Keynote: Requirements Definition and Management Strategy and Vision

Requirements Management Tools Team

Richard Watson
richard.watson@uk.ibm.com

Jared Pulham
jared.pulham@uk.ibm.com

DISCLAIMER

- *This presentation represents future product direction and strategy and is presented under terms of a Confidentiality Agreement.*

- *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.*

- *Information is confidential and must not be shared or redistributed without permission from IBM.*

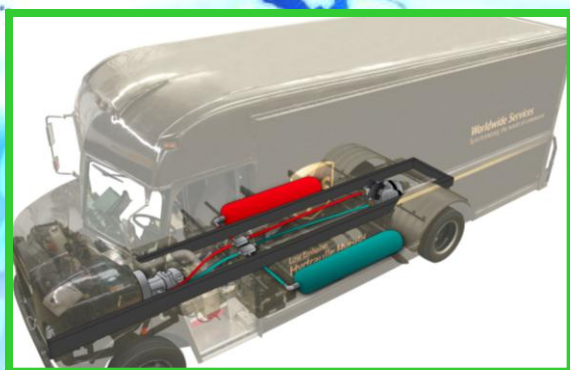# Smarter products & systems are changing our planet

Smarter automobiles

Smarter health care

Smarter devices

Smarter hybrid vehicles

Smarter energy

Smarter defense systems

Software drives today's innovation for a smarter planet
Transforming the way we live, work, and play

Poor Requirements Management has a Significant Impact on your Business

Requirements Rework

- Errors, late detected in the Maintenance phase can cost up to **200 times** more than detected early in Requirement Analysis phase[1]

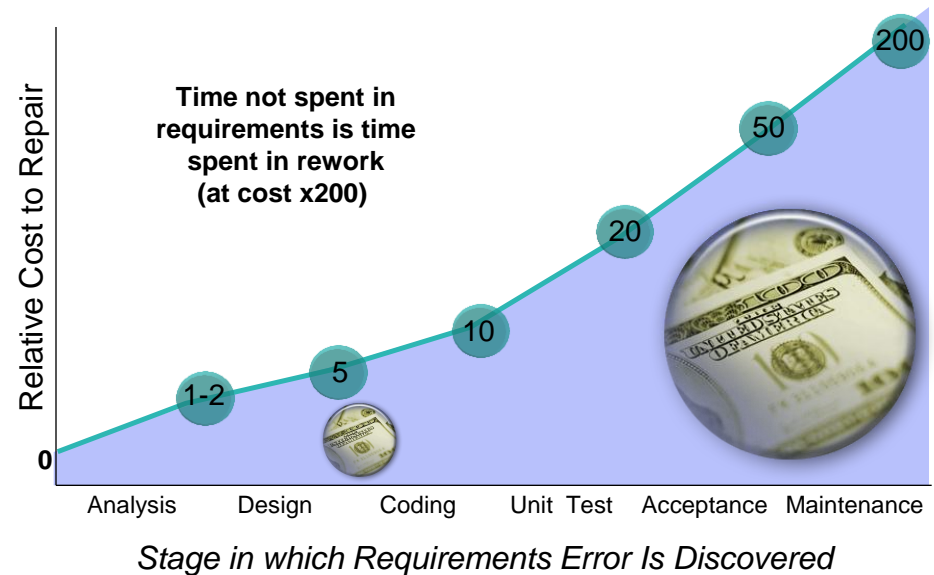- **More than 40%** of development budget can be consumed by poor requirements[2]

Project Impacts

- **41%** of projects fail to deliver the expected business value and ROI[3]

- **49%** of projects overrun original estimates[3]

- **28%** of projects on time and on budget[4]

Project Delays

- Being late to market by 6 months or more will cost organizations 33% of the 5-year ROI[5]

Requirements issues drive excessive rework, delays, poor quality, and project failures

Time not spent in requirements is time spent in rework (at cost x200)

Relative Cost to Repair

200
50
20
10
5
1-2

0

Analysis   Design   Coding   Unit Test   Acceptance   Maintenance

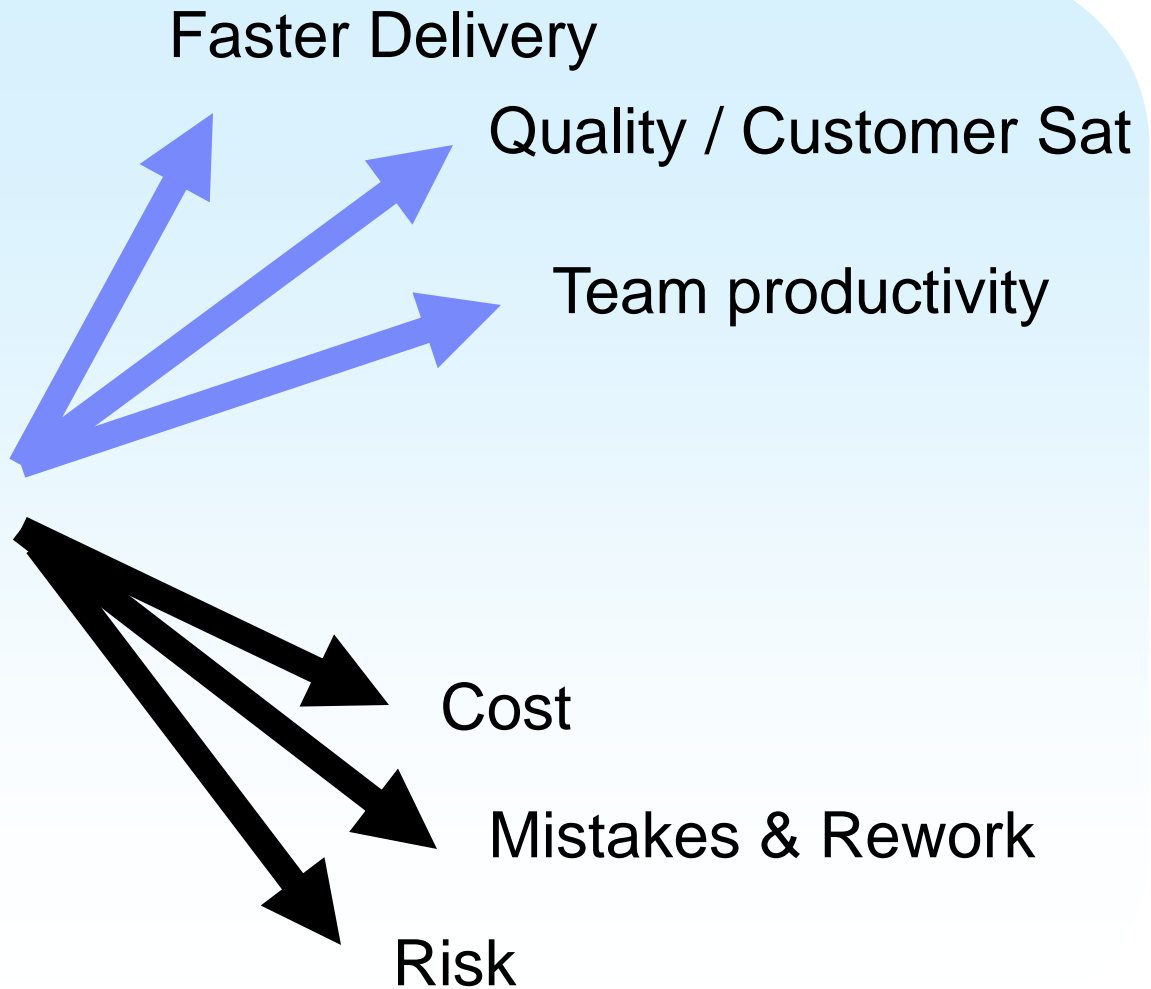*Stage in which Requirements Error Is Discovered*

