



IBM Software Group

IBM Rational DOORS

Jazz and OSLC

Morgan Brown
Rational Offering, Strategy and Delivery

Rational. software

[→ Go to IBM](#)



Innovation for a smarter planet

© 2010 IBM Corporation

DISCLAIMER

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

© Copyright IBM Corporation 2011. All rights reserved. These materials are intended solely to outline our general product direction and should not be relied on in making a purchasing decision. Information pertaining to new product is for informational purposes only, is not a commitment, promise, or legal obligation to deliver any material, code or functionality, and may not be incorporated into any contract. The development, release, and timing of any features or functionality described for our products remains at our sole discretion. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM products. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.



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	YES
DOORS 9.1	Nov-2008	Expected Nov-2013
DOORS 9.2	Jun-2009	Expected June-2014
DOORS 9.3	Sep-2010	Expected June-2015



Recent Improvements in RM Integrations

A reminder

2009

2010

2011+



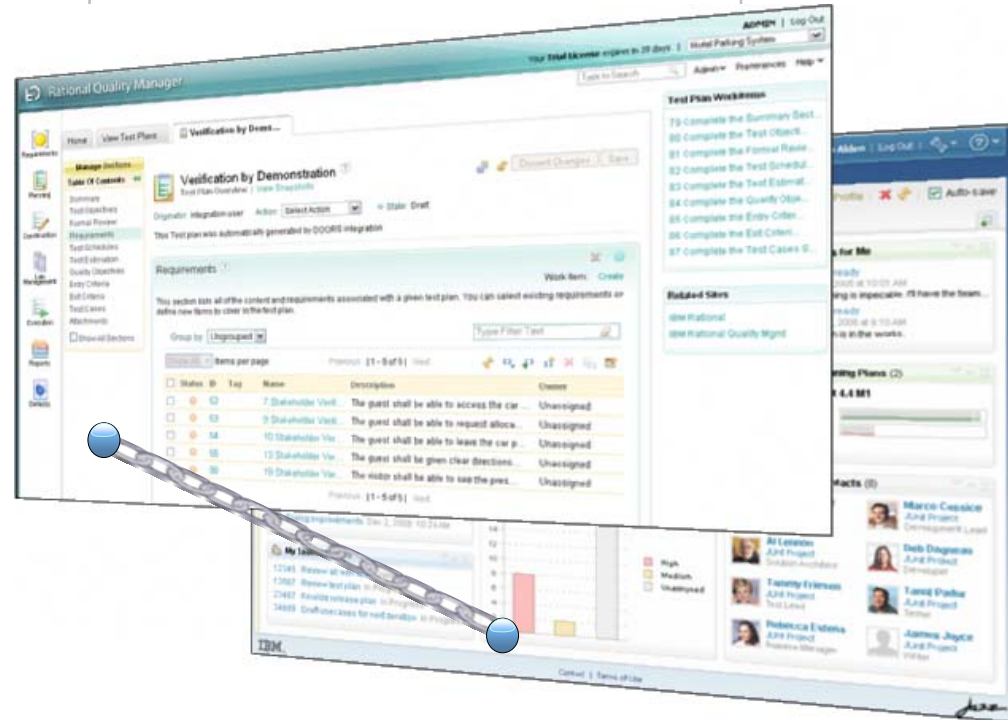
DOORS 9.2

- ▶ Rational Quality Manager v2.0 (pictured)
- ▶ RRC v2.0
- ▶ Rational Insight using RIF exports
- ▶ HP QualityCenter v10



RRC 2.0

- ▶ DOORS 9.2
- ▶ RequisitePro
- ▶ Rational Software Modeller
- ▶ Rational Software Architect
- ▶ CALM 2009 (with RTC/RQM)



2010 Enhancements: DOORS and DOORS Web Access



2010

2011

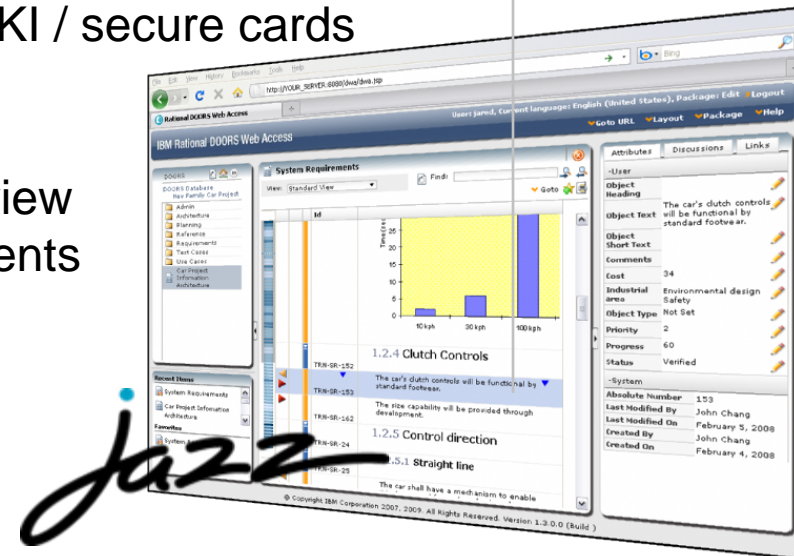
2012+

DOORS 9.3

- ▶ Rational Change integration using OSLC-RM and OSLC-CM (*RTC, ClearQuest, Change*)
- ▶ Better embedded document generation with common reporting components
- ▶ Additional translations: German, French, and Russian
- ▶ Improved client/server security with SSL / PKI / secure cards

DOORS Web Access 1.4

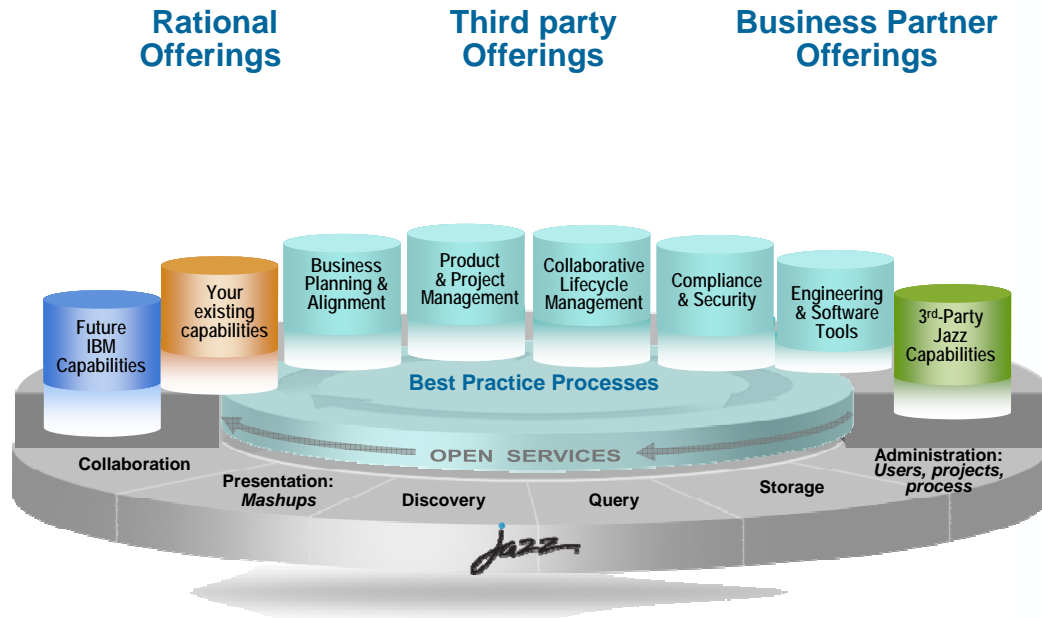
- ▶ Enhanced filtering for improved analysis/review
- ▶ UI harmonization with IBM Rational Jazz clients



jazz



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



Defining what “Jazz” means

- Jazz is IBM’s initiative for improving systems & software lifecycle integration
- This initiative consists of three elements:
 - ▶ An open **architecture** for lifecycle tool integration
 - ▶ An open **community** working together to integrate and develop lifecycle tools
 - ▶ A catalog of **products** that support the Jazz architecture

Architecture

- **Specifications for linking lifecycle tool data (OSLC)**
- **Integration services & protocols for implementing common lifecycle patterns (Jazz platform)**

Community

- **Jazz.net – A place where stakeholders collaborate**
- **Enables transparent development of Jazz architecture and products**

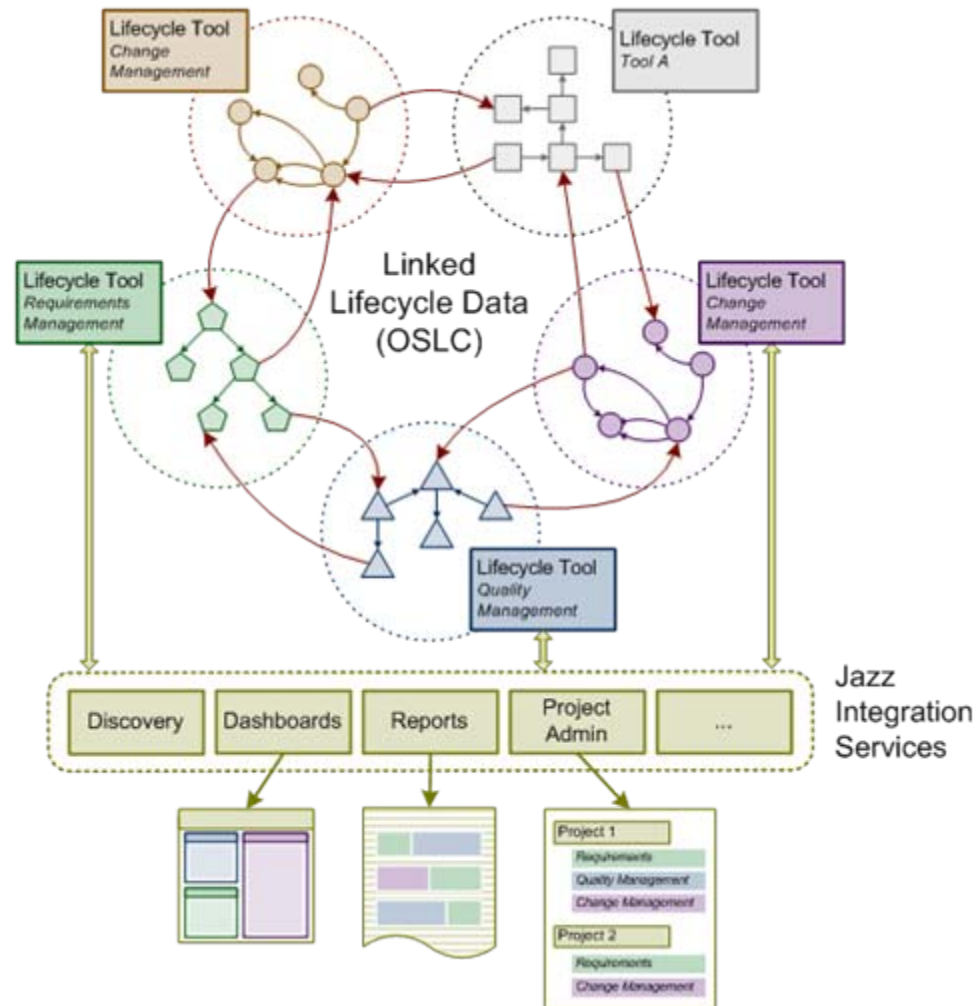
Products

- **Lifecycle tools that support the Jazz architecture**
- **Developed transparently in the view of the Jazz community**



