

# Rational Regional Systems Engineering Conference, January 20th, Dallas TX

Room:	Boardroom	Room 1	Room 2 PC (hands-on sessions)	Demo 1
Time:				
9:00-9:30	<i>Registration and Breakfast</i>			
9:30-10:00	<i>Main Tent</i> <b>Welcome and Intro</b>			
10:00-10:30	<b>Designing for Innovation: Systems Engineering in the Ecosystem</b> Greg Sikes - Director, Systems Offering Strategy and Delivery			
10:30	<i>Coffee Break – back to the GSC</i>			
10:45-11:30	<b>Systems and Software Product Line (SPL) Engineering with the SPL Lifecycle Framework</b> Dr. Charlie Krueger - BigLever	<b>The Rational Solution for Systems and Software Engineering</b> Justin Dyer	<b>Introducing SysML Into Your Organization</b> Manohar Rao	<b>Smarter Planet</b> Romelia Flores
11:30-12:45	<b>Enterprise Integrated Systems Engineering</b> Buddy Raines	<b>What's New with Synergy/Change</b> Karen Kwentus		<b>RTC – DOORS integration</b>

12:15-1:00	<i>Lunch</i> Lunch and Learn, <i>Rational Electronic Support Port Patrick O'Connor</i> (Room 1)			
1:00-1:45	<b>UPDM, a UML/SysML Implementation of MODAF for Military and Commercial Architectures</b> Dr. Graham Bleakley	<b>1:00- 2:30 <u>Solutions Center tour</u></b> , You will be assigned a tour guide to take you through the Solution Center and stop at several stations to see IBM Industrial solutions and Rational product demos		
1:45-2:30	<b>Advanced Systems Engineering</b> Barclay Brown			
2:30	<i>Coffee Break</i>			
2:45-3:30	<b>Six Ways to Accelerate Android Mobile Application Development</b> Martin Bakal	<b>Best Practices for Model-Based Systems Engineering</b> Dr. Peter Hoffman	<b>Intro to OSLC</b> Synergy/Change team	
3:30-4:15	<b>Traditional PM Meets Agile</b> Harry Koehnemann – Rocket Gang	<b>Rolling out a Systems Engineering Development Environment in 6 Weeks</b> Dr. Peter Hoffman & Jeff Cohen	<b>End of Embedded SW as we know it</b> Greg Gorman	<b>RTC for PM</b> Tim Feneey
4:15-5:00	<b>Model Based Hardware and Software with SysML</b> Scott Niemann		<b>What's New with DOORS</b> Bill Shaw	<b>Exporting from DOORS with RPE</b>

5:00-6:30	Customer reception: Solutions stations open			
6:30-7:30	Evening presentation:  <b>Presentation secrets of comedians and stage performers to keep audience attention</b>			

***Abstracts:***

**Designing for Innovation: Systems Engineering in the Ecosystem**

Greg Sikes , - Director, Systems Offering Strategy and Delivery IBM Rational

Main tent 9:30

Greg Sikes will address some of the challenges in designing today's complex systems. These products rely heavily on software for innovation and it is software that connects these intelligent systems of systems. He will discuss how integrated systems engineering processes and tools can unify the mechanical, electronic and software domains, paving the way for greater innovation.

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## **Systems and Software Product Line (SPL) Engineering with the SPL Lifecycle Framework**

Dr. Charlie Krueger – CEO BigLever

Boardroom - 10:45

The key to business success is the infusion of new ideas into the way products are brought to market. As a result, companies are looking for new, highly efficient ways to deliver increasing diversity in their product line portfolios. Product line engineering (PLE) is an innovative approach that enables organizations to create, deliver and evolve an entire portfolio through each stage of the systems and software development lifecycle – from requirements to design, development and testing – with much higher degrees of efficiency than have been possible before. This presentation will highlight the latest new generation PLE approaches using the BigLever Software Product Line Lifecycle Framework and IBM Rational integrations into the framework.

