

IBM Rational DOORS Next Generation



Poor Requirements Management has a Significant Impact on your Business

Requirements Rework

- Errors, late detected in the Maintenance phase can cost up to **200 times** more than detected early in Requirement Analysis phase¹
- **More than 40%** of development budget can be consumed by poor requirements²

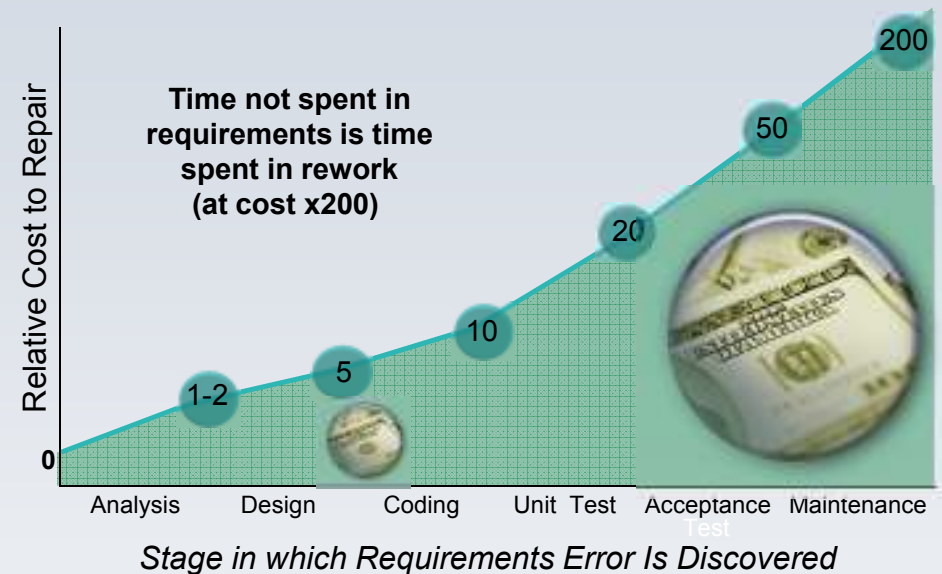
Project Impacts

- **41%** of projects fail to deliver the expected business value and ROI³
- **49%** of projects overrun original estimates³
- **28%** of projects on time and on budget⁴

Project Delays

- Being late to market by 6 months or more will cost organizations 33% of the 5-year ROI⁵

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



“Our research indicates 80-plus percent of development failures result directly from poor requirements gathering, management, and analysis.”

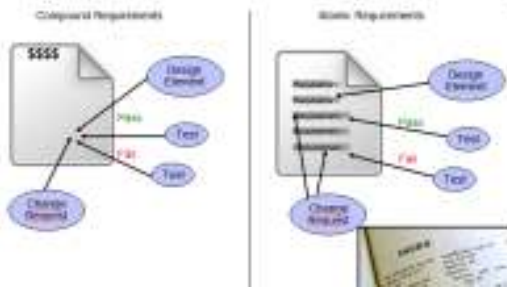
IDC, November 2007

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

Key Requirements for a Requirements Management Solution

- There are seven key features that are needed for an RM tool –
 - 1) Granularity of information
 - 2) Hierarchy of data
 - 3) Traceability between elements
 - 4) Attributes to expand different aspects of the data
 - 5) Collaboration between stakeholders
 - 6) Reporting
 - 7) Control (audit trail and security)

Key requirements for an RM system



Granularity



Recording who did what

— and when



Controlling who can see and change information

History and Security



Disorganized

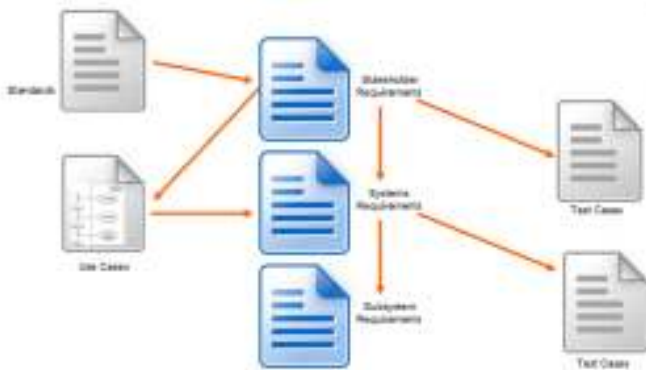


Organization

Hierarchy



Reporting



Traceability

Collaboration



Between customers...



