

# Designing Impact Analysis Capabilities for Product Line Engineering



## InterConnect 2015

The Premier Cloud & Mobile Conference

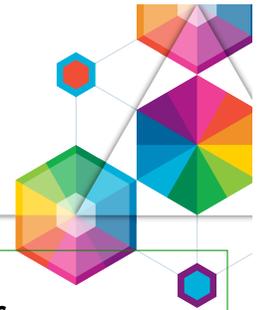
February 22 – 26

MGM Grand & Mandalay Bay | Las Vegas, Nevada

#ibminterconnect



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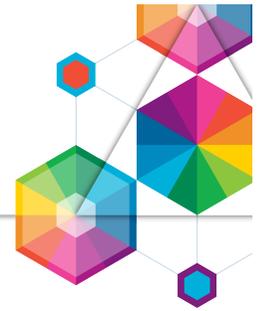
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# Agenda for this lab

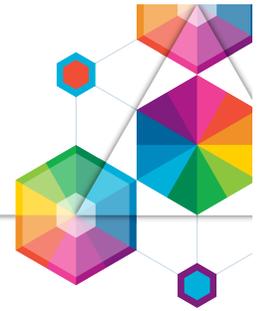
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- ▶ Introduction to Impact Analysis and Configuration Management (20 min)
  - Hands-on Lab (30 min)
    - Part 1 - Exploring impact of change using Rational DOORS Next Generation
    - Part 2 - Manage impact and work using traceability links
  - Design (60 min)
    - Ideation: Your practices – List the practices you use for Impact Analysis today
    - Ideation: Your artifacts – List the artifacts you analyze for impact
    - Ideation: Your outcome – List the report you use for impact analysis
  - Summary and Conclusions (10 min)

## About this Lab

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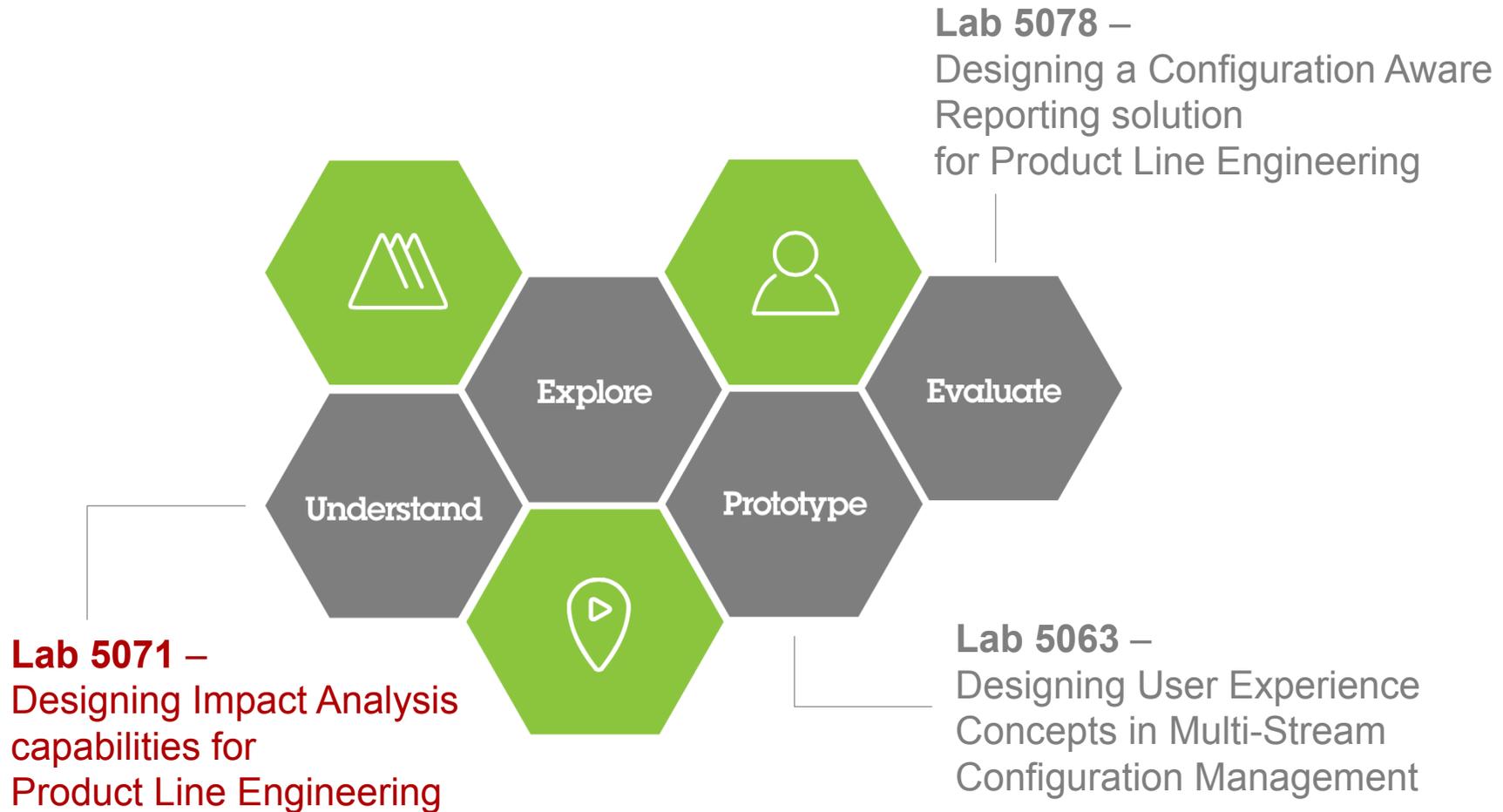
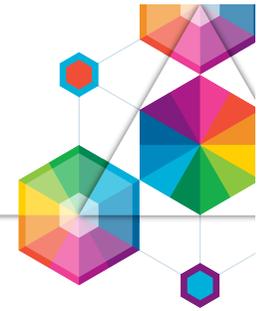
This is a Lab based on **IBM Design Thinking**

