Drinking Our Own Champagne: Rational Requirement Composer

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Purpose

- This session will show how the Rational Requirements Composer development team used the Collaborative Lifecycle Management (CLM) jazz products to specify, analyze, design and implement key features, intended for future versions of RRC. It will focus on our use of RTC and RRC and include a discussion of benefits to the team.

- Plus (we hope)
  - Give you a vision of how IBM Rational® Requirements Composer (RRC) can improve team performance and project outcomes
  - Show you a “real” usage model that is improving the product
    - Rational “Drinking our own Champagne!” Campaign
  - Get you thinking about how you and your teams can benefit from RRC

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Some Familiar Situations… we face them too !!

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IBM Rational Requirements Composer 4.0

Requirements Management for the Development Lifecycle

Rational Requirements Composer

Definition

Improved!

- Rich-text documents
- Diagrams: Process, Use Case
- Storyboards, UI sketching & flow
- Project glossaries
- **Templates (formal/agile)**

Visibility

Improved!

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

Collaboration

- Review & Approval
- Discussions
- Email Notification

Supports RequisitePro Data Migration

Management

Improved!

- Structure, Attributes/Types
- **Traceability**, **Suspect Link**
- Filtering, Change History
- Tags, Reuse, Baselines,
- Reporting Metrics & Doc.

Lifecycle

Improved!

- Central requirements, test, & development repository
- **WAS Clustered Server**
- Common admin and role-based user licensing
- Warehouse reporting

Planning

- Integrated planning
- Effort estimation
- Task management

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Requirements Definition and Management for the Development Lifecycle

IBM Rational Requirements Composer v4.0.1 Q4 2012

- **Empower teams of all sizes and complexity** to define, analyze, manage, report with project requirements
- Improve **visibility and understanding** of requirements across the development lifecycle
- **Realize project impact and downstream visibility** using traceability across requirements, test, and development
- **Drive development forward** with agile-at-scale and iterative processes in fast paced markets
- **Customer and stakeholder collaboration** for improved agility and informed decisions

NEW!

IBM Rational Requirements Composer v4.0.1 Q4 2012 highlights

- New online document structures (Modules) for requirement **organization and structure**
- Take requirements offline or **exchange them round trip** for broader collaboration Improved traceability to show more detail to enable business analysts to better analyze
  - Connect tests and plans to requirements using the new **RRC/HPQC Integration Adaptor**
  - Connect **requirements to models** and elements through OSLC to RSA Design Manager
  - Business analysts can **compare collections** to version of the same collections

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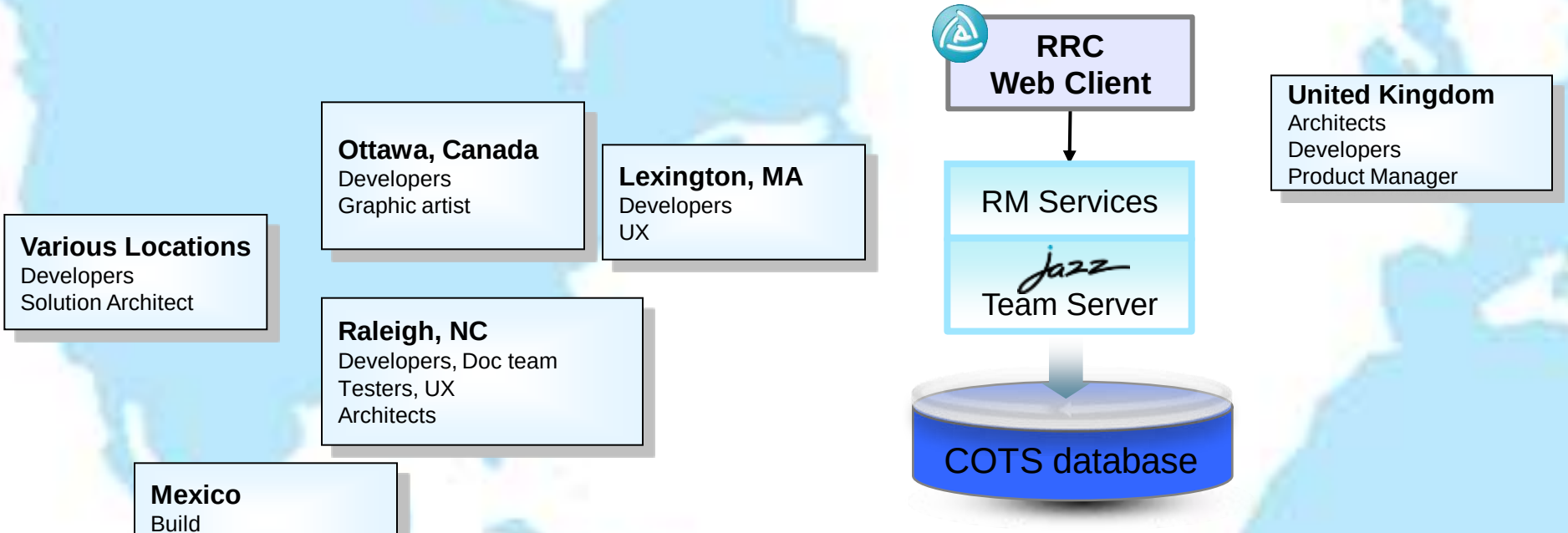
RRC Product Team



- Server in Research Triangle Park, NC, USA
- Intel Core2 2.66Ghz, 4GB of RAM, Windows 2008 server
- Using Tomcat
- Using separate AIX DB2 server

https://jazz.net/rm/web

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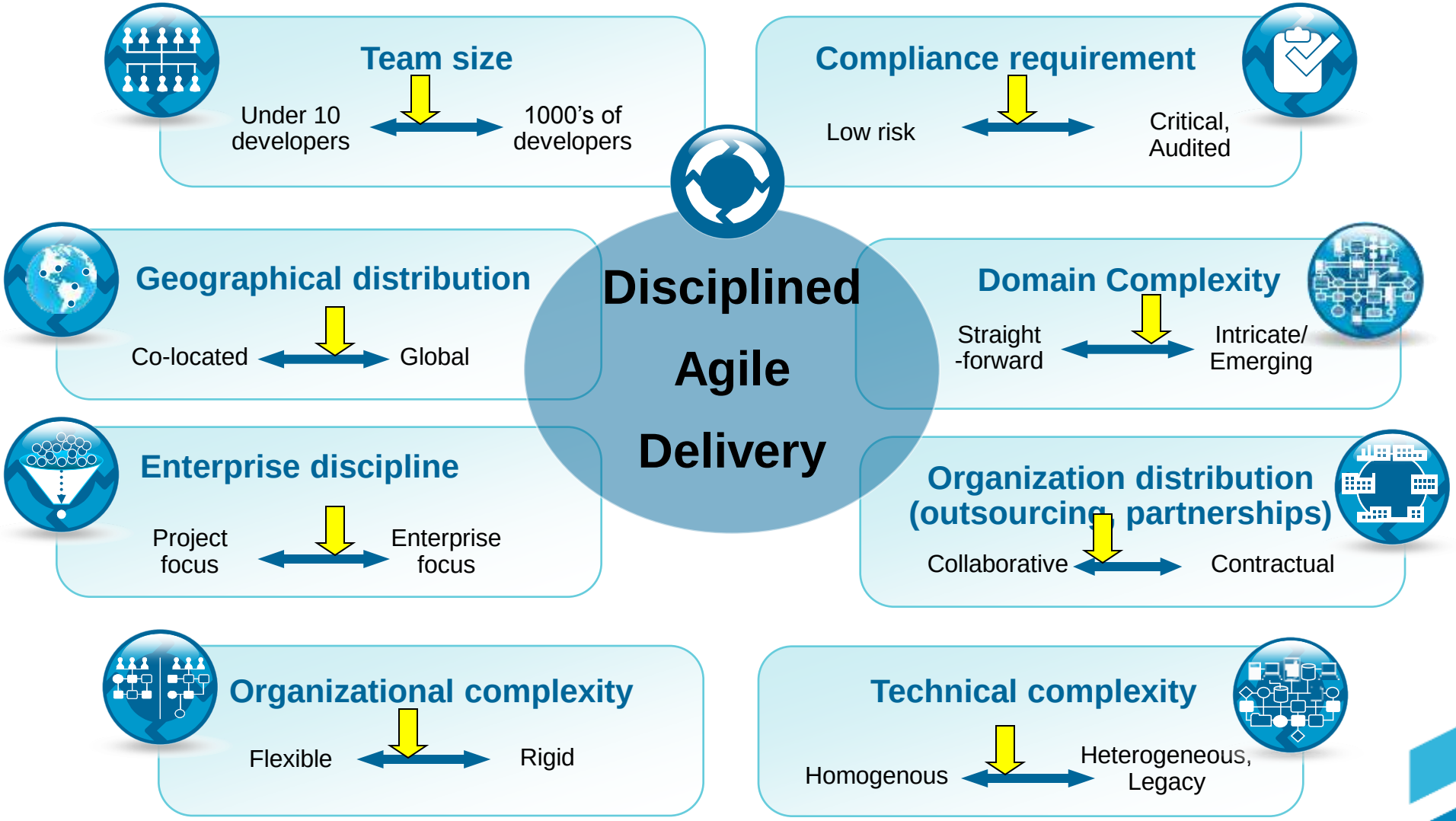
IBM agility@scale™ – our team self-assessment



