



# Session BOF-2597

## Designing Systems practitioner productivity improvements

Mats Göthe Scenario Lead | [mats.gothe@se.ibm.com](mailto:mats.gothe@se.ibm.com)

Jin Li UX Lead | [jinli@ca.ibm.com](mailto:jinli@ca.ibm.com)

Rational Design Factory – Systems and Software Engineering

# Innovate2013

The IBM Technical Summit





## Please note the following

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion.

Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision.

The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

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.

Information is confidential and must not be shared or redistributed without permission from IBM. Plans are based on best information available and may change in future.

# Agenda

- Systems and Software Engineering solution design
- Key scenario for practitioner productivity
- Design improvements
- Discussion: Areas of practitioner productivity improvements



## Design Factory **Mission Statement**

- To inspire and lead our teams in delivering solutions that are **useful, usable and desirable**
  - To design best-of-breed, innovative and seamlessly integrated solutions for software development teams via customer-centric, outside-in solution design methods
- To excel in scenario design, user research, user interface design, functional design and technical design

# A **Scenario** establishes a **Usage Model**

A solution scenario establishes a recommended “**usage model**” for a solution

- It is set in a specific **context** that includes the domain, a team, the size/complexity of a reference project, and the process/practices used
- It involves a team of people, represented by **persona**, who seek to achieve a goal. (usually deliver a release)
- It **identifies their activity** in how they get started, plan their project, execute on what they planned, deliver & assess what they did. (End-to-end)
- We use “**acts**” and “**scenes**”. An act covers the team goal in a particular phase of the release. A scene is a single user task that contributes to the goal.
- We communicate them in the form of a graphic or **activity diagrams**
- We detail the scenes in the form of **user stories** linked to our solution and product **development plans**

# SSE Design Scenario Personas



**Pete** (Project Manager)

Manages assignment of work items to the team and tracking of project progress.



**Tammy** (Test Manager)

Tammy leads the test and validation effort. She defines the test plans and tracks the progress of the quality plan and stability of the product.



**Pam** (Product Line Manager)

Identifies new product opportunity, defines target segment, creates and manages product variants.



**Tony** (Systems Tester)

Performs automated and manual testing to validate hardware and system requirements.



**Charles** (Chief Engineer)

Concentrate at high-level system and architecture issues and ensures architecture integrity in the system and makes all architectural design decisions.



**Sal** (Safety Engineer)

Analyzes potential failures within the system and determines actions that can mitigate the risk of failure to meet the safety certification requirements.



**Susan** (Systems Engineer)

Performs requirements analysis, modeling and simulation to manage complexity. She collaborates with lead engineers from various hardware and software disciplines to design the system to meet stakeholders' needs.



**Allison** (Tools Administrator)

Installs, Configures and Maintains tools in production. Maintains project templates and create tool repositories using templates.