"Our research indicates 80-plus percent of development failures result directly from poor requirements gathering, management, and analysis."
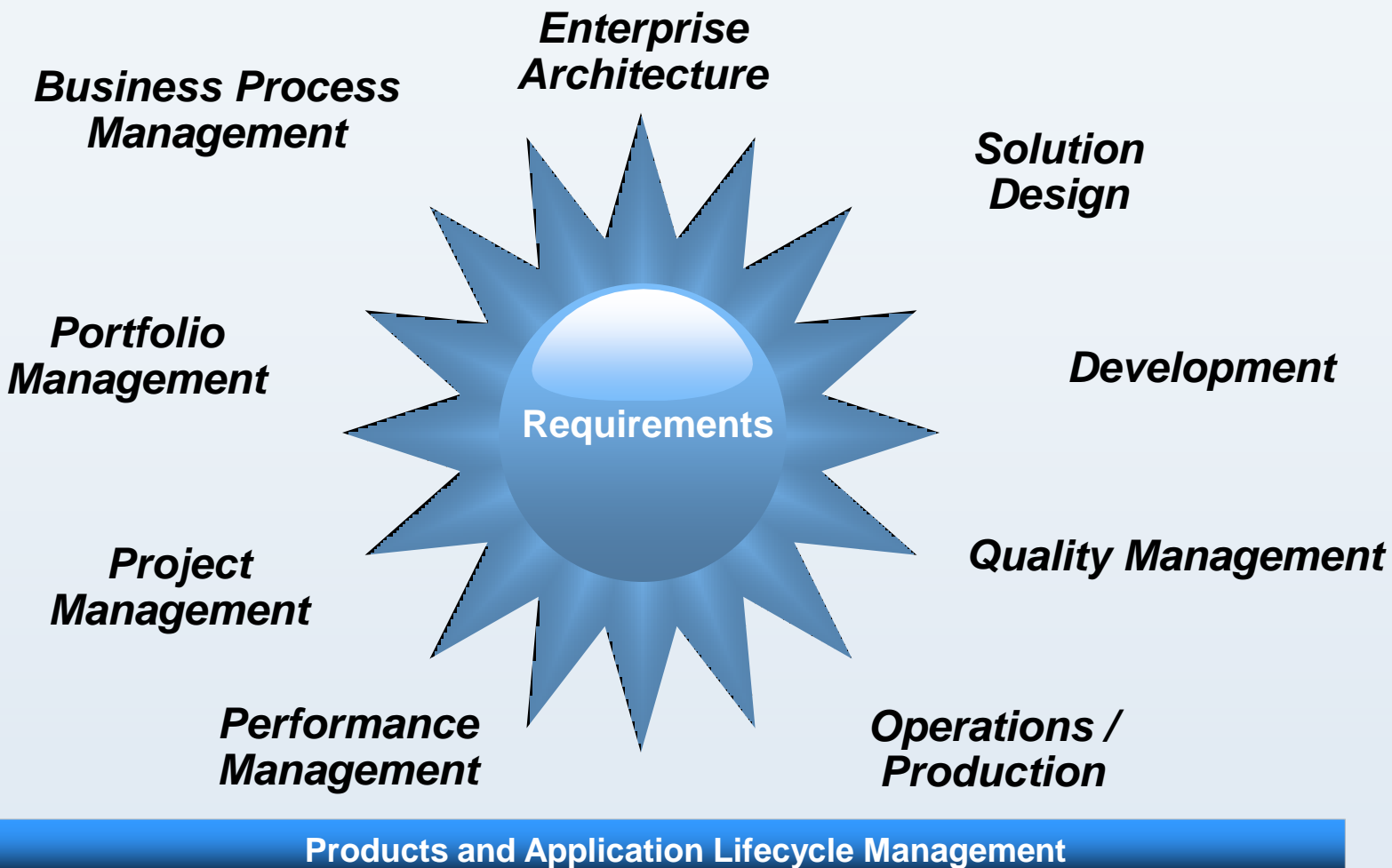
IDC, November 2007

Sources: 1) Leffingwell & Widrig, "Managing Software Requirements," Addison Wesley, 1999 2) IAG Consulting, 2008 3) Dynamic Market Limited, 2007 4) Standish Group, 2001 5) Don Reinertsen, McKinsey, 1983

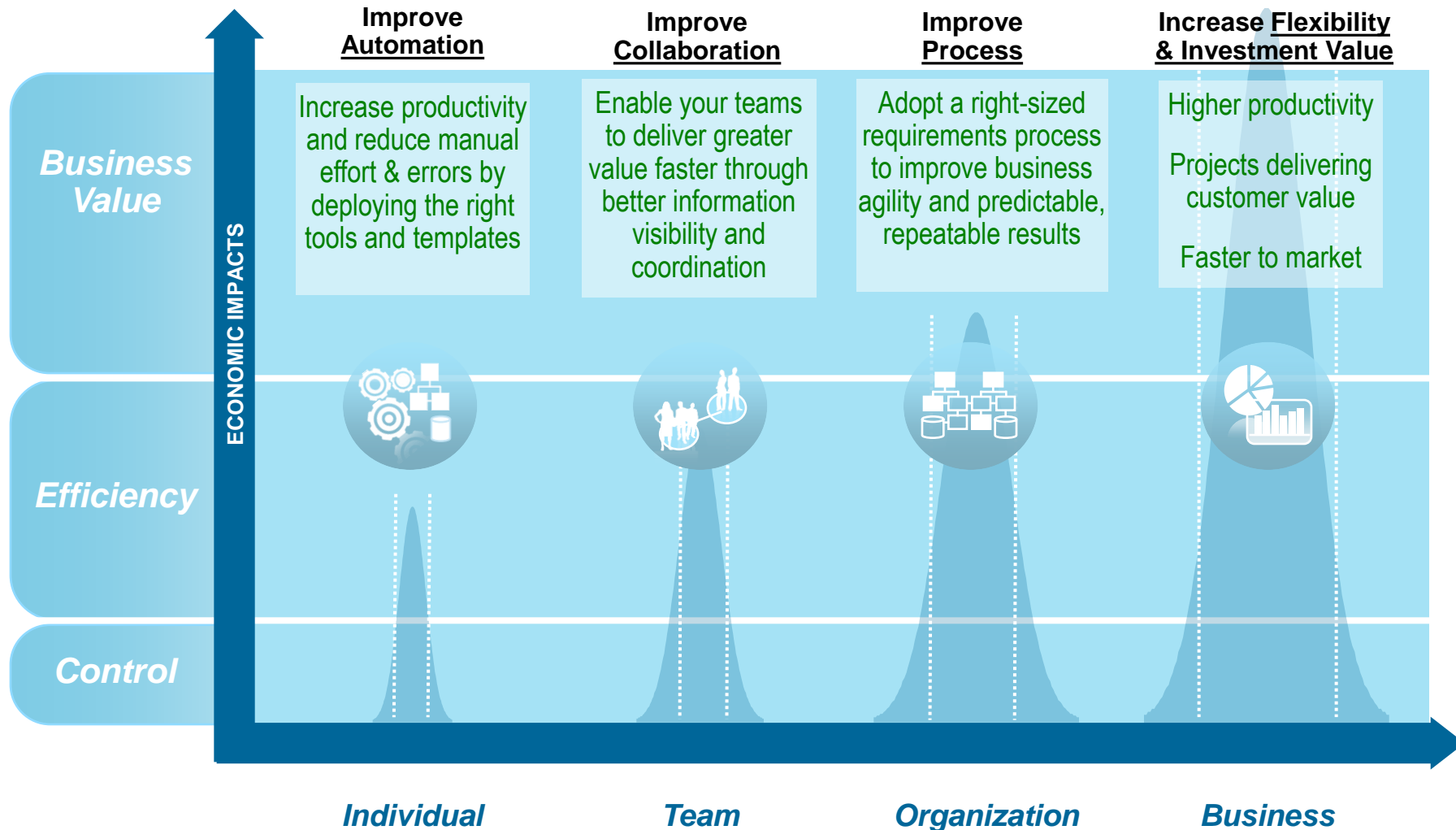# Goal: More value; Greater business agility

