



A new kind of music:
making the move from
DOORS Classic to Jazz / DOORS NG

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Innovate2013

The IBM Technical Summit

objectives

- to share some customer experiences relating to making the transition from DOORS Classic to DOORS NG
 - challenges and benefits

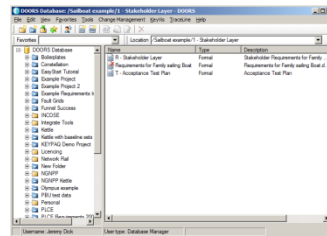
and by doing so,

- to give other organisations the confidence to do the same

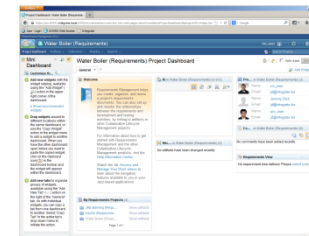
key message

moving from DOORS Classic to DOORS NG involves a shift in thinking

- user experience:



DOORS Classic client



Jazz in browser

- database concepts: project
folder
module
object



lifecycle project
project area
folder / module / collection
artefact

- integration: point-to-point solutions
replicated data
synchronisation



seamless data and process integration
traceability across tools
Jazz platform
3rd-party tool integration by open standards

key message

it takes some time and effort to make the transition in your thinking, but once made, the benefits of DOORS NG over DOORS Classic are quickly apparent

- **more refined information models:**

- same attributes for all objects
- attribute definitions local to module
- views local to module



- user-definable artefact types
- attributes per artefact type
- attributes and views global to project

- **dynamic traceability:**

- static links
- static traceability columns
- DOORS links v. external links



- mouse-over pop-up panels
- dynamic traceability columns
- seamless linking to other tools

