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UK Innovate 2010

The Rational Software Conference

Smarter software for a smarter planet.



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The Rational Software Conference

Future Forward: Requirements Definition and Management

Richard Watson



Smarter software for a smarter planet.



Agenda

Strategic overview of IBM Rational Requirements tools

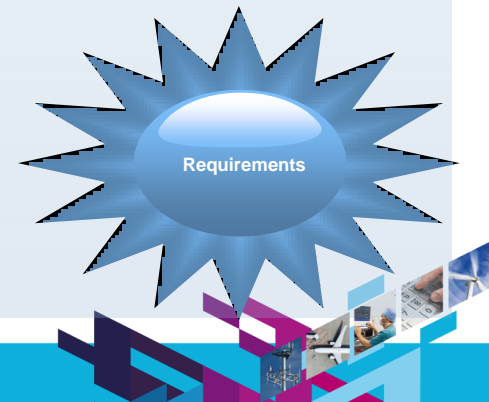
What's new in DOORS 9.3 and DOORS Web Access 1.4?

- What is "OSLC" ?

- Built in document generation

- Higher security demands

Future release schedule



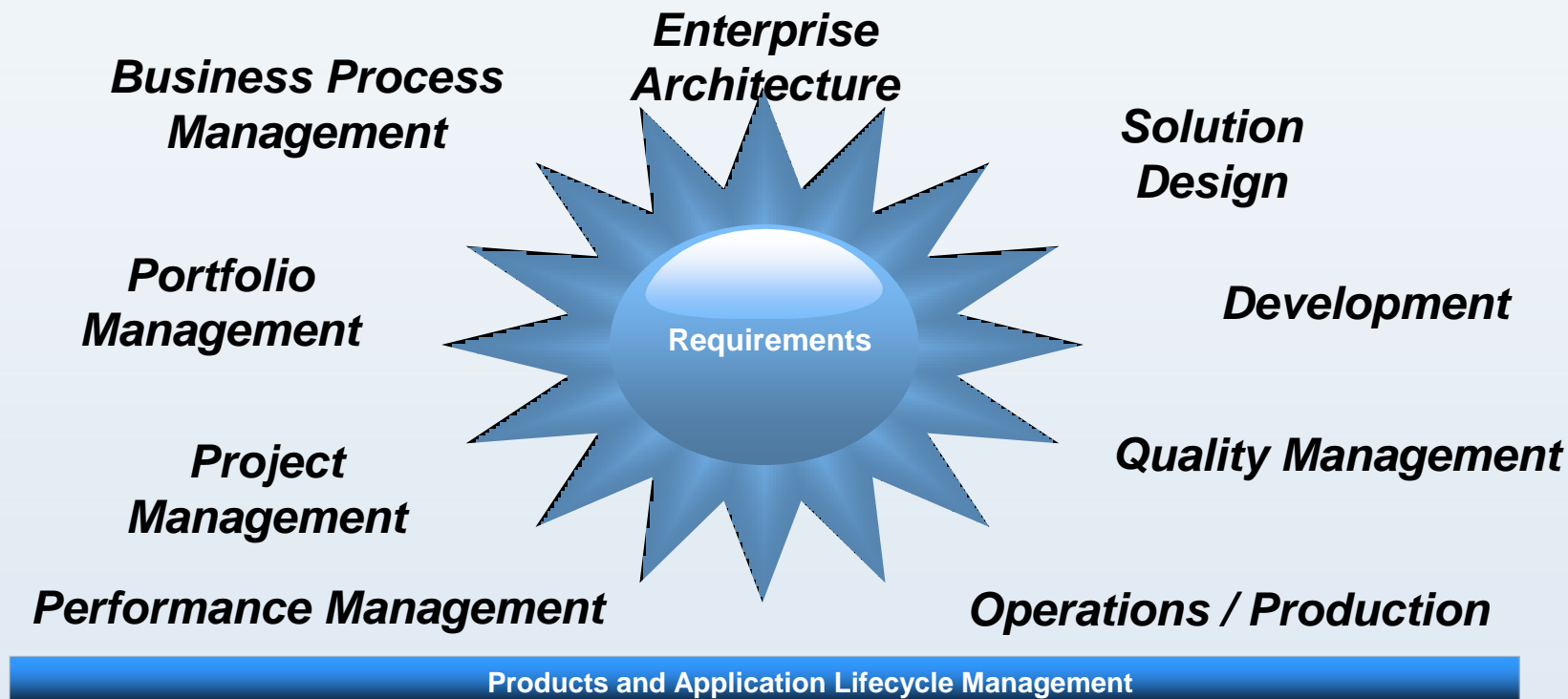
DISCLAIMER

Some aspects of this presentation represents future product direction. Plans are based on best information available and may change in future

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Requirements are everywhere and touch everything



The Rational RM Strategy

Deliver market-leading RM tools and practices

- *Relevant for all types of RM cultures, including engineering / compliance and market-driven*

Foster an RM ecosystem

- *Enable partners and customers to provide value-add capabilities on the requirements platform*

Innovate while protecting customer investments

- *Deliver next-gen capabilities in a common product family*
- *Enable adoption by supporting backward compatibility and providing smooth migration paths*

Do all this using *jazz* services and philosophy

- Jazz is a platform for transforming software and systems delivery
- Service-oriented tools with loosely-coupled integrations making mashups and cross-product workflows more productive and flexible than ever



Jazz provides a foundation for the development Lifecycle



Our vision of the Requirements Management Market

Engineering & Compliance Culture

“Have we missed anything?”

- *Better quality and productivity through effective requirements management*
- *Improve use of models in your requirements*
- *Employ better version and variant measurement across the lifecycle*

Market-driven Culture

“Must get this out fast with high quality.”