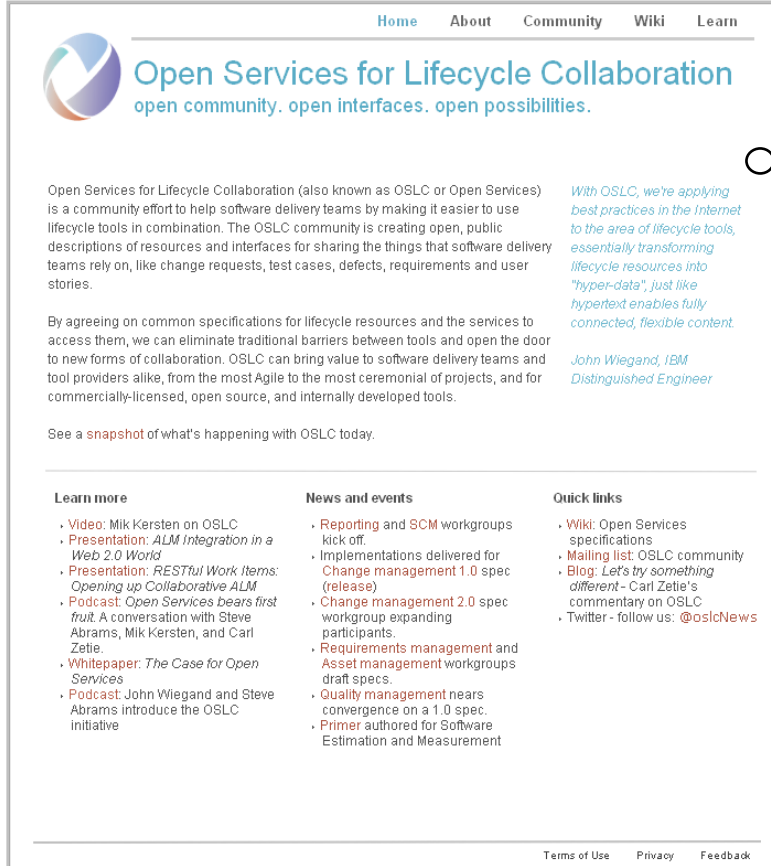
The Jazz Architecture: An open architecture for lifecycle tool integration

- ▶ **Built for the 21st century:** designed using Web architectural principles, implemented with Web technologies
- ▶ **Realistic:** recognizes that customers will not replace their current investments wholesale
- ▶ **Pragmatic:** allows tools and services to be upgraded independently, without sacrificing rich integration
- ▶ **Open:** supports the requirement to have a variety of tools from different sources



Open Services for Lifecycle Collaboration

Community specifications for lifecycle integration



The screenshot shows the homepage of the Open Services for Lifecycle Collaboration (OSLC) website. At the top, there is a navigation bar with links for Home, About, Community, Wiki, and Learn. The main header features the OSLC logo and the text "Open Services for Lifecycle Collaboration" followed by the tagline "open community. open interfaces. open possibilities." Below this, there is a paragraph explaining that OSLC is a community effort to help software delivery teams by making it easier to use lifecycle tools in combination. It mentions that the OSLC community is creating open, public descriptions of resources and interfaces for sharing the things that software delivery teams rely on, such as change requests, test cases, defects, requirements, and user stories. A quote from John Wiegand, IBM Distinguished Engineer, is included: "With OSLC, we're applying best practices in the Internet to the area of lifecycle tools, essentially transforming lifecycle resources into 'hyper-data', just like hypertext enables fully connected, flexible content." Below the quote, it says "See a snapshot of what's happening with OSLC today." The page is divided into three columns: "Learn more" with links to video, presentation, and podcast; "News and events" with links to reporting and SCM workgroups, change management 1.0 spec, change management 2.0 spec, requirements management and asset management workgroups, and quality management; and "Quick links" with links to Wiki, mailing list, and blog. At the bottom, there are links for Terms of Use, Privacy, and Feedback.

Suppose tools exposed their data in a consistent way?

- Industry initiative proposed by IBM in June 2008 based on things learned from Jazz. Became operational in Dec 2008.
- Open community of individuals interested in improving lifecycle integration. Goals:
 1. Make life better for software delivery teams by easing the way tools can be used in combination
 2. Reduce the complexity and cost for tool providers in integrating tools together
 3. Open up new possibilities in the marketplace by opening up the way lifecycle tools and data can be used in ALM and outside of ALM
- Creating open, public specifications that describe resources and interfaces for sharing the things that software delivery teams rely on.

Please visit www.open-services.net



Open Services for Lifecycle Collaboration

An initiative aimed at simplifying tool integration across the software delivery lifecycle

Open Services for Lifecycle Collaboration

Barriers to sharing resources and assets across the software lifecycle

- ▶ Multiple vendors, open source projects, and in-house tools
- ▶ Private vocabularies, formats and stores
- ▶ Entanglement of tools with their data

- ▶ Community Driven
 - ▶ specified at **open-services.net**
- ▶ Specifications for ALM Interoperability
- ▶ Inspired by Internet architecture
 - Loosely coupled integration with “just enough” standardization
 - Common resource formats and services
- ▶ A different approach to industry-wide proliferation

Please visit www.open-services.net



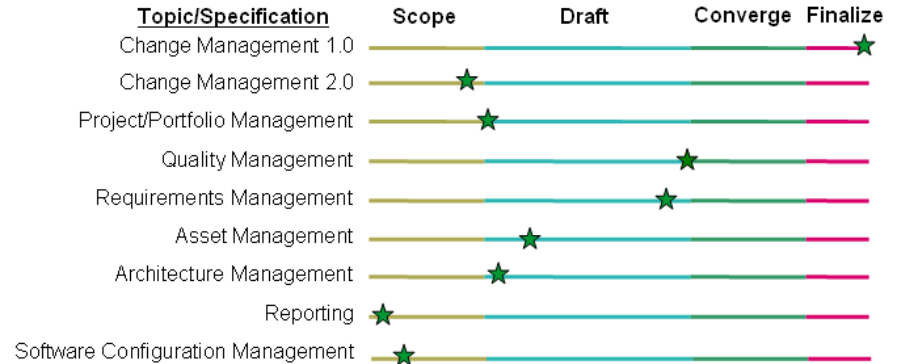
OSLC @ open-services.net

■ Eight workgroups formed

- ▶ Change Management 1.0, QM 1.0, and RM 1.0 specs complete
- ▶ AM, Asset, Reporting, SCM - 2Q10
- ▶ Estimation – 3Q10
- ▶ 2.0 specs for CM, QM, RM timed for 1Q/2Q10

■ Community

- ▶ 175+ registered community members
- ▶ Workgroups have individuals from 25+ different companies
- ▶ Integrators, ISVs, industrial, open source, consultants
- ▶ Mix of IT and Systems participants



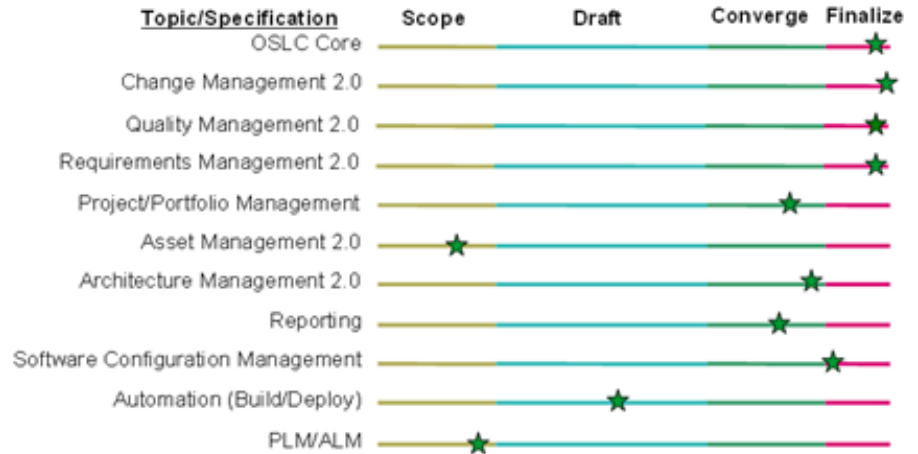
Accenture	Oracle
APG	QSM
BigLever	Rally Software
Black Duck	Ravenflow
BSD Group	Shell
Citigroup	Siemens
EADS	Sogeti
Emphasys Group	SourceGear/Teamprise
Galorath	State Street
IBM	Tasktop (Eclipse Mylyn)
Institut TELECOM	Tieto
Integrate Systems	UrbanCode
Northrop Grumman	WebLayers



OSLC Community

- Eleven workgroups operating at open-services.net
 - ▶ Domain focused workgroups (e.g. CM, QM, RM)
 - ▶ Common issues and patterns (Core)
 - ▶ Solution oriented workgroups (e.g. PLM/ALM)

- Range of interests, expertise, involvement
 - ▶ ~400 registered community members (up from 70 people at RSC 2009)
 - ▶ Individuals from ~40 different companies have participated in OSLC workgroups (up from 5 companies at RSC 2009)

