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 phase[1]

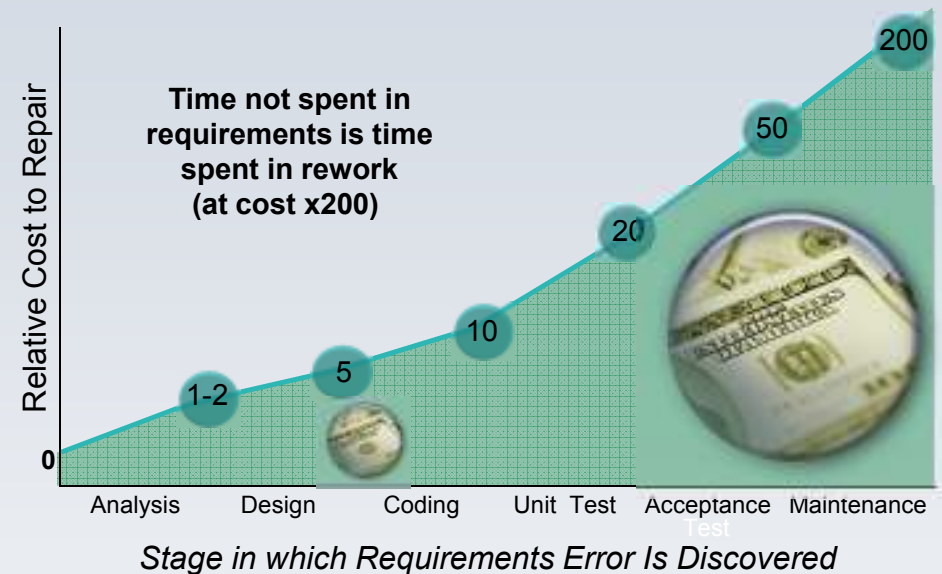- **More than 40%** of development budget can be consumed by poor requirements[2]

Project Impacts

- **41%** of projects fail to deliver the expected business value and ROI[3]

- **49%** of projects overrun original estimates[3]

- **28%** of projects on time and on budget[4]

Project Delays

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

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

Time not spent in requirements is time spent in rework (at cost x200)

Relative Cost to Repair

1-2   5   10   20   50   200

0

Analysis   Design   Coding   Unit Test   Acceptance Test   Maintenance

Stage in which Requirements Error Is Discovered

"Our research indicates 80-plus percent of development failures result directly from poor requirements gathering, management, and analysis."
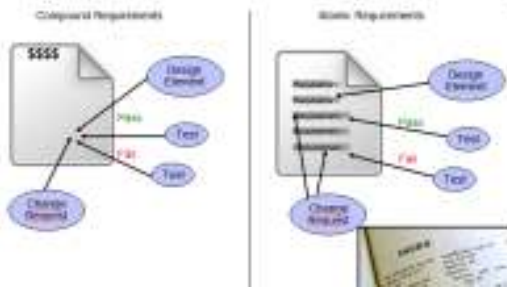
IDC, November 2007

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

History and Security

Hierarchy

Disorganized → Organization

Reporting

Traceability

Collaboration

Attributes

Key requirements for an RM system

Granularity

Hierarchy

Disorganized → Organization
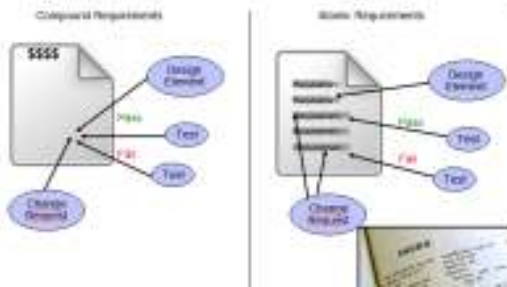
History and Security