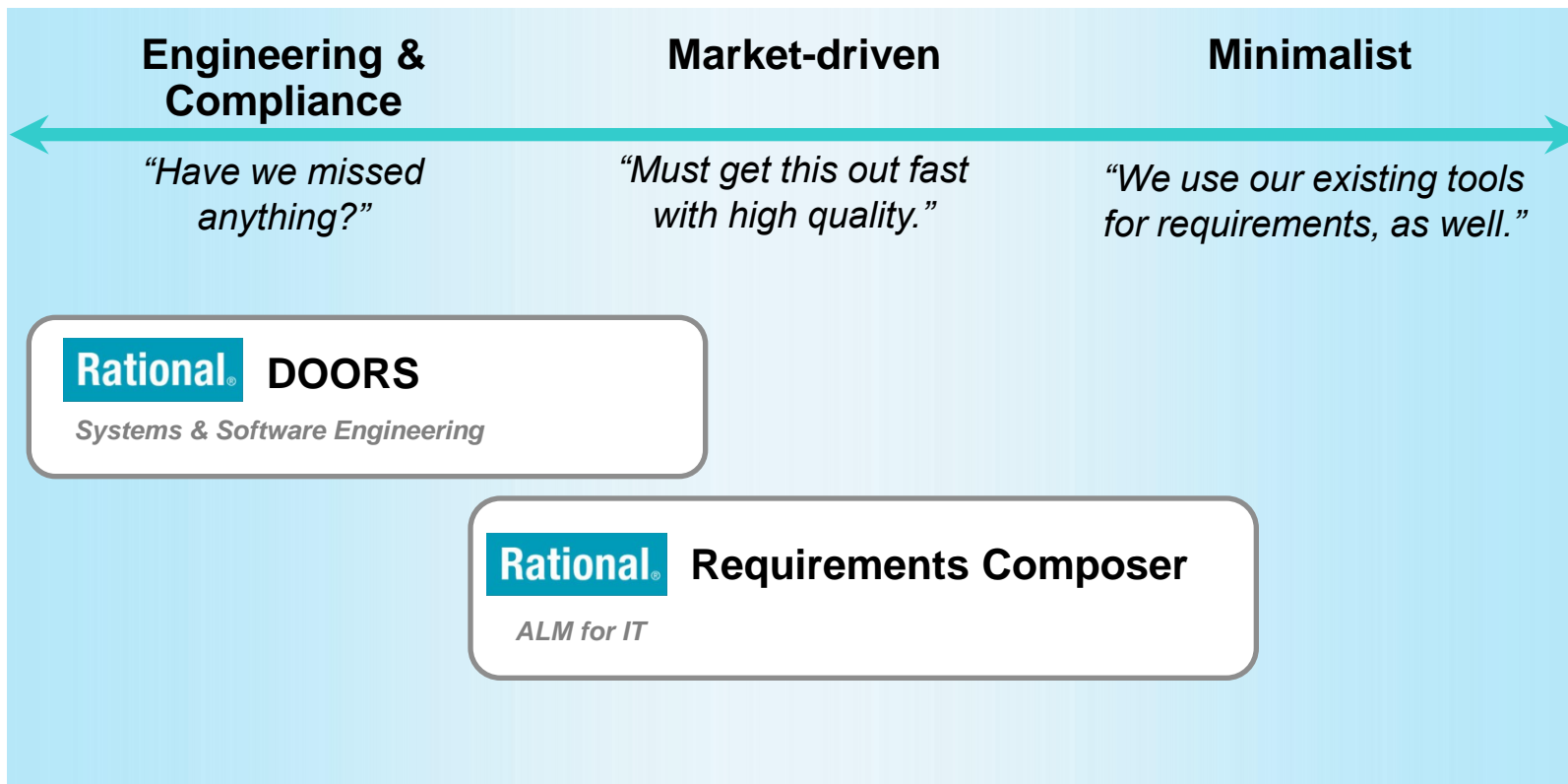**Value**

Faster Delivery

Quality / Customer Sat

Team productivity

Cost

Mistakes & Rework

Risk

Requirements are everywhere and touch everything

Enterprise Architecture

Business Process Management

Solution Design

Portfolio Management

Requirements

Development

Project Management

Quality Management

Performance Management

Operations / Production

Products and Application Lifecycle Management

Improve your ROI with better requirements practices

	Improve Automation	**Improve Collaboration**	**Improve Process**	**Increase Flexibility & Investment Value**
Business Value	Increase productivity and reduce manual effort & errors by deploying the right tools and templates	Enable your teams to deliver greater value faster through better information visibility and coordination	Adopt a right-sized requirements process to improve business agility and predictable, repeatable results	Higher productivity

Projects delivering customer value

Faster to market |

ECONOMIC IMPACTS

Efficiency

Control

Individual   *Team*   *Organization*   *Business*

Addressing various RM needs

Engineering & Compliance	Market-driven	Minimalist

"Have we missed anything?"   *"Must get this out fast with high quality."*   *"We use our existing tools for requirements, as well."*