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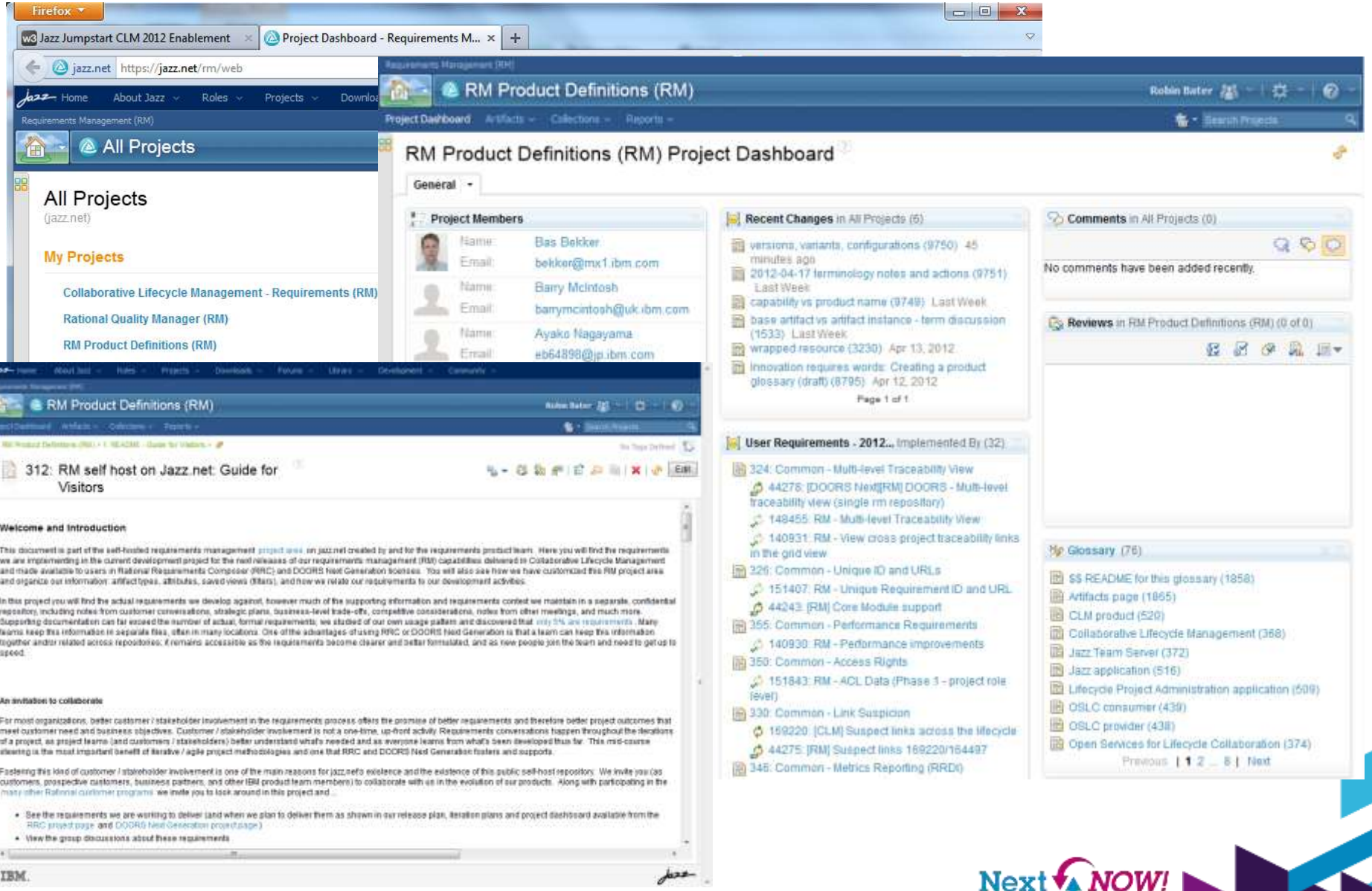
We do much of our work on https://jazz.net/rm/web



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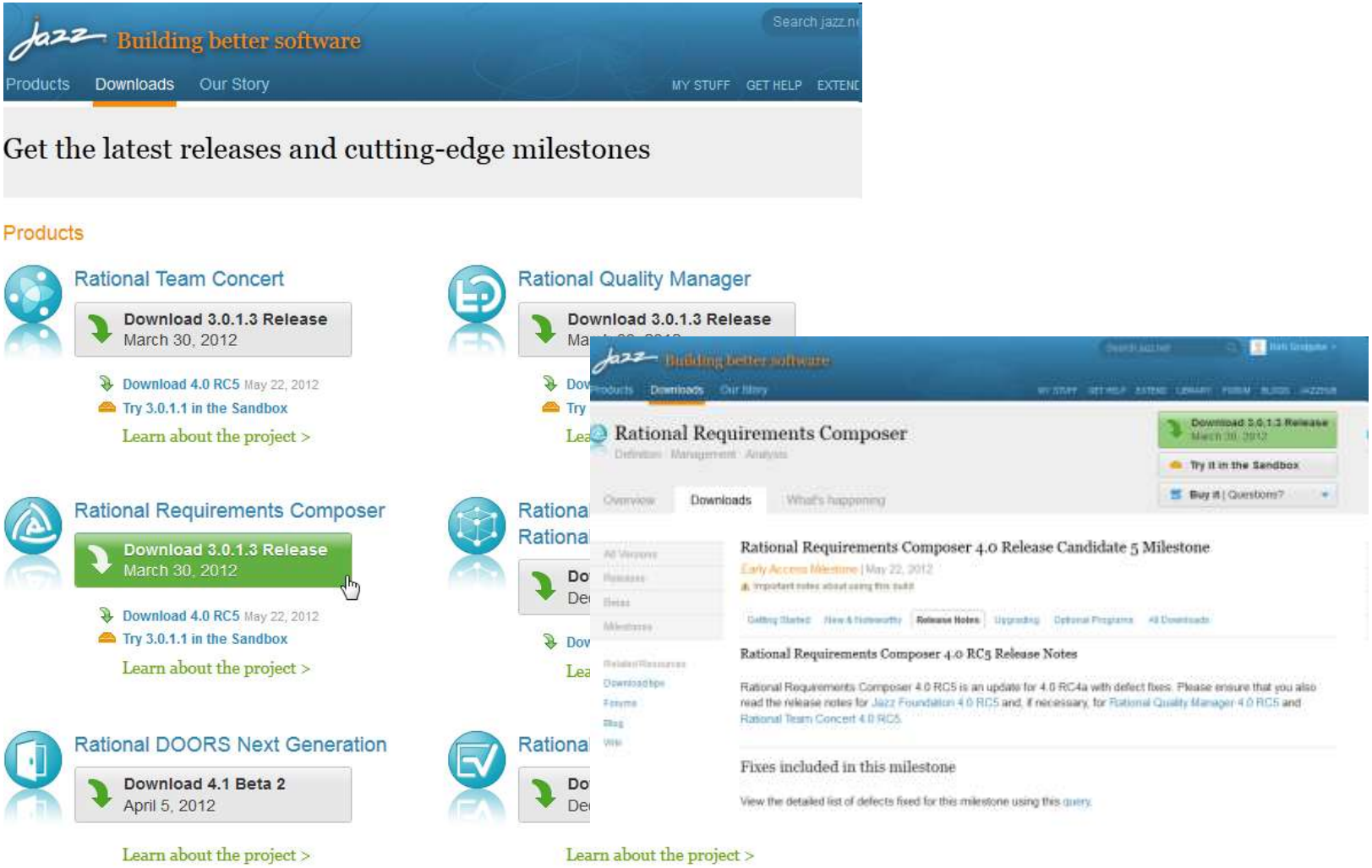
And provide milestones https://jazz.net/downloads/ for feedback