...Product Managers...

...the business...



...Engineering...



and Test

Collaboration



Identification



Type



Performance



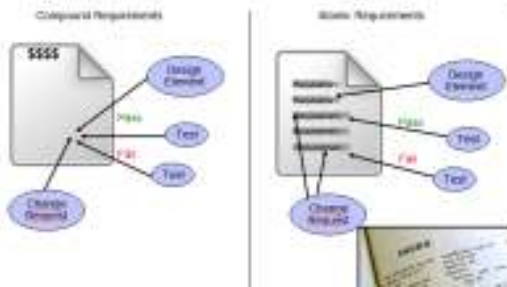
Priority



Status

Attributes

Key requirements for an RM system



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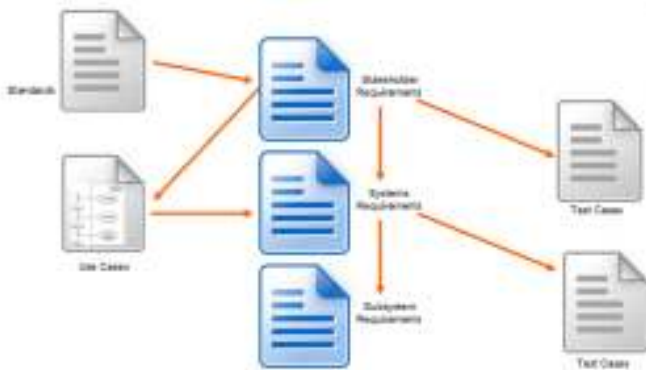


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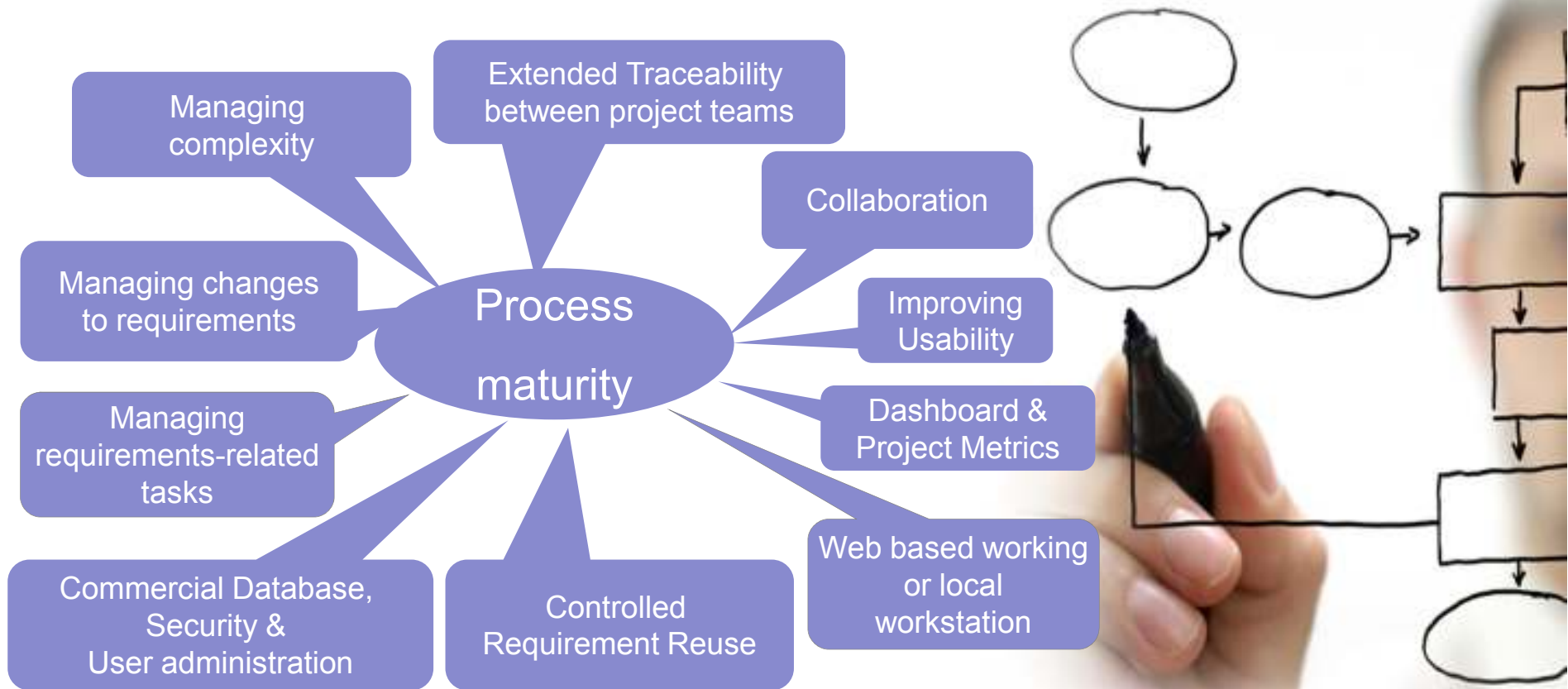
Status

