize reuse of models
- ▶ A set of standard editors (e.g. screen flows, domain model)
- ▶ A set of APIs to extend the existing editors and write your own editors

How does it do it?

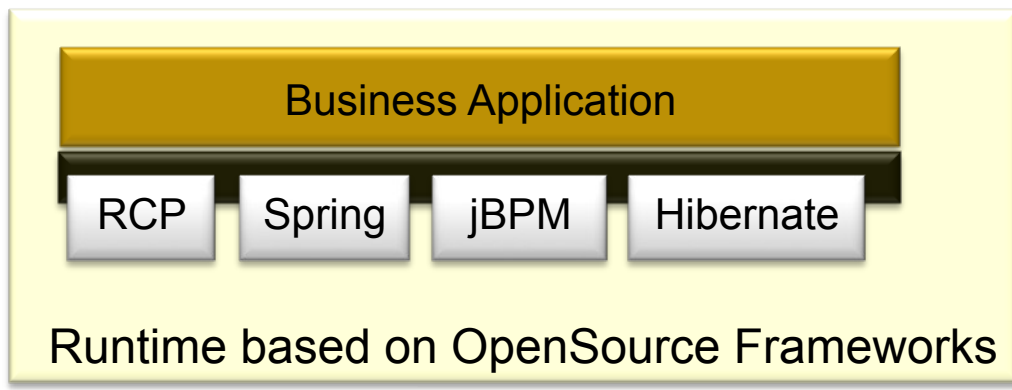
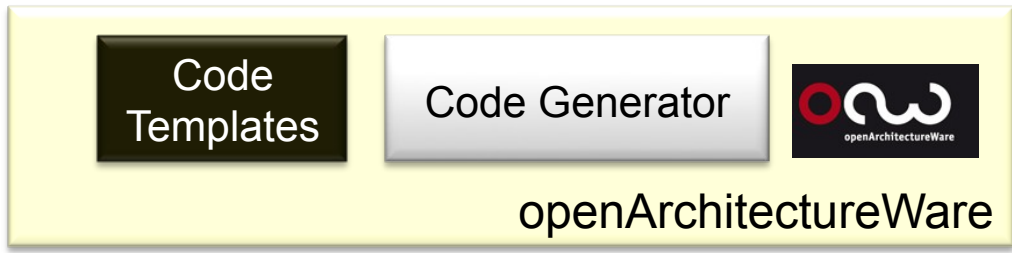
- ▶ Based on Eclipse EMF/GMF
- ▶ Uses openArchitectureware to generate code for different technology stacks
- ▶ Comes with a predefined example OpenSource runtime stack based on RCP and Spring

Which challenges does flowR address?

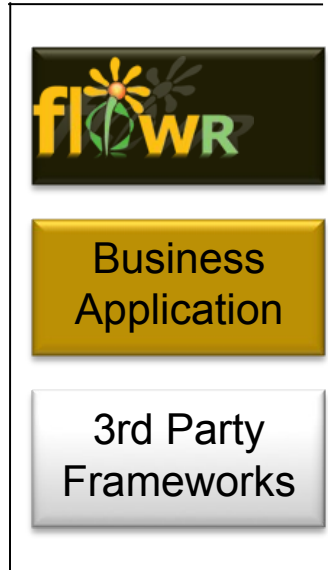
- ▶ How can I write an editor for my specific DSL and integrate it into my tooling environment?
- ▶ How can I manage my entire application model?
 - ▶ How do I organize team collaboration?
 - ▶ How can I ensure model consistency?
 - ▶ How can I divide my mode into reusable model components?
 - ▶ How can I provide model refactoring support?



