IBM® Rational® Quality Manager in a Globally Distributed World

Sharmila Ramesh
Advisory Project Manager, IBM Rational Quality Manager
sharames@in.ibm.com

Rational. software

© 2009 IBM Corporation

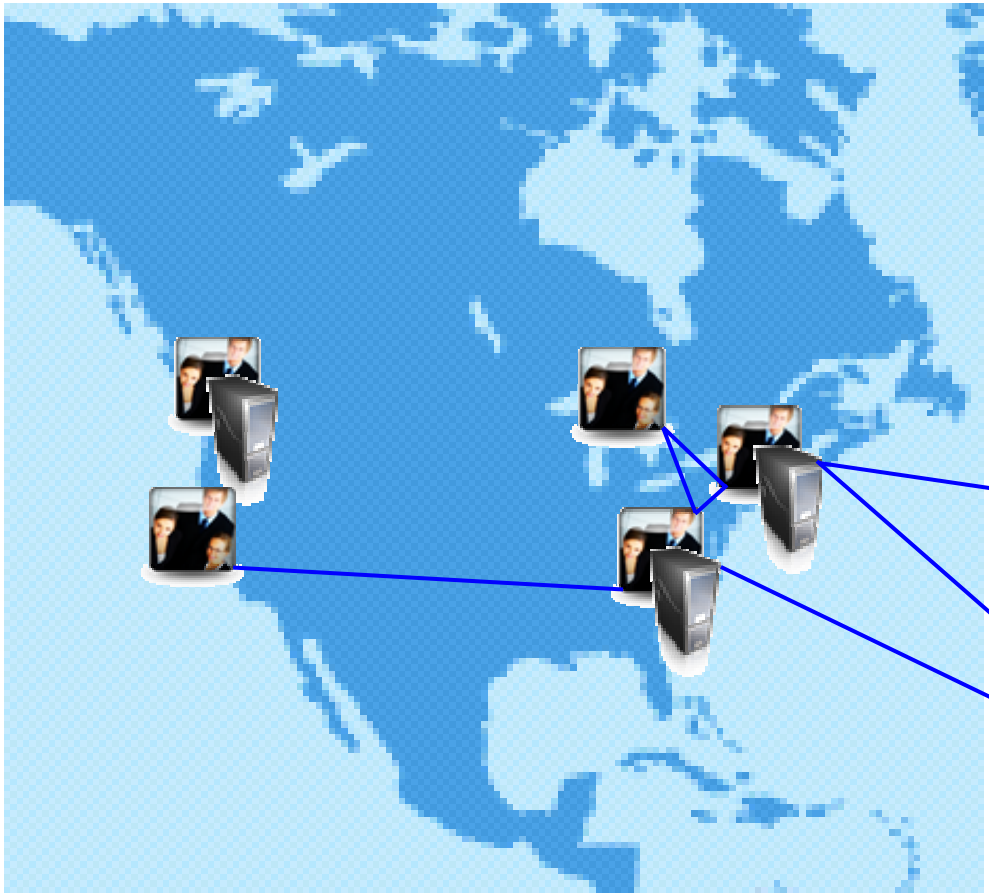
Abbreviations

- System and Integration Verification Test (SVT)
- IBM® Rational® Quality Manager (RQM)

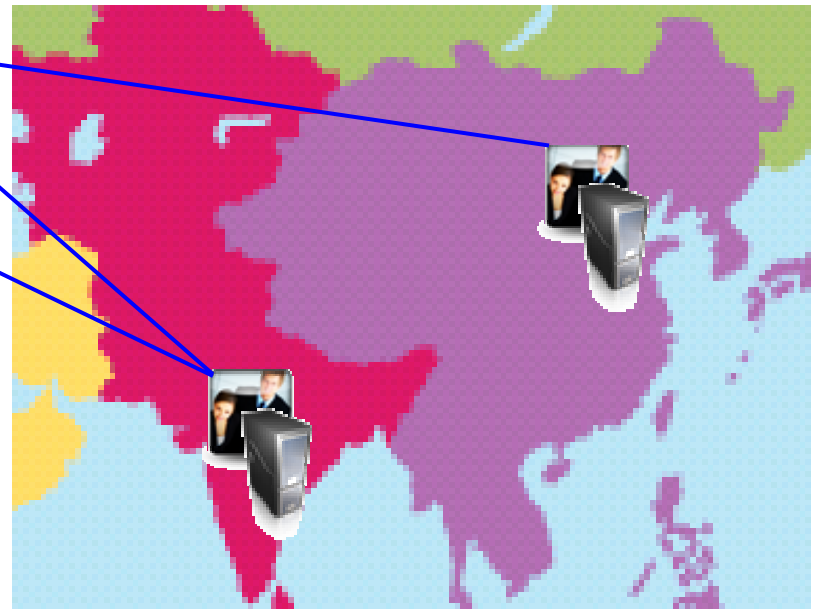
Agenda

- Case Study: IBM® Rational® SVT's Global Deployment of RQM
- Deployment Recommendations for Distributed Teams
- Tips for Tweaking User Response
- RQM Features Leveraged for Global Teams
  - Access and Administration
    - Thin Web-Based Client
    - Centralized Administration
  - Communication and Collaboration
    - Work Items
    - Duplicate Defect Detection
    - Templates
    - Related Sites
    - Risk Assessment

IBM® Rational® SVT's Global Deployment of RQM



- 180+ Users
- 4 countries
- 7 locations, 8 sites
- 10 servers
- 16 products
- 2000+ Assets



IBM® Rational® SVT's Global Deployment of RQM

Intentionally Heterogeneous

- Mixed Teams
  (Development, Test, User Assistance)
- Single and Multi-Project Servers
- Remote Users
- VPN Users
- Different Test Focuses
  (Performance, Integration, Benchmarking, etc.)