We will explore  
**Impact Analysis**

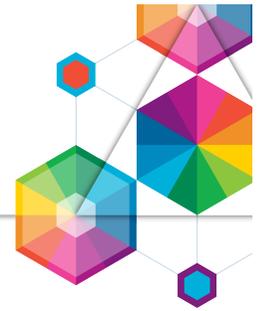
In this lab **we ask you to help us**  
explore concepts and user experiences

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

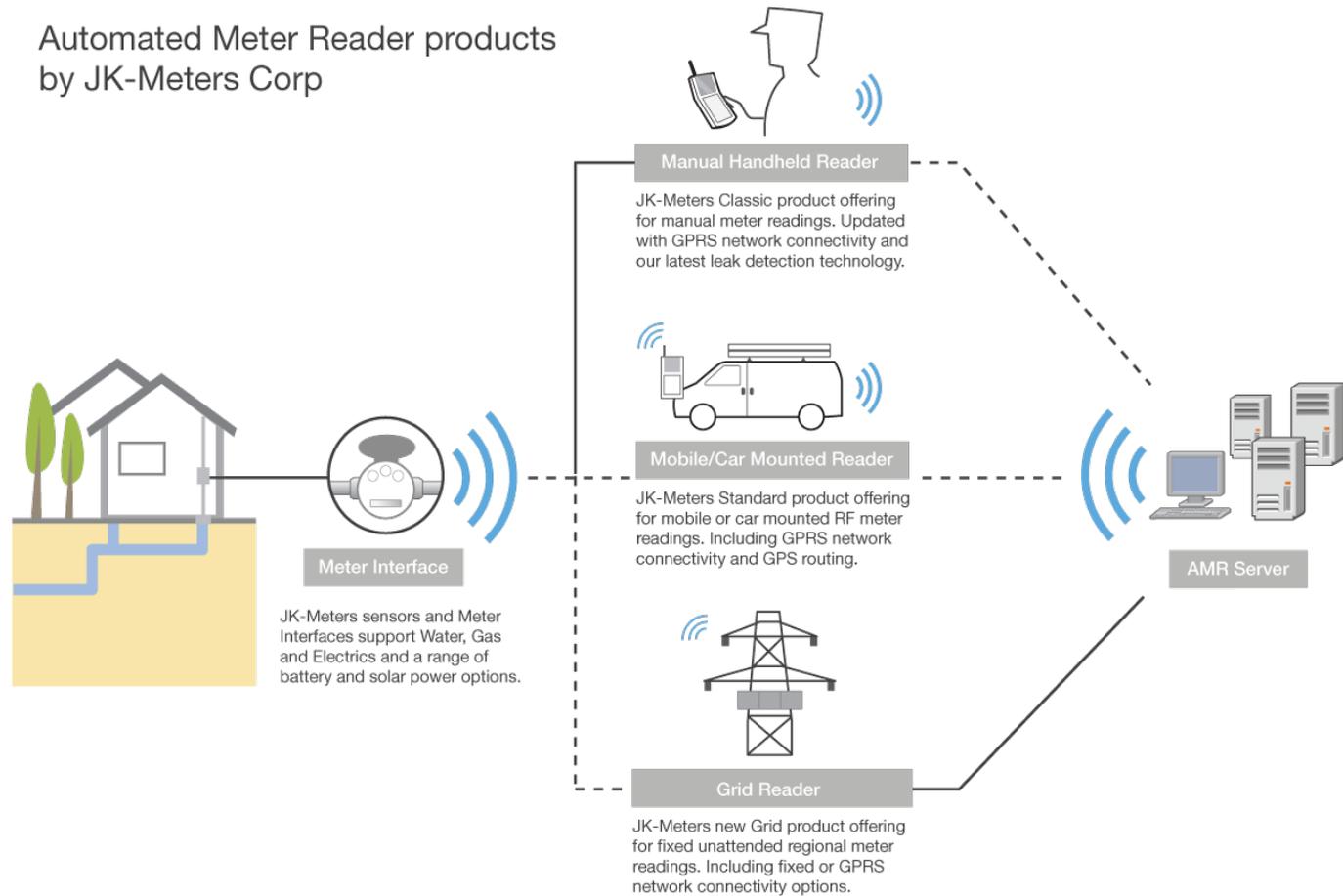
# IBM Design Thinking



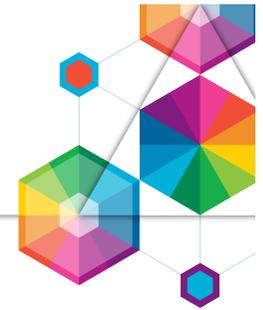
# Automated Meter Reader



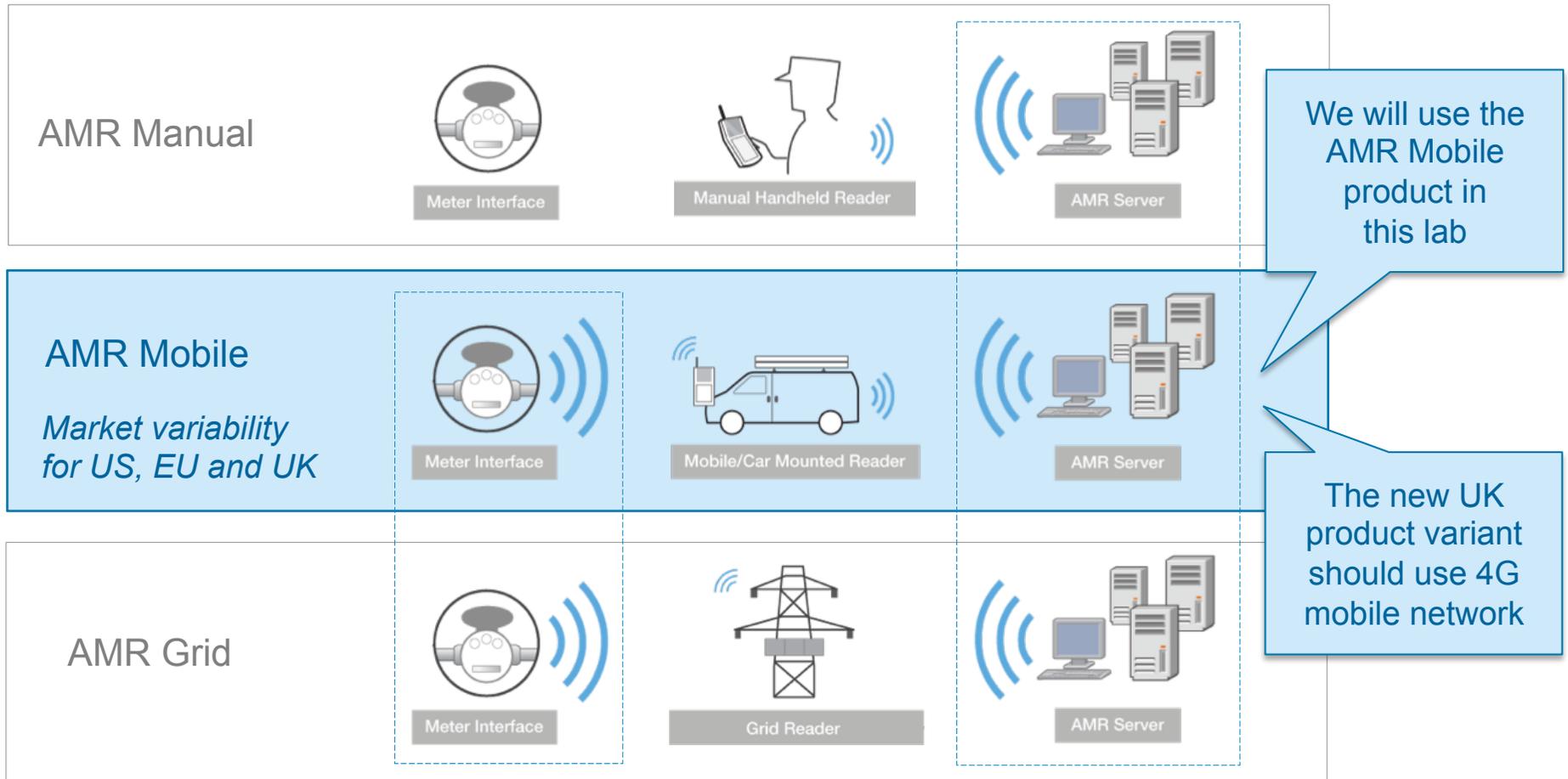
## Automated Meter Reader products by JK-Meters Corp