Design Time



Runtime



FlowR - com.achievo.demo.comp2_1.0.0/src/main/model/com/achievo/demo/simple/CustomSearchFlow.flow_diagram - Eclipse SDK

File Edit Refactor Diagram Navigate Search Project Run Window Help

Tahoma

Repository Vi Navigator Project Expl

com.achievo.demo.comp1 [1.0.0]
com.achievo.demo.comp2 [1.0.0]
src/main/model
com
achievo
demo
simple

Team Repository Explorer
FlowR Team Server

```

graph TD
    Start((start)) --> Step1[CustomerSearchFormStep]
    Step1 -- next --> Step2[CustomerSearchActionStep]
    Step2 -- exception --> Step1
    Step2 -- success --> Decision{numberFound}
    Decision -- listFound --> Step3[CustomerListFormStep]
    Decision -- singleFound --> Step4[CustomerDetailDataFormStep]
    Step3 -- next --> End((( )))
    Step4 -- next --> End
  
```

Outline

Palette

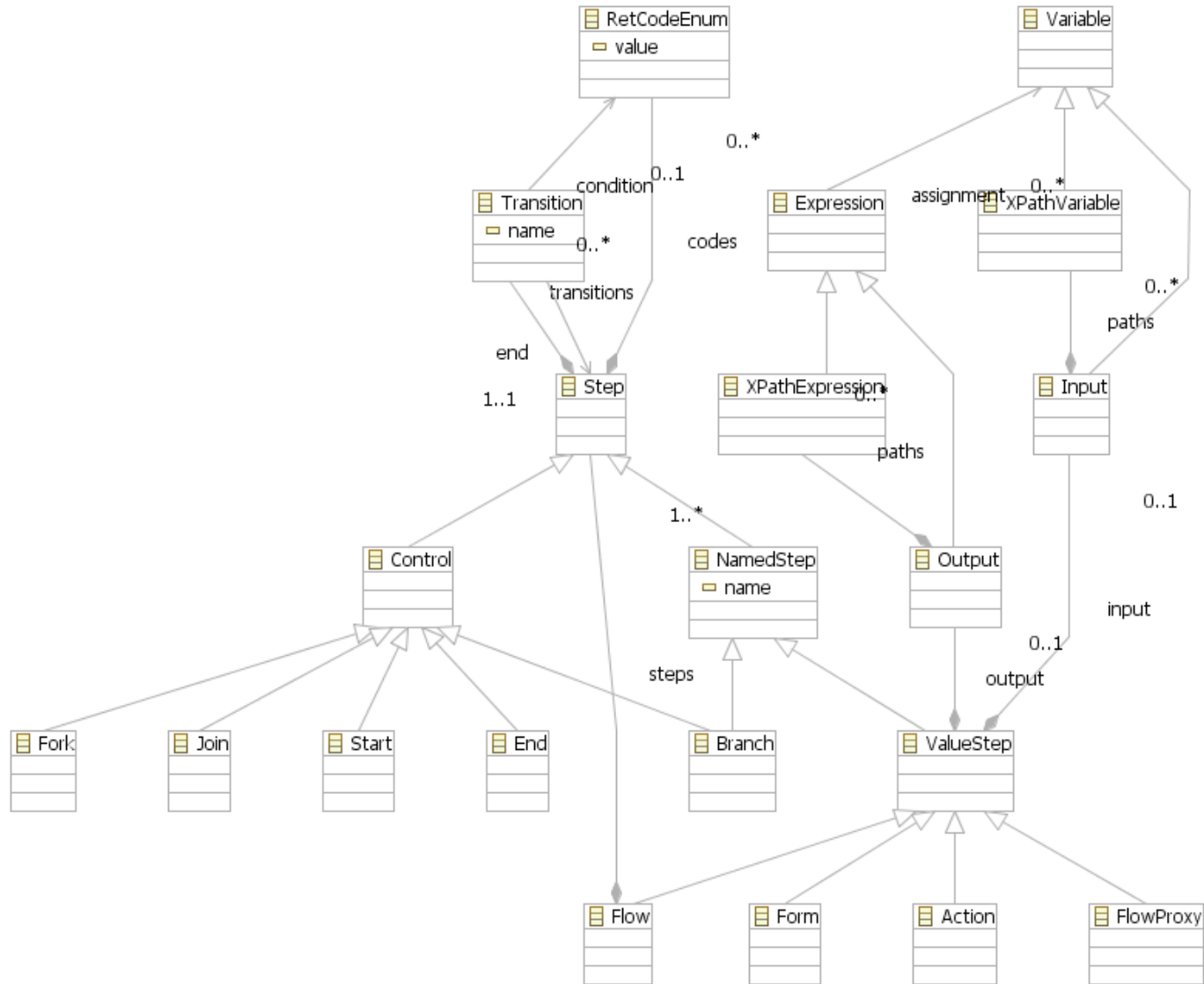
- Elements
 - Start
 - Form
 - Transition
- Activities
 - Action
 - Flow
 - FlowProxy
- Controls
 - Branch
 - Fork
 - Join