- *Work across silos and boundaries as one team*
- *Rapidly adjust to changing project requirements*
- *Combine requirements definition & management for high productivity tools and teams*

ALM Minimalist Culture

“We use our main tools for requirements, as well.”

- *Relate requirements to project milestones and work items*
- *Agile teams can review & approve requirements quickly, and as needed*
- *Report on requirements, development and test items in real-time*

Take advantage of Requirements Management offerings powered by Jazz, and lifecycle integrations via Open Services for Lifecycle Collaboration (OSLC)



Addressing various cultures and needs for requirements management

Engineering & Compliance Culture

"Have we missed anything?"

Rational DOORS

Market-driven Culture

"Must get this out fast with high quality."

Rational RequisitePro

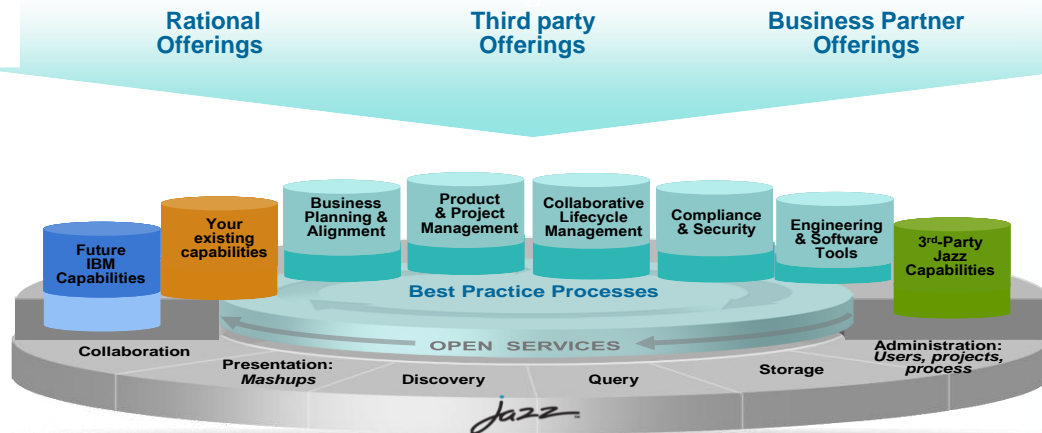
Rational Requirements Composer

ALM Minimalist Culture

"We use our main tools for requirements, as well."



Requirements solutions are part of a bigger vision



Jazz is a platform for *transforming how people work together* to deliver greater value and performance from their investments in software and systems delivery

Jazz is...

- Our vision of the future of systems and software delivery
- A scalable, extensible team collaboration platform
- An integration architecture enabling mashups and non-Jazz products to participate
- A community at Jazz.net where Jazz products are built



**Open Services
for Lifecycle
Collaboration**

Open interfaces. Open possibilities.
open-services.net



Proposed Long Term Product Portfolio

RRC

For Market-Driven Cultures



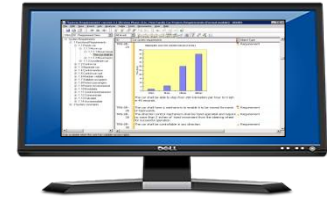
Web Client

DOORS Next

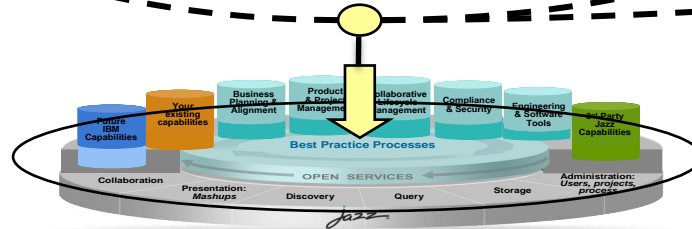
For Engineering/Compliance Cultures



Web Client



DOORS



Some goals

- *Interoperability between the products – including shared data and requirements reuse*
- *Both products can use the same server and database simultaneously*
- *Support multiple project cultures with one installation*



2011 Requirements Composer



2010

2011

2012+

Requirements Composer Next

- ▶ Web based, Business Analyst solution for market driven cultures
- ▶ Providing definition and management capabilities
- ▶ Requirements, Traceability, Schema, Diagramming, Analysis, Review and more
- ▶ Collaborative Lifecycle Management scenarios using work items or test planning
- ▶ Common requirements server
- ▶ Next-g

First direct migration target for RequisitePro users



2011 Enhancements: DOORS Next



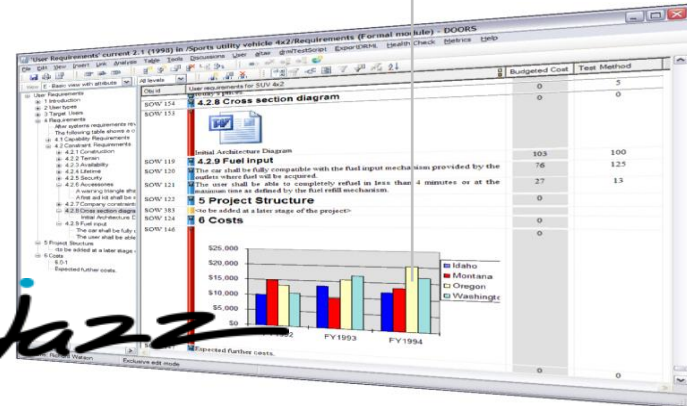
2010

2011

2012+

DOORS Next Extended Beta

- ▶ Hosting DOORS on common requirement server
 - ▶ Commercial database support
 - ▶ Performance, resilience, and availability focus
- ▶ Requirements interoperability with other Jazz products
 - ▶ Requirements sharing with RTC, RQM, RSA, etc.
- ▶ Shared components between RM products
 - ▶ Project level attribute/types management
 - ▶ Dashboard viewlets
 - ▶ Collaboration
 - ▶ Requirements reuse and workflow
 - ▶ Common reporting components



Continuing to evolve and grow IBM Rational partner solutions for requirements

Ready for
IBM Rational
software

RAVENFLOW

Validate business requirements visually for desired outcome

iRise

VISUALIZE. INNOVATE. DELIVER.

