Model-driven development in the context of technical SOA

Eclipse Finance Day 16.10.2012

Michael Rauch, Software Architect
Christoph Gutmann, Software Architect

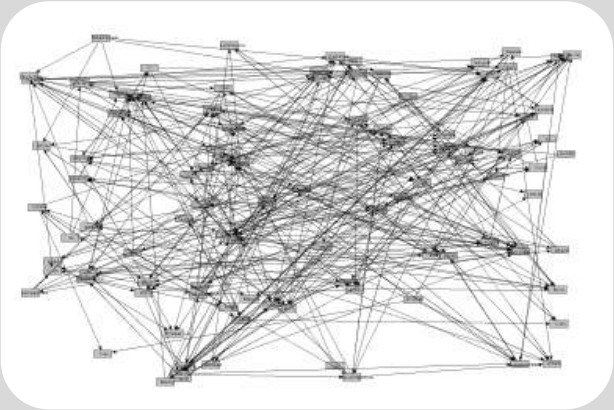
Swiss Mobiliar
Insurance & Pensions

Swiss Mobiliar: key facts at a glance

Swiss Mobiliar

- is structured as a mutual company and is first and foremost obliged to its customers
- is the oldest private insurance company in Switzerland, founded in 1826
- focuses on the Swiss and Liechtenstein markets
- offers a broad selection of modern insurance products, including life policies
- lets insured persons participate in the company's success in the form of bonus payments
- has the highest solvency ratio of all insurance companies operating in Switzerland
- has approximately 1.5 million policyholders
- employs a workforce of around 4,000 employees and 300 trainees
- employs a workforce of around 400 employees in IT departments

Motivation



The SOA Situation

✓define core concepts and standards

reference architecture

→ enforce interface standardization!

→ know all dependencies!

Initiative „MAIA“: **M**obiliar **A**pplication and **I**nfrastructure **A**utomation

Code Generation
(Forward Engineering)

