Impact CM:
Model-Based Software Change and Configuration Management

Eclipse Integrated Development Day – Berlin, 30 May 2012
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Impact CM: Model-Based Software Change and Configuration Management

Agenda

- Introduction
  - Application Lifecycle Management (ALM)

- Impact CM
  - Modeling ALM disciplines
  - Eclipse Modeling Framework

- Impact CM Demo
  - Integrating ALM disciplines
  - Development Line Diagram
Company Portfolio

- Software Services
  - Manage and participate in complex software projects
- Software CM Services
  - Software development process improvement
  - Consulting and implementation
  - Training and coaching
- Contributors to FLOSS projects
  - Apache™ Subversion®, Git, Modula-3
Impact CM: Model-Based Software Change and Configuration Management
Task-Based Development

Impact CM: Model-Based Software Change and Configuration Management
Software Configuration Management Patterns

SCM Pattern Language Map

(Berczuk and Appleton, http://www.scmpatterns.com/)

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Baselines

planned
released

baseline n

baseline n+1

baseline n+2

configuration a

configuration b

configuration c

ECN x
+ ECN y
+ ECN z

Requirements/Changes

System-Idea Modeling
End-2-End Architecture Application

Component: Application Server
Component: Protocol Stack
Subcomponent: Server Core
Subcomponent: Subsystem Driver
Subcomponent: Protocol Driver
Subcomponent: Client Core

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Product Model

Model Level: Baseline

Model Level: Development Line + Change Sets

Model Level: Assembly Structure

Tool Level: Change / Task Management

Tool Level: Version Control + Repositories

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Impact CM Central Repository

Impact CM: Model-Based Software Change and Configuration Management
Impact CM Approach

- ALM disciplines are described in MOF domain models.
- Eclipse RCP application leverages existing modeling infrastructure.
- Impact CM core concepts: product model, baselines.
  - The product model represents all product development activities.
  - A baseline represents the orderly transition from one product version to the next.
  - A baseline aggregates detailed information from various disciplines and keeps them persistent in the model repository.
Impact CM Architecture

Configuration Manager

Impact CM

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<th>Subversive</th>
<th>Maven</th>
<th>Mylyn</th>
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<td>Eclipse RCP</td>
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<th>Teneo</th>
<th>Compare</th>
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Model Repository

Postgres, Oracle, ...

Subversion

Eclipse IDE

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<th>Impact</th>
<th>Mylyn</th>
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Bugzilla, Trac, ...

Developer
Impact CM Tool Integration Model

Tool-specific Model

<<Transformation>>

Tool 1

<Tool-specific Model>

<<Transformation>>

Metamodel

MOF Repository

<<Transformation>>

Tool 2

<<Transformation>>

Tool 3

<Tool-specific Model>

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Tool n

<Tool-specific Model>

Users
mdiers
wrksvnwin
cm-services
grafiken
impactcm
variante_impact
toolkopplung-beispiel-englisch
Impact CM Tool Integration Example

- UML Tool (Enterprise Architect)
- Repository
  - Class
  - Use Case
  - Activity
  - Issue
  - Task
- Requirements (Doors)
- Word/Excel
- Open XML
- R1F
- XML-RPC
- Issue Tracker (Trac)
- JAVA-IDE (Eclipse)
- Project Management (Internal Application)
Impact CM Traceability
Impact CM Demo

IMPACT CM

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Thank You!

Q & A