IBM Software

Innovate2012

The Premier Event for Software and Systems Innovation

Next NOW!

What's New in IBM solutions for developing smarter products

Andy Gurd, Worldwide Go-to-Market Manager, IBM Rational

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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.

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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.

What was **Next**... is ***NOW!***

IRON MAN

Exoskeleton Robotic Suit

MINORITY REPORT

Vehicle-to-vehicle Communication

STAR TREK

Sensory Substitution Device

Yet with this new reality comes **challenges** and **opportunities** for **systems engineers**

BEST-IN-CLASS

"I need to better understand my design alternatives earlier in the development process"

88%
Improve ability to **predict system behavior**

"I need a level of traceability that allows me to verify what was specified was delivered"

39%
Link **requirements** to specific **test cases**

"I need to manage change across mechanical, electrical, and software engineering"

1 of 4
Involve **multiple engineering disciplines** in design reviews

Aberdeen Group: "System Design: Get it Right the First Time", August, 2011

And with this new reality also comes **challenges** and **opportunities** for **software engineers**

"I need to know what I need to develop — nothing more, nothing less"

1 of 2
Challenged with **scope creep and changing requirements**

"I need to show that I am compliant with the standards required by my industry"

2x
Need for **standards compliance** doubled since 2009

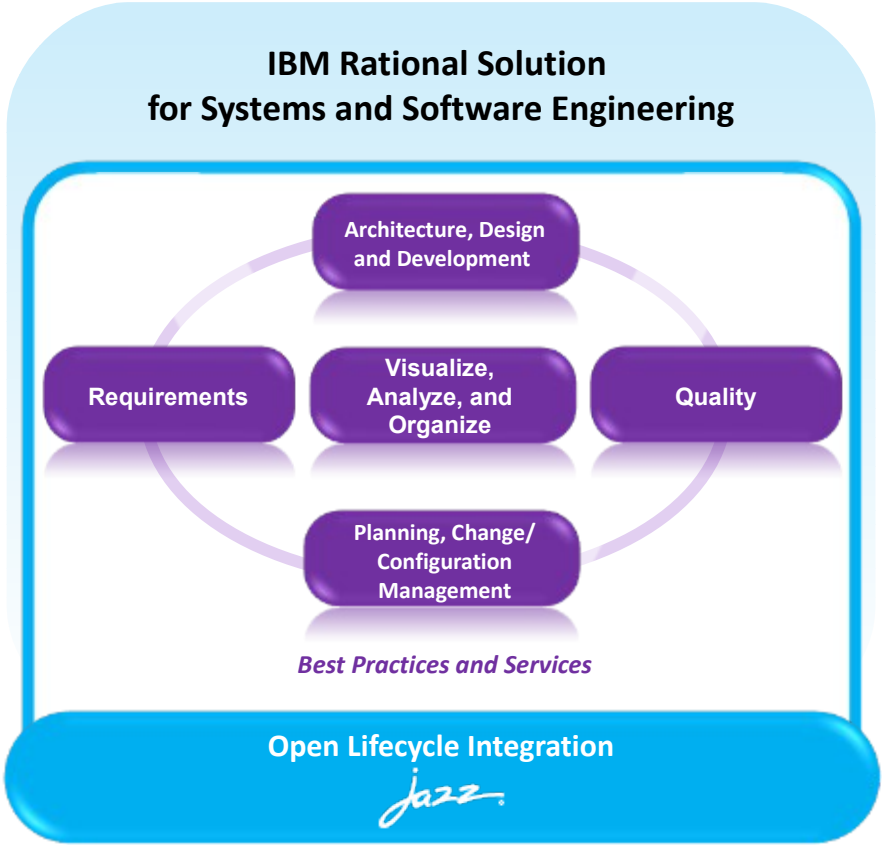
"I need to know when changes are made to the hardware to avoid unpleasant 'surprises' later"

45%
Use **hardware/software dependency management**

Rational solution for systems and software engineering

Progress since Innovate 2011

- ***Collaborate*** across disciplines
  - 2 new products (1 in Beta)
  - 5 new SSE lifecycle integrations
- ***Optimize*** your practices for industry standard compliance
  - 2 new industry accelerators
  - 10 new process areas
    + 2 extensions
- ***Integrated*** and open platform
  - 15+ new third-party integrations



The Team behind the products & solutions here today

Ben Williams
Senior Product Manager, RELM

Richard Watson
Senior Product Manager, DOORS

Keith Collyer
Senior Solution Manager, Electronics and Medical Devices Industry Solutions