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For the two projects we support

- Rational Requirements Composer
- https://jazz.net/projects/rational-requirements-composer/

- DOORS Next Generation
- https://jazz.net/projects/rational-doors/

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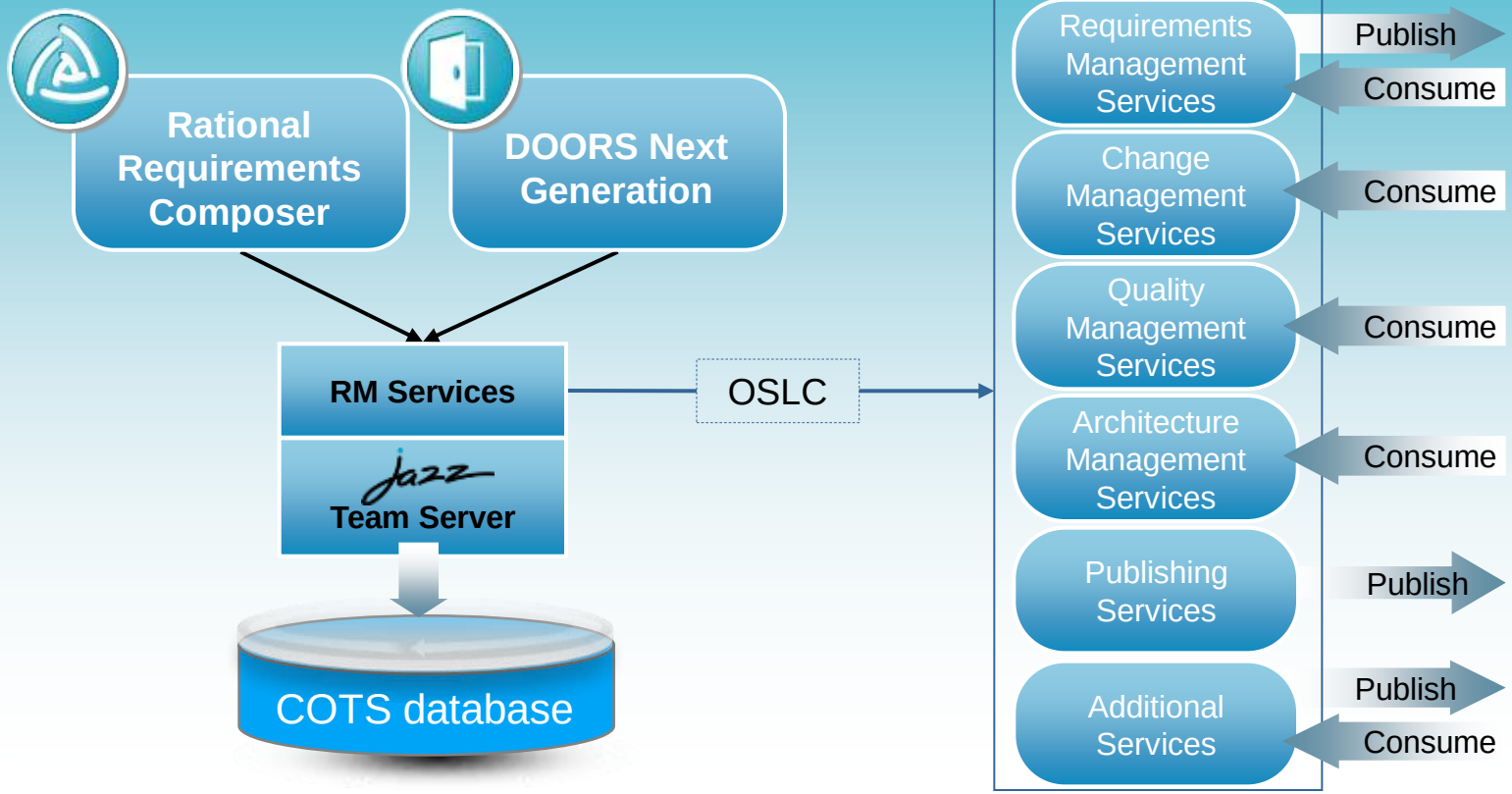
Architectural End Goal for Rational RDM Tools

- Requirements visibility and traceability across the lifecycle
- Open integration architecture built on the Jazz Team Server
- Integrations using Open Services for Lifecycle Collaboration (OSLC)



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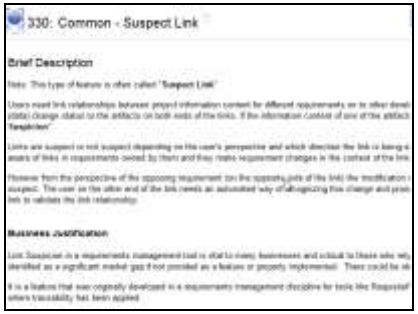
Drinking Our Own Champagne



Typical feature evolution

1. Stakeholder describes the feature
2. Product Manager then creates Plan Items
3. Product Manager then Ranks the Plan Items
4. Product Manager describes the business scenario and related requirements
5. Architect defines the workflow and oversees design
6. User Interface designers then developed mockups
7. Development team developed incremental solutions, creating “Stories” based on Plan Items
8. Test team creates test cases based on Stories and UI design documents, tests drivers, opens defects.
9. We use milestone drivers to obtain feedback from the stakeholders

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Sources for our Requirements – Everywhere!

Jazz.net Forums

Development Council

Managed Beta

Tech Support

Conferences

Customer meetings

Design Partner Program

Open Beta

Marketing

Architecture Board

DeveloperWorks (RFE)

VoICE Customer Events

Technology

IBMers

Self-Hosting

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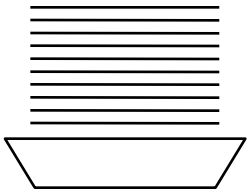
Product Backlog



Product Backlog

Defects, Change Requests

User Stories, Scenarios

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Plan Items - Ranked

Plan Items

Ranking

Summary	Id	Architect	Feature Team Lead	Priority	Rank	Status	DCP Boca	Commitmer	Filed Agains
DNextBeta1 PMC_Req UX [RM] Core Module support	44243	ian green	Chris McGraw	High	1	Implementing	Base Conte	Commite	Server
CLM PMC_Req UX [RM] Suspect links 169220/164497	44275	George DeCandio	Marc Baumbach	High	5	Ready to Test	Base Conte	Commite	Collabor
CLM PMC_Req UX [RM] Finer grained WRITE access control	44238	Dominic Tulley	Mark Goossen	High	7	Implementing	Base Conte	Commite	Server
CLM UX [RM] Improve upgrade experience 169175	44234	Devang Parikh	Alastair Stuart	High	8	Exploring	Base Conte	Commite	Server
DNextBeta1 PMC_Req UX [RM] ReqIF part 1 - Round trip without process contrc	44286	Dominic Tulley	Tom Mutdosch	High	9	Implementing	Base Conte	Commite	Server
DNextBeta1 PMC_Req UX [RM] Requirements Parsing (rich-text/convertable do	44251	Vishy Ramaswamy	Min Idzelis	High	10	Ready to Test	Base Conte	Commite	Server
[RM] Server acceptance test (owned by server and client team)	44262	ian green	Charles Wells	High	11	Implementing	Base Conte	Commite	Server
CLM UX [RM] Support Data reorganization (server move) (CLM 166347)	44255	Devang Parikh	Devang Parikh	High	12	Implementing	Pressures	Commite	Server
CLM [RM] Adopt clustering for HA and/or horizontal scaling (CLM 103973)	44233	Devang Parikh	Knut Radloff	High	13	Implementing	Base Conte	Commite	Server
PMC_Req UX [RM] Baselining modules for auditability	44289	ian green	Tim Neilson	High	14	Implementing	Unassigne	Propose	Server
UX [RM] Group access rights	44285	Dominic Tulley	Mark Goossen	High	16	Implementing	Extended C	Commite	Server
PMC_Req UX [RM] Module wide find and replace	44301	Ed Gentry	Lynne Kues	High	17	Ready to Impler	Unassigne	Commite	RRC We
UX [RM] HP-QC Integration	44237	George DeCandio	Todd Merriweather	High	21	New	Base Conte	Commite	Server
UX [RM] Design Manager (DM) (RSA/Rhapsody) integration	44244	Vishy Ramaswamy	Terry Caudill	High	22	Implementing	Pressures	Commite	Server