Becoming Homogenous

Migrated Data

- ClearQuest Test Management (CQTM), Rational Manual Tester, Excel, Notes Based

Highly Integrated

- Rational Build Forge, Rational Requisite Pro, Rational Team Concert, Rational ClearQuest

Test Tooling

- Rational Functional Tester, Rational Performance Tester, homegrown tools

Global Questions, RQM Answers

- How should I deploy RQM if I have a(n)...
  - …small remote team?
  - …large remote team?
  - …outsourced remote team?
- How do I ensure that my remote user have good client responsiveness?

  Answer: Design deployment based on bandwidth need and tweak user response.

Recommended Topologies – Assumptions

It is all about the pipe: bandwidth and latency

Bandwidth greater than 1.5Mbps

Latency less than 250ms

Recommended Topologies – Assumptions

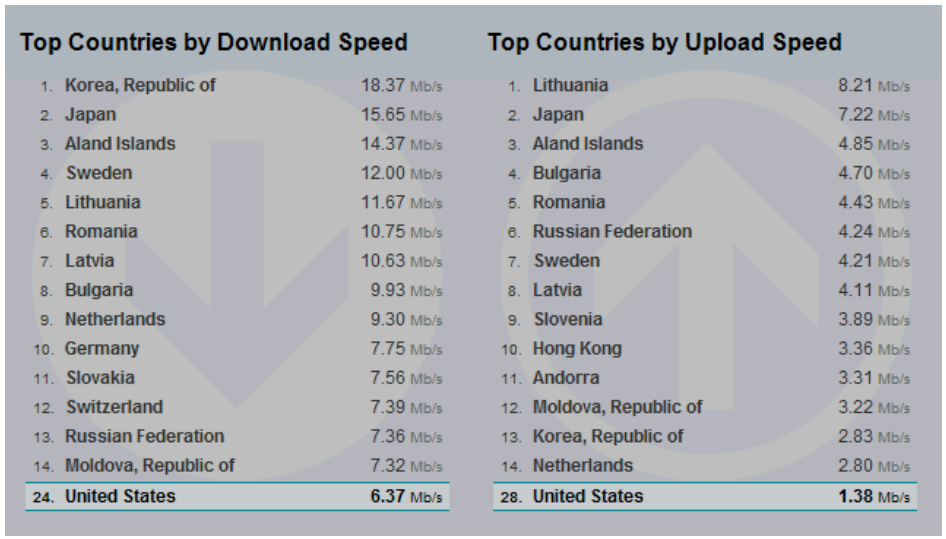
Four factors matter most:

- Number of Active Users
- Number of Assets
- Size of Assets
- Organization of Assets

Assuming average asset size and asset counts linear with team size, recommended bandwidth based on experience (not measured performance) for RQM 1.0.1*:

Bandwidth	Number of Active Users
1.5Mbps	10
3Mbps	50
10Mbps	100
100Mbps	250

*Your mileage may vary.



Top Countries by Download Speed

1.	Korea, Republic of	18.37 Mb/s
2.	Japan	15.65 Mb/s
3.	Aland Islands	14.37 Mb/s
4.	Sweden	12.00 Mb/s
5.	Lithuania	11.67 Mb/s
6.	Romania	10.75 Mb/s
7.	Latvia	10.63 Mb/s
8.	Bulgaria	9.93 Mb/s
9.	Netherlands	9.30 Mb/s
10.	Germany	7.75 Mb/s
11.	Slovakia	7.56 Mb/s
12.	Switzerland	7.39 Mb/s
13.	Russian Federation	7.36 Mb/s
14.	Moldova, Republic of	7.32 Mb/s
24.	United States	6.37 Mb/s