Attributes



Why DOORS Next Generation?

the demands for RM systems are expanding



IBM Rational DOORS Next Generation Web Repository

Definition

- Rich-text documents
- Diagrams: Process, Use Case
- Storyboards, UI sketching & flow
- Project glossaries
- Templates

Visibility

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

Collaboration

- Review & Approval
- Discussions
- Email Notification

NEW!

NEW!

NEW!



Improved!

Management

- Structure, Attributes/Types
- Traceability, Filtering, Tags
- Baselines, Change History
- Reuse (reqs & types)
- Reporting Metrics & Doc.

Lifecycle

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

Planning

- Integrated planning
- Effort estimation
- Task Management

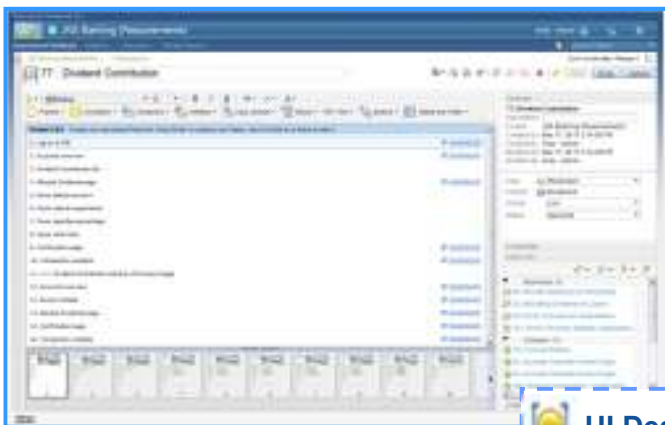
NEW!

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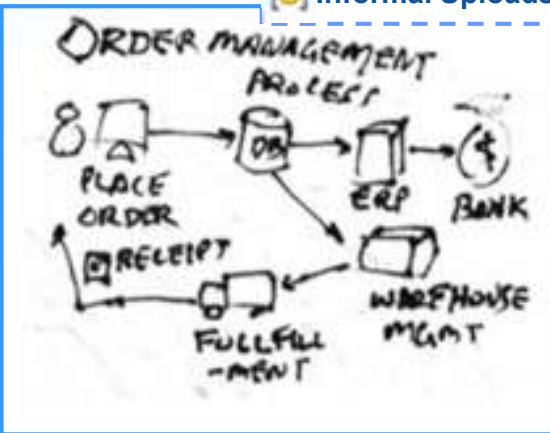
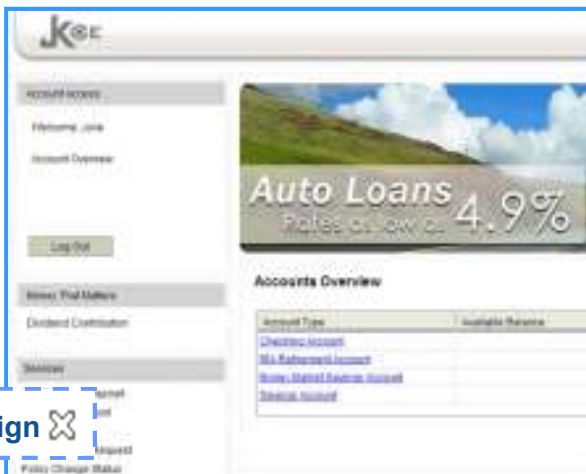
Important Concept: Artifact

Artifact - general term within the repository of something that is part of a project.