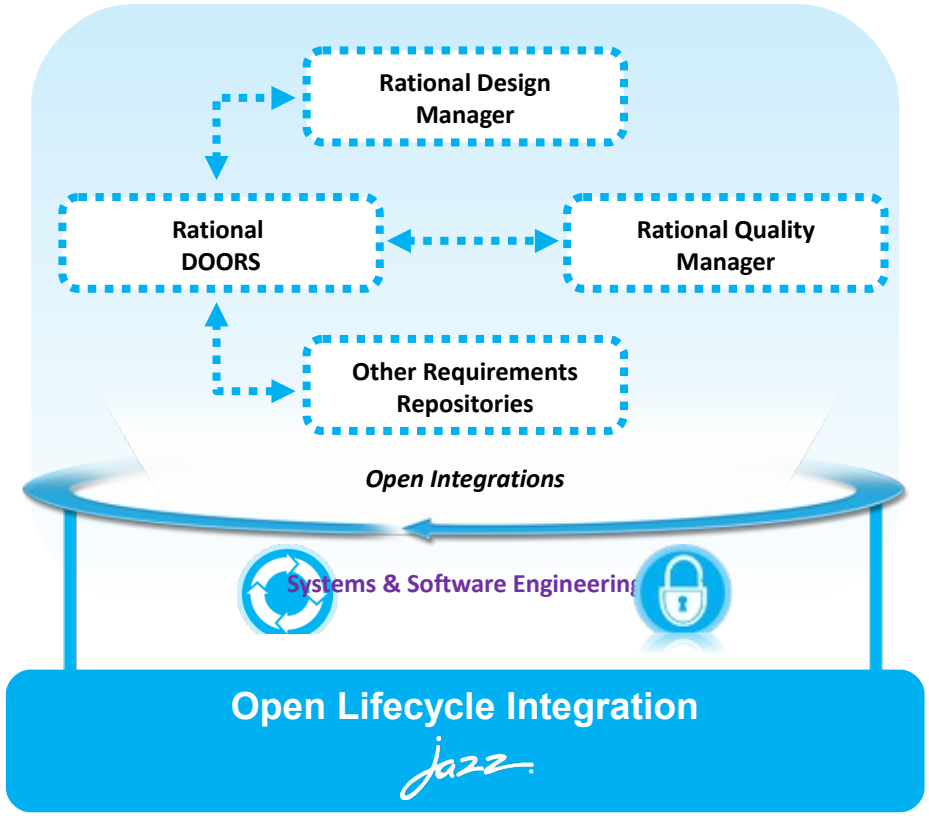
Stephen Rooks
Certified IT Specialist, AUTOSAR, Embedded Software Development Solutions & Rhapsody expert

Graham Bleakley
Solution Architect, Automotive and A&D, Modeling & Rhapsody expert

Requirements Management

IBM Rational DOORS v9.4

- Open integrations more flexible and scalable
  - Quality and test
  - Architecture, design and development
  - Other requirements management repositories
- Even more secure with new server-side authentication
- Usability enhancements



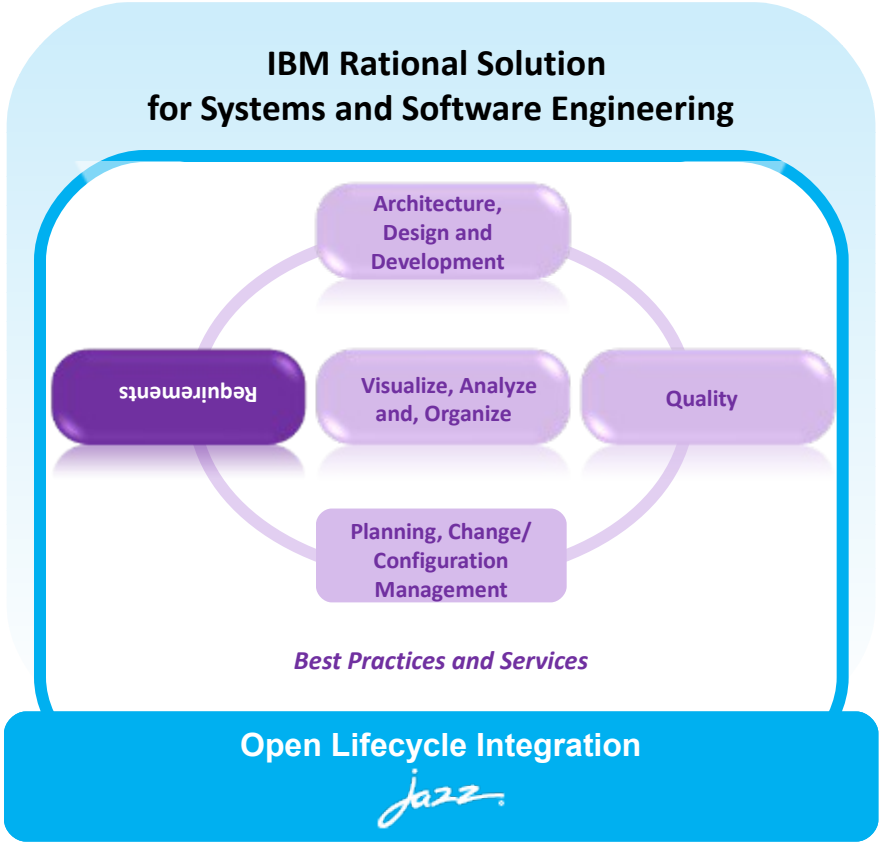
"Our ability to maximize the breadth of the IBM software let us provide NASA with demand-based statistics while maintaining control of the costs."