Recording who did what ...and when

Controlling who can see and change information

Reporting
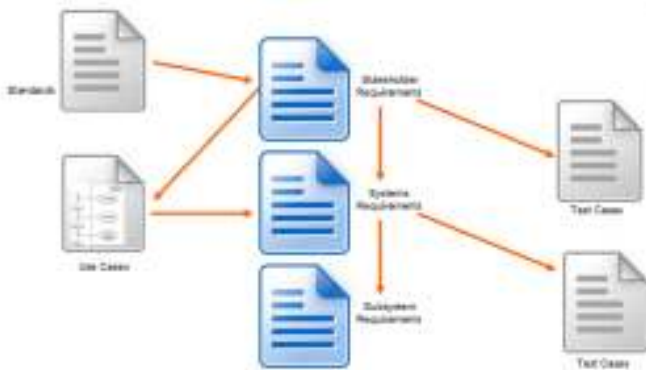
Traceability

Collaboration

Collaboration
Between customers ...
...Product Mangers...
...the business...
...Engineering... and Test

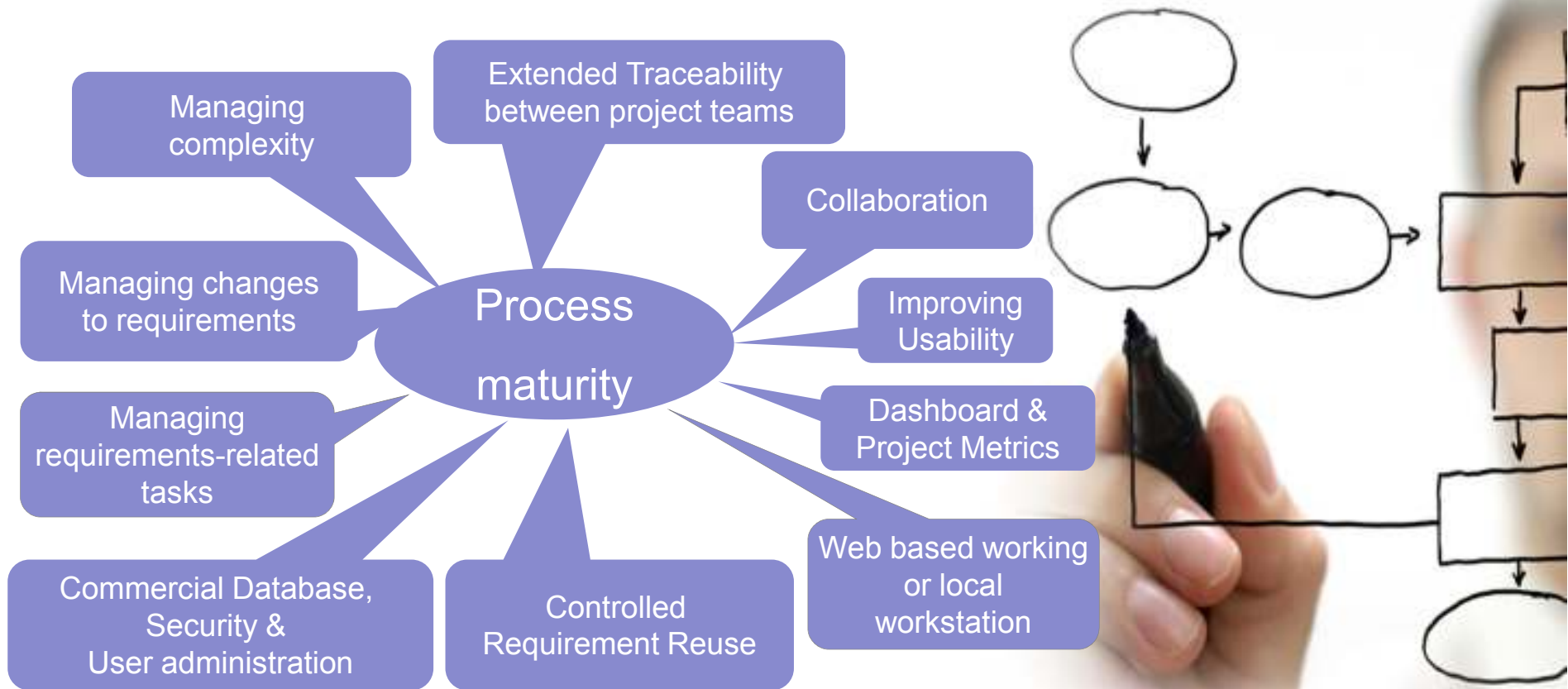**Attributes**

Identification, Type, Performance, Priority, Status

Why DOORS Next Generation?
the demands for RM systems are expanding

- Managing complexity
- Extended Traceability between project teams
- Collaboration
- Managing changes to requirements
- Process maturity
- Improving Usability
- Managing requirements-related tasks
- Dashboard & Project Metrics
- Commercial Database, Security & User administration
- Controlled Requirement Reuse
- Web based working or local workstation