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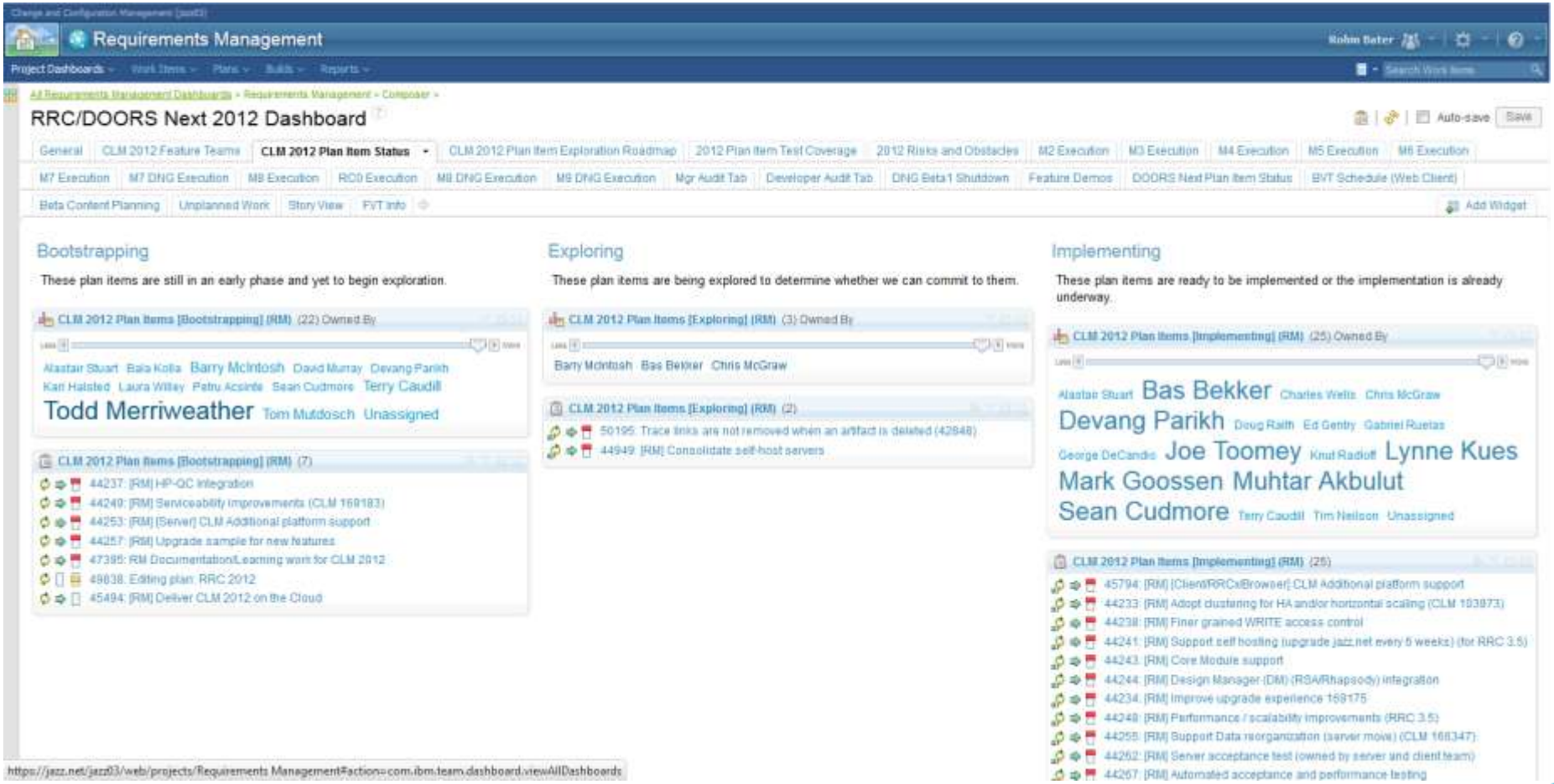
Plan Items – Release Plan (RM) Dashboard



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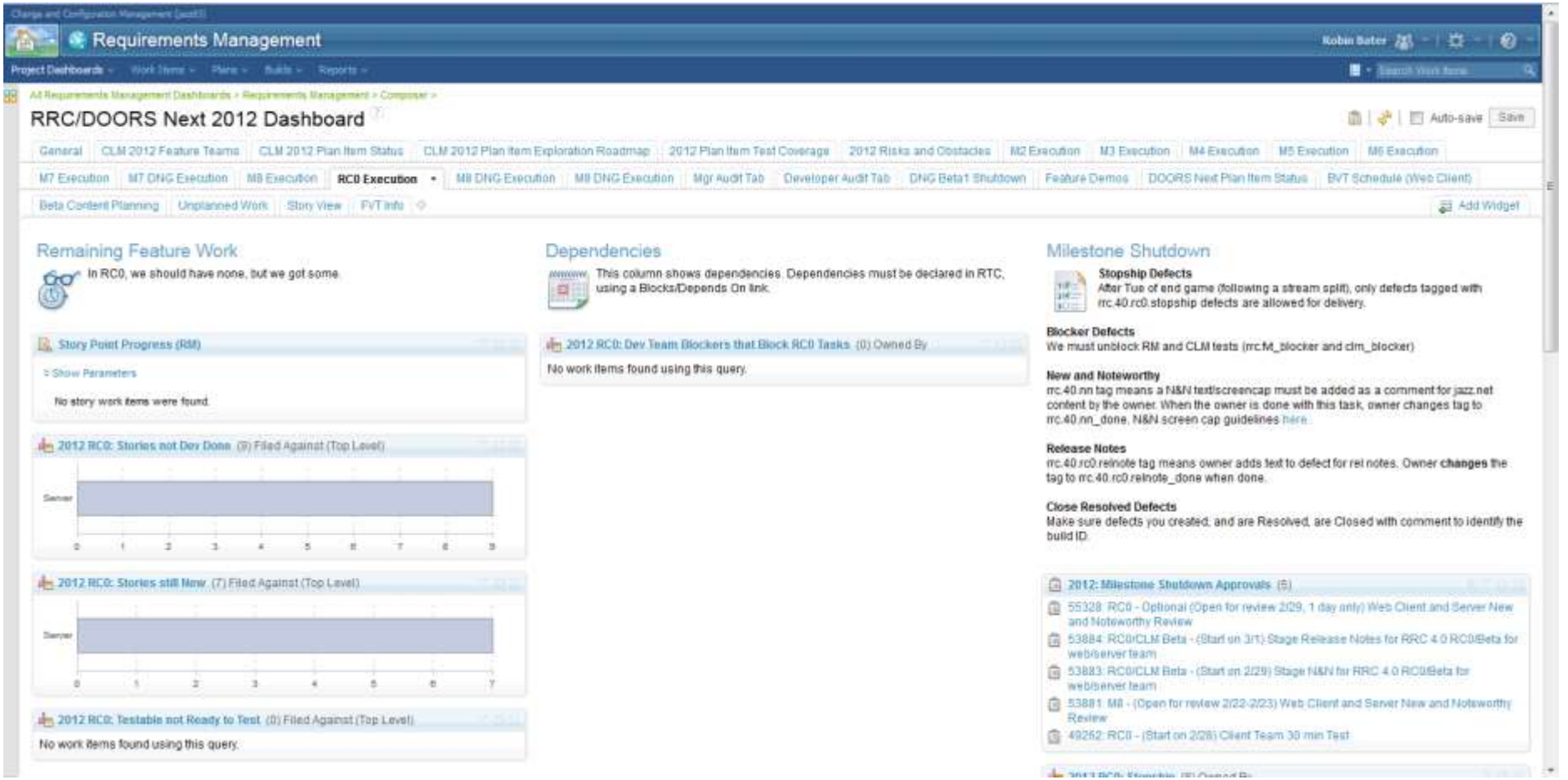
Plan Items - CLM 2012 Release Plan (RM) Dashboard