Eliminate project risk with visual requirements definition through simulation



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

Provides **BigLever** support for requirements, models, code, and tests

BigLever

SOFTWARE, INC.

Rational Requirements Management Portfolio



Maximize productivity and effectiveness of DOORS users through enhanced traceability



ENABLING PROJECT-MANAGEMENT EXCELLENCE

Provide seamless connectivity between DOORS & project management systems

LDRA

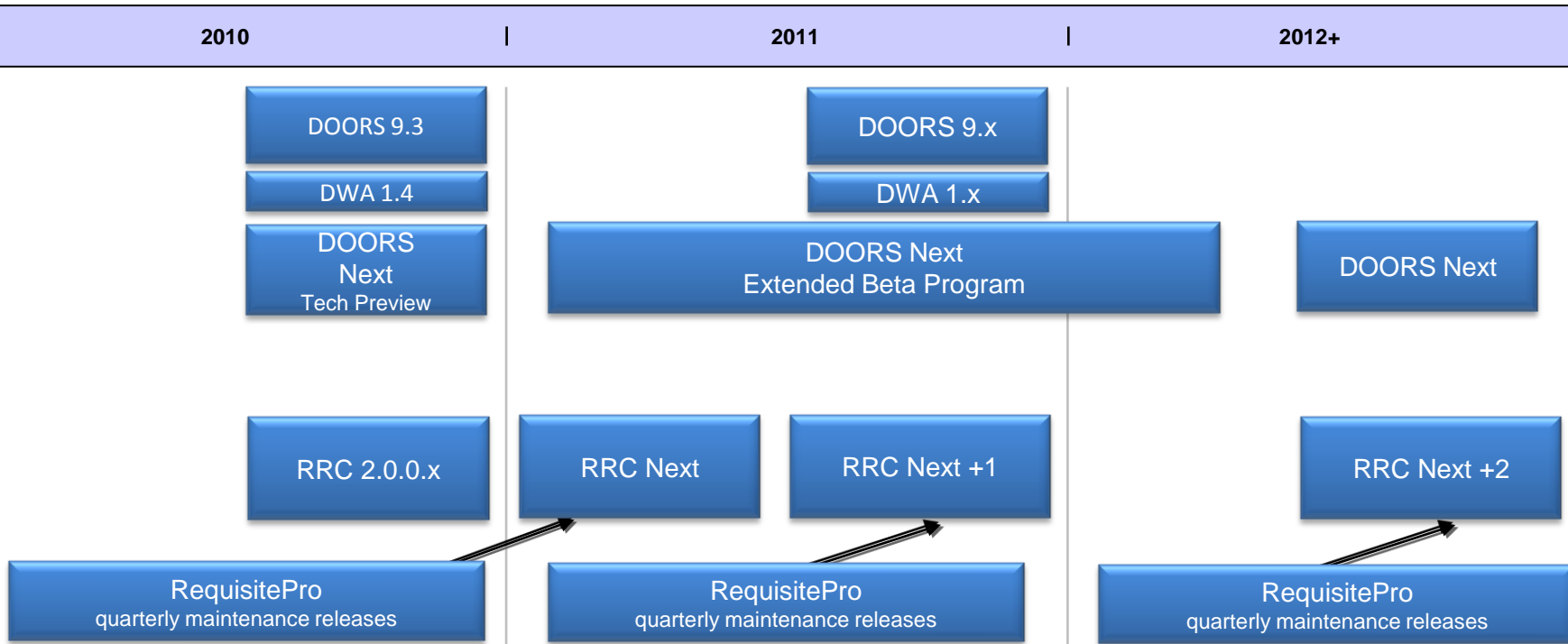
Provides traceability from DOORS to real time tests



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



RM Roadmap



➔ = Migration path
DWA = DOORS Web Access
RRC = Rational Requirements Composer



History of DOORS releases

Release and support matrix

Do you have an upgrade plan for DOORS?
Keep an active plan for upgrading all products

DOORS releases

Typically released at least annually
Many older releases are now out of support

Reasons to upgrade

Product quality / performance
Minimize risk
Improved productivity for RM practices

Version	Released	End of support
DOORS 7.1	May-2004	YES
DOORS 8.0	Nov-2005	YES
DOORS 8.1	May-2006	YES
DOORS 8.2	May-2007	YES
DOORS 8.3	Nov-2007	25-Jan-2011
DOORS 9.0	July-2008	03-Nov-2010
DOORS 9.1	Nov-2008	Expected Nov-2013
DOORS 9.2	Jun-2009	Expected June-2014
DOORS 9.3	Sep-2010	Expected June-2015



2010 Enhancements:

DOORS and DOORS Web Access



2009

2010

2011+

September 2010: DOORS 9.3

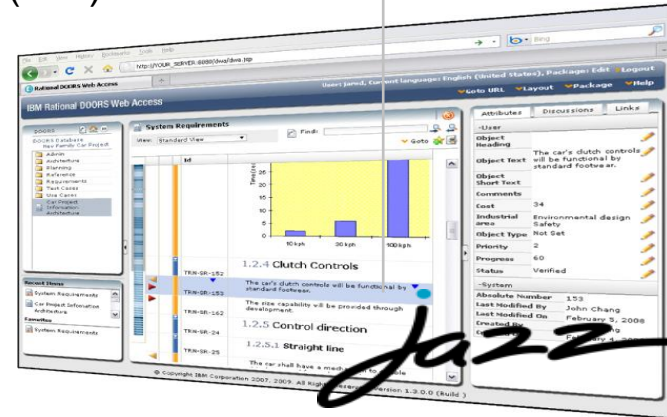
- ▶ RTC, ClearQuest, Change integrations using OSLC-RM and OSLC-CM
- ▶ Embedded document generation with common reporting components
- ▶ Additional translations: German, French, and Russian
- ▶ SSL communication with certificate based authentication (PKI)

