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Lab DSE-5063

Designing User Experience Concepts in Multi-Stream Configuration Management

February 2015

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Contents

Overview

In this lab you will explore the Configuration Management capabilities in the Systems and Software Engineering solution.

In this lab you will get hands on experience with

- IBM Rational DOORS Next Generation
- IBM Rational Quality Manager
- IBM Rational Configuration Management
- IBM Rational Team Concert

Over the course of this lab, you will explore the concepts and user experience in Configuration Management:

- Learn and deepen your understanding about Configuration Management concepts like Components, Streams, Baselines and Global Configurations
- Create streams and baselines for Requirements and Test components
- Create global configurations of Requirements and Test contributions
- Working with lifecycle artifacts and traceability links in context of a global configuration
- Create a global configuration baseline

You will also optionally explore advance topics in Configuration Management:

- Using hierarchical global configurations
- Using change sets

Lab Setup

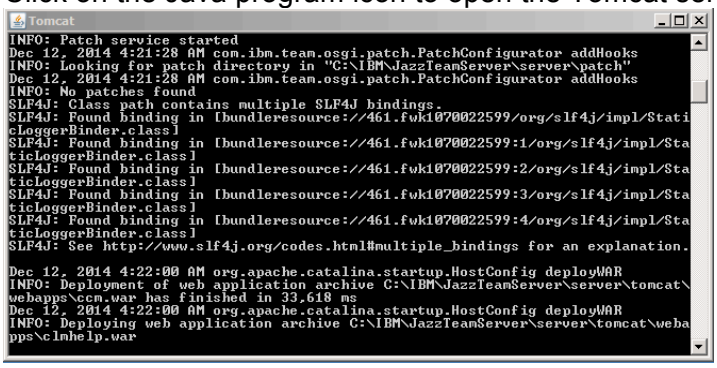
This lab will use a Jazz server running various services for Configuration Management, Requirements Management, Quality Manager and Reporting within a VMware image. The Jazz server hosted on this image will be accessed through a web client to access needed applications and data, within the lab activities. Combining the server and the clients is not a normal configuration but is required to get all the resources needed for this lab into an easily portable image.

The VMWare image with the Jazz server should already been started by the lab staff.
As a first step in this lab you may optionally validate that the Jazz server is running on your machine.
You may also proceed directly to next main section in the lab.

Validating that the Jazz server is running

1. Log into the Windows server
    a. Press Ctrl-Alt-Del
    b. Log in as
        i. User: `Administrator`
        ii. Password: `Rati0nal`
2. Check if the Tomcat server is running
    a. In the Windows Taskbar, look for a Java program icon and a Tomcat server process.

    b. Click on the Java program icon to open the Tomcat server process.

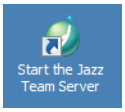


    c. Confirm that the server is running.
    If the Tomcat server process is running, proceed to next main section in the lab.
    If no Tomcat server process is running, proceed to the step below to ‘Starting the server’

3. Starting the server

   ONLY PERFORM THIS STEP IF THE JAZZ SERVER IS NOT STARTED

   a. On the desktop, double click on the **Start the Jazz Team Server** icon

   b. A command window titled **Tomcat** will open.
   In 3-5 minutes you'll see the output, as shown above, with the "Server startup in …" message.

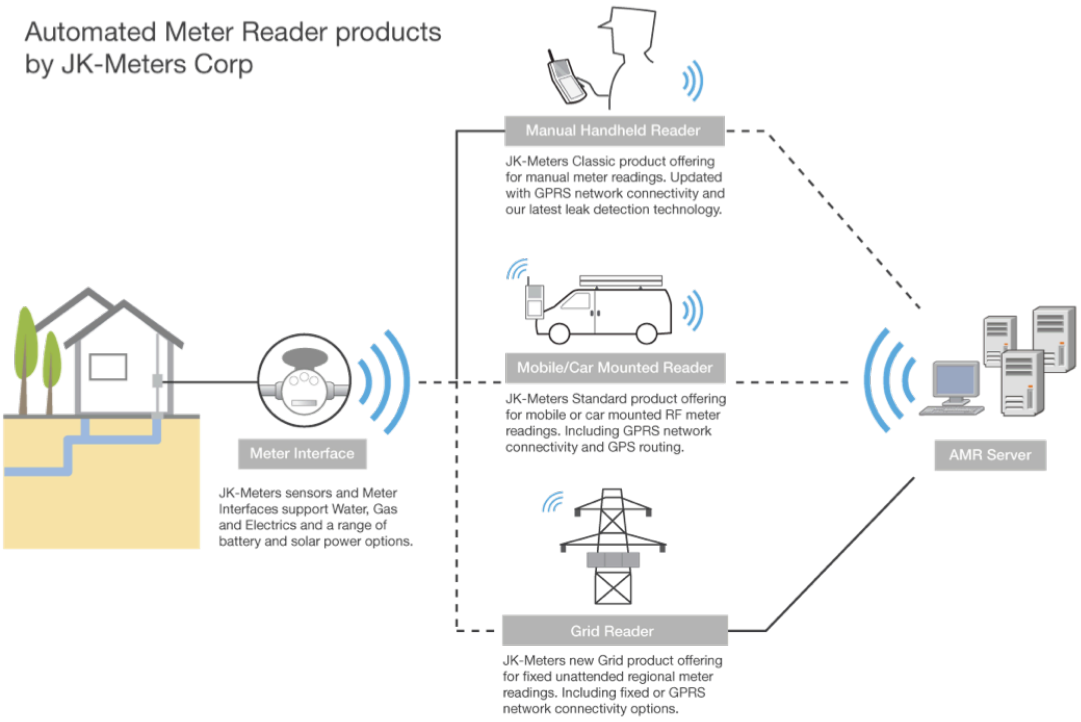
   Note: Be patient. Starting the servers is an operation that a real user never does. Users normally run continuously on a dedicated server environment managed by an administration team.
   If in doubt on the state of the server, check with the lab staff before proceeding.

   c. Minimize the Tomcat server process window (DON'T click X!).

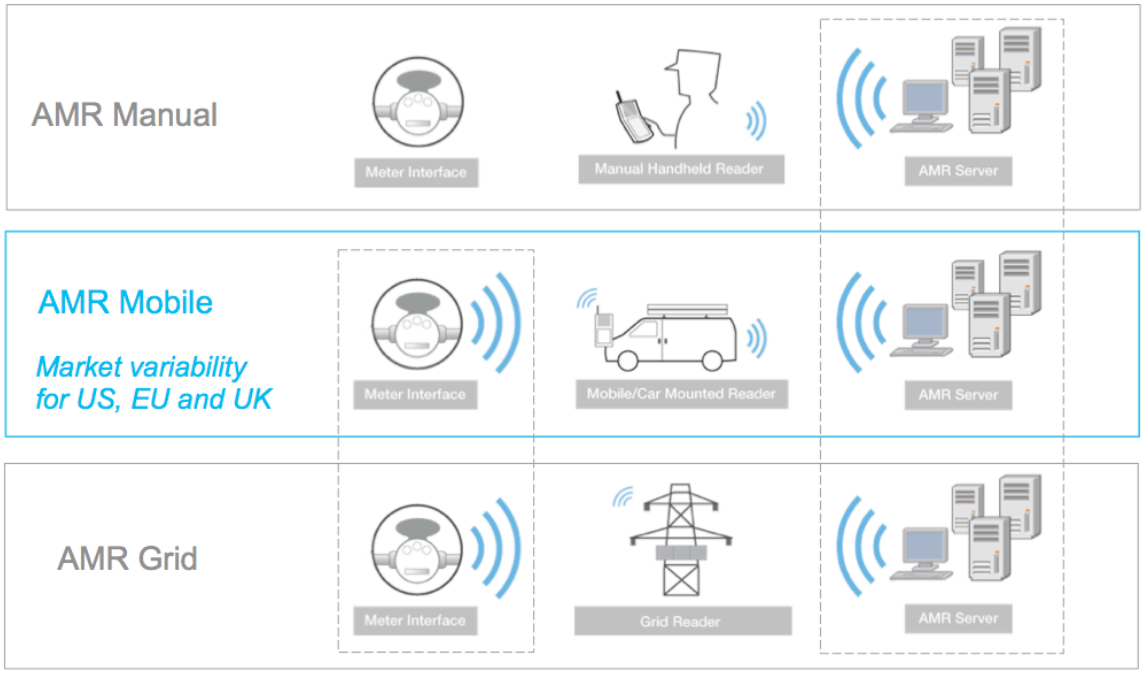
Introduction to Automated Meter Reader

This lab uses artifacts from the Automated Meter Reader sample data for reporting. The Automated Meter Reader sample uses a fictitious company JK Meters Corp, aspiring leaders of Smarter Flow Products for Utilities.

The Metering Division at JK Meters Corp has a range of Automated Meter Reader products in its product line. The most successful product is the Automated Meter Reader for Water Flow (see figure below). The product consists of meter interface units mounted on water pipes. The meter interface unit measures flow and delivers data to handheld or car mounted meter readers. The registered meter readings are uploaded from the handheld devices to the AMR server data management system manually. Uploading of data is performed continuously by the mobile meter readers using a mobile network connection, or manually when returning to the office at the end of the day when using the manual meter reader product. The Metering Division is currently investing in improved features in the product lines and new AMR products. An innovative new AMR Grid product reduces the operational cost of utility services by providing fixed grid meter readers that continuously reads a wireless grid of residential or industrial meter interface units and uploads data over a fixed network connection.



The Automated Meter Reader products are configured from reusable components. These component subsystems are developed and delivered by the Meter Reader, Meter Interface and AMR Sever platform teams. The platform teams deliver the component subsystems with feature variability for the product line. For example, the Meter Interface team delivers wired and wireless variants of the component for the Manual and Mobile products. The Meter Reader team delivers variant components for Manual, Mobile and Grid products.



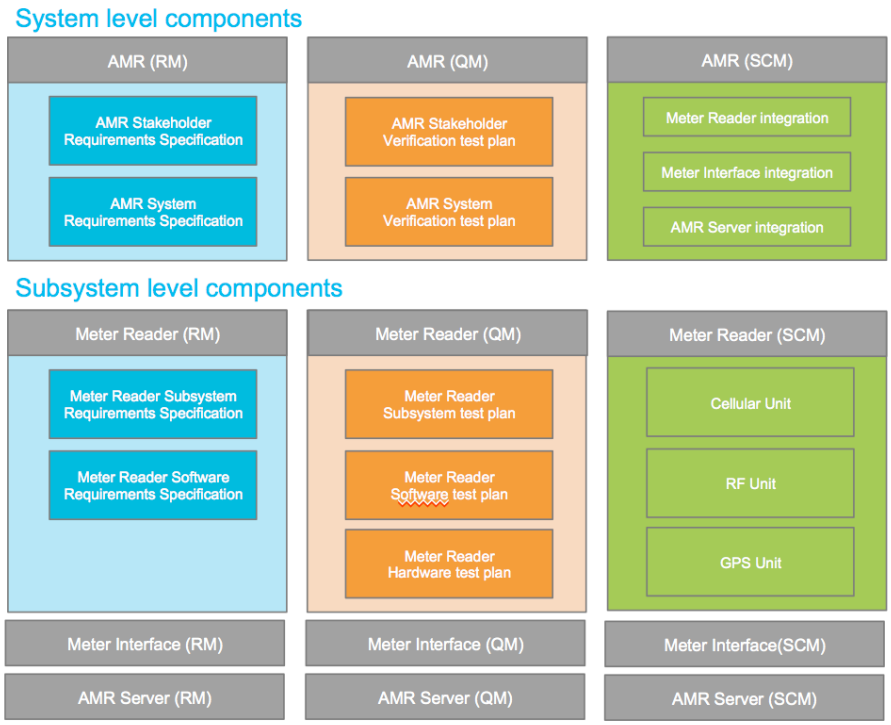
The Automated Meter Reader products have been delivered to utility customers in US. JK Meters Corp is growing its market share by developing variants for other regional markets. The variants are configured with regional requirements on power voltage, dimensions on pipe mounting, regional units of flow and volume, language configuration for the handheld meter readers and regional city maps for GPS routing.

In this lab you will explore the components, lifecycle artifacts and their configurations used by the Automated Meter Reader product development for a new variant of the AMR Mobile product for the UK market.

Exploring Components

In this part of the lab you will explore *components*.

A *component* is a unit of organization consisting of a reusable set of artifacts such as requirements, tests, designs and source code. The Automated Meter Reader (AMR) teams are using components to organize the lifecycle artifacts under development. The teams have defined components both at the system / product level, and at each subsystem level. Separate components are used to manage requirements, tests, designs and source code at each level.



You will now use IBM® Rational Quality Manager and IBM Rational DOORS Next Generation applications to explore the ‘AMR (RM)’ requirements component with stakeholder and system requirements. You will also explore the ‘AMR (QM)’ component with stakeholder and system verification test plans.

Exploring Requirements in Rational DOORS NG

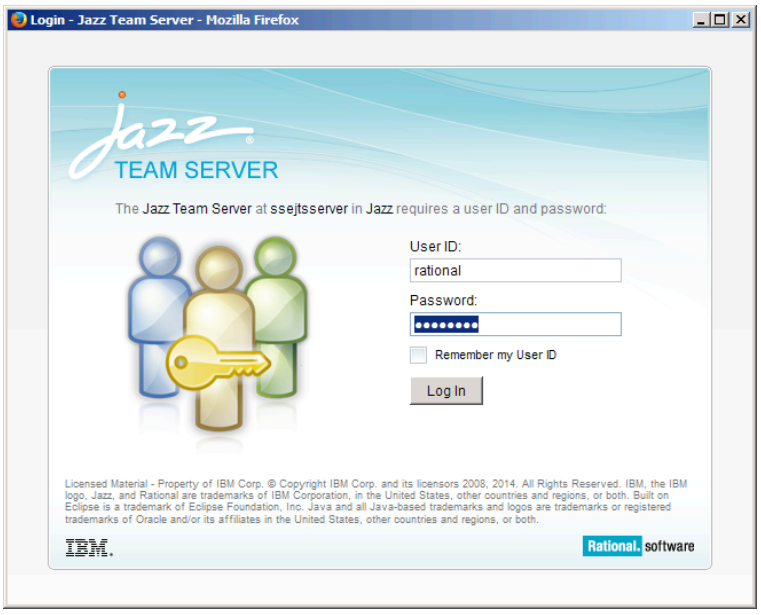
You will now explore some of the requirements components in the Automated Meter Reader (AMR) product.

Logging in to the Jazz applications

In this lab you will use a generic user ‘rational’.

1. Click on the **Firefox** icon on the Windows taskbar.

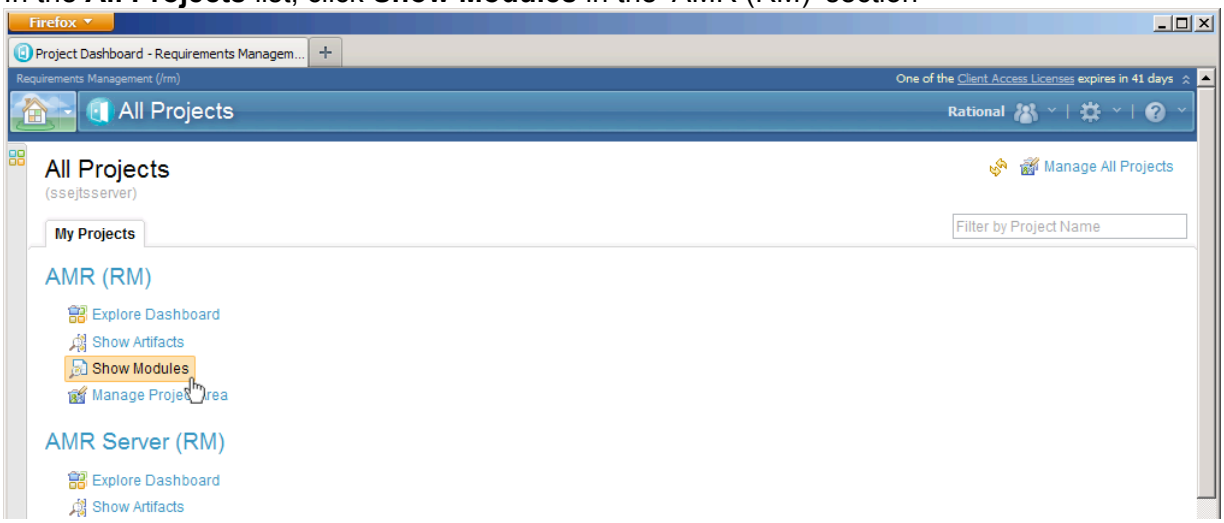
2. Choose the **rm** bookmark to open the IBM Rational DOORS NG application
   Alternatively enter the URL **https://ssejtsserver:9443/rm/web**
3. Log in as User: `rational` with Password: `rational`



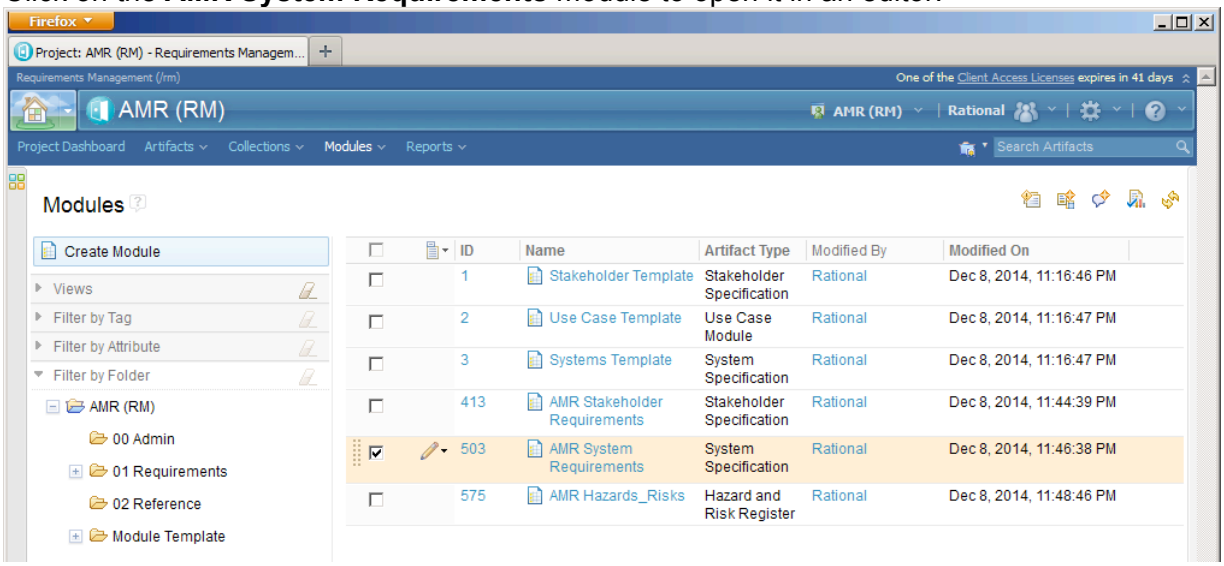
Opening the AMR (RM) project area

You will now open and explore the requirements modules in the Automated Meter Reader (AMR) product.

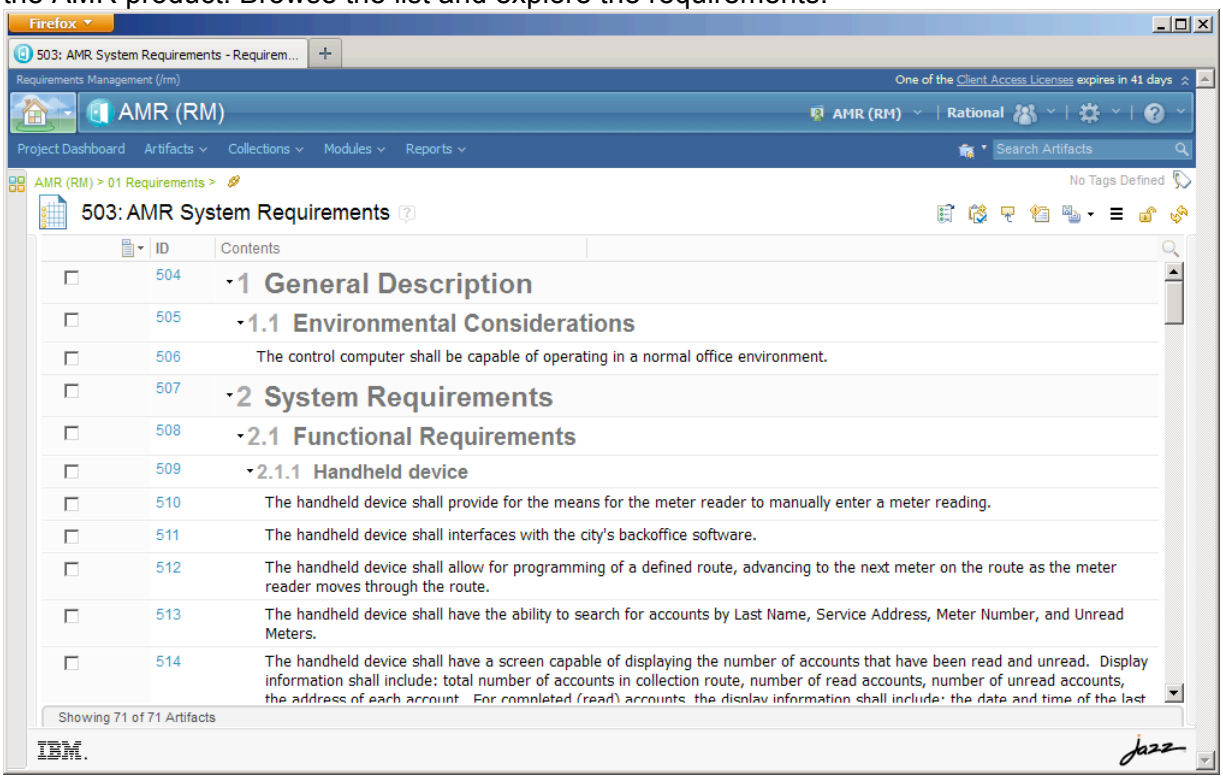
1. In the **All Projects** list, click **Show Modules** in the 'AMR (RM)' section



2. The 'AMR (RM)' project area opens and displays a list of Stakeholder Requirements, System Requirements modules.
   Click on the **AMR System Requirements** module to open it in an editor.

