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Designing a Configuration Aware Reporting solution for Product Line Engineering

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The Premier Cloud & Mobile Conference

February 22 – 26
MGM Grand & Mandalay Bay | Las Vegas, Nevada

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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

Acknowledgements and Disclaimers

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
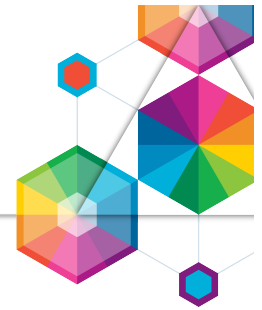
This is a Lab based on **IBM Design Thinking**

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

Explore

Understand

Prototype

Evaluate

Lab 5071 –
Designing Impact Analysis
capabilities for
Product Line Engineering

Lab 5063 –
Designing User Experience
Concepts in Multi-Stream
Configuration Management
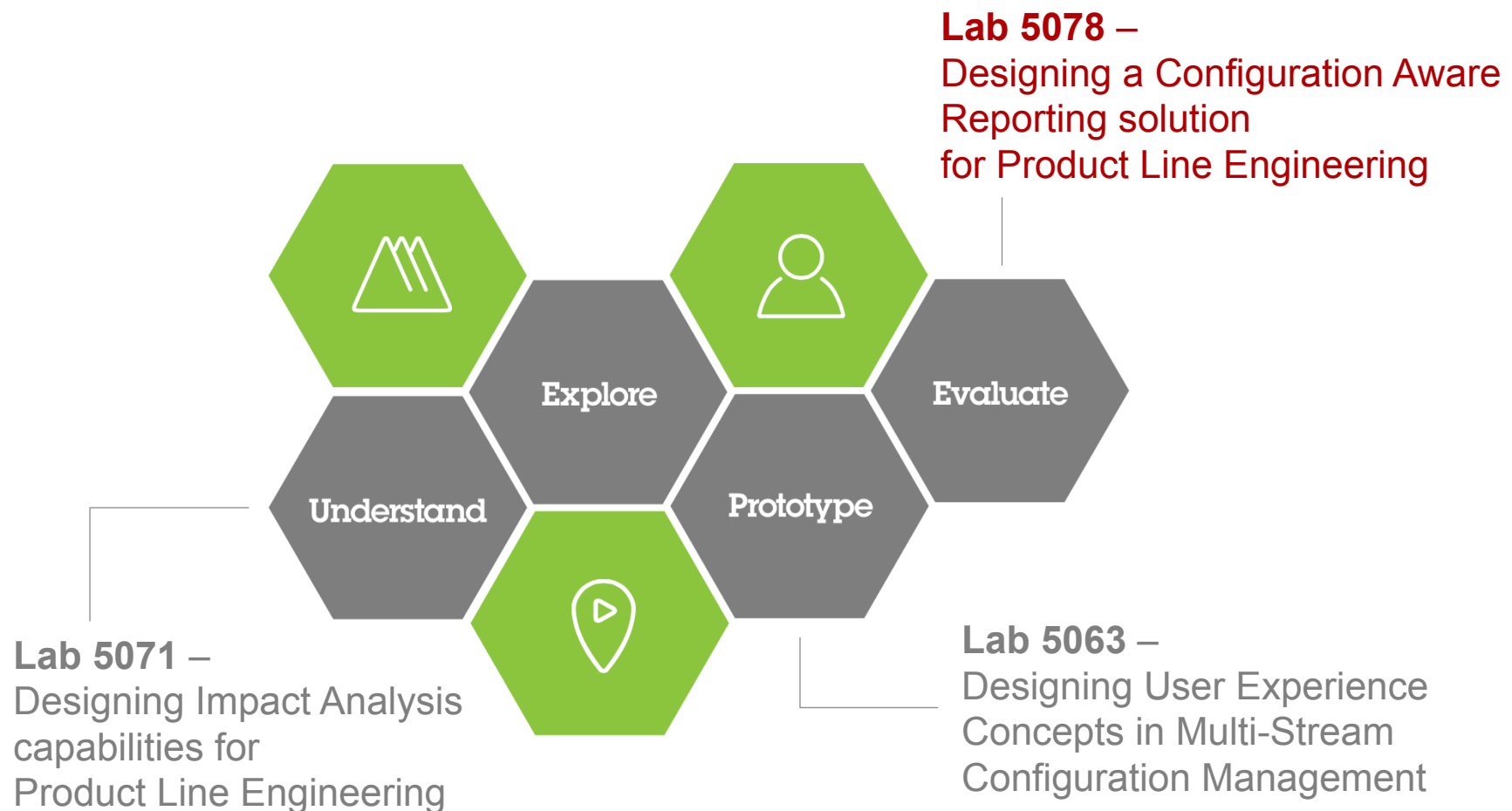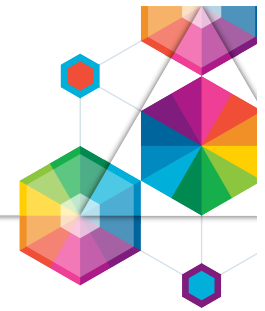
Jazz Reporting Service vision
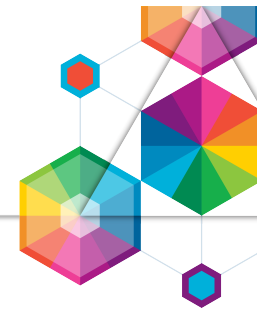
Jazz Reporting Service provides access to critical data for managing products, projects and daily development activities