Problems Properties Error Log Tasks Console

Flow CustomerSearchFlow

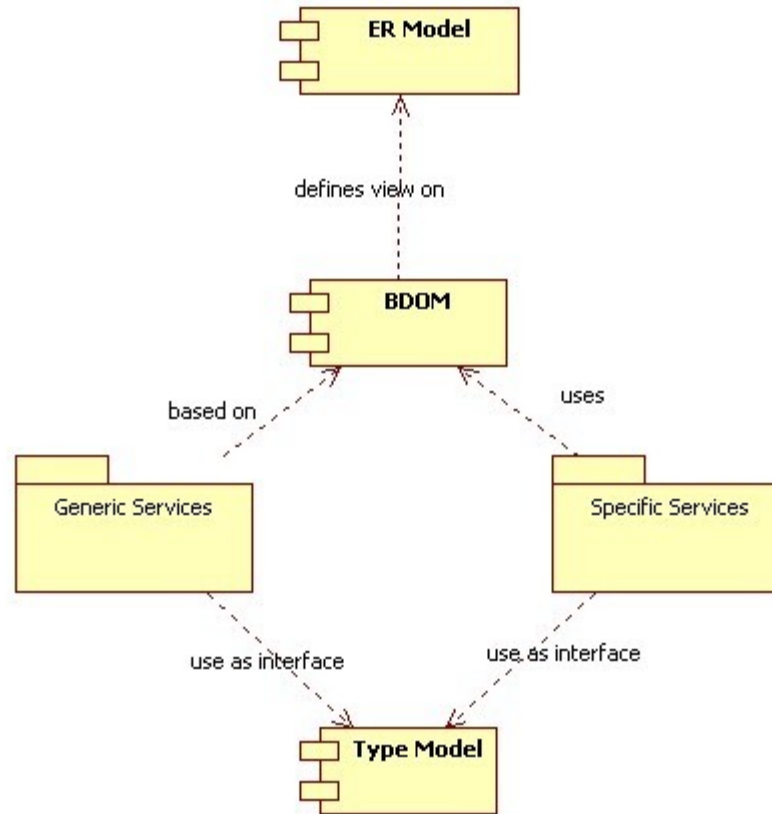
Appearance	Property	Value
Core	Codes	
	Id	CustomerSearchFlow
Misc	Input	
	Output	
Rulers & Grid		
Advanced		

The Input of the Input Container



- ▶ Multi-user capability
- ▶ Check in/check out
- ▶ Remote References (shared ref)
- ▶ Central point of validation
- ▶ Central source for Continuous Build