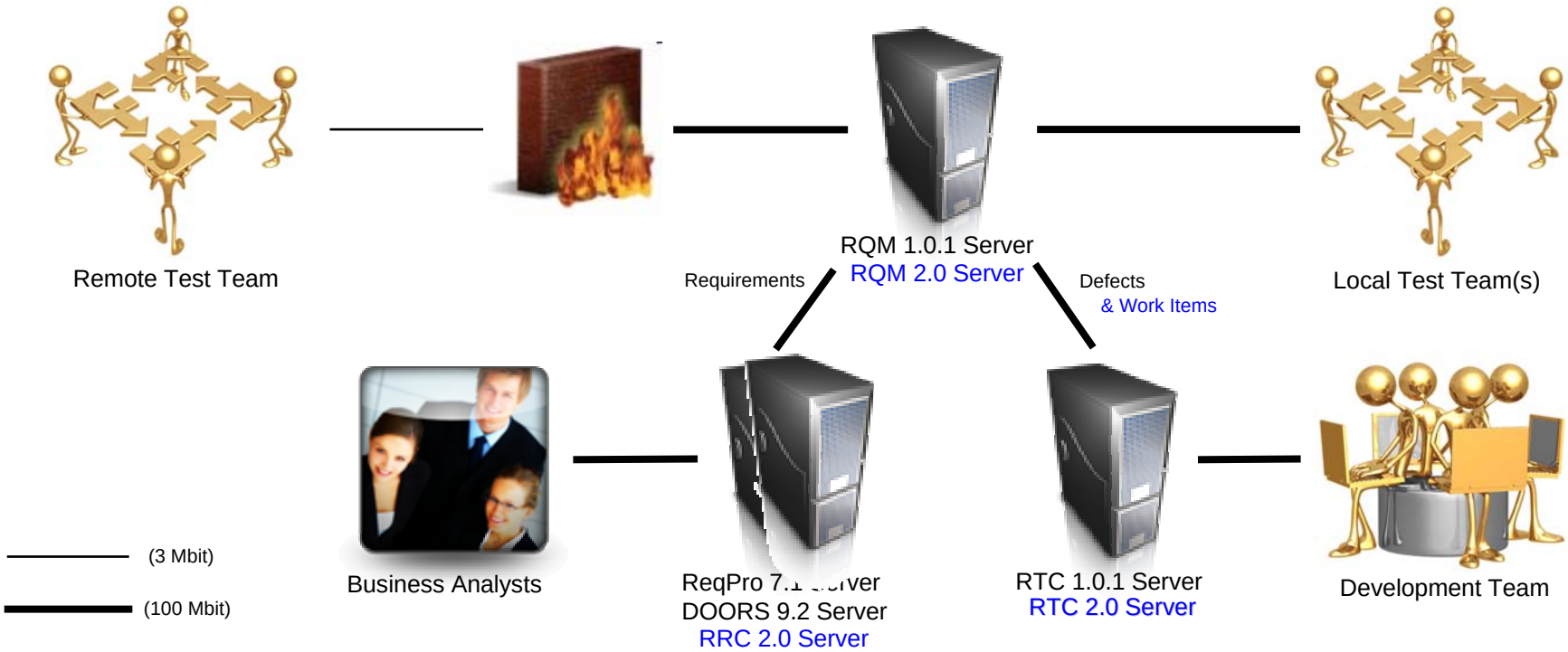
Top Countries by Upload Speed

1.	Lithuania	8.21 Mb/s
2.	Japan	7.22 Mb/s
3.	Aland Islands	4.85 Mb/s
4.	Bulgaria	4.70 Mb/s
5.	Romania	4.43 Mb/s
6.	Russian Federation	4.24 Mb/s
7.	Sweden	4.21 Mb/s
8.	Latvia	4.11 Mb/s
9.	Slovenia	3.89 Mb/s
10.	Hong Kong	3.36 Mb/s
11.	Andorra	3.31 Mb/s
12.	Moldova, Republic of	3.22 Mb/s
13.	Korea, Republic of	2.83 Mb/s
14.	Netherlands	2.80 Mb/s
28.	United States	1.38 Mb/s

Recommended Topologies – Small Remote Team

Criteria (RQM 1.0.1):

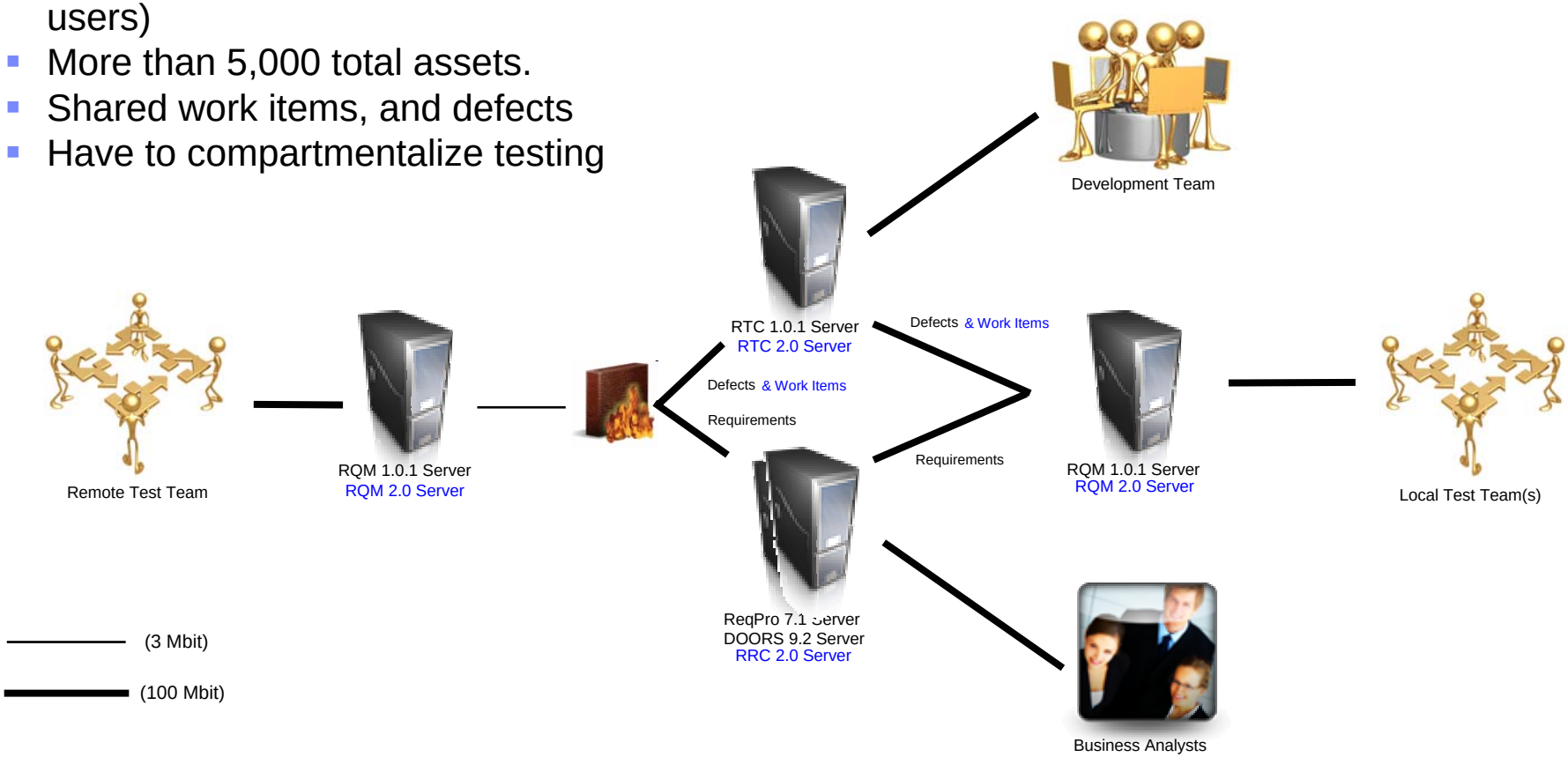
- Large local team (between 100-200 users)
- Small remote team (less than 50 users)
- Less than 5,000 total assets.
- Shared projects, work items, and defects