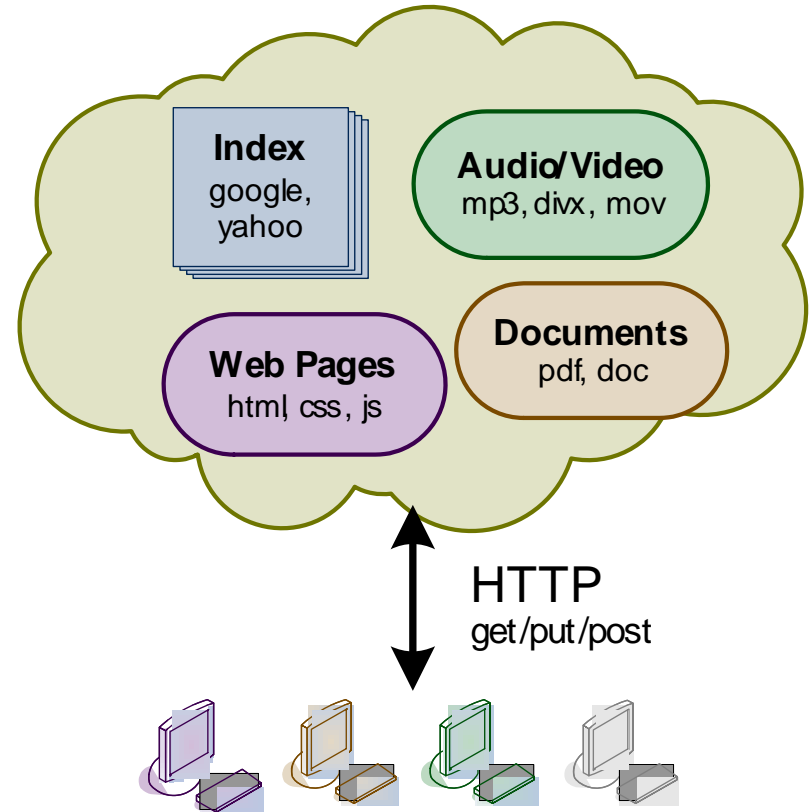


- | | |
|---------------------------|----------------------------|
| Accenture | Lender Processing Services |
| APG | Northrop Grumman |
| Black Duck | Oracle |
| Boeing | QSM |
| BSD Group | Rally Software |
| Citigroup | Ravenflow |
| EADS | Shell |
| Emphasys Group | Siemens |
| Empulsys | Sogeti |
| Fokus Fraunhofer | SourceGear/Teamprise |
| Galorath | State Street |
| General Motors | Tasktop (Eclipse Mylyn) |
| Health Care Services Corp | Thales |
| IBM | Tieto |
| Institut TELECOM | TOPIC Embedded Systems |
| Integrate Systems | UrbanCode |
| | WebLayers |



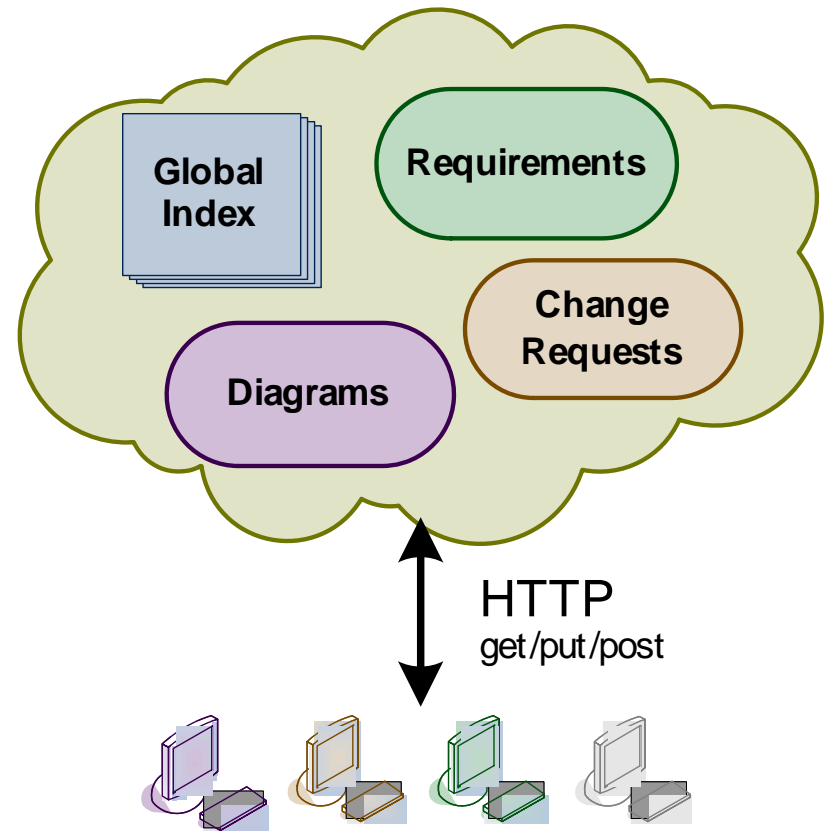
The Internet – an inspiration for an architecture

- Amazingly scalable
- Integrates information on a massive scale
- Infinitely extensible
- Open
- Collaboration on unprecedented scale
- World-wide information visibility



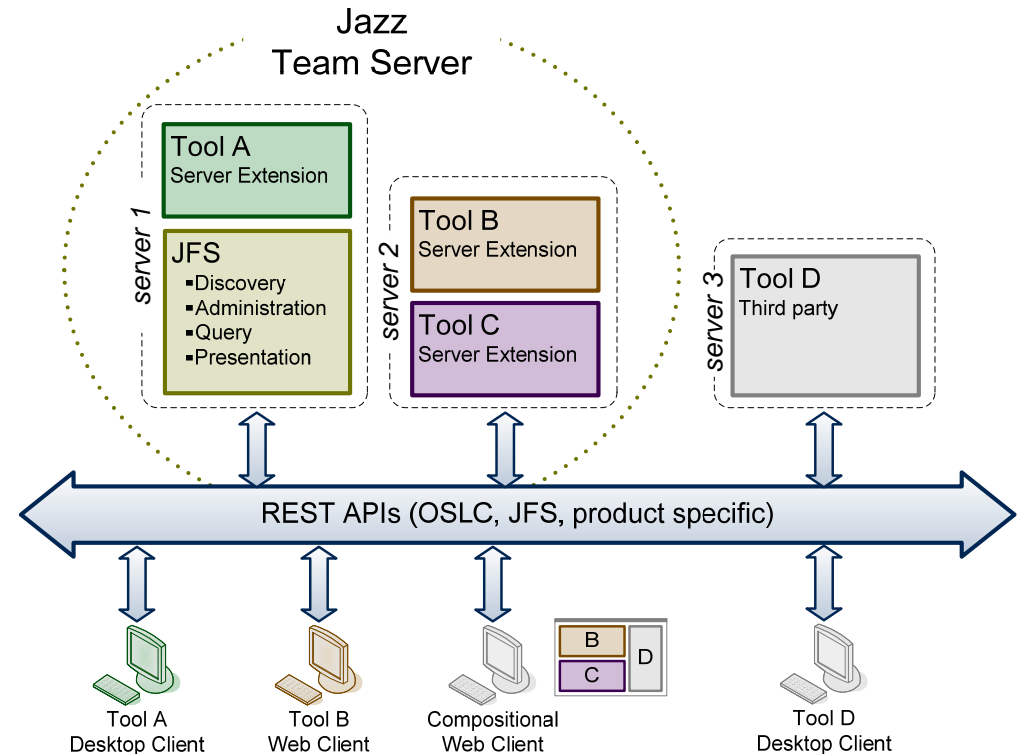
What does this mean?

- All data are resources with URLs
- Resources have representations
- Representations are specified independently of tools
- Links are embedded URLs
- Tools (multiple) access data through HTTP get/put/post/delete
- Unprecedented extensibility



Jazz: An Architecture for Application Integration

- Jazz tools implement the Open Services for Life-cycle Collaboration (OSLC) specification.
 - ▶ Each tool offers a set of domain-specific, language-neutral, internet-based REST services for accessing the data it maintains
- Jazz Integration Architecture (JIA) extends OSLC to integrate tools further
 - ▶ JIA defines Jazz Foundation Services
 - Storage, Administration, Composite user interface, Query, ...
- Jazz architecture may be adopted selectively and incrementally
- Jazz Team Server – An implementation of Jazz Foundation Services



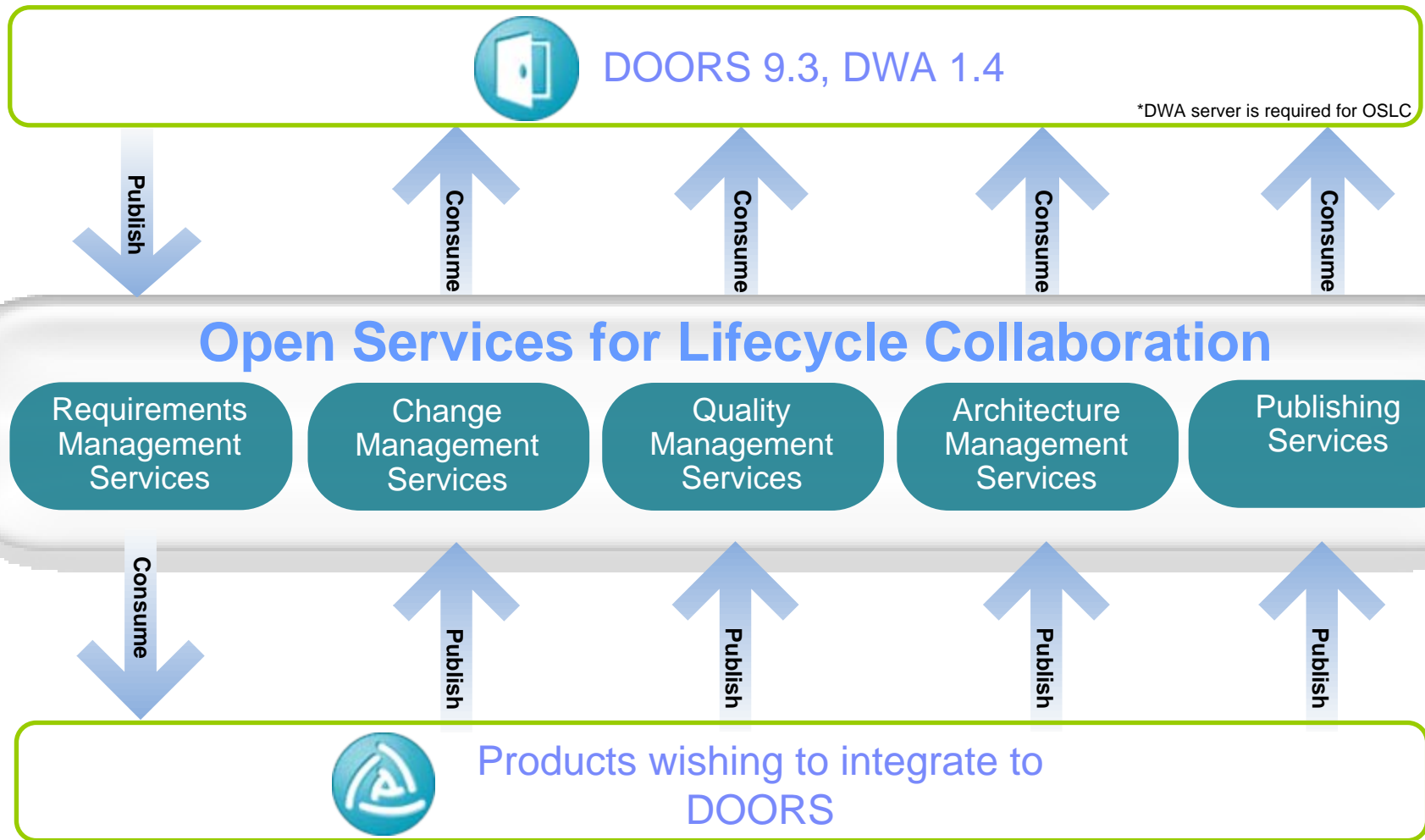
Fundamentals before we delve deeper

- 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



The future of integrations – “OSLC”