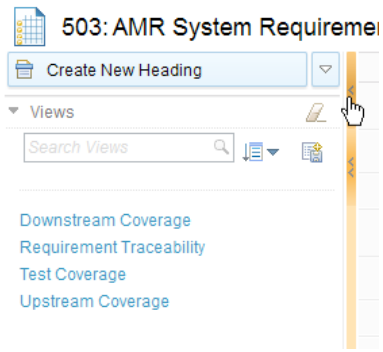


3. The ‘503: AMR System Requirements’ module opens and displays the system requirements for the AMR product. Browse the list and explore the requirements.



Note: You can expand requirements contents column by collapsing the sidebar.

Hover over the splitter and click one of the icons. Clicking on ‘<’ will collapse the left sidebar. Clicking on ‘< >’ will collapse both the left and right sidebars.

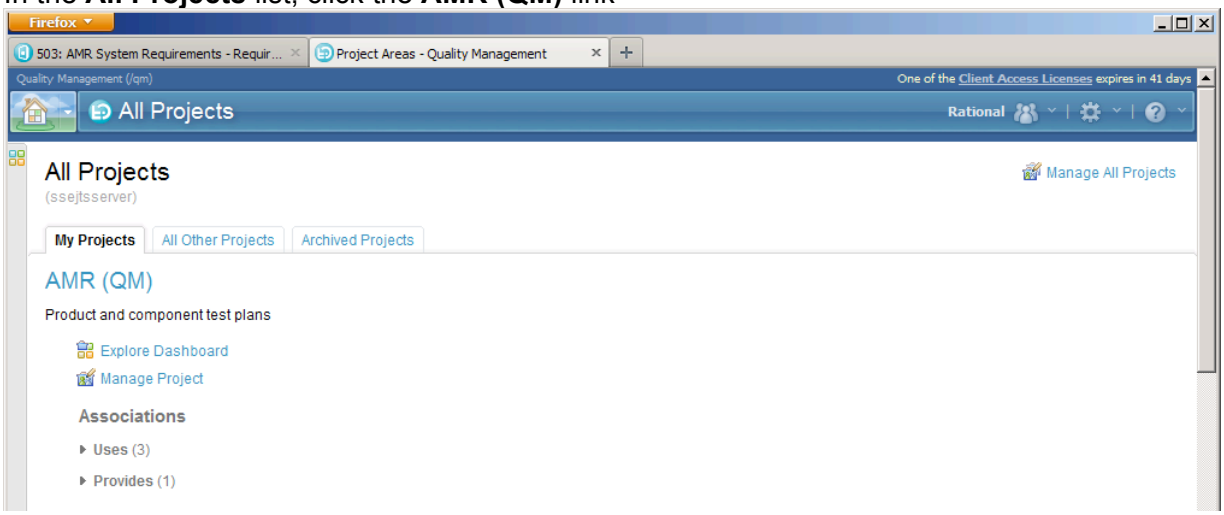


Exploring Tests in Rational Quality Manager

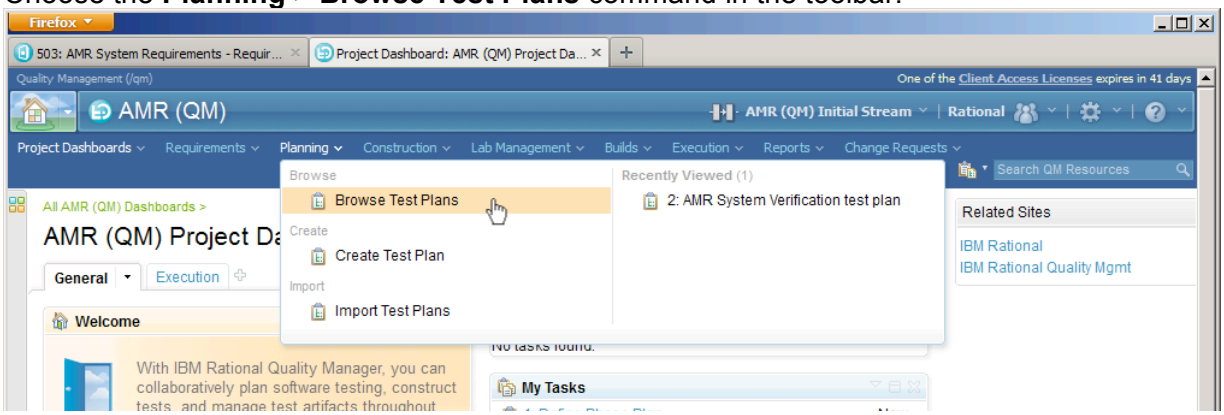
You will now explore some of the test components in the Automated Meter Reader (AMR) product.

1. Open a new tab in your browser and choose the **qm** to open the IBM Rational Quality Manager application. Alternatively enter the URL **https://ssejtsserver:9443/qm/web**

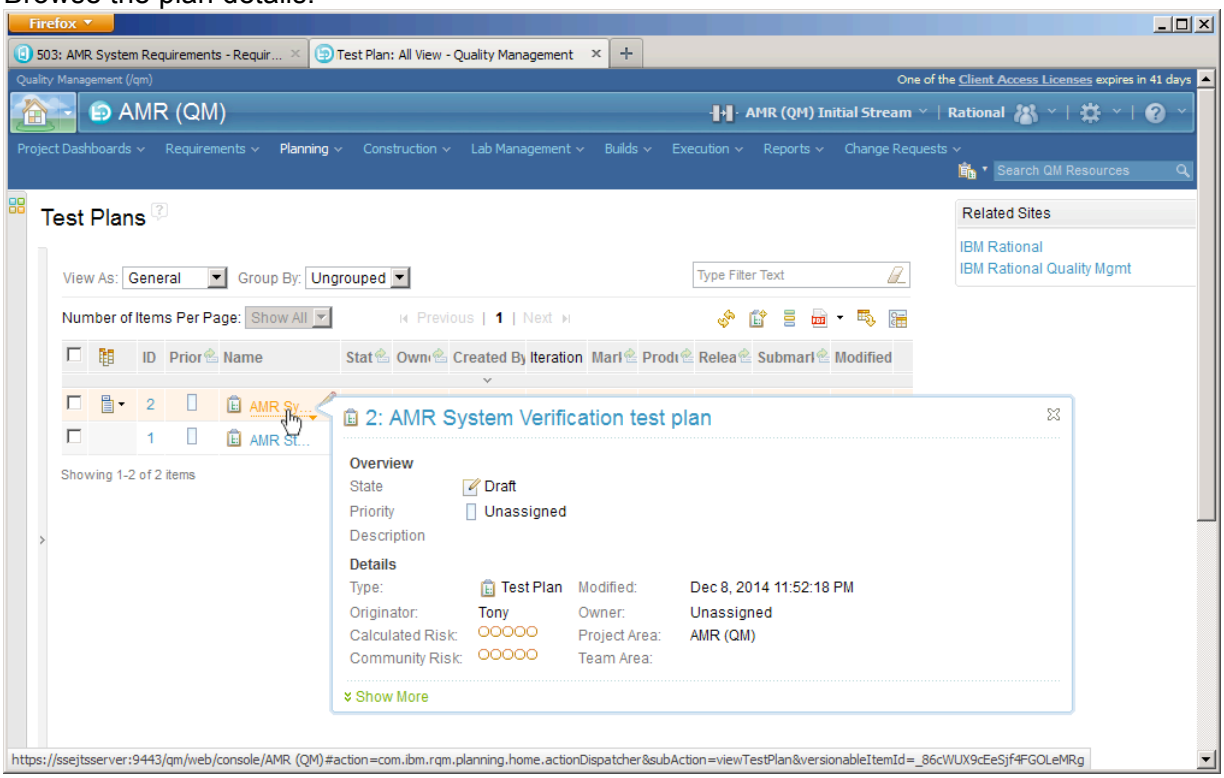
2. In the **All Projects** list, click the **AMR (QM)** link



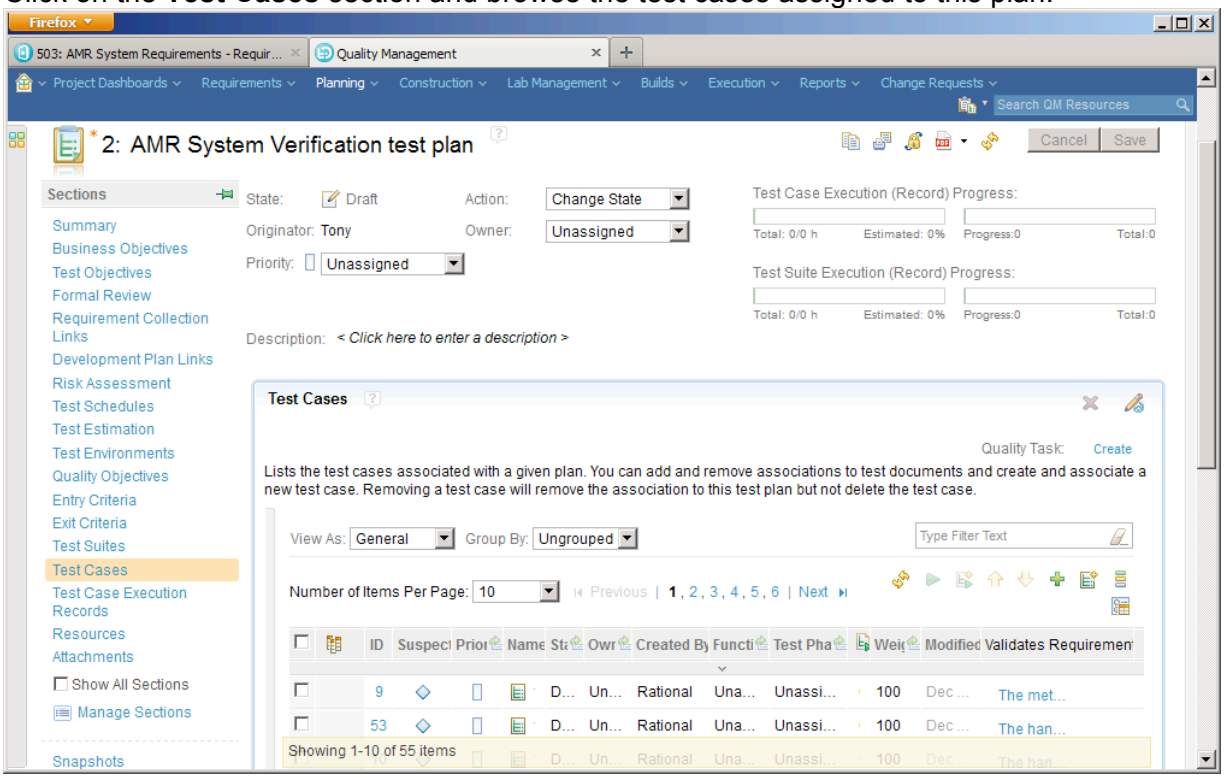
3. The 'AMR (QM)' project area opens and displays the project dashboard.
   Choose the **Planning > Browse Test Plans** command in the toolbar.



4. From the list of test plans, choose the ‘2: AMR System Verification’ test plan. Browse the plan details.



5. Click on the **Test Cases** section and browse the test cases assigned to this plan.



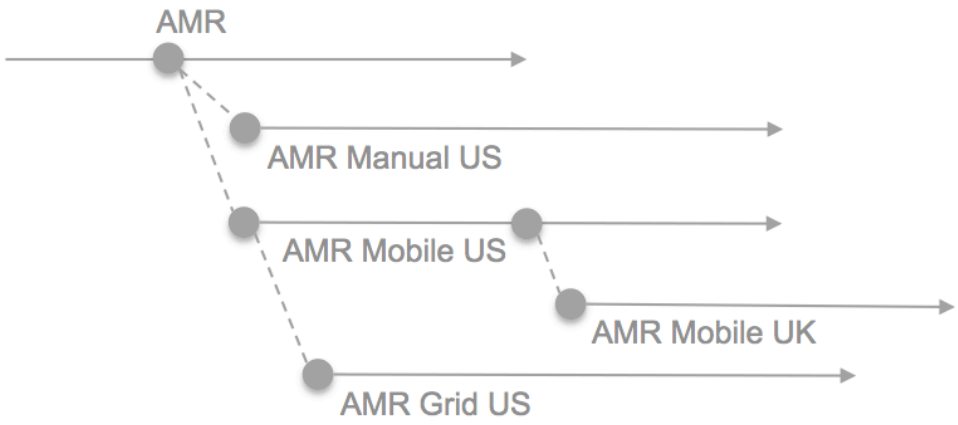
Exploring Streams and Baselines

In this part of the lab you will explore *streams and baselines* used by the Automated Meter Reader (AMR) team to manage variability of requirements and tests across product variants for the US and UK regional markets. In the previous part of this lab you explored components that is a unit of organization. Components group a set of reusable artifacts such as requirements, tests, designs and source code. We will now explore how configurations of components can be created and managed.

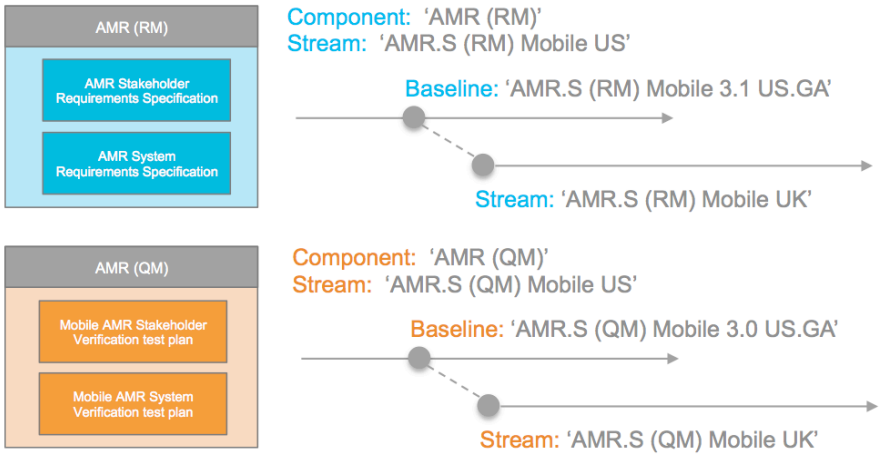
A *configuration* is a set of specific artifacts versions of a component. Hence, creating two configurations for AMR system requirements will greatly help in managing variability of artifacts across the US and UK markets. In two such configurations common requirements will have the same artifact version but specific requirement for the UK configuration will have a different version as compared to the US configuration.

A configuration that is modifiable and new artifact version can be saved is called a *stream*. As the artifacts in a component evolves several versions of an artifact will be saved in the stream. To be able to record, and later retrieve, the state of each artifact in a release it is a practice to save a *baseline* of a component. The states, or versions, of the artifacts in the baseline will be frozen, or immutable.

The AMR teams are using multiple streams to manage variability across the product line. Separate streams are used for the Manual, Mobile and Grid products. Streams are also used to manage variability across regional market US and UK products. The stream diagram below shows a conceptual view of the configuration dependencies.



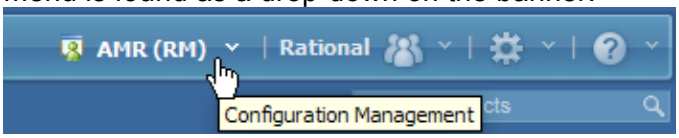
In this part of the lab you will explore the domain streams at the system level used to manage requirements and tests. You will load the Mobile US stream and create a new Mobile UK stream from a release baseline of the Mobile US stream. You will use the IBM Rational DOORS Next Generation, IBM Rational Quality Manager and IBM Rational Configuration Management applications.



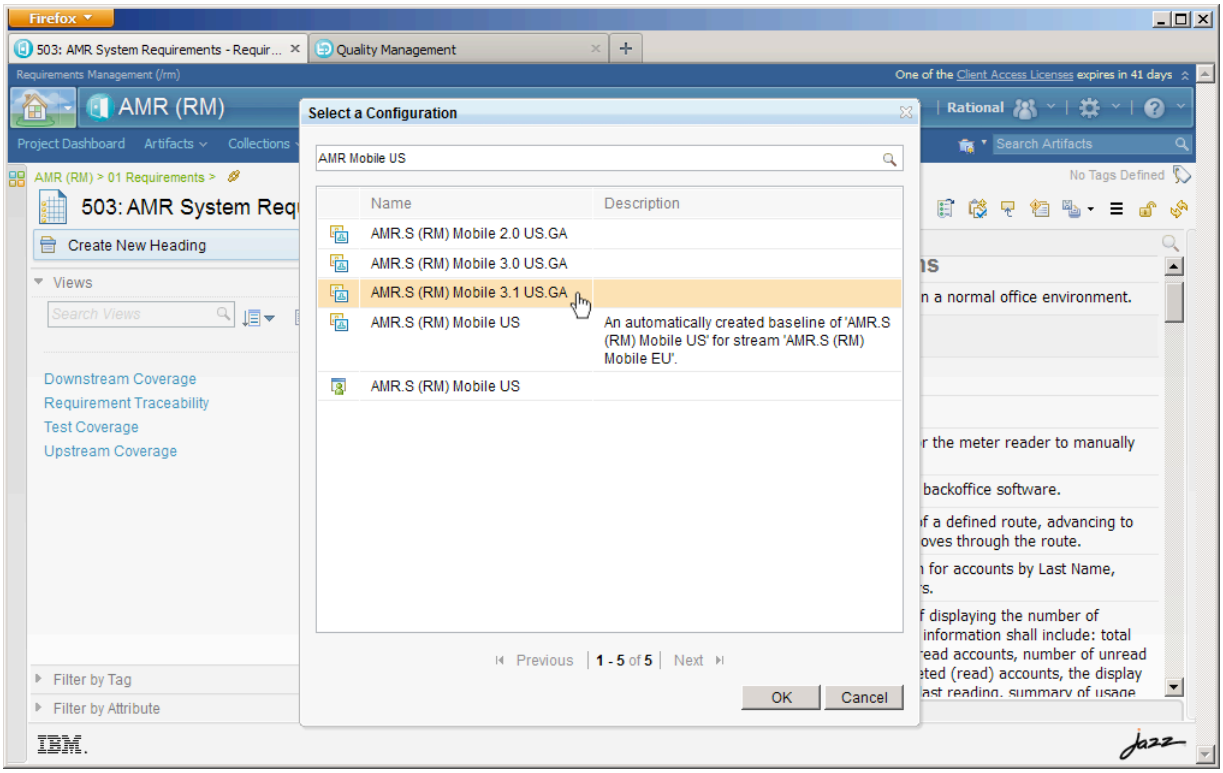
Create a new Requirements stream

You will now explore the streams and baselines for the Automated Meter Reader (AMR) system requirements.

1. Return to browser tab with Rational DOORS NG
2. Choose the **Search for more…** command from the Configuration Management menu. This menu is found as a drop-down on the banner.