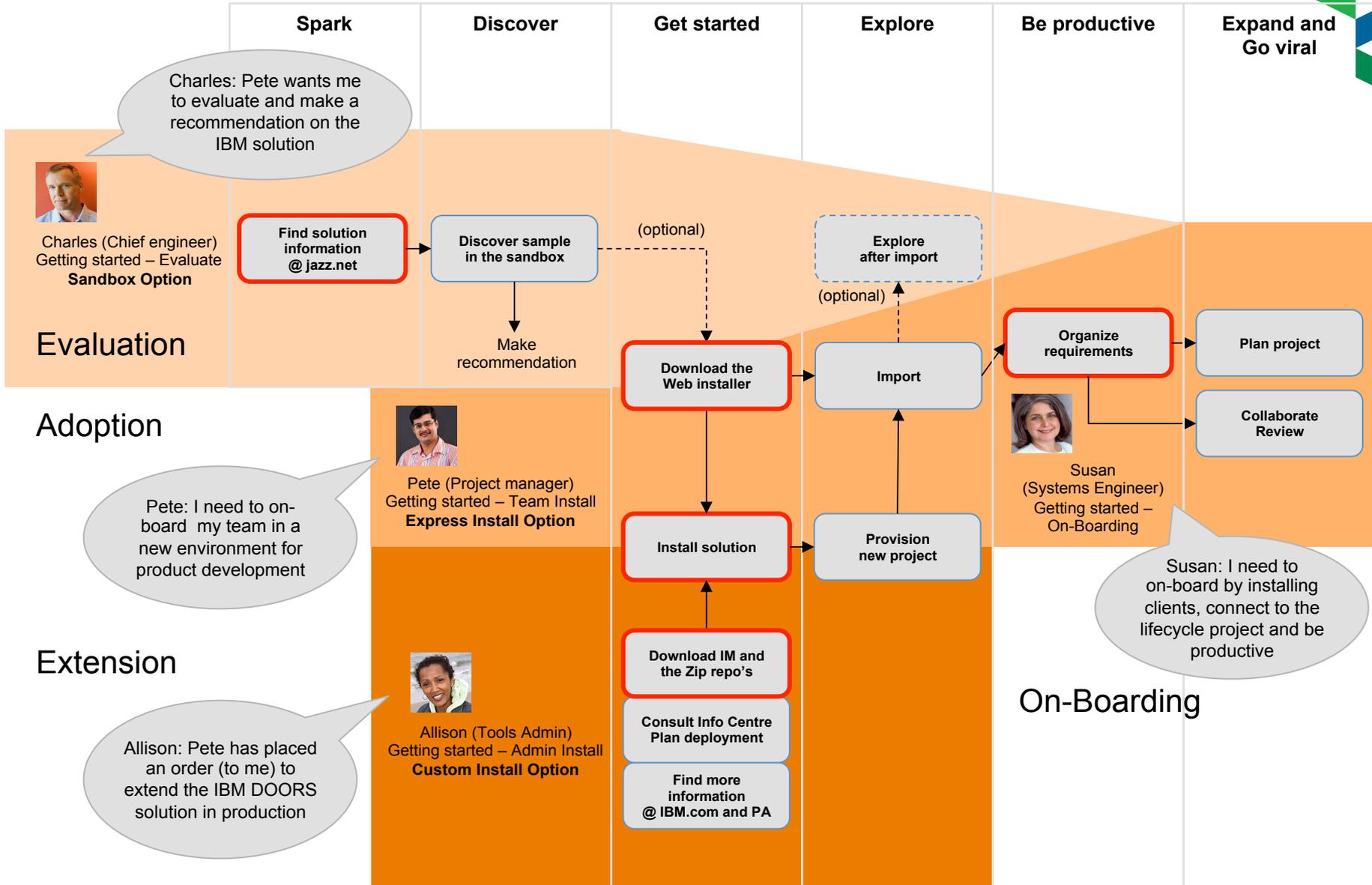
**Dan** (Developer)

Creates the software design model and implements the System Engineering model. Designs, implements and unit tests the software model using MDD.

## Scenario Personas on Jazz.net

[https://jazz.net/rm/resources/\\_wF\\_QBd4EeKAK8OVgd5Q4Q](https://jazz.net/rm/resources/_wF_QBd4EeKAK8OVgd5Q4Q)