Recommended Topologies – Large Remote Team

Criteria (RQM 1.0.1):

- Large local team (between 100-150 users)
- Large remote team (between 100-150 users)
- More than 5,000 total assets.
- Shared work items, and defects
- Have to compartmentalize testing



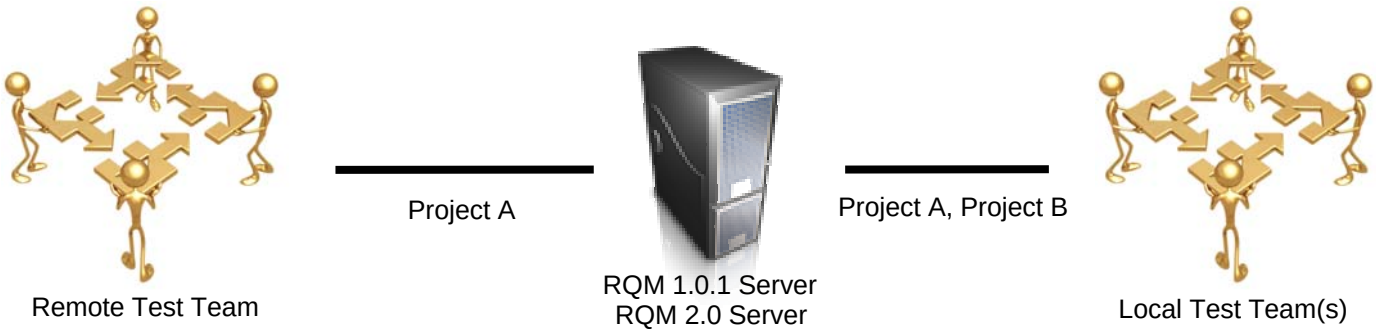
Recommended Topologies – Outsourced Team

Criteria

- Need to monitor remote team's progress
- Limit visibility of projects to local teams
- Restrict actions of remote team.
- Teams can be varied in size

Recommendation:

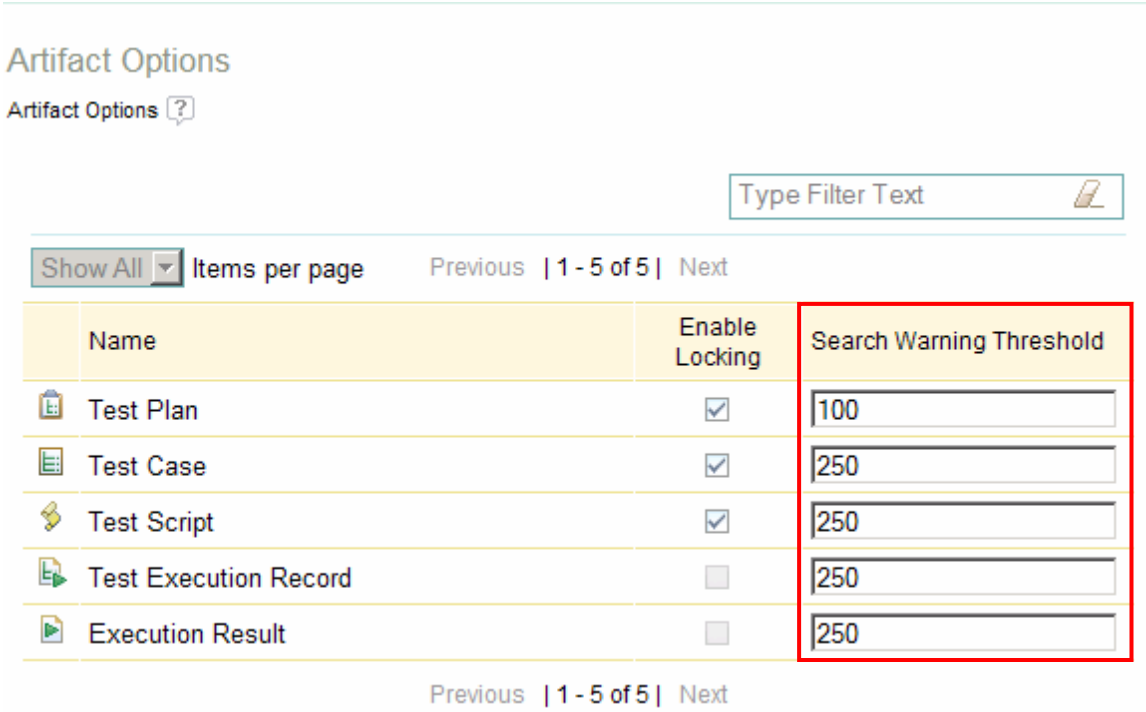
- Apply remote team size recommendation
- Use multiple projects for isolation
  - Remote test team has project that local test users can access and monitor.
  - Local users have own isolated project.
- Leverage action based permissions



Remote Users – Tweaking User Response

RQM 1.0.1 – Asset Throttling

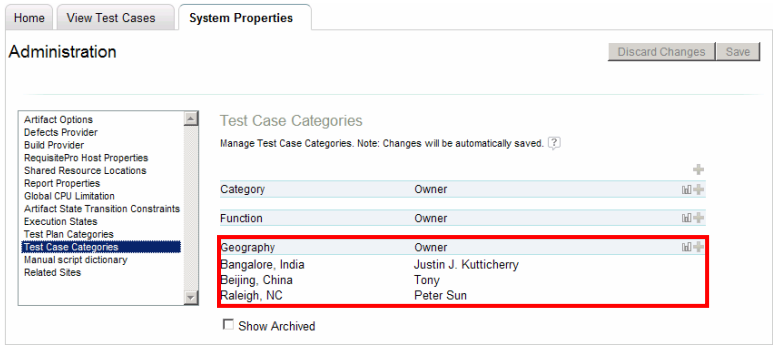
- Enables linear response for increasing data loads. Limits what you see in list views.
- In the Global task bar, Admin → System Properties. Select Artifact Options.