Joseph Dress, Requirements Management,
Constellation Software Engineering Corporation

Requirements Management

IBM Rational DOORS Next Generation v4.0.1 Beta 4 (Planned General Availability Q4 2012)

- Requirements collaboration, planning, reuse and lifecycle traceability
- Requirements management capabilities on the integrated collaborative lifecycle management platform
- Interoperability with DOORS 9.x
- Developed through open, public project on Jazz.net
- Complementary to, not replacing DOORS 9.x series



Statement of Direction

- Protecting our customers investments
- Allowing customers to transition between DOORS and DOORS Next Generation at their own pace
- The following announcement has been made with the release of DOORS 9.4:

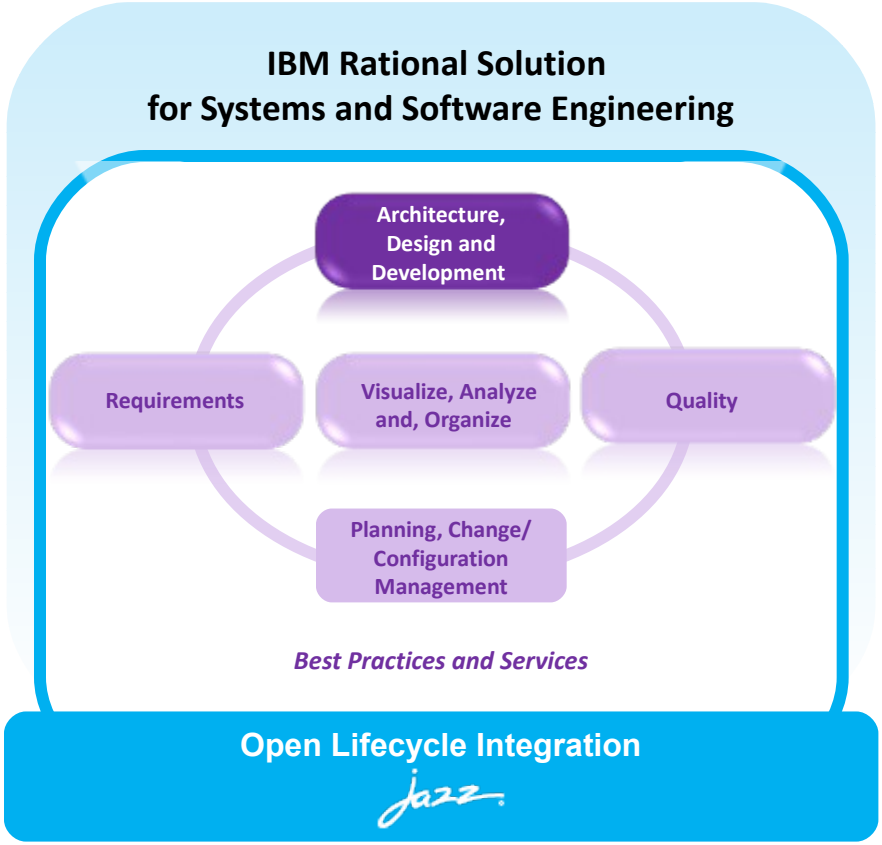
IBM intends to include next-generation capabilities as part of a future DOORS release.

For each DOORS license entitlement that has active Subscription and Support, a customer will be able to use either DOORS V9 or next-generation capabilities.

Architecture, Design & Development

IBM Rational Rhapsody v8.0 with Design Manager v4.0

- **Simplify design collaboration** through Jazz-based model management
- **Unify requirements and design** with single-source of truth utilizing OSLC
- **Streamline safety critical design** using certification assistance
- **Automate standards compliance** with latest SysML, AUTOSAR and UPDM
- **Enhanced User Experience** with usability and productivity improvements



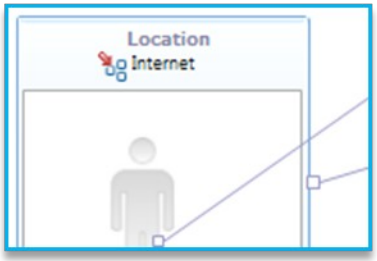
More on Collaborative Design Management

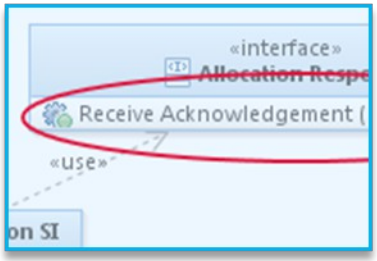
Rational Rhapsody with Design Manager

New! Download 4.0 Release
September 7, 2012

Features and capabilities

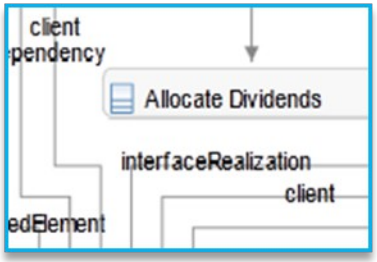
Design in context of requirements, work items and test cases