- **document generation:**

- partial document generation
- manual document compilation

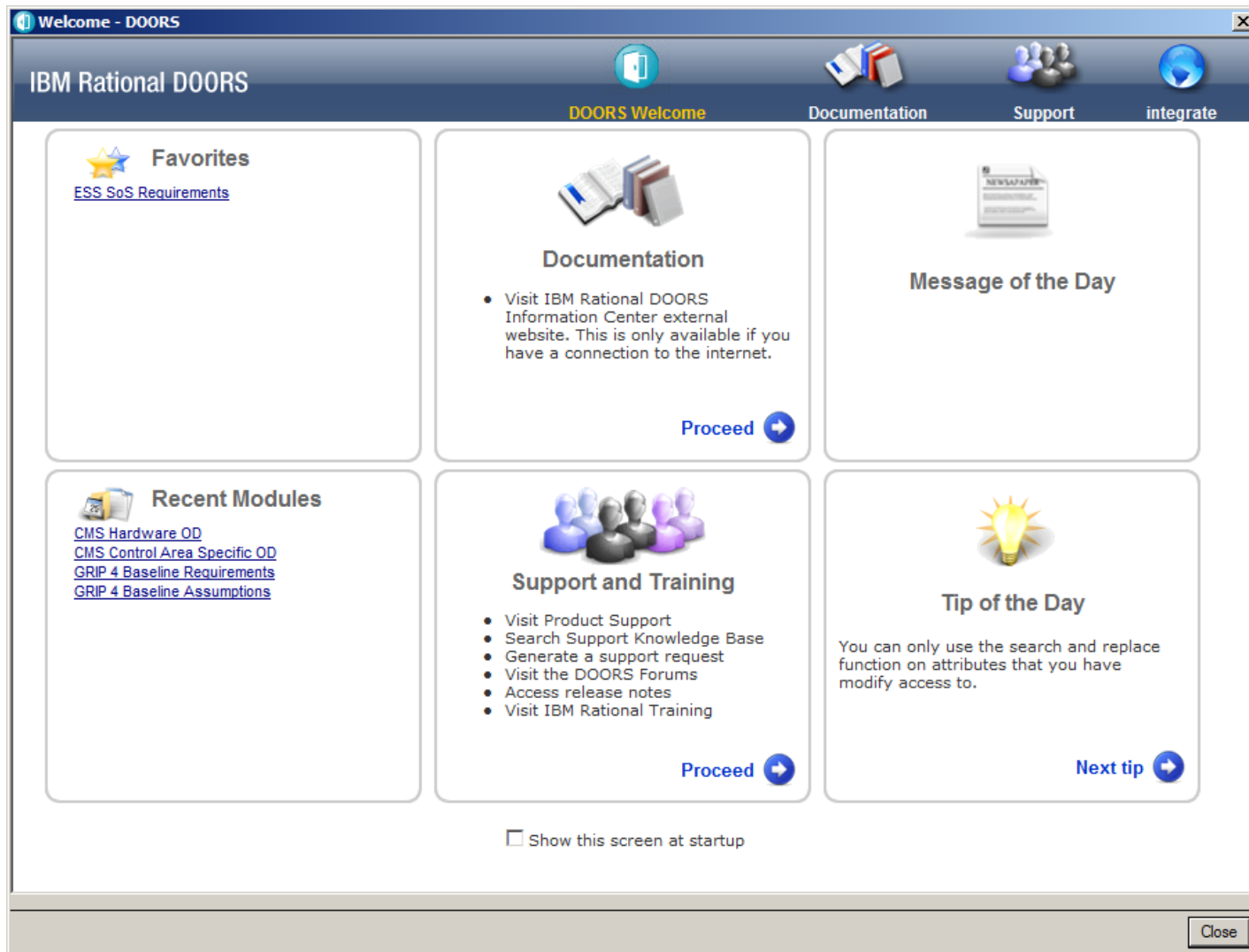


- lifecycle document using RPE

Jazz concepts I had to understand

- dashboards that carry widgets
 - every user has a dashboard
 - every project area has a dashboard
 - there are mini-dashboards on most screens
 - wide range of widget purposes: communication, status, metrics, applications
 - opportunity for customisation
- life-cycle projects v. project areas
 - life-cycle projects are made up of project areas
 - the number of project areas depends on the scope of the project
- artifacts
 - artifacts = objects

DOORS Classic welcome screen



understanding Jazz dashboards and widgets

The screenshot shows a Firefox browser window displaying the 'Personal Dashboard: Jeremy Dick's Dashboa...' at the URL 'https://an-00441.integrate.local:9443/jts/dashboards/7'. The dashboard is titled 'Jeremy Dick's Dashboard' and includes a search bar and an 'Add Widget' button. The main content area is divided into several widgets:

- My Projects (13)**: A list of projects categorized by 'Change and Configuration Management (/ccm) (4)' and 'Quality Management (/qm) (4)'. Projects include 'Family Sailing Boat', 'JKE Banking', and 'Kettle'.
- Jeremy Dick**: A profile card showing 'Name: Jeremy Dick', 'User ID: jeremy.dick', and 'Email: jd@integrate.biz'. It also lists 'Projects and teams' such as 'Family Sailing Boat (Requirements) Administrator', 'KeyVis (Requirements) Administrator', and 'Kettle (Requirements)'.
- BBC News - Home (82 new)**: A news widget displaying headlines like 'Keane questions Ferguson loyalty 10 minutes ago' and 'Queen visits National Theatre at 50 15 minutes ago'.
- Bookmarks**: A widget indicating 'No bookmarks defined. To add bookmarks, select Edit Contents from the widget menu.'

The IBM logo is visible in the bottom left corner, and the Jazz logo is in the bottom right corner.

dashboards for everything

- users / life-cycle projects / project areas / ...