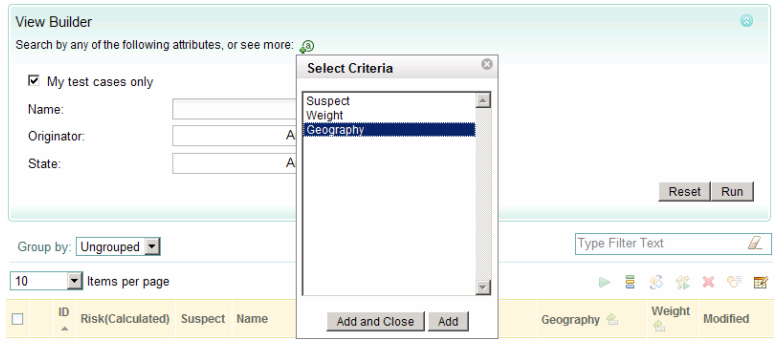
- Keep “Search Warning Threshold” small. Default is 1000.

Remote Users – Tweaking User Response

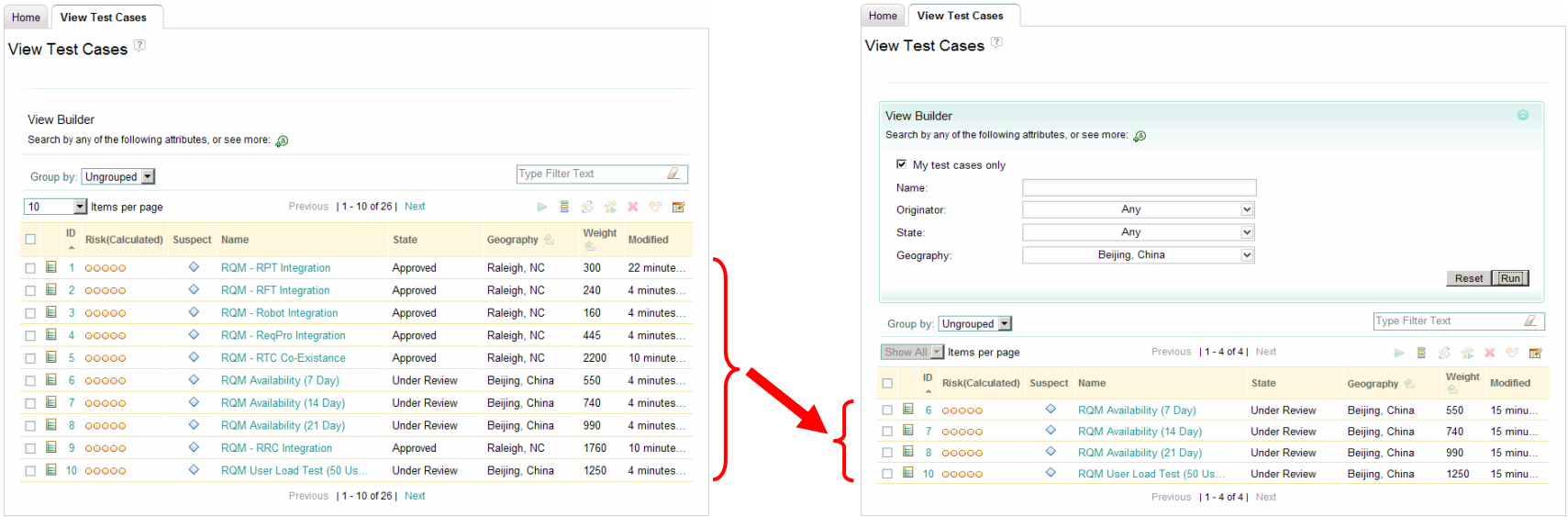
Leverage Categories….



…and the View Builder….



…to reduce traffic to clients of each geography.