- 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

Jazz Reporting Service scenarios

v5.0	Pete, the project lead, can find reports showing information across the development lifecycle, set some filters and save the live report on a dashboard
v5.0.1	Pete can build a table that includes information about a single type of artifact and can be scoped to more than one project
v5.0.2	Pete can create a traceability table report that includes information on relationships between artifacts from more than one lifecycle tool Pete can show data as a bar chart or pie chart
in progress	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 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

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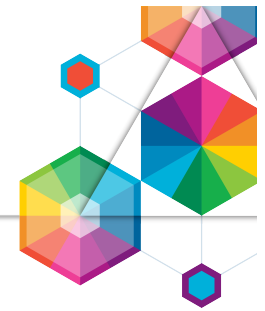
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Your Reporting Goals
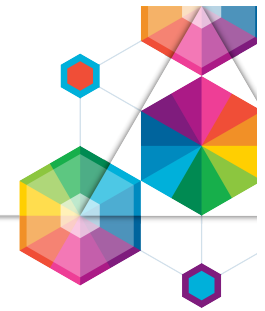
- **Activity:**

  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
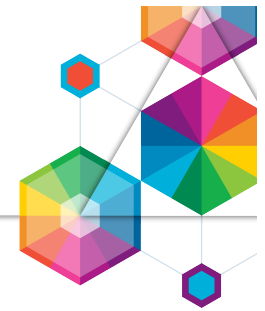
- **Activity:**

  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
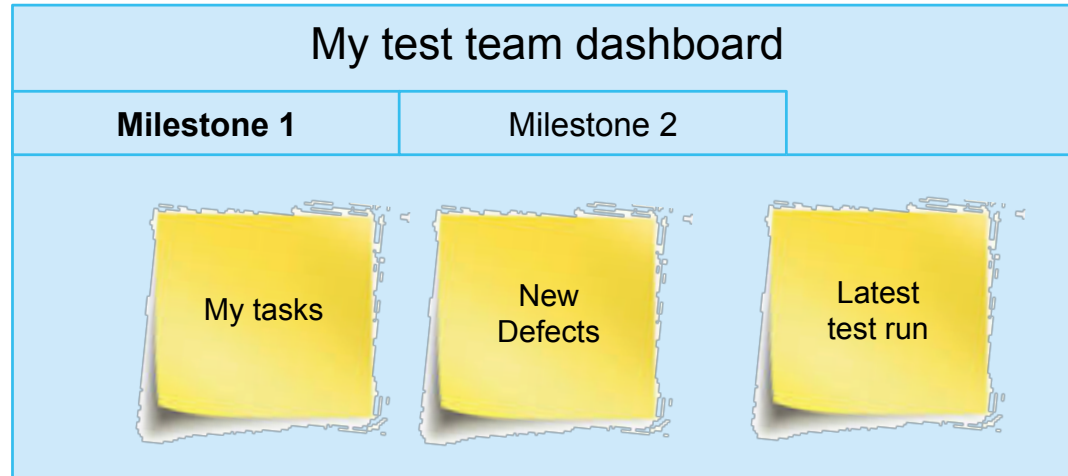
Your Reporting Goals - Questions and Discussion
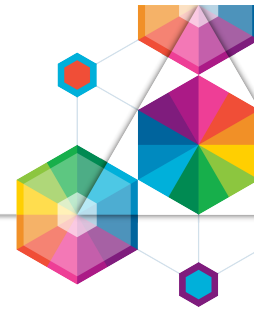
- What reports or information do you or your colleagues need
  to do your jobs?