# Automated Meter Reader

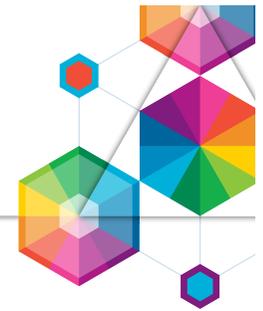


## AMR product line variability



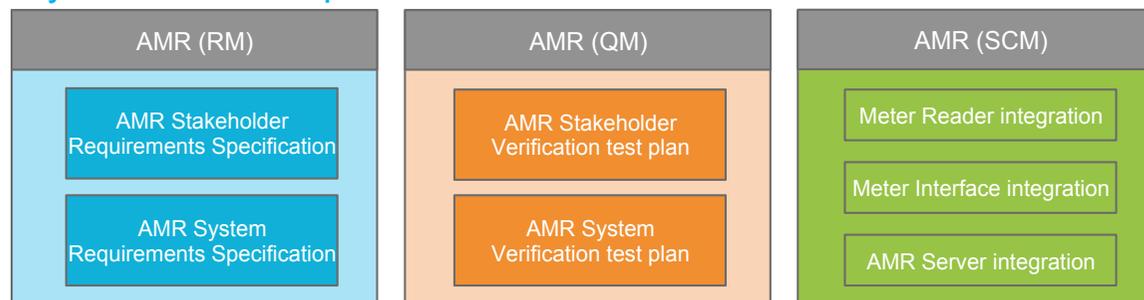
*Reuse of components*

# Configuration Management Concepts

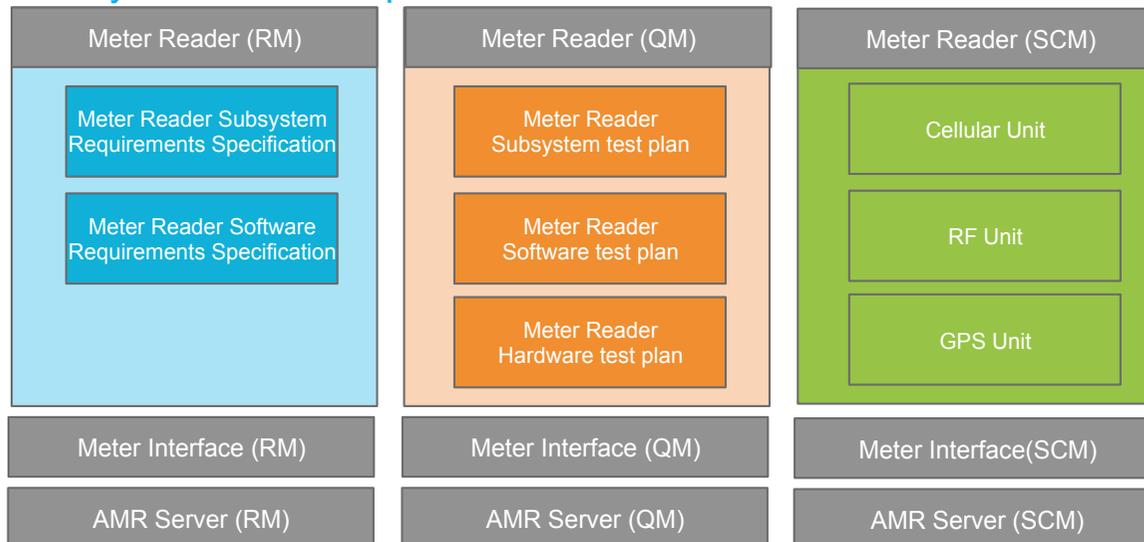


**Component** – A unit of organization consisting of a reusable set of artifacts such as requirements, tests, designs and source code