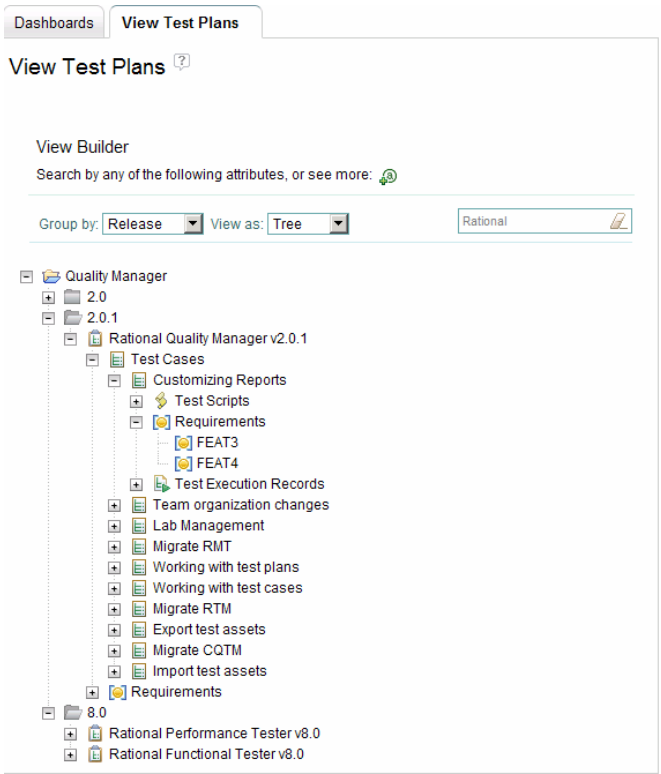


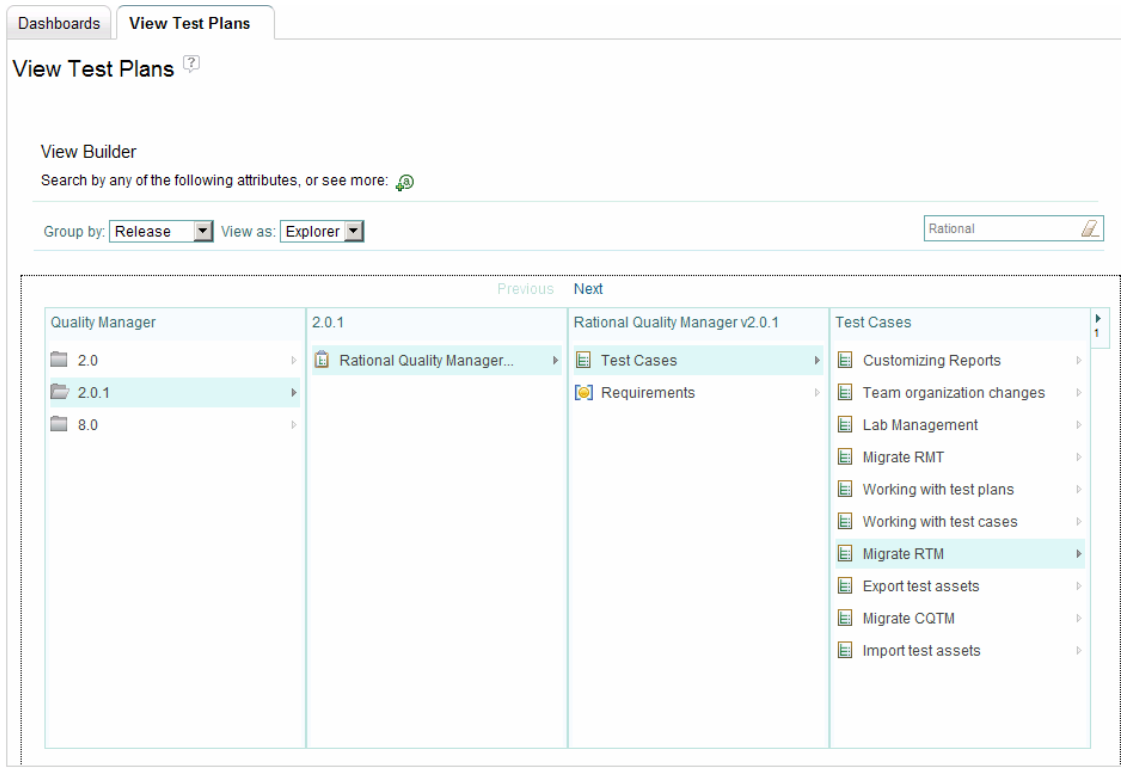
Remote Users – Tweaking User Response

New 2.0

RQM 2.0 – New Views and Performance Optimizations

- Dynamic loading Tree and Explorer Views.
- Allows filtering by test plan on top of throttling and View Builder.





Global Questions, RQM Answers

- How do I enable teams to test anywhere while keeping administration centralized?
- How can I eliminate the need to have administrators at each site?
- How do I control what each team is capable of doing?

  Answer: RQM's thin web-based client and web-based administration.

Thin Web-Based Client

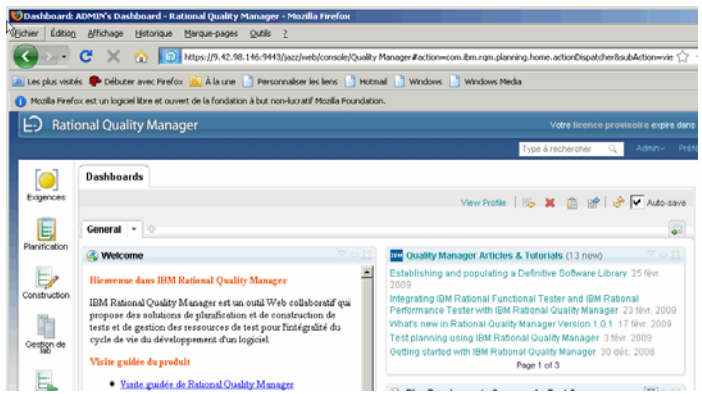
RQM's thin client is perfect for global teams who…

- …need localized clients for major languages.
- …want to have robust testing capability everywhere without having to administer a quality management solution everywhere.

RQM Server
(Chinese)

RQM Client
(Japanese)

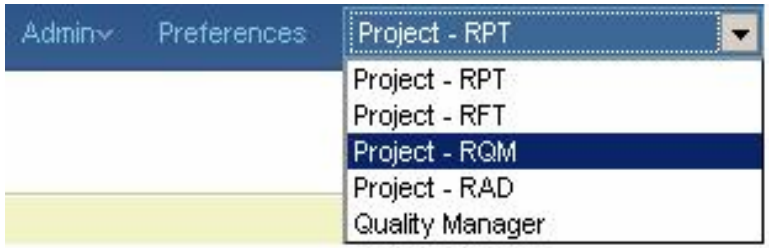
RQM Client
(French)



Centralized Web-Based Administration

RQM's centralized administrative capabilities allow administrators of globally distributed teams to…

- …have centralized set of user controls for multiple projects.
  - Allows quick project switching on the same server

