Designing a Configuration Aware Reporting solution for Product Line Engineering

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Agenda for this lab

- Introduction to this Design Lab (15 min)
- Designing Configuration Aware Reporting (45 min)
  - Your reporting goals
  - Design your dashboard
- Hands-on with the Jazz Reporting Services (50 min)
  - Introduction to configuration management concepts
  - Part 1 – Build a new report from scratch
  - Part 2 – Using reports on dashboards
  - (Optional – Build you own dashboard)
- Summary and Conclusions (10 min)
About this Lab

This is a Lab based on IBM Design Thinking

We will explore Configuration Aware Reporting

In this lab we ask you to help us validate the design of the user experience

You will be using the CLM 6.0 M7 Beta for the hands-on exercises in this lab
IBM Design Thinking

Lab 5071 – Designing Impact Analysis capabilities for Product Line Engineering

Lab 5078 – Designing a Configuration Aware Reporting solution for Product Line Engineering

Lab 5063 – Designing User Experience Concepts in Multi-Stream Configuration Management
Jazz Reporting Service vision

Jazz Reporting Service provides access to critical data for managing products, projects and daily development activities

- Managers, leads, and practitioners can quickly create and use reports and share them with stakeholders
- Managers, leads, and practitioners can see data in a useful visualization in the context in which they’re working
<table>
<thead>
<tr>
<th>Version</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>v5.0</td>
<td>Pete, the project lead, can find reports showing information across the development lifecycle, set some filters and save the live report on a dashboard</td>
</tr>
<tr>
<td>v5.0.1</td>
<td>Pete can build a table that includes information about a single type of artifact and can be scoped to more than one project</td>
</tr>
<tr>
<td>v5.0.2</td>
<td>Pete can create a traceability table report that includes information on relationships between artifacts from more than one lifecycle tool</td>
</tr>
<tr>
<td></td>
<td>Pete can show data as a bar chart or pie chart</td>
</tr>
<tr>
<td>in progress</td>
<td>Pete can create a table showing totals, including counts and sums of artifacts with particular characteristics, and drill through the totals to get the details</td>
</tr>
<tr>
<td></td>
<td>Pete can create a single reusable report that each of his 2+ teams can add to a configuration aware dashboard and filter so that the results are specific to that team and the configuration context used</td>
</tr>
</tbody>
</table>
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• Hands-on with the Jazz Reporting Services (50 min)
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• Summary and Conclusions (10 min)
Your Reporting Goals

• Activity:

  Ideate a map of your reporting goals
  – Identify your most important reports you and your team use (or want to use)
  – Write each report on a post-it note
  – What artifact data is needed for your reports?
  – Are relations between artifact’s used?
  – Rank the relative importance of the reports

• Time:
  – 10 min

• Materials:
  – Sharpies
  – Stick notes
  – Flipchart & markers
Design Your Dashboard

• **Activity:**

  Compose your reports into a Dashboard
  – Move and organize your reports into one or more dashboards
  – What roles in your team would use what dashboard?
  – Do you organize your dashboard(s)? By product, project, team or domain?

• **Time:**
  – 10 min

• **Materials:**
  – Sharpies
  – Stick notes
  – Flipchart & markers

My test team dashboard

<table>
<thead>
<tr>
<th>Milestone 1</th>
<th>Milestone 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>My tasks</td>
<td>Latest test run</td>
</tr>
<tr>
<td>New Defects</td>
<td></td>
</tr>
</tbody>
</table>
Your Reporting Goals - Questions and Discussion

• What reports or information do you or your colleagues need to do your jobs?
  • What reports do you use most commonly?
  • What reports do you wish you could have?

• What information do you roll up (totals, percentages, etc)?
  How do you present it?

• How do you organize and share reports?
  Who shares reports?
  Who consumes the reports?

• What format do you use for your reports?
  Single reports / Dashboards on the web
  PDF documents / Excel documents

• How do you organize your dashboards related to configurations?
  By iteration / milestone / release?
  Do organize dashboards for projects, teams, roles?
  Do you keep personal dashboards?
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Hands-on Lab (50 min)
- Introduction to configuration management concepts
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- Summary and Conclusions (10 min)
Automated Meter Reader

Automated Meter Reader products by JK-Meters Corp

- **Manual Handheld Reader**
  JK-Meters Classic product offering for manual meter readings. Updated with GPRS network connectivity and our latest leak detection technology.

- **Mobile/Car Mounted Reader**
  JK-Meters Standard product offering for mobile or car mounted RF meter readings. Including GPRS network connectivity and GPS routing.

- **Grid Reader**
  JK-Meters new Grid product offering for fixed unattended regional meter readings. Including fixed or GPRS network connectivity options.