Producing a generic integration framework



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:

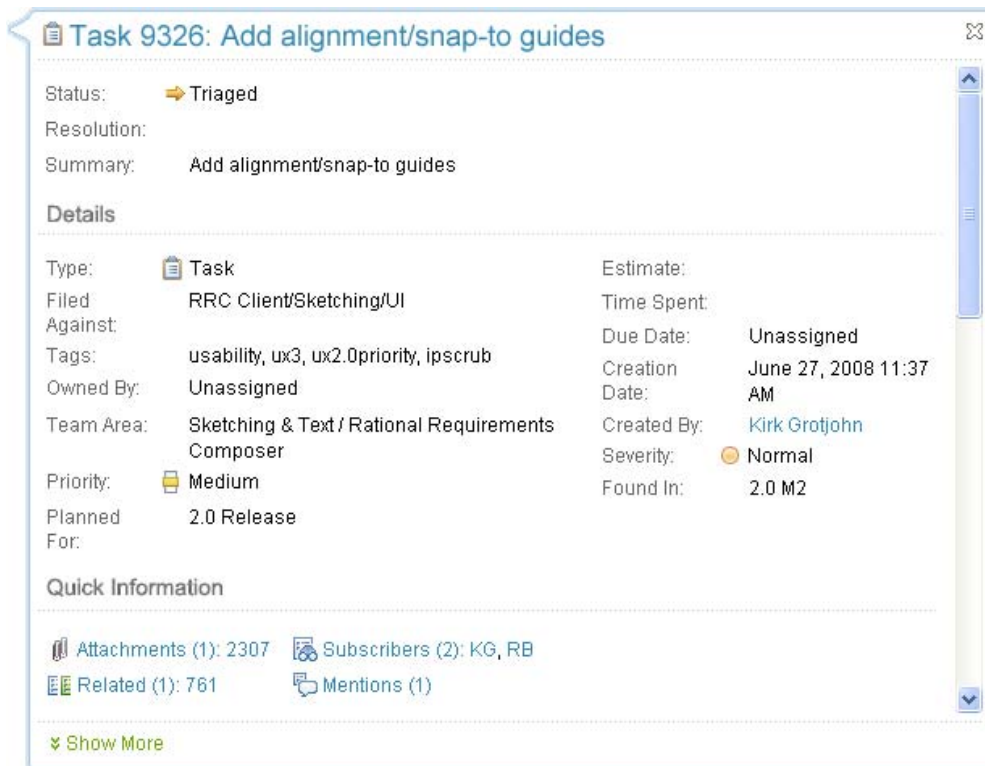
The screenshot shows a rich hover tooltip for a requirement object. The tooltip has a title bar with the text "URD-21233: The car shall have a six-speed manual gearbox." and a close button. Below the title bar, the tooltip is divided into several sections:

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

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

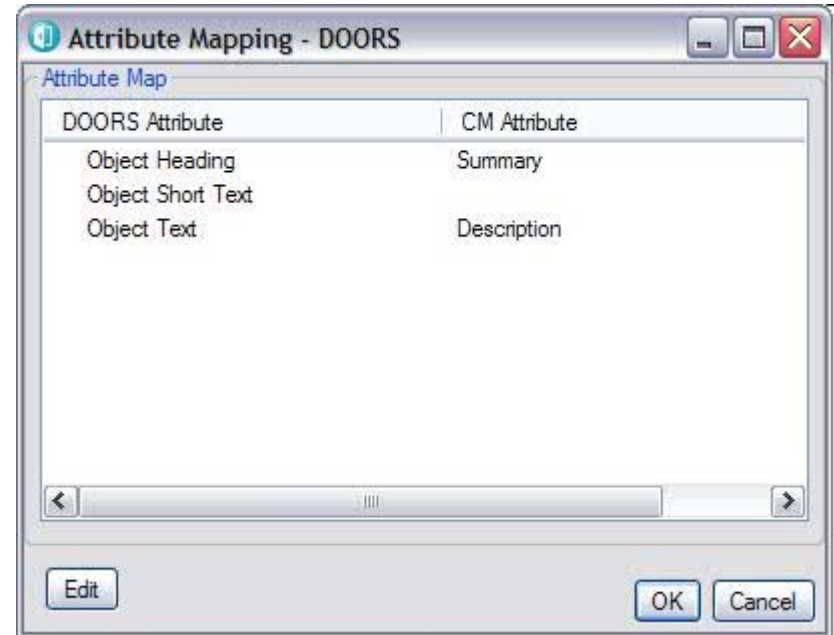
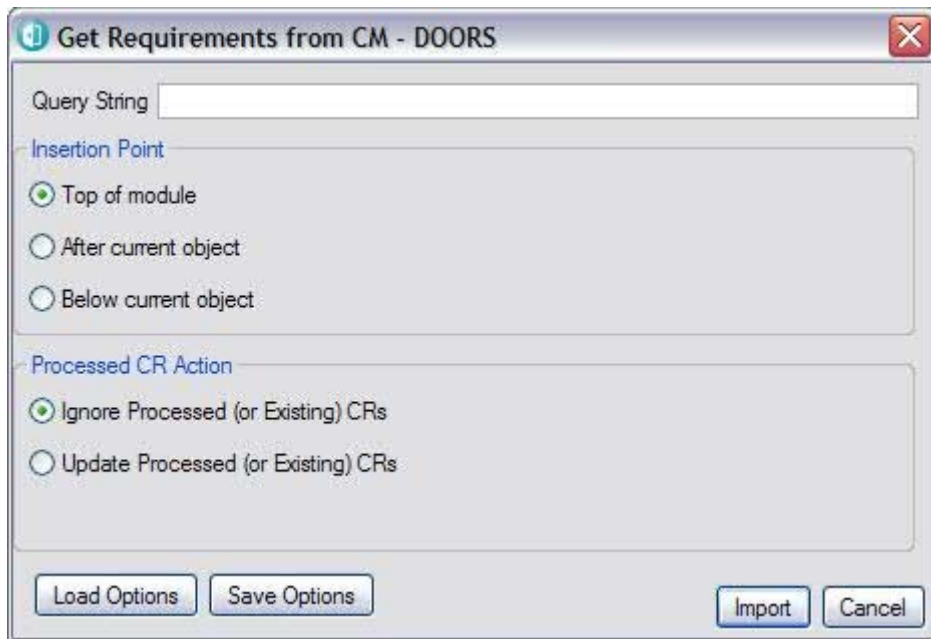
- New functionality included with DOORS 9.3
 - ▶ Based on Change for DOORS Interface v5.7
 - ▶ Modified to use OSLC 2.0

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



Requirements Gathering

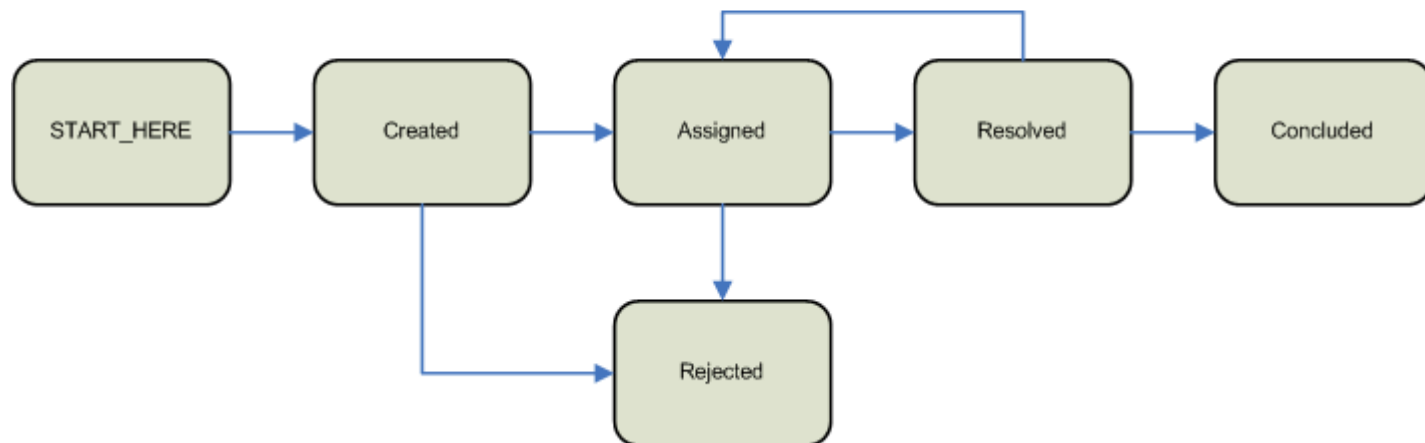
- Allows you to import change requests/work items into DOORS to use as the basis for a new module
- Will work with any lifecycle/process/schema



Requirements Implementation

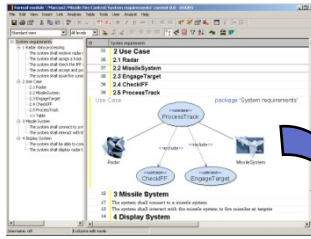
- Uses any lifecycle defined in CQ, RTC, or Change
- Provides traceability from requirements to change request/work item to code
- Sample lifecycle provided with Change

Requirements Implementation Lifecycle



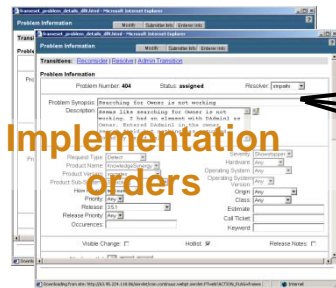
Requirement/Change Request traceability

1) DOORS



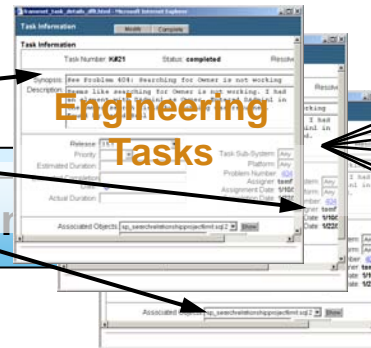
- Requirements link to implementation orders
- Defects to be associated with requirements to investigate changes