## **The Rational Solution for Systems and Software Engineering**

Justin Dyer, Systems Solutions Architect - IBM Rational

Room 1 - 10:45

Developing high-quality systems and software is a demanding process. As industries create more software intensive systems, the execution of systems and software engineering takes a larger role in driving the quality and success of the product. A set of core processes underlies both systems and software engineering. These processes include requirements management, architecture and design, change and configuration management, and test and quality management. This presentation discusses the IBM Rational® Solution for Systems and Software Engineering which supports the collaboration, workflows, tasks, and management of the work products essential to systems and software engineering. The Rational Workbench for Systems and Software Engineering is comprised of the following tools: IBM Rational DOORS, IBM Rational Rhapsody, IBM Rational Quality Manager and IBM Rational Team Concert.

**Model-Based Systems Engineering with SysML**

Manohar Rao, Certified Client Technical Specialist – IBM Rational –  
Room 2 - 10:45

This session will address the benefits of using Model-Based Systems Engineering (MBSE) to analyze, architect and design complex systems using the Systems Modeling Language (SysML), the de facto standard for MBSE. This covers basic concepts such as the modeling of Requirements, Blocks, Activities, and Constraints and the diagrammatical notation for capturing them

**Smarter Planet**

Romelia Flores, IBM Distinguished Engineer  
Demo – 10:45

In November 2008, IBM launched its *Smarter Planet* strategic initiative when IBM Chairman and CEO Sam Palmisano introduced it to the U.S. Council on Foreign Relations, and subsequently discussed it with President Barack Obama. The initiative emphasizes the impact that technology is making now and in the future to improve the world we all live in. This session will give an overview of IBM's initiative and provide examples based on client case studies.

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**Enterprise Integrated Systems Engineering**

Buddy Raines, IBM Distinguished Engineer

Boardroom - 11:30

The Global Solution Center worked with Software Group's Global Technology and Solution Team and Rational to integrate systems engineering approaches into the Design Collaboration and Bill of Materials Synchronization portion of the Advanced Aerospace Solutions Environment (AASE). A solution prototype leveraging model driven inceptions for integrated product change management is planned. Activities include the implementation of a "Product Lifecycle Management Relationship Hub" to capture and facilitate indexing, cross-referencing, traceability, and change impact analysis across disparate "information-owning" systems represented within the "real-world" customer landscape.

Components bring model driven aspects to the previous AASE layout and include IBM Rational DOORS for requirements management and Rhapsody for system modeling. Rational will play the collaboration and process coordination role for those applications and integrate with Product Development Integration Framework (PDIF) componentry already in the AASE environment to leverage connectivity to Maximo Configuration Management, a Rational ClearQuest/ClearCase/Build Forge software development layout depicting a business partner, and a representative Product Data Management (PDM) system, among others.

**What's new with Synergy and Change**

Karen Kwentus, Client Technical Specialist

Room 1 11:30

This presentation will cover what is new with the latest releases of IBM Rational Synergy and Change.

**RTC – DOORS Integration**

SE team

Demo - 11:30

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**IBM Electronic Support**

Patrick O'Connor, Electronic Support Project Manager –  
Lunch and Learn – Boardroom 12:15

IBM Electronic Support has developed many smart online tools and proactive features that can help you prevent problems from occurring in the first place, or quickly and easily troubleshoot problems when they occur.

The new **IBM Support Portal** brings together all these IBM online support resource tools for hardware, software and services in a consistent interface that is tuned to your specific needs.

Here are some of the IBM Support Portal's powerful features that make it fast and easy to find the exact information or tool you need:

- Select your IBM products and the task at hand for direct access to all pertinent resources.
- Browse featured support links that guide you to the most critical useful information and tools.
- Filter the results of a simple text search with one click to pinpoint the most appropriate documents.
- Personalize the pages to include exactly the type of information you need, arranged most effectively for you.