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

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

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Important Concept: Artifact

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

Informal Uploads
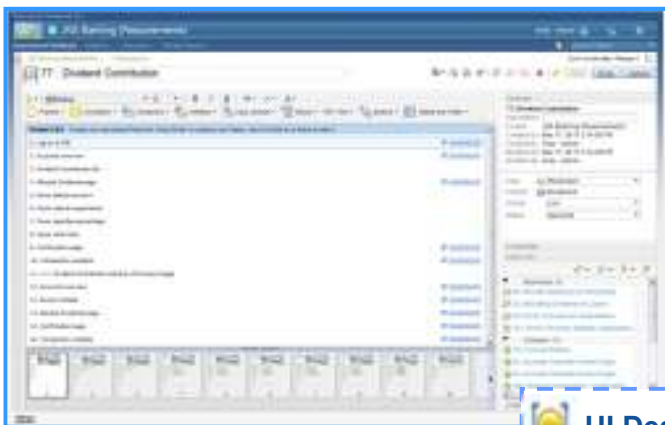
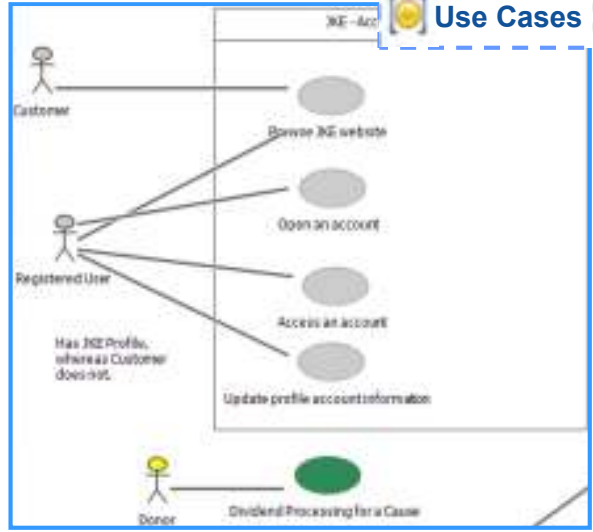**UI Design**
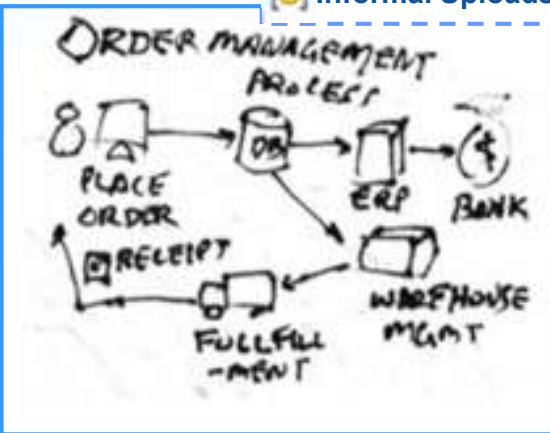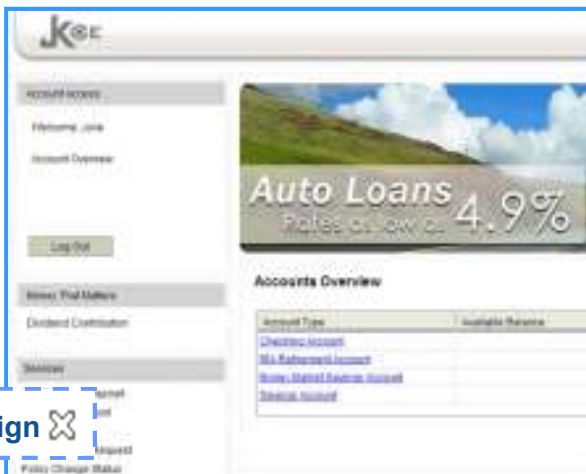
Use Cases

