Interface Management in a Large Enterprise

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Robert Blust

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Tooling – Context

Enterprise
- Components
- Interfaces
- Data Types
- Workforce
- Metrics

Project
- New Knowledge
  - Refine Knowledge

Released and Approved Knowledge
Governance controls Knowledge transfer into Enterprise Scope
Work in progress
Everything is based on EMF
- Models
- Editors
- M2M / M2T Transformation
- Repository
Tooling – Common Base

Common Base

- Interfaces
- Components
- Workforce
- Data Types
- Metrics

Generic Core

Provides Generic Model Element
- Linking between different Models
- Documentation
- Social Network Mechanism
- ...

UBS
Technology Requirements

- **Structured Data Models**
  - Describe
  - Create
  - Persist

- **Orthogonal Functionalities 'Enterprise Level'**
  - Repository Persistence
  - Scalability
  - Temporality
  - Collaboration
  - Model Fragment loading
  - Browsing
  - Referential Integrity
Technology Requirements

• **Orthogonal Functionalities 'Project Level'
  – Integration into IDE
  – Integration into Source Control Management
  – Integration into Central Build Infrastructure
    – Maven
    – Nexus
    – Jenkins
  – Usability
    – Early Validation
    – Guidance
  – Convention over Configuration
Demo Time
Robert Blust
Flurstrasse 62
8048 Zürich
+41-44-236 48 59
robert.blust@ubs.com

Twitter: @robertblust
Facebook: www.facebook.com/rob.blust

Robert Blust works as an IT Architect for UBS WM&SB IT and is responsible for the strategic tool landscape supporting the software development lifecycle. Since 2009 he leads a growing team realizing the vision of an integrated tooling platform based on the Eclipse Modeling Framework with a strong focus on model based engineering, scalability and collaboration.
Appendix
Abstract

- Enterprise Architecture decomposes IT systems into subsystems and defines rules and principles for their communication. To keep the realization conformant to these rules and principles can be a challenge. To handle this challenge, UBS launched the Integration Architecture initiative. It aims to provide a usable, end-to-end process and tooling along with the necessary standards and methods to identify, specify, design, and govern interfaces between parts of the IT System.

- A first, already realized step was to visualize the current state by capturing the actual communication patterns of subsystems by analyzing their static source code and producing EMF-based graphs. This allows identifying, for instance, non conformant interaction patterns.

- The current step is to realize an appropriate tool chain for the specification, implementation and management of interfaces, which supports
  - Platform independent definition of data types and interfaces in local project scope
  - Complete specification of interfaces, their operations, policies (SLA), visibility, etc
  - Conformance to the architectural rules and principles
  - Automatic generation of artifacts like XML-Schema and WSDL files
  - A central repository for interface portfolio management (e.g. usage of interfaces)
  - Merging the interface models from the local projects back into the central repository
  - The governance process with corresponding ownership model and role based reviews
Scalability – Some Metrics

- UBS Component Model
  ~ 25'000 Objects
  ~ 50'000 References

- SSP Artifact Model
  ~ 250'000 Objects
  ~ 1'000'000 References

- Identity Model
  ~ 60'000 Objects
  ~ 15'000 References
Temporality – Some Metrics

- UBS Component Model
  Daily updates ~ 1% of Object changes

- SSP Artifact Model
  Monthly updates ~ 20% of Object changes

- Seamless platform integration
  - Switch between Latest and temporal states
  - Compare different states (EMF Compare)
Features UBS is Interested in

- Model Evolution
  
  **Migrate existing instances after changing the Ecore Model**

- Native UML support for CDO
  
  **Storage of UML models with the scalability CDO provides**
Vision

Model-Based Engineering

• **Capture & Preserve knowledge as models**
  – Along the IT Supply Chain

![Diagram showing the IT Supply Chain with stakeholders, plans, and IT product portfolios with roles such as Project Manager and Operator.](image-url)
Appendix

Features – UBS Component Model

- Application System
  - Application Component Group
    - Application Component

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UBS
Appendix

Features – SSP Artifact Model

SSP Artifact

Relation

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Appendix

Features - Identity Model

- Component
  - Role Assignment
    - Role
      - Employee