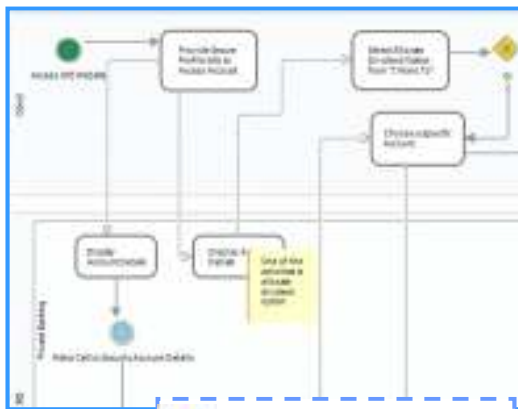
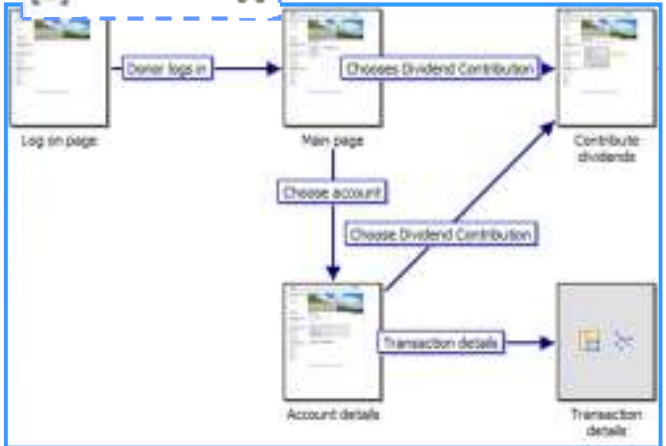
Informal Uploads ✕



UI Design ✕

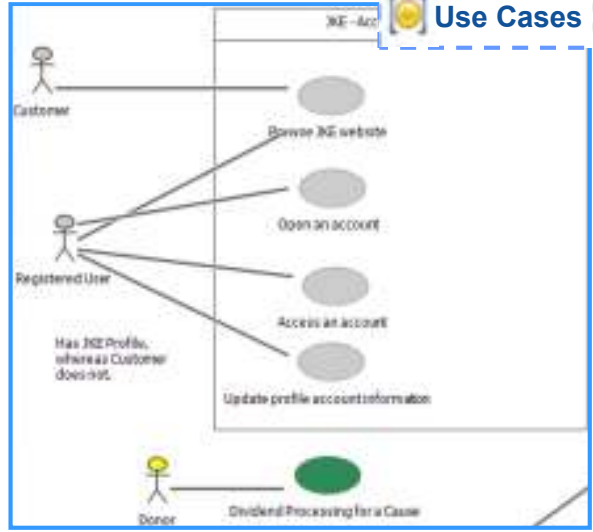


Screenflow ✕



Process Diagrams ✕

Use Cases ✕



Fully functional web DOORS NG module view

Modern web look and feel minimizes adoption cost for new and casual users

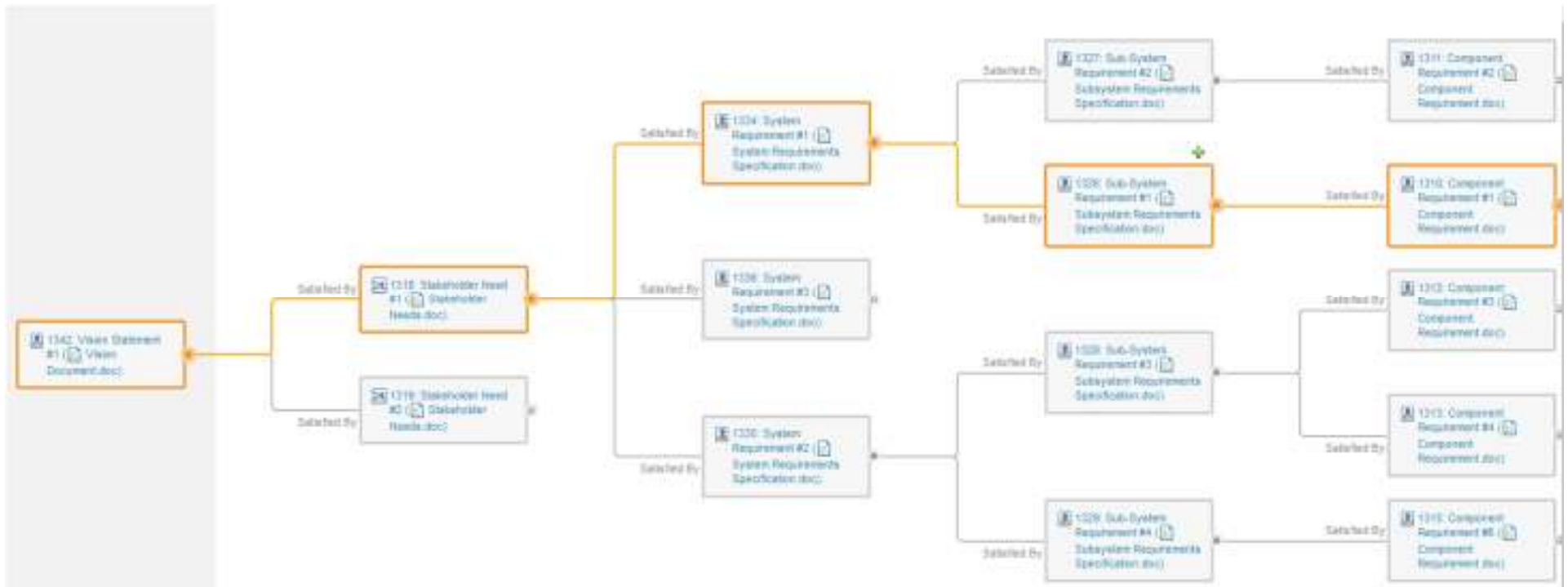
The screenshot displays the Rational DOORS NG web interface for a document titled "15: AMR Stakeholder Requirements Specification". The interface is annotated with four red arrows pointing to key features:

- Module:** Points to the document title "15: AMR Stakeholder Requirements Specification" at the top of the main content area.
- Properties:** Points to the "Properties" panel on the right side of the interface, which displays metadata for the current document.
- Filter Pane:** Points to the "Filter Pane" on the left side of the interface, which allows users to filter artifacts by various criteria.
- Glossary Terms:** Points to a "Glossary Terms" popup window that appears over a table in the document content. The table lists terms and their definitions.

Term	Definition
AMR	Automatic Meter Reader

Traceability

- Multi-level graphical analysis



Analysis (views & filters applied to requirements)



View definitions

- Display configurations saved as Views
- Similar to DOORS
- User specific or shared across project or even modules!

Filter definition

- Filter information in a module to make finding information easier
- Compound filters easy to define and change later
 - Can be saved as part of the view definition



Requirements reuse

- Central store of requirements information
- Referenced by specifications
- Reuse on an individual basis
 - Or as part of a module template



13: AMR System Requirements Specification

ID	Contents
140	- 1 Introduction
18	- 1.1 Purpose of the Document
178	This document describes the specific functionality of the Automate system is currently available with a handheld collection device. TI methods of data collection are outside the scope of this system.
317	(c) IBM 2012

15: AMR Stakeholder Requirements Specification

ID	Contents	Artifact Type	Priority
195	- 1 Introduction	Heading	
20	- 1.1 Purpose of the Document	Heading	
251	The Stakeholder requirements describe the user needs for a water meter reading system (AMR) including the meter, the method of collecting data from the device, and the means by which the customers will be billed for usage.	Stakeholder Requirement	High
31	The AMR product is intended to allow water providers to lower their cost of operation by more accurately measuring consumption and more quickly gather data.	Stakeholder Requirement	Low
317	(c) IBM 2012	Stakeholder Requirement	Low