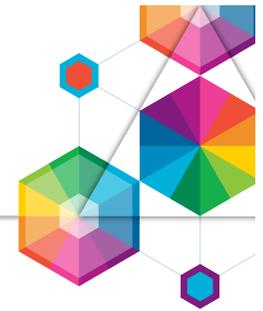
## System level components



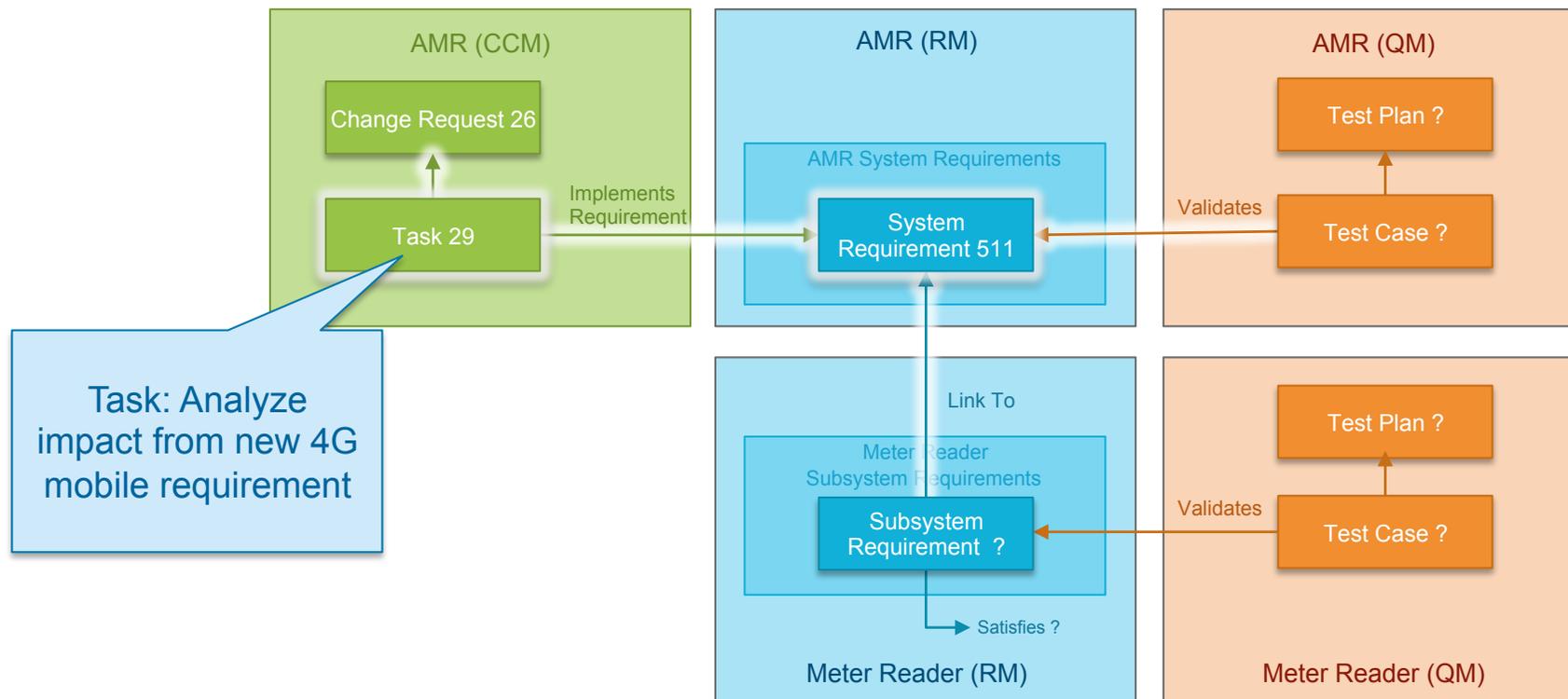
## Subsystem level components

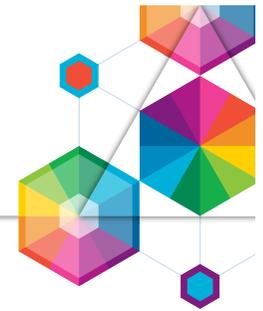


# Exploring impact of change



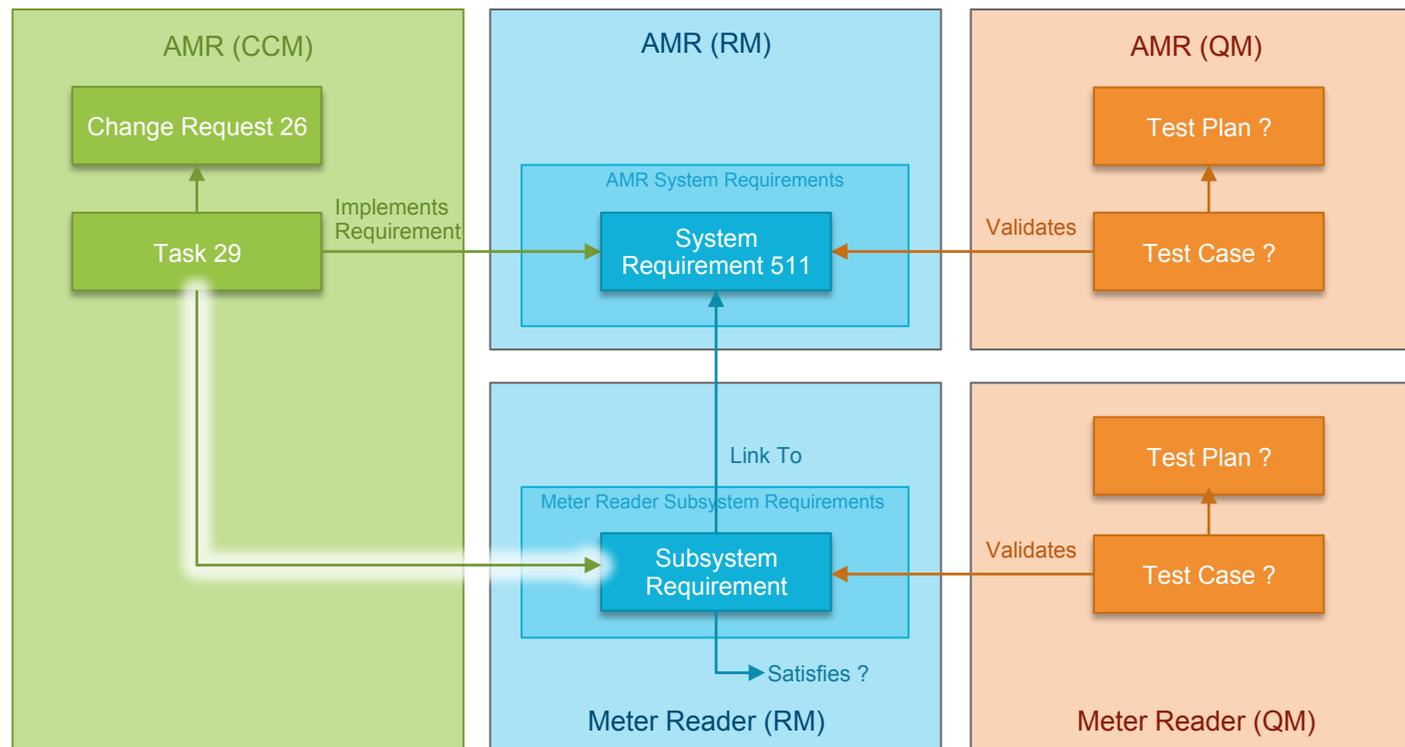
- In the first part of the lab you will explore the impact of a change request using traceability links
- Start by identifying the Change Request and trace to impacted artifacts





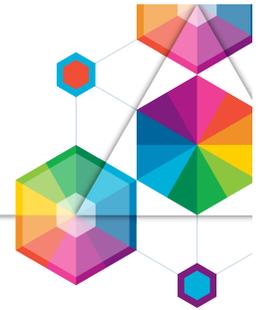
# Tracking impact of change

- In the second part of the lab you will add new links to track impact and downstream work on impacted artifacts



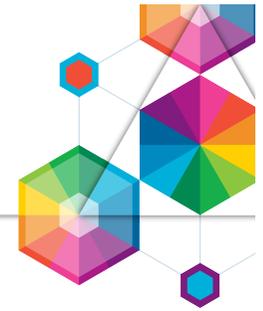
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# Material Provided