# Scenario for practitioner productivity design



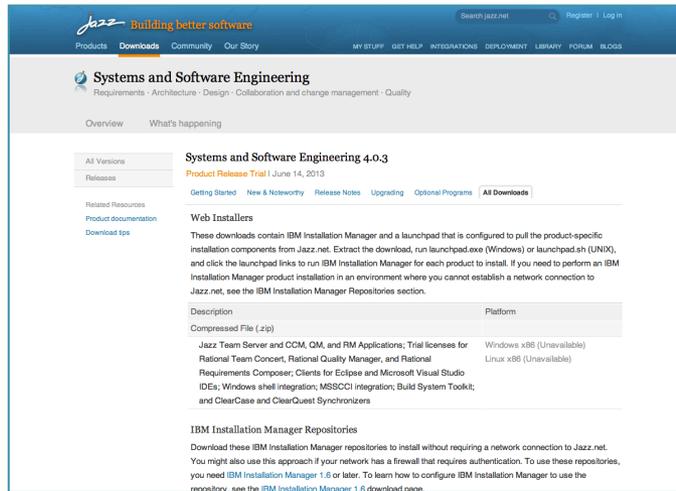


# Design for improved practitioner productivity

## Examples of design improvements

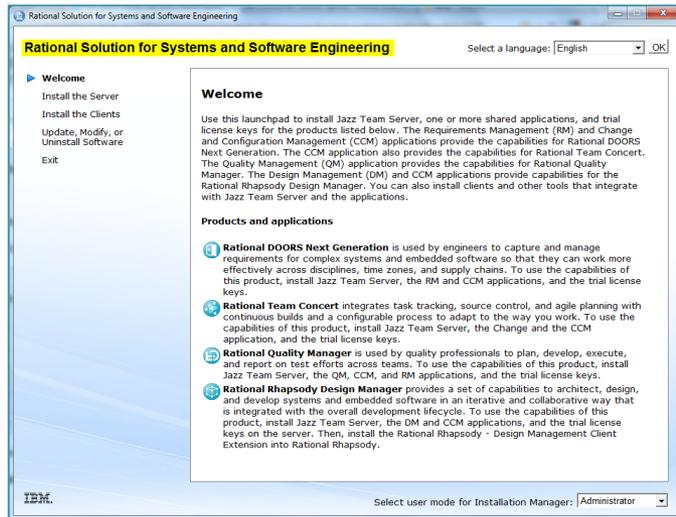
- **Install** – Improvements for tool admins and project leads
  - Practitioner concern: Multiple locations for solution evaluation and deployment installers
  - Productivity improvement: Express installer for Systems and software engineering solution delivered on jazz.net
- **On-boarding** – Improvements for system engineers (and other practitioners)
  - Practitioner concern: Welcome experience for non CLM users
  - Productivity Improvement: New welcome page with getting started activities for system engineers
- **Organizing requirements** - Improvements for system engineers
  - Practitioner concern: Organizing requirements in modules
  - Productivity Improvement: New features for managing module outlines, creating requirements and changing the order of requirements in modules
- **Impact analysis** – Improvements for system engineers
  - Practitioner concern: Pruning and modifying impact analysis sets
  - Productivity Improvement: Introducing profiles. Users can customize set of filters for impact analysis and use their own profile to generate the diagram

# Install – Design improvements for tool admins and project leads



- New Downloads area on the Systems and Software Engineering solution page on Jazz.net

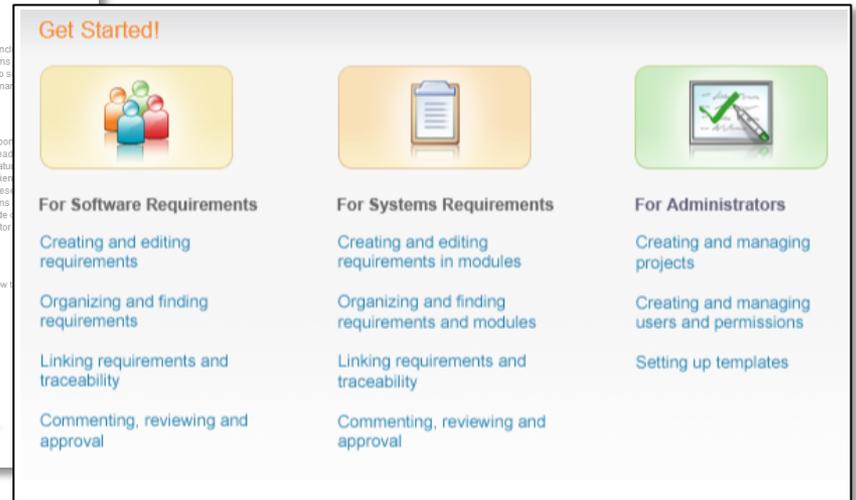
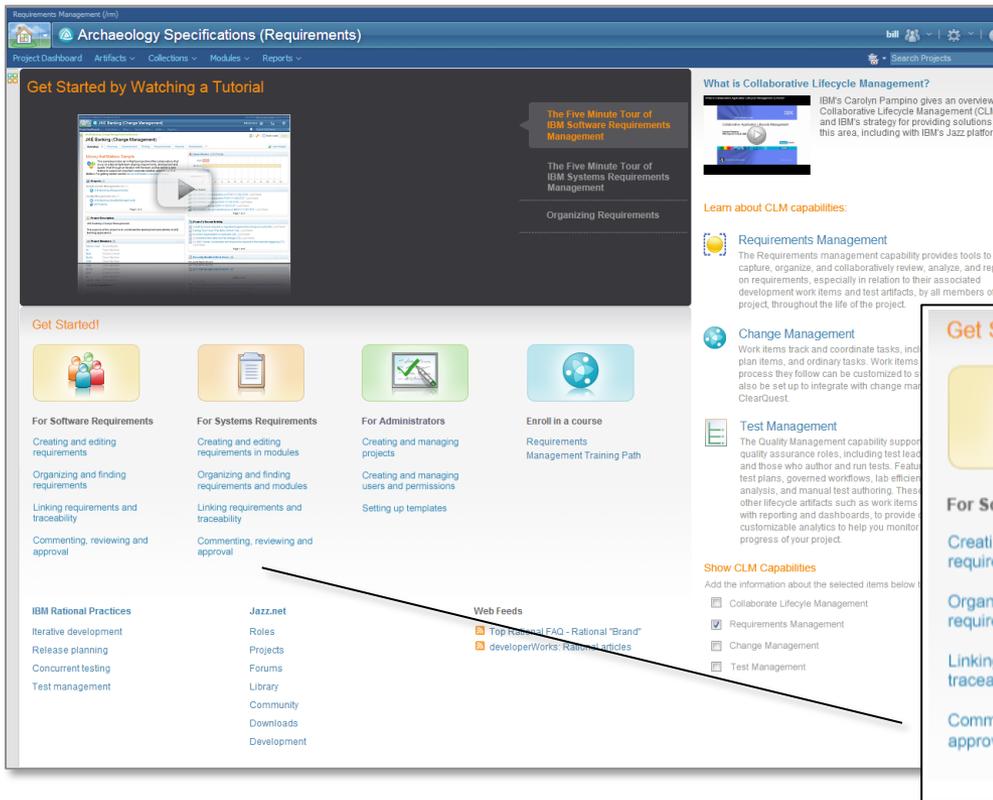
- Release and milestone solution installers
- Product documentation and product guides