2) CM Tool



Implementation orders

Configuration/Change



Engineering Tasks

Managed Artifacts

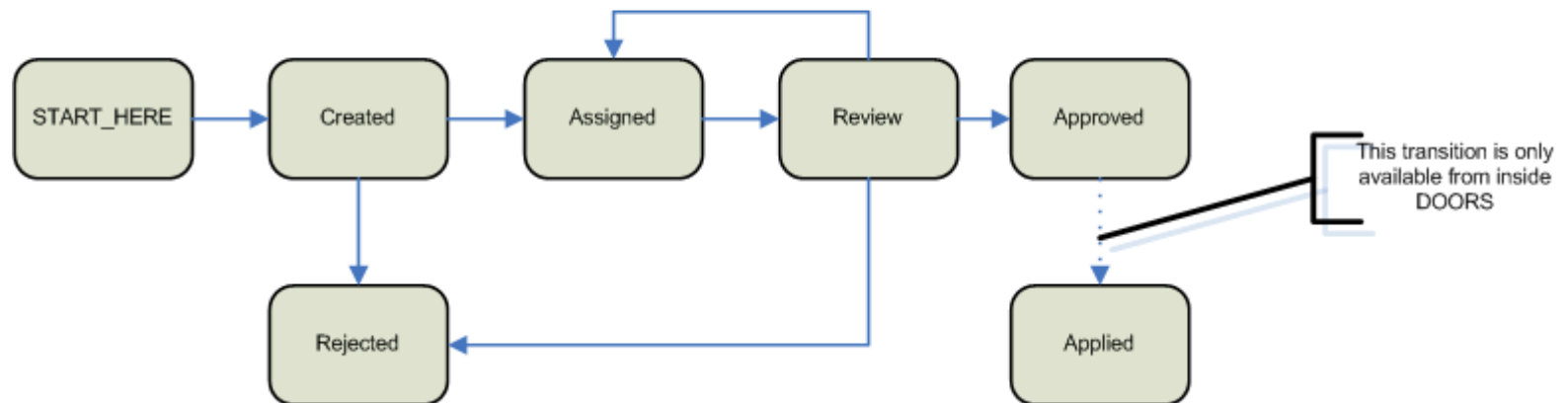
Traceability of actual activities, not just data – better impact analyses



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.





Thank You

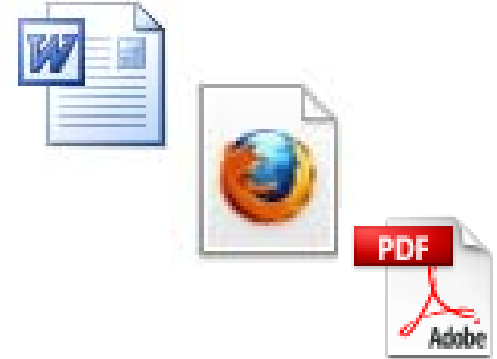
www.ibm.com/software/rational

© Copyright IBM Corporation 2011. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.

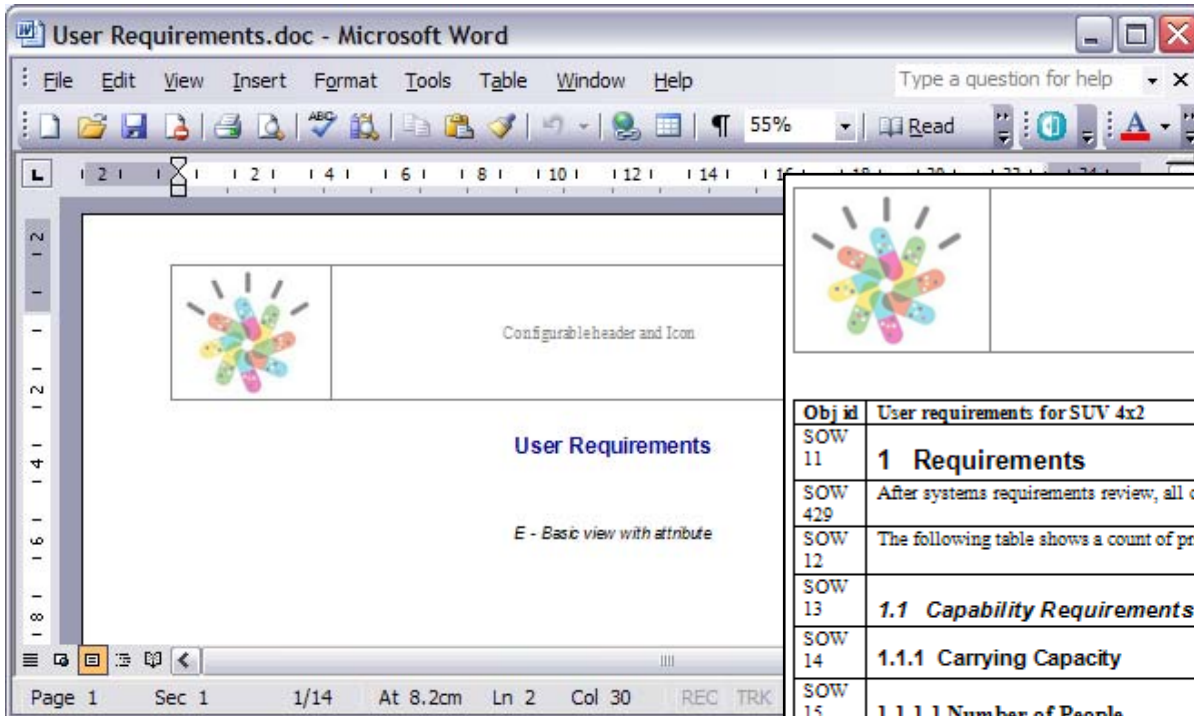


Enhanced built in document generation

- 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:

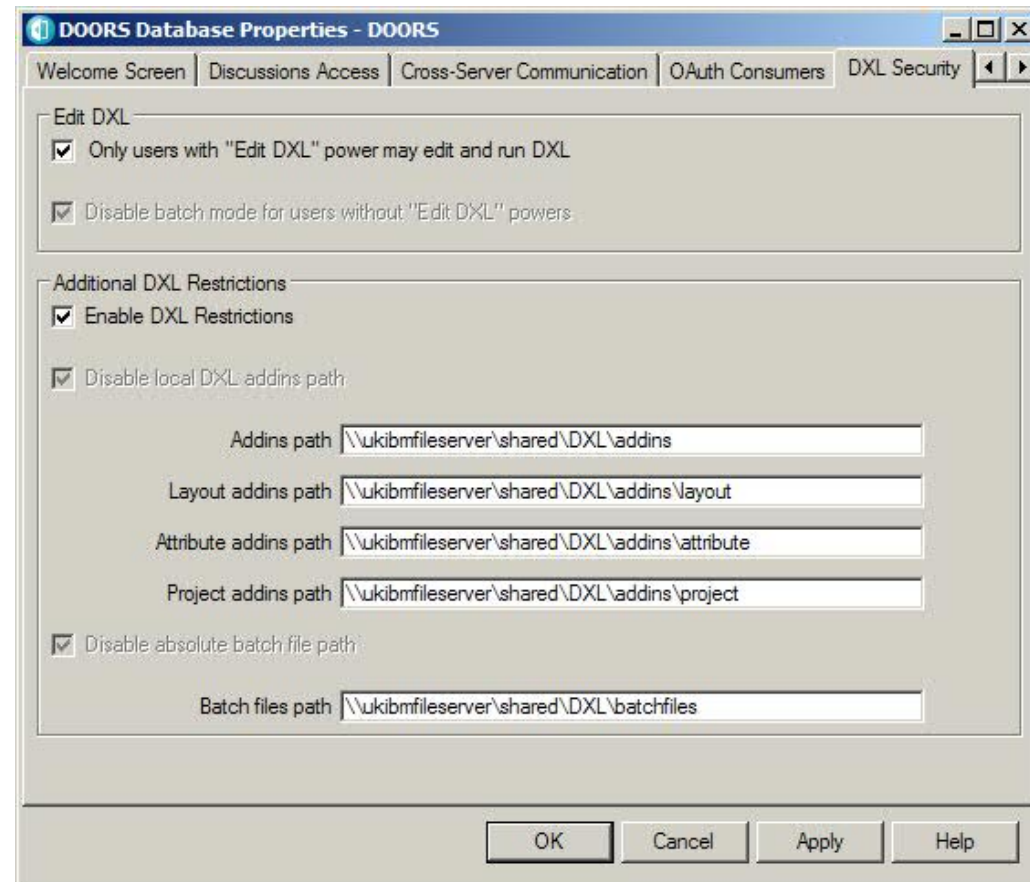
- In order to make use of smart cards, IBM GSKIT must be used, supplied with DOORS install
- Smart card authentication not currently supported with DWA



(3) Governance over which DXL is executed

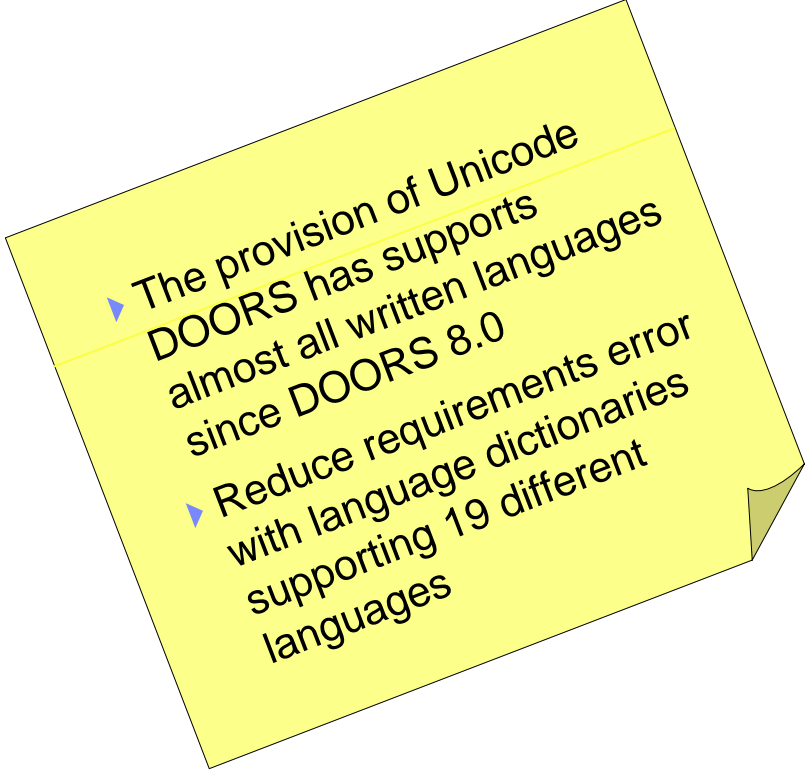
- Customer drivers
 - ▶ Increased maintenance costs for tool maintenance
 - ▶ Uncontrolled customizations lead to untested environments and inconsistent usage of DOORS