Rational® **DOORS**

Systems & Software Engineering

Rational® **Requirements Composer**

ALM for IT

Architectural Plan for Rational RDM Tools

- Requirements visibility and traceability across the lifecycle

- Open integration architecture built on the Jazz Team Server

- Integrations using Open Services for Lifecycle Collaboration (OSLC)
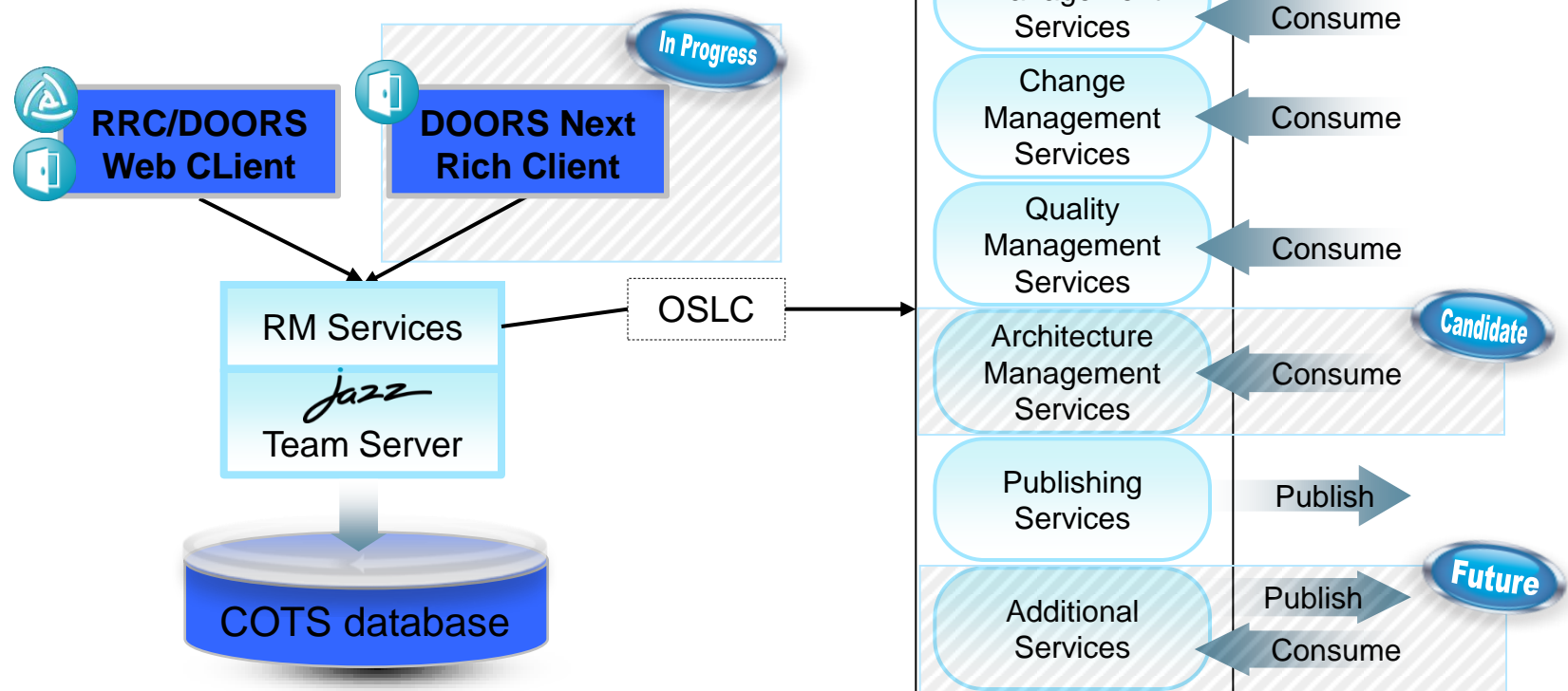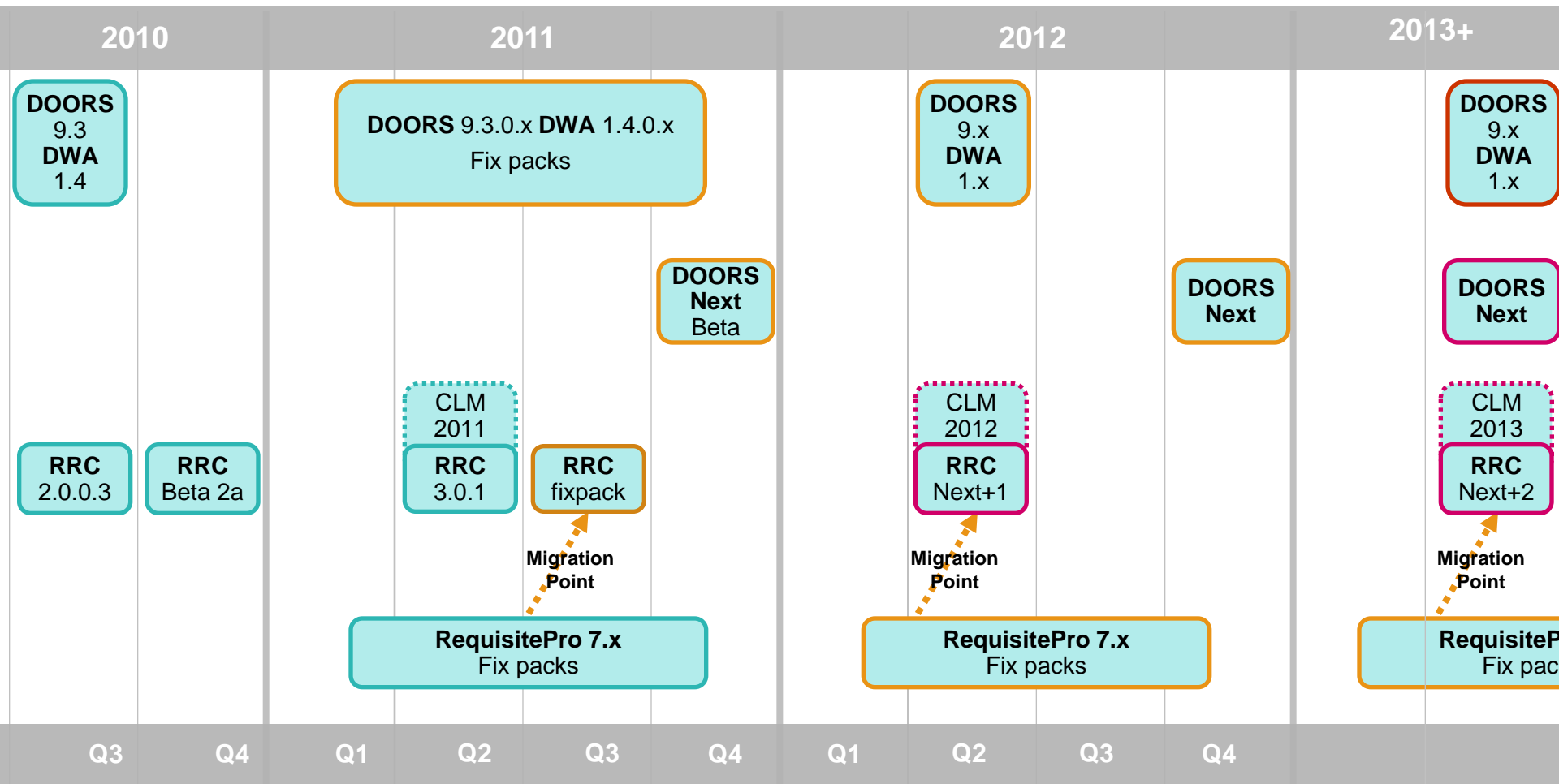
2011 Enhancements: DOORS and DOORS Web Access