Dependency Management of Services

How we solved that problem

Swiss Mobiliar
Insurance & Pensions

with forward engineering by using models

→ edit the model

→ use the model

Editing the Model

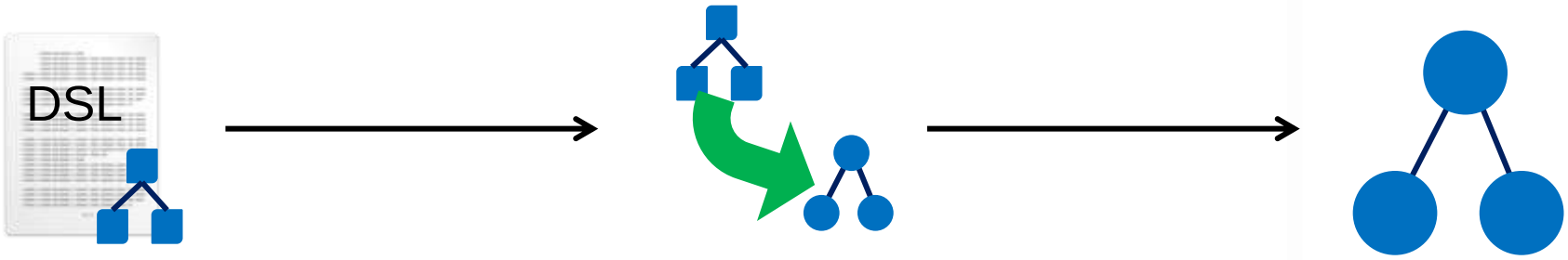
Swiss Mobiliar
Insurance & Pensions

Editor

M2M

Domain Model

one per company

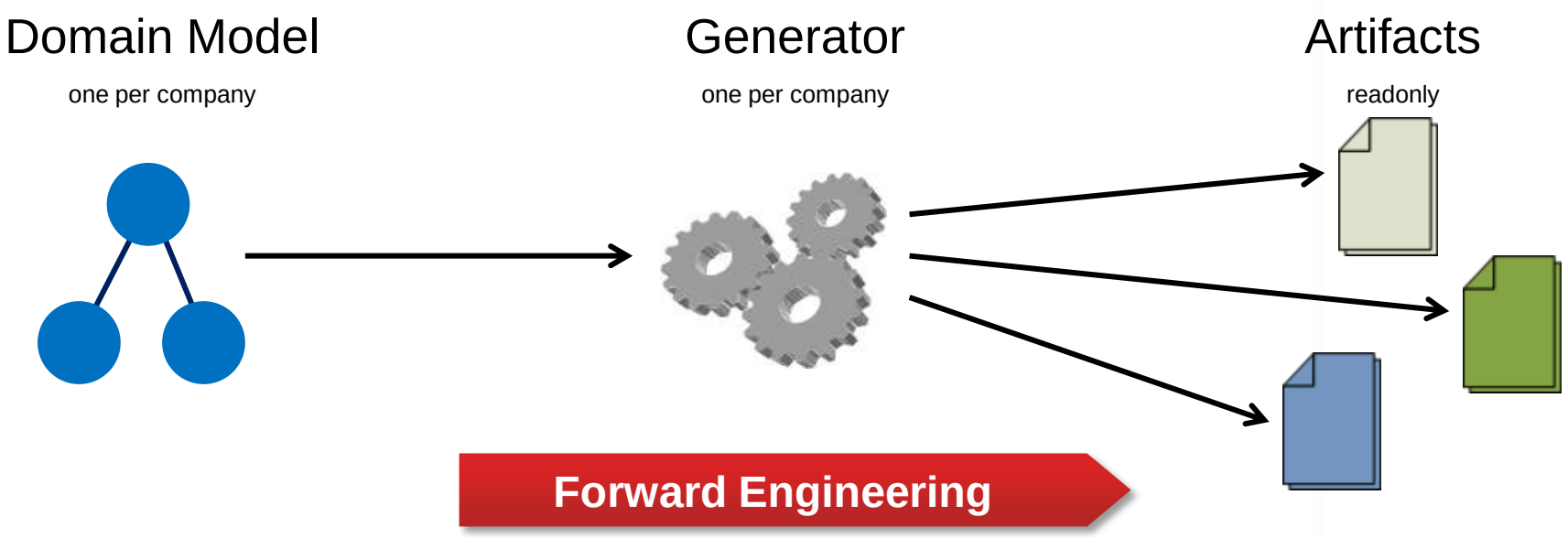


- Xtext
- EMF

- POJO

- EMF

Using the Model

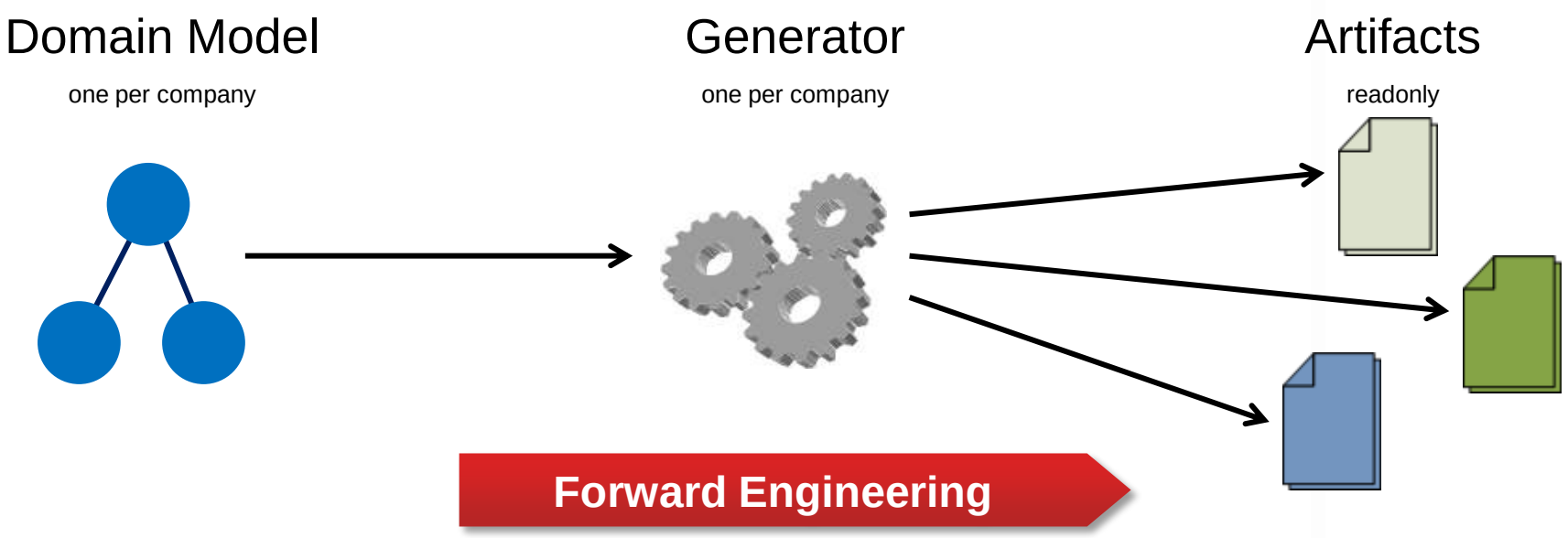


- EMF

- Xtend
- Xpand
- EMF-Compare

- <none>

Using the Model



- Datatypes
- Services
- Components
- Wiring + Planning

- Service Catalog
- Java Gluecode
- Reporting

Service Catalog | Gluecode | Reporting

Service ch.mobi.template.CustomerSearchService.v1_0

Hinzugefügt von MAIA, zuletzt bearbeitet von MAIA am Oct 03, 2012

Table of Contents

- Operations
  - searchCustomer
  - searchPersonById
  - ping
- Used Schemas
- Providing Components
- Consuming Components
  - Consuming Components by Operation
- Artifacts