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



Support for Different Cultural Groups

- Introduced in previous releases
 - ▶ Chinese (Simplified)
 - ▶ Japanese
- DOORS 9.3, DWA 1.4
 - ▶ German*
 - ▶ French
 - ▶ Russian
- Planned for upcoming service releases
 - ▶ Spanish
 - ▶ Chinese (Traditional)
 - ▶ Korean
 - ▶ Italian
 - ▶ Brazilian (Portuguese)



▶ The provision of Unicode DOORS has supports almost all written languages since DOORS 8.0

▶ Reduce requirements error with language dictionaries supporting 19 different languages

*German support was introduced in 9.2.0.5 and DWA 1.3.0.2



The screenshot displays five overlapping windows of the DOORS software, each in a different language. The windows are:

- Simplified Chinese:** /新建项目 中的“新建模块”当前 0.0(正式 模块) - DOORS
- Japanese:** '新規モジュール' /新規プロジェクト/新規フォルダー 内の現行 0.0 (フォーマル モジュール) - DOORS
- French:** 'Nouveau module' en cours 0.0 dans /Nouveau projet (module Formel) - DOORS
- Russian:** 'Новый модуль' текущий 0.0 в /zzzzz (модуль Формальный) - DOORS
- German:** 'Lastenheft' aktuell 0.0 in /Digitalkamera Projekt 1 (Formal Modul) - DOORS

The German window shows a table of requirements:

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	

Below the table is an image of a digital camera. At the bottom of the German window, it says: "An diesem Modul vorgenommene Änderungen speichern".

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.



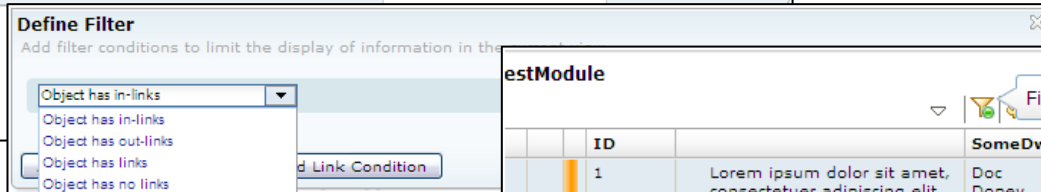
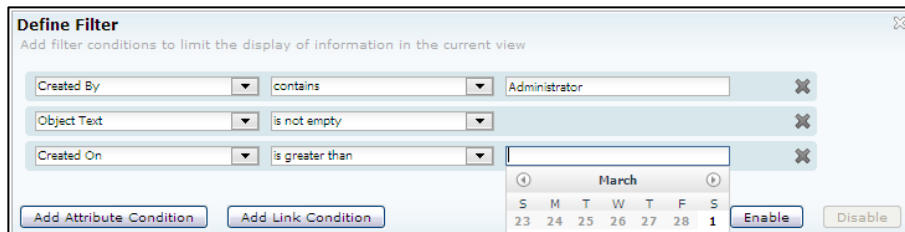
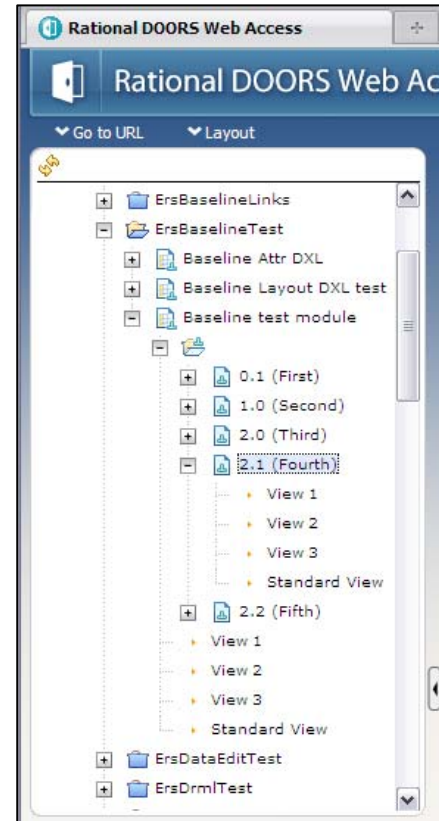
Changes to Licensing Mechanism

- 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



The screenshot shows a table view with a filter icon and a status bar that says 'Filtering 6 from a possible 12 (50%)'. The table has the following data:

ID	SomeDwarves	Simple Numbers	Object T
1	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed auctor. Lorem ipsum dolor sit amet, consectetur	Doc Dopey Grumpy	123





IBM Software Group

Backup slides

Rational. software

[Go to IBM](#)



Innovation for a smarter planet

© 2010 IBM Corporation

OSLC @ open-services.net

■ Eleven workgroups formed

- ▶ Intensive focus on Core and C/LM related specs (CM, RM, QM, Arch Mgmt, SCM)

■ Community

- ▶ 338+ registered community members (up from 70 people at RSC 2009)
- ▶ Individuals from 34+ different companies have participated in OSLC workgroups (up from 5 companies at RSC 2009)
- ▶ Integrators, ISVs, industrial, open source, consultants
- ▶ Mix of IT and Systems participants
- ▶ Recent notable additions: Thales (PLM), and imminent Fujitsu, NEC (CM)



Accenture	Lender Processing Services
APG	Northrop Grumman
Black Duck	Oracle
Boeing	QSM
BSD Group	Rally Software
Citigroup	Ravenflow
EADS	Shell
Emphasys Group	Siemens
Empulsys	Sogeti
Ericsson	SourceGear/Teamprise
Fokus Fraunhofer	State Street
Galorath	Tasktop (Eclipse Mylyn)
General Motors	Thales
Health Care Services Corp	Tieto
IBM	TOPIC Embedded Systems
Institut TELECOM	UrbanCode
Integrate Systems	WebLayers



What is C/ALM?

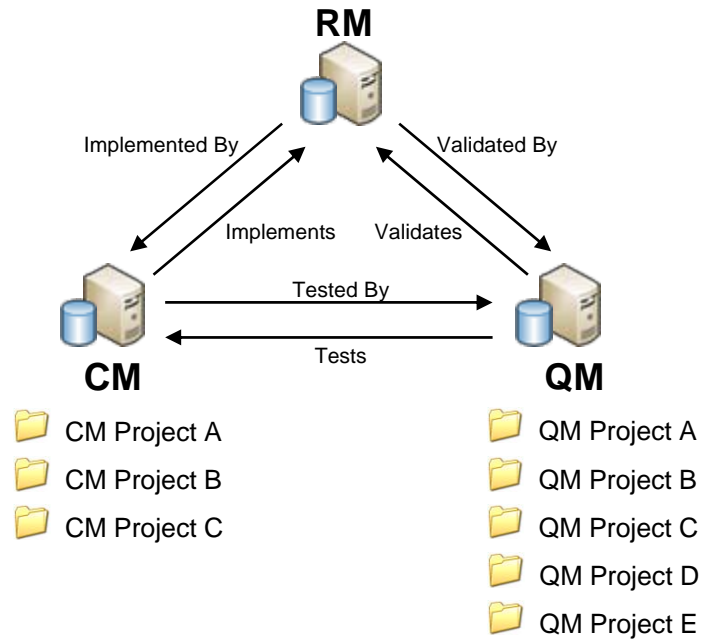
Collaborative/Application Lifecycle Management (C/ALM)

- Benefits
 - ▶ Integration between products
 - ▶ No requirement for custom integrations
 - ▶ Integrations will deepen over time and to include other products
- Features
 - ▶ Cross-repository artefact linking
 - ▶ Cross-repository navigation
 - ▶ Common Look & Feel – delegate UIs
 - ▶ Open standard support – built around OSLC interfaces



CALM / OSLC

- At most a single QM and / or CM server each configured for multiple projects
- Configuration is performed on DOORS and in Jazz
- No “single sign-on”. Users must have a valid account for each application



Rational DOORS Secure Mode Configuration

- Rational DOORS provides a secure mode setting that allows the encryption of communication between Rational DOORS components and the Rational DOORS server using Transport Layer Security (TLS) V1 and an associated Public Key Infrastructure (PKI). TLS is the successor protocol to Secure Sockets Layer (SSL), and TLS functions are provided to Rational DOORS through the use of IBM GSKIT.
- A PKI uses digital certificates and certificate chains for authenticating network agents within a secure communications environment. Understanding the purpose of digital certificates and how they can and should be extended is essential to understanding the best use of Rational DOORS secure mode.
- By default, Rational DOORS is installed with a set of pre-created digital certificates, which are intended to allow the simple configuration and verification of secure mode functionality.
- Rational DOORS also provides the ability for the consumer to specify a PKI-compliant certificate chain of trust that suits their needs. Providing the PKI setup in use satisfies certain basic constraints, the Rational DOORS consumer has the flexibility to configure an appropriate PKI certificate model which is tailored for their particular requirements.



Transport Layer Security (TLS)

- DOORS employs TLS V1 (RFC 2246) to encrypt communications channel.
- Hybrid cryptosystem.
 - ▶ RSA used for key exchange
 - ▶ AES or 3DES for message encryption
 - ▶ SHA1 for message authentication
- X.509 Digital certificates are used for authentication.
- DOORS has an additional application-level challenge-response between the DOORS server and client



Hybrid Cryptosystem (TLS) Handshake

1. Alice (client) sends a secure session request.
2. Bob (server) sends his digital certificate, containing his public key and optionally requests Alice's digital certificate.
3. Alice authenticates Bob's digital certificate.
4. Alice sends her own digital certificate to Bob, who authenticates Alice.
5. Alice generates a random symmetric key, encrypts it using an asymmetric algorithm (with Bob's public key) and sends it to Bob.
6. Bob and Alice now use a symmetric key system to encrypt and decrypt their exchanged messages.
7. MAC is used for Message Authentication.



DOORS Server Startup

1. [DOORS Server] Initialisation start
2. [DOORS Server] Configuration validation.
3. [DOORS Server] Initialise local SSL server environment [GSK]
4. [DOORS Server] Initialise local SSL client environment [GSK]
5. [DOORS Server] Initialise timeoutTask (ipcClient)
6. [DOORS Server] Server / client socket initialisation [GSK]
7. [DOORS Server] Operations continue.