2010	2011	2012

DOORS 9.3.0.x

▸ Security Enhancements
  ▸ *Support direct authentication with CAC cards*

▸ DOORS – HP Quality Center - improved throughput and administration

▸ DOORS – RQM – improved visibility of DOORS attributes

DOORS Web Access 1.4.0.x

▸ Support for CAC card authentication

▸ Extend platform support
  Linux, Tomcat 6

jazz

Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
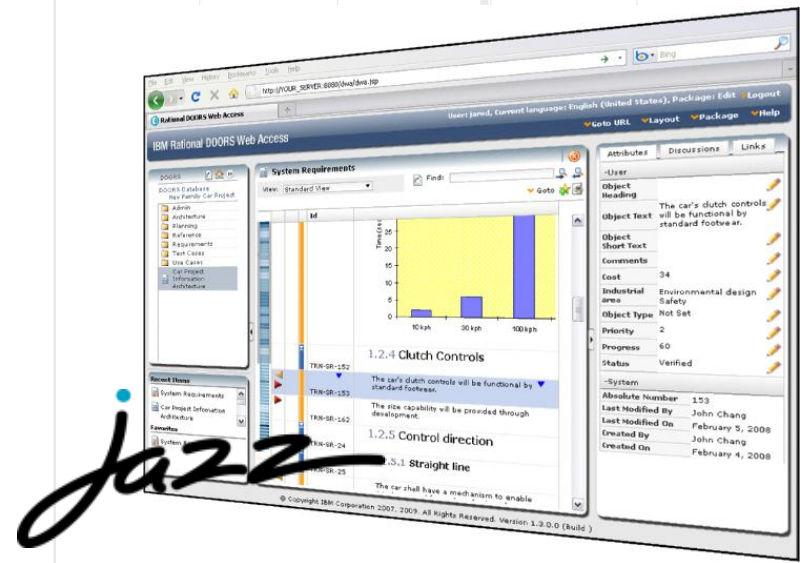
STATUS: — *Released* — *Planned* — *Conceptual*

2012 Enhancements: DOORS and DOORS Web Access

2010	2011	**2012**

DOORS 9.x

▸ Security Enhancements
  ▸ *Move authentication from client to the DOORS server*

▸ Upgrade RIF to the latest version (ReqIF)
  ▸ *Focus on customer feedback for supply chain scenarios*

▸ Transition integrations from synchronization to linked lifecycle data
  ▸ *DOORS and RQM*
  ▸ *Multiple RM databases*
    ▪ *Linking requirements stored in different DOORS or RRC databases (DOORS-DOORS, DOORS-RRC)*

DOORS Web Access 1.x

▸ Electronic signature of Baselines

Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

STATUS: ▬ *Released* ▬ *Planned* ▬ *Conceptual*
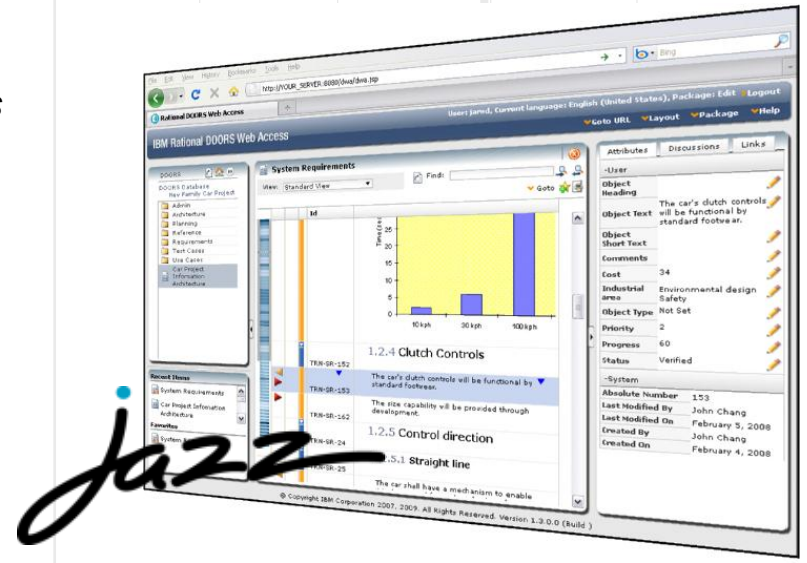
2012 DOORS Next

	2010	2011	2012

DOORS Next

▸ Hosting DOORS on a Jazz requirements server
  - ▸ Commercial database support
  - ▸ Performance, resilience, and availability
▸ ALM with RTC, RQM etc. using linked data
▸ Interoperation with DOORS 9.x
  - ▸ Linked lifecycle data between databases
  - ▸ Data exchange (ReqIF)
▸ Project level attribute/types management
▸ Dashboard viewlets
▸ Requirements reuse
▸ Requirements and task management

DOORS Next Beta

▸ Extended beta plan expected over multiple milestone releases
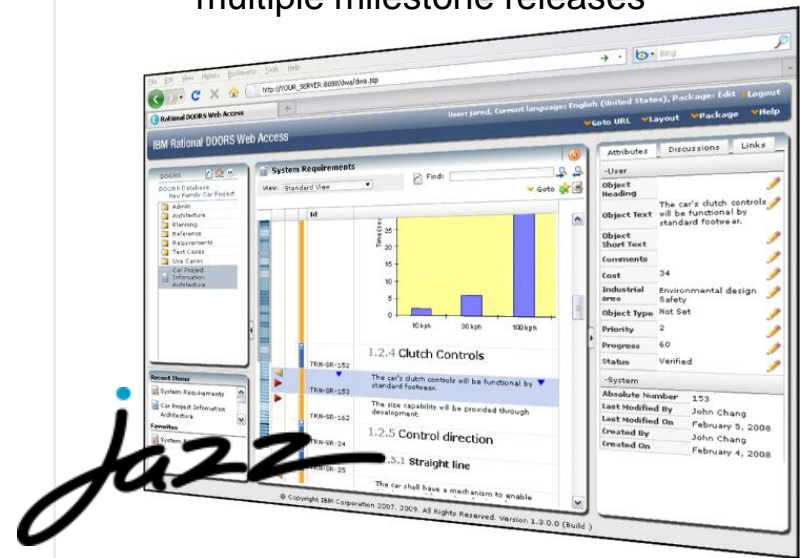
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