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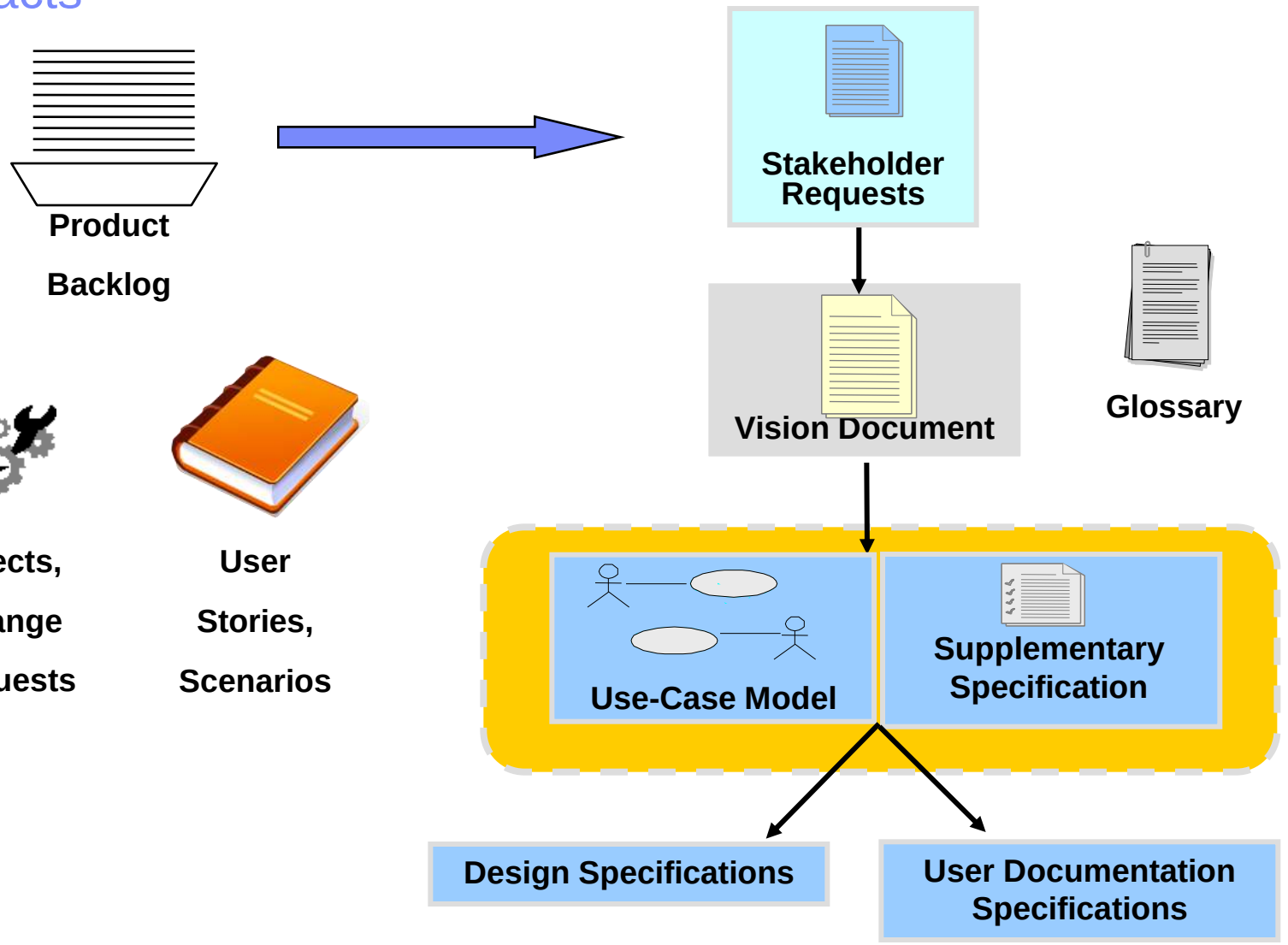
Our Artifacts



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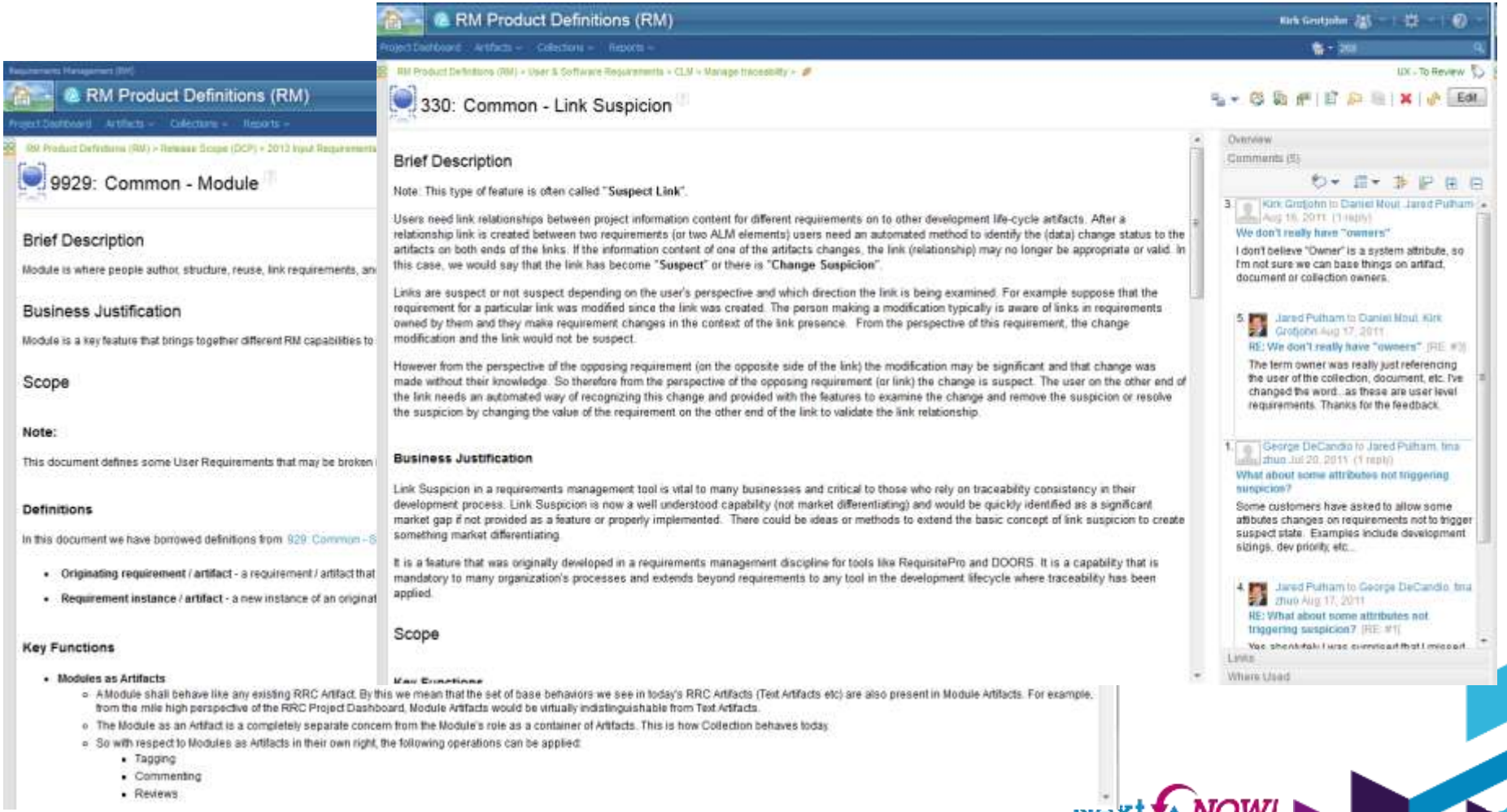
Top 2 Features – User Requirements (RRC)

Summary	Id
DNextBeta1 PMC_Req UX [RM] Core Module support	44243
CLM PMC_Req UX [RM] Suspect links 169220/164497	44275



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User Requirements Satisfied by Software Requirements (in RRC)

Software requirements that satisfy User requirements

Artifacts

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ID	Name	Artifact Type	Satisfied By
317	Common - Type and Attribute Management System	User Requirement	386:Type System 387:Type system useability
318	Common - Audit History	User Requirement	390:Audit History
323	Common - Relationships for Traceability Structure	User Requirement	392:Traceability
324	Common - Multi-level Traceability View	User Requirement	392:Traceability
325	Common - Database Wide Query	User Requirement	384:Sample queries and views 383:Saved query 393:Search
333	Glossary Tagging Capability	User Requirement	391:Glossary and Terms
334	Sketching/GUI Wireframe, Storyboards Facility	User Requirement	457:Enable installation and upgrade of artifact plugins and extensions
335	Use Cases and Process Diagram Infrastructure	User Requirement	457:Enable installation and upgrade of artifact plugins and extensions
336	Common - User Collaboration	User Requirement	458:CLM UI compliance
338	Common - CSV Data Import (Attribute Import)	User Requirement	388:CSV import and export
339	Common - CSV Export: View Based	User Requirement	388:CSV import and export
340	Common - Requirements Document Import (Data Parsing)	User Requirement	389:Import a Word document and convert it to a rich-text artifact
341	Common - Word Export	User Requirement	382:Printing requirements artifacts and collections