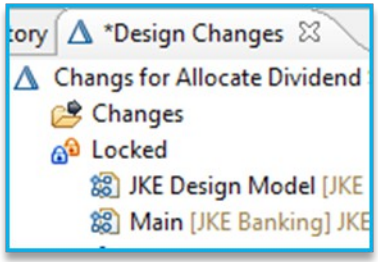




Collaborate with reviews & sketching

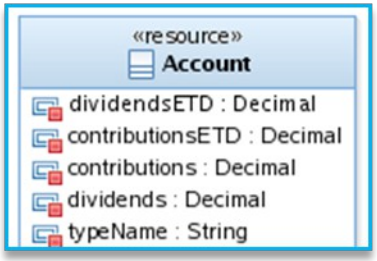
Traceability and impact analysis

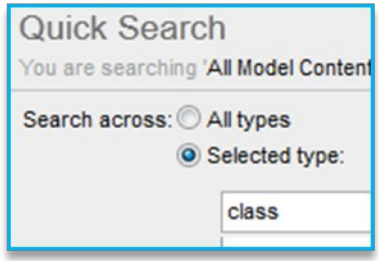




Manage change

Publish design documents



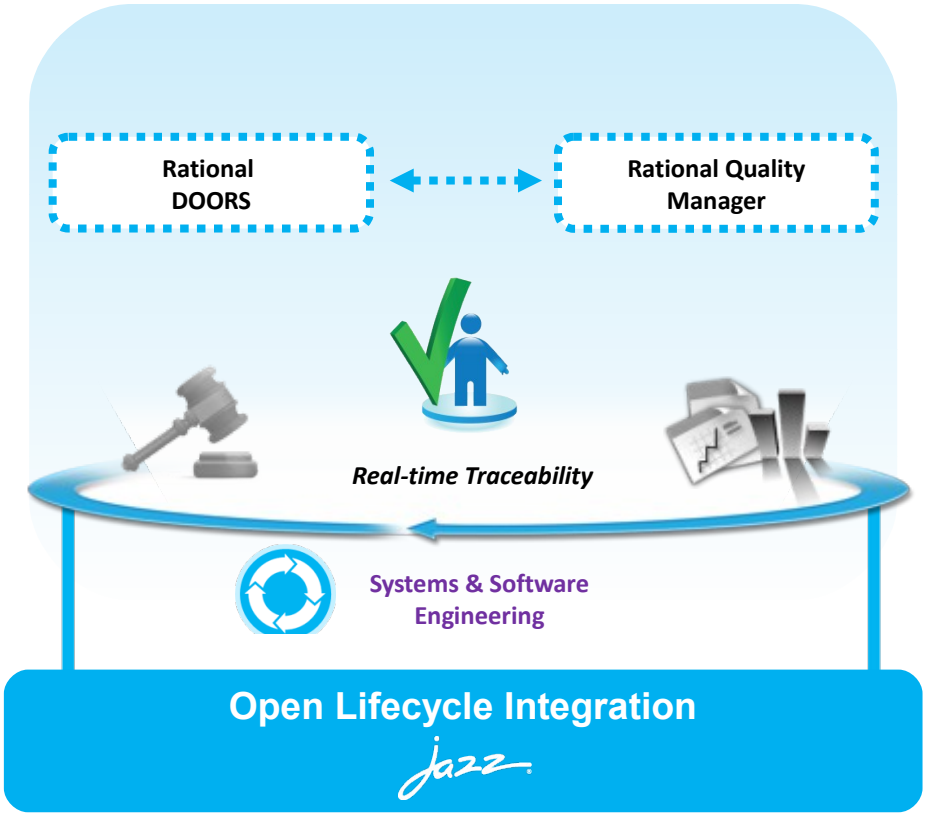


Designs at your finger tips

Quality and Test

IBM Rational Quality Manager v4.0

- Requirements-driven testing
  - Rational Requirements Management and Quality Management using OSLC
  - Live traceability views
  - Trace test steps to requirements
- More control over compliance and process enforcement
- Dashboards and reporting



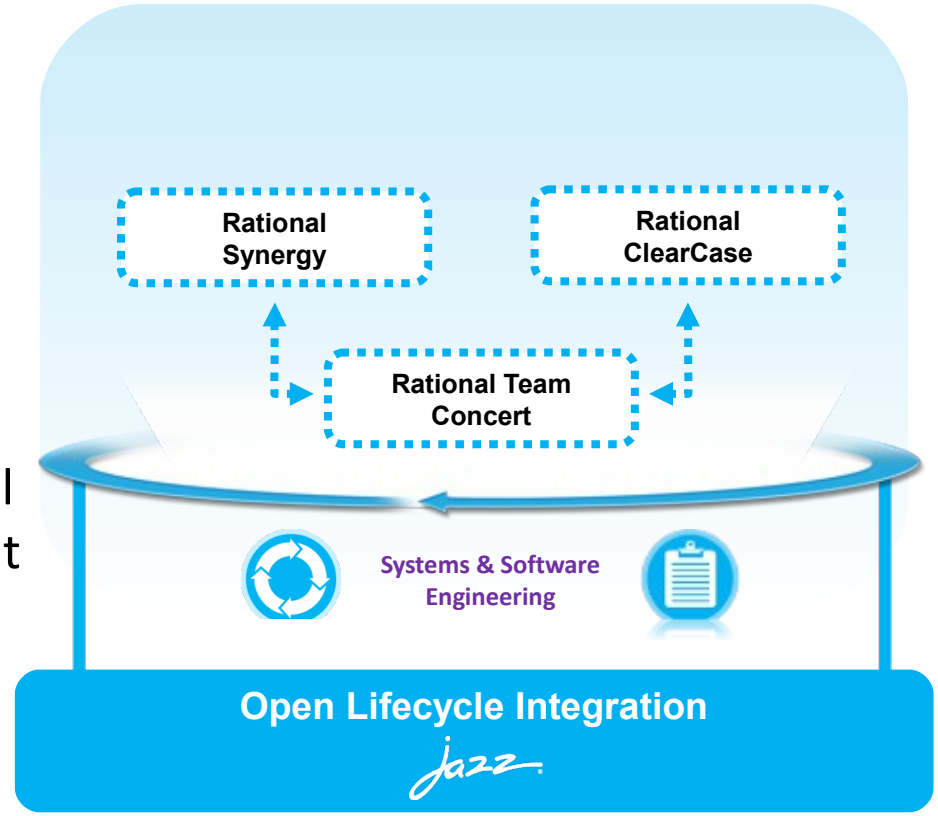
"We have greater control to improve processes, greater test coverage and traceability, plus, vastly improved navigation and user friendliness."

