

Enabling software-driven innovation with new and enhanced solutions from IBM

Greg Sikes

*Director, Systems Offering Strategy & Delivery
IBM Software, Rational*



IBM Software

Innovate2011

The Premier Event for Software and Systems Innovation



Software. Everywhere.

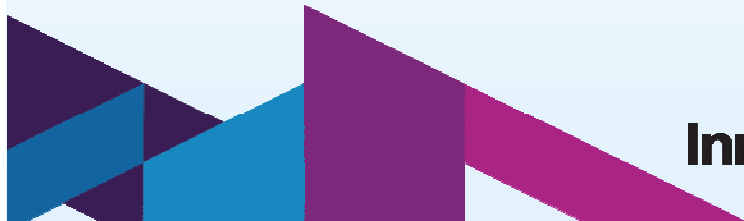
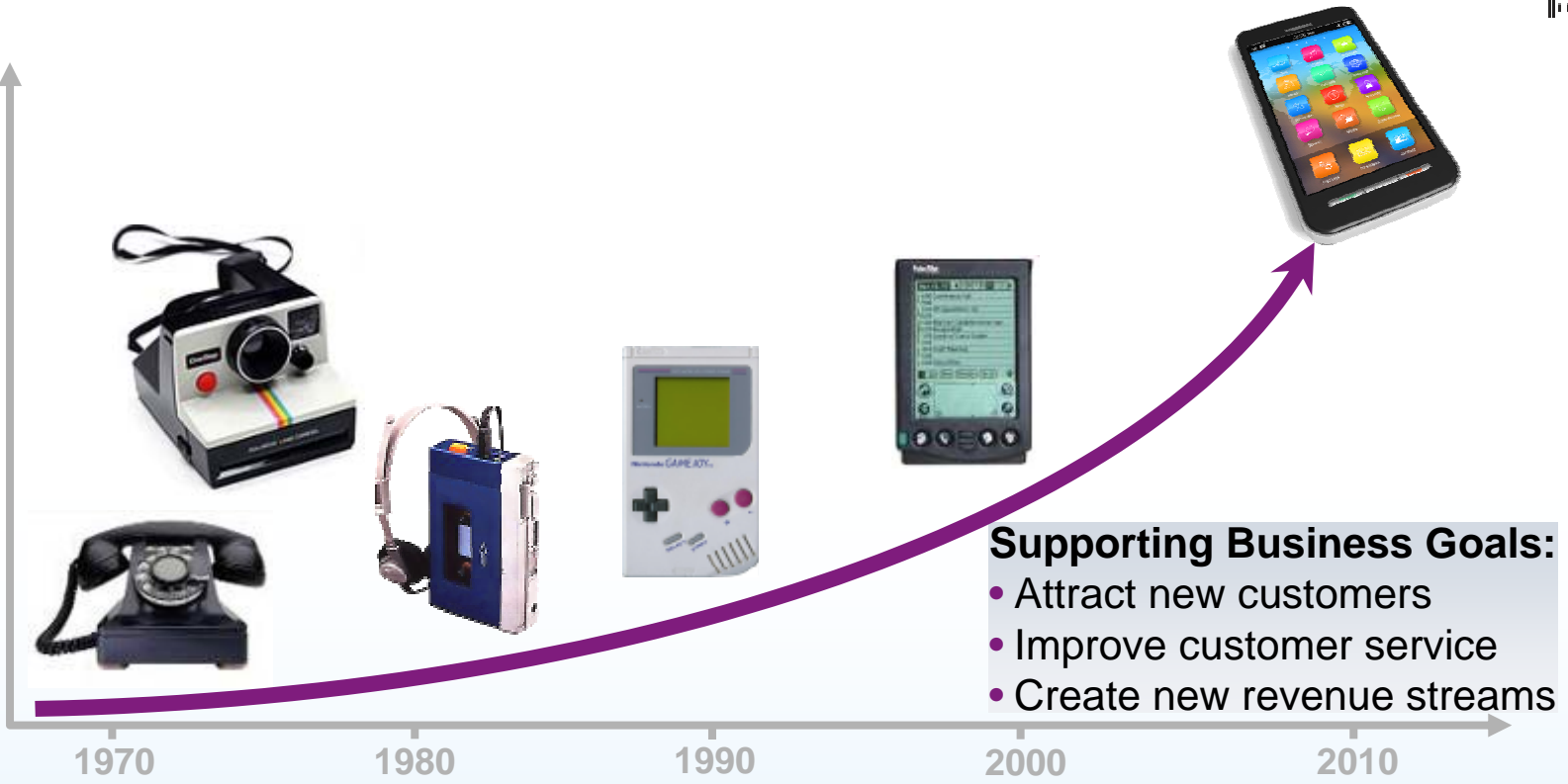
August 9-11, Bangalore | August 11, Delhi

We didn't get here overnight

Uniquely customizable phone, email, music, Web, camera, GPS, games, apps, video recorder... in a single device