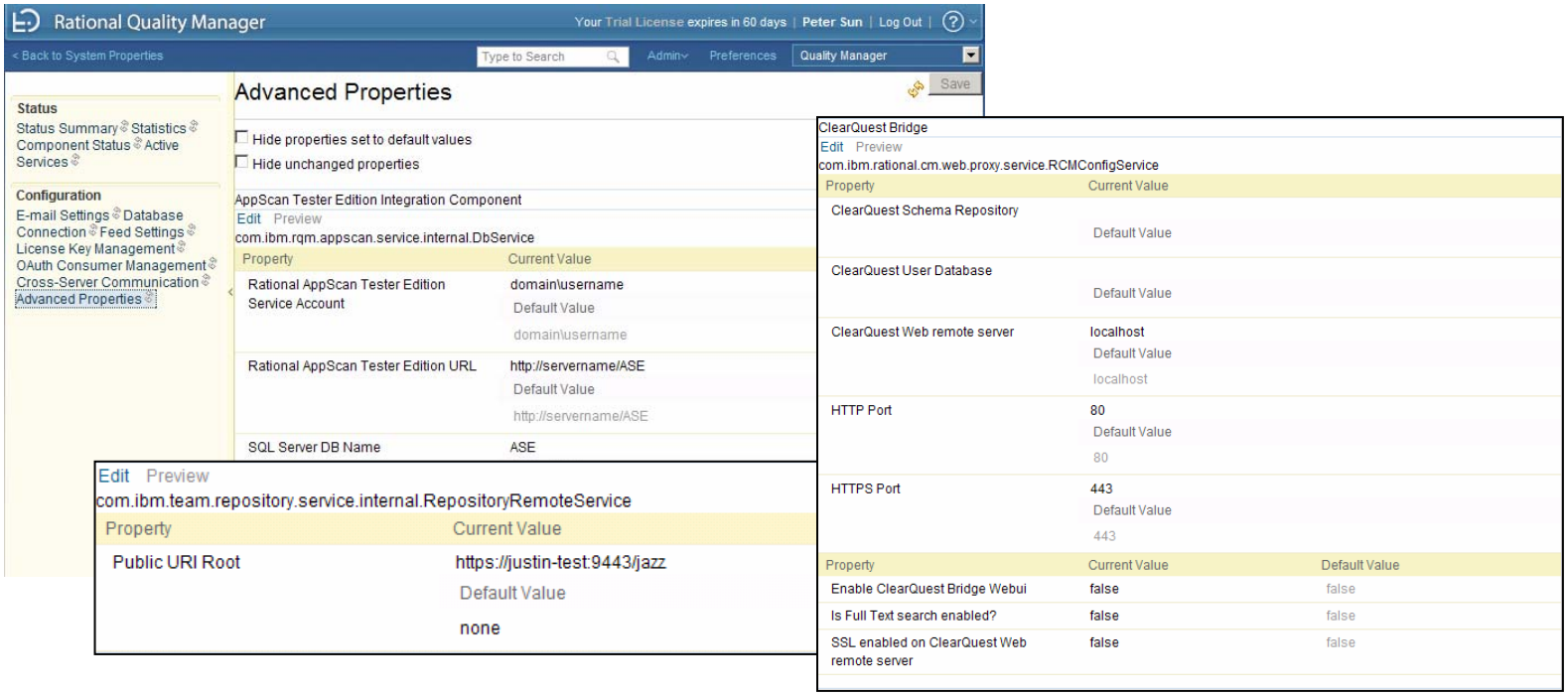


- …have one user database for multiple servers using LDAP.
  - Allows different RQM instances to have single user administration.
  - Combined with quick project switching, one username and one password gives access to all
  - Look in Admin →Jazz Server Administration → Advanced Properties

Centralized Web-Based Administration

- …have web access to nearly all RQM administrative functions.
  - Connector configuration now built into web administration functions

New 2.0

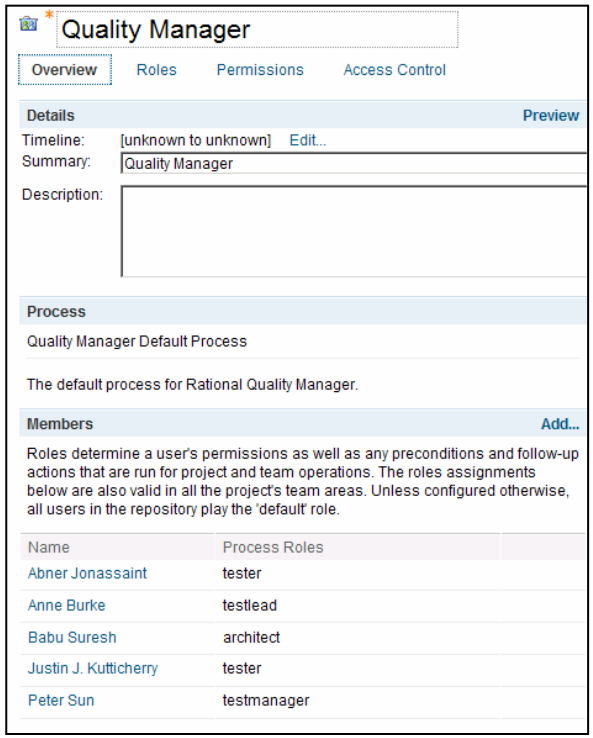


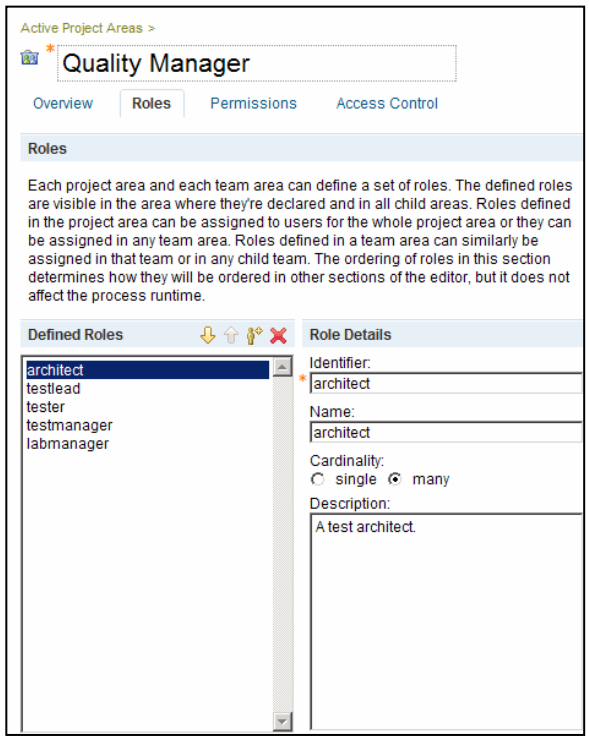
  - Project and user administration fully available from the web.
  - Only functions that require the Eclipse client is customization of asset forms.