  - 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?

Agenda for this lab
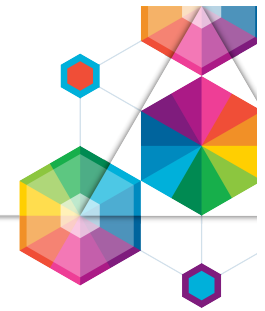
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▶ Hands-on Lab (50 min)
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Automated Meter Reader

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.

Meter Interface

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

Grid Reader

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

AMR Server

Automated Meter Reader

AMR product line variability

	Meter Interface	Reader	AMR Server
AMR Manual	Meter Interface	Manual Handheld Reader	AMR Server
AMR Mobile *Market variability for US, EU and UK*	Meter Interface	Mobile/Car Mounted Reader	AMR Server
AMR Grid	Meter Interface	Grid Reader	AMR Server

We will use the AMR Mobile product in this lab
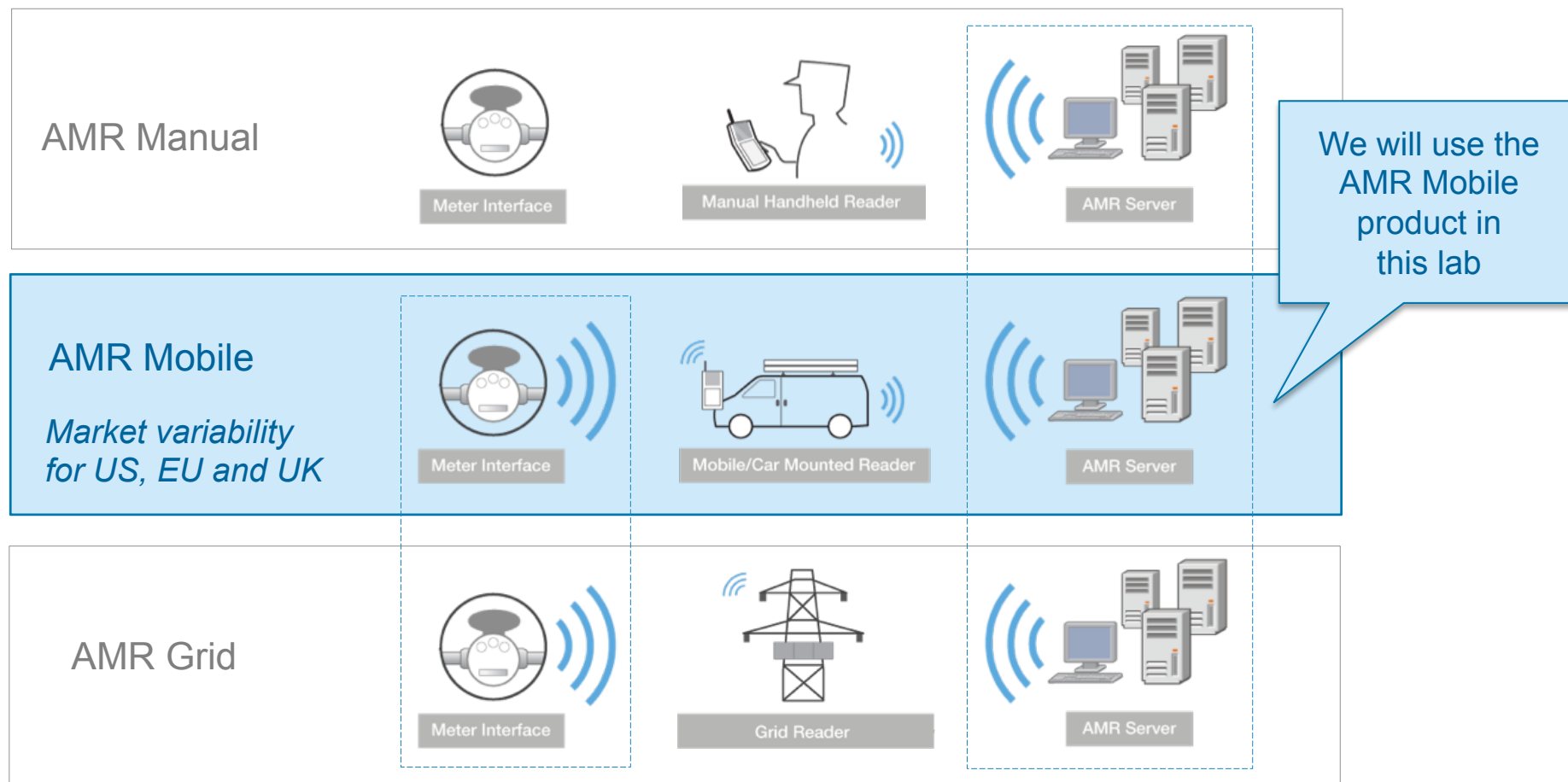
Reuse of components