Snapshot

This service allows to search for persons by ID or by search criteria

Contacts

[redacted]@mobi.ch

- template-CustomerSearch-v1.0.wsdl
- common-Commons-3.0.xsd
- template-Person-1.0.xsd
- template-PersonSearch-1.0.xsd

Gluecode Integration

Need help? See instructions for gluecode integration.

Choose your environment:

- JEE - JBoss5
- JEE - JBoss7
- SE
- Spring
- GUI - Liferay on Tomcat
- GUI - Standalone JBoss7

Swiss Mobiliar Insurance & Pensions

- provide a service…

```
@Stateless
public class MyBean implements MyService
```

  - JEE – JBoss 5
  - JEE – JBoss 7

- consume a service…

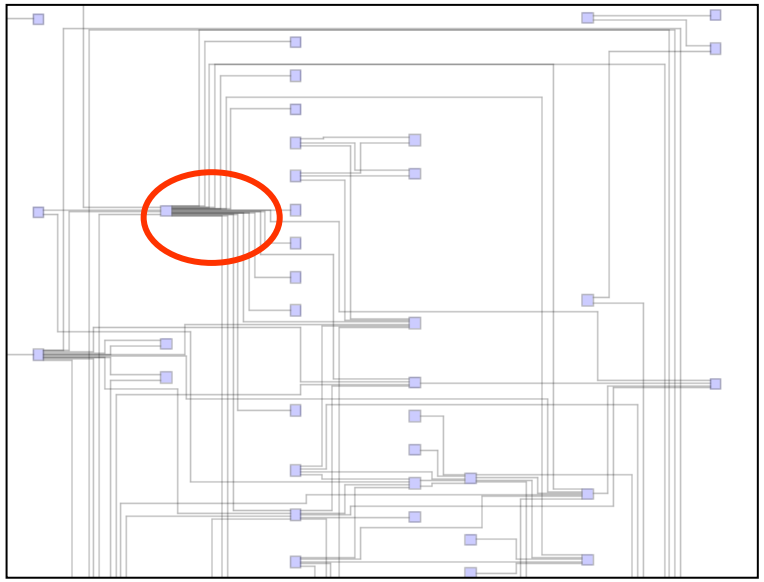
```
@Inject private MyService service
```

  - JEE – JBoss 5
  - JEE – JBoss 7
  - SE
  - Spring
  - GUI - Liferay on Tomcat
  - GUI - Standalone JBoss 7

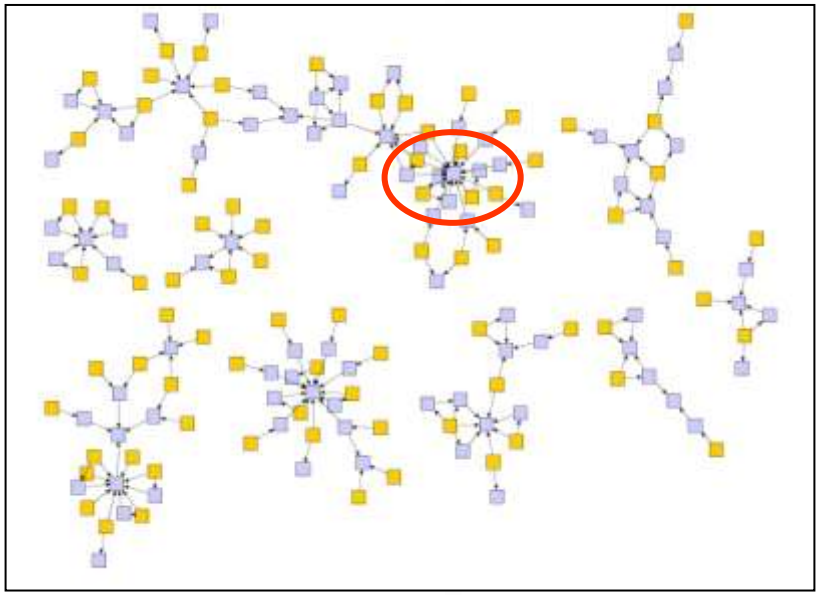
- pull generated code from Maven repository

