IBM Software Day

Take back control using
Rational Unified Process Methodology

Introduction to RUP and Rational Method Composer (RMC).
RUP - proven and collected best practices for application development.
RMC - what it is and how it helps implementing RUP

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Agenda & Objective

- Rational Unified Process (RUP)
  - a proven software development method that has been around for 20+ years
  - a ”RUP” case study

- Rational Method Composer (RMC)
  - the new generation Method Authoring tool
  - an ”RMC” case study

- Objective
  - to provide understanding of how RUP and RMC can increase the software delivery capability

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RUP has a loooong history

- **Rational Unified Process V.7**
  - 2006-today

  - 1999-2005

- **Rational Unified Process 5.5**
  - 1998

- **Rational Unified Process 5.0**
  - 1997

- **Rational Objectory Process 4.1**
  - 1996

- **Rational Objectory Process 4.0**

- **Rational Approach**
  - UML 0.8

- **Objectory Process 3.8**

- **OMT Booch**
  - 1991

- **Objectory x.x**
  - 1989
The IBM Software Development Platform

Analyst
Model, simulate & monitor business processes

Architect
Model applications & data

Developer
Visually construct, program, & generate code

Tester
Test

Business integration
WebSphere.

Adopt best practices, track project status, Manage requirements, assets, and quality

Collaboration & information management
Lotus.

Application monitoring & deployment
Tivoli.

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Rational Unified Process (RUP)  
The Development Methodology  
Part of RMC
Benefits of using Rational Unified Process (RUP)

- Well-known, widely adopted standard -> Easier to work with other organisations
  - across companies, across countries, across geographies
- Easier to find resources with skills and experience
  - widely spread, taught at universities
- Saves time, no need to invent the process in each project
  - examples
  - templates
  - guidelines
  - etc.
- Well-proven, practical and modern
- Inexpensive product
- Easy to add tools for automation – next slide
Rational Tools, Integrations and RUP Disciplines

Environment
- RUP/RMC
- Tool mentors
- Generate documentation
- Rational SoDA
- Collect & publish metrics

Project Mgmt.
- Rational Project Console

Requirements
- Rational RequisitePro
- Track requirements tests
- Baseline requirements
- Baseline test scripts

Testing / Implementation
- Automate run-time testing
- Create test inputs from requirements
- Submit defects
- Create & execute test scripts

Analysis & Design
- Rational Rose/XDE/RSx
- Versioning of models
- Baseline test scripts
- Create test inputs from requirements
- Submit defects
- Link requirements to change requests

Configuration & Change Management
- Rational ClearCase
- Submit defects

Deployment
- Rational ClearQuest

Business Modeling
- Rational Project Console
- Collect & publish metrics
- Generate documentation
- Tool mentors

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RUP/RMC Tool mentors
Rational RequisitePro Track requirements tests
Rational Rose/XDE/RSx Versioning of models
Case study 1

Small IT-department (~40, 10 programmers).
(Government org. within US. Department of Energy)
1 location

Problem:
• End users (Business) needs not met.
• The business was growing and the manual routines were to laborsome.
• IT-Department worked hard too, but their solutions were not sufficient.

Their SW Development needed improvement.
Case study 1: Assessment

Conclusion: Not effective in deploying the right IT-solution. Main problems in early phases.
Case study 1: Solution

Streamline the process (using RUP), focus on roles

Enforce and automate using tools (next slide)
Case study 1: Solution

Environment
- Rational Unified Process

Requirements
- Rational RequisitePro
  - Link Use Case elements (models & text)
  - Track requirements tests
  - Baseline requirements
  - Baseline test scripts

Business Modeling
- Tool mentors (Process website)

Analysis & Design
- Version Rose controlled units

Configuration & Change Management
- Tool mentors (Process website)

Deployment
- Rational TestManager
  - Create test inputs from requirements

Project Mgmt.
- Rational SoDA
  - Generate documentation

Testing / Implementation
- Rational TestManager
  - Generate documentation

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Case study 1: 6 months later