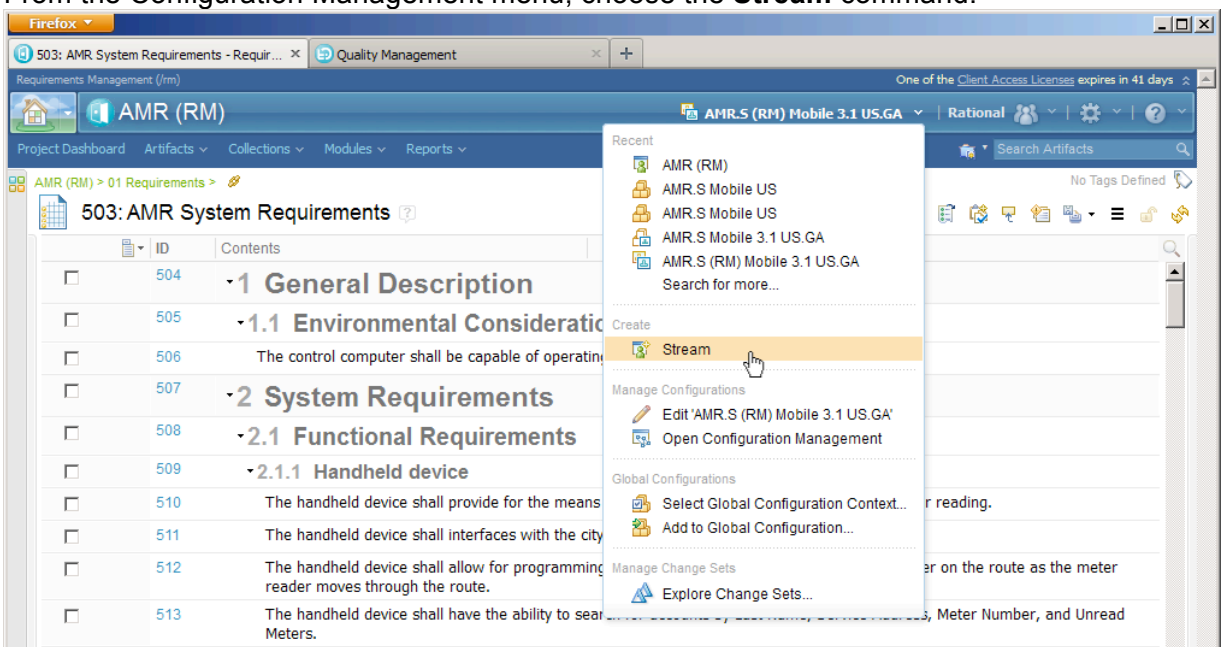


3. In the **Select a Configuration** dialog, enter `AMR Mobile US`
   Locate and select the 'AMR.S (RM) Mobile 3.1 US.GA' configuration.
   Click **OK**.

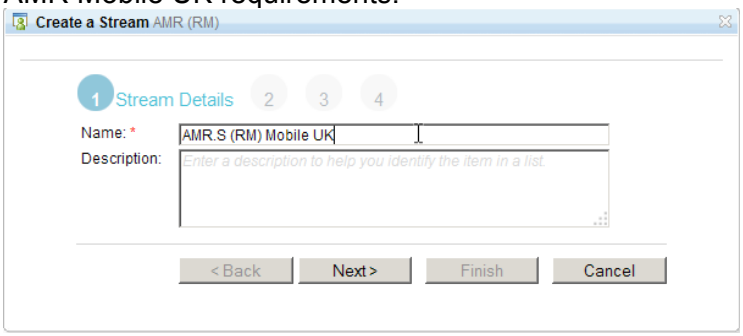


Note: Selecting a configuration will load the application with the versions of the artifacts in that selected configuration. The name of the selected configuration is shown on the banner. An icon will indicate the type of configuration. As seen from the icon, the 'AMR.S (RM) Mobile 3.1 US.GA' is a baseline.

4. From the Configuration Management menu, choose the **Stream** command.



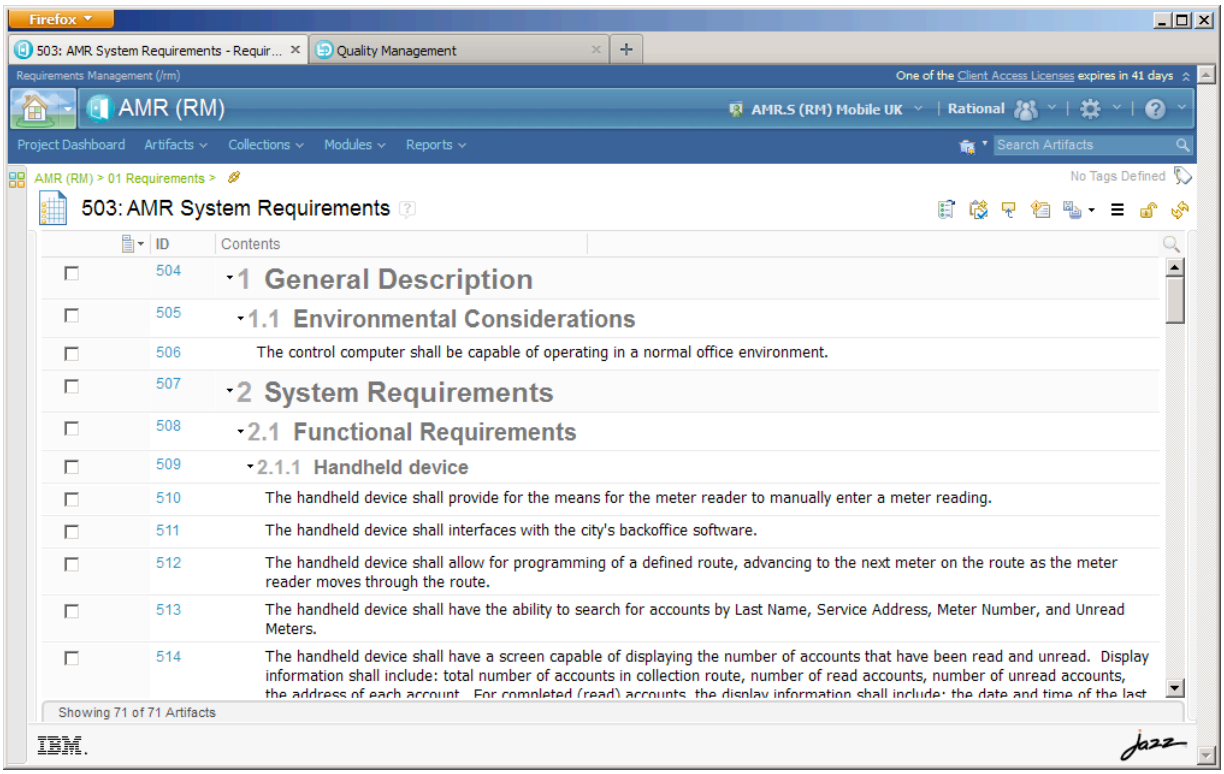
5. In the **Create a Stream** dialog, enter the stream name `AMR.S (RM) Mobile UK` for the new AMR Mobile UK requirements.



6. Click **Next** and use the **Current baseline** option.

7. Continue by clicking **Next** and **Finish** to complete the dialog.

8. The new requirements stream for the AMR Mobile UK product is created and opened in the editor. The new stream name is shown in the banner.

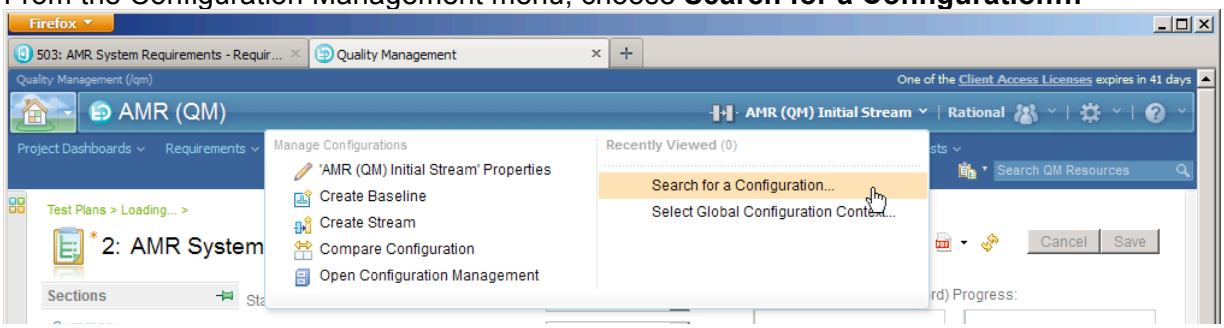


New, updated or removed requirements are made only in the selected stream configuration. Hence, edits to requirements in the UK variant will not impact requirements on any other product configuration, for example the US variant.

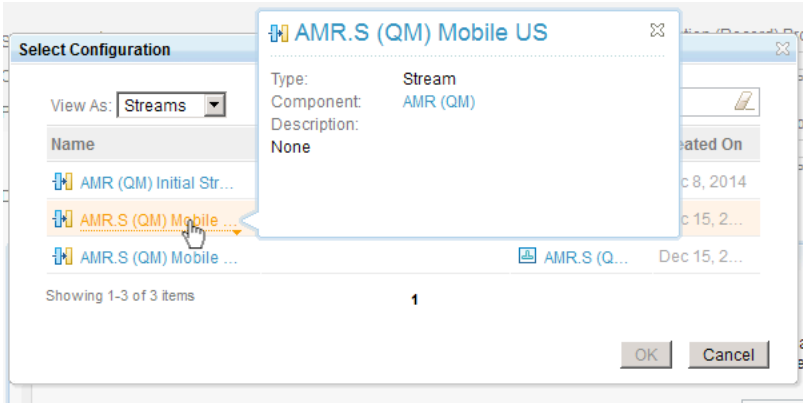
Create a new Test stream

You will now explore the streams and baselines for the Automated Meter Reader (AMR) system tests.

1. Return to browser tab with Rational Quality Manager
2. From the Configuration Management menu, choose **Search for a Configuration…**

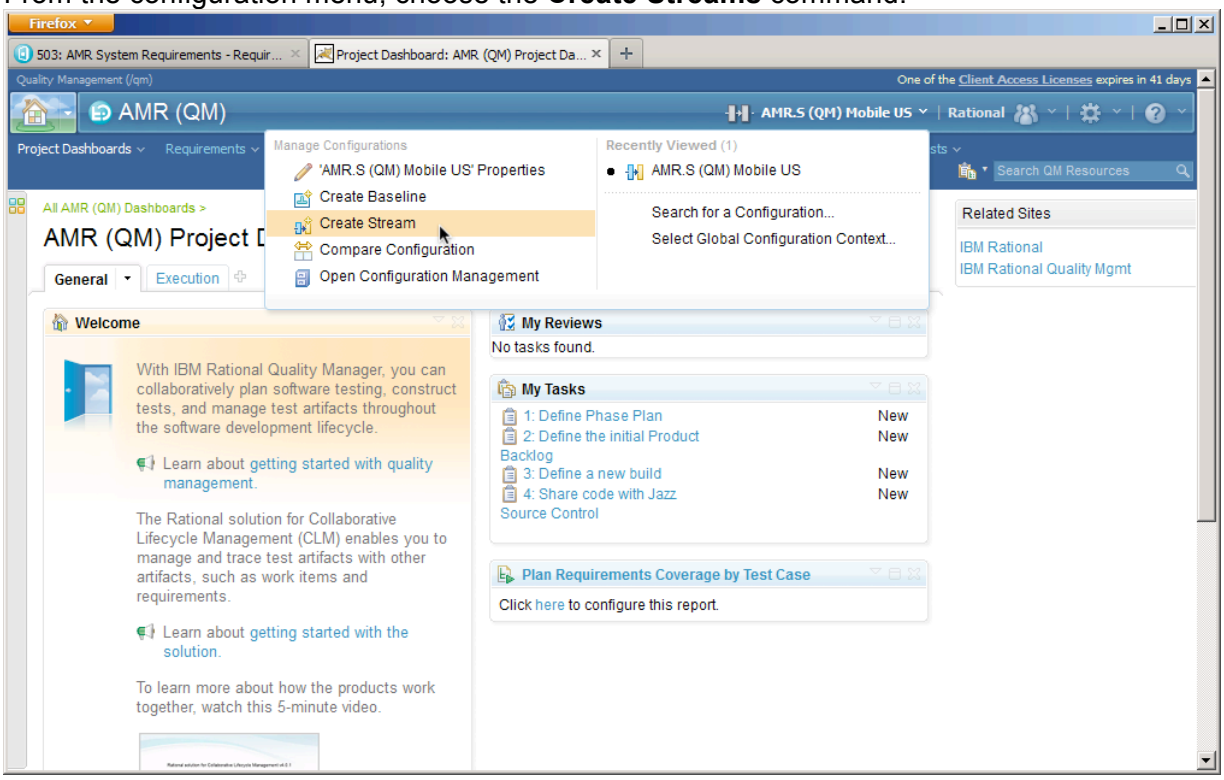


3. In the **Select Configuration** dialog, choose the ‘AMR.S (QM) Mobile US’ configuration and click **OK**.

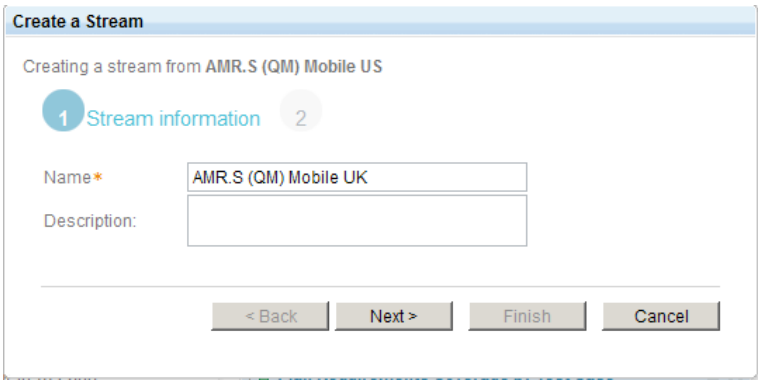


Note: This opens the tests for the AMR Mobile US product variant. The name of the selected configuration is shown on the banner

4. From the configuration menu, choose the **Create Streams** command.



5. In the **Create a Stream** dialog, enter `AMR.S (QM) Mobile UK` as a name for the new Test stream.



6. Continue by clicking **Next** and **Finish** buttons to complete the dialog.
7. Repeat the steps to above to **Search for a Configuration…** and select the new 'AMR.S (QM) Mobile UK' stream.

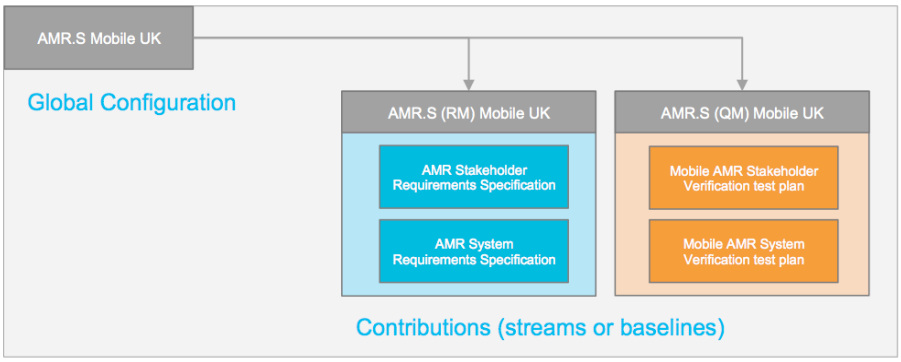
We have now completed the steps to create new streams for requirements and tests in the new AMR Mobile UK product variant.

In the next section we will assemble the individual streams into a configuration that simplifies management of related streams.

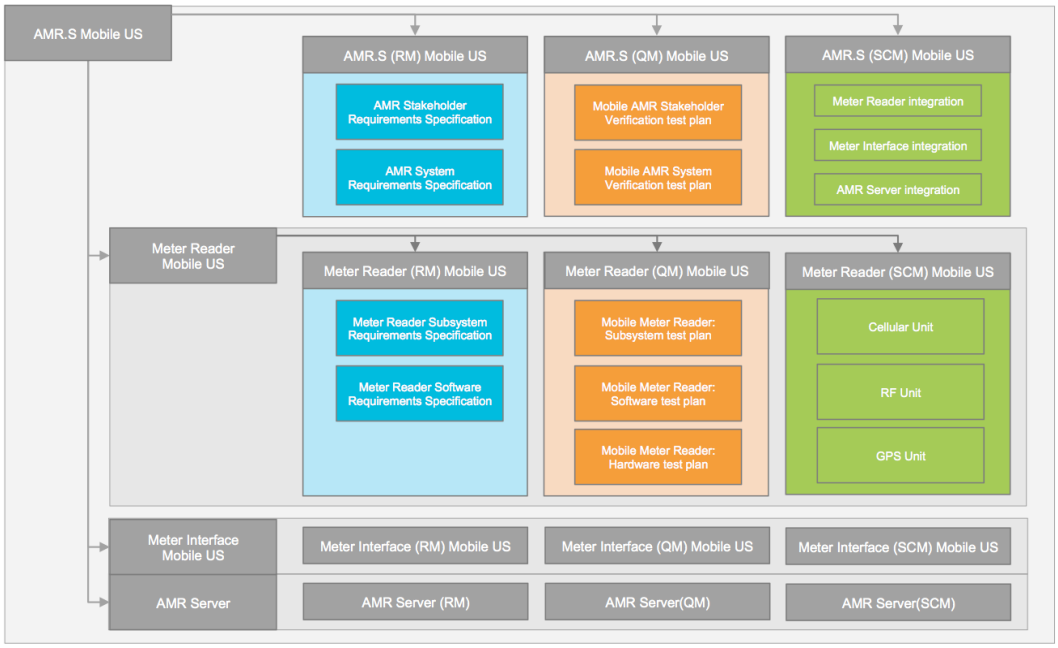
Exploring Global Configurations

In the previous part of this lab you explored streams and baselines configurations for individual domain components as a way to organize artifact versions. In this part of the lab you will explore the *global configurations* used by the Automated Meter Reader (AMR) team to manage variability of requirements and tests across product variants for the US and UK markets.

The AMR teams are using global configurations to organize the components for the system level. This enables the system requirements, design models, tests and source code to be managed as a single global configuration. You will use the IBM Rational Configuration Management application to create an AMR Mobile UK global configuration that assembles the requirements and test streams for Mobile UK you created in the previous part.



The Automated Meter Reader (AMR) platform teams are using individual global configurations to develop and deliver the Meter Reader, Meter Interface and AMR Server subsystems. In this lab you may optionally explore the hierarchical AMR Mobile US configuration shown in the figure below.

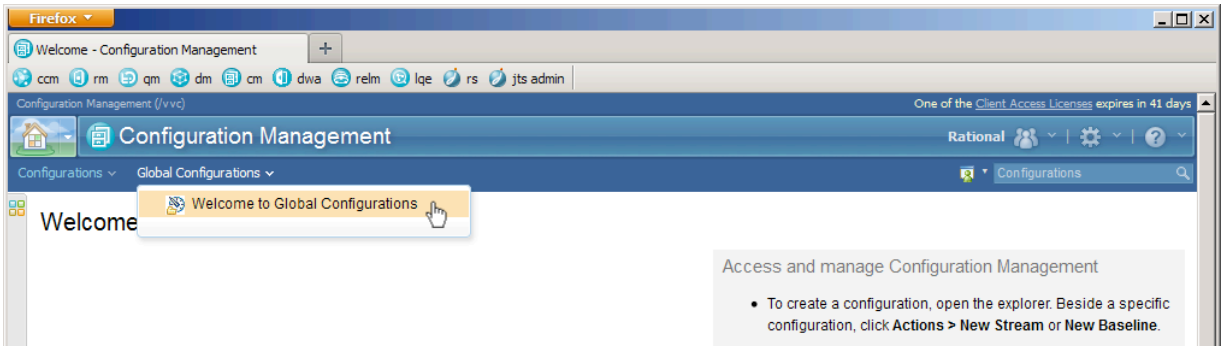


Create a new global configuration

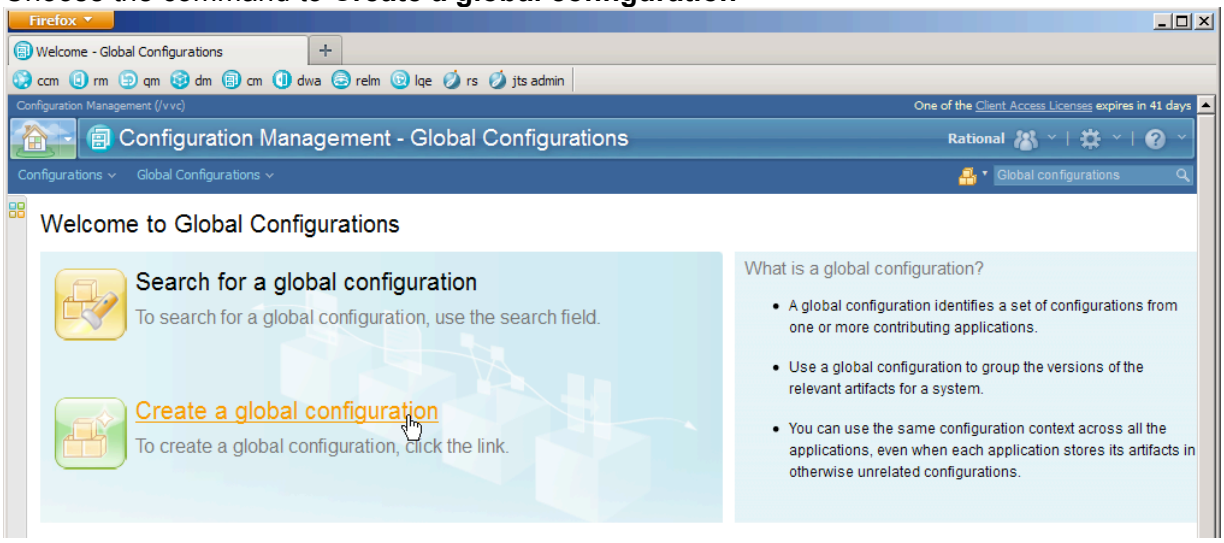
You will now create a new global configuration for an Automated Meter Reader (AMR) product for the UK market. You will also add requirements and test stream contributions to the global configuration.