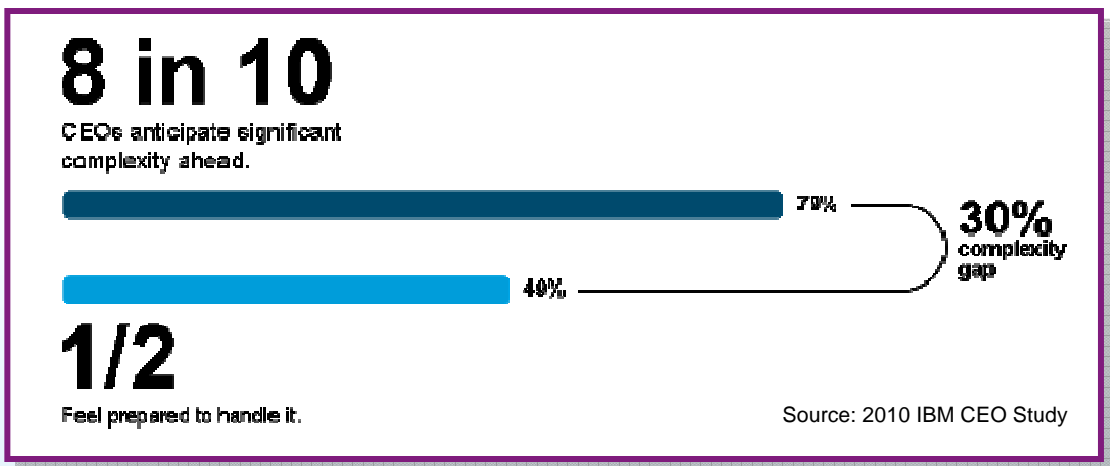
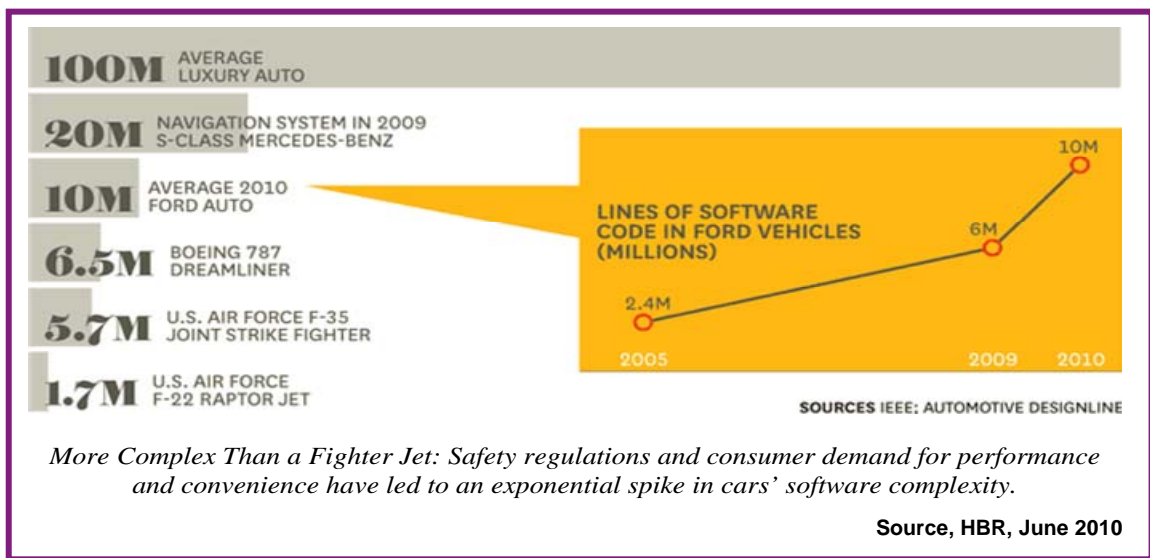
Software
Functionality
and Amount





Introduction of software brings complexity

Yet few are prepared to handle it



What Hinders Innovation?

In our customer's words



Evolving Business Models

"I need to transform product development to be more collaborative while removing redundant activities."

Increasing Product Complexity

"I need for mechanical, electrical, and software engineering to all be on the same page."

Extension of the Enterprise

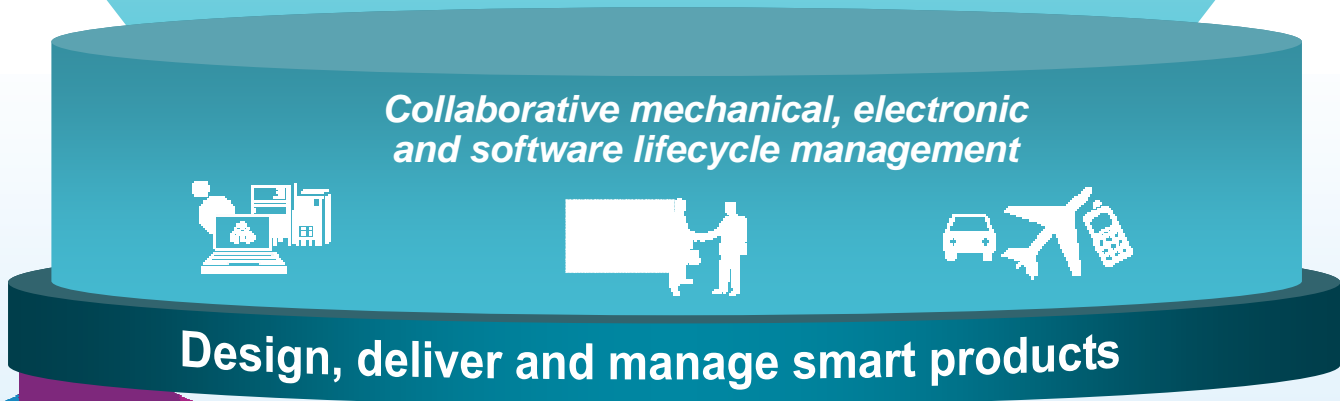
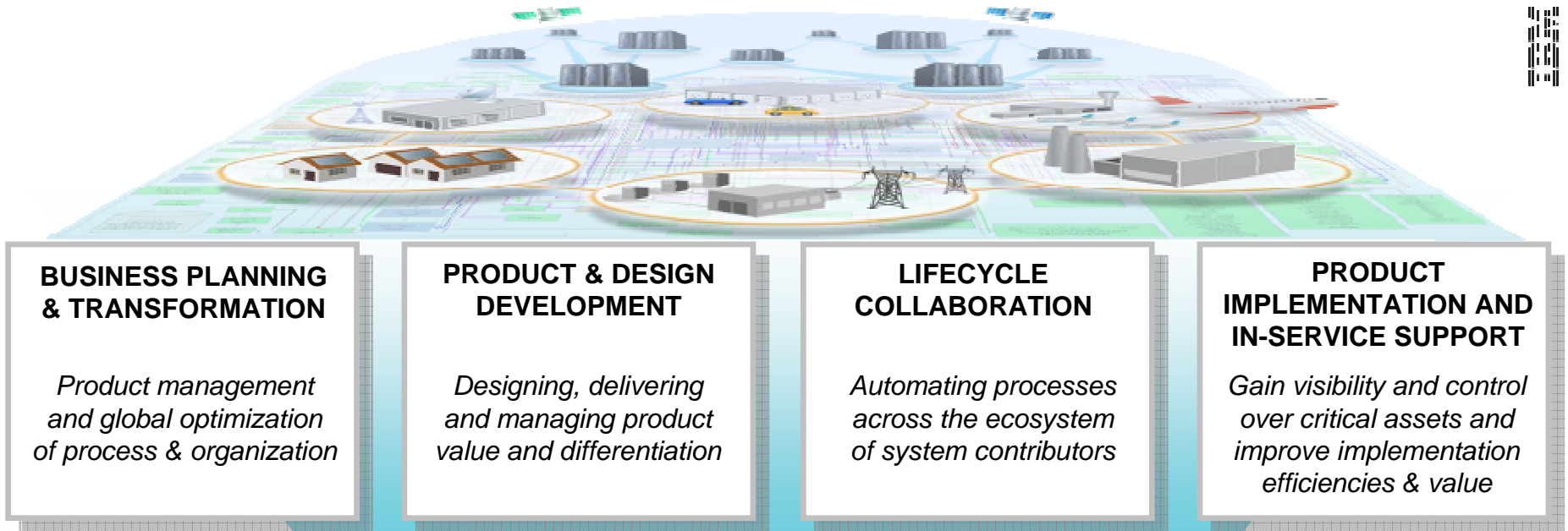
"I need a way for all my design and supply partners to participate in a unified process for product development."