Check it out today... ...It's just a Click Away @ <http://www.ibm.com/support/entry/portal>

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**UPDM, a UML/SysML Implementation of MODAF for Military and Commercial Architectures**

Dr. Graham Bleakley IBM UK

Boardroom – 1:00

Over the past few years, system architects have often used UML and SysML to capture DoDAF and MoDAF architectural views. But without guidance of a well- defined standard, many of these attempts have resulted in ad hoc and unreusable solutions. The Unified Profile for DoDAF and MoDAF (UPDM) specifies a standard for using UML/SysML to capture DoDAF/MoDAF views. This presentation provides an overview of this profile, including its metamodel, the mapping of DoDAF/MoDAF artifacts to UML/SysML and a demonstration of the profile in Rational Rhapsody. Also, Rational Rhapsody's UPDM Profile and defense workflow interface between Rational System Architect and Rational Rhapsody is demonstrated.

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**Advanced Systems Engineering**

Barclay Brown, Global Solution Executive, Systems Engineering

Room1 - 2:45

As systems grow more complex, development programs grow larger and more difficult to execute successfully. Challenges in meeting cost and schedule targets show up in all industries in complex systems development. Recent research shows that correctly applied systems engineering approaches can make a significant impact on cost and schedule risk. In this session we will review this research and show how it led to the development of the IBM Advanced Systems Engineering Initiative. This initiative includes solutions for requirements engineering, model-based systems engineering, automated generation of work products, design model integration and measurement-based technical work management. By applying these methods and tools, tailored to specific program needs, programs can execute more effectively, meeting targets as well as customer needs.

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## **Rational Harmony for Systems Engineering – Best Practices for Model-based Systems Engineering (MBSE)**

Peter Hoffman, Chief Systems Methodologist - IBM Rational

Room 1 – 2:45

Delivering complex systems requires the development of optimal designs on time, within budget and with the right level of quality. But even the best detailed design cannot compensate for a poor system architecture. Systems engineering isn't just a technical activity in the lifecycle - it determines the commercial viability of the entire project. The state-of-the-art answer to these challenges is *Model-based Systems Engineering*

This presentation gives an introduction to the IBM Rational® *Best Practices for Model-based Systems Engineering*. Using the SysML as the modeling language, these practices support the elaboration and verification / validation of system requirements as well as design synthesis - incl. architectural analysis through trade studies. This approach uses model execution as a means for the verification and validation. For each of the SE phases the essential tasks and associated work products as well as the hand-off to the subsequent HW/SW development will be addressed.

The IBM Rational® *Best Practices for Model-based Systems Engineering* have been applied successfully at various customer sites.

## **Six Ways to Accelerate Android Mobile Application Development**

Martin Bakal, WW Market Manager - Electronics Industry

Boardroom - 2:45

More software is embedded into both consumer and industrial electronics, the electronics industry as a whole is being challenged with complexity and enhancing its software development process. Software has become the *"Invisible Thread"* of today's innovation. This talk will discuss the trends in the electronics industry as well how to respond to them with a special focus on developing android applications for smartphones, tablets, TVs and other devices.

The Android Operating System is rapidly gaining market share for applications on a variety of devices such as smartphones, tablets and TVs. Devices manufacturers and application providers alike are competing to introduce high quality, innovative products on shorter time scales. To accelerate Android mobile application development for software and systems development the key is to understand customer needs by using product portfolio management, manage the complexity of product development using model driven development, reduce effort through cross-device mobile web application development, enhance collaboration and communication across the development lifecycle, deliver reuse across an entire product line portfolio, and drive application data security through static and dynamic analysis.

**Open Services for Lifecycle Collaboration (OSLC)**

Room 2 – 2:45

In this presentation you will learn about OSLC, what it is, what it does, how it will improve integrations in the future. Overview of existing Synergy and Change integrations. s supported, general capabilities, future direction

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## **Rolling out a Systems Engineering Development Environment in 6 Weeks**

Peter Hoffman, Chief Systems Methodologist

Jeff Cohen, Solutions Architect

Room 1 3:30-5:00

Join Dr. Peter Hoffman and Jeffrey Cohen as they explain how they successfully rolled out Systems Engineering environments to more than 10 organizations. You will learn how to plan for the full Systems Delivery Life Cycle, establish workflows and standards, how to training your staff based on the project at hand, and how to keep your project from suffering from analysis paralysis.