The screenshot displays a web browser window with the following content:

- Browser Tab:** Project Dashboard: Family Sailing Boat (Req...)
- Address Bar:** <https://an-00441.integrate.local:9443/rm/web#action=com.ibm.rdm.web.pages.showFoundationProjectDashboard&projectURI=https://an-00441.integrate.local:9443/jts/pr>
- Page Header:** Requirements Management (/rm) | Family Sailing Boat (Requirements) | Jeremy Dick | Search Projects
- Main Title:** Family Sailing Boat (Requirements) Project Dashboard
- General Section:**
 - My Requirements Projects (5):**

Family Sailing Boat (Requirements)	Show artifacts
JKE Banking (Requirements Manage...	Show artifacts
Kettle (Requirements)	Show artifacts
KeyVis (Requirements)	Show artifacts
Water Boiler (Requirements)	Show artifacts
 - Project Members in Family Sailing Boat (Requirements) (1):**

Name:	Jeremy Dick
Email:	jd@integrate.biz
 - Requirements View:** No requirement view defined. Please [select a view](#).
- Right Column Widgets:**
 - Reviews in Family Sailing Boat (Requirements) (0 of 0):** (Empty)
 - Recent Changes in Family Sailing Boat (Requirements) (0):** No artifacts have been changed recently.
 - Comments in Family Sailing Boat (Requirements) (0):** No comments have been added recently.

mini dashboard – artifact-level widgets

The screenshot shows a web browser window displaying a requirements management application. The browser address bar shows the URL: <https://an-00441.integrate.local:9443/rm/web#action=com.ibm.rdm.web.pages.showArtifact&artifactURI=https%3A%2F%2Fan-00441.integrate.local%3A9443%2Frm>. The application title is "Requirements Management (/rm)".

The main header area displays "Family Sailing Boat (Requirements)" and the user name "Jeremy Dick". Below the header, there are navigation tabs: "Project Dashboard", "Artifacts", "Collections", "Modules", and "Reports". A search bar labeled "Search Projects" is also present.

The left sidebar contains a "Mini Dashboard" for "Jeremy Dick". It includes a user profile card with the following information:

- Name: Jeremy Dick
- User ID: jeremy.d
- Email: jd@integrate.biz

Below the profile card, there is a section titled "Projects and teams" listing several projects:

- Family Sailing Boat (Requirements) - Administrator
- KeyVis (Requirements) - Administrator
- Kettle (Requirements)
- JKE Banking (Requirements) - ProjectSnapshc Author, Adminis Management
- Water Boiler (Requirements)

At the bottom of the sidebar, there is a "My Projects (13)" section with a "hide" button and a list of projects:

- Change and Configuration Management (/ccm) (4)
- Family Sailing Boat (Change Management)
- JKE Banking (Change Management)

The main content area displays the document "913: Requirements for Family sailing Boat.doc". It features a table of artifacts with the following columns: "ID" and "Contents".

ID	Contents
914	Requirements for Family sailing Boat
915	1 Introduction
916	This document defines the stakeholder requirements for the 'Small Family Sailboat' to be added to the company's existing product range.
917	2 General Description
918	2.1 Product perspective
919	The sailboat will be an extension to the company's current range of engines (the motor launch and the sailing yacht)

The table indicates "Showing 88 Artifacts". The IBM logo and the Jazz logo are visible at the bottom of the page.