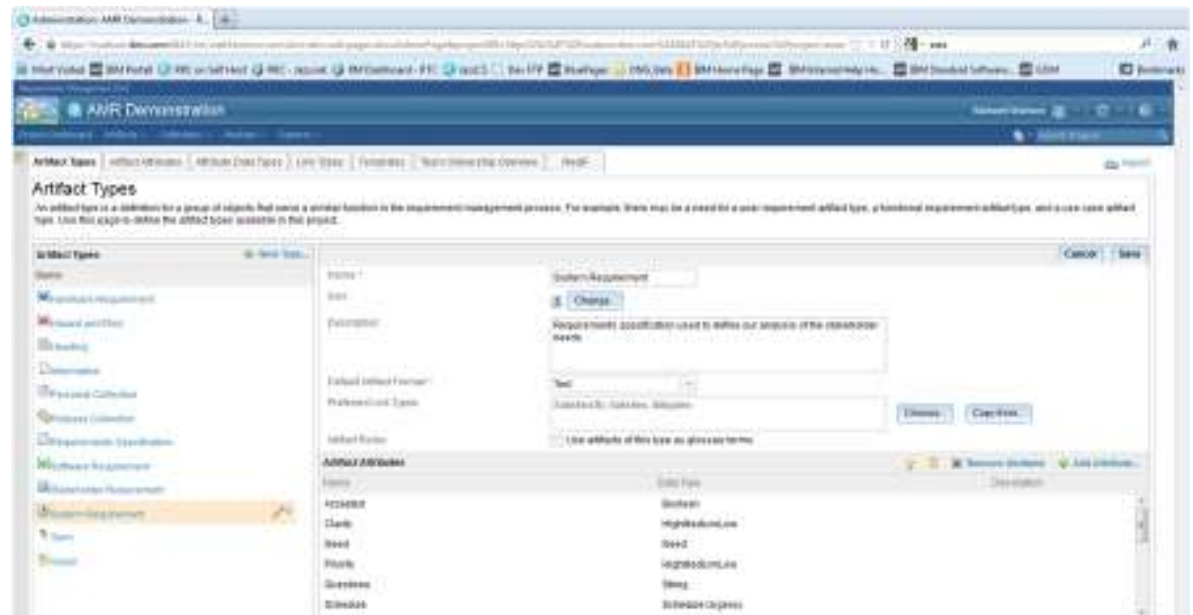
A red arrow points from the requirement ID 317 in the left window to the requirement ID 317 in the right window, illustrating reuse.

Reusing the same requirements
in multiple places

Centrally defined type system

- Harmonized process across your projects

- Single definition for information structure
- Artifact types
- Attribute types
- Link types



- Coordinated deployment of

- Project templates
- Module templates
- Artifact template



- Collaboration through information discussions or by formal review
- Email notification available for updates
- Dashboard widgets to show review participation

Automated Water Meter Reader
 Milestone 1 Review

Participant's Review: 9% completed
 Overall Review: 33% completed

Participant	Type of Participant	Review results
Kirk	Reviewer	
Morgan	Approver	
Richard	Reviewer	100% - 1 Reviewed

Reviews in Automated Water Meter Reader (1 of 1)
 Milestone 1 Review
 Morgan modified on 10/15/2012 1:48 PM

Module Comments (3)

3. Richard to Kirk, Morgan 1 minute ago
 Kirk's on vacation this week
 We shouldn't let that hold up the review.

2. @Morgan to Kirk, Richard 2 minutes ago
 Agreed
 I am waiting for Kirk's comments before I approve the review.

1. Richard to Morgan 15 minutes ago
 Ready for milestone 1
 I think we have completed all the appropriate work within this specification to go ahead with the Milestone 1 review meeting.



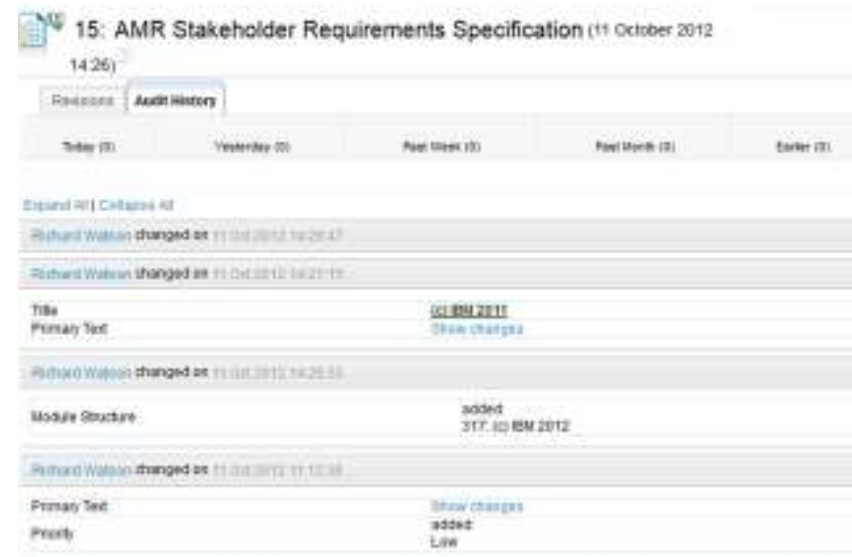
Notification to personal dashboard

Comments can be used inside or outside of a review

Audit trail

- Requirements updates are monitored and recorded in history
 - See *who* did *what* and *when*