Disconnect with Operations

"I need to ensure that the products I build can be profitably supported and maintained over their lifetime."

Introduction to IBM Innovation Strategy

Integrated Product Management: Provides an integrated approach to innovation across the product lifecycle

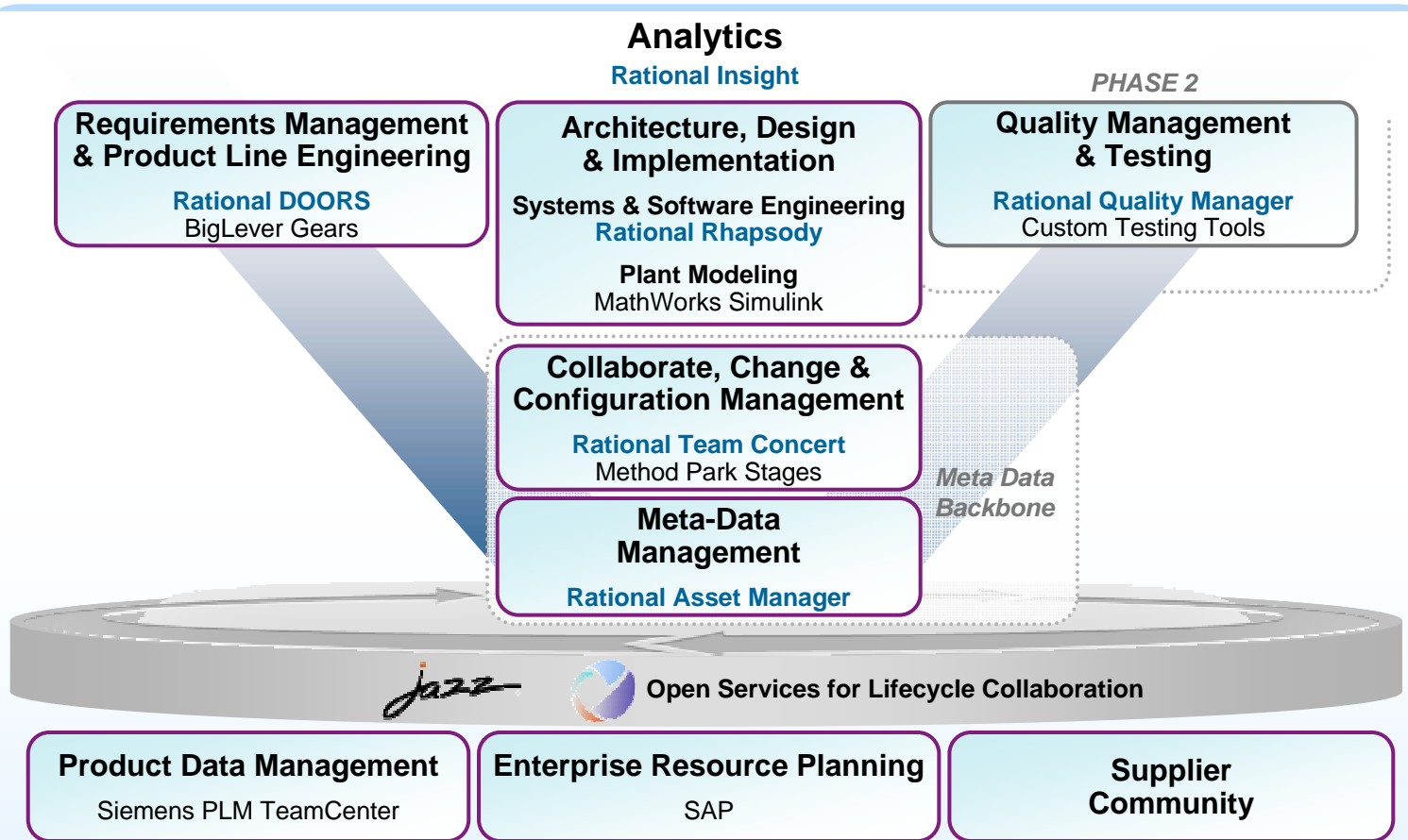


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 **Software. Everywhere.**

Customer Success: GM

Chevy Volt designed and engineered in 29 months versus typical 5-10 year cycle for new technology



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How IBM is Leading the Innovation Agenda