September 2010: DOORS Web Access 1.4

- ▶ Enhanced filtering for improved analysis/review
- ▶ UI harmonization with IBM Rational Jazz clients

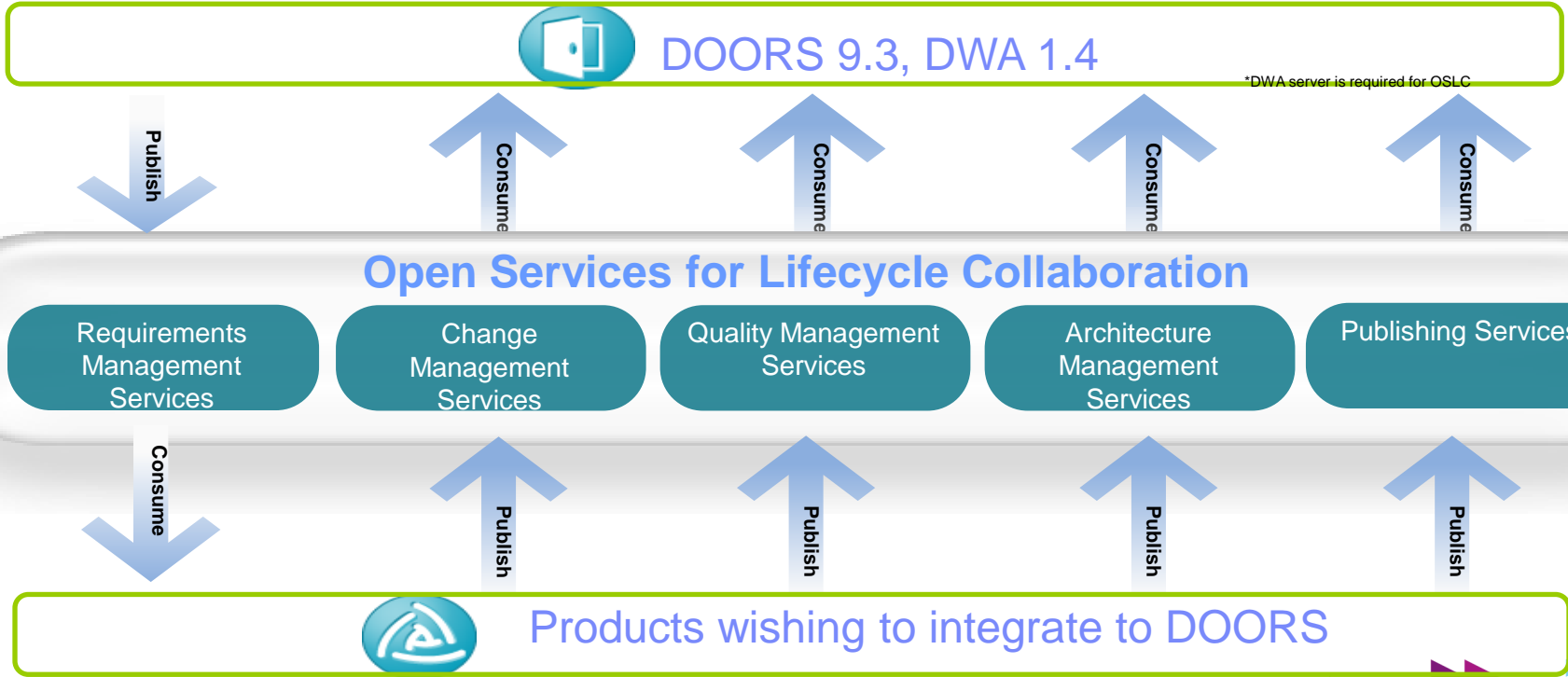
Q4 2010: DOORS Enterprise Technology Preview

- ▶ Common Jazz based requirement server
- ▶ COTS database



The future of integrations – “OSLC”

Producing a generic integration framework



Fundamentals before we delve deeper

A DWA server is required for OSLC

A DOORS license will be consumed where DWA licenses are not available

Partners and customers can make use of the RM OSLC services which we have published

Delegated User Interfaces are used to allow one application to display another

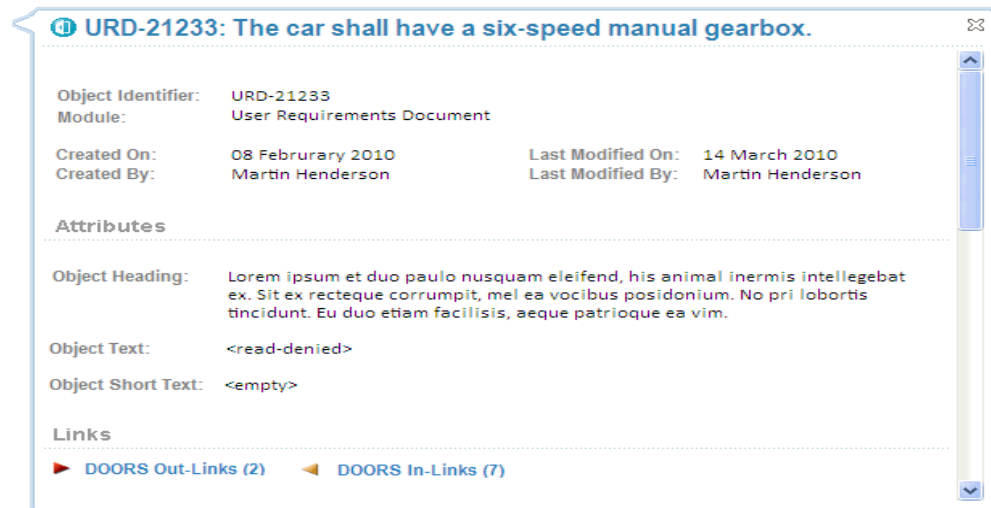
DOORS to display CM form to create a defect for example