1. Open a new tab in your browser and choose the **cm** bookmark to open the IBM Rational Configuration Management. Alternatively enter the URL **https://ssejtsserver:9443/vvc/web**

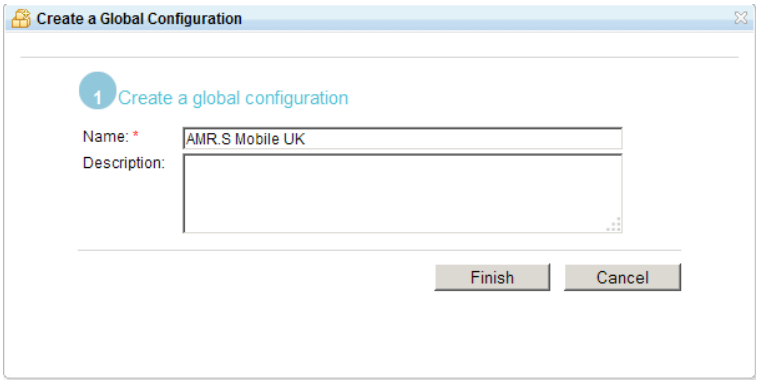
2. Choose the **Welcome to Global Configurations** command from the **Global Configuration** menu on the banner.



3. Choose the command to **Create a global configuration**



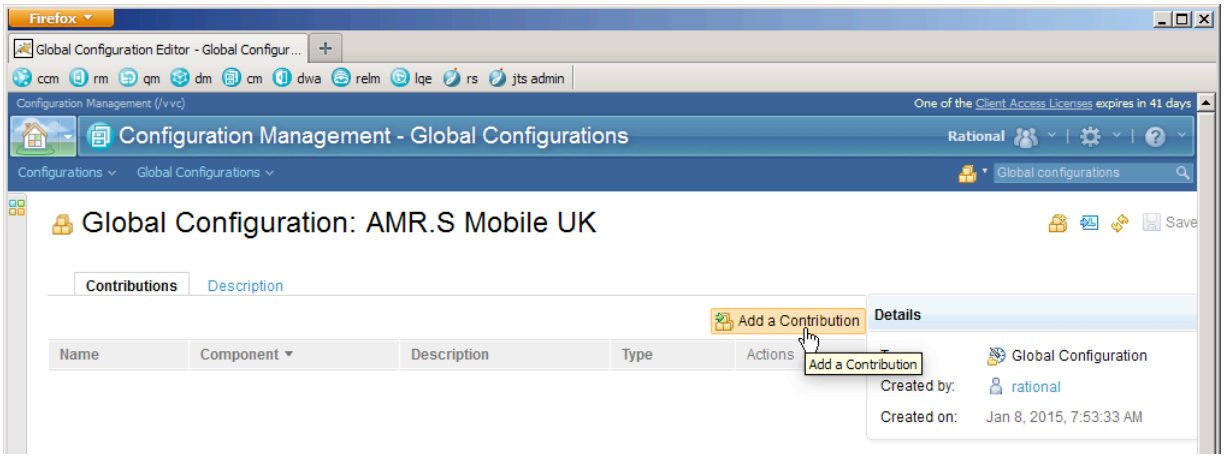
4. In the **Create a Global Configuration** dialog, enter the name `AMR.S Mobile UK`. Click **Finish**.



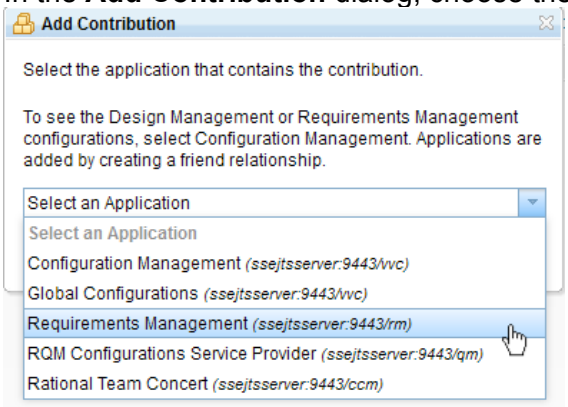
Add stream contributions

You will now add requirements and test stream contributions to the configuration.

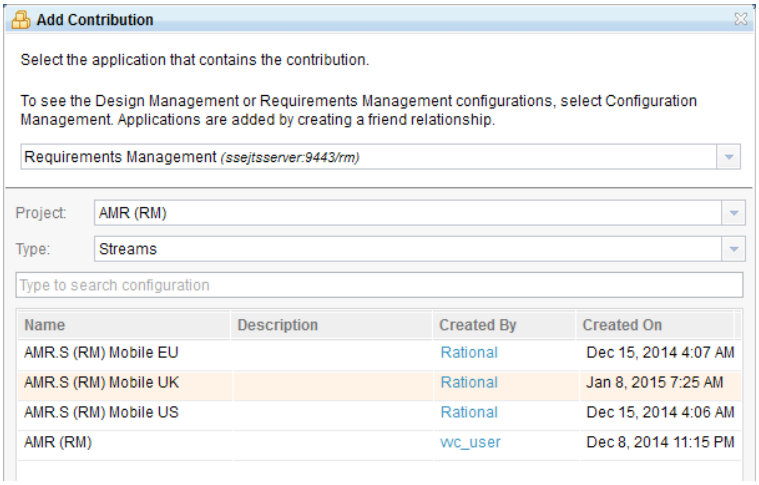
1. Choose the command to **Add a Contribution**.



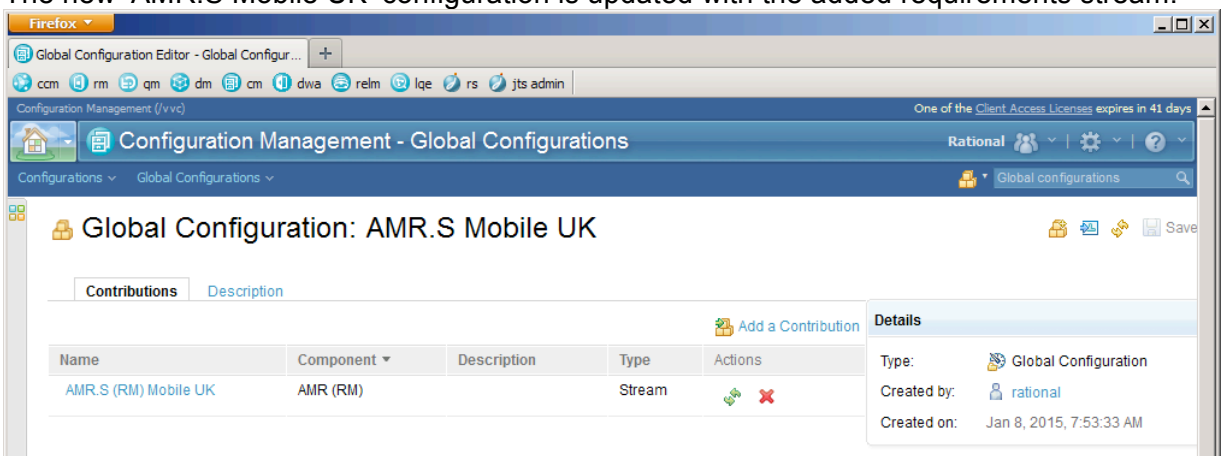
2. In the **Add Contribution** dialog, choose the **Requirements Management** option



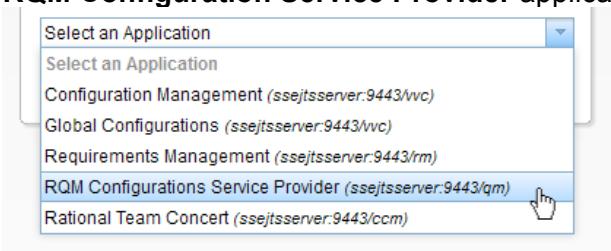
3. The dialog updates and provides searching and selection of requirements streams. Choose the stream you created in the earlier step, for example the ‘AMR.S (RM) Mobile UK’ stream. Click **OK**.



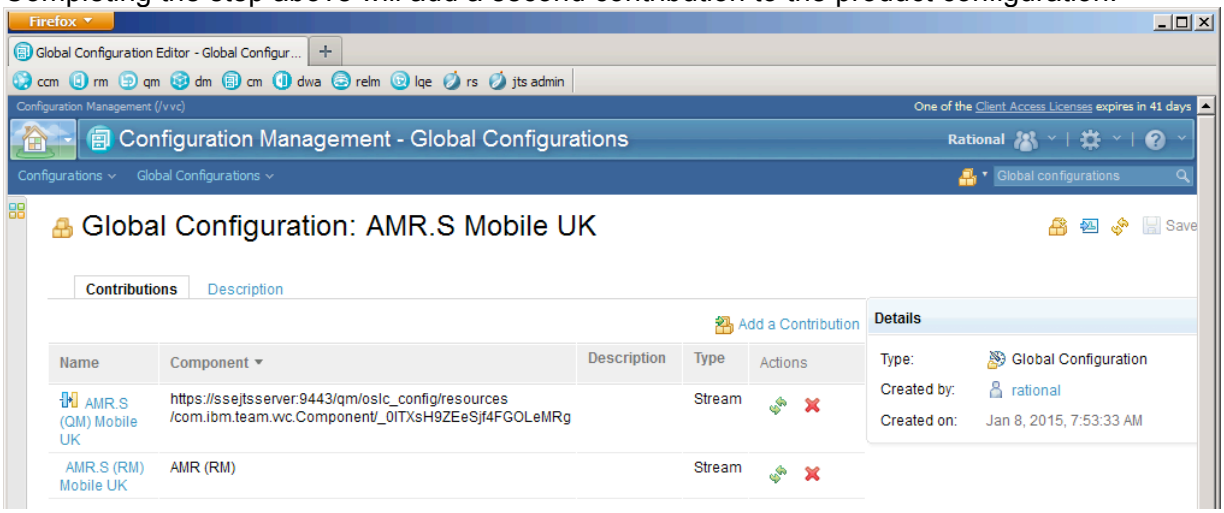
4. The new ‘AMR.S Mobile UK’ configuration is updated with the added requirements stream.



5. Repeat the steps above to add the ‘AMR.S (QM) Mobile UK’ test stream contribution from the **RQM Configuration Service Provider** application option.



6. Completing the step above will add a second contribution to the product configuration.



You have now created a new global configuration that assembles the system requirements and system test streams into a single product configuration.

Explore the AMR Mobile US configuration

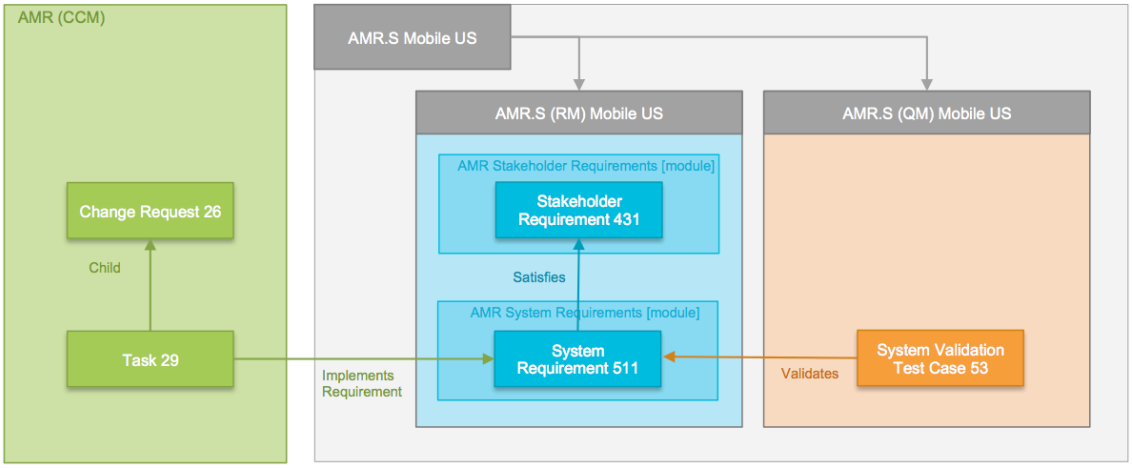
The ‘AMR.S Mobile UK’ configuration you have created is well suited for the introduction of configuration management in this lab. To explore a more complete and scalable global configuration you may, after you have completed the lab, deepen your understanding about global configurations by performing the sections in the Appendix. In the appendix section on Exploring the ‘AMR.S Mobile US’ configuration you will see how contributions at the AMR system level, as well as hierarchical contributions for Meter Reader, Meter Interface and AMR Server will be assembled into the global configuration. You will also explore into the SCM domain and see how IBM Rational Team Concert components and streams are linked to the ‘AMR.S Mobile US’ global configuration.

Working in a Configuration Context

In this part of the lab you will use the new AMR.S Mobile UK global configuration you created in the previous part as the context for exploring impact of a change request. You will also make making changes to requirements and test cases in context of the global configuration.

The Automated Meter Reader (AMR) team developing the UK variant has received a change request related to new stakeholder requirements for the Mobile UK product. The change request has been decomposed into tasks to analyze impact from this stakeholder requirements change. One of the changes is the market expectation for 4G mobile communications standard to be used by the Meter Reader subsystem in the Mobile UK product.

You will now use the traceability links established between the systems artifacts, as indicated in the figure below, and navigate in the context of the 'AMR.S Mobile UK' global configuration.



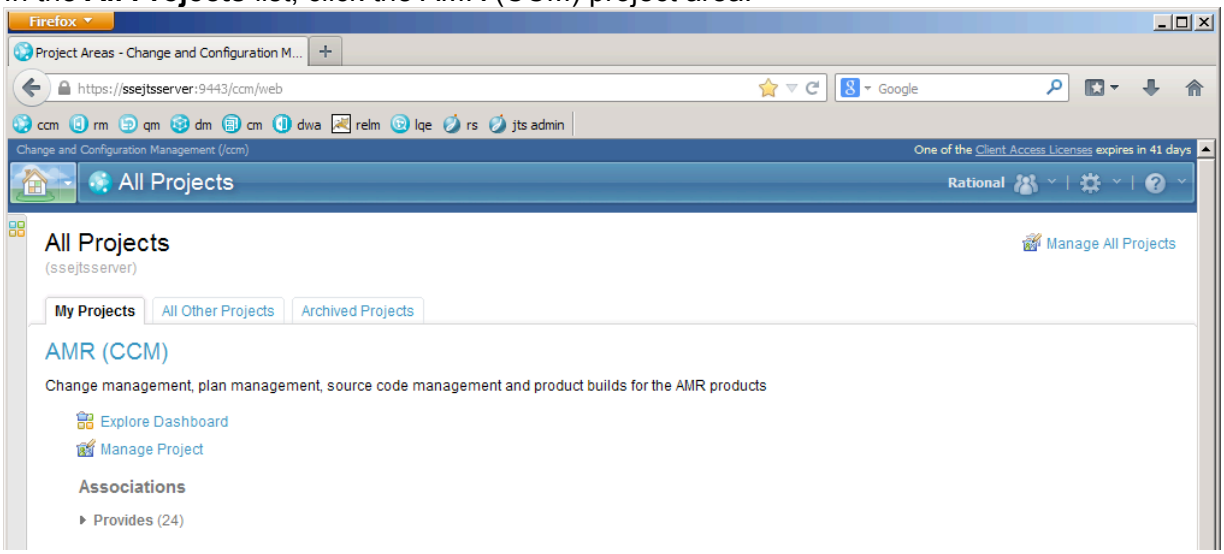
You will use IBM Rational Team Concert to locate 'Task 29'. Following a link in the task you will browse and edit requirement '511' in IBM Rational DOORS Next Generation. You will then browse and edit test case '53' in IBM Rational Quality Manager. See artifacts and link in figure above.

Exploring a Change Request

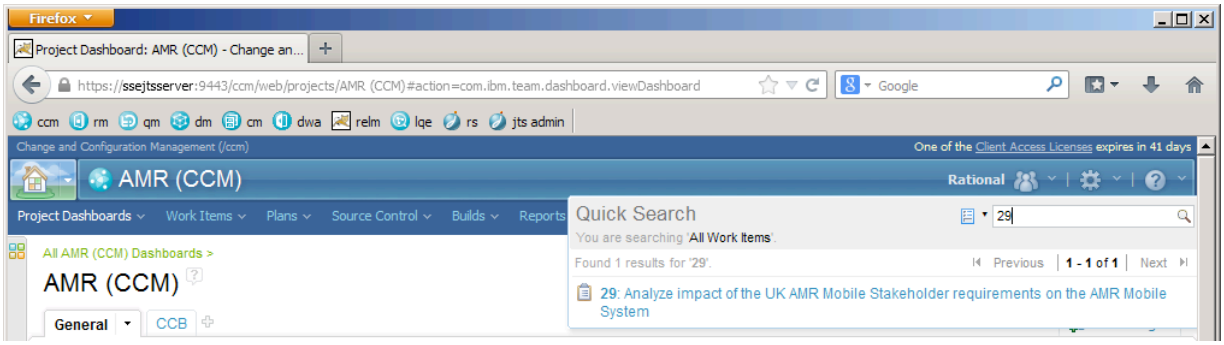
You will now explore one of the change requests in Rational Team Concert planned for the AMR Mobile UK product.

1. Open a new browser tab and choose the **ccm** bookmark to open the IBM Rational Team Concert application. Alternatively enter the URL **https://ssejtsserver:9443/ccm/web**

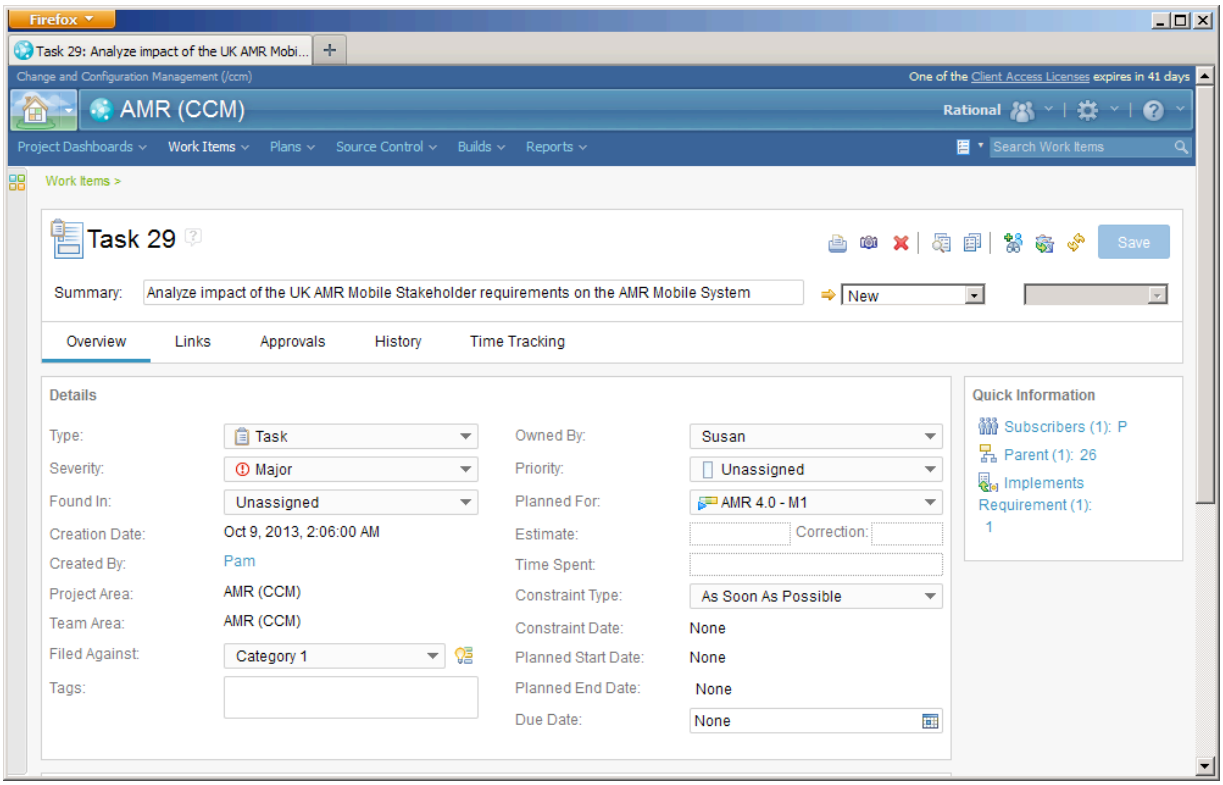
2. In the **All Projects** list, click the AMR (CCM) project area.