- Requirements improved
- Now Design & Architecture is the weakest discipline
- Improvement is a continuous activity.
Case study 1: Solution for phase 2

**Environment**
- Rational Unified Process
- Tool mentors
- Process website

**Project Mgmt.**
- Rational SoDA
- Generate documentation
- Training for PM's

**Testing / Implementation**
- Rational TestManager
- Create test inputs from requirements

**Requirements**
- Rational RequisitePro
- Link Use Case elements (models & text)
- Track requirements tests
- Baseline requirements
- Baseline test scripts

**Business Modeling**
- Rational Rose
- Version Rose controlled units

**Analysis & Design**
- Rational ClearCase
- Link requirements to change requests

**Configuration & Change Management**
- Rational ClearQuest
- Link requirements to change requests

**Deployment**
- Rational SoDA
- Generate documentation

**Design & Architecture in UML**
- Rational Unified Process
- Link Use Case elements (models & text)

**Tool mentors Process website**

**Version Rose controlled units**

**Link requirements to change requests**
Case study 2

Medium IT-department at an IT Service Provider, U.S.A.

- Distributed development
- Requirements & Operations at one site
- Development on several other sites
- Developers using Rational Rose

Problem:
- Unpredictable projects
- Low productivity
- Insufficient communication between IT and Business
- Unclear roles and responsibilities.

Their SW Development needed improvement.
Case study 2: Solution

Environment
- Rational Unified Process
- Strong enforcement for having projects using the same process

Requirements
- Rational RequisitePro
- Link Use Case elements (models & text)
- Baseline requirements

Visual models for better communication IT-Business
- Version Rose controlled units

Business Modeling
- Tool mentors Process Website
- Process website

Analysis & Design
- Rational Rose

Configuration & Change Management
- Rational ClearCase
- ClearCase Multisite to tie development sites together.
- Forcing everyone to follow the process

Deployment

Project Mgmt.
- Training for PM's

Testing / Implementation
What is Rational Method Composer (RMC)?

A *Method Authoring* tool to:

*Deliver and manage customized and consistent processes and practices to enable collaboration between business and IT teams*

Including and extending the IBM Rational Unified Process®—or IBM RUP®—methodology, the IBM Rational® Method Composer software represents a major evolution of IBM’s process solutions. The RUP solution is a software process framework that has guided some 500,000 developers around the world in a broad range of software and systems development projects. Built on top of the Eclipse framework, the Rational Method Composer software adds new best practices to the RUP methodology that leverage IBM’s expertise in portfolio management, collaborative distributed development and service-oriented architectures (SOAs).

Note: Does not have to be RUP. It’s just part of it, for free.  

*Leader in it’s space*
What development teams are facing today

- No **common language** or terminology between processes - redundancy and inconsistencies
- Knowledge cannot easily be **customized** for different projects or new best practices
- No **central community** or **communication framework** to facilitate convergence of best practices across domains
A better approach

Standardize representation and manage libraries of reusable Method Content

- Content on agile development
- Content on managing iterative development
- Guidance on serialized java beans

JUnit user guidance

Content on J2EE

Configuration mgmt guidelines

Lessons learnt from previous project and iteration

Corporate guidelines on compliance

Process assets patterns

Standard or reference processes

Project plan templates

Configure a cohesive process framework customized for my project needs

Create project plan templates for Enactment of process in the context of my project

Develop and manage Processes for performing projects
Standardize representation and manage libraries of reusable method content.
Develop and manage processes for performing projects.
Support for many project types

Out-of-the-box processes and configurations
- RUP for Small Projects (Small co-located teams)
- RUP for Medium-sized Projects (Distributed teams)
- RUP for Large Projects (Large distributed teams)
- RUP for Service-Oriented Architecture (SOA),
- RUP for COTS / Packaged Application Development
- RUP for Systems Engineering
- RUP for Maintenance