- New Systems and Software Engineering solution Launchpad

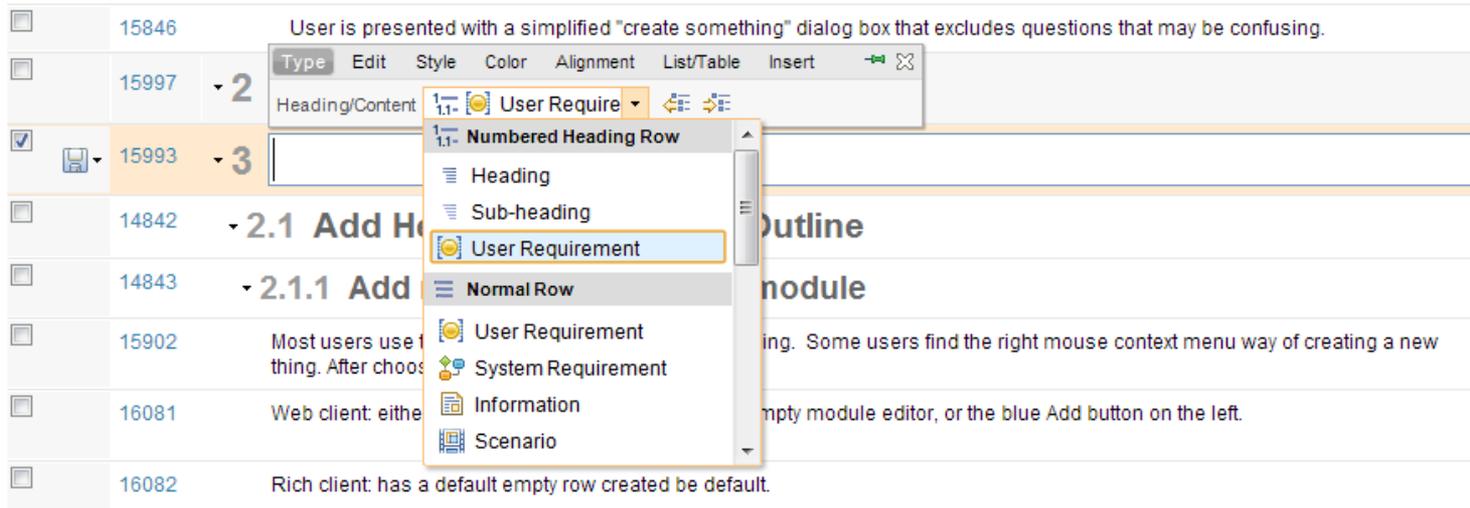
- Express installer for solution servers and clients
- Trial licenses for evaluations