/ˈwɪdʒɪt/ noun informal

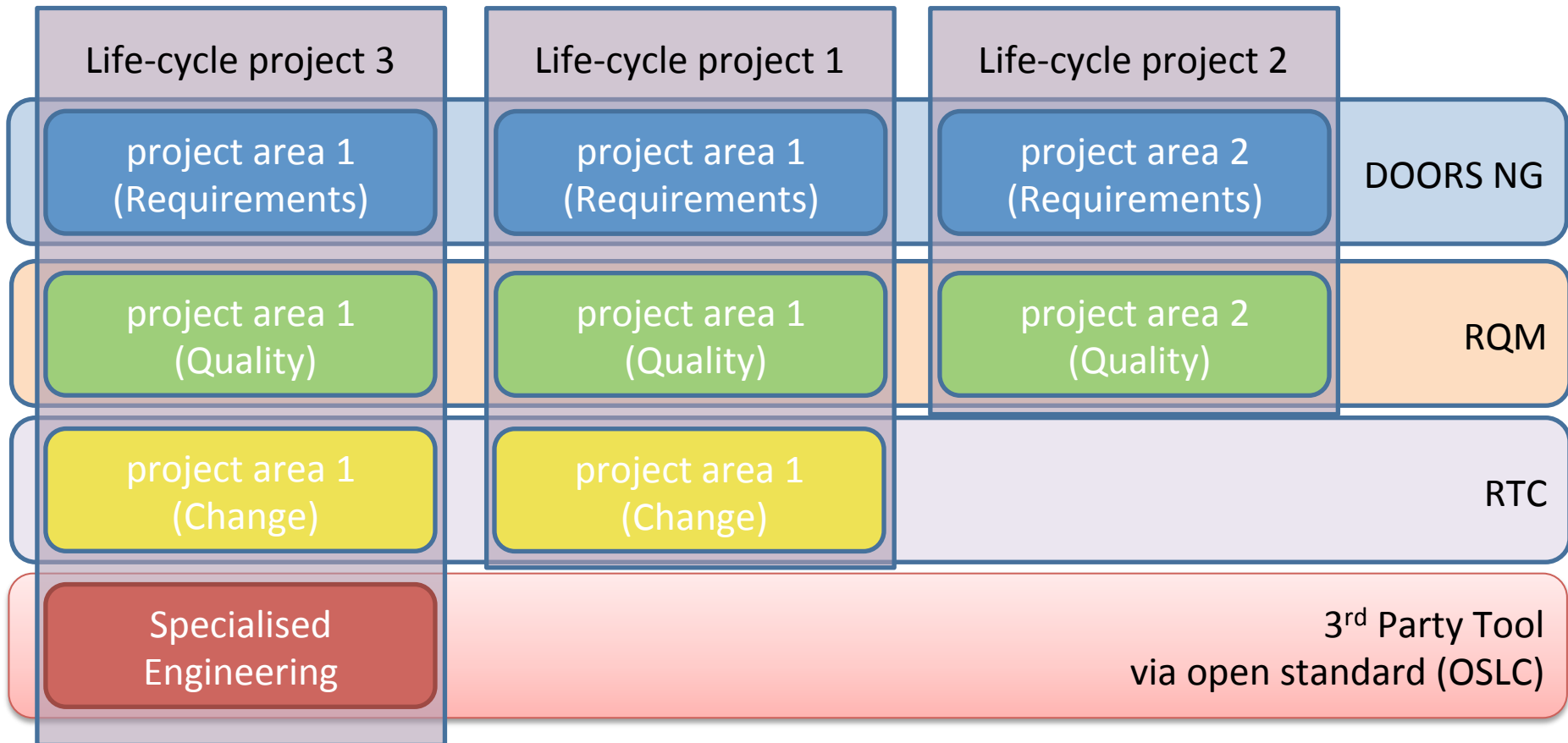
- a small gadget or mechanical device.
- (in some beer cans) a plastic device which introduces nitrogen into the beer, giving it a creamy head.
- **COMPUTING:** an application, or a component of an interface, that enables a user to perform a function or access a service.

- about 100 widgets available as standard
 - navigation aids
 - reports and metrics
 - external sources
- offers extensibility and customisation
 - develop new widgets (requires Java/Java script expertise)

/ˈɑːtɪfakt/ noun

- An object produced or shaped by human craft, especially a tool, weapon, or ornament of archaeological or historical interest.
- **COMPUTING:** tangible by-product produced during the development of software.
- the things you work with:
 - requirements, user stories, test cases, defects, tasks, builds, configurations, comments,
- each application defines the types of artifact relevant to their sphere of operation
- in the case of DOORS NG, you can create new artifact types
- artifacts have:
 - a type (determining content)
 - a format (determining presentation)
 - an identifier unique across the whole database

understanding projects



DOORS NG concepts I had to understand

- folders, collections and modules
 - artifacts live physically in folders
 - artifacts may be placed into any number of collections
 - a module is a collection presented in a particular format

understanding folders, collections and modules

- folders are where artifacts live
 - organised into a hierarchy of folders
 - each artifact lives in exactly one folder
- collections are artifacts that may contain other artifacts
 - *e.g.* the set of requirements to be tested on a particular test rig
 - each artifact may live in any number of collections
 - collections cut across the folder structure
 - (a foundation for versions, variants and reuse)
- modules are collections formatted to look like classic DOORS
 - “module” is an artifact format
 - headings and hierarchical structure

folders of artifacts

Project: Family Sailing Boat (Requirements) - ...