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User Requirements Implemented By Plan Items

Artifacts

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Previous | 1 2 3 | Next

	ID	Name	Artifact Type	Artifact Owner	Business Priority	Status	Implemented By
☐	296	Common - Linking	User Requirement	tina zhuo	Must	Under Review	99047: Improve and deepen traceability links & views, add support for change impact/suspect links 44254: [RM] Graphical traceability view 44256: [RM] Backlinking - Query service consumption for OSLC linking (DM)
☐	315	Common - User Dashboards	User Requirement	Jared Pulham	Must		151399: RM - User Dashboard Layout Controls
☐	316	Common - Requirements Document Database (Library) Structure	User Requirement	Jared Pulham	Must		151400: RM - Requirements Document Database (Project) Structure
☐	317	Common - Type and Attribute Management System	User Requirement	tina zhuo	Must	Approved	148453: RM - Attribute Type Management System
☑	318	Common - Audit History	User Requirement	Jared Pulham	Must		148456: RM - Audit Trail Change History and Audit Trail Change comparison

Stories (in RTC) that implement User requirements

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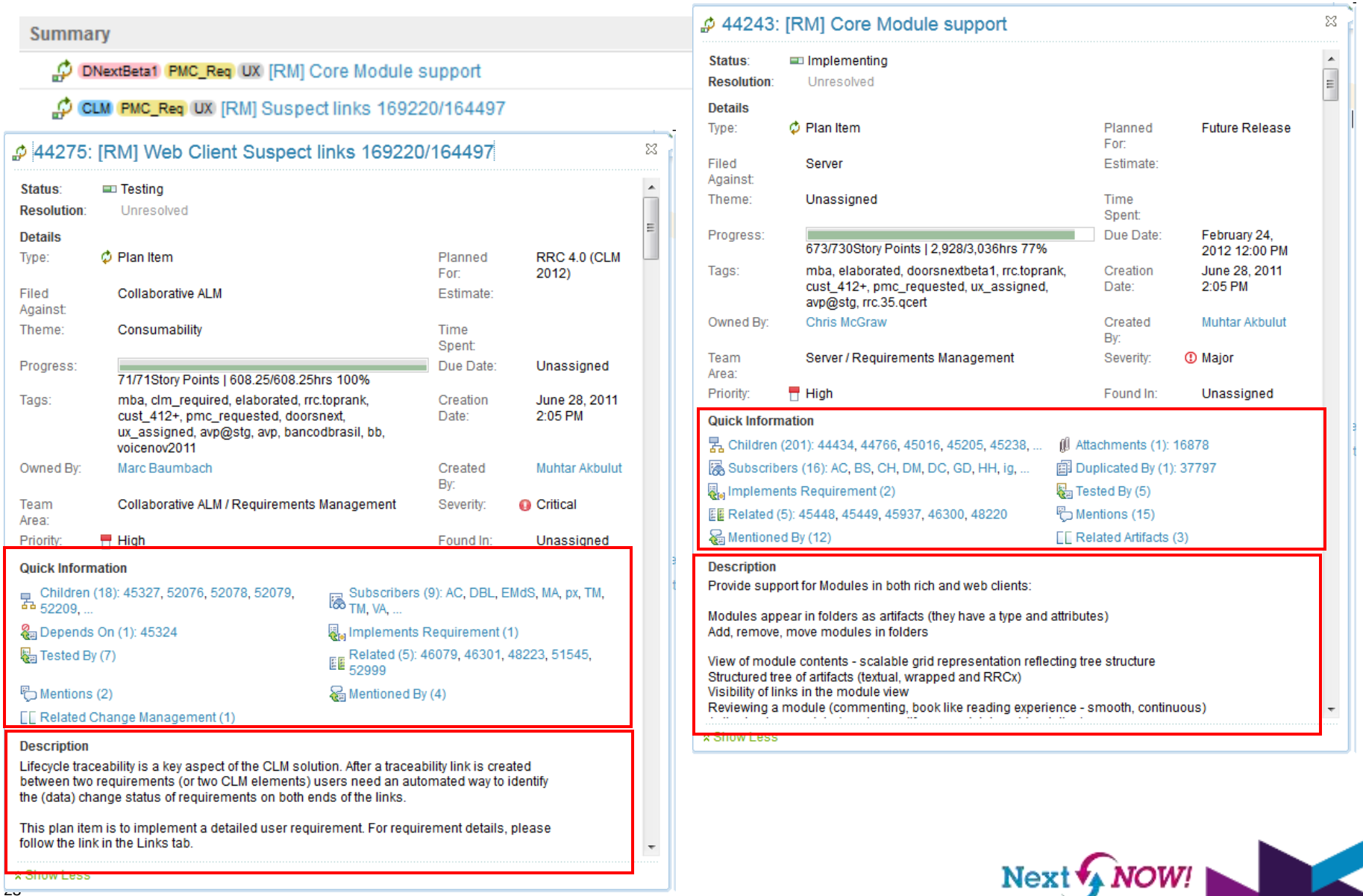
Top 2 Features - Plan Items (RTC)



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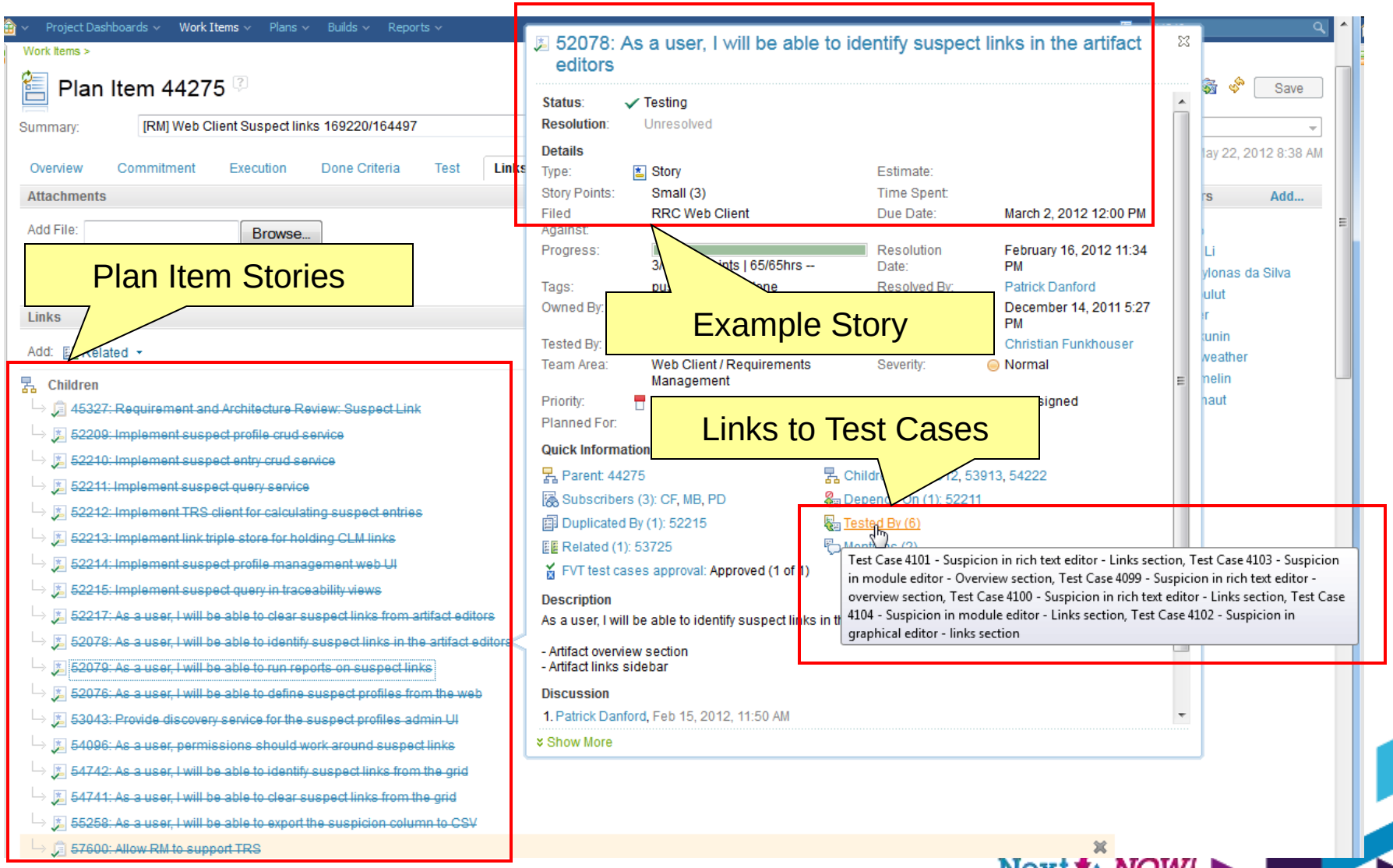
Suspect Links - Plan Items Decomposed to Child Stories