3. Enter `29` in the Quick Search field.

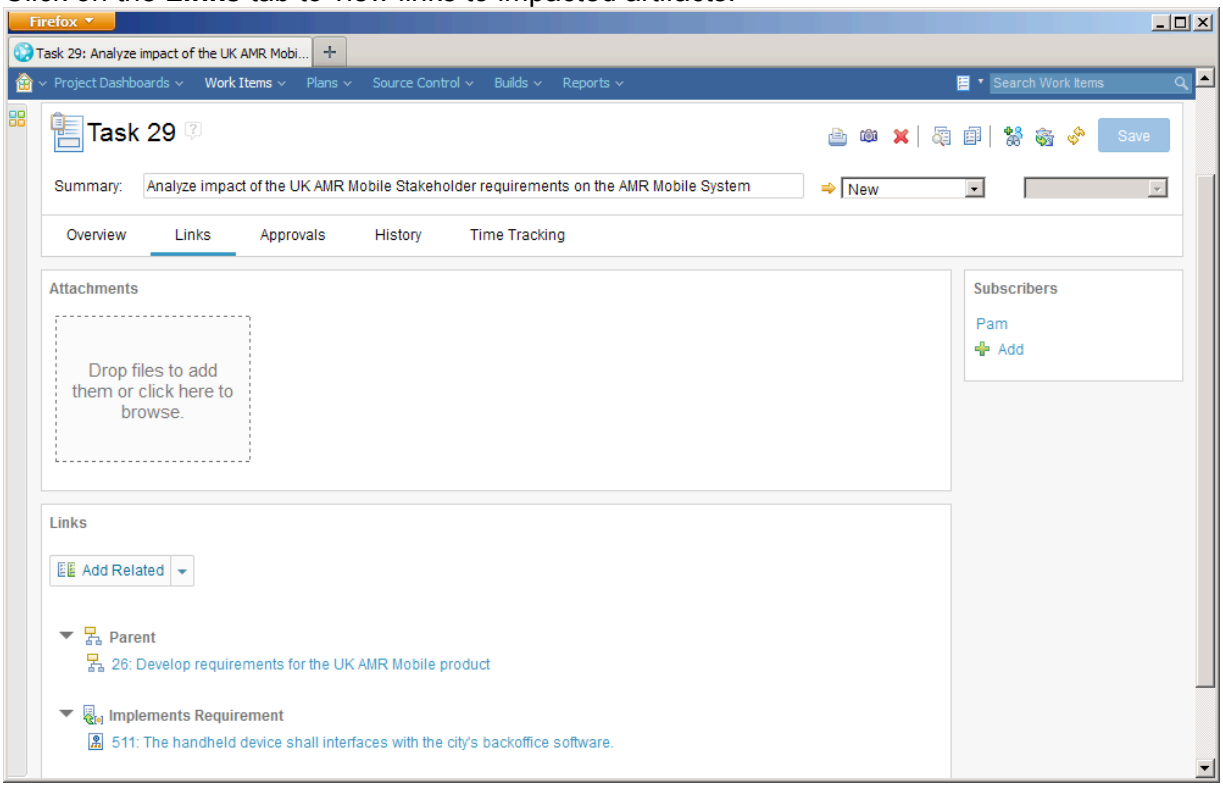


4. Click on the link **29: Analyze impact of the UK AMR Mobile Stakeholder requirements on the AMR Mobile System** to open the change request.



Note: This change request is assigned to user ‘Susan’ the System Engineer and is planned for the current ‘AMR 4.0 – M1’ iteration.

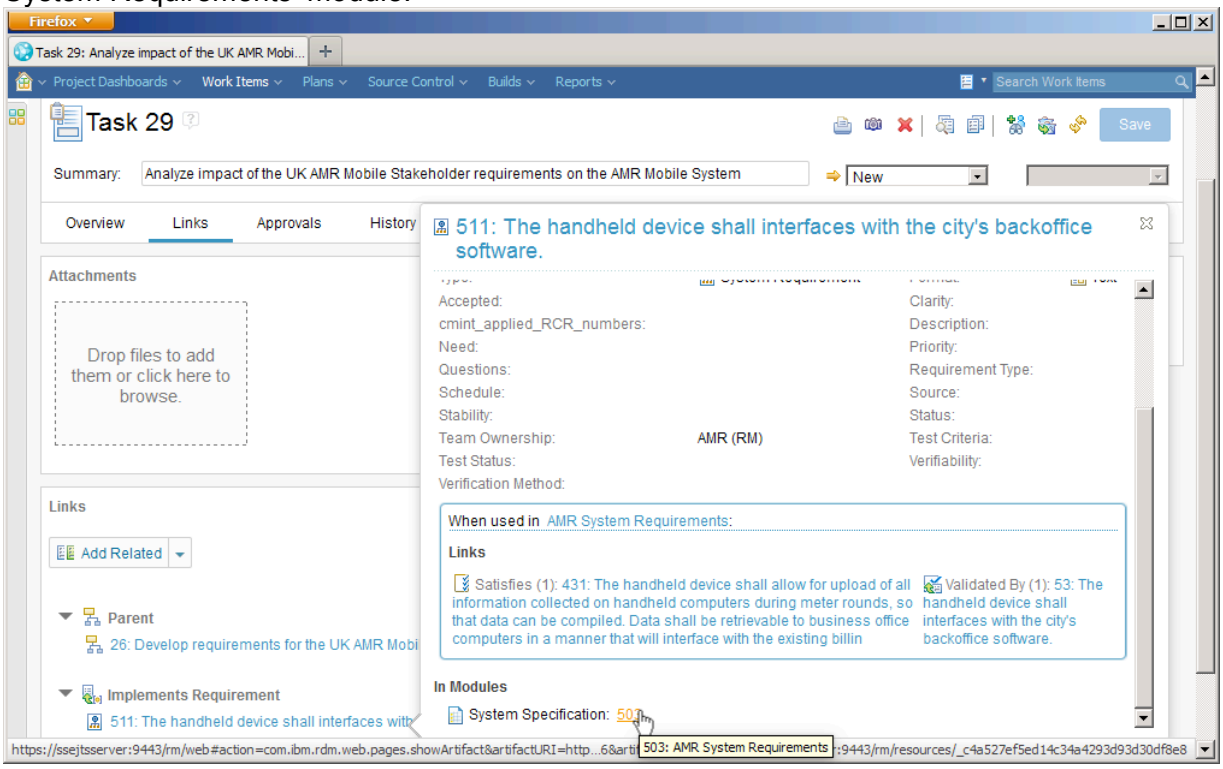
5. Click on the **Links** tab to view links to impacted artifacts.



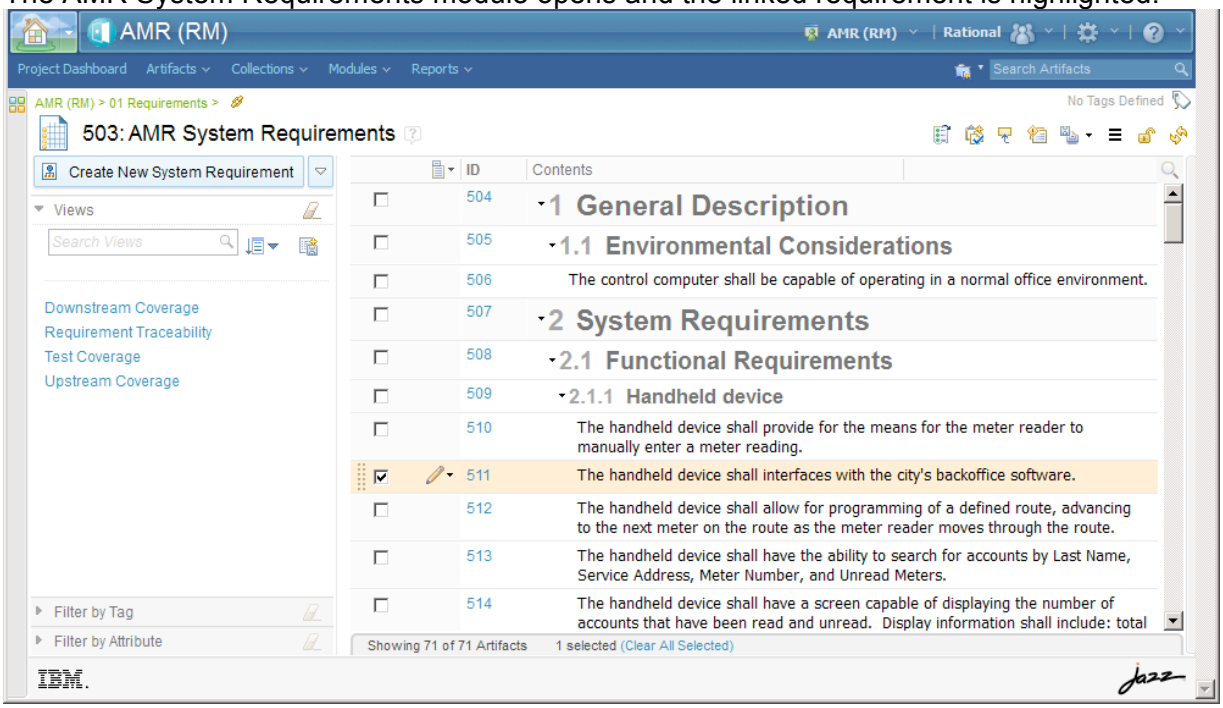
Note: The change request is linked to requirement ‘511’ that is impacted by this change request.

6. Hover over the **Implements Requirement > 511** link.
   Note: A rich hover preview will open and show the details of requirement ‘511’.

7. Scroll down to the end of the rich hover dialog to locate the In Modules section.
   Click on the link **System Specification: 511** to open the linked requirement ‘511’ in the ‘AMR System Requirements’ module.

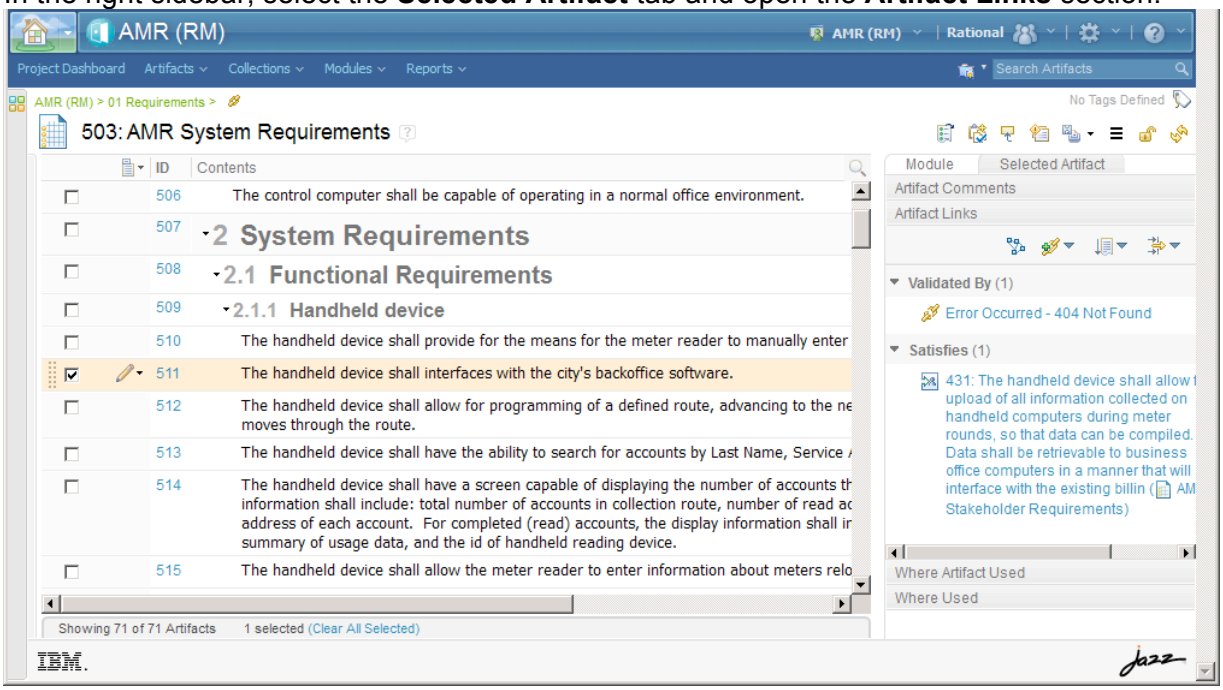


8. The AMR System Requirements module opens and the linked requirement is highlighted.



Note: You have now located one of the system requirement impacted by the change request.

9. Expand the right sidebar by clicking on the **<** button on the splitter.
   In the right sidebar, select the **Selected Artifact** tab and open the **Artifact Links** section.



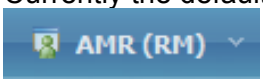
   Note: The traceability link to the test case in section **Validated By** is broken. A **404 Not Found** error is shown.

Versioned artifacts do not store version information with concept links. A global configuration context is required to resolve the actual test case artifact version. In the next section you will select the ‘AMR.S Mobile UK’ global configuration to resolve concept links.

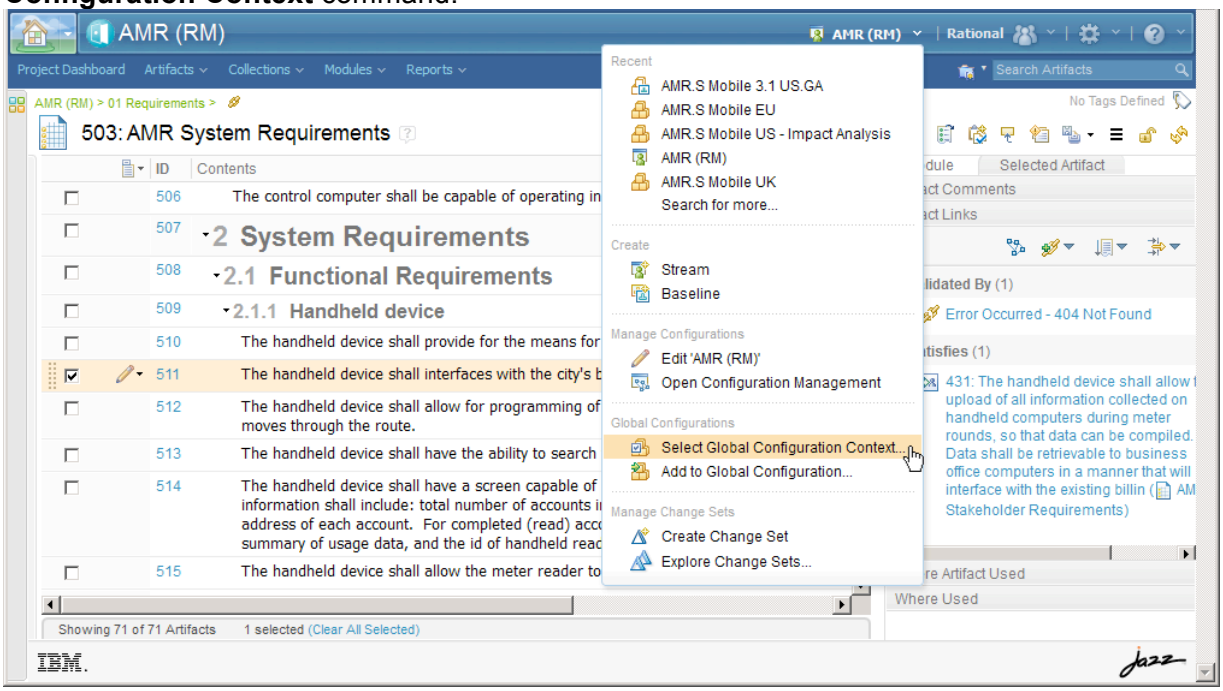
Selecting a configuration context

You will now open the context to the ‘AMR.S Mobile UK’ configuration.

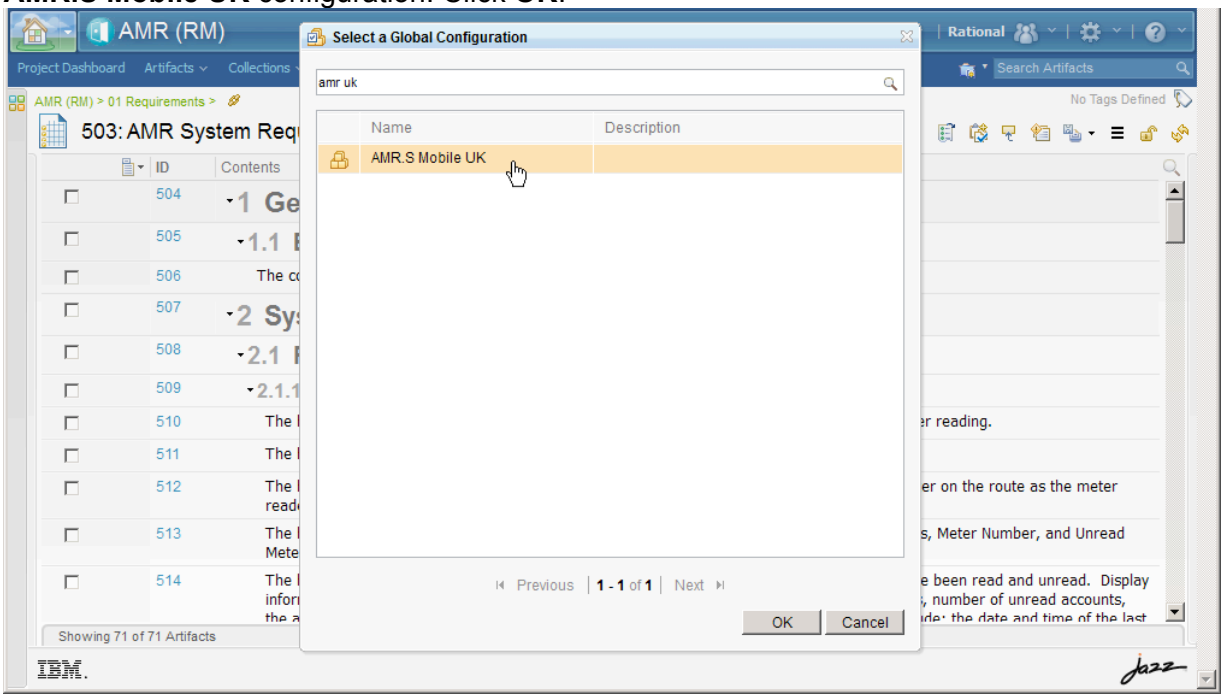
1. Currently the default configuration ‘AMR (RM)’ is selected.



2. From the configuration management menu on the banner, choose the **Select Global Configuration Context** command.



3. In the **Select a Global Configuration Context** dialog, and type `AMR.S Mobile UK`. Select the **AMR.S Mobile UK** configuration. Click **OK**.



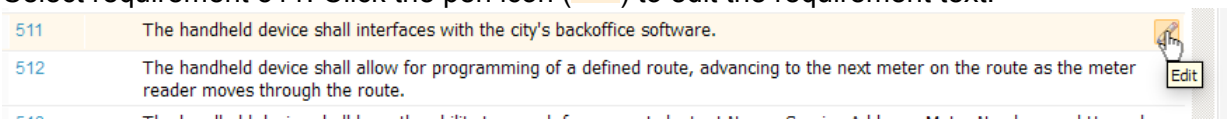
Note: The 'AMR.S Mobile UK' configuration is loaded and the name is shown in the banner.

Working with artifacts and links in a global configuration context

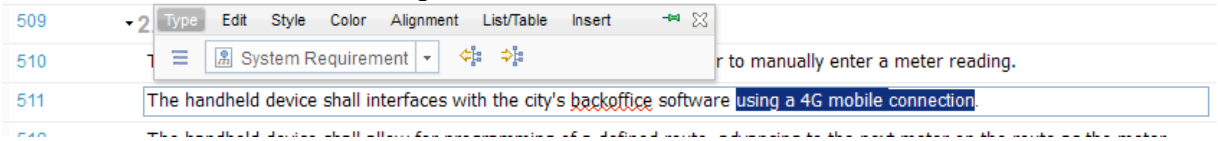
Editing requirements artifacts in a configuration context

You will now edit requirements in the ‘AMR.S Mobile UK’ configuration context.

1. Select requirement 511. Click the pen icon ( ) to edit the requirement text.



2. Add the requirement text `using a 4G mobile connection` to the requirement in the exit box.
   Press CTRL-S to save the change.



3. *Optionally, make additional changes to requirements in the ‘AMR System Requirements’ module.*

You have now made changes to system requirements for the AMR Mobile UK product. These changes are shared other users of the ‘AMR.S (RM) Mobile UK’ stream. IBM Rational DOORS NG provide capabilities to keep changes to requirements isolated in a *change set* until such changes are published by delivering the change set to the shared stream.