https://an-00441.integrate.local:9443/rm/web#action=com.ibm.rdm.web.pages.showProjectDashboard&projectURI=https%3A%2F%2Fan-00441.integrate.local%3A9443%2F

Requirements Management (/rm)

Family Sailing Boat (Requirements) Jeremy Dick

Project Dashboard Artifacts Collections Modules Reports Search Projects

Create New Feature

- Views
- Filter by Tag
- Filter by Attribute
- Filter by Folder
 - Family Sailing Boat (Requirements)
 - Features and Vision
 - Glossary Terms
 - Software Requirements
 - Stakeholder Requests
 - Requirements for Family

Artifacts

Page size: 20

Previous | 1 2 3 4 5 | Next

	ID	Name	Artifact Type	Modified By	Modified On
<input type="checkbox"/>	999	The design shall comply with the International Shipping Regulations, issue 5 (1997).	User Requirement	Jeremy Dick	1 Oct 2013 12:16:08
<input type="checkbox"/>	958	Crew of 2 shall be able to control the boat for sailing in wind up to force 6 Beaufort.	User Requirement	Jeremy Dick	1 Oct 2013 12:16:08
<input type="checkbox"/>	970	Ashore when becalmed	Heading	Jeremy Dick	1 Oct 2013 12:16:08
<input type="checkbox"/>	937	Capabilities	Heading	Jeremy Dick	1 Oct 2013 12:16:08
<input type="checkbox"/>	928	The sailboat must be light enough to be towed by a family car and lifted by two people.	User Requirement	Jeremy Dick	1 Oct 2013 12:27:47
<input type="checkbox"/>	971	Crew shall be able to get ashore in the absence of wind.	User Requirement	Jeremy Dick	1 Oct 2013 12:16:08
<input type="checkbox"/>	990	Market Constraints	Heading	Jeremy Dick	1 Oct 2013 12:16:08

Showing 20 of 88 Artifacts

IBM. jazz

modules – familiar territory

The screenshot shows a web browser window displaying a requirements management application. The browser address bar shows the URL: `https://an-00441.integrate.local:9443/rm/web#action=com.ibm.rdm.web.pages.showArtifact&artifactURI=https%3A%2F%2Fan-00441.integrate.local%3A9443%2Frm%2F`. The application title is "Family Sailing Boat (Requirements)". The user is logged in as "Jeremy Dick". The breadcrumb navigation shows "Family Sailing Boat (Requirements) > Stakeholder Requests > 913: Requirements for Family sailing Boat.doc". The main content area displays a list of artifacts with the following table for artifact 921:

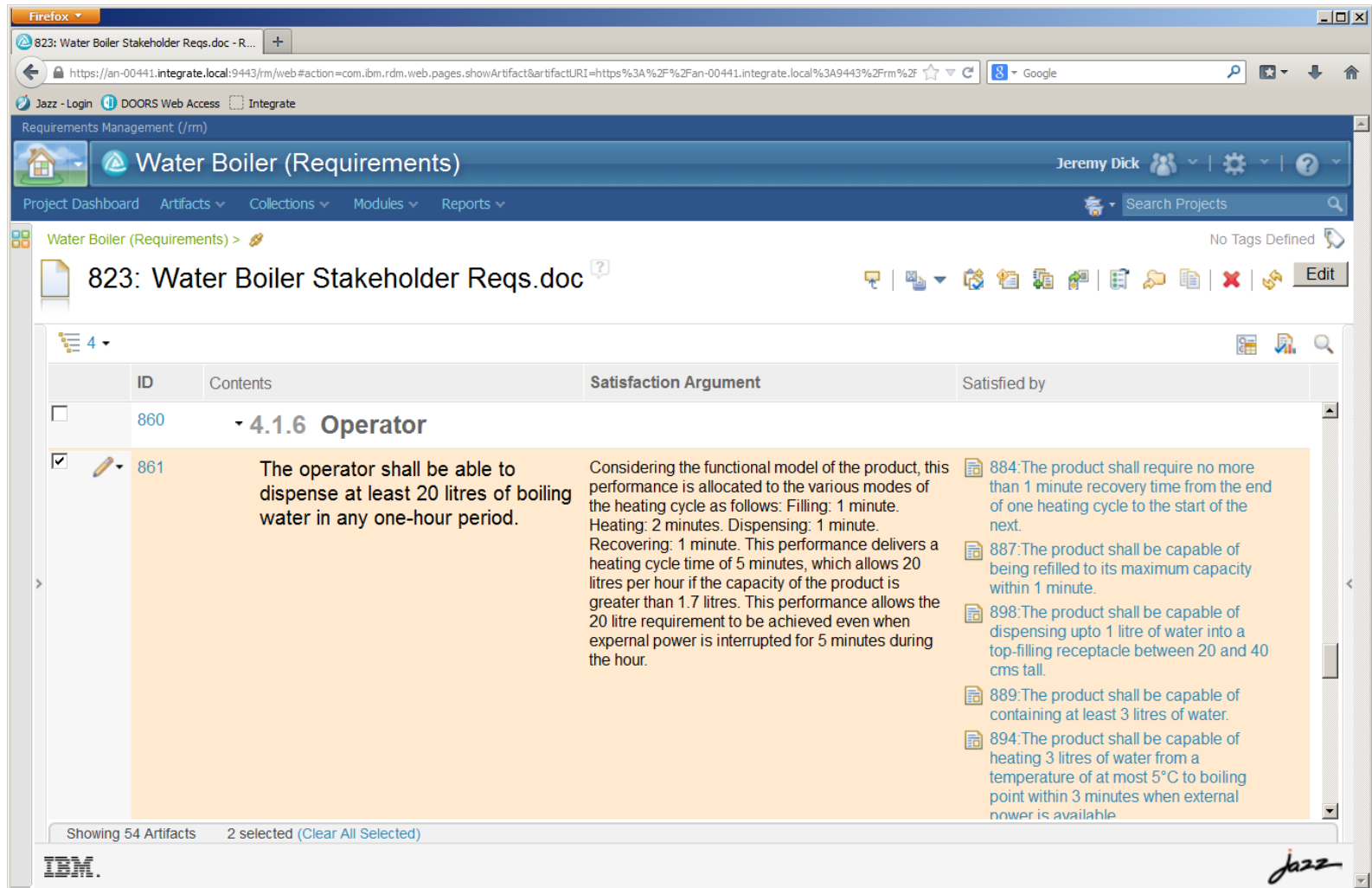
Model	Scenario	Price
SBSI 5005	Ocean	£15000

Showing 88 Artifacts

filtering and views – familiar territory

- folders, collections and modules can all have user-defined
 - filters
 - views (that can be named and saved)
- a view is an arrangement of columns
- columns can show attributes and traceability

traceability reports



823: Water Boiler Stakeholder Reqs.doc

Water Boiler (Requirements)

823: Water Boiler Stakeholder Reqs.doc

ID	Contents	Satisfaction Argument	Satisfied by
<input type="checkbox"/> 860	4.1.6 Operator		
<input checked="" type="checkbox"/> 861	The operator shall be able to dispense at least 20 litres of boiling water in any one-hour period.	Considering the functional model of the product, this performance is allocated to the various modes of the heating cycle as follows: Filling: 1 minute. Heating: 2 minutes. Dispensing: 1 minute. Recovering: 1 minute. This performance delivers a heating cycle time of 5 minutes, which allows 20 litres per hour if the capacity of the product is greater than 1.7 litres. This performance allows the 20 litre requirement to be achieved even when external power is interrupted for 5 minutes during the hour.	<ul style="list-style-type: none">884: The product shall require no more than 1 minute recovery time from the end of one heating cycle to the start of the next.887: The product shall be capable of being refilled to its maximum capacity within 1 minute.898: The product shall be capable of dispensing upto 1 litre of water into a top-filling receptacle between 20 and 40 cms tall.889: The product shall be capable of containing at least 3 litres of water.894: The product shall be capable of heating 3 litres of water from a temperature of at most 5°C to boiling point within 3 minutes when external power is available