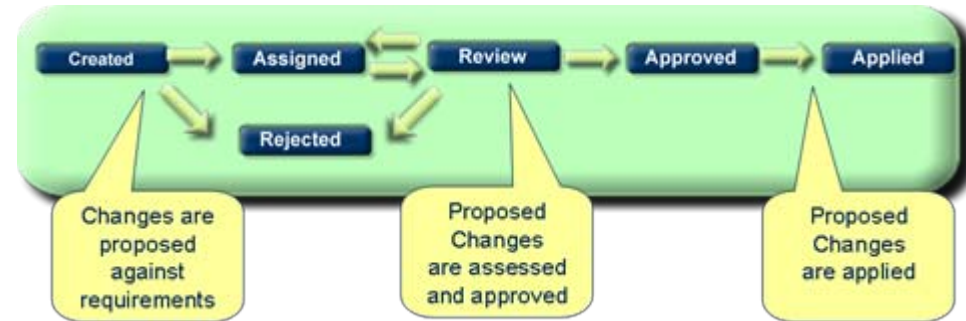
DOORS Client Startup

1. [DOORS Client] Initialisation start
2. [DOORS Client] Configuration validation.
3. [DOORS Client] Initialise local SSL client environment [GSK]
4. [DOORS Client] Perform db_client_connect (standard connect)
5. [DOORS Client] Perform db_client_connect (previous server version)
6. [DOORS Client] Perform db_client_connect (secure connection)
 - ❖ DOORS client and server perform TLS handshake
 - ❖ DOORS client performs server hostname check
 - ❖ Application Handshake
7. [DOORS Client] Operations continue over a secure connection



Controlling and tracking project scope

- Requirements churn can lead to scope changes, schedule slips and cost increases
- Requirements change management ensures that all changes go through your specific approval process and that the impact of changes are thoroughly analyzed in order to make informed decisions
- Requirements implementation tracking enables real-time status on the progress of development against requirements



Activity Report - Microsoft Internet Explorer

Address: C:\Documents and Settings\bsteele\Local Settings\Temp\DP81_trace_rpt.xml

Task numbers to the displayed output would benefit build managers in getting visibility of the stability of objects and the changes made.

Requirement 1684:

Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.

- **Change Request 10: CMPD Enhancements/CM Synergy Enhancements/1684**
 - Type: Enhancement
 - Status: assigned
 - Release: 1.0
 - Resolver: bsteele
 - Severity: Medium
 - Description: Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.
- **Task 1: CR 10: Add relationship browser**
 - Status: completed
 - Release: 1.0
 - Resolver: bsteele

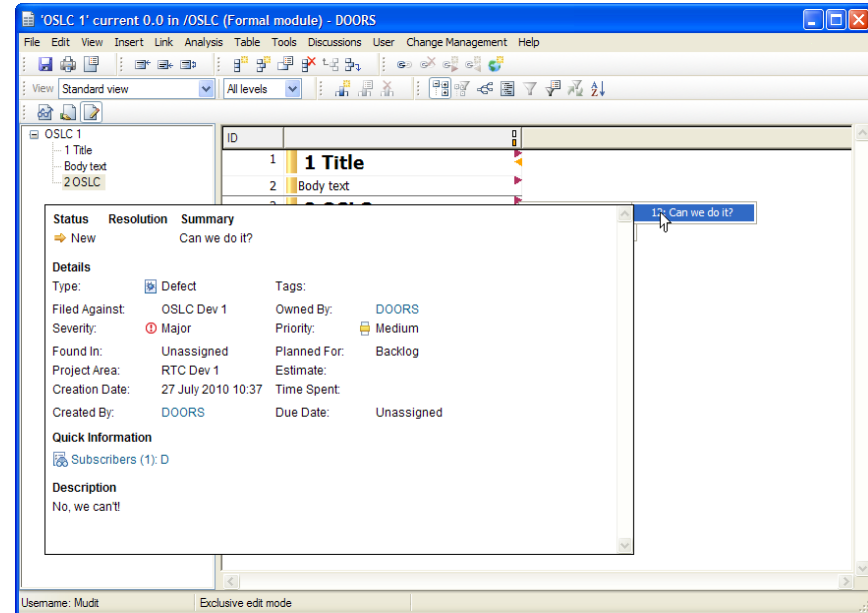
Added/Modified Files:

Formula-1	bsteele	integrate
schumacher.c-1	bsteele	integrate
barrichello.c-1	bsteele	integrate
mostoya.c-1	bsteele	integrate



Improving information visibility and workflow

- For faster, iterative processes to work, project team members need instant access to information
- OSLC (Open Services for Lifecycle Collaboration) enables access to live data across different tools in the systems and software development lifecycle
 - ▶ For example – a requirements analyst can view which engineer a requirement has been assigned to and what the status of that work item is
- OSLC improves the speed and accuracy of workflow
 - ▶ For example – a user of a requirements management tool (DOORS) can create a work item (in Team Concert) for a requirement and assign to an engineer, establishing traceability and workflow



IBM Rational partner solutions for Requirements



Provides software product line support for requirements management and software models

RAVENFLOW

Validate business requirements visually for desired outcome



MDWorkbench is a powerful Eclipse-based IDE that can integrate RSA and DOORS

Rational.

DOORS



Provide seamless connectivity between DOORS & project management systems

Rational.

Requirements Composer



Maximize the productivity and effectiveness of your DOORS users through enhanced traceability

Rational.

RequisitePro



Eliminate risk of project failure with visual requirements definition through simulation



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

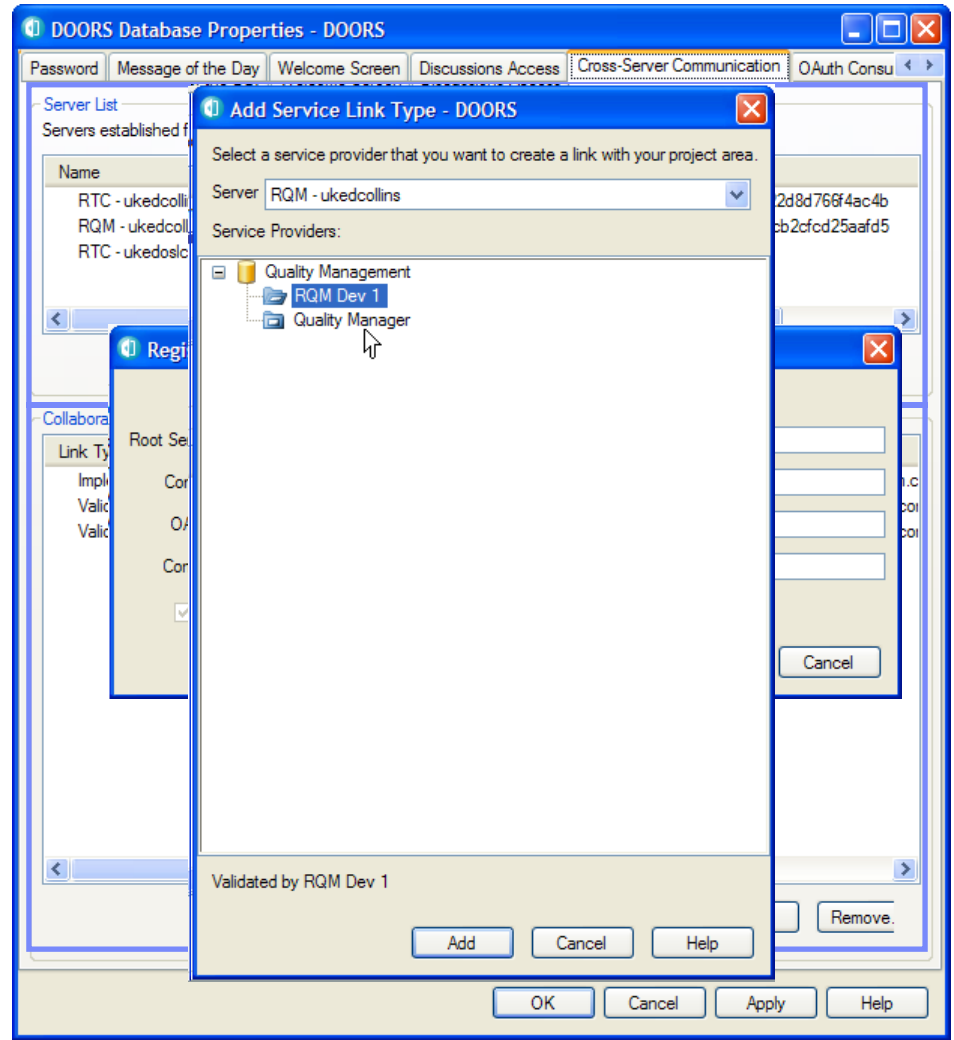
Ready for

IBM. Rational.

software



Configuration



Artefact Links and Navigation

Links popup menu

Object properties dialog

Compact Render

- Remote app provides UI

The screenshot shows the 'Object 3 (Saved) - DOORS' dialog box with the 'Links' tab selected. The dialog contains a table with the following data:

In/Out	Module/Description	Baseline	Object Heading/Text	ID	Link Mo...	Link Moc
Validated by	4: Demo Item Test Plan		4: Demo Item Test Plan	-	N/A	N/A
Implemented by	6: Define permissions		6: Define permissions	-	N/A	N/A
Implemented by	Failing Test Case "OSLC...		Defect 8 - ukedcollins	-	N/A	N/A
Implemented by	OSLC Consumption		Task 9 - ukedcollins	-	N/A	N/A
Implemented by	OSLC Consumption		Task 10 - ukedcollins	-	N/A	N/A
Validated by	RQM Test Case 1		RQM - ukedcollins	-	N/A	N/A

At the bottom of the dialog, there are buttons for 'Follow...', 'New...', 'Delete', 'Edit...', and 'Details...'. Below the dialog, the main application window shows a tree view with 'OSLC 1' expanded, containing '1 Title', 'Body text', and '2 OSLC'. The status bar at the bottom indicates 'Username: Mudit' and 'Exclusive edit mode'.