Compact rendering to show information from other systems as link tooltips in DOORS



Rich Hover / Compact Rendering

A user integrating with OSLC to DOORS can use rich hover functionality to see the requirements information inside the other tool:



The screenshot shows a rich hover window for a requirement. The title bar reads "URD-21233: The car shall have a six-speed manual gearbox." The window contains the following information:

- Object Identifier:** URD-21233
- Module:** User Requirements Document
- Created On:** 08 February 2010
- Created By:** Martin Henderson
- Last Modified On:** 14 March 2010
- Last Modified By:** Martin Henderson

Attributes

- Object Heading:** Lorem ipsum et duo paulo nusquam eleifend, his animal inermis intellegebat ex. Sit ex recteque corrumpit, mel ea vocibus posidonium. No pri lobortis tincidunt. Eu duo etiam facilisis, aequo patrioque ea vim.
- Object Text:** <read-denied>
- Object Short Text:** <empty>

Links

- ▶ [DOORS Out-Links \(2\)](#)
- ◀ [DOORS In-Links \(7\)](#)

e.g. DOORS requirements being displayed inside of RTC



Rich Hover / Compact Rendering

A user integrating with OSLC from DOORS can use rich hover functionality to see information from the other system inside of DOORS:

Task 9326: Add alignment/snap-to guides

Status: ➔ Triaged

Resolution:

Summary: Add alignment/snap-to guides

Details

Type:	Task	Estimate:	
Filed Against:	RRC Client/Sketching/UI	Time Spent:	
Tags:	usability, ux3, ux2.0priority, ipscrub	Due Date:	Unassigned
Owned By:	Unassigned	Creation Date:	June 27, 2008 11:37 AM
Team Area:	Sketching & Text / Rational Requirements Composer	Created By:	Kirk Grotjohn
Priority:	Medium	Severity:	Normal
Planned For:	2.0 Release	Found In:	2.0 M2

Quick Information

Attachments (1): 2307 Subscribers (2): KG, RB

Related (1): 761 Mentions (1)

[Show More](#)

e.g. RTC task being displayed inside of DOORS



Generic CM integration

Offer integrations to Change, ClearQuest and RTC that have functional parity

- Convert existing DOORS-Change interface to be generic
- Develop to support OSLC as much as possible
- Supply as part of the DOORS install and offering

What do we get?

Requirement/Change Request traceability

Stakeholder requirements submission: Generation of draft requirements based on enhancements submitted through their Change Management system

Requirements driven development: Create implementation requests from requirements and monitor development progress alongside the requirements

Requirement defect tracking: Associate a defect with a requirement to investigate a possible change to the requirement

Requirements Change Management

Manage the change process of DOORS requirements



Products Supported by CM OSLC Integrations

Sept '10

Oct '10

End '10



DOORS 9.3

- ▶ Rational Change 5.2.0.4



DOORS 9.3

- ▶ Migration from DOORS-Change 5.7
- ▶ ClearQuest 7.1.2.0 (partial)



DOORS 9.3.0.1

- ▶ ClearQuest 7.1.2.1 (fully functional)
- ▶ Rational Team Concert 3.0

▪ New functionality included with DOORS 9.3

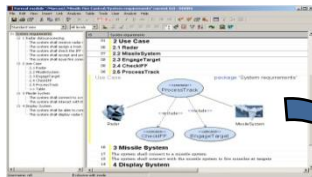
- ▶ Based on Change for DOORS Interface v5.7
- ▶ Modified to use OSLC 2.0

▪ DOORS Web Access 1.4 is required to review RCR changes from the CM tool



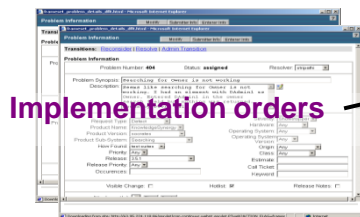
Requirement/Change Request traceability

1) DOORS

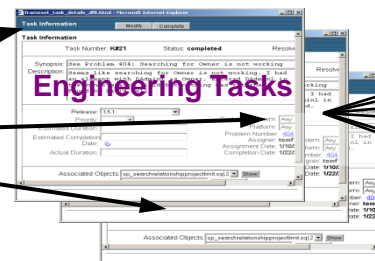


- Requirements link to implementation orders
- Defects to be associated with requirements to investigate changes