Showing 54 Artifacts 2 selected (Clear All Selected)

what is better in DOORS NG

- attributes / views management
 - attributes are applicable to artefact types
 - attributes are global to the project
 - views can also be global
- traceability columns are dynamic
 - linked artefacts displayed as navigable links
 - “rich hover” gives linked artefact details
 - links can be created and deleted from the traceability column

dynamic traceability columns

The screenshot displays a requirement card for requirement 887. The card is titled "887: The product shall be capable of being refilled to its maximum capacity within 1 minute." and includes a description, location, attributes, links, and modules. A rich hover tooltip is visible on the right side of the card, listing several other requirements (887, 898, 894, 884, 889) that are traceable to the main requirement. The tooltip is highlighted with a blue oval labeled "rich hover". A blue speech bubble labeled "in-place editing" points to an edit icon in the top right corner of the tooltip. Another blue speech bubble labeled "navigable links" points to the list of requirements in the tooltip.

in-place editing

rich hover

navigable links

4.1.6 Operator

887: The product shall be capable of being refilled to its maximum capacity within 1 minute.

The product shall be capable of being refilled to its maximum capacity within 1 minute.

Location

Water Boiler (Requirements) Water Boiler System Reqs.doc artifacts

Attributes

Type:	Requirement	Format:	Text
Description:		Launch URL:	
Package Info:		Priority:	
QM Creation Time:		Requirement Type:	
Satisfaction Argument:		Severity:	
Source Tag:		Status:	
Validation Argument:			

Links

Satisfies (1): 861

In Modules

Requirements Document: 878

Airbus

CHALLENGES OF COMPLEX SYSTEMS ENGINEERING

Airbus key challenges for engineering lifecycle management – A380 example



- geographically distributed engineering teams
- complex IT infrastructure
- extended enterprise

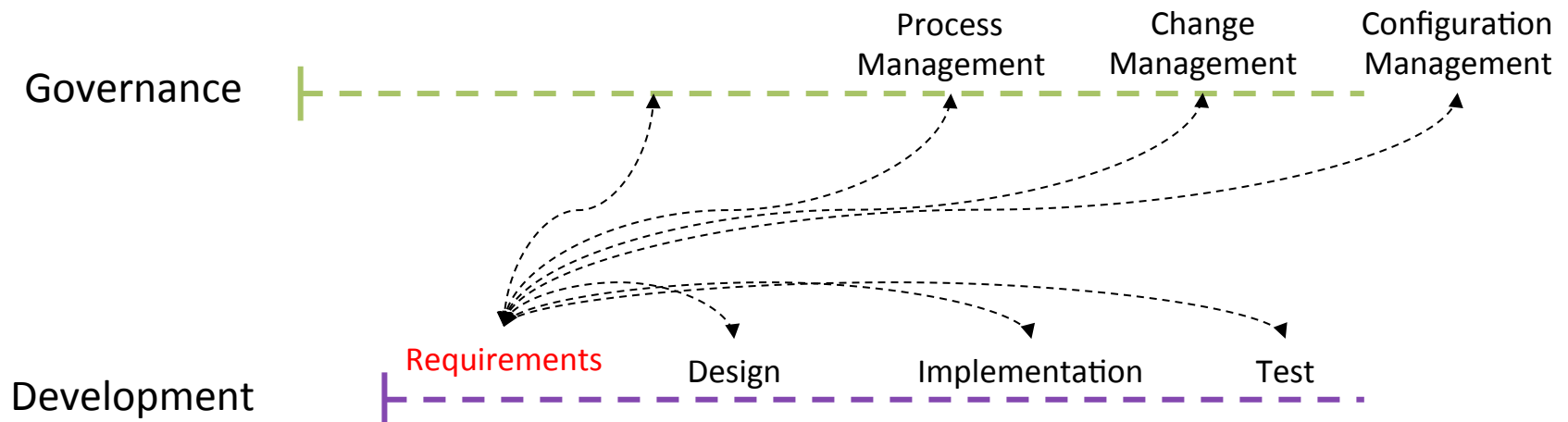
- complex products
- safety-critical systems (Certification e.g. DO-178B)