Artefact Linking

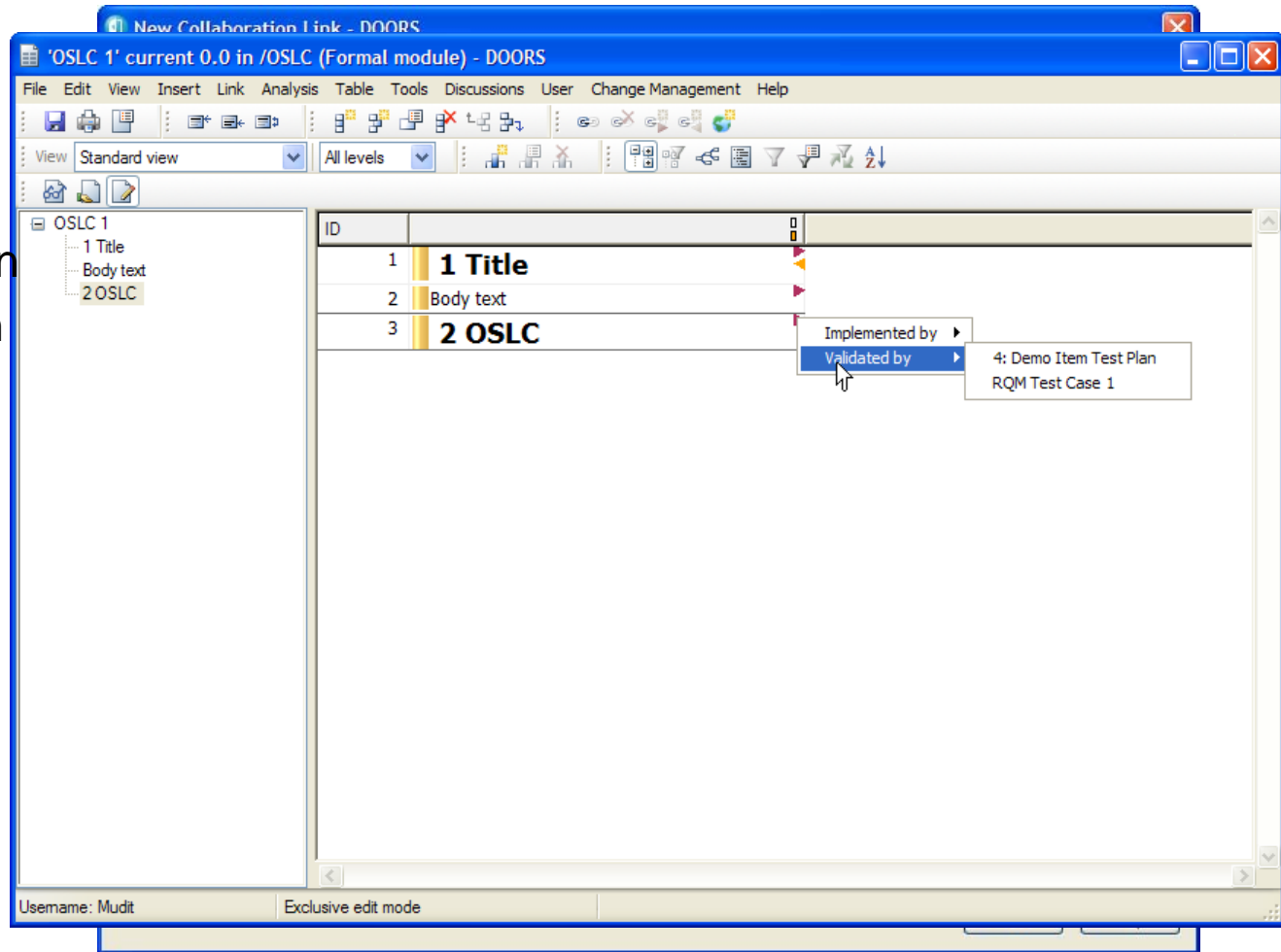
Module menubar

Module popup menu

Object properties dialog

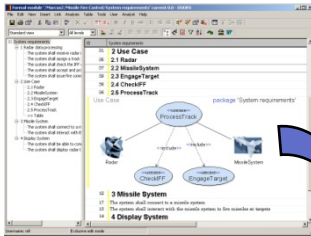
Delegate UI for Selection

Delegate UI for Creation



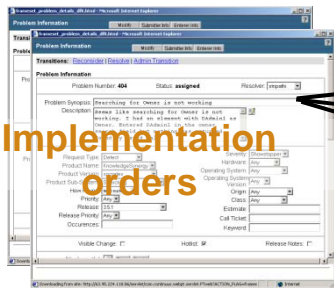
Requirement/Change Request traceability

1) DOORS



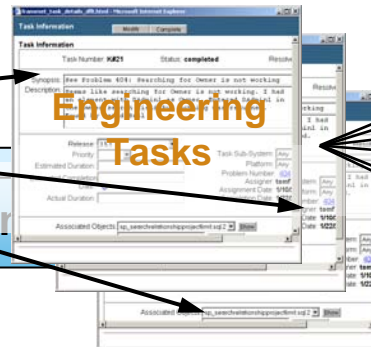
- Requirements link to implementation orders
- Defects to be associated with requirements to investigate changes

2) CM Tool

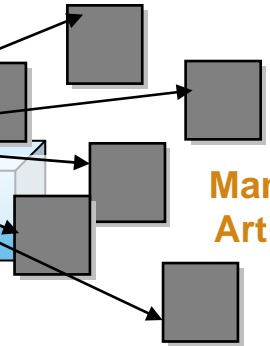


Implementation orders

Configuration/Change



Engineering Tasks



Managed Artifacts

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



Requirements driven development, top down traceability

- Create implementation requests and engineering tasks directly from the requirements, increasing **speed** through automation
- Complete traceability from needs to code
 - Impact analysis
 - Communication
- Better project **control**
 - Ensure you're doing *the right thing*
 - Real-time Reporting on progress, coverage
 - Building your knowledgebase

Requirements

ID	Description	Implementation Request
b5.01	Default query for the process package doesn't appear with doors process package although the report format of the process package is available.	
b5.02	Query from DOORS.Synergy Process Suite should be able to link form.	
b5.03	Pre-defined format should be provided for each of the CR, ECR, RCR, SRC, and ECR.	
b5.04	When specifying the type of submit form, configure Synergy to use the correct submit form from the list.	BPS#79 ir_created
b5.05	Even though I can specify (assume to enforce) the type of submit form, the user interface has the option to select a different submit form from the list.	
b5.06	Look into whether we can define a user specific submit form?	
b5.09	There is no real enforcement of the lifecycle or process. For example, how do I implement the process where I specify that a ECR can be generated or associated to a SRC unless the RCR has been applied.	BPS#60 ir_assigned BPS#63 ir_resolved

Change Requests

Code Changes

```

ChildFrm.cpp-2
10:#ifndef CHILD_FRM_H
17:
18:// extra edits
19:#ifdef _DEBUG
20:#define new DEBUG_NEW
21:#define new DEBUG_NEW

ChildFrm.cpp-1.1.1
10:#include "ChildFrm.h"
17:
18:// extra edits
19:#ifdef _DEBUG
20:#define new DEBUG_NEW
21:#define new DEBUG_NEW
  
```

Unchanged textBlock statistics: Inserted: 0/1 Modified: 0/0 Deleted: 0/0 Edited: 0 Confli



Bottom up traceability

- **Eliminate risk** associate with not knowing what made the build
- Automate **round-trip traceability** from the bottom-up
- **Increase quality of testing** because requirements are known as partially included, fully included, or missing
- **Deliver proof of compliance** to the requirement for every build candidate sent for QA approval

Top Down

Requirement 1684:

Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.

- Change Request 10: /CMPD Enhancements/CM Synergy Enhancements/1684
 - Type: Enhancement
 - Status: assigned
 - Release: 1.0
 - Resolver: bntesle
 - Severity: Medium

Description: Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.

- Task 1: CR 10: Add relationship browser
 - Status: completed
 - Release: 1.0
 - Resolver: bntesle

Added/Modified Files:

File Name	Resolver	Action
formula-1	bntesle	integrate
schumacher.c-1	bntesle	integrate
harriche@c-1	bntesle	integrate
montoya.c-1	bntesle	integrate

What Made it in the Build?

Baseline Compare of Week 1 Build and week 4 Build - demo64 - SYNERGY.CH

Change	Synopsis	Included	Change	Synopsis	Included
2	Add color to the rando...	Fully	12	Screen flickers	Fully
3	Add speed to the rand...	Partially	13	Add test data for the 1...	Fully
			31	change for demo	Partially
			32	Defect on something	Fully

Bottom Up



Traditional Traceability Extended to Implementation

'OCD' current 1.0 in /Bingo (Formal module) - DOORS

File Edit View Insert Link Analysis Table Tools User DocExpress Forum Analyst Change Management TAU Help

View Implementation Status view All levels

Operational Concept Description	Software Requirements Spec	Software Architecture and Design	Coding Status
<p>The new system will provide a customizable user interface to allow users to tailor the information presented by the user interface to their needs.</p>	<p>The user interface shall be customizable by the end user to display some or all of the player information.</p>	<p>The user interface shall be customizable by the end user through the use of user interface options toggles that determine what information is displayed to the player.</p>	<p>IR: 27</p> <ul style="list-style-type: none"> •Synopsis: User Interface needs to be user customizable •Status: ir_assigned _Task: 71 _Synopsis: See CR 30: /Bingo/SAD/85 _Status: completed _Resolver: sgrossman <ul style="list-style-type: none"> _Baseline Name: Release 1.0 _Release: bluehair/1.0 _Baseline Name: 20050927 _Release: bluehair/1.0 _Baseline Name: 20070513 _Release: bluehair/1.0 _File: ControlPane.java-2-> released <p>IR: 30</p> <ul style="list-style-type: none"> •Synopsis: /Bingo/SAD/85 •Status: ir_rejected _Task: 71 _Synopsis: See CR 30: /Bingo/SAD/85 _Status: completed _Resolver: sgrossman <ul style="list-style-type: none"> _Baseline Name: Release 1.0 _Release: bluehair/1.0 _Baseline Name: 20050927 _Release: bluehair/1.0 _Baseline Name: 20070513 _Release: bluehair/1.0 _File: ControlPane.java-2-> released



Project reporting

task numbers to the displayed output would benefit build managers in getting visibility of the stability of objects and the changes made.

Requirement 1684:

Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.

- **Change Request 10: /CMPD Enhancements/CM Synergy Enhancements/1684**
 - Type: Enhancement
 - Status: assigned
 - Release: 1.0
 - Resolver: bsteele
 - Severity: Medium
 - Description: Graphical relationship browser Need a graphical relationship browser. This would provide major benefits: 1) Allow the history of an object and its related tasks and problems to be easily seen and navigated graphically. 2) Allow relationships such as between code and documentation to be viewed and assessed as part of impact analysis.
 - **Task 1: CR 10: Add relationship browser**
 - Status: completed
 - Release: 1.0
 - Resolver: bsteele

Added/Modified Files:

formula-1	bsteele	integrate
schumacher.c-1	bsteele	integrate
barrichello.c-1	bsteele	integrate
montoya.c-1	bsteele	integrate