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Plan Items - Release Plan in RTC (Lifecycle View)

Plan Items

Links to Requirements

Links to Test Cases

Summary	Rank	Business Value	Implements Requirement	Tested By Test Case	Feature Tea	Architect
[DOORS Next] Core Module support	1	10 - Show Stopp	--	--	Unassig	ian green
[RM] Core Module support	2	7 - Priority	Links (2): 1, 2	Links (5): 1, 2, 3, 4, 5	Chris Mc	ian green
~~[RM] Artifact sharing, potentially controlled r...~~	5	7 - Priority	636: Common - Support for requirements reuse	--	Chris Mc	ian green
[RM] Web Client Suspect links 169220/164...	6	2 - Nice to Have	330: Common - Link Suspicion	Links (7): 1, 2, 3, 4, 5, 6, 7	Marc Ba	George De
~~[RM] Backlinking - Query service consumpti...~~	7	7 - Priority	296: Common - Linking	Test Case 56706 - RRM_Req2De	Marc Ba	Vishy Ram
[RM] Finer grained WRITE access control	8	7 - Priority	495: Manage Security on Data	Links (2): 1, 2	Mark Go	Dominic Tu
[RM] Improve upgrade experience 169175	9	7 - Priority	342: Data migration from RRC 2.0.x	Test Case 51839 - RRM_RRC_Ac	Alastair	Devang Pa
[RM] Requirements Parsing (rich-text/conve...	10	7 - Priority	340: Common - MS Word Document Import (Data	Links (3): 1, 2, 3	Min Idze	Vishy Ram
[RM] Support Data reorganization (server m...	11	7 - Priority	--	Test Case 55020 - RRM_RRC_Se	Devang	Devang Pa
[RM] Adopt clustering for HA and/or horizont...	12	7 - Priority	Links (3): 1, 2, 3	Links (2): 1, 2	Knut Ra	Devang Pa
[RM] Web Client Baselining modules for au...	13	2 - Nice to Have	Links (2): 1, 2	Test Case 52582 - RRM_AlignIT_F	Tim Neil	ian green
[DOORS Next] Type Based Link Preferences	14	7 - Priority	739: Link Schema Control User Stories	--	Lynne K	Ed Gentry
[RM] Group access rights	15	2 - Nice to Have	495: Manage Security on Data	Test Case 52458 - RRM_AlignIT_S	Mark Go	Dominic Tu
[RM] Module wide find and replace	16	2 - Nice to Have	1442: Module Wide Find and Replace	Test Case 52582 - RRM_AlignIT_F	Lynne K	Ed Gentry

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Other Requirement Elaboration Artifacts in RRC

- End user scenarios
- Feature team supporting documents
- UI design documents
- Terminology
- Meeting minutes
- Customer feedback (e.g., beta program, DPP, etc.)
- Process documents

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End User Scenarios

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Beta Scenario

554: DOORS Next Beta 1 Scenario

Part 1. Product installation and figuration

Role: Product administrator

1. Installs and configures DOORS Next server, DOORS Next Rich client and Web client.
2. Optionally install and configure CCM from the CLM offerings

Part 2. User and project administration

Role: Project Administrator

DOORS Next Web Client

1. Project administrator manages users.
2. Project administrator creates a project using an out-of-box project template, and customize the type system. (Need a requirements engineering template for managing system requirements)
3. Project administrator assigns users to the project.

Part 3. Task management

Role: Project Manager & Requirements Engineer

DOORS Next Web Client & CCM Work Item & Planning

Note: To complete this part of the scenario, CCM application from CLM needs to be installed and configured.

1. Project Manager does RM planning using work items, and creates the following RM tasks and assign them to Requirements Engineers,
    - Define a folder hierarchy to organize requirements
    - Create different requirements specifications (using modules) to capture stakeholder requirements, system requirements and subsystem requirements.
        - Use rich text artifacts
        - Import a Word
        - Import CSV
        - Import a ReqIF package from DOORS9 into a module.
2. Requirements Engineers view assigned tasks on the personal dashboard
3. Requirements Engineers start working on RM tasks

Part 4. Importing, authoring, and linking requirements

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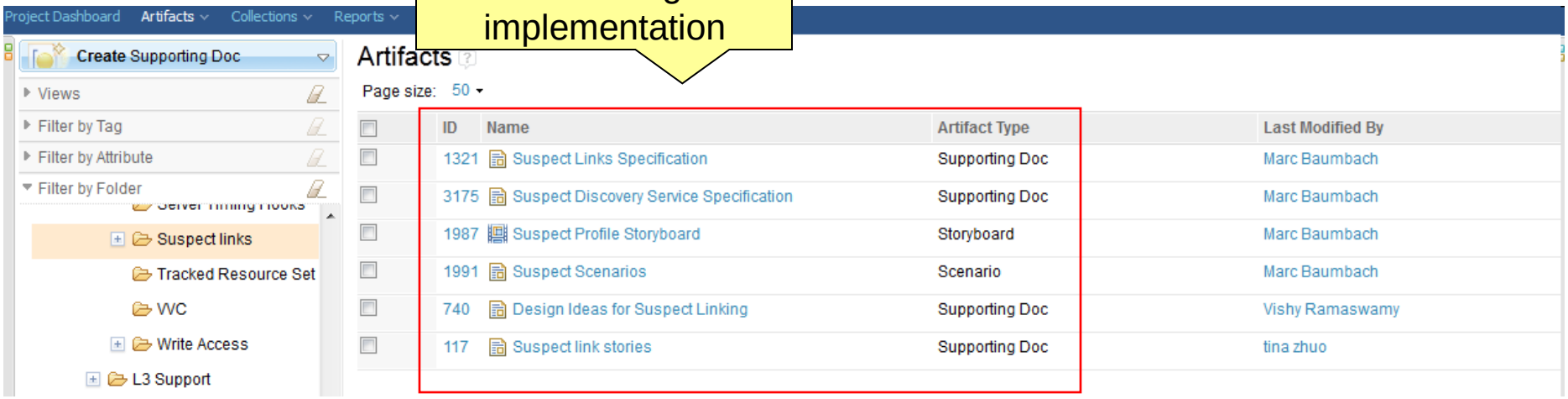
Suspect Artifacts – Feature Team Supporting Artifacts

Supporting artifacts related to design and implementation



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Suspect Artifacts – UX Design

Artifacts

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ID	Name	Tracked By	Link To
1217	UX Plan for Modules	46445: UX: Design for Navigating to a Module 46448: UI Design for Represneting, Managing and Customizing "Views" 46451: UI Design for the basic display of (module) content in a grid in document mode 46452: UI Design for manipulating artifacts in a module -- adding artifacts, creating artifacts, removing artifacts and reording artifacts 46454: UI Design for Virtually Scrolled Grids (Grids	3267:UI Designs for module audit history 1831:UX Review of Editing Modules 1312:UI Design: Manipulating artifacts in modules 1963:UI designs for commenting in modules 1486:UI explorations for commenting on modules 1365:Module look and specialized columns 1366:Virtual Scrolling in Modules and GRIDS 1368:FishEye-Animation.gif
956	UX Plan for Artifact Suspicion (web client)	52552: UI Design: suspect links - profiles 52554: UI design: suspect links - showing and acting on suspect links in RM	2861:UI Design for showing suspect artifacts 2957:UI Design for Suspect Profile
941	UX Plans for Baselining Modules (web client)	46261: UX: Design for module baselines	940:UI Designs for baselining modules
1038	UX Plan for finer-grained write access	46838: UX: Design for finer-grained write access	1510:UI Designs for permission presentation 1367:UI Design for write access control (setting permissions) 607:Write Access Stories
1197	UX Plan for ReqIF (web client)	46419: UX design needed for basic ReqIF import	1386:UI design for Importing ReqIF (web