– Beta test participant

Planning, Change and Configuration Management

IBM Rational Team Concert v4.0

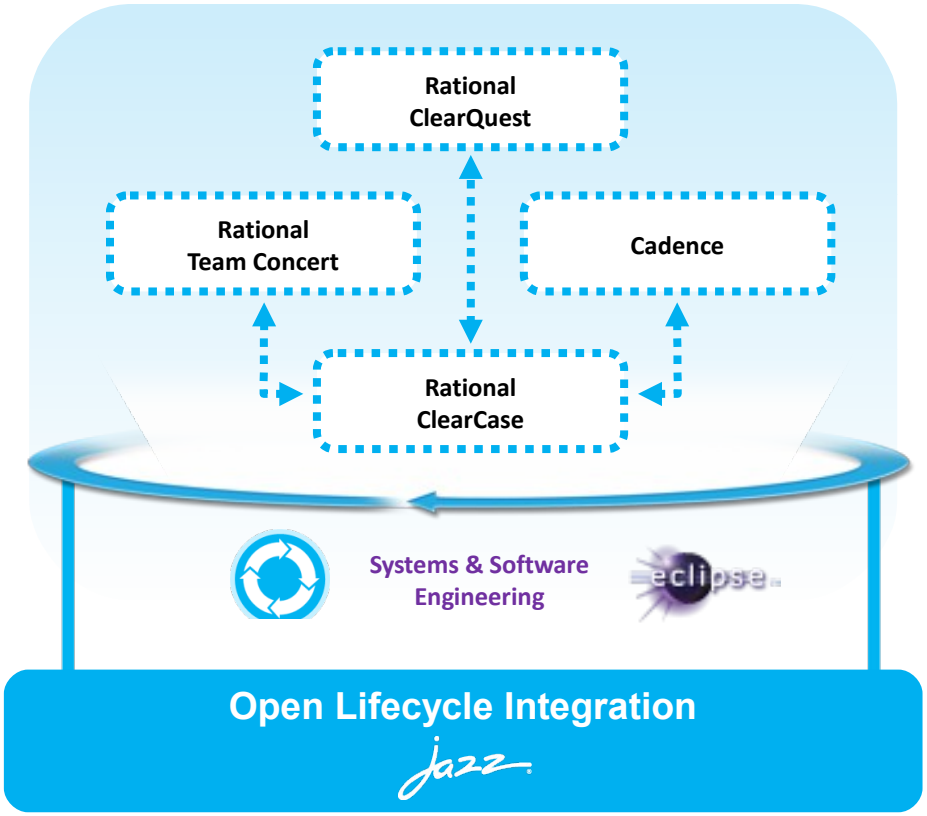
- More control over permissions and process
- Track delivery of source code changes to variants/branches of a product
- Manage cross-cutting plans and tasks across multiple projects
- Integrate Rational Synergy and Rational ClearCase for source code management with Rational Team Concert for planning and change management
- Additional tool integrations via MS SCCI interface



Extending through integrations

IBM Rational Clear Quest v8.0 / Rational ClearCase v8.0

- Enhanced Rational ClearCase integrations with Rational Team Concert and Rational ClearQuest data visualization
- ClearTeam Explorer unified client
- Enhanced Cadence integration for EDA