Swiss Mobiliar
Insurance & Pensions

component dependencies (wiring)

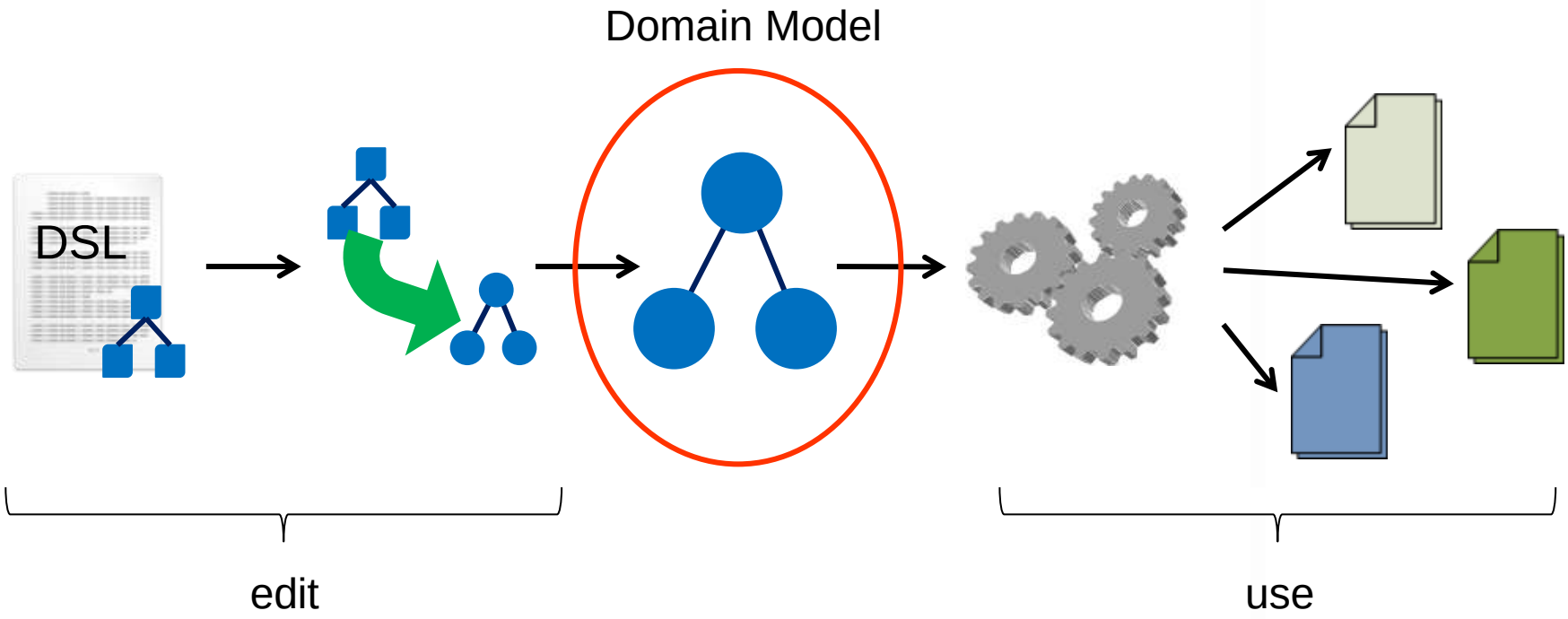


reuse of datatypes



- visualize dependencies
- identify hotspots
- analyze impacts
- plan refactorings

Main Focus is on the Domain Model



Benefits

Swiss Mobiliar
Insurance & Pensions

- velocity: simplified development and integration of services
- portability: business-logic code is decoupled from webservice technologies
- governance: parts of reference architecture are enforced
- consistency: specification, code and documentation are consistent
- SPOT: Single Point of Truth implemented by modeling and forward engineering
- manageability: well-known services, components and dependencies, unified lifecycle management, planning as a part of the domain model
- sustainability: safely canned knowledge by defining the domain model, implementing generators and automated publishing processes
- expandability: domain model and generators can grow as needed, new partitions can be introduced independently

Giveaways

Swiss Mobiliar
Insurance & Pensions

- start small
  - do small iterations, deliver new features with each iteration
  - chose a small project as pilot
  - apply changes in your sphere of influence
- strive for acceptance
  - deliver mature product with high quality
  - integrate with existing tools and workflows
  - offer support and coaching
- reduce variability
  - only introduce concepts in your domain model that you really need
- when growing
  - make friends
  - explain concepts and opportunities

Contact

- Team Members of MAIA:
  - michael.rauch@mobi.ch
  - christoph.gutmann@mobi.ch

Thank you for your attention!