## **Traditional Project Management Meets Agile: Can't We All Get Along?**

Harry Koehnemann, Director of Technology - Rocket Gang

Boardroom 3:30

Traditional project management uses WBSs, Gantt charts, and Earned Value to plan and track project scope, schedule, and cost. In the past decade, Lean and Agile practices have shown increasing success in large projects. Blending these planning methods is an emerging challenge as large projects begin adopting agile practices. This presentation shows how blending these methods provides a more adaptive responsive to change, while still providing project managers and business with the visibility and control they need. The talk also discusses how these methods are being applied on a large government program using Rational Team Concert's planning.

## **End of Embedded SW as we know it**

Greg Gorman, Program Director, WW Systems Engineering Product Delivery

Room 3:30

This presentation attempts to broaden the horizons of "embedded" thinking to include the ripple effects and dependencies on larger ecosystems. Developers today must "think out of the ROM" and consider what happens to other, cooperating systems if (and when) their device fails or is used in new, previously-unconsidered ways

**RTC for Project Planning**

Tim Feeney, Solution Architect

Demo 3:30

Project Transparency and Integrated Planning

- automate governance with web-based dashboards allowing teams to assess project status and trends in real time
- out of the box process templates supporting agile and traditional release/iteration planning

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**Model Based Hardware and Software with SysML,**

Scott Niemann, Rational Systems Solution Architect

Boardroom – 4:15

There has been a gap in our Systems design solutions when it comes to hardware. Typically the hardware design process is done outside of software within an EDA tool chain. However as the complexity of the chips grow, there is a need by our customers to have a common workflow for HW/SW the Systems level. This workflow not only feeds the software development but also the EDA tool chains for the hardware development. Rational has teamed up with Expermeta to create the industries first cycle accurate HW/SW Systems solution based on SysML. In this session we will talk about the workflow, why it is unique in the industry, and a quick demonstration of the technology.

**What's new with DOORS V9.3 and DWA V1.4?**

Bill Shaw, Manager, Requirements Management Segment

Room 2 – 4:15

This presentation will talk about the new features of DOORS version 9.3 and DOORS Web Access version 1.4. Also we will look into the future for DOORS.

## **Exporting from DOORS: Rational Publishing Engine**

Demo 4:15

This presentation will not just show you different ways to export from DOORS, but will let you hands-on try exporting from DOORS with the new publishing capabilities of DOORS 9.3 and also extract data with the Rational Publishing Engine (RPE). RPE integrate across the Rational product line and other common 3rd party data sources allowing you to measure and document data from multiple sources, RPE will reduce time and cost while delivering a higher quality product

Not only are we going to cover what DWA can do, we will show you how easy DWA is to use. During this presentation you will have a chance to access our DWA evaluation server to learn first hand how easy DWA is to use.

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## **Presentation secrets of comedians and stage performers to keep audience attention –**

Barclay Brown, Global Solution Executive for systems engineering

Boardroom -6:30

This session goes beyond the “imagine your audience in their underwear” and “talk to a spot on the back wall” kind of advice to present advanced techniques that can take you from being a good presenter to being a great one. Once over the universal fear of public speaking and able to speak and present competently, a presenter often slides into a rut, using the same presentation style and the same range of skills year after year. This session provides a kick-start into a new level of presenting and speaking. Twenty-five specific, workable techniques are offered for using humor, timing, movement, adding interest, commanding attention, being natural, dealing with presentation challenges and more. Techniques based in psychology, personality and philosophy are boiled down into practical methods you can use right away—no theater skills required! The speaker is a technical practitioner and electrical engineer, and has master’s degrees in psychology and business

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