safety-critical systems

→ managing DO-178B and DO-254 compliance

- one of the important activities in both standards is the requirements capturing and tracking throughout the design and verification process.
- using an integrated engineering environment for systems and software engineering



a new kind of openness

DOORS Classic is very “open”
through ability to customise



DOORS NG is very “open”
through standard integration

- the need to customise reduced through open integration and standard APIs
- ability to customise through non-proprietary languages
 - provision of custom widgets within Jazz
 - provision of OSLC-capable applications

Open Services for Lifecycle Collaboration (OSLC)

- OSLC is an open and scalable approach to lifecycle integration
- simplifies key integration scenarios across heterogeneous tools

The OSLC Core specifies the primary integration techniques for integrating lifecycle tools, such as communication protocols and basic data representation

The OSLC domain workgroups specify additional vocabulary specific to their lifecycle domain, but do not add new protocols

Architecture of the Web

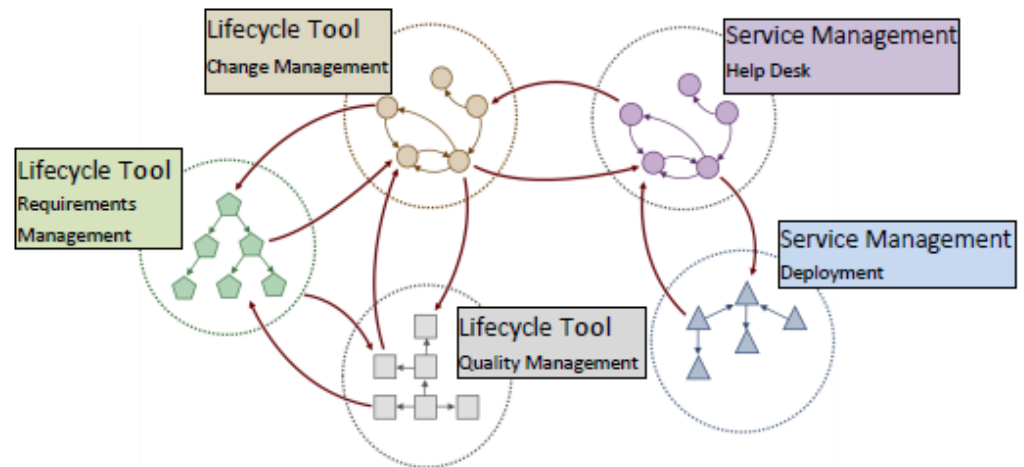
Linked Data

Standard Interfaces

Increased traceability

Increased reuse

Decreased maintenance costs



migration options

- don't integrate or migrate
 - stick with what you've got
 - (maybe because high investment in custom DXL)
 - OK, because DOORS Classic will live on!
- integrate DOORS Classic with Jazz tools
 - stick with what you've got
 - use OSLC integration with RQM and RTC
 - benefit from life-cycle tools
- migrate from DOORS Classic to DOORS NG
 - one-off migration (using ReqIF)
 - benefit from the new features

summary of key message

a new kind of harmony

- although moving to DOORS NG involves thinking in new ways, the benefits of DOORS NG over DOORS Classic are quickly apparent



QUESTIONS?

Innovate2013
The IBM Technical Summit

summary of key message

a new kind of harmony

- although moving to DOORS NG involves thinking in new ways, the benefits of DOORS NG over DOORS Classic are quickly apparent



A BIG THANKS TO ...

Parham Vasaiely – Airbus

Jason Wilson – WWCT

Innovate2013
The IBM Technical Summit