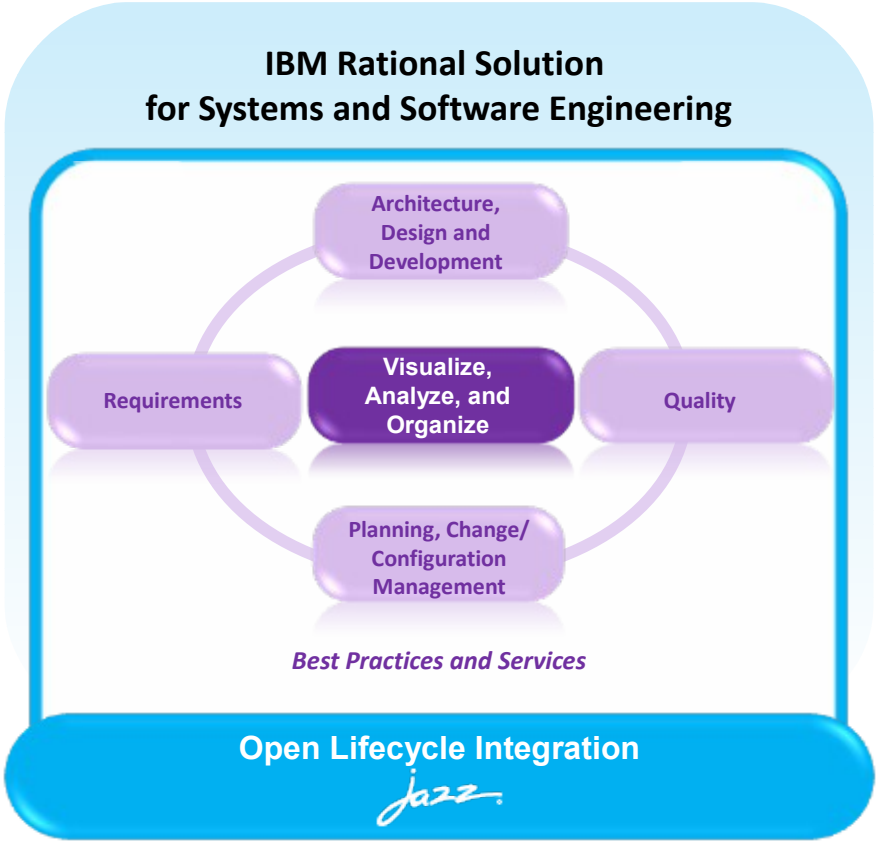


Reduce overhead by managing complexity in product development

Rational Engineering Lifecycle Manager 1.0

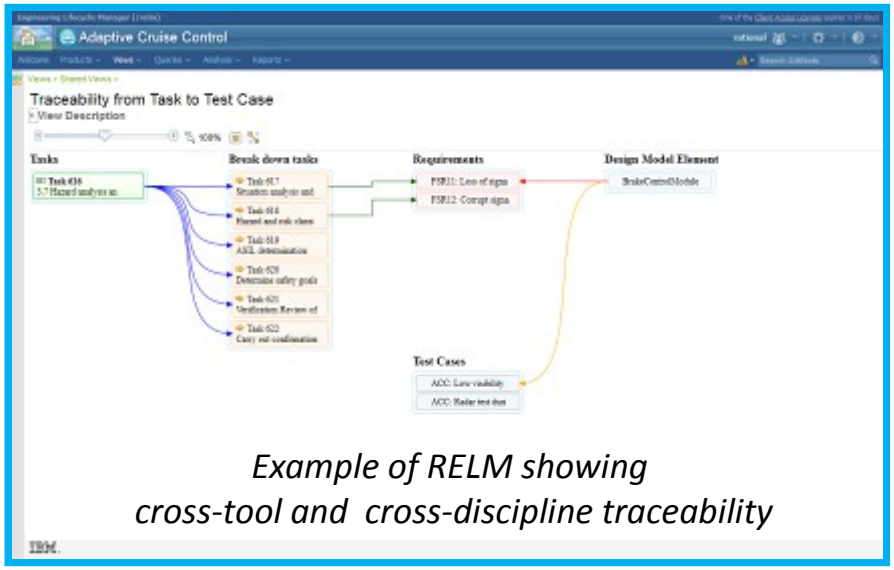
Visualize, analyze and organize engineering artifacts from across multiple tools to help organizations:

- Manage growing complexity
- Extract key threads of interest from a web of related engineering artifacts
- Make timely and correct business and engineering decisions
- Improve collaboration across engineering disciplines

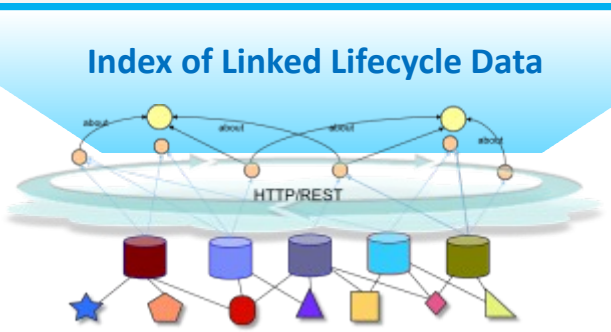


What's unique about RELM?

- Cross lifecycle views
  - Tools often provide A-B or B-C traceability views, but RELM shows A-B-C
- Flexible views
  - Views can be tailored for specific task, role, process or standard
- Data remains at source
  - No need to move data into common repository
- Adaptable to plug in other data sources
  - Uses internet standards



Example of RELM showing cross-tool and cross-discipline traceability



RELM v1.0 works out of the box with:

- IBM Rational DOORS
- IBM Rational Rhapsody with Design Manager
- IBM Rational Team Concert
- IBM Rational Quality Manager

UNDER NDA UNTIL 16 OCTOBER 2012

EADS sees value for engineering teams in RELM Beta

Provides visibility, impact analysis and document generation across the product lifecycle

*"The beta version of Rational Engineering Lifecycle Manager showed us that it has potential to be a **very valuable tool** and approach to **solving challenges in the engineering of complex products**."*

—Simon Bradley, Vice President,
Head of Global Innovation Network, Systems & Products Architecture, EADS