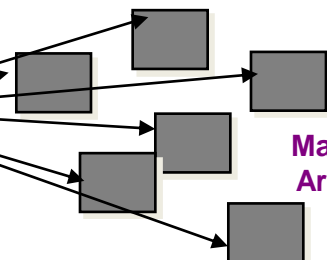
2) CM Tool



Implementation orders



Engineering Tasks



Managed Artifacts



Configuration/Change Management

Traceability of actual activities, not just data – better impact analyses

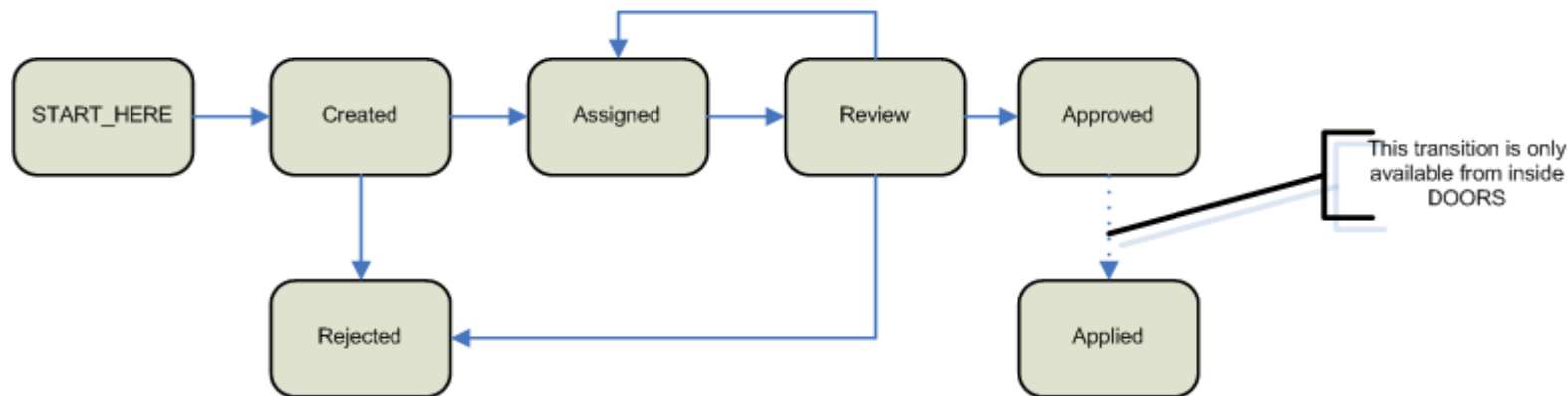


Requirements Change Management

Requirements Change Request lifecycle

Force changes to a DOORS module to go through a process in the CM tool

Requirements Change Request Lifecycle



Who would use Requirements Change Management?

Requirements Managers

As they enter or modify requirements, automatic generation of correlating RCRs

Requirements Reviewers

Automatic notification of outstanding requirements changes and full adoption into the review process before a requirement can be approved

Change Control Boards / Review Boards

Use CM interface to perform live reviews

Quickly query the system for all pending changes not yet approved

Accept or reject Changes live in the system during your meeting, progress the turnover of new requirement to your implementation teams

Release & Project Managers

Use Change's reporting capability to report on-demand the Requirements that have been submitted, approved, rejected or implemented in any release.



Enhanced built in document generation

Customer drivers

- Strong engineering need to have an electronic record of specifications

 - Without the need to install a formal systems engineering product such as DOORS

- Expectation that high quality document generation is part of a product out of the box

DOORS 9.3 provides an additional mechanism for document generation

- Built in addition to existing functions

- Support for Word, HTML and direct PDF generation

- Documents provided based on DOORS views

 - Continue to support both book and table layout templates

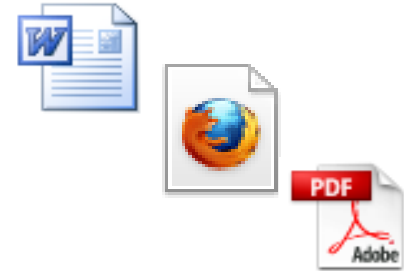
- Generated documents can be tailored for company needs

- Making use of common IBM technology

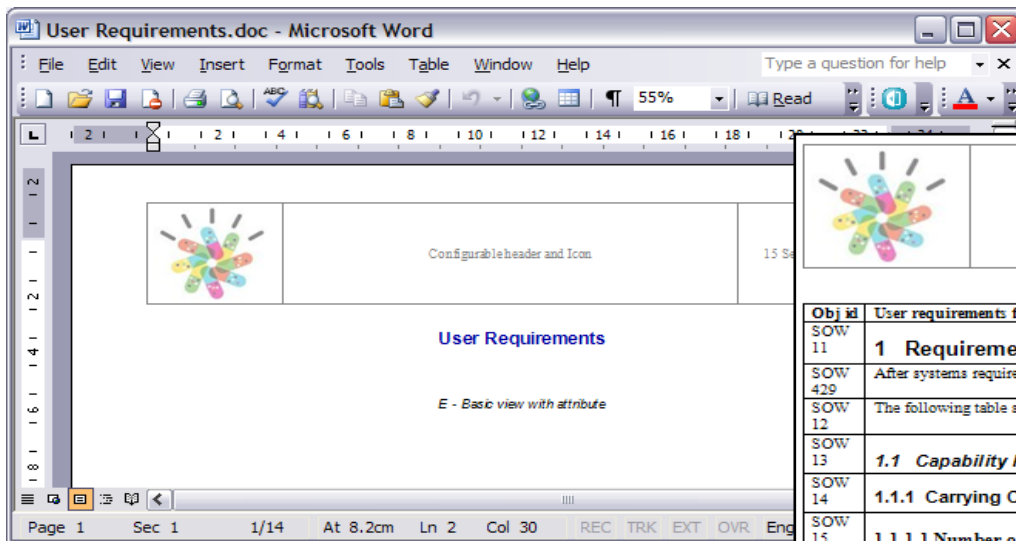
 - Can be upgraded to Rational Publishing Engine


 - For more configurability

 - Document generation across multiple tools or databases



Example document generation, Table layout



	Configurable header and Icon	15 September 2010
Obj id	User requirements for SUV 4x2	Test Method
SOW 11	1 Requirements	
SOW 429	After systems requirements review, all changes will be formal. No direct edits will be permitted.	No Verification Needed
SOW 12	The following table shows a count of priority types.	No Verification Needed
SOW 13	1.1 Capability Requirements	
SOW 14	1.1.1 Carrying Capacity	
SOW 15	1.1.1.1 Number of People	Test
SOW 17	Four average size adults shall be able to travel in comfort for a period of 3 hours. This level of comfort is defined as being equivalent to the standard of comfort provided by the top 40% of cars produced in 1999.	Analysis
SOW 18	The top level of cars are those in the price range \$20,000 to \$40,000 at 1999 prices.	Inspection
SOW 19	Five average size adults shall be able to travel in comfort for a period of 3 hours.....	Inspection
SOW 21	Users shall have easy entry and exit.	Demonstration
Page 4 of 14		Created by: IBM Rational DOORS 9.3
		/Sports utility vehicle 4x2/Requirements/User Requirements

Built with standard templates
Supporting Word, HTML and direct PDF

Responding to higher security demands on IT systems

Customer drivers

- Industry shift towards using more internet related technologies
- Higher demand over secure systems

What does DOORS 9.3 introduce?