- **Meter Interface**
  JK-Meters sensors and Meter Interfaces support Water, Gas and Electrics and a range of battery and solar power options.
Automated Meter Reader

AMR product line variability

AMR Manual

AMR Mobile
Market variability for US, EU and UK

AMR Grid

We will use the AMR Mobile product in this lab

Reuse of components
Multi-stream Configuration Management

Switch and Work in context
By selecting a configuration, related to a plan, a team members can get a workspace with consistent versions of artifact and their links

Parallel work and control changes
Team members can work in a variant or private stream, then control how changes are shared

Report in the right context
Team members can view dashboards, run queries and generate reports and other documents in the selected configuration context

Susan
Systems Engineer

Switch development context
Configuration Management Concepts

- **Component** – A unit of organization consisting of a reusable set of artifacts such as requirements, tests, designs and source code

- **Configuration** – A set of specific artifacts versions of a component
- **Stream** – A modifiable (mutable) configuration of a component
- **Baseline** – An un-editable (immutable) configuration of a component
Configuration Management Concepts

Component
– A unit of organization consisting of a reusable set of artifacts and links
Configuration Management Concepts

**Component** – A unit of organization consisting of a reusable set of artifacts such as requirements, tests, designs and source code.

**System level components**
- AMR (RM)
  - AMR Stakeholder Requirements Specification
  - AMR System Requirements Specification
- AMR (QM)
  - AMR Stakeholder Verification test plan
  - AMR System Verification test plan
- AMR (SCM)
  - Meter Reader integration
  - Meter Interface integration
  - AMR Server integration

**Subsystem level components**
- Meter Reader (RM)
  - Meter Reader Subsystem Requirements Specification
  - Meter Reader Software Requirements Specification
- Meter Reader (QM)
  - Meter Reader Subsystem test plan
  - Meter Reader Software test plan
  - Meter Reader Hardware test plan
- Meter Reader (SCM)
  - Cellular Unit
  - RF Unit
  - GPS Unit

- Meter Interface (RM)
- Meter Interface (QM)
- Meter Interface (SCM)
- AMR Server (RM)
- AMR Server (QM)
- AMR Server (SCM)
Configuration Management Concepts

Configuration – A set of specific artifacts versions of a component
Stream – A modifiable (mutable) configuration of a component
Baseline – An un-editable (immutable) configuration of a component

Component: ‘AMR (RM)’
Stream: ‘AMR.S (RM) Mobile US’
Baseline: ‘AMR.S (RM) Mobile 3.1 US.GA’
Stream: ‘AMR.S (RM) Mobile UK’

Component: ‘AMR (QM)’
Stream: ‘AMR.S (QM) Mobile US’
Baseline: ‘AMR.S (QM) Mobile 3.0 US.GA’
Stream: ‘AMR.S (QM) Mobile UK’
Reporting in a Configuration Context

- We will report on test result data in two configurations: Meter Reader (QM) Mobile US and Meter Reader (QM) Mobile EU.
- Test Cases in a Test Plan, with their latest Test results, and associated blocking Defects.
Hands-on with the Jazz Reporting Services

Part 1 – Build a new report from scratch
• In the first part of the hands-on lab you will build a new query that reports on test results for test results in a test plan and related defects
• You will select the artifacts to report on
• You will format the report and add artifact attributes
• You will run and view a report in the context of a configuration

Part 2 – Using reports on dashboards
• In the second part of the hands-on lab you will add your report to a dashboard
• You will add widgets and report on two configurations

Optional Part – Build you own dashboard
• In this optional part you may explore reporting with your own dashboard
Designing a Configuration Aware Reporting Solution for Product Line Engineering
Lab Environment

- You will be using a VMWare image with the tools installed locally. All the tools are web-based and accessed using a web browser.
- The image and services on your machine have been started by the Lab staff. Follow the steps in the Lab Handbook to log in:
  - Windows user: Administrator  PW: Rational
  - Jazz server user: rational  PW: rational
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Summary and Conclusions (10 min)
Summary and Conclusions

• You have now explored concepts and tools for Configuration Aware Reporting solution for Product Line Engineering. Let's discuss your conclusions.

• Were you familiar with the concept of reporting before this lab?
• Did you find it easy to understand the concept of reporting in this lab?
• Did you find it easy to use reporting in the tools when
  • Selecting artifacts and adding traceability links
  • Formatting the report and adding columns
  • Previewing the report
  • Running the report
  • Saving and publishing a report
  • Using a report on a dashboard
  • Setting a configuration context
  • Building your own reports

• How can we improve the Concepts and User Experience of reporting?
Summary and Conclusions

• We have now completed the lab and we appreciate the feedback you have provided to our design topics.

• The product capabilities you have explored today may change before released in a future product.

• Continue exploring
  - New introductory videos on Continuous Engineering on YouTube
    https://www.youtube.com/watch?v=G8aurFdtpqw&list=PLlhg84-xzjfy8T1u30MSkZFSsu-PH7H8t
  - Manage configurations in and across the CLM tools
  - Configuration Management Overview
    https://jazz.net/wiki/pub/Main/CLMBetaOverview5x/CLM_5x_M6_CM_ovrwv.pdf
  - Accessing the Collaborative Lifecycle Management 6.0 beta
    https://jazz.net/wiki/bin/view/Main/CLMBetaOverview5x
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