UX Plan (in RRC) for each main feature

Tasks in RTC track the UI work

Links to UI design artifacts (storyboards in RRC)

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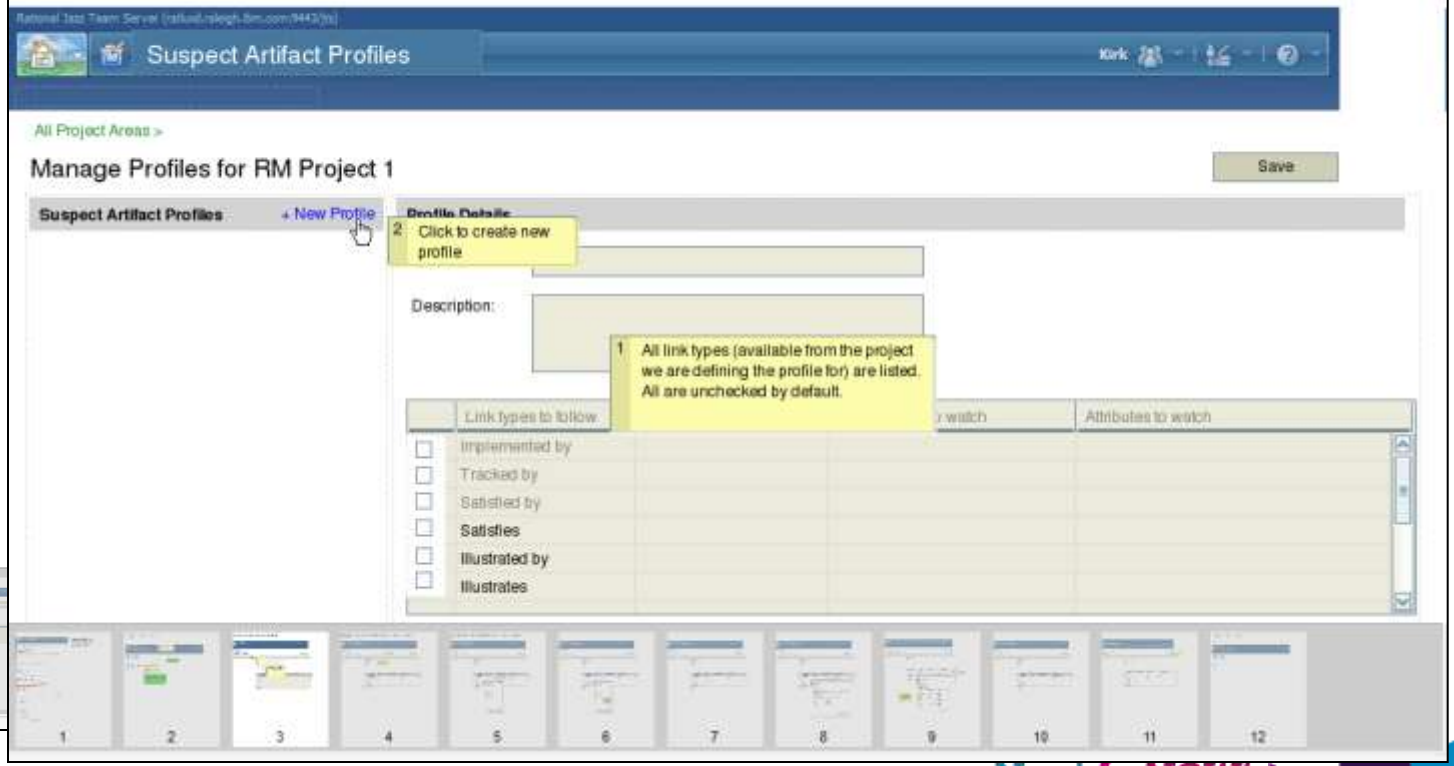
Suspect Artifacts – UI Design Storyboard

2957: UI Design for Suspect Profile

1. Suspect Artifacts Profiles link
2. Select project
3. Profile editor
4. Create new profile
5. Select link types
6. Select projects
7. Projects updated
8. Select artifact types
9. Select attributes
10. Table updated
11. Save profile
12. Back to project area list

Go to Frame List **2957: UI Design for Suspect Profile**

List of profiles is listed on the left. Click New Profile to create a new profile.



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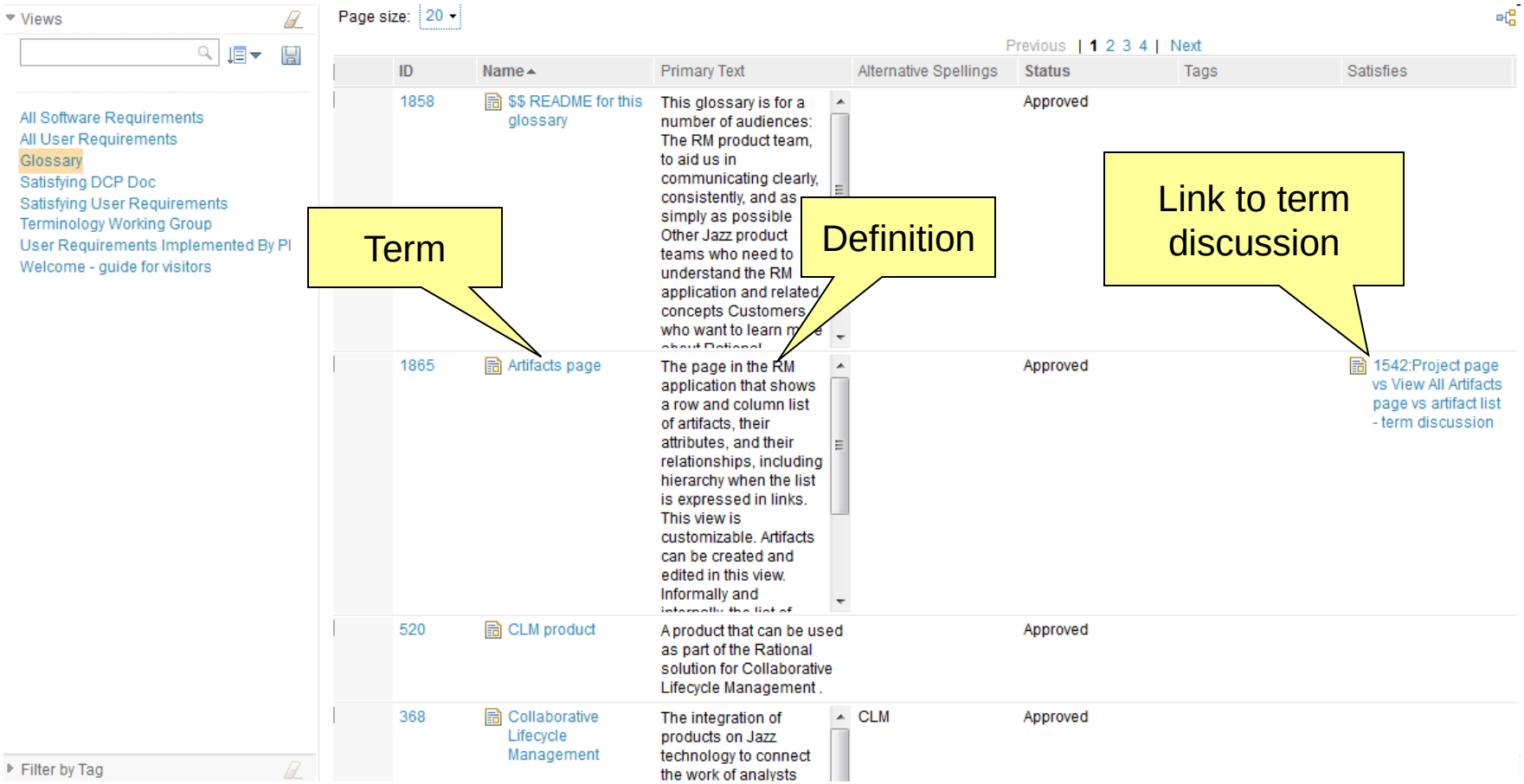
Glossary and Terminology Discussions



Read more at jazz.net (https://jazz.net/library/article/812)

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Benefits

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Key benefits experienced by the team

Increased the range and depth of stakeholder participation	Elicited more and better feedback before code was written –In requirements –In feature design
Less churn / rework	Converged faster on the “right” requirements Identified gaps and clarified misunderstandings more quickly
Better productivity through lower cost, higher value communication	Developers and testers communicated better among themselves, especially across component teams.

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