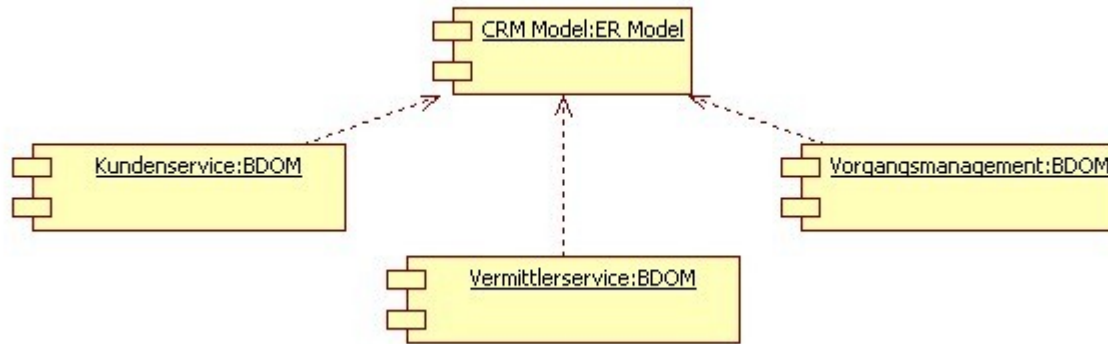
- ▶ Link between Application Model and chosen Generator
- ▶ Generator Model is kind of a Platform Specific Model (PSM)
- ▶ Different Generator Models for different runtime platforms but just a single Application Independent Model (PIM)
- ▶ Allows the embedding of platform specific tools (editors/wizards for manual code) in the tooling
- ▶ Platform specific tools can be deployed depending on the current runtime platform



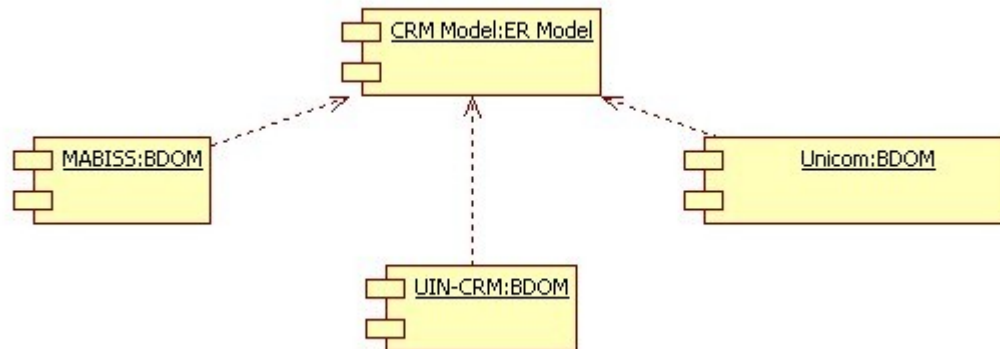
OpenSource Project **flowr**

Partitioning of Business Domain Model (BDOM)

► by functionality



► by application



OpenSource Project

www.flowr.org (first release 12/2008)

The screenshot shows the Mozilla Firefox browser window displaying the flowr.org project homepage. The browser's address bar shows the URL `http://flowr.org/index.php?option=com_content&view=frontpage`. The website features a navigation menu on the left, a main content area with sections for 'flowr.org project', 'Welcome to flowr.org', 'What is flowr?', 'How does it flowr?', and 'Where does it fit?', and a right sidebar with a user login area and a 'LATESTNEWS' section.

flowr.org project

Welcome to flowr.org

What is flowr?

- A generic design environment to build multi channel solutions using MDSD
- A set of standard editors (e.g. screen flows, domain model)
- Provides a set of APIs to extend the existing editors and write your own editors

How does it flowr?

- Based on Eclipse EMF/GMF
- Uses openArchitectureware to generate code for different technology stacks
- Comes with a predefined OpenSource technology stack based on RCP and Spring

Where does it fit?

```

    graph LR
      CI[Customer Interview] --> R[Requirements]
      R --> BA[Business Analysis]
      BA --> RC[Realization Concept]
      RC --> D[Develop]
      D --> AM[Application System Model]
      AM --> GB[Generate/Build]
      GB --> RNC[Runtime Code]
      RNC --> J[Java/.NET or more]
      
      subgraph Tools
        T1[Any TestEditor (Office, PDF, etc.)]
        T2[Flowr]
        T3[Flowr]
        T4[Runtime Environment]
      end
      
      subgraph Models
        M1[Test Document]
        M2[Requirements Model]
        M3[Flowr Model]
      end
      
      T1 --- R
      T2 --- RC
      T3 --- AM
      T4 --- RNC
      
      M1 --- R
      M2 --- RC
      M3 --- AM
  
```

Click the image to view large version.

Fertig

Wir freuen uns auf die Zusammenarbeit mit Ihnen!



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