Screenflow

Process Diagrams

8
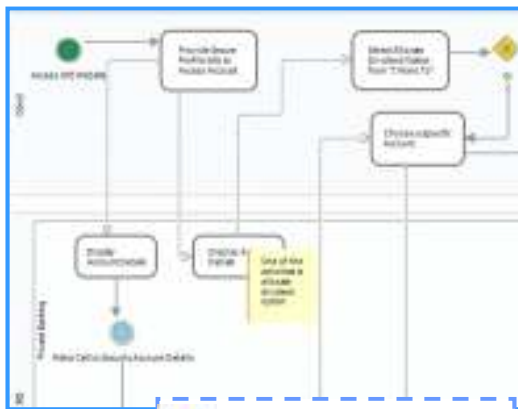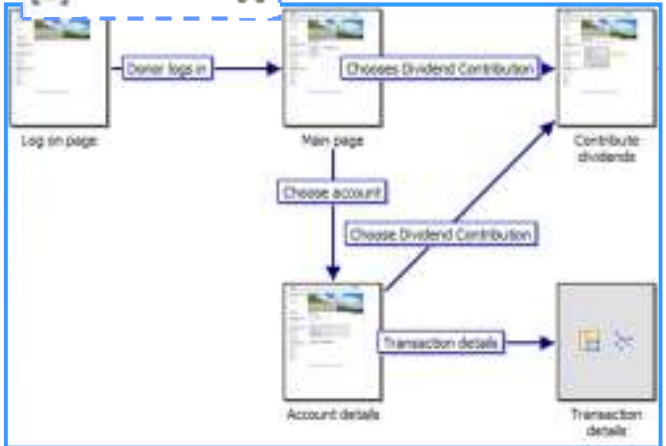
Fully functional **web**
DOORS NG module view

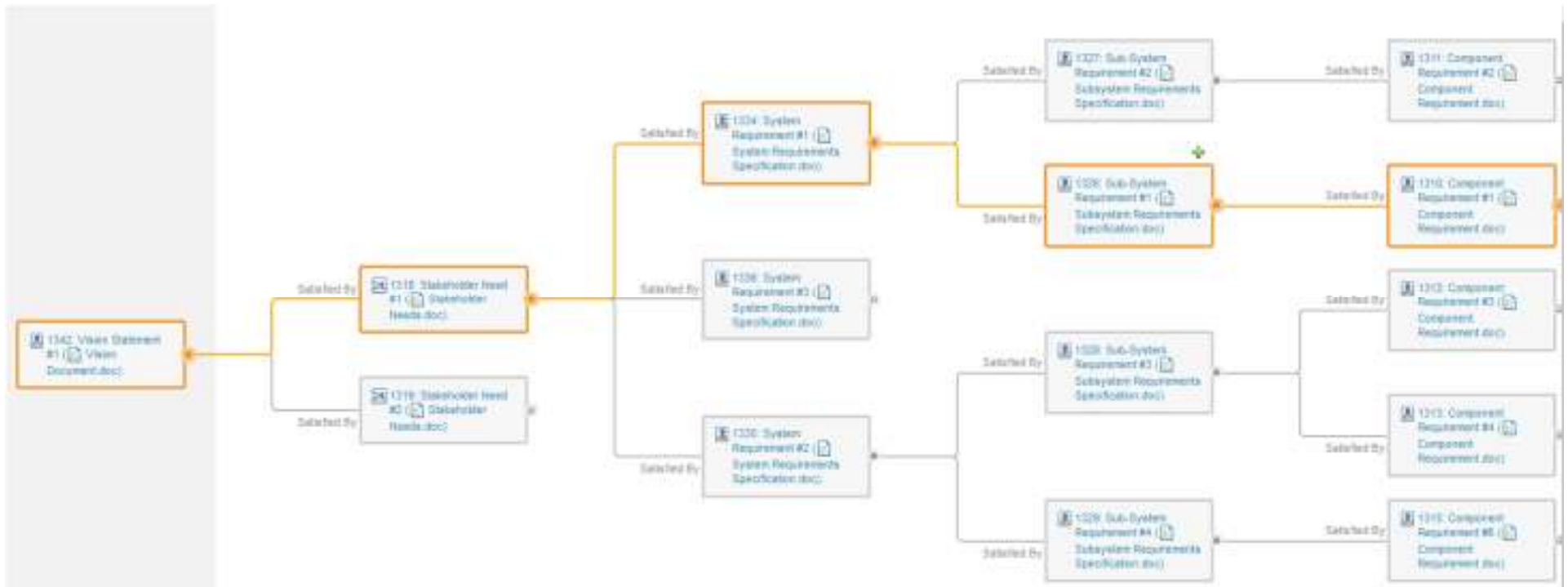Modern web look and feel minimizes adoption cost for new and casual users