Multi-stream Configuration Management

Susan
Systems Engineer

Switch and
Work in
context

Switch development context
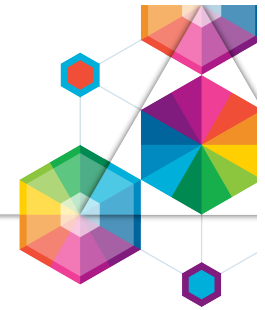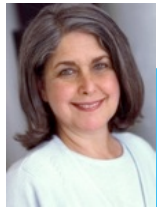By selecting a configuration, related to a plan, a team members can get a workspace with consistent versions of artifact and their links
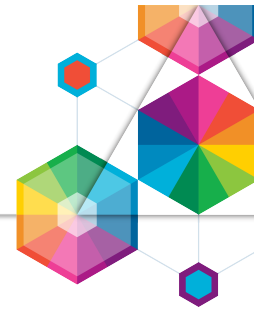
Parallel work and control changes
Team members can work in a variant or private stream, then control how changes are shared

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

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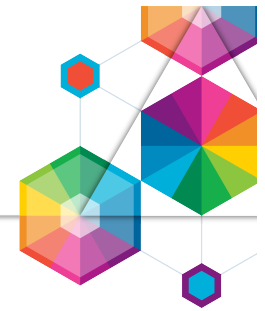
Component
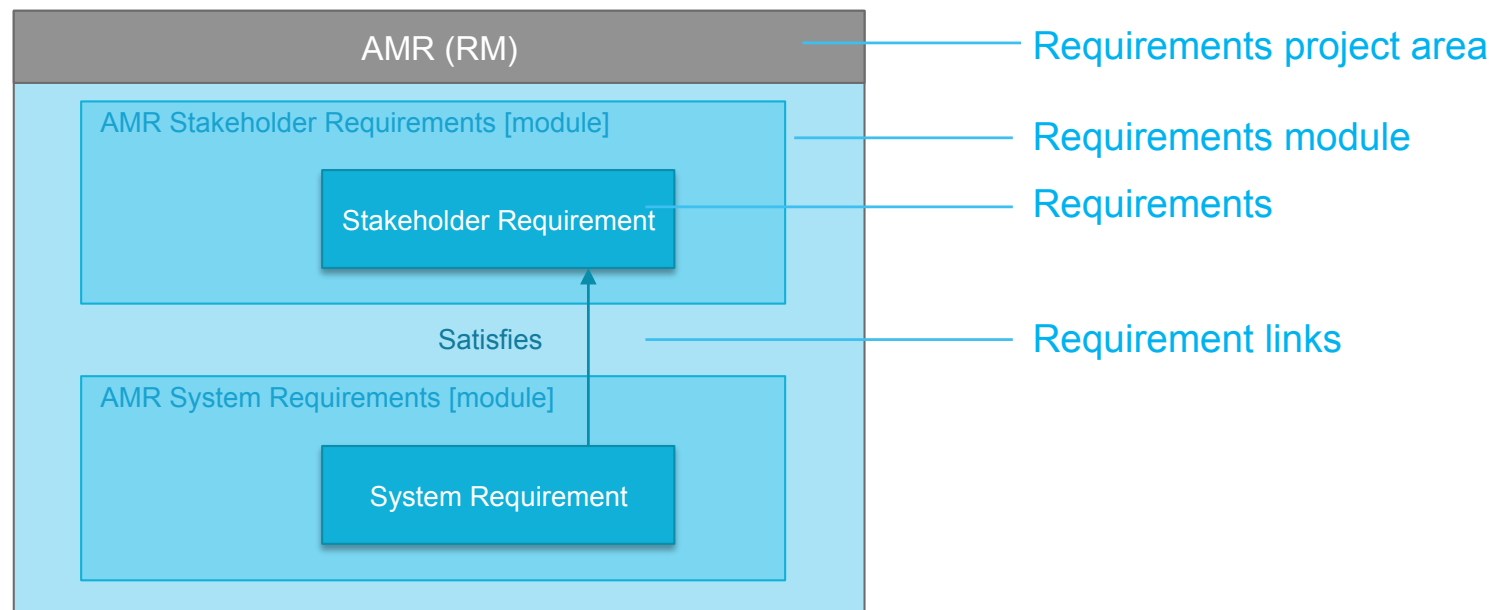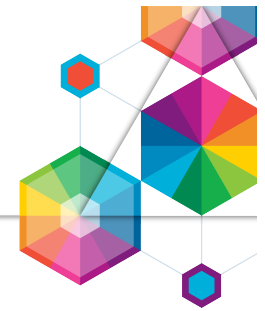– A unit of organization consisting of a reusable set of artifacts and links
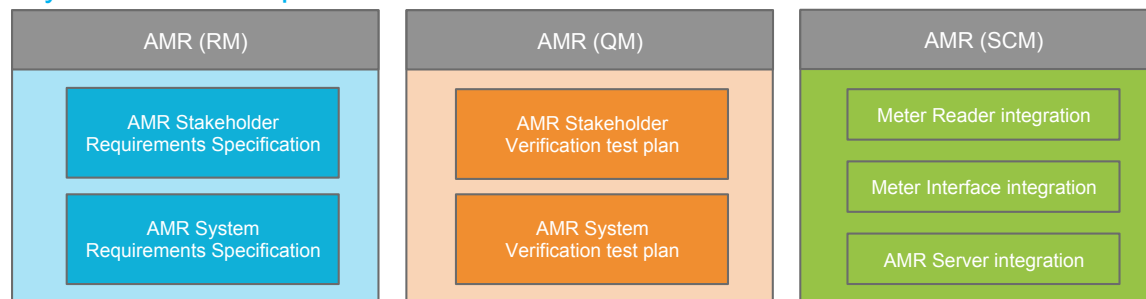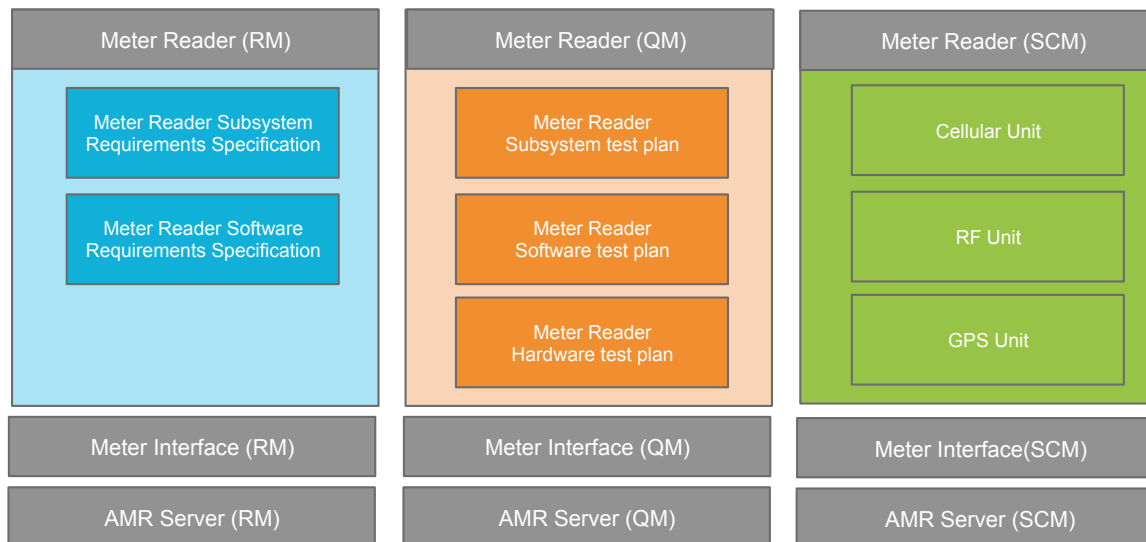
Configuration Management Concepts