- Record a milestone as a retrievable version

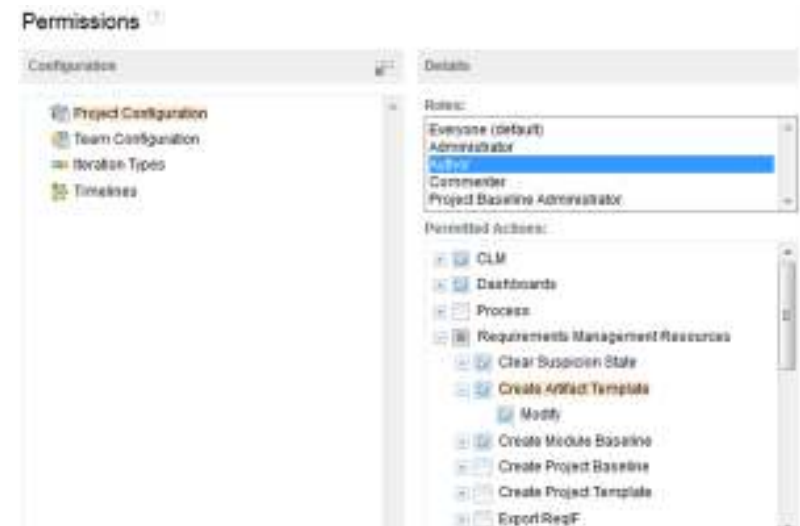
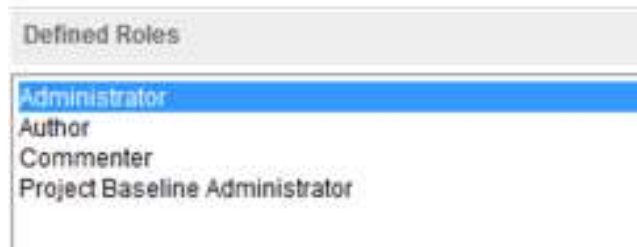


Security, Roles and Permissions

- Controlling who can see and modify information can be critical
 - Control access to data through “Team Areas”