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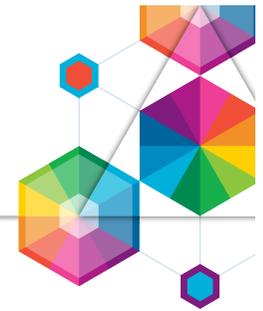
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**Lab DSE-5071**

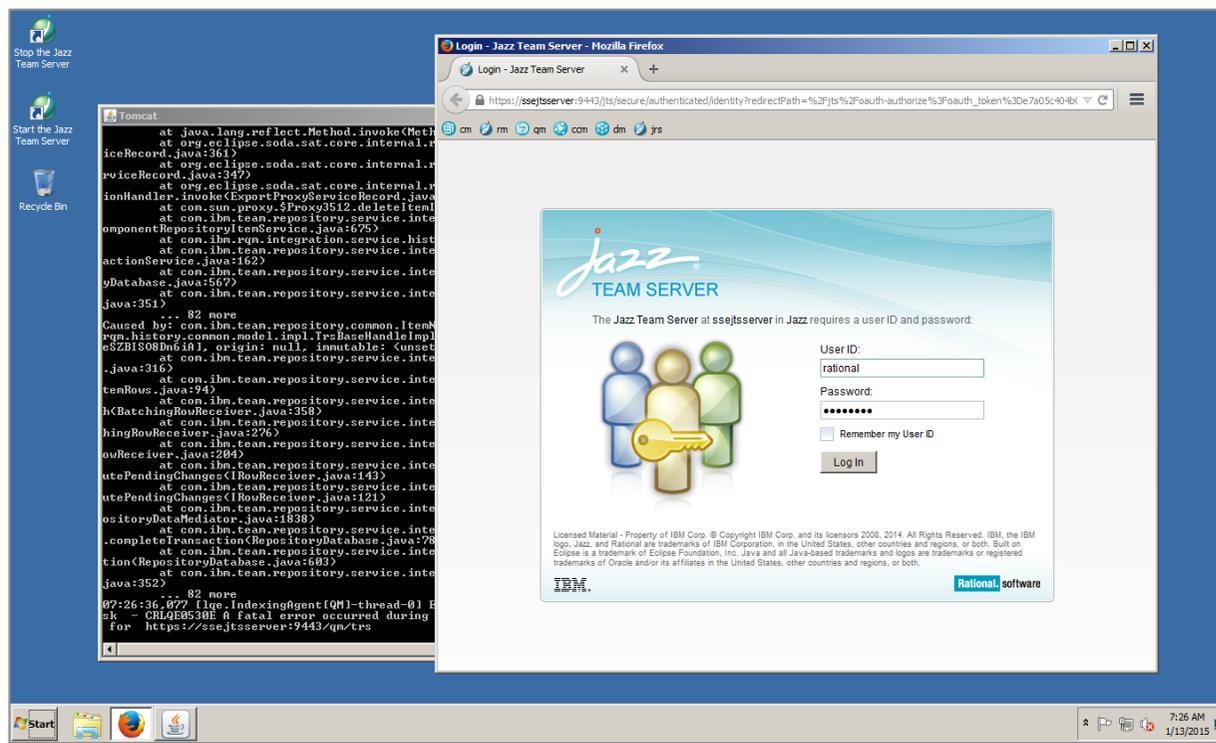
**Designing Impact Analysis Capabilities for  
Product Line Engineering**