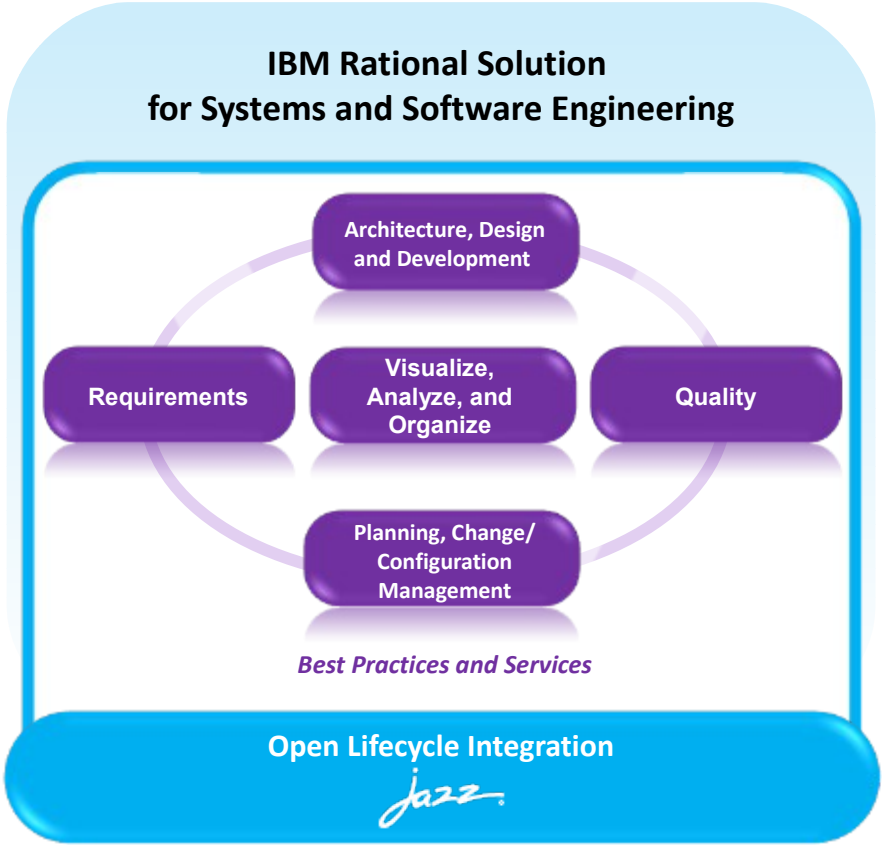
EADS

About EADS Innovation Works

The Software and Systems Engineering team of EADS Innovation Works, the corporate research and development department of EADS, is responsible not only for developing future technologies and solutions bringing value to the different business units of EADS, but also evaluating state of the art or new technologies such as tools, which may improve how engineers at EADS develop and manage their products.

New guidelines, practices and tool mentors for cross-lifecycle traceability and reporting and extended metrics

- **Achieve greater value from lifecycle traceability** with guidance on new ways to view and query linked data.
- **Improve cross lifecycle reporting** with new tool mentors and templates for document generation.
- **Respond faster on emerging issues** with new lifecycle metrics.
- **Apply requirements driven quality management** with greater efficiency using new tool mentors.



Reduce cost of compliance and ensure safety

Improve collaboration, automate processes, and accelerate development

What's New?

IBM Rational Solution for Medical Devices

FDA Quality System Regulation (21 CFR Part 820) and IEC 62304 best practices, templates and tooling.

IBM Rational Solution for Electronic Design

New practice and process assets to support high-level electronics design and EDA design workflow.

What's Enhanced?

IBM Rational Solution for Aerospace and Defense

DO-178C best practices, templates and tooling.

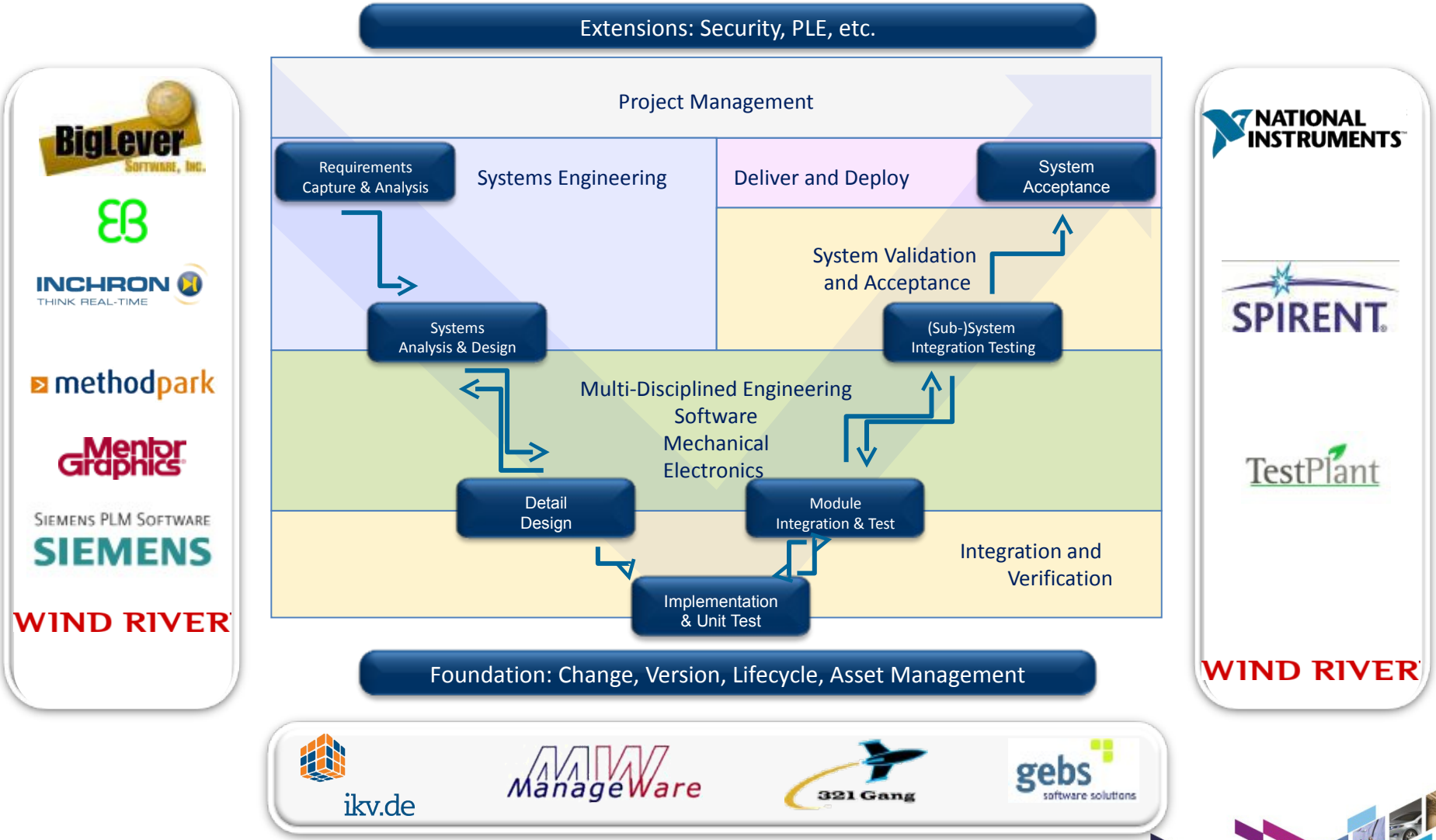
Extended support for Defense Architecture Frameworks.