STATUS: ▬ *Released* ▬ *Planned* ▬ *Conceptual*

Some Benefits of DOORS Next

Goals

- Requirements reuse across modules
- Program/project-wide requirement types

How

- Enable requirements and type system to be reused in multiple modules
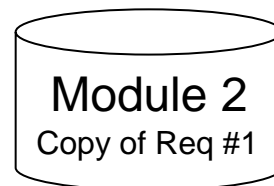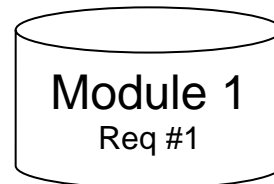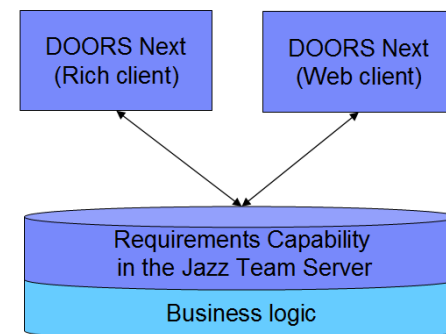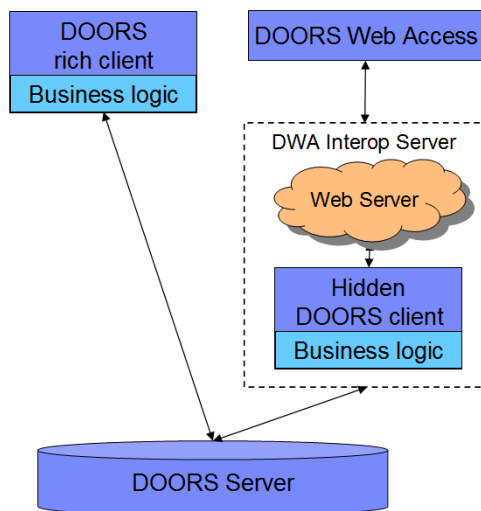

DOORS 9.x
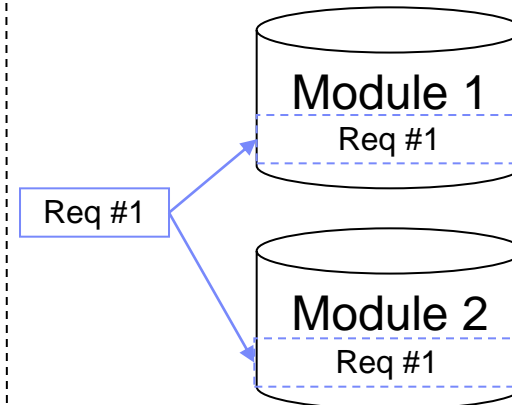
DOORS Next

Goals

- Similar capabilities available in both rich and Web clients
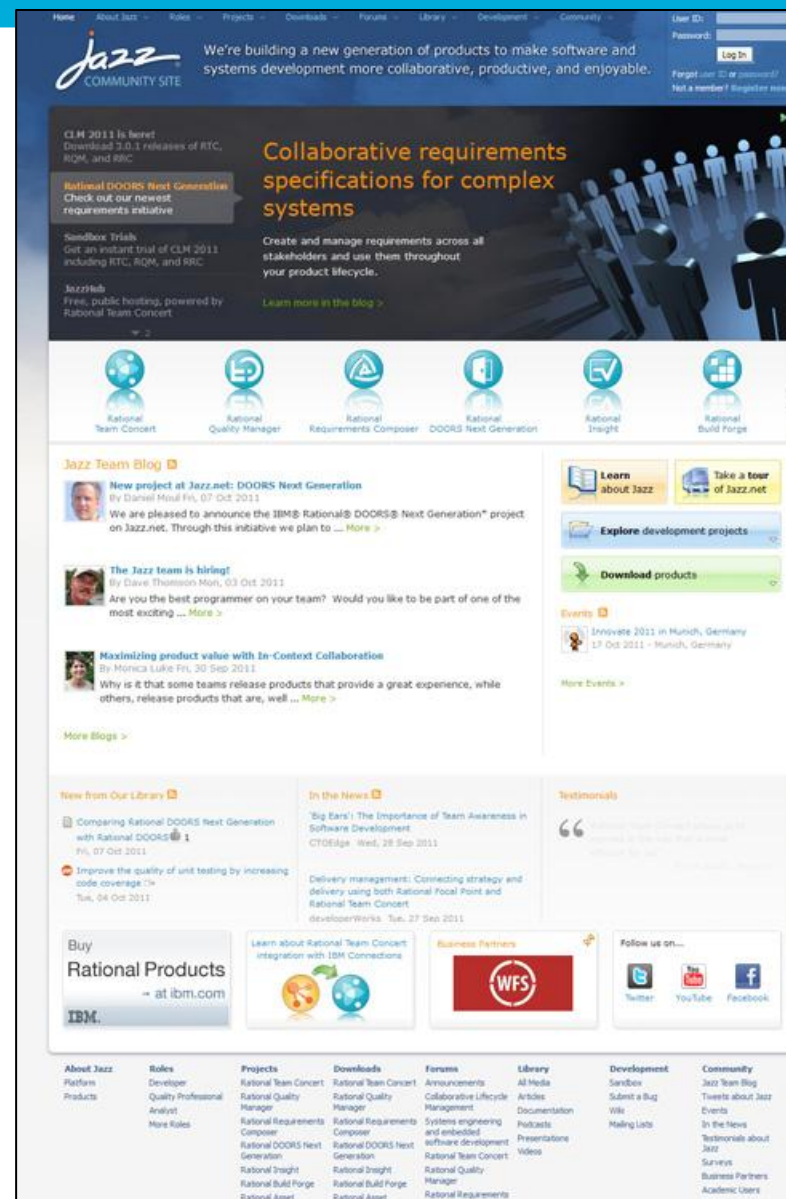- Cross-module search

How

- Move business logic to server

DOORS Next distinguishing features over DOORS 9.x

- Support for the Enterprise
  - Support industry standard IT technology with a cots database (live backups), standard web services enabling more standard Web UI, Improved component communication enabling rich client over a WAN

- Reuse
  - Reuse of requirements and types in multiple modules reduces overhead of maintaining multiple copies of the same information – improving consistency

- Requirements Task Management
  - Support work items to clarify priorities and progress of requirements development – know when requirements you are dependent on are complete/approved

- Dashboard
  - User & project dashboards, display summary information important to you and the project
  - Metrics analysis on requirements and related data, e.g. rate of change of requirements, percent of requirements implemented, test coverage, test execution, system quality

- Usability
  - Better requirements creation, editing and manipulation. Improving support for rich text including color, font, style & lists to better express requirements

- Traceability
  - Simplify creation, management and analysis of traceability by having a single link representation instead of 3 today
  - Traceability analysis (coverage, impact, gaps, compliance) extended beyond data stored in requirements database

- Change Notification
  - Simplify understanding of change by bringing together the various notification methods into a consolidated place, e.g. requirements modification, suspect links

- Cross-lifecycle
  - Better information visibility across tools through links with rich hovers, document generation, and reporting
  - Common user administration, single sign-on, and UI consistency with other tools using the Jazz Team Server