Systems and Software Engineering Solution

Technology, Best Practices, Services and Industry Solutions



REQUIREMENTS MANAGEMENT

Rational DOORS

QUALITY MANAGEMENT

Rational Quality Manager

ARCHITECTURE & DESIGN

Rational Rhapsody

COLLABORATION, PLANNING & CHANGE MANAGEMENT

Rational Team Concert



DODAF



sysML



Open Services for Lifecycle Collaboration

AUTOSAR



International
Organization for
Standardization

ISO 26262

Automotive SPICE©



modaf



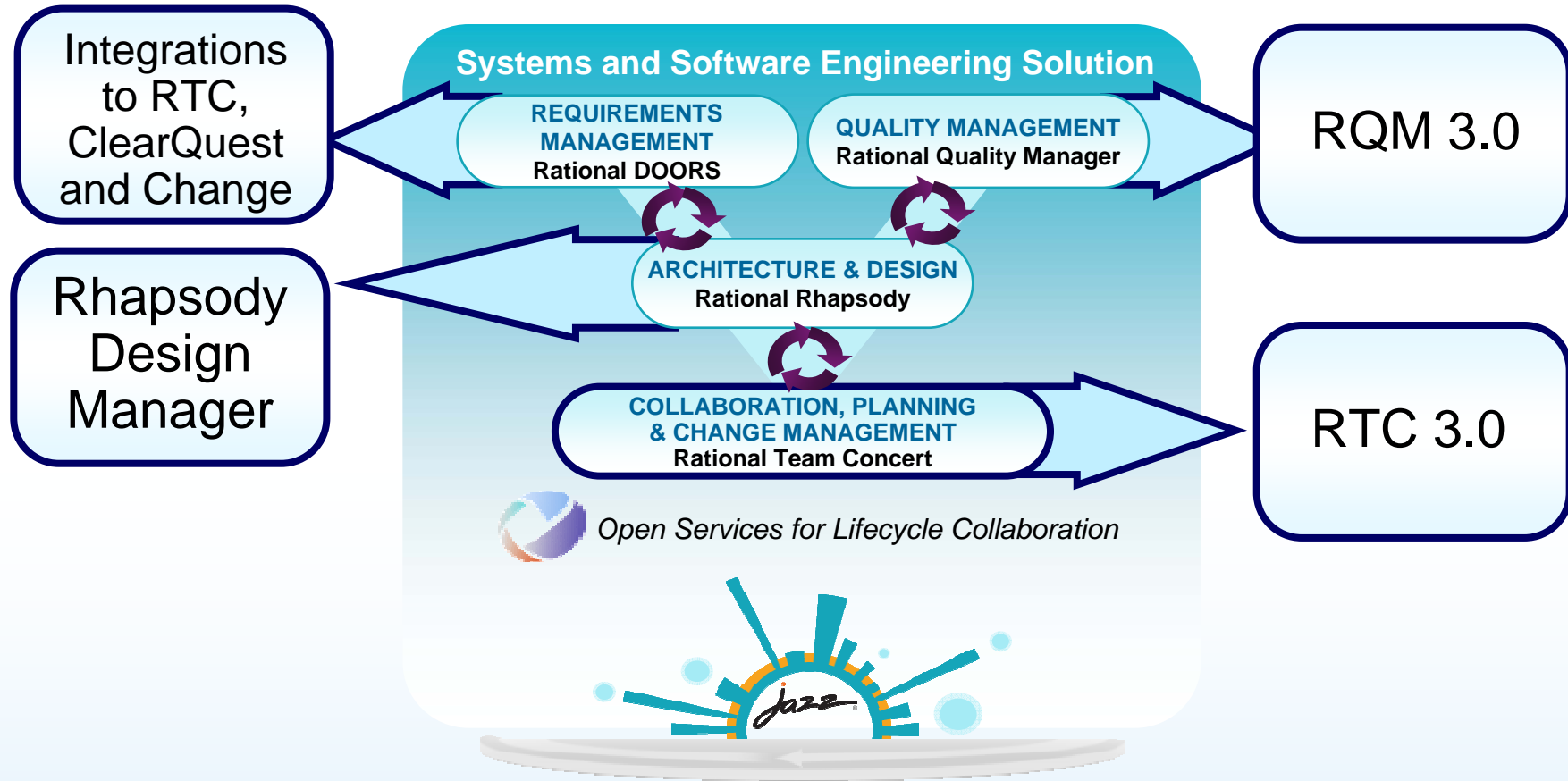
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Systems and Software Engineering Solution