IBM Rational Solution for Automotive Engineering

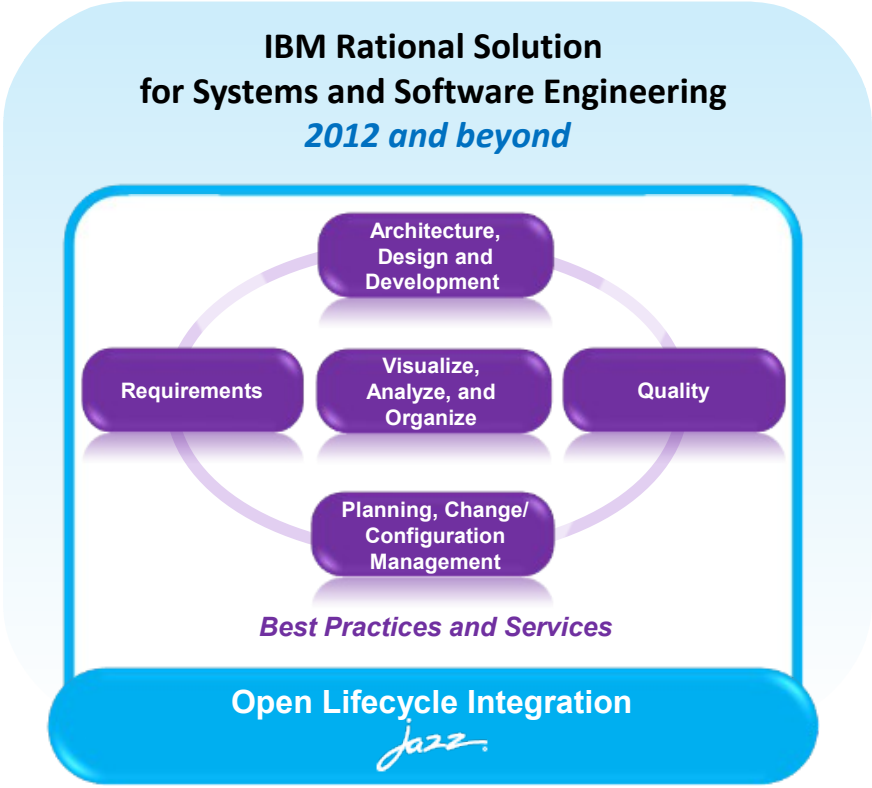
AUTOSAR and ISO26262 best practices, templates and tooling

IBM Smarter Product Development Ecosystem

Breaking down development silos to deliver extended value



Summary



PRODUCT DEVELOPMENT LIFECYCLE

- NEW - IBM Rational Engineering Lifecycle Manager
- Beta - IBM Rational DOORS Next Generation
- Enhanced – IBM Rational DOORS
- Enhanced - IBM Rational Rhapsody with Design Manager
- Enhanced – IBM Rational Quality Manager
- Enhanced – IBM Rational Team Concert
- Enhanced – IBM Rational ClearCase and ClearQuest
- Enhanced - IBM Rational Solution for Systems and Software Engineering

INDUSTRY

- NEW - IBM Rational solution for Medical Devices
- NEW - IBM Rational solution for Electronics Design
- Enhanced - IBM Rational solution for Automotive Engineering
- Enhanced - IBM Rational solution for Aerospace and Defense
- Enhanced – Solutions for Energy and Utilities
- Enhanced - Solutions for Telecommunications

ECOSYSTEM

- NEW – National Instruments
- NEW - GEBS
- NEW - Test Plant
- Update - INCHRON
- Update - Elektrobit
- Update - 321 Gang
- Update - Manageware

For more information

- TODAY – Ask one of the team featured here or visit our Ask an Expert pedestal
- Tomorrow - DOORS Customer Day – Southbank
  - More on DOORS 9.x, DOORS NG, Integrations, etc.
- 9th November – Rational DOORS PoT – Southbank
- 27th November – Rational Team Concert PoT – Southbank
- 5th December – Rational Quality Manager PoT – Southbank

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