February 2015

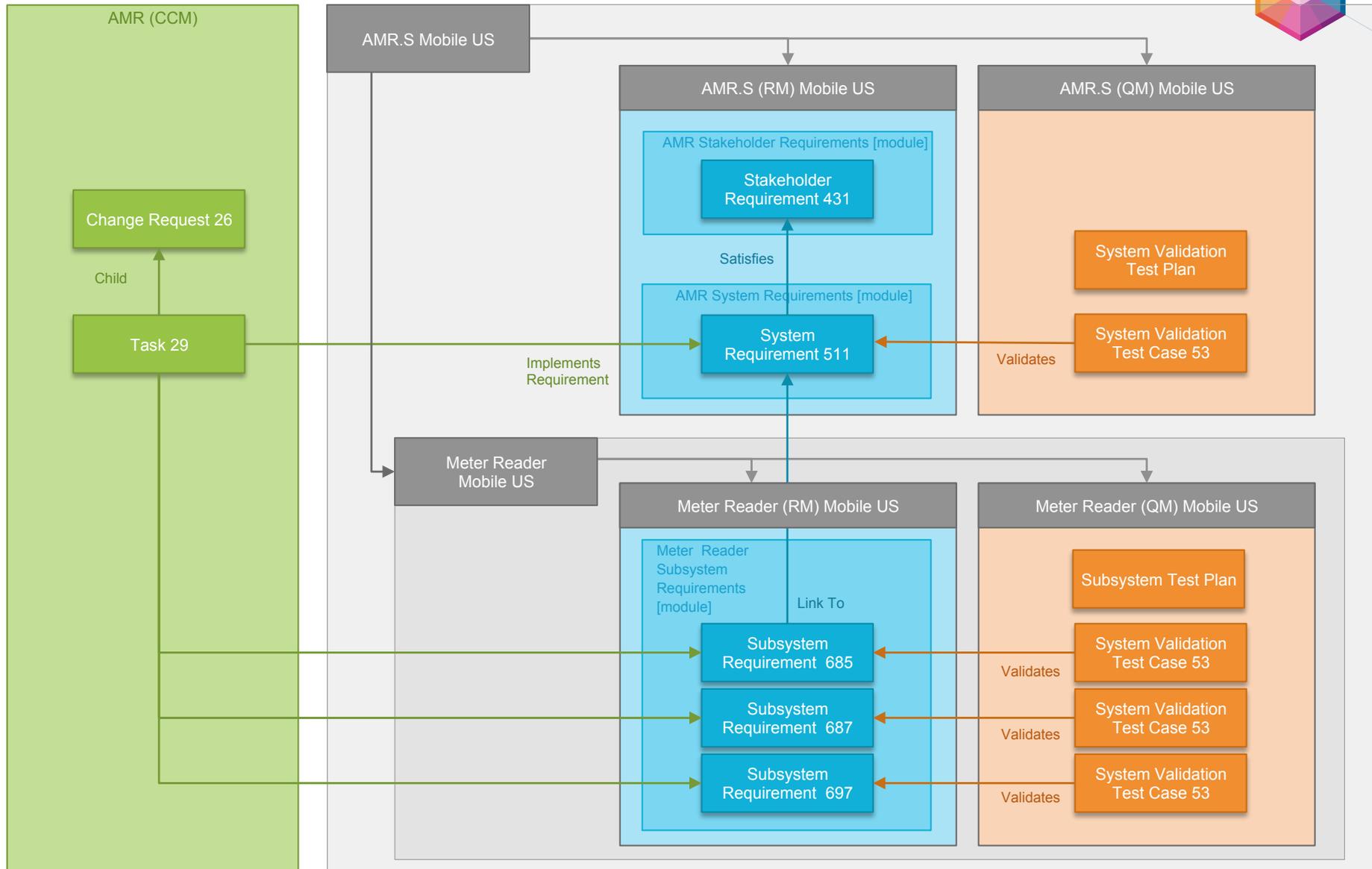
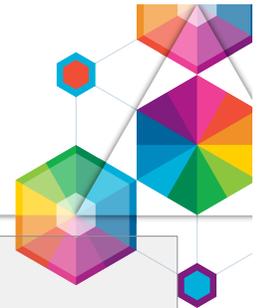
# Lab Environment



- 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

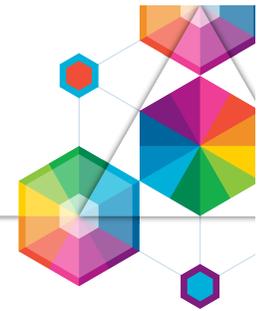


# Result from Impact Analysis



# Summary of Hands-On Lab

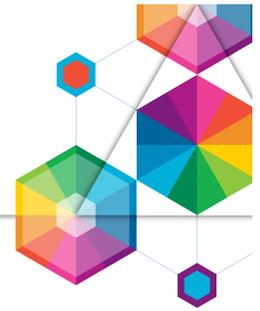
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- You have now explored explore concepts and tools for Impact Analysis. Lets discuss your conclusions
- Were you familiar with the concept of [traceability analysis](#) before this lab?
- Did you find it easy to understand the concept of traceability analysis in this lab?
- Did you find it easy to use traceability analysis in the tools when
  - Exploring impacted requirements
  - Using the link explorer
  - Using traceability views
  - Establishing links
  - Using links to estimate complexity

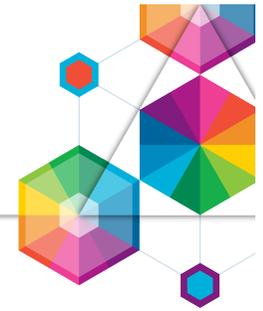
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  - Exploring impact of change using Rational DOORS Next Generation
  - Manage impact and work using traceability links
- ▶ Design (60 min)
  - Ideation: Origin of impact
  - Ideation: Analyzing impact
  - Ideation: Outcome of analysis
- Summary and Conclusions (10 min)

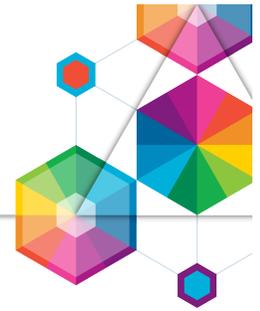
# Ideation – A design tool to drive ideas



- You have practice one approach to impact analysis using traceability analysis in the hands-on part of this lab
- We are new interested in exploring more on your needs for impact analysis
- We will use **ideation** as a tool to explore your needs, your practices, the information you analyze, and the outcome you report on



# Ideation – Your needs for Analysis



## Origins of impact

- List the reasons why you do impact analysis

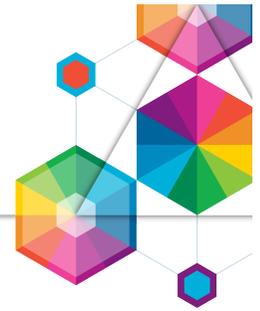
## Analyze impact

- What is the typical data you analyze?
- What team roles participate?
- What are the dependencies and workflow?

## Outcome of analysis

- What are typical outputs?
- How are the outputs used?