To explore how to use change sets you may, after you have completed the lab, deepen your understanding by performing the sections in the Appendix. In the appendix section on Using Change Sets you will see how to create a change set, edit requirements artifacts in a context set, and deliver the change set to a shared stream.

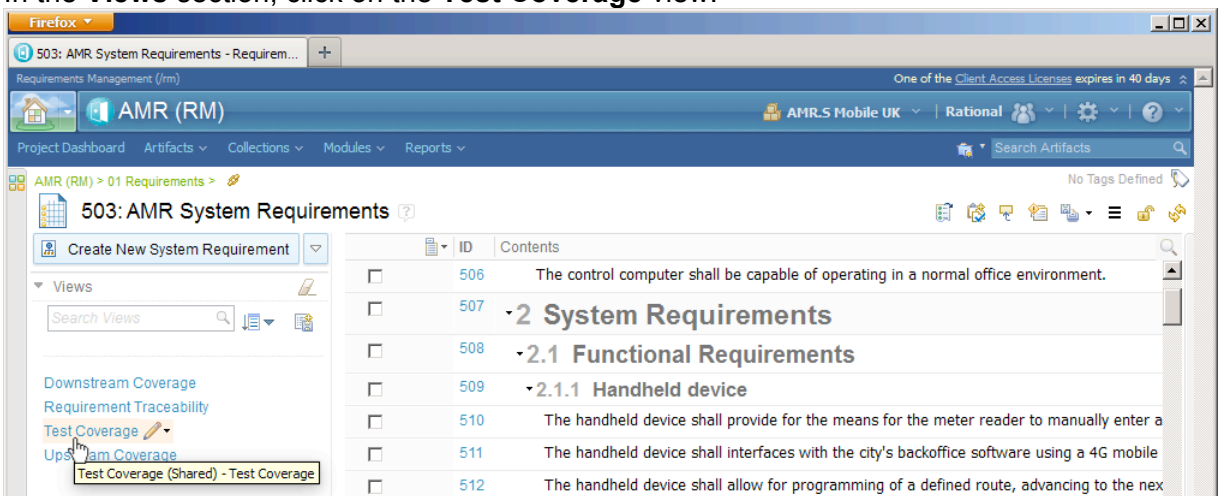
Navigating links in a configuration context

You will now navigate traceability links and edit test artifacts in the AMR Mobile UK global configuration.

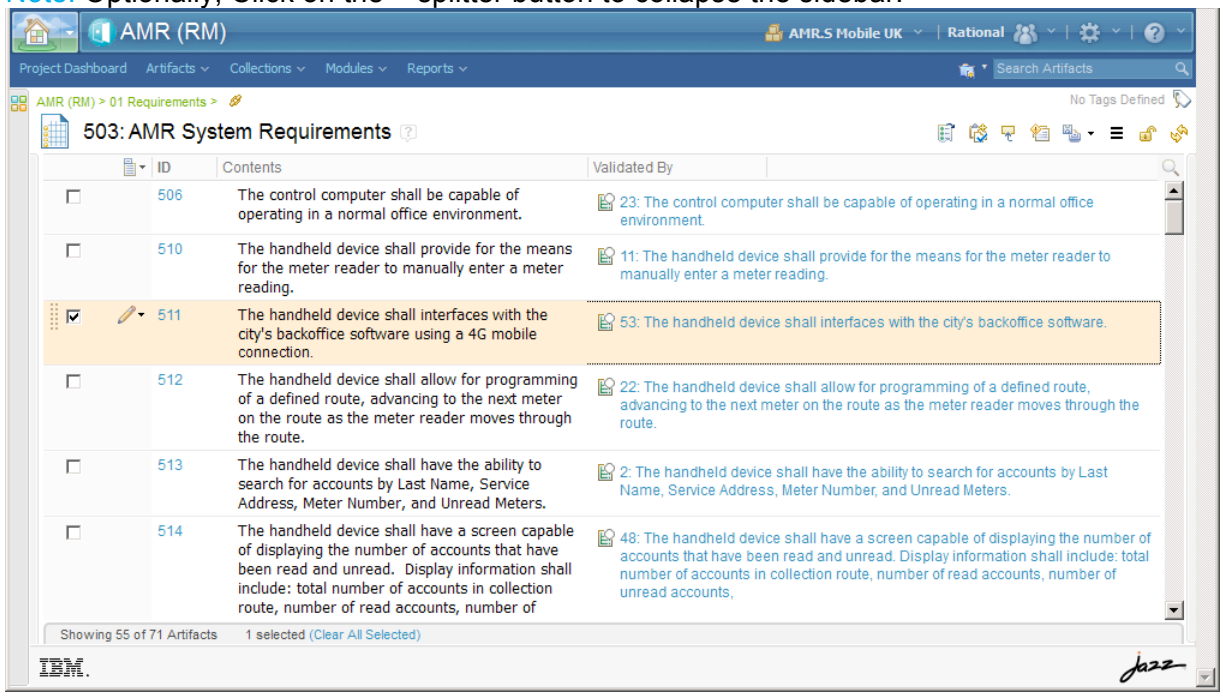
You will first view a traceability view of system requirements and the test cases that are validating each requirement.

1. Click on the **>** splitter button to expand the sidebar.

2. In the **Views** section, click on the **Test Coverage** view.

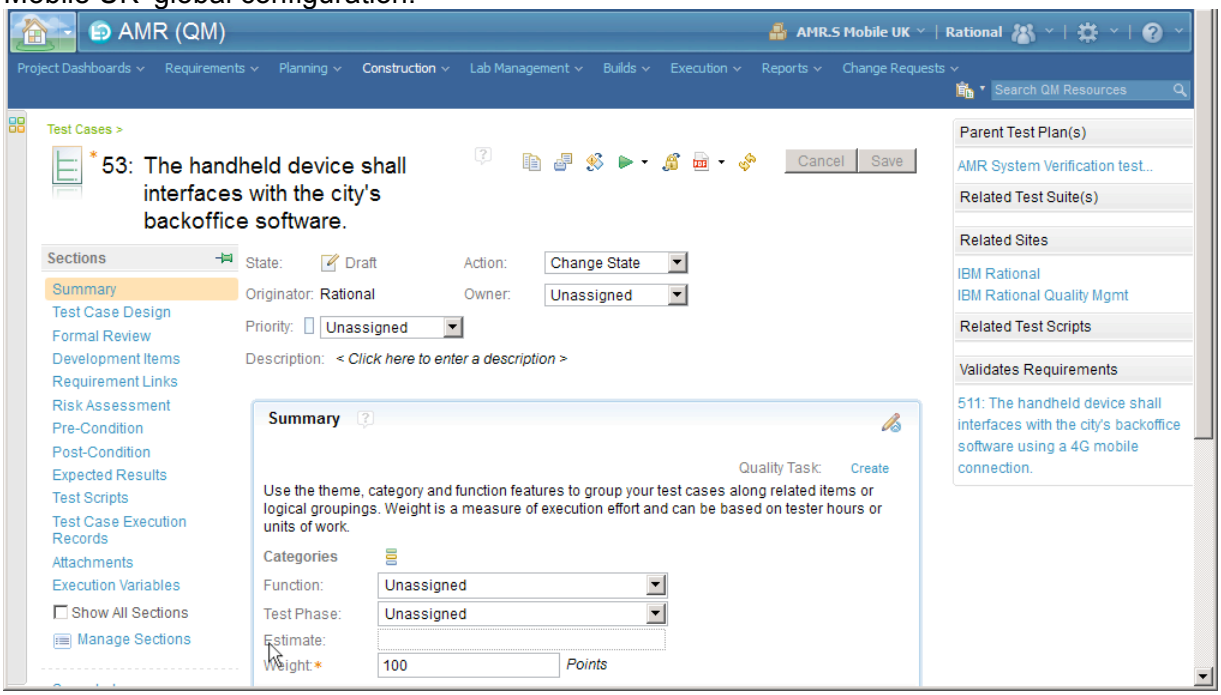


3. A requirements and test traceability view opens. Each requirement is viewed with the linked test cases shown in the **Validated By** column.
   Note: Optionally, Click on the **<** splitter button to collapse the sidebar.

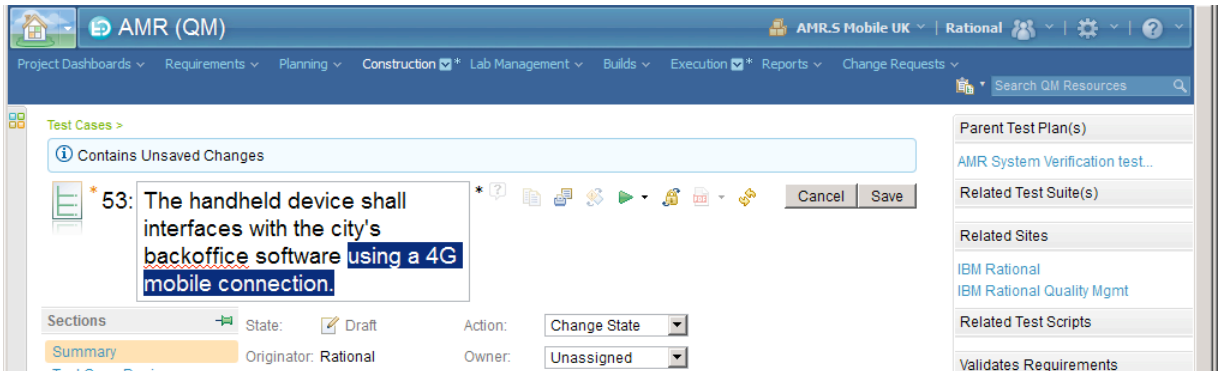


4. Click on the link to test case **53: The handheld device shall interfaces with the city's backoffice software** linked to requirement 511.

5. The Rational Quality Manager application opens and loads test case 53 in context of the 'AMR.S Mobile UK' global configuration.



6. Edit the test case title to match the new system requirement on 4G mobile communications. Click **Save**.

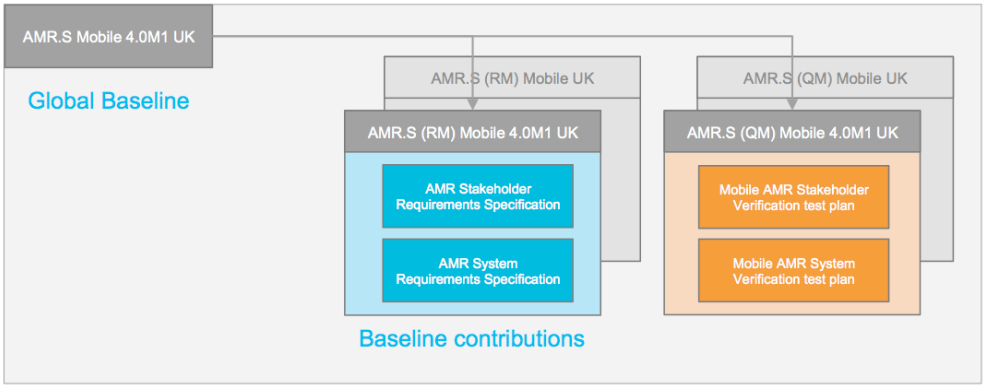


You have now made changes to system requirements and system test cases for the AMR Mobile UK product.

You will now create baselines of these stream changes and assemble a global base of the requirements and test baselines.

Exploring Baselines

In this part of the lab you will explore how to create *baselines* of the streams you used in this lab. You will first use the IBM® Rational DOORS® Next Generation and IBM® Rational® Quality Manager applications to create baselines of the ‘AMR.S (RM) Mobile UK’ and ‘AMR.S (QM) Mobile UK’ streams. You will then proceed and create a new ‘AMR.S Mobile 4.0M1 UK’ global configuration, update the stream contributions with baselines contributions and finalize the global baseline. The figure below shows the new global baseline and the replaced contribution baselines.

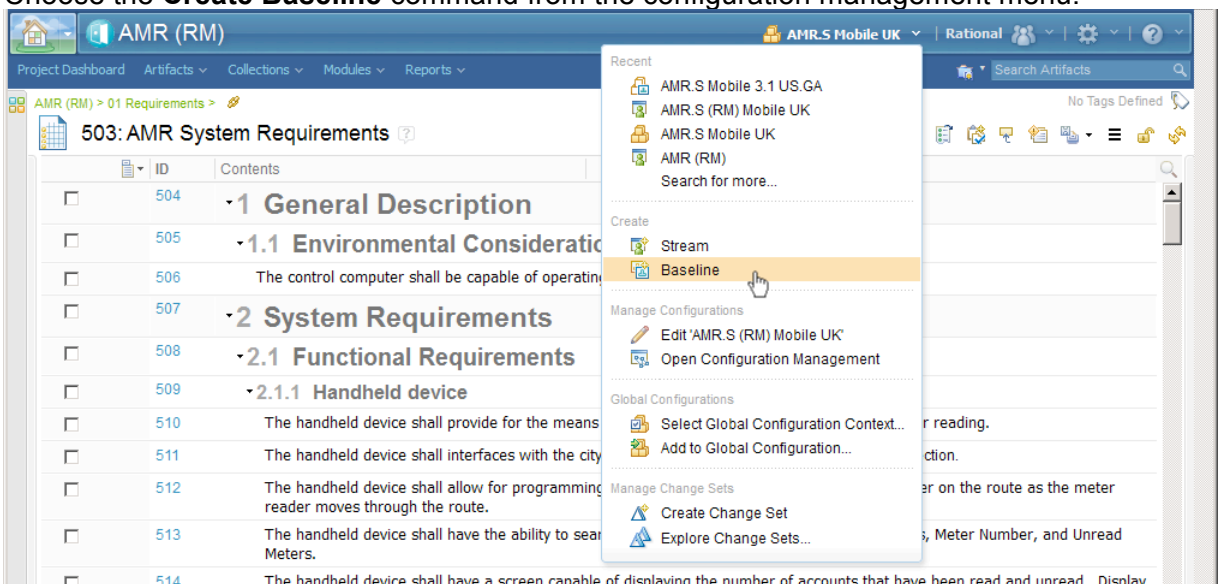


Creating a Requirements baseline

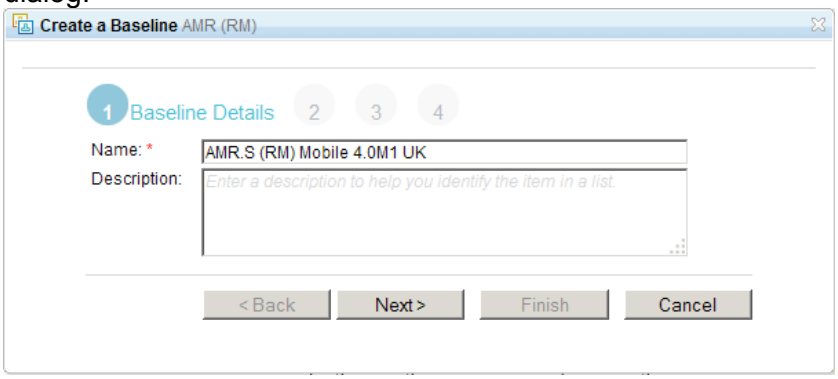
You will now create a baseline for the ‘AMR (RM) Mobile UK’ stream.

1. Return to the tab with the Rational DOORS NG application, the ‘AMR (RM)’ project and the ‘AMR.S Mobile UK’ configuration.

2. Choose the **Create Baseline** command from the configuration management menu.



3. In the Create a Baseline dialog, enter the name `AMR.S (RM) Mobile 4.0M1 UK`. Click **Next>**, choose the **Current stream** option, and click **Next>** and **Finish** to complete the dialog.



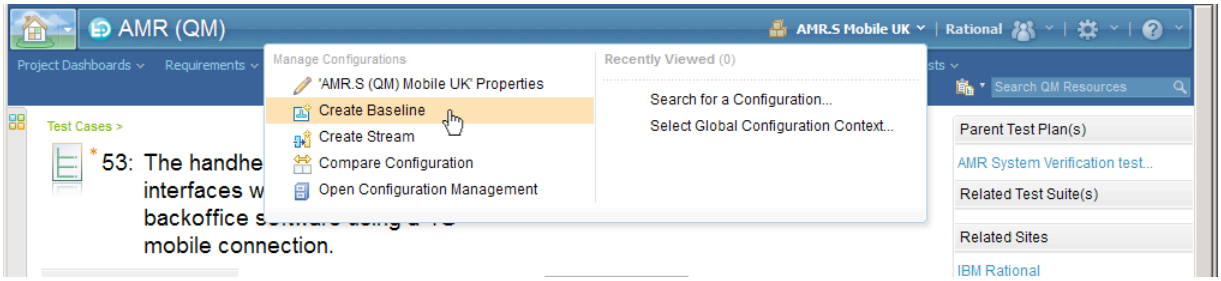
You have now created a baseline of the requirement changes you made in the 'ARM (RM) Mobile UK' stream.

Creating a Test baseline

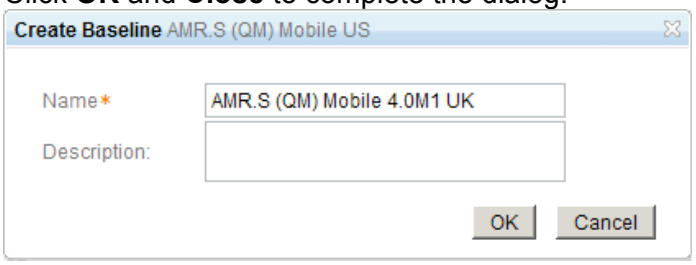
You will now create a baseline for the 'ARM (QM) Mobile UK' stream.

4. Return to the tab with the Rational Quality Manager application, the 'AMR (QM)' project and the 'AMR.S Mobile UK' configuration.

5. Choose the **Create Baseline** command from the configuration management menu.



6. In the **Create Baseline** dialog, enter the name `AMR.S (QM) 4.0M1 Mobile UK`. Click **OK** and **Close** to complete the dialog.



You have now created a baseline of the changes you made to the test cases in the 'ARM (QM) Mobile UK' stream.

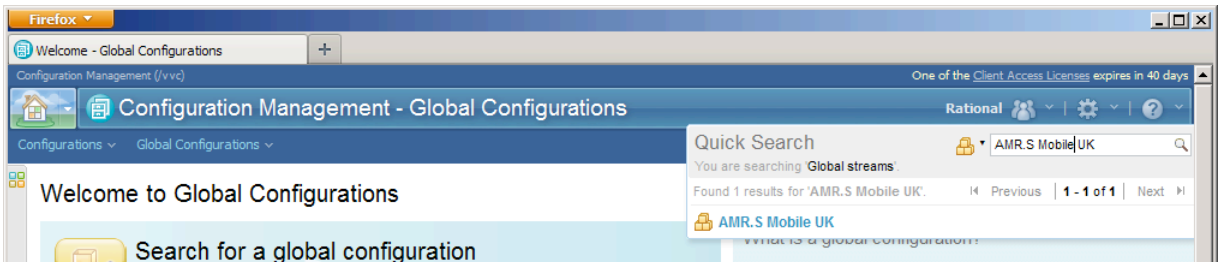
Creating a Configuration baseline

You will now create a baseline for the AMR Mobile UK product configuration.

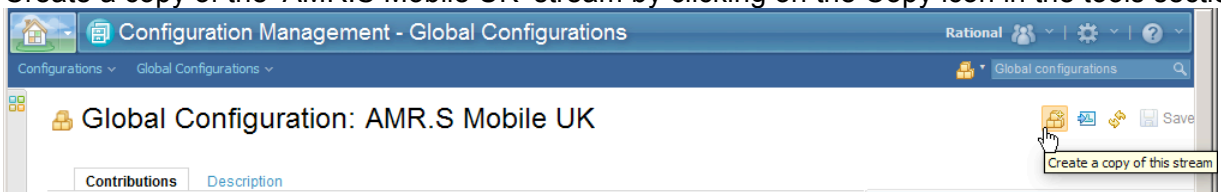
1. Open the Rational Configuration Management application by clicking on the cm bookmark, or alternatively enter the URL **https://ssejtsserver:9443/vvc/web**

2. Choose the **Global Configurations** > **Welcome to Global Configurations** menu command.

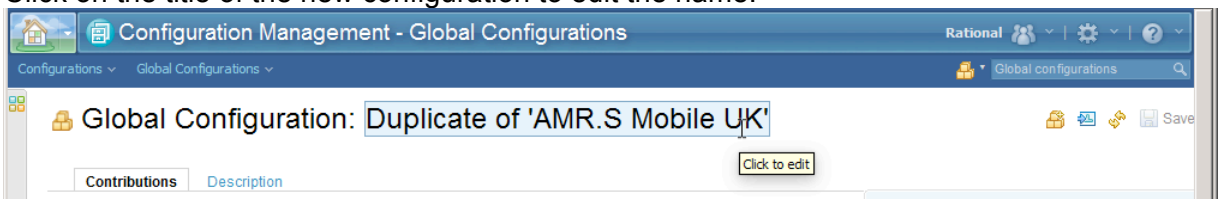
3. In the Quick Search, type `AMR.S Mobile UK` and click on the link to open the configuration in the editor.