1. Support for stronger security communication between DOORS product components
2. Log in to DOORS using digital keys
 - Built in keys provided by DOORS, or use your own company keys
 - Possible to use in conjunction with a “smart” cards
3. Protect DOORS deployments by governance over which DXL is executed



(1) Security between DOORS product components

Certificate based communications (PKI)

DOORS now provides support for SSL communications between client and server

Protocol used: Transport Layer Security (TLS) version 1.0

Benefits include

Data encryption offers trusted communication to protect against illegal hacking

Access to DOORS server is enforced to be through a DOORS interface

Support for several certification options to increase security

Certificates based on PKI technology

Out of the box certificates

Self signed certificates

Extended certificates



- Notes:
- In order to make use of TLS, IBM GSKIT must be used, supplied with DOORS install
 - PKI based security not currently supported with DWA



(2) Log in to DOORS using digital keys

Customer drivers

- Industry shift towards stronger authentication
- More and more secure information being stored within DOORS

What does DOORS 9.3 introduce?

- Support for authentication using “smart cards”
- Automatic log in to DOORS with your company ID card

Expected soon

- Authentication into DOORS using US DoD CAC cards



Notes:

- In order to make use of smart cards, IBM GSKIT must be used, supplied with DOORS install
- Smart card authentication not currently supported with DWA



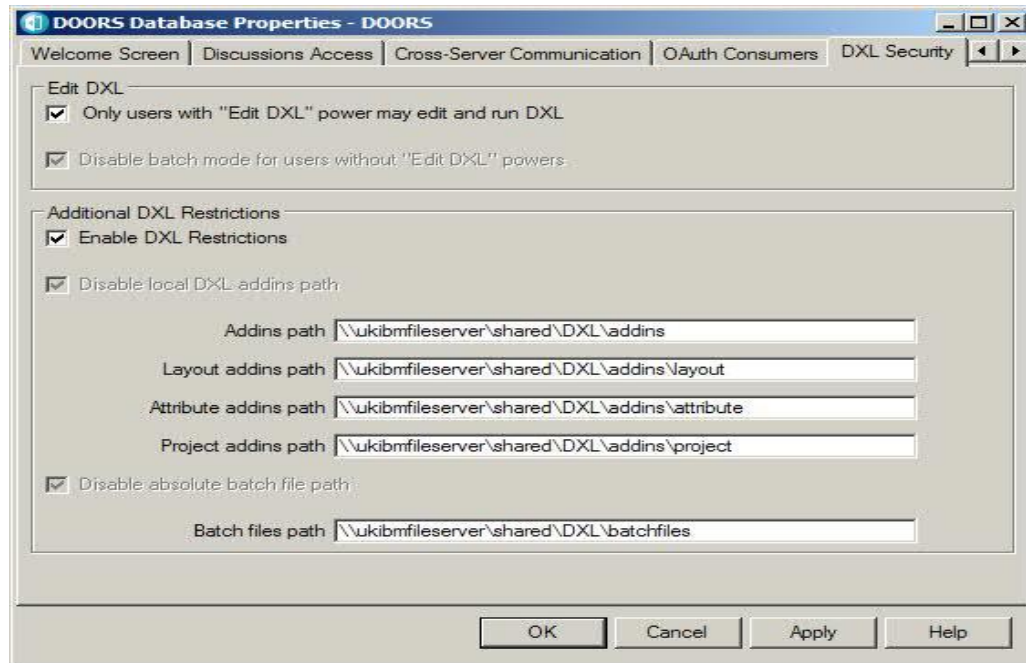
(3) Governance over which DXL is executed

Customer drivers

- Increased maintenance costs for tool maintenance
- Uncontrolled customizations lead to untested environments and inconsistent usage of DOORS

Control access to DXL by

- Limit execution of 'unsafe' DXL
- Govern project DXL is storage
 - Control who can provide company wide customizations



ID	1 Ausgangssituation und Zielsetzung
LH-5	3 Funktionale Anforderungen
LH-6	3.1 Auflösung
LH-7	Die Auflösung soll mehr als 10 Megapixel betragen.
LH-8	Die Kamera soll eine Auflösung von mehr als 2.045 x 1.536 Bildpunkte zulassen.
LH-9	Die Farbtiefe soll mindestens 24 Bit mit 16,7 Millionen Farben sein.
LH-10	Die Empfindlichkeit soll automatisch von ISO 100 - 400 reichen.
LH-11	Die Empfindlichkeit soll manuell eingestellt werden können.
LH-12	3.2 Speicherung
LH-13	Die Digitalkamera soll ein Wechselspeichermedium enthalten.
LH-14	Die Kamera soll die kompatibel zu CompactFlash Typ I, CompactFlash Typ II und Microdrive sein. Das Dateiformat soll JPEG (.jpg) oder ein unkomprimiertes Format sein.
LH-15	3.3 Gehäuse
LH-16	Das Gehäuse soll robust sein.
LH-17	Die Kamera soll ein Display auf der Kamerarückseite haben.
LH-18	Die Kamera soll auf einem Fotostativ befestigt werden können.
LH-19	