New capabilities for a systems audience





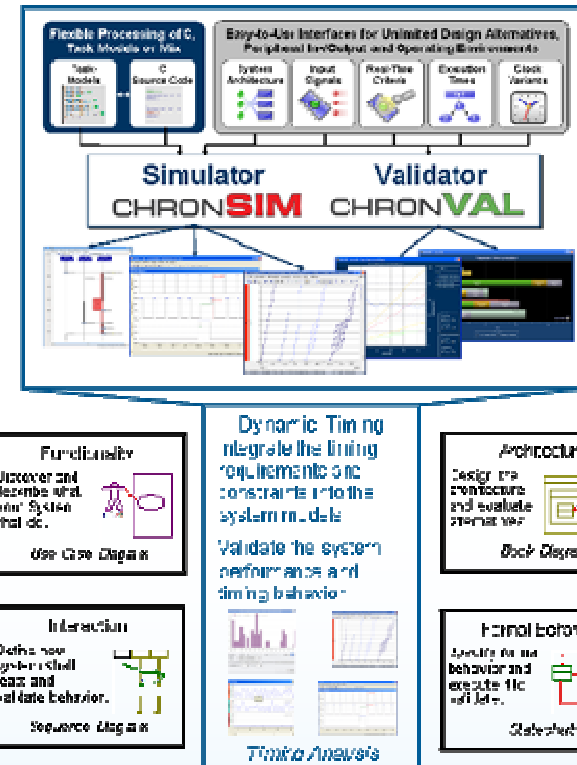
IBM and INCHRON Software

Model-driven solutions for embedded systems timing, analysis and validation

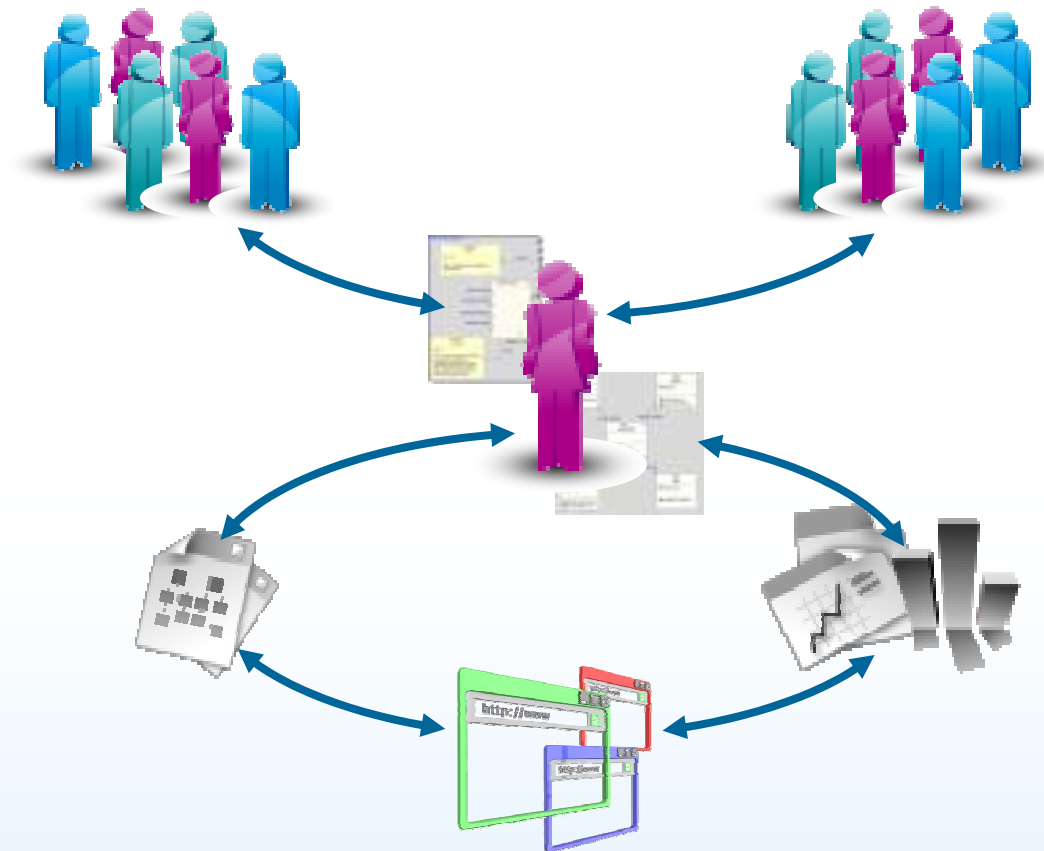


Extending the Rational Systems and Software Engineering Solution

- Add timing, performance and behavior analysis capabilities to system models
- Simulate, analyze and test the dynamic, real-time behavior of individual subsystems and complex interacting systems



How do you manage increasing complexity across a collaborative lifecycle and a system of systems?



Collaborative Design Management Offerings

Enable cross-team collaboration on systems and software architecture, across the lifecycle

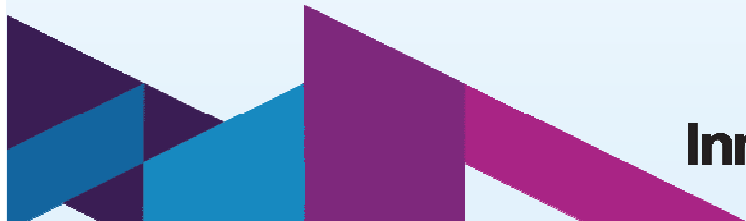
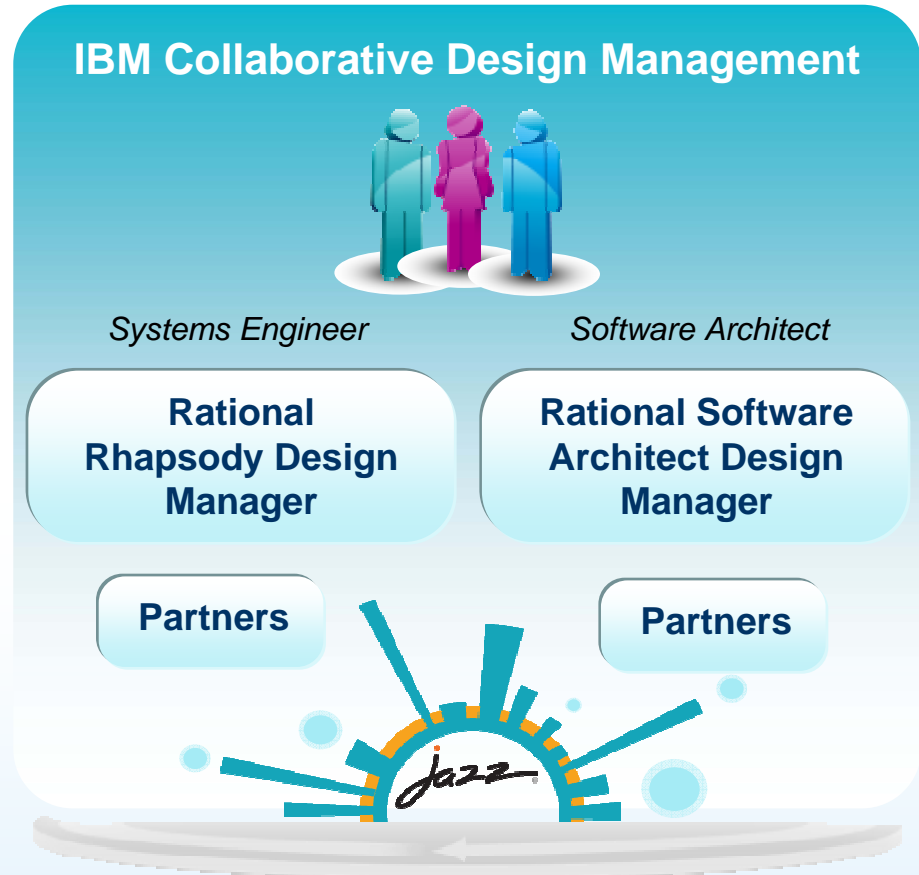


NEW

- Engage all stakeholders
- Unify design across domains and supply chains
- Enable an open, collaborative ecosystem
- For both Rhapsody and Rational Software Architect

“The ‘design review’ capability is one of the most important capabilities offered and allows us to make designs broadly accessible to the entire organization.”