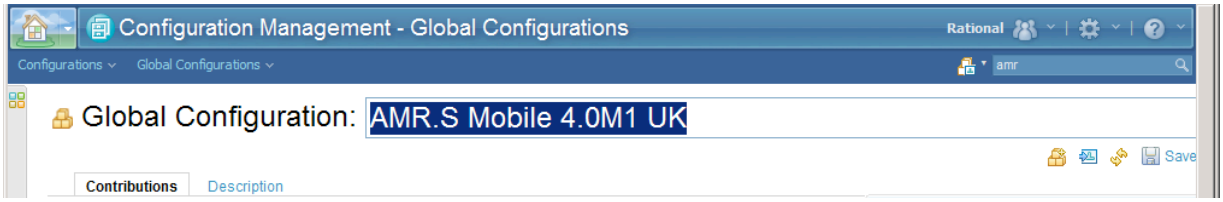
4. Create a copy of the 'AMR.S Mobile UK' stream by clicking on the Copy icon in the tools section.



5. Click on the title of the new configuration to edit the name.

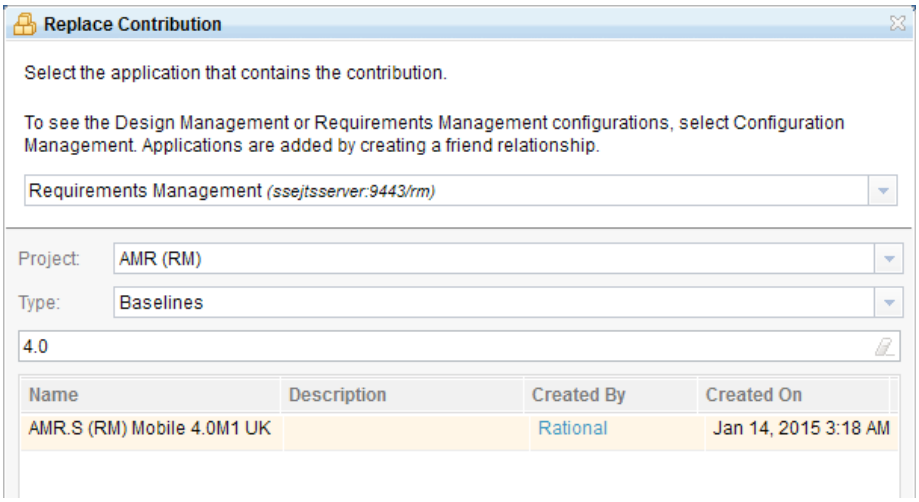


6. Replace the name by typing `AMR.S Mobile UK 2015` in the title text box.
Click **Save**.

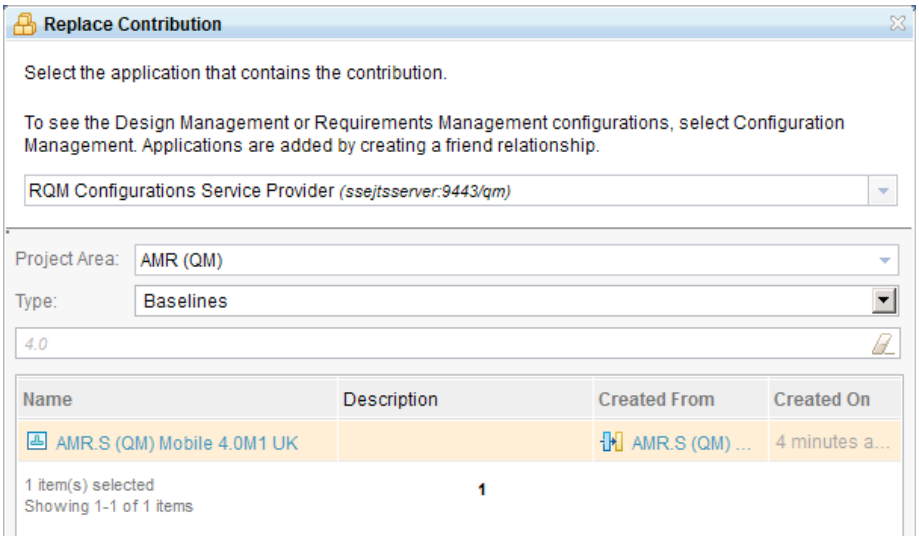


7. On the 'AMR.S (RM) Mobile UK' contribution row, click the Replace icon.

8. Choose the **Requirements Management** option.
In the **Replace Contribution** dialog, choose the **Baselines** and type optionally `4.0` in the search field. Select the 'AMR.S (RM) Mobile UK' requirement baseline you created on one of the previous steps. Click **OK**.

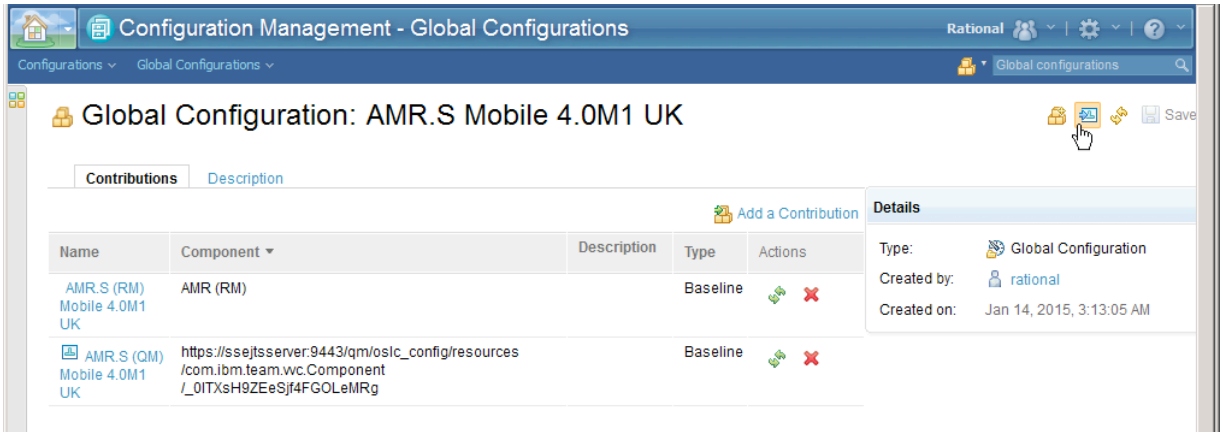


9. Repeat the steps above and replace the ‘AMR.S (QM) Mobile UK’ stream contribution with the ‘AMR.S (QM) Mobile 4.0M1 UK’ baseline. Click **OK**.



Note: The configuration is now updated with requirements and test baselines.

10. Click the **Convert into a Global Baseline** icon.



11. The ‘AMR.S Mobile 4.0M1 UK’ configuration is converted to an immutable baseline, locked to additional changes

Summary of this Lab

You have in this lab explored the concepts of multi-stream configuration management by

- Exploring requirements and test components
- Creating new streams for requirements and test artifacts for a UK configuration
- Created a global configuration to be used as a configuration context for managing changing artifacts for a UK configuration
- Used the global configuration context to navigate and edit artifacts and links
- Created baselines of requirements and test streams
- Create a global configuration baseline

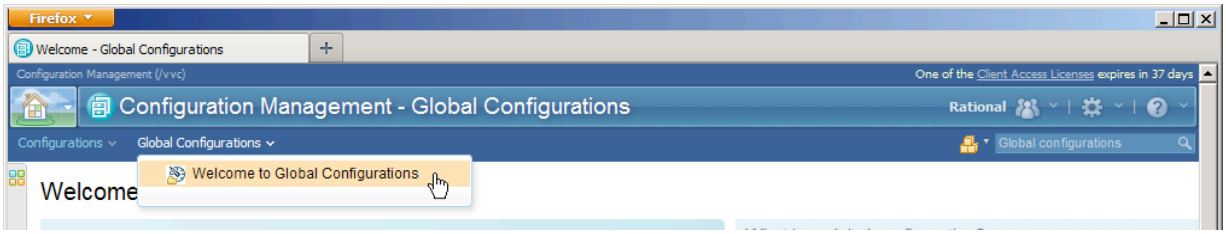
Visit IBM.com for more information on the Configuration Management capabilities in the Systems and Software Engineering solution.

Appendix:
Advanced Configuration Management

Exploring the AMR Mobile US configuration

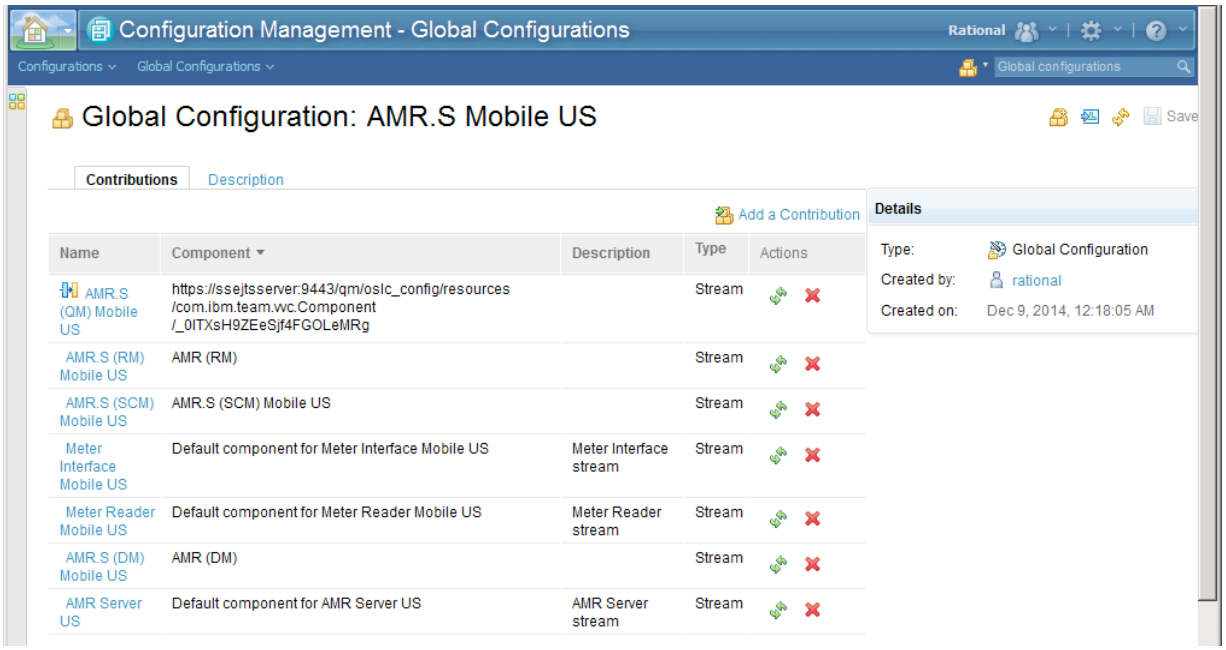
You may optionally explore the ‘AMR.S Mobile US’ global configuration and browse its hierarchical contributions from IBM Rational DOORS Next Generation, IBM Rational Quality Manager, IBM Rational Rhapsody Design Manager and IBM Rational Team Concert applications.

1. Open a new tab in your browser and choose the **cm** bookmark to open the IBM Rational Configuration Management. Alternatively enter the URL **https://ssejtsserver:9443/vvc/web**
2. Choose the **Welcome to Global Configurations** command from the **Global Configuration** menu on the banner.



3. In the Quick Search field and type `AMR.S Mobile US`.

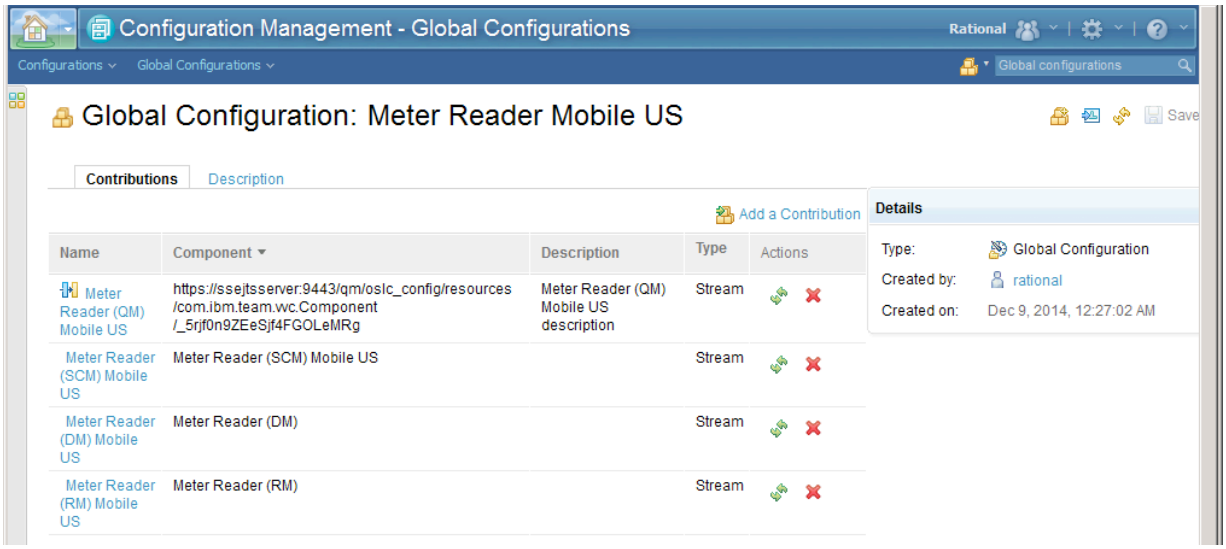
4. Click on the ‘AMR.S Mobile US’ global contribution.



Note: The global configuration opens and shows the contributions from Requirements Management, Quality Management, Design Management, Source Code Management and Configuration Management domains.

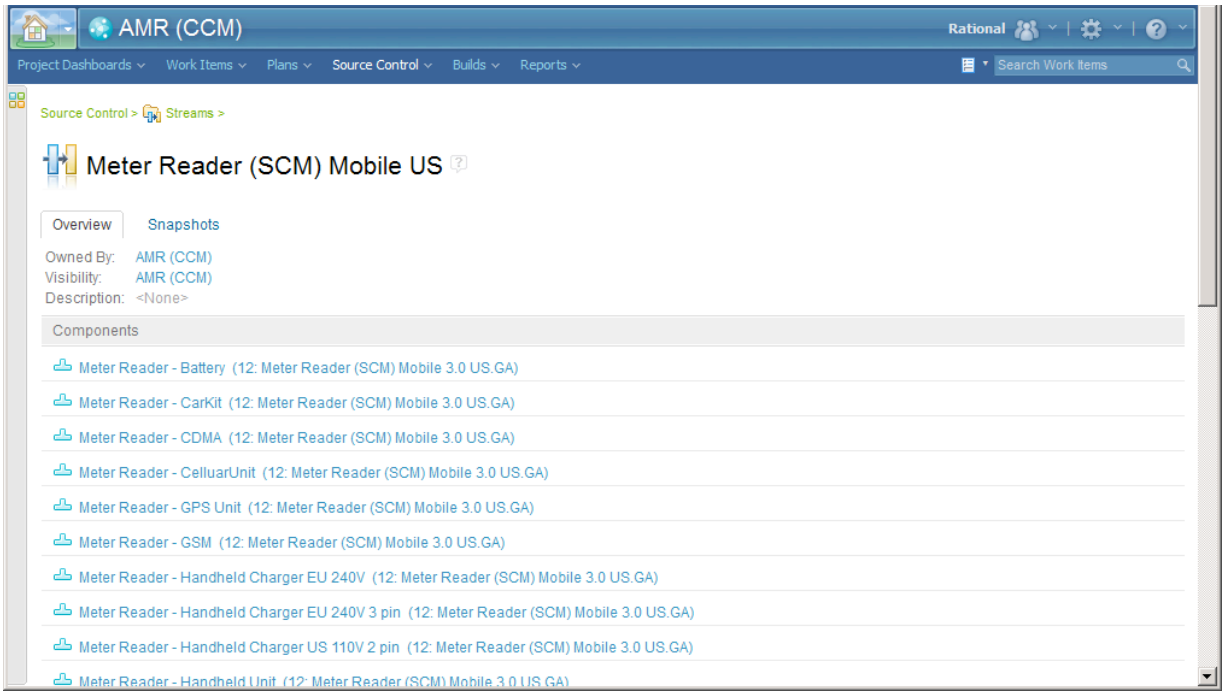
5. Explore the system level contributions.

6. Click on the ‘Meter Reader Mobile US’ global configuration contribution.



Note: The global configuration for the Meter Reader subsystem opens and shows is hierarchical contributions.

7. Click on the ‘Meter Reader (SCM) Mobile UK’ contribution.



Note: The Rational Team Concert application is opened and displays the SCM components in the ‘Meter Reader (SCM) Mobile US’ stream.

Using Change Sets

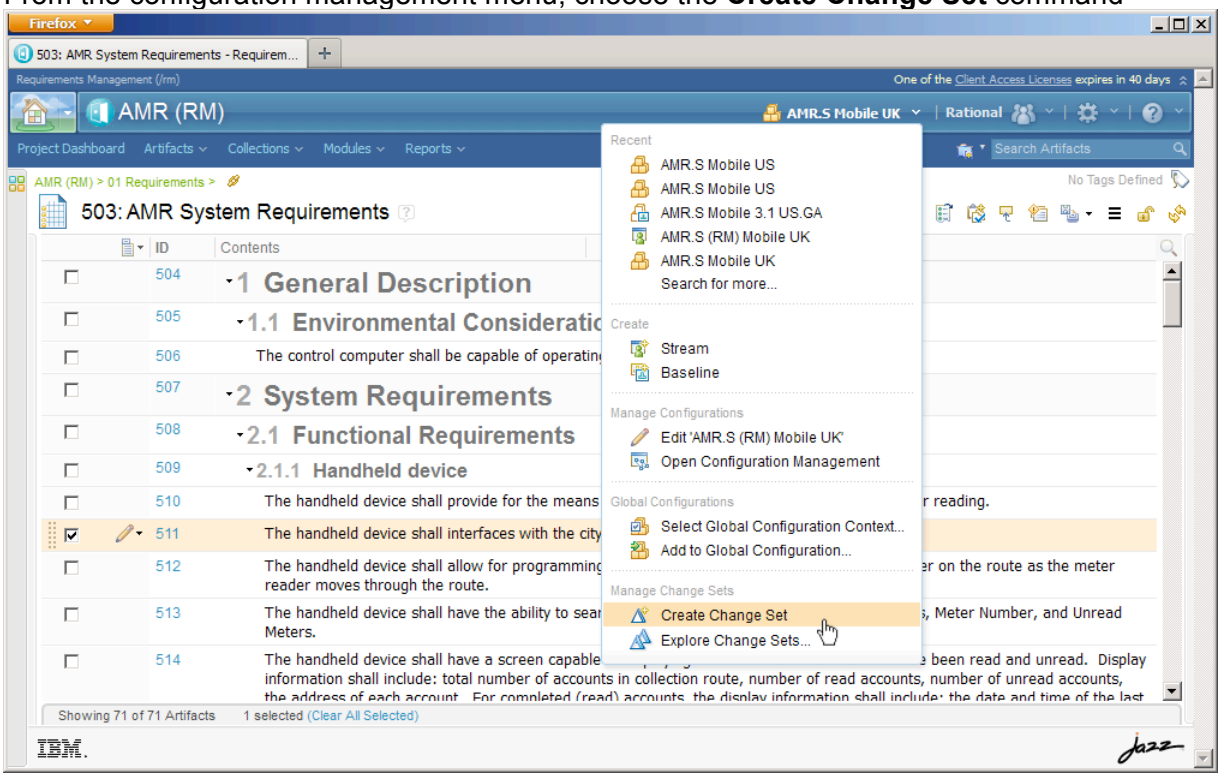
You may optionally explore the use of Change Sets to manage changes in a stream.

Create a Change Set

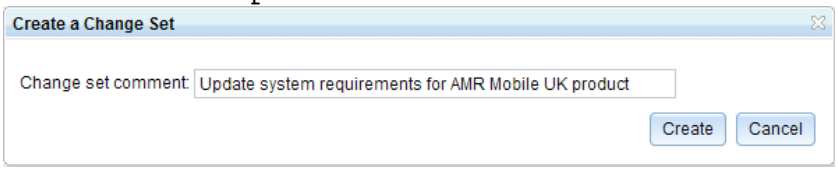
You will now create and use a Change Set to manage the changes to impacted requirements.