# On-boarding – Design improvements for system engineers



- New Welcome Page for Systems Engineers on-boarding DOORS NG
  - Targeted user education material for on-boarding the role and the tool
  - Information on related tool areas, like change management and test management
  - Additional design improvements to project dashboards for on-boarding and in-flight usability

# Organizing requirements – Design improvements for system engineers



- Improved configurations and usage of module structures in DOORS NG
  - Define requirements types to be displayed as headings
  - Define requirements types to be displayed as module content
  - Simplify setting of requirements types on module requirements
  - Design of improved UI paradigm for creating new artifacts in a module

# Impact analysis – Design improvements for system engineers

The screenshot shows the 'Impact Analysis' window. At the top, there is a 'Focus Artifact' field with a search icon and the text 'No artifact selected. Select the focus artifact.' Below this is a 'Profile' dropdown menu set to 'Downstream CRs'. A 'Description' section contains the text: 'This profile includes all downstream CRs referenced from the focus artifact.' A 'Filters' section contains the text: 'Active filters are not set. You can set them later in the Active Filters tab.' At the bottom right, there is a 'Start Analysis' button.

- Design improvements to IA usability
  - Configure individual IA patterns to make the process fast and efficient
  - New Impact Analysis profiles with customized set of filters

The screenshot shows the 'New Impact Analysis Profile' dialog box. It has a title bar with a question mark icon. The 'General' section has a 'Description' text area. The 'Traversal' section has a 'Traversal' dropdown menu set to 'Both', and two input fields for 'Upstream Depth' and 'Downstream Depth', each with a search icon. The 'Filters' section has a table with a header 'Filter Name'.

## Practitioner productivity topics raised this week.

- “Too complex: too many buttons, too many options. Very hard to get started (or remember if you aren’t using the tool day-in day-out). I wish an **admin could configure the tools for specific roles or tasks**, so users aren’t so burdened.”
- “Enable role-focused UIs and process but not caring about what tools provide the capabilities. Users should not have to become experts in all tools – they **need to know how to do their tasks only**”
- “The “role focus” seems to be more about access control than what that role is trying to accomplish: e.g. the RTC rich client is set up for the Java developer – the **systems engineer or project manager is totally overwhelmed.**”
- “The inception of modeling has to be better than Visio for putting together a proposal. For the last 3 years I have had to **maintain duplicate sets of models** in Rhapsody (where I have wanted to do it) and Visio (because I have stakeholders for which the Rhapsody models are too confusing or don’t look as good or credible).”
- “We have retooled our processes in RMC, but RMC is an isolated product. Beyond RTC, it’s isolate: **Rhapsody, DOORS both ignore RMC.**”

# Areas of practitioner productivity improvements

- We have made progress in designing practitioner productivity improvement for Systems personas in 2013
- What **personas should we prioritize** when continuing designing practitioner productivity?
- What **areas should we prioritize**?

# Questions

**Innovate2013**  
The IBM Technical Summit

IBM Confidential



# Acknowledgements and disclaimers

**Availability:** References in this presentation to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates.

The workshops, sessions and materials have been prepared by IBM or the session speakers and reflect their own views. They are provided for informational purposes only, and are neither intended to, nor shall have the effect of being, legal or other guidance or advice to any participant. While efforts were made to verify the completeness and accuracy of the information contained in this presentation, it is provided AS-IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this presentation or any other materials. Nothing contained in this presentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

© **Copyright IBM Corporation 2013. All rights reserved.**

– **U.S. Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.**

IBM, the IBM logo, ibm.com, Rational, the Rational logo, Telelogic, the Telelogic logo, Green Hat, the Green Hat logo, and other IBM products and services are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at “Copyright and trademark information” at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml)

If you have mentioned trademarks that are not from IBM, please update and add the following lines:

[Insert any special third-party trademark names/attributions here]

Other company, product, or service names may be trademarks or service marks of others.

# Thank You

© Copyright IBM Corporation 2013. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.

**Innovate2013**  
The IBM Technical Summit