Greg Hodgkinson, Prolifics





Collaborative Design Management

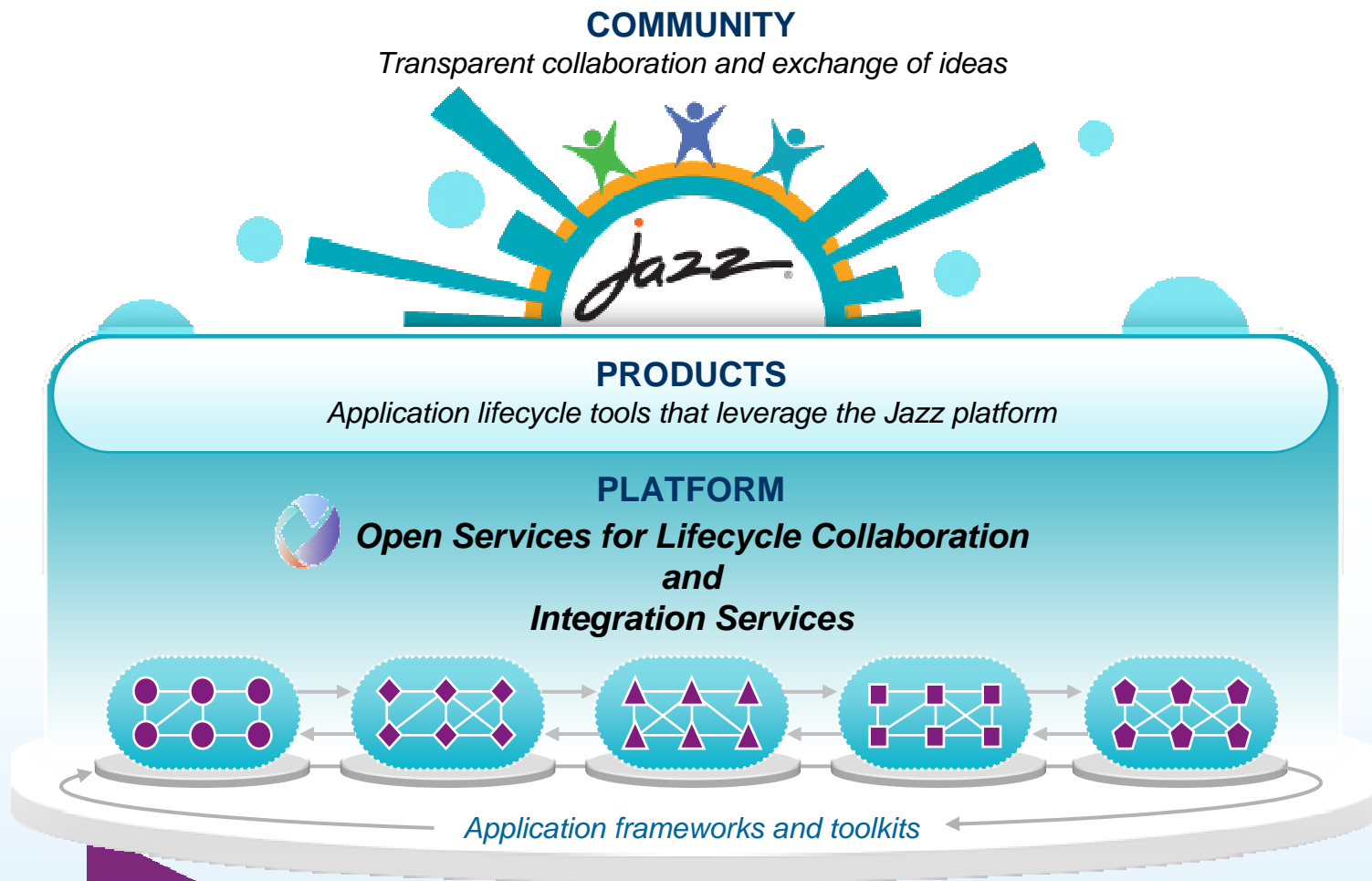
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OSLC and the Jazz Platform

IBM's Jazz platform leverages OSLC, providing open collaboration across the software and systems lifecycle



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OSLC: simplifying lifecycle integration

Cross lifecycle scenarios implemented to open specifications

426 registered community members from 127 organizations and growing



**Open Services
for Lifecycle Collaboration**
Open interfaces. Open possibilities.

Increasing Adoption

- New Eclipse OSLC SDK project proposal
- Open source community projects
- Clients integrating in-house tools
- IBM business partners releasing integrations
- Growing number of published specifications