Simplified Chinese

Japanese

French

Russian

German

- Menus
- Tool Tips
- Help
- Welcome Page



Eclipse based Help System

Improved searching

Search within topics

Intuitively manage bookmarks

Improved navigation

Stronger printing

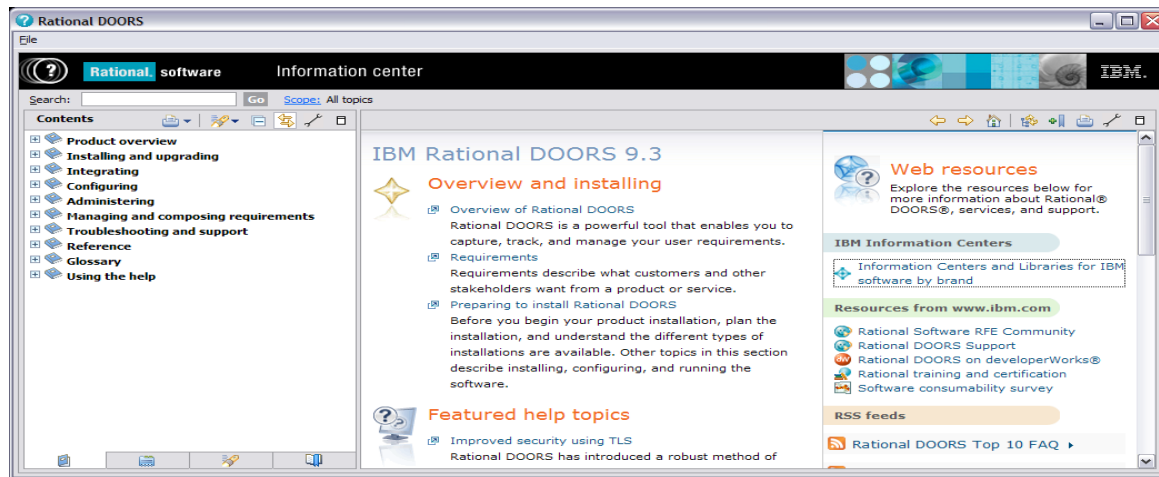
View in an external browser

Access from IBM support site

“Info centre”

Submit feedback on content

Links to IBM resources, Support, Training, etc.



Changes to Licensing Mechanism

Customer Drivers

- Difficult to process purchase orders for DWA but still want web based access to DOORS requirements
- Wish to integrate to DOORS via OSLC but don't want to be forced to purchase additional licenses

Summary

- DOORS 9.3 provides licensing on a per installation basis. Each computer running DOORS can run as many instances of DOORS with a single license
 - Excludes Citrix or Microsoft Terminal server
- DOORS Web Access supports two different “user roles”, Review and Edit

Differences for DOORS Web Access 1.4

- DWA now able to consume a full DOORS license where no DWA license is found
- Needed where RM OSLC is being used to select or view requirements from systems integrating to DOORS



DOORS Web Access 1.4

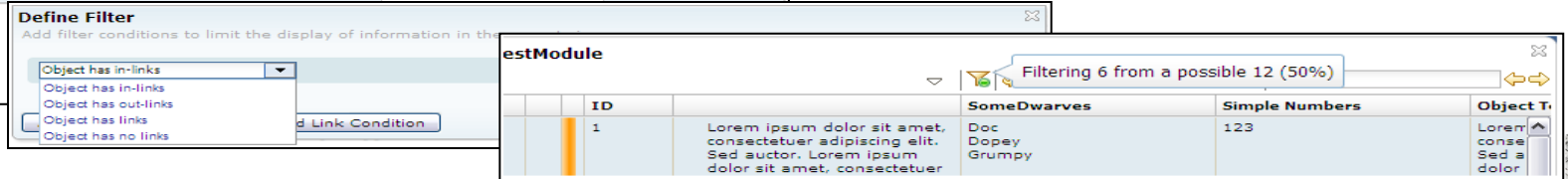
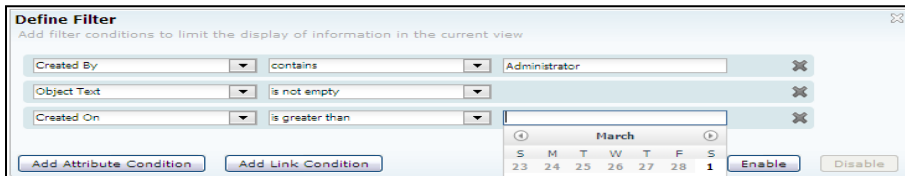
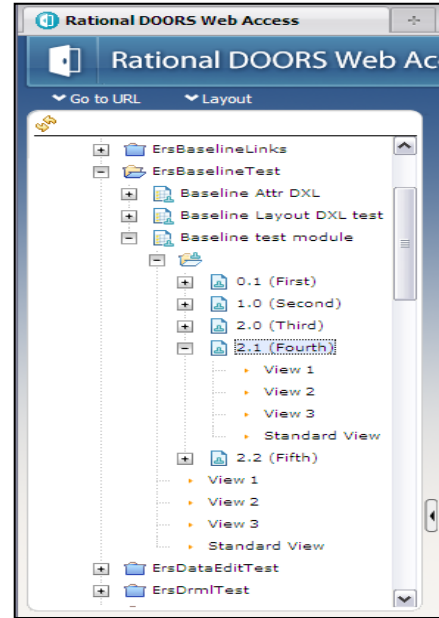
Provision of RM OSLC services through DWA server

Improved look and feel

Possible to “browse” to DOORS module baselines and module views

Filtering

Extended review capability to filter module views based on attribute value and link criteria



Questions



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www.ibm.com/software/rational

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