Module

Properties

Filter Pane

Glossary Terms

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

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
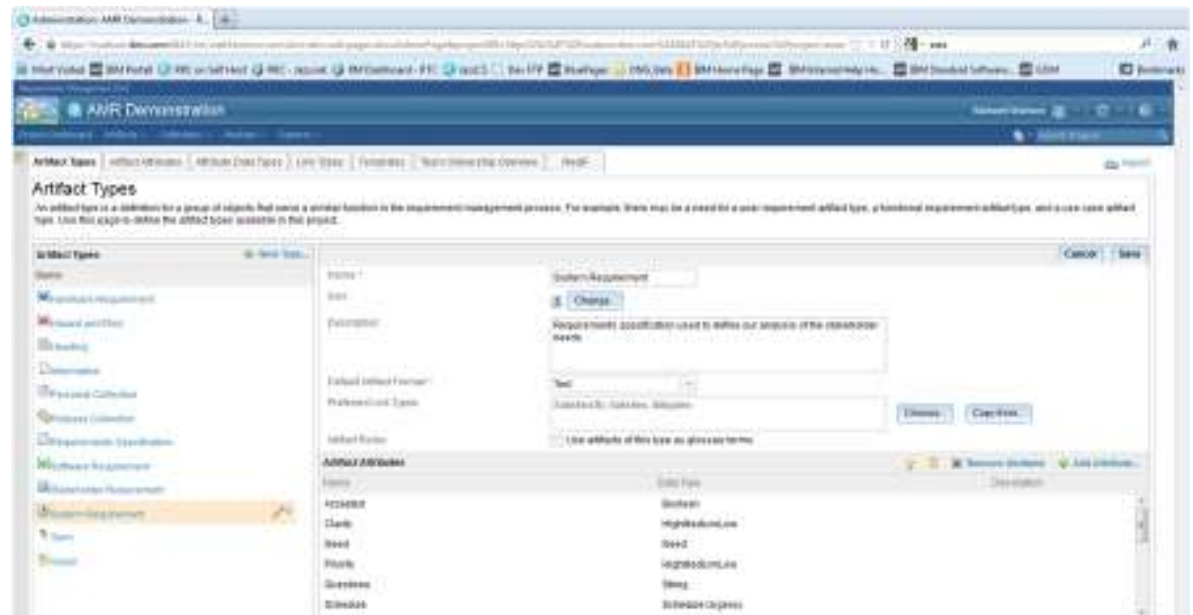
- **Coordinated deployment of**

  – 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

Notification to personal dashboard **Comments can be used inside or outside of a review**