1. Return to the tab with the Rational DOORS NG application, the ‘AMR (RM)’ project and the ‘AMR.S Mobile UK’ configuration. Open the ‘AMR System Requirements’ module

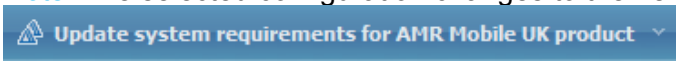
2. From the configuration management menu, choose the **Create Change Set** command



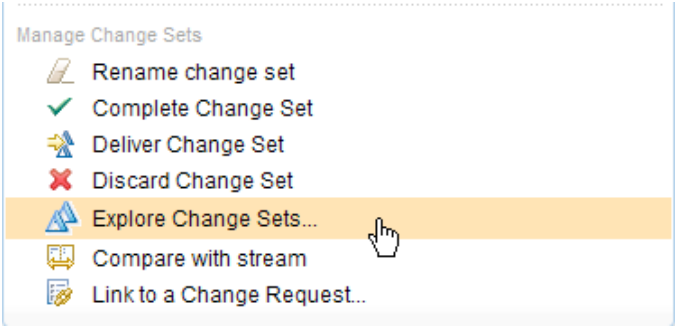
3. In the **Create a Change Set** dialog, enter the comment `Update system requirements for AMR Mobile UK product`. Click **Create**.



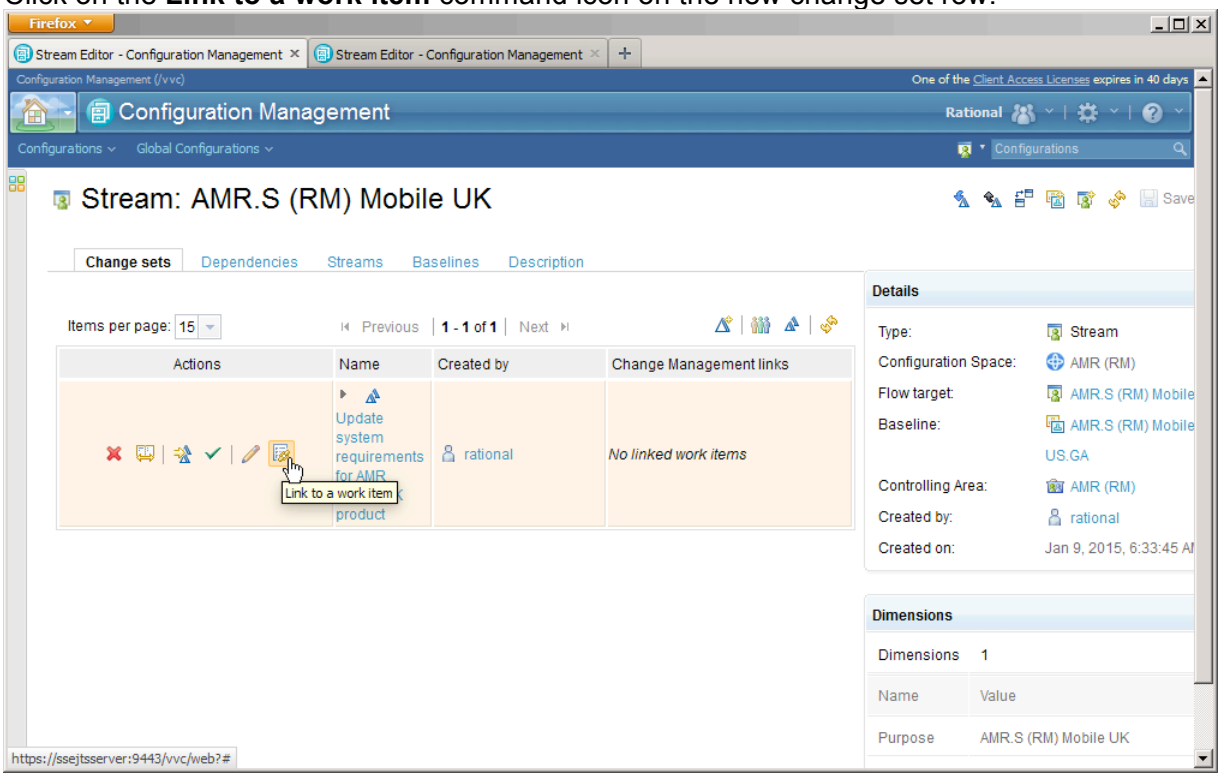
Note: The selected configuration changes to the new change set.



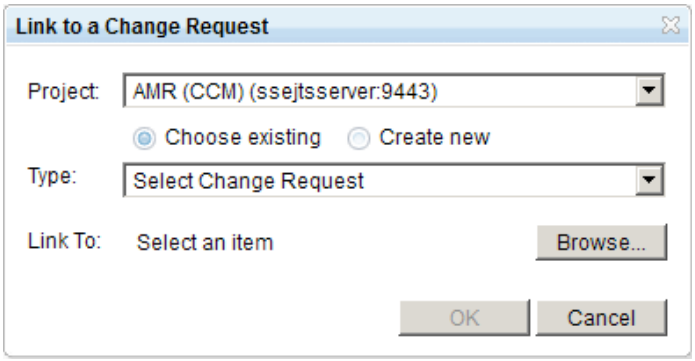
4. Operations on change sets can be performed from the configuration management menu, or from the configuration management application.
   Choose the **Explore Change Set** command from the configuration management menu.
   Hint: Open the change set in a new browser tab.



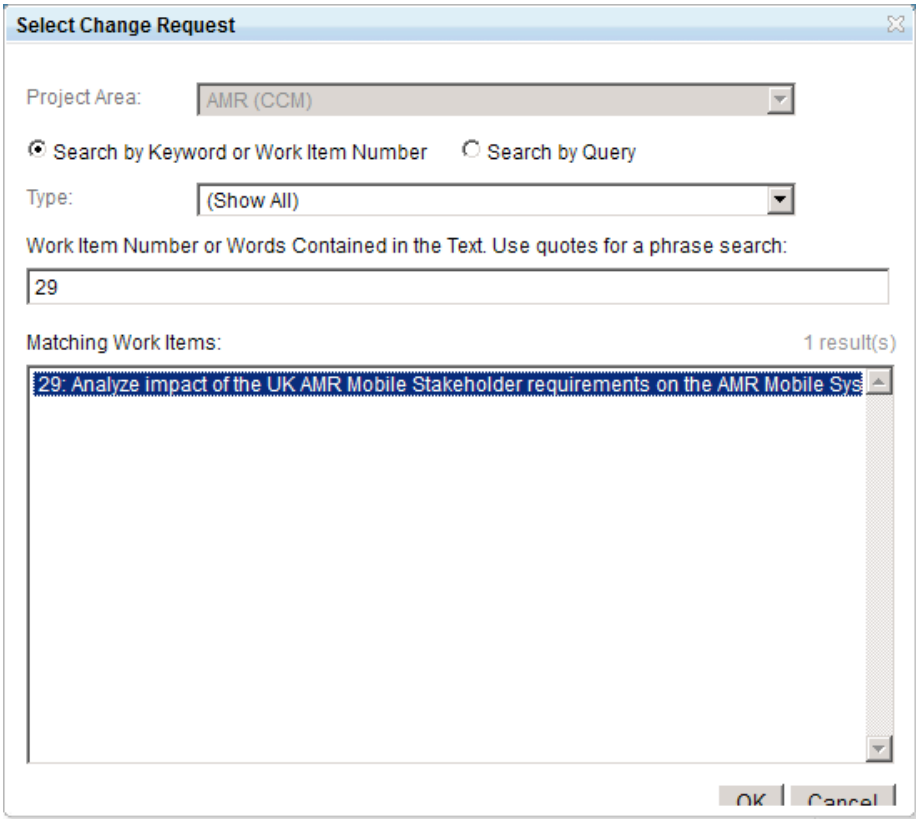
5. The 'AMR.S (RM) Mobile UK' configuration is displayed.
   Click on the **Link to a work item** command icon on the new change set row.



6. In the **Link to a Change Request** dialog, choose the 'AMR (CCM)' project.
   Click the **Browse** button to look up the change request.

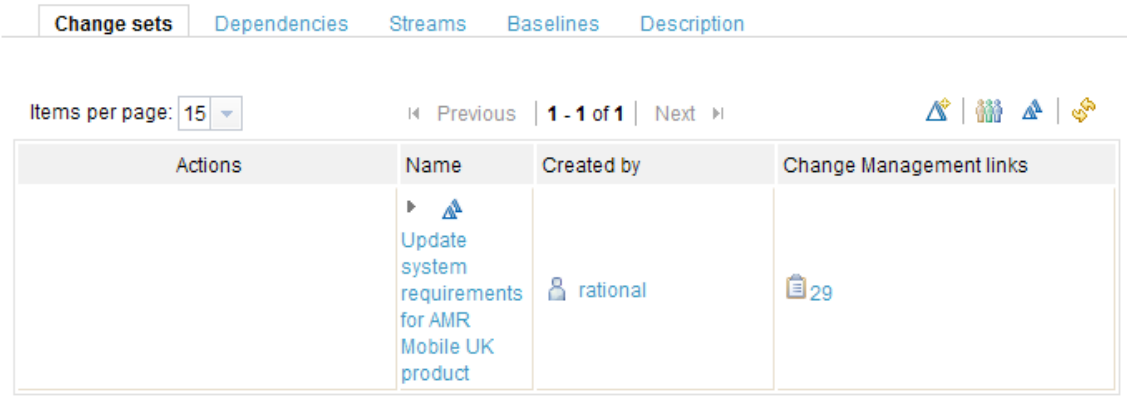


7. In the **Select Change Set** dialog, type `29` in the search box and select the change request.



Note: By searching for work item with id 29 you will locate the change request related to the impact of the new 4G mobile communication requirement for the AMR Mobile UK product.

Click **OK** to close the **Select Change Set** dialog.
Click **OK** to close the **Link to a Change Request** dialog.



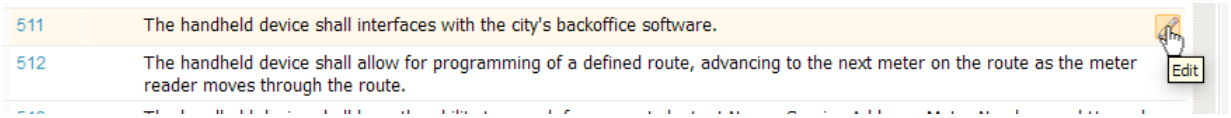
Note: The ‘AMR.S (RM) Mobile UK’ stream is updated and shows the change set with the linked change request.

Editing artifacts in a Change Set

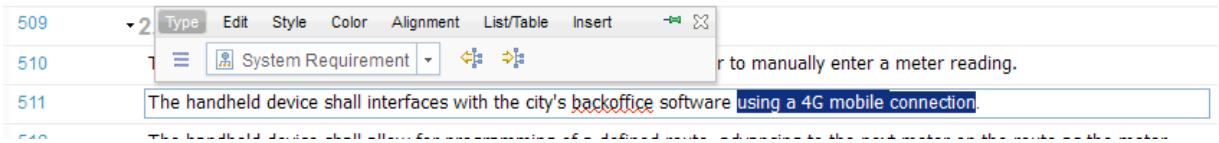
You will now edit requirements in the change set.

1. Return to browser tab with Rational DOORS NG, the ‘AMR (RM)’ project and the ‘AMR System Requirements’.

2. Select requirement 511. Click the pen icon ( ) to edit the requirement text.



3. Add the requirement text `using a 4G mobile connection` to the requirement in the exit box.
   Press CTRL-S to save the change.



4. *Optionally, make additional changes to requirements in the ‘AMR System Requirements’ module.*

You have now made changes to system requirements for the AMR Mobile UK product. These changes are private to the change set and have not been shared with other users of the AMR (RM) project.

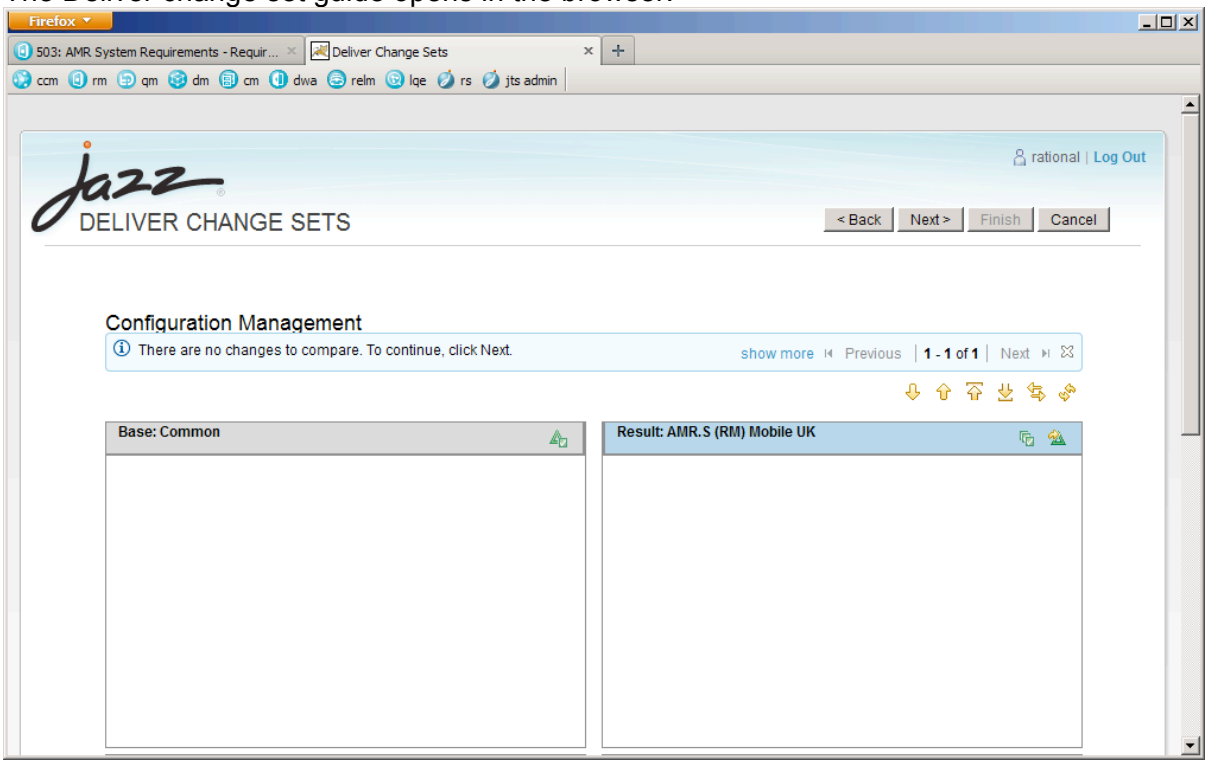
In the next section you will complete (lock) and share the changes with other users.

Delivering changes in a Change Set

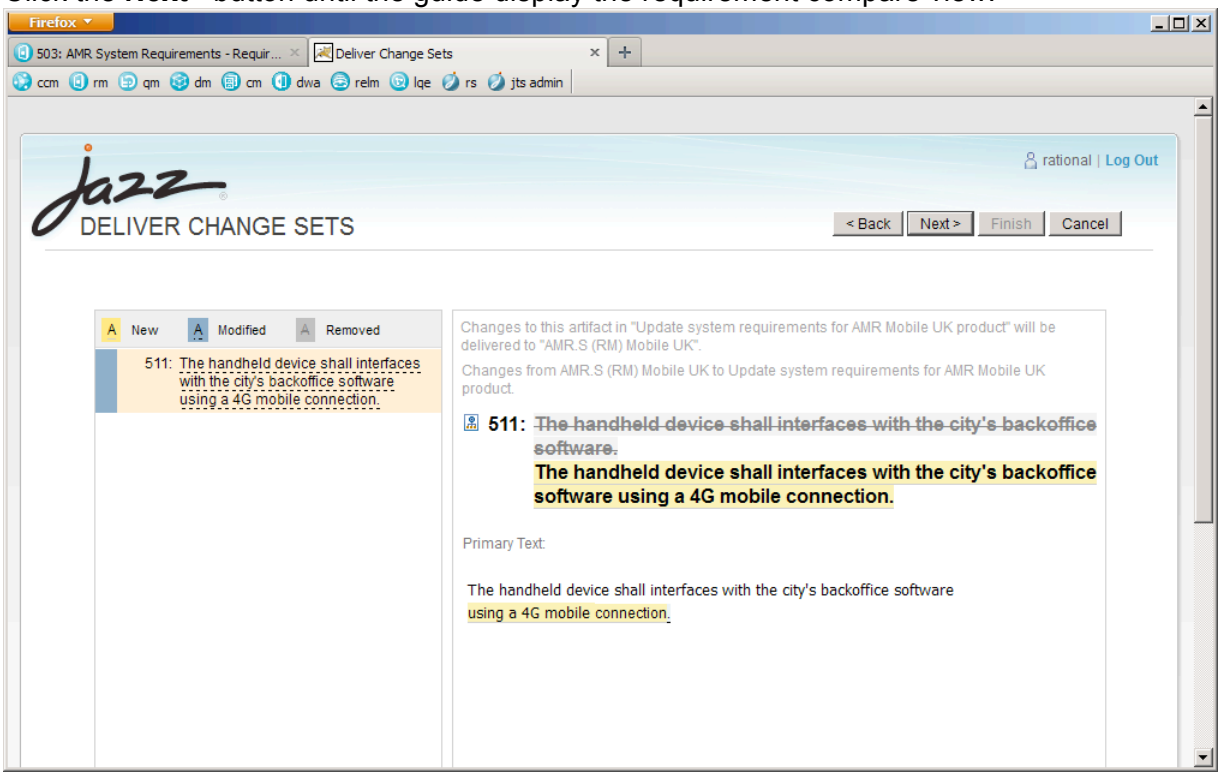
You will now complete the Change Set and deliver the changes to the ‘AMR.S (RM) Mobile UK’ stream.

1. Return to the tab with the Configuration Management application, or choose the Explore Change Sets command from the configuration management menu.
2. On the change set row, choose the **Deliver change set** command by clicking on the deliver icon. Confirm by clicking the **Deliver Change Set** button ( )

3. The Deliver change set guide opens in the browser.



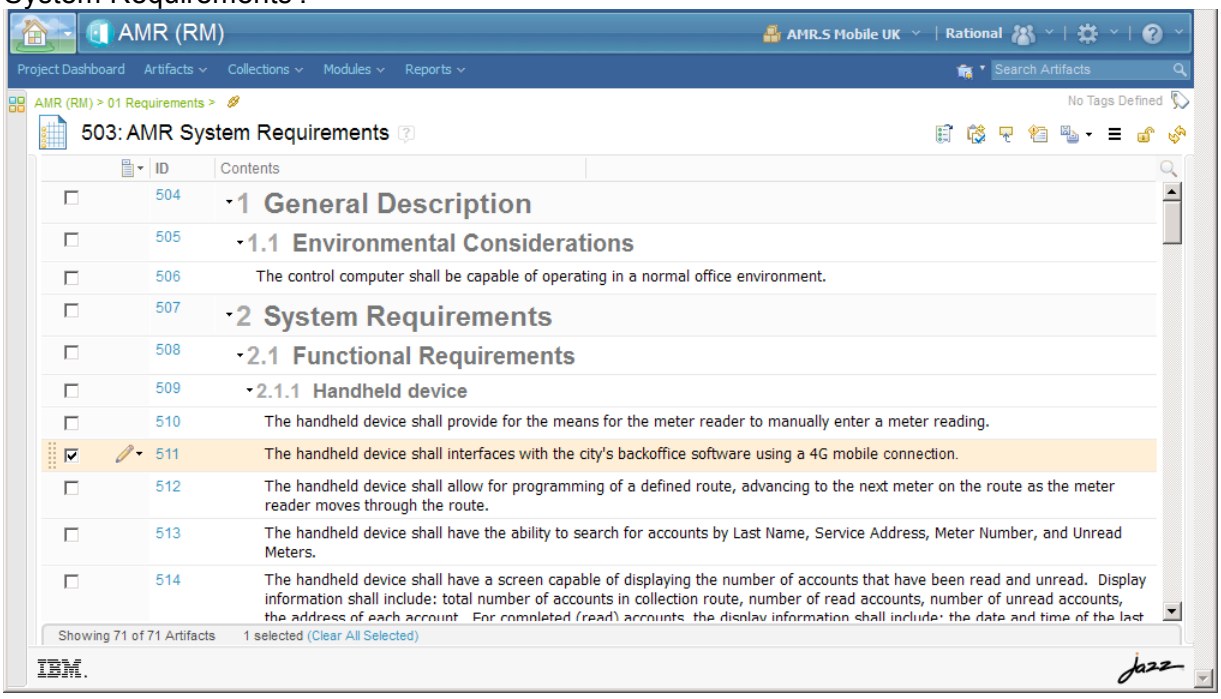
4. Click the **Next>** button until the guide display the requirement compare view.



Note: The changes to the requirements made are shown.

5. Click **Next>** and complete delivery by clicking the **Finish** button.

6. Return to browser tab with IBM Rational DOORS NG, the ‘AMR (RM)’ project and the ‘AMR System Requirements’.



Note: The changes you made in the change set in the change set have been delivered to the ‘AMR.S Mobile UK’ global configuration.