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 (QM)	AMR (SCM)
AMR Stakeholder Requirements Specification	AMR Stakeholder Verification test plan	Meter Reader integration
AMR System Requirements Specification	AMR System Verification test plan	Meter Interface integration
		AMR Server integration

Subsystem level components

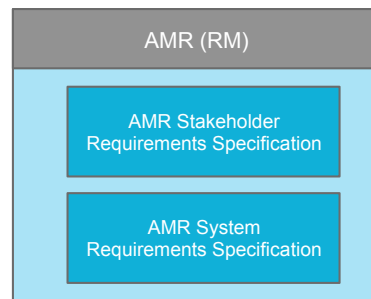| Meter Reader (RM)	Meter Reader (QM)	Meter Reader (SCM)
Meter Reader Subsystem Requirements Specification	Meter Reader Subsystem test plan	Cellular Unit
Meter Reader Software Requirements Specification	Meter Reader Software test plan	RF Unit
	Meter Reader Hardware test plan	GPS Unit
Meter Interface (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
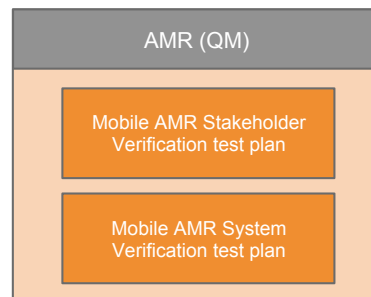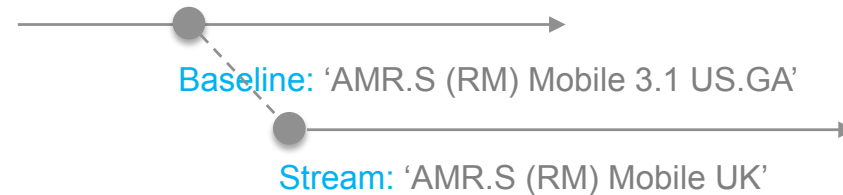
Stream – A modifiable (mutable) configuration of a component

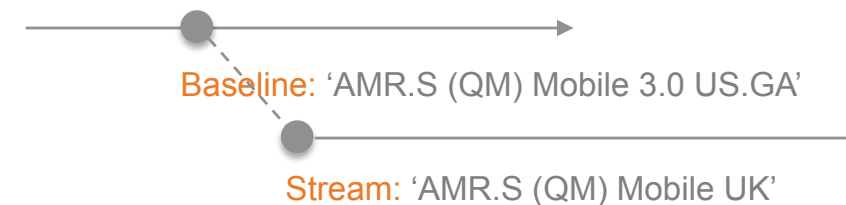Baseline – An un-editable (immutable) configuration of a component

AMR (RM)

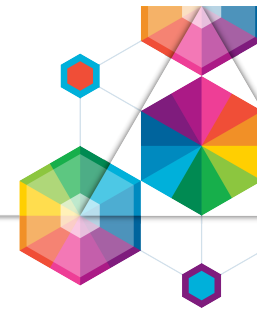- AMR Stakeholder Requirements Specification
- AMR System Requirements Specification

Component: 'AMR (RM)'
Stream: 'AMR.S (RM) Mobile US'

Baseline: 'AMR.S (RM) Mobile 3.1 US.GA'

Stream: 'AMR.S (RM) Mobile UK'

AMR (QM)

- Mobile AMR Stakeholder Verification test plan
- Mobile AMR System Verification test plan

Component: 'AMR (QM)'
Stream: 'AMR.S (QM) Mobile US'