IBM Software

Innovate 2011
Die Premium-Konferenz für die Innovation von Software und Systemen.
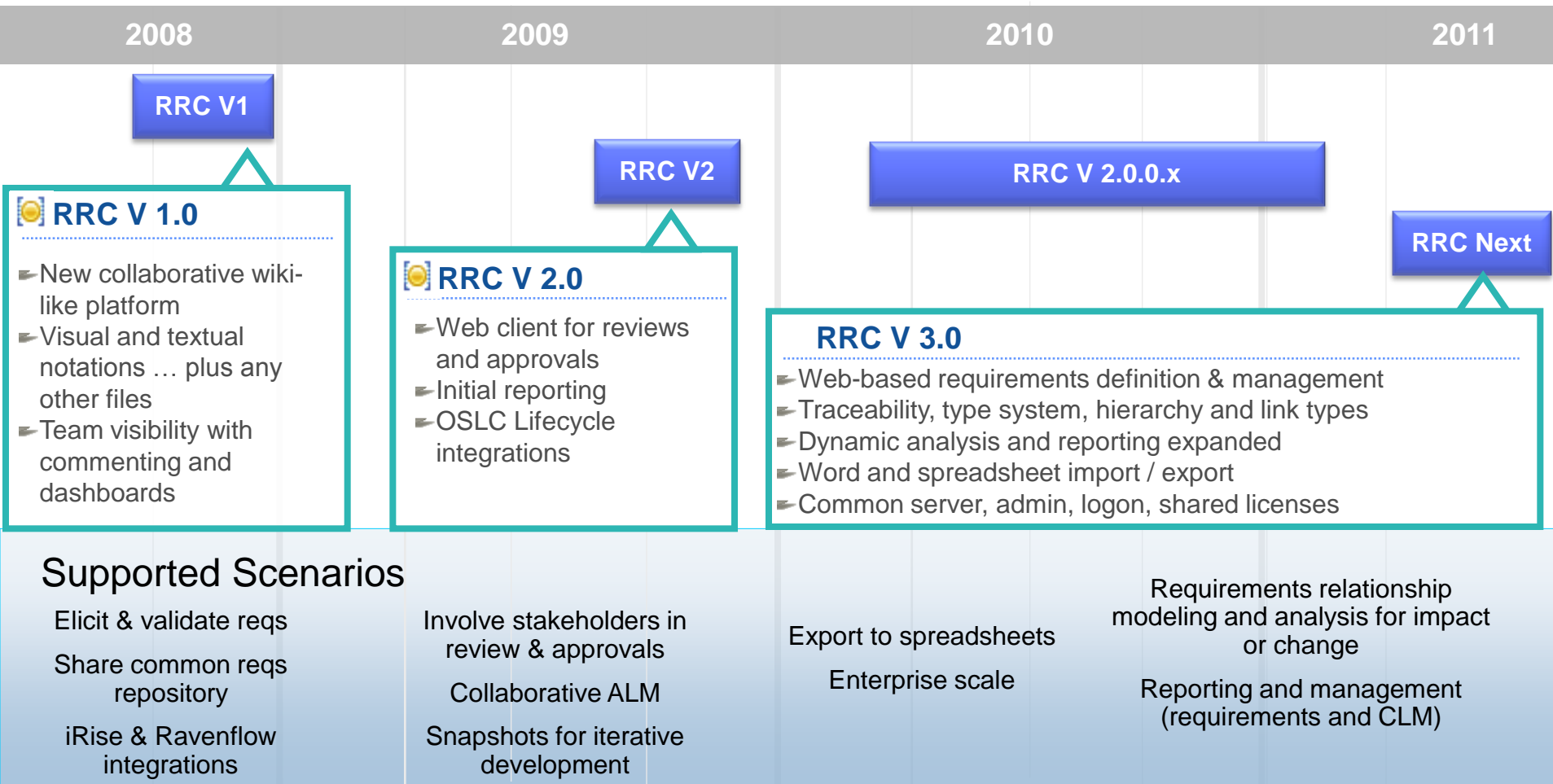
IBM

The Jazz.net Community Site

- **What is it?**
  - IBM's official site for the transparent development of Jazz and Rational products built on Jazz
  - A community of members interested in Jazz

- **What can you do there?**
  - Learn about the Jazz vision, strategy, and architecture
  - Interact directly with Jazz developers and other community members
  - Track our progress and give us direct feedback
  - Watch us use our Jazz products, and try them yourself
  - Download product trials, betas, and early milestones
  - Submit bugs and enhancement requests
  - Explore a library of articles, videos, podcasts and more
  - Get answers in the forums
  - Read our team blog
  - Register and participate for free

How has Requirements Composer Evolved?
Increasing capability and value

2008	2009	2010	2011

RRC V1

RRC V2

RRC V 2.0.0.x

RRC Next

RRC V 1.0

- New collaborative wiki-like platform
- Visual and textual notations … plus any other files
- Team visibility with commenting and dashboards

RRC V 2.0

- Web client for reviews and approvals
- Initial reporting
- OSLC Lifecycle integrations

RRC V 3.0

- Web-based requirements definition & management
- Traceability, type system, hierarchy and link types
- Dynamic analysis and reporting expanded
- Word and spreadsheet import / export
- Common server, admin, logon, shared licenses

Supported Scenarios

Elicit & validate reqs

Share common reqs repository

iRise & Ravenflow integrations

Involve stakeholders in review & approvals

Collaborative ALM

Snapshots for iterative development

Export to spreadsheets

Enterprise scale

Requirements relationship modeling and analysis for impact or change

Reporting and management (requirements and CLM)

STATUS: — *Released* — *Planned* — *Conceptual*

IBM Rational Requirements Composer 3.0
Requirements Management for the Development Lifecycle

Rational Requirements Composer

Next-generation RequisitePro

NEW!

Definition
- Rich-text documents
- Diagrams: Process, Use Case
- Storyboards, UI sketching & flow
- Project glossaries
- Templates (formal/agile)

Management
- Structure, Attributes/Types
- Traceability, Filtering, Tags
- Baselines, Change History
- Reuse
- Reporting Metrics & Doc.

Improved!

Visibility
- Customizable dashboards
- Analysis views
- Collections
- Milestone tracking & status

Agile   **Iterative**

Waterfall

jazz

Lifecycle
Improved!
- Central requirements, test, & development repository
- Common administration and role-based user licensing
- Warehouse reporting

Collaboration
- Review & Approval
- Discussions
- Email Notification

Planning
NEW!
- Integrated planning
- Effort estimation
- Progress tracking

Working in a Development Lifecycle (ALM Today)

Improved!

Requirements driven development across the lifecycle

Analysts, Testers, Developers

Rational Requirements Composer 3.0
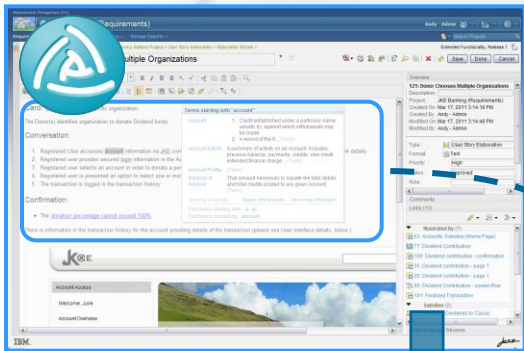
Rational Team Concert 3.0
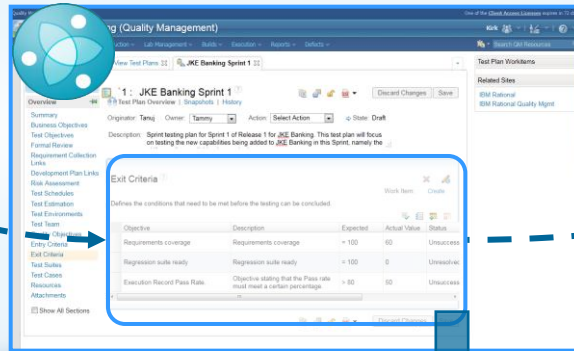
Rational Quality Manager 3.0