Sample Plug-Ins
- J2EE
- .NET
- User experience
- Creative Web design
- Legacy evolution
- ....
RMC Plug-Ins on DevWorks

IBM Rational Method Composer (RMC)
7.1 Plug-ins

- Plug-in availability by language
- IBM Rational Method for SOA Governance Plug-in V1.0
- RUP for WebSphere Business Modeler Plug-in V1.0 (beta)
- IBM Rational Method for Portfolio Management (for Initiatives) Plug-in V1.0
- RUP for Microsoft .NET Plug-in V3.0
- RUP for COTS Package Delivery Plug-in V2.1.1
- IBM Rational Method for Program Mobilization Plug-in V1.01
- RUP for Practical Software & Systems Measurement (PSM) Plug-in V2.0
- RUP for Maintenance Projects Plug-in V1.0
- RUP for DoDAF Plug-in V3.0
- RUP for Compliance Management Plug-in V1.0 Beta
- RUP for Service-Oriented Modeling and Architecture Plug-in V2.4

Access the list of RUP plug-ins currently available for Rational Method Composer V7.1. RUP plug-ins offer methods and practices across a variety of IT and business domains. Within your business, they offer readily usable and adaptable guidance as part of the overall organizational process. These methods and practices are specific to a technology, tool, platform, or domain.

Note: These plug-ins are for import into RMC V7.1. For plug-ins compatible with RMC V7.0.1, please see the Rational Method Composer 7.0.1 Plug-in page.

If you are looking for a list of plug-ins for the 2003 version of RUP, please see RUP 2003 Plug-ins.
Case study 5

- Customer problem/need
  - Growing organization and changing business
  - Needed end-to-end lifecycle methodology
  - Improve software delivery capability
- Solution (1st phase)
  - 58 licenses of RMC
  - 600 hours of services
Case study 5

Dubai Customs Method Framework (DC-MF) provides a solid foundation and clear blueprints for the planning, execution and monitoring of Customs programs and their outcomes. DC-MF is the collection of integrated methods, standards and best practices, covering all phases of a project - from the discovery of a business idea to the realization of business benefits. Through this portal you will be able to find information about all corporate methods and standards defined by the CIO Office of Dubai Customs.

**Main Description**

**Getting Started with Dubai Customs Method Framework**

DC-MF enables Dubai Customs and their partners to deliver solutions meeting the needs of the business in a timely manner. It improves delivery lead time through a solid framework that enables different methods to interact in a consisten manner in an end-to-end lifecycle. DC-MF will continue to evolve over the next few years in order to constantly improve solution delivery at Dubai Customs.

The DC-MF currently contains the following methods:

- Dubai Customs Project Management Method (DC-PMM)
- Dubai Customs Business Process Engineering Method (DC-BPEM)
- Dubai Customs System Development Method (DC-SDM)

**Dubai Customs Method Framework Overview**

The figure below illustrates the overall architecture of the Dubai Customs Method Framework, which has two dimensions:

- The horizontal axis represents time and shows the lifecycle aspects of the methods as it unfolds, including the gates governed from an organizational perspective.
- The vertical axis represents methods that logically group activities and tasks together - the Methods.

Click on an area of the screen for more information (not yet implemented).
Demo: **DC Unified Process**
RMC Integrate with Rational Portfolio Manager (RPM) and MS Project

Role, Tasks, and Work Products

Activity Diagram

Work Breakdown Structures

Demo: Generating MS project plans from RMC
Summary

- RUP is a proven software development method that has been around for 2 decades and improved delivery capability in many projects (~500 000 users)
- RUP can be tailored to fit any project
- RMC is the new generation method authoring tool used to tailor RUP to your specific needs
- RUP and additional methods comes with RMC

Call to action:
- Download an 30-day evaluation copy of RMC
- Contact your local Rational Representative:
  - Gabriele Kemeklyte - Rational Sales Manager Baltic Region
    - gabriele@lt.ibm.com
  - Contact me – thomas.bichler@se.ibm.com
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