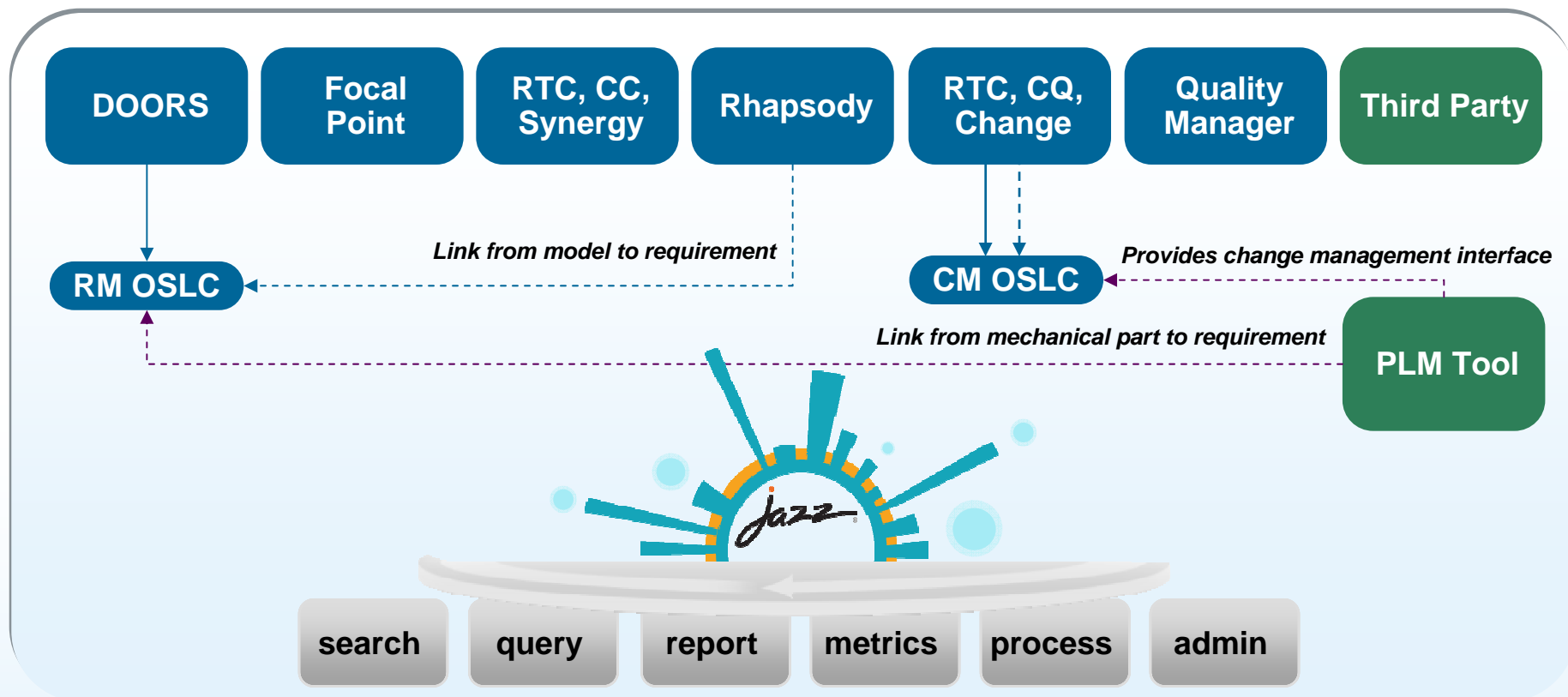
*“With OSLC's open and scenario-based approach, **businesses benefit** from the ability to **tie disparate tools together**. This collaborative approach gives our consultants the **flexibility** to make lifecycle tool choices based on **specific client project demands**.”*

Randy Vogel, Accenture



Not ALM versus PLM... but ALM *with* PLM

OSLC enables an open integration platform between key disciplines





Jazz: An open platform approach

Enables loosely coupled “web” of linked engineering data



CommCo | Home | People | Intranet | [Search] | Log Out

PLM ACTIVITIES

- Pending changes
- Process metrics
- Product forecast
- Product Sales Revenue
- Launch PLM Tools

WORKPLACE

- PLM Workspace
- Personalize
- Subscribe / Unsubscribe
- Compose Layout

PLM COMMUNITY

- PLM Digest
- PLM Wiki
- PLM Advisor

PLM SEARCH

Search for:

Include in search:

- Products
- Documents

Include in search:

- Show only latest revision

Radio Base Station RB0102R1

Tendering 2009-06-29 Release Scheduled

Dashboard | Process | Documents | Suburants | Activities | Advice

PRODUCT PROCESS OVERVIEW

Design/Start: Marketing | Tendering | Design | Release

1 2 3 4 5 6 7

Prepare and verify product tender model

MARKET PERFORMANCE TRENDS

Revenue: [Line Chart]

Forecast % of Target: [Bar Chart]

ORGANISATION

Ownng org: COMMCO-SWG	Primary cost centre: 478/27/0271
Exec owner: Ivor Hammer	Product coordinator: productcoordinator
IPMT representative: Stefan Bollano	Legal lead: Riichi Sakamoto
Portfolio owner: Frank Zappa	Finance lead: Sonja Kristina
PDT lead: Dieder Cartwright	Marketing lead: Mehnu Hussain
Product Manager: prodmanager	Supply responsible: Django Rheinhardt
Lead Architect: Henry Cox	Service responsible: Tam Dun

MY WORK

ROLE: prodmanager

- MY PRODUCTS
 - Radio Base Station
 - Operational Support System
 - Mobile Switching Center
- MY HOT ACTIVITIES

MY CONTACTS

People | Options

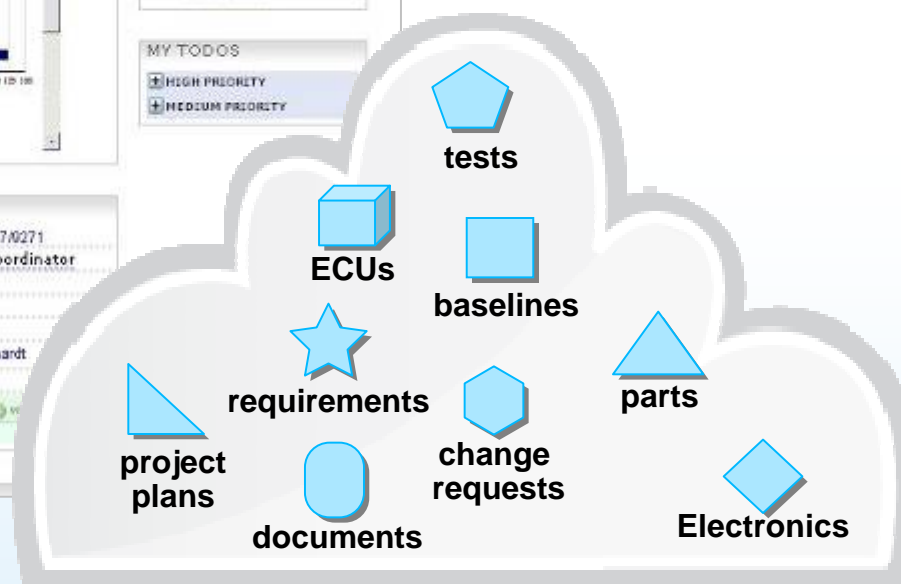
Work

prodcoordinator

productmanager

MY TODOS

- HIGH PRIORITY
- MEDIUM PRIORITY





Advertisement
Engineering Lifecycle Management
Coming up in Thomas Konrad's presentation