Previous | 1 | Next
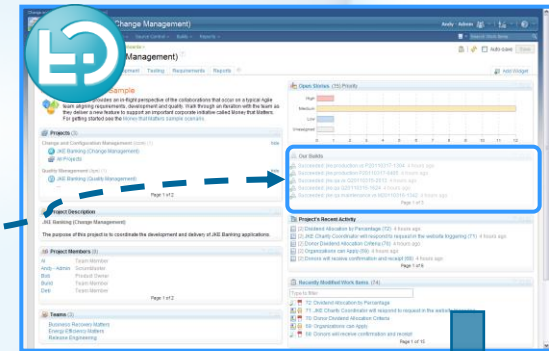
🔘 **Requirements** ✕

		Artifact Type	Implemented By	Validated By
☐	8 📄 Dividend allocation by percentage	Feature	☆ 75: Dividend Allocation by Percentage	📋 18: Dividend Allocation by Percentage
☐	11 📄 Customers can nominate an organization for the program	Feature	☆ 67: Customers can Nominate an Organization	📋 21: Customers can nominate an organization for the program
				📋 0: Customers can Nominate an Organization

🔘 **Development** ✕

🔘 **Quality** ✕

☐	⊟ 12 📄 Donor Dividend Allocation Criteria	Feature	★ 73: Donor Dividend Allocation Criteria	📋 16: Donor Dividend Allocation Criteria
	⊟ Satisfied by			
☐	⊟ 23 📄 Frequency of dividend transfer	Feature	★ 58: Frequency of dividend transfer	📋 1: Frequency of dividend transfer

Single View for End to End Development Needs

2011/2012 Enhancements: Requirements Composer Next

2010	2011	**2012**

Requirements Composer Next

- RRC/HPQC Integration Adaptor
  - Connecting RRC Requirements to Tests in HP QC

- Design Management Integration
  - Provide Connectivity from Requirements to Models (RSA, Rhapsody)

- Suspect Link Identification/Notification
  - Discover change to your requirements

- Increased Access Rights
  - Detailed requirements information control

- Graphical Traceability Explorer
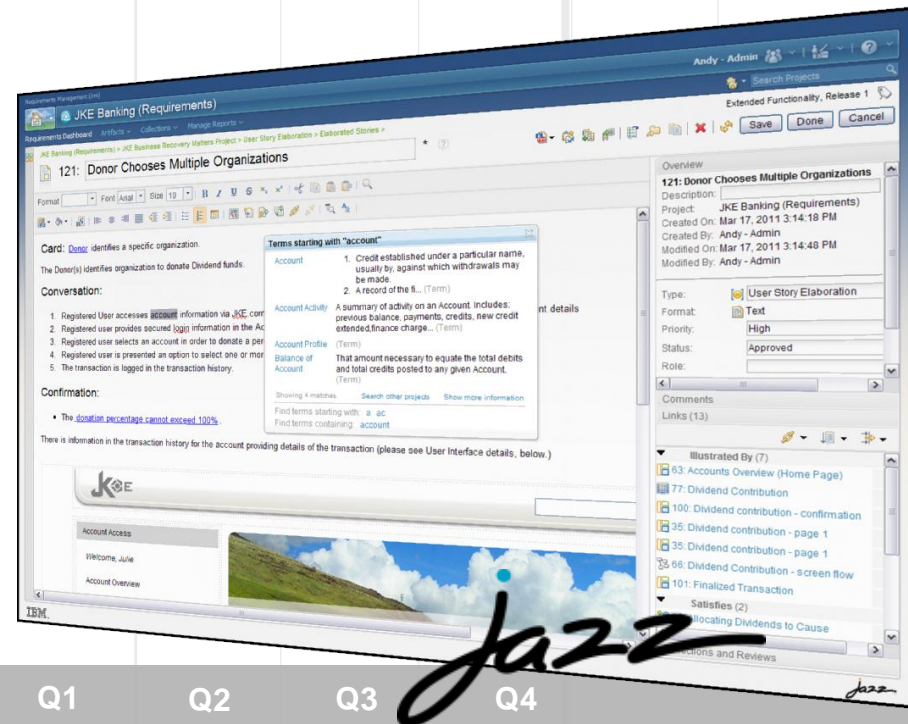
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

STATUS: — *Released*   — *Planned*   — *Conceptual*

2011 Enhancements: RequisitePro

2010	**2011**	2012

RequisitePro 7.1.x

▶ RQM integration improvements

  ▸ *RequisitePro views & packages provide requirement collections for RQM test plans*

  ▸ *Performance*

▶ Word 2010 (64-bit)

▶ Quarterly fixpacks

**"Next-generation RequisitePro"
    is Requirements Composer**

Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

STATUS: ▬ *Released* ▬ *Planned* ▬ *Conceptual*

Software. Everywhere.

Continuing to evolve and grow IBM Rational partner solutions for requirements

Ready for
IBM. Rational.
software

BigLever SOFTWARE, INC.

Provides software product line support for requirements, models, code, and tests

SODIUS

Sodius DXL Editor - Eclipse editor for DXL coders; DOORS-RSA integration

PMC
ENABLING PROJECT MANAGEMENT EXCELLENCE

Provide seamless connectivity between DOORS & project management systems

integrate systems engineering
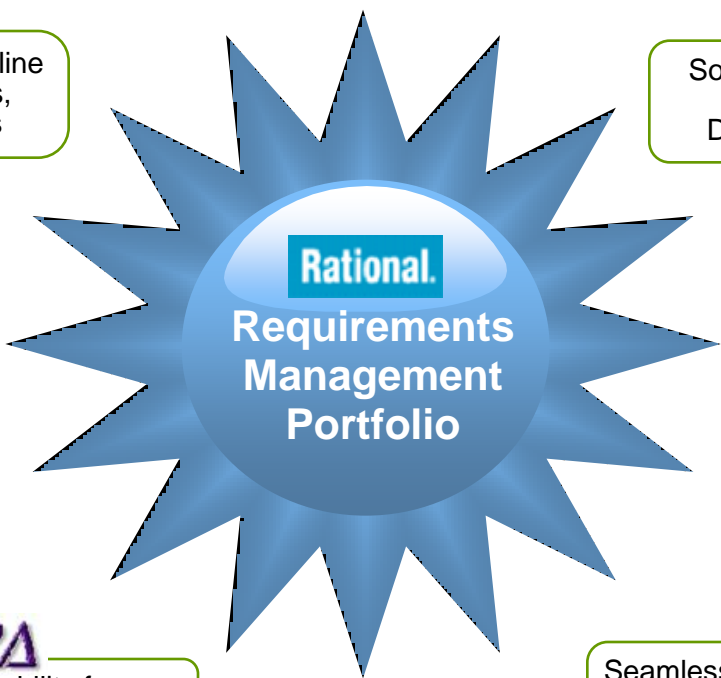
Maximize productivity and effectiveness of DOORS users through enhanced traceability

Rational.
Requirements Management Portfolio

LDRA

Provides traceability from DOORS to real time tests

STONEWORKS SOFTWARE

Seamlessly integrates DOORS with leading PLM solutions such as PTC Windchill®

www.ibm.com/software/rational

www.ibm.com/software/rational

Software. Everywhere.