# Example: Impact Analysis using Traceability



## Origins of impact

- Change Request



## Analyze impact

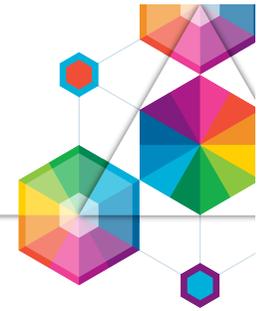
- Requirements (Satisfied By)
- Test Case (Validated By)



## Outcome of analysis

- Impacted requirements (Tracks)
- Regression test cases (Tested By)
- Impact coverage report

# Ideation – Origins of impact



- **Activity:**

List the reasons why you do impact analysis  
Group related reasons  
Tag the most important reasons

- **Time:**

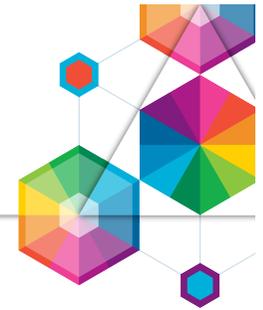
- 10 min

- **Materials:**

- Sharpies
- Stick notes
- Flipchart & markers



# Ideation – Analyze impact



- **Activity:**

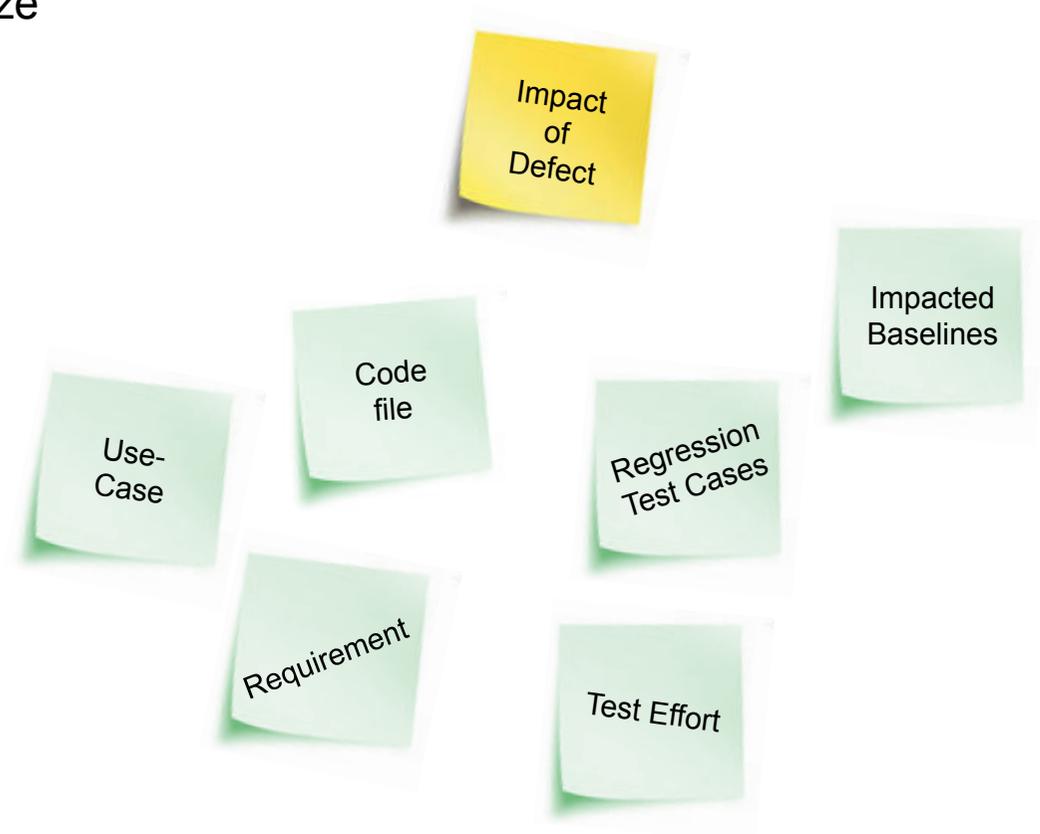
- List the typical data you analyze
  - List team roles participate
  - Group dependencies
  - Indicate workflow

- **Time:**

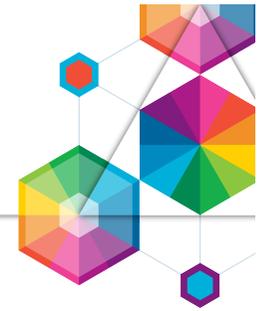
- 10 min

- **Materials:**

- Sharpies
  - Stick notes
  - Flipchart & markers



# Ideation – Origins of impact



- **Activity:**

What are typical outputs and reports from the impact analysis?  
How are the outputs used?

- **Time:**

- 10 min

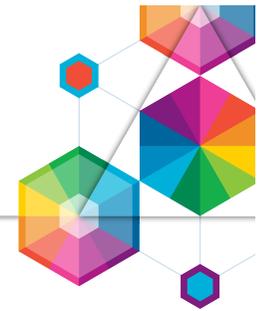
- **Materials:**

- Sharpies
- Stick notes
- Flipchart & markers



# Summary and Conclusions

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- 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-xzjfy8Tlu30MSkZFSsu-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\\_ovrww.pdf](https://jazz.net/wiki/pub/Main/CLMBetaOverview5x/CLM_5x_M6_CM_ovrww.pdf)
  - Accessing the Collaborative Lifecycle Management 6.0 beta  
<https://jazz.net/wiki/bin/view/Main/CLMBetaOverview5x>

# Thank You

Your Feedback is  
Important!

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