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Customer Success

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Helping you combat complexity and lead the innovation agenda



Software and systems delivery

Integrate
across the
development
lifecycle

**OSLC and the Jazz
Platform**

Collaborate
among
stakeholders

**Collaborative Design
Management**

Optimize
outcomes through better
measurements and
organizational steering

**Systems and Software
Engineering Solution**

Brockwell Technologies, Inc.

Improving national defense by analyzing weapons prior to build



The Challenge

- Error-free integrated weapons systems
- Allows for integrated and iterative lifecycle management of embedded weapon systems applications and embedded diagnostics for military vehicles across engineering teams

The Solution

- Predictive modeling and simulation to visualize applications and systems to identify and fix design flaws prior to mass production
- IBM Rational Rhapsody

The Result

- Improved reliability, safety and function
- 40% improvement in time-to-market



“Because weapon systems are so interconnected, we often face the challenge of how to change one system without affecting the integrity of another. With our new modeling tool, we can prototype systems to see how they function and whether they impact others, before going on to production.”

*Tim Brockwell, Founder
Brockwell Technologies, Inc.*

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St. Jude Medical

Interconnected life sustaining technology



The Challenge

- Reduce cost, time to market in highly regulated industry
- Plan growth & sustainability of complex System of Systems

The Solution

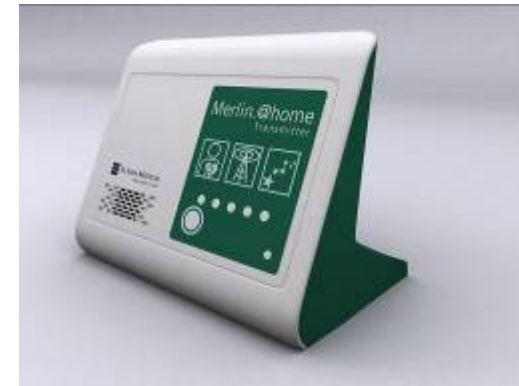
- Systems of Systems approach both inward and external focused
- Common and/or reusable components
- Technical governance, Integration of work streams
- IBM Rational DOORS, Rational Team Concert, ClearQuest, ClearCase, BuildForge

The Result

- Streamlined regulatory reporting
- Improved margins, lower product costs
- 30% increase in product deliveries to market
- Development costs reduced by up to 25%



ST. JUDE MEDICAL™
MORE CONTROL. LESS RISK.



“Creating a Systems of Systems approach that strategically fits together both internally and externally has enabled us to reduce our costs and increase our output”

*Cyndi McHenry, Director, Product Development
Strategic Planning, Tools & Logistics, Cardiac
Rhythm Management Division*

St. Jude Medical

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Tieto

IBM Development Platform as a Service

The Challenge

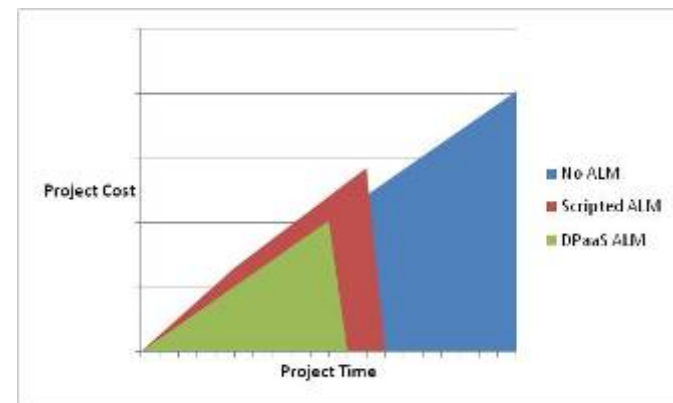
- Developing applications for defense company, project split between customer and Tieto
- Development organization spread over several sites
- Security requirements implied development on customer specific production network
- Need for better collaboration and process support

The Solution

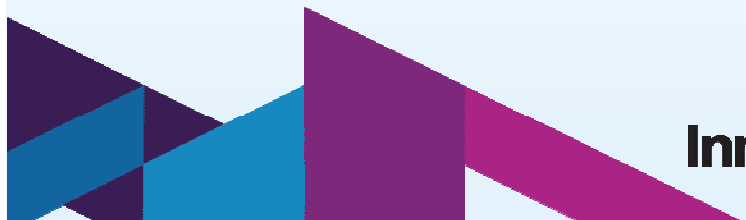
- Setup of RTC environment as private Cloud-service
- Project setup with adaptation of Rational Team Concert pre-packaged Scrum template
- Development platform as a service

The Result

- Code delivery time down by 97%
- Full migration within 2 months
- Tool migrated with no negative effect on running release
- 80% lower overhead costs
- Zero “Tool down” time reported since migration



100% very satisfied users!



Ericsson

Leveraging Rational for Worldwide Agile development

The Challenge

- Project for real-time software with 2,000 software modules and 30M lines of code
- Distributed cross-functional teams with needs for coordination and collaboration

The Solution

- Backlog and team planning using RTC
- Test planning and execution using RQM
- Feature requirement collaboration using RRC
- OSLC to integrate Ericsson proprietary systems

The Result

- Integrated development platform for lean and agile development
- Option for connection to proprietary SCM systems
- Smoothly integrated test management solution
- Dashboard for real-time reporting
- Make information transparent, unique and valuable



A journey from “me” to “us”



We're not content to sit still...



IBM Academic Initiative



FIRST Robotics



Business Partner Ecosystem



Global Rational
User Group Community

Customers



Innovation



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