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Audit trail

- **Requirements updates are monitored and recorded in history**
  - See *who* did *what* and *when*
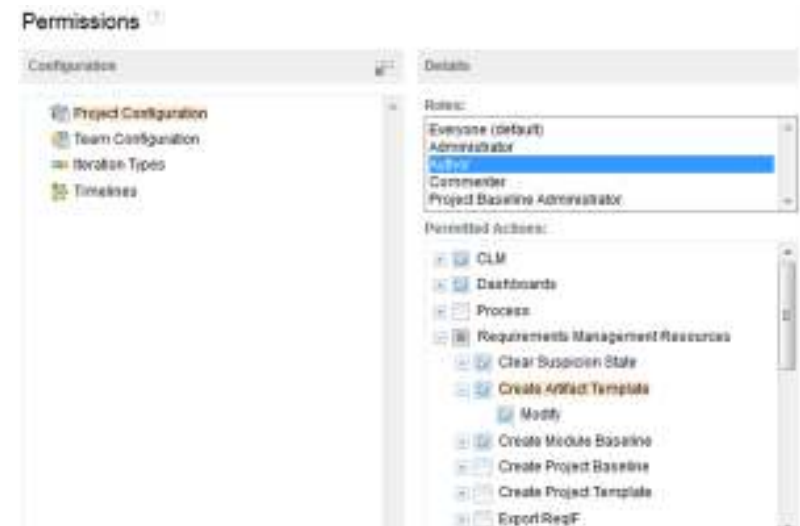
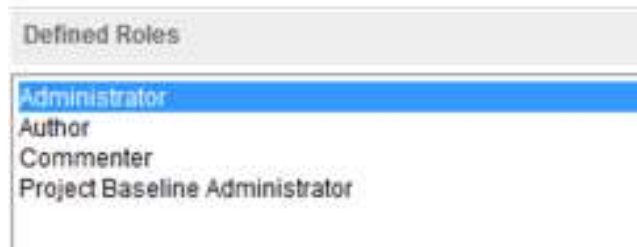- **Record a milestone as a retrievable version**
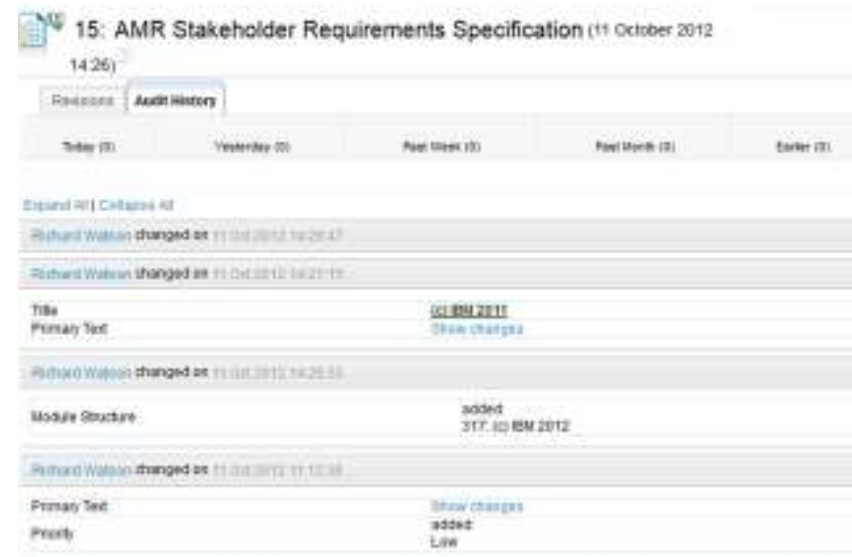
Security, Roles and Permissions