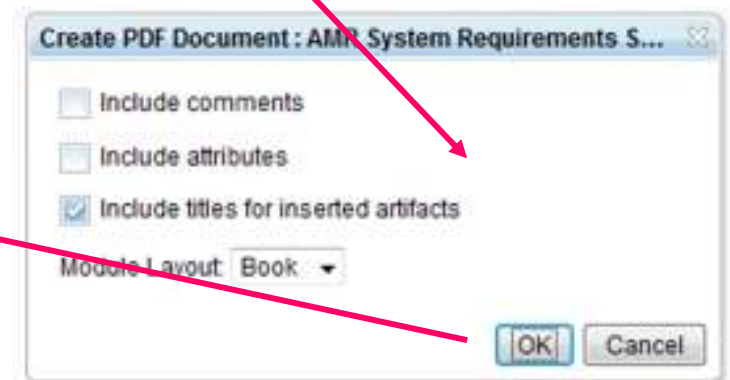
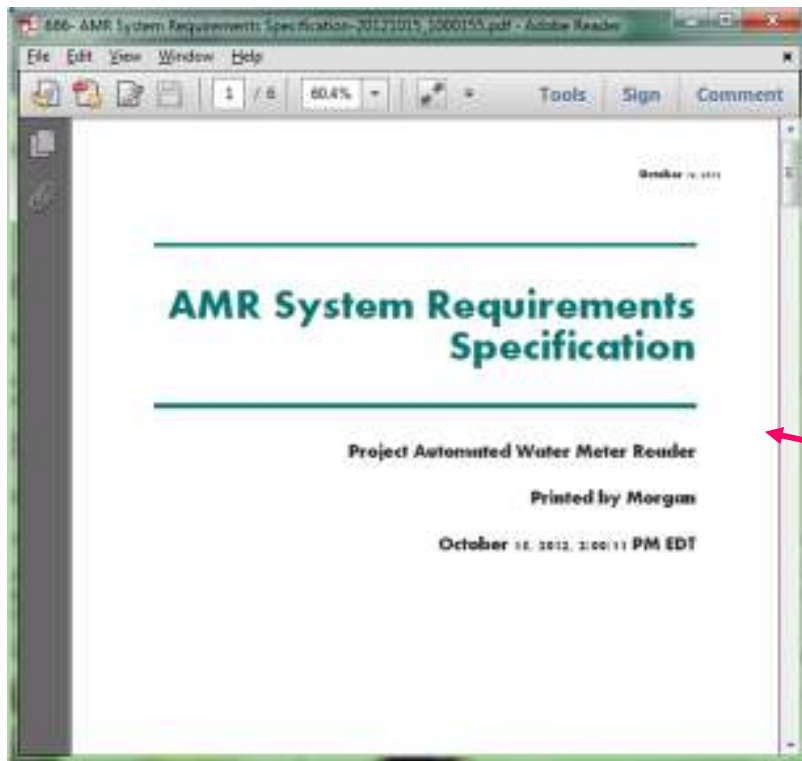
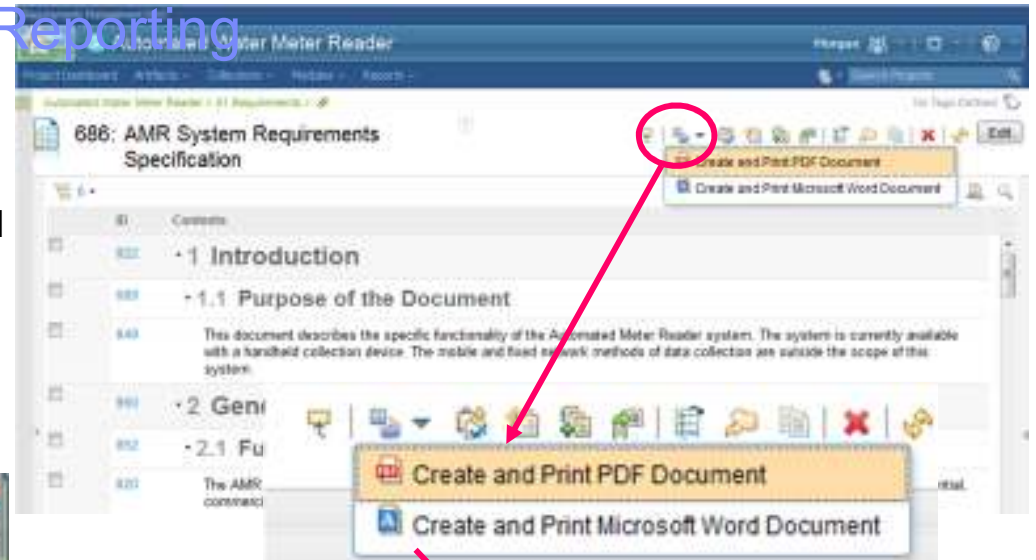


- Controlling which functions are visible can simplify product usage within teams
 - Limit who can run functions by defining user roles
 - Refine user roles to your specific project needs



Reporting

- Built in document generation is often crucial to communicate with customers



What else...?



Summary: Main features (1/2)

- ✓ - Improved collaboration & productivity, common technology should reduce maintenance costs
- ✓ - Modern look & feel - especially in industries like consumer electronics and med devices
- ✓ - Fully functional web client
- ✓ - Reuse of artifacts, i.e. they are stored at project level and can be selected in collections and modules
- ✓ - It is very simple to define a new metamodel: types, attribute types, artifacts types, preferred links
- ✓ - Easy-to-use UI
- ✓ - Easy to install and deploy
- ✓ - RTF support in artifacts including tables, images, links, etc.
- ✓ - Import of Word, ReqIF and Excel (CSV)

Summary: Main features (2/2)

- ✓ - Multiple editing: you select several artifacts and you edit an attribute or add them to a collection in one operation
- ✓ - Runs on the IBM Rational Jazz platform technology
- ✓ - Includes a server application and web client for main usage
- ✓ - Provides capabilities to define and manage requirements in systems and software engineering projects for manufactured products and systems-oriented industries
- ✓ - Integrates with quality, change and configuration management, defects, source code repository and project planning characteristics
- ✓ - Need of collaboration with additional team member
- ✓ - Need for integration with the above characteristics (OSLC)
- ✓ - DOORS licenses = RDNG licenses

What's new?

- Improved artifact editing (Search for phrases, artifact header reorganization, attribute fields in the sidebar...)
- Improved usability (Alphabetical reordering, filter by folders, changes to the row edit menu,...)
- Improved WAN performance (Takes less time to load a new browser session)
- Storage separation for the Requirements Management application
- Multiple Requirements Management applications on the same Jazz Team Server
- New getting started guide
- Full-text indexing
- **Extensions support for scripting**





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