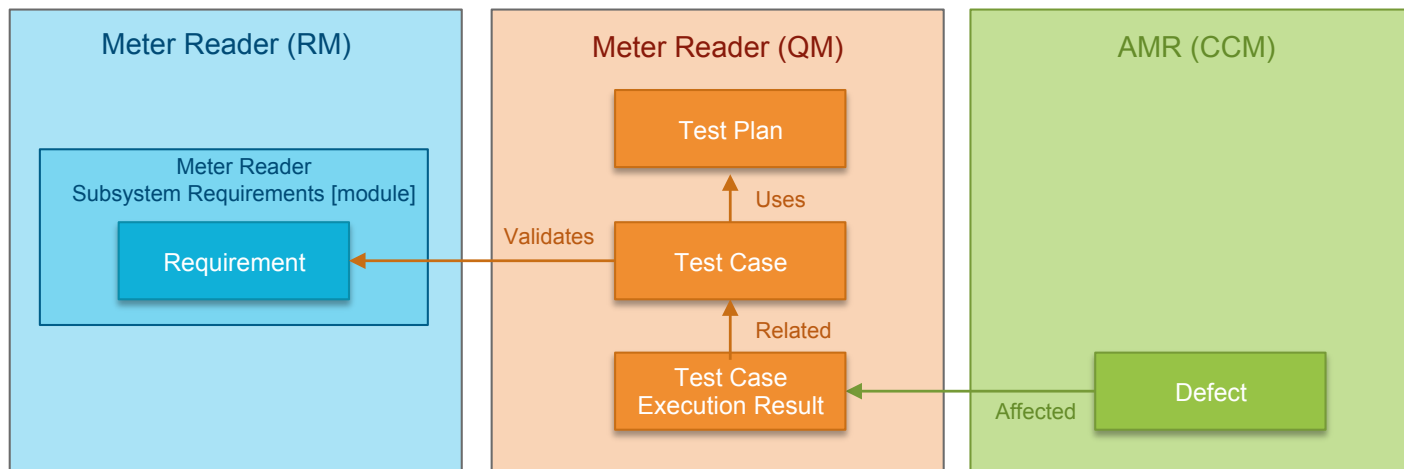Baseline: 'AMR.S (QM) Mobile 3.0 US.GA'
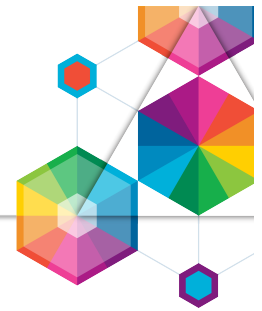
Stream: 'AMR.S (QM) Mobile UK'

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
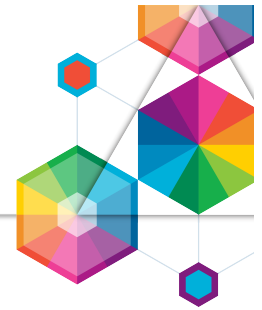
Part 2 – Using reports on dashboards

- 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

Material Provided

IBM.

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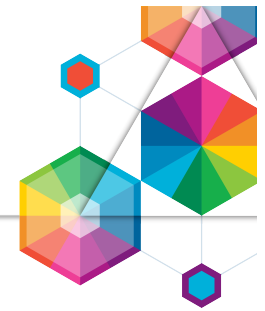MGM Grand & Mandalay Bay
Las Vegas, Nevada

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Lab DSE-5078

**Designing a Configuration Aware Reporting
Solution for Product Line Engineering**

February 2015

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 has been started by the Lab staff
  Follow the steps in the Lab Handbook to log in