- **Controlling who can see and modify information can be critical**

  – Control access to data through "Team Areas"
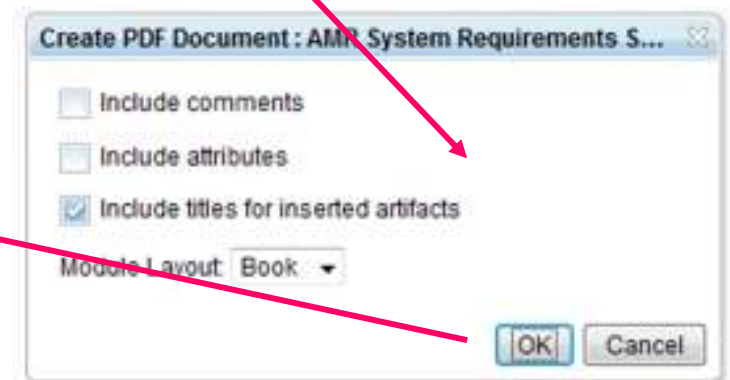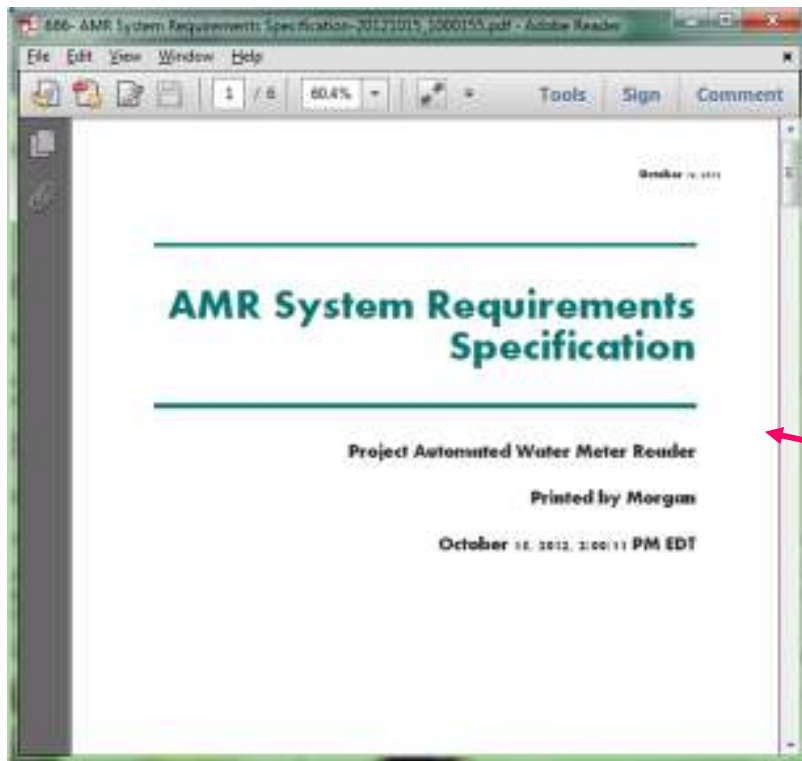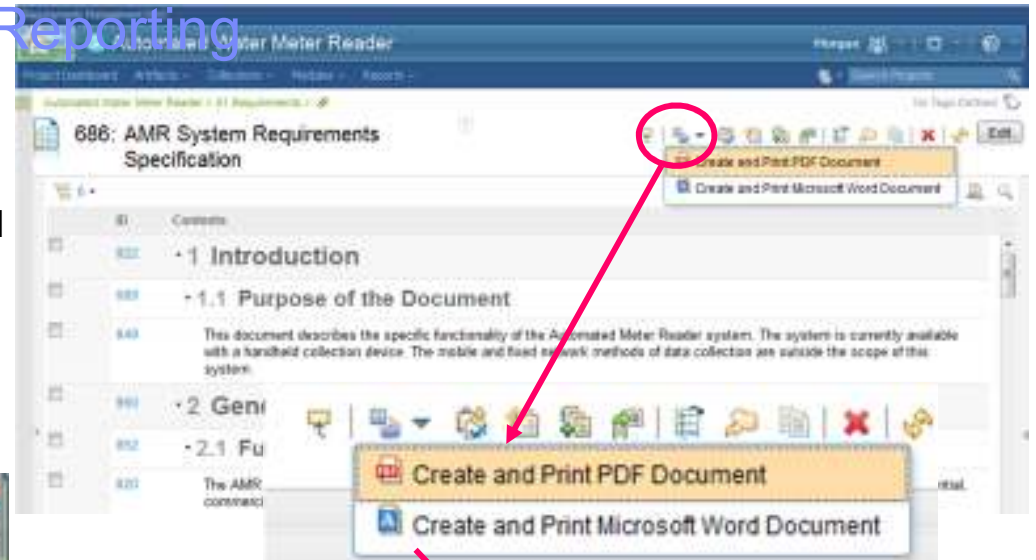
- **Controlling which functions are visible can simplify product usage within teams**

  – 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…?

Rational
Insight

Rational
Publishing Engine

Rational
Team Concert

Rational
Rhapsody

Rational
ClearQuest

Rational
Design Manager

Software Architect
Rhapsody

Rational
Focal Point

Rational
DOORS

Rational
Quality Manager

Open Services for Lifecycle Collaboration

OSLC

Rational
DOORS Next
Generation

3rd Party tools

HP
Quality Center

Microsoft
Team Foundation Server

JIRA

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**

Extensions support for scripting

www.ibm.com/software/rational