  Windows user: `Administrator` PW: `Rati0nal`
  Jazz server user: `rational` PW: `rational`
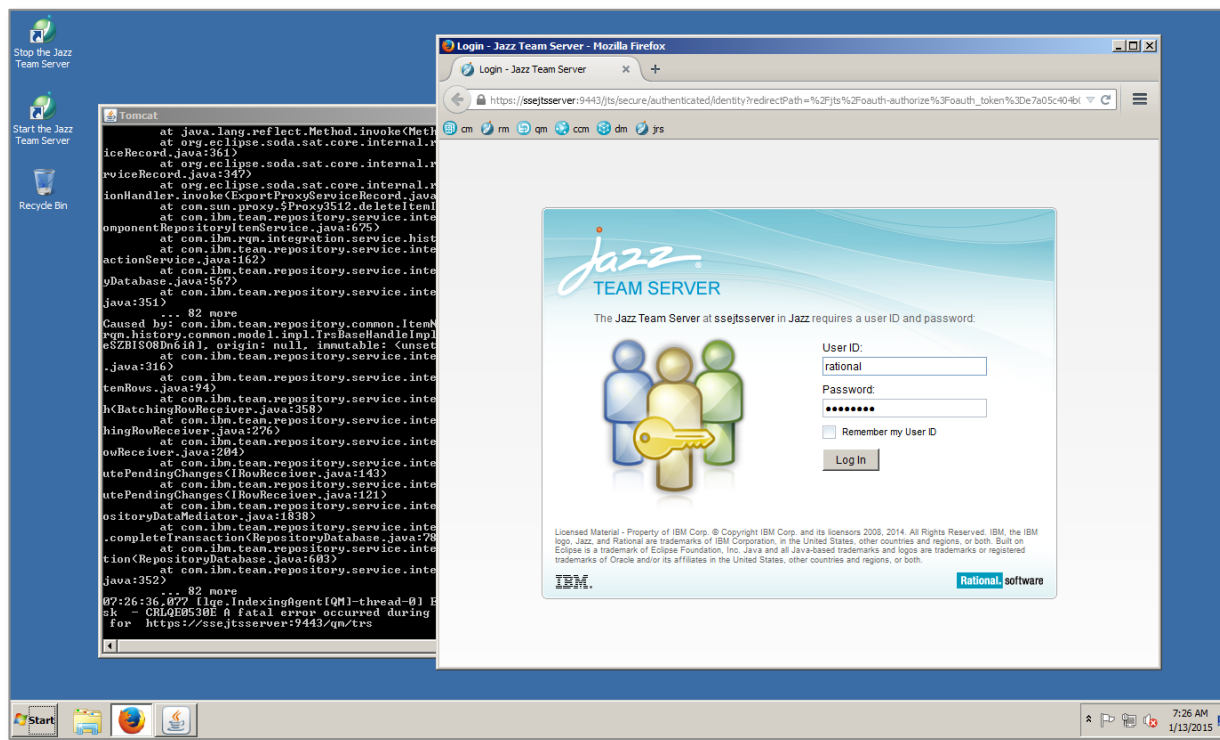
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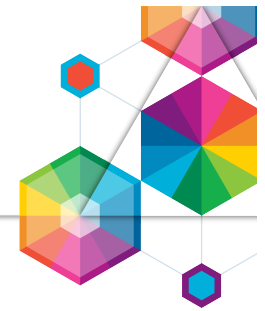
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Summary and Conclusions
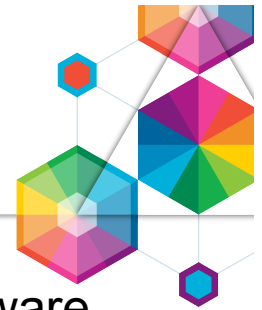
- You have now explored explore concepts and tools for Configuration Aware Reporting solution for Product Line Engineering. Lets discuss your conclusions

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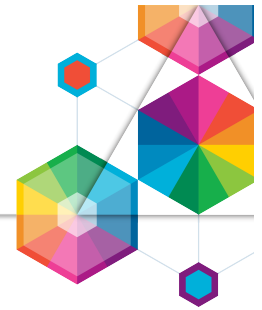
- We have now completed the lab and we appreciate the feedback you have provided to our design topics

- 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=G8aurFdtpgw&list=PLlhg84-xzjfy8TIu30MSkZFSsu-PH7H8t
  - Manage configurations in and across the CLM tools
    https://jazz.net/blog/index.php/2014/11/05/manage-configurations-in-and-across-the-clm-tools-in-the-5x-m6-beta/
  - Configuration Management Overview
    https://jazz.net/wiki/pub/Main/CLMBetaOverview5x/CLM_5x_M6_CM_ovrvw.pdf
  - Accessing the Collaborative Lifecycle Management 6.0 beta
    https://jazz.net/wiki/bin/view/Main/CLMBetaOverview5x

Thank You

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