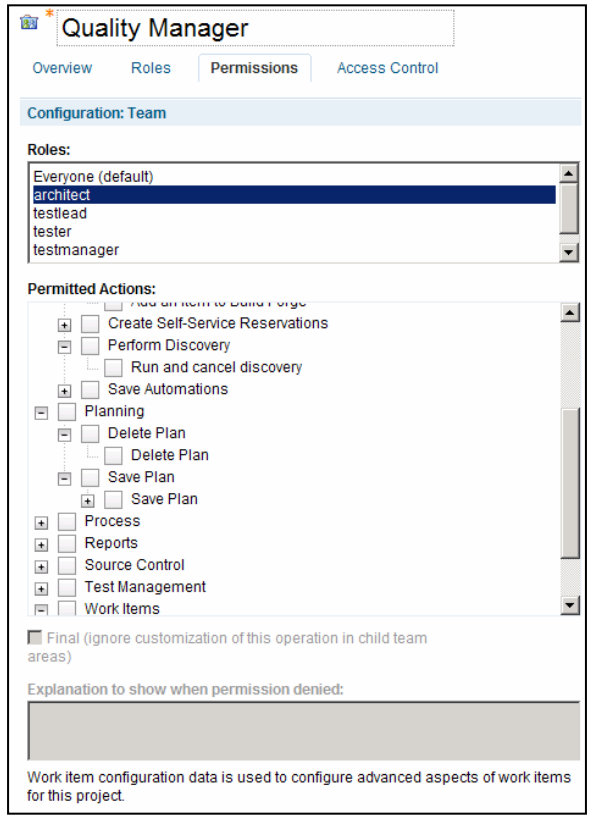
Centralized Administration

- …control permissions at project, role, user and action levels.
  - Lots of flexibility for permissions.
  - Users requiring full isolation should use separate project levels.

From Admin → Jazz Project Administration







Global Questions, RQM Answers

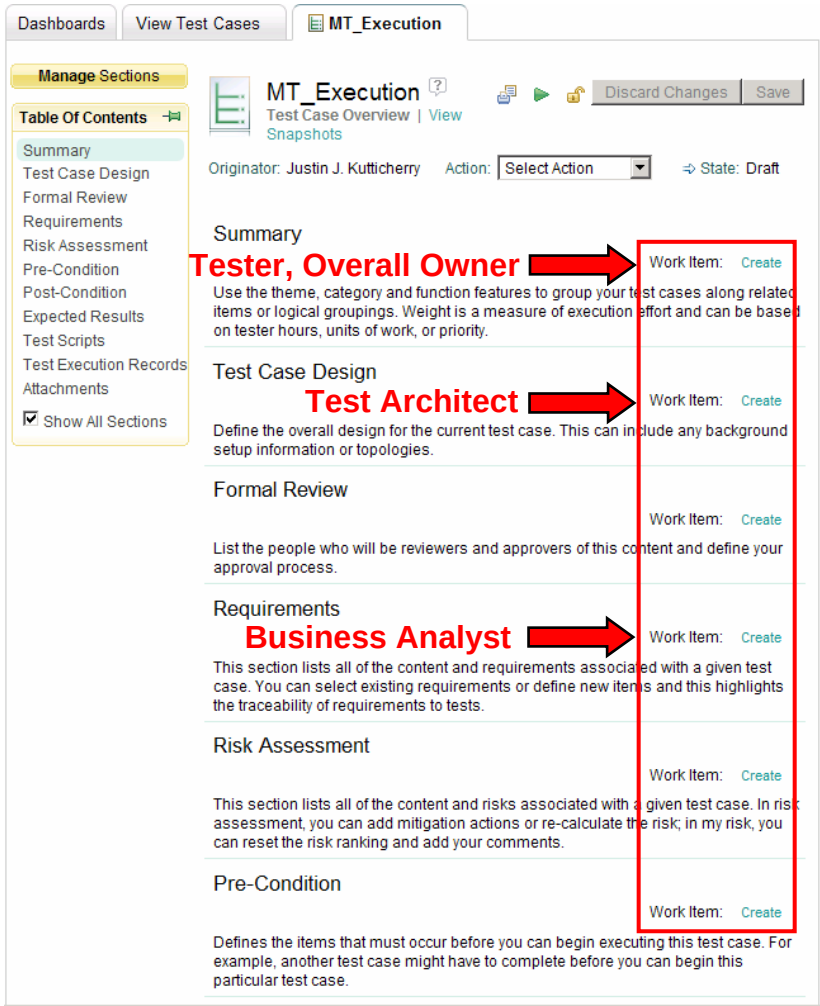
- Since my test teams are in different time zones, how can I leverage RQM to coordinate testing?
- How can I enforce test processes and policies across global teams without a lot of late night meetings and a flood of emails?
- How can people with diverse perspectives assess the importance of the testing we develop?

  Answer: RQM's Communication and Collaboration Features

Work Items

Work items are the lifeblood of distributed teams.

- Use work items to break up large test tasks into manageable parts to be given to different users.
  - Summary task owner owns test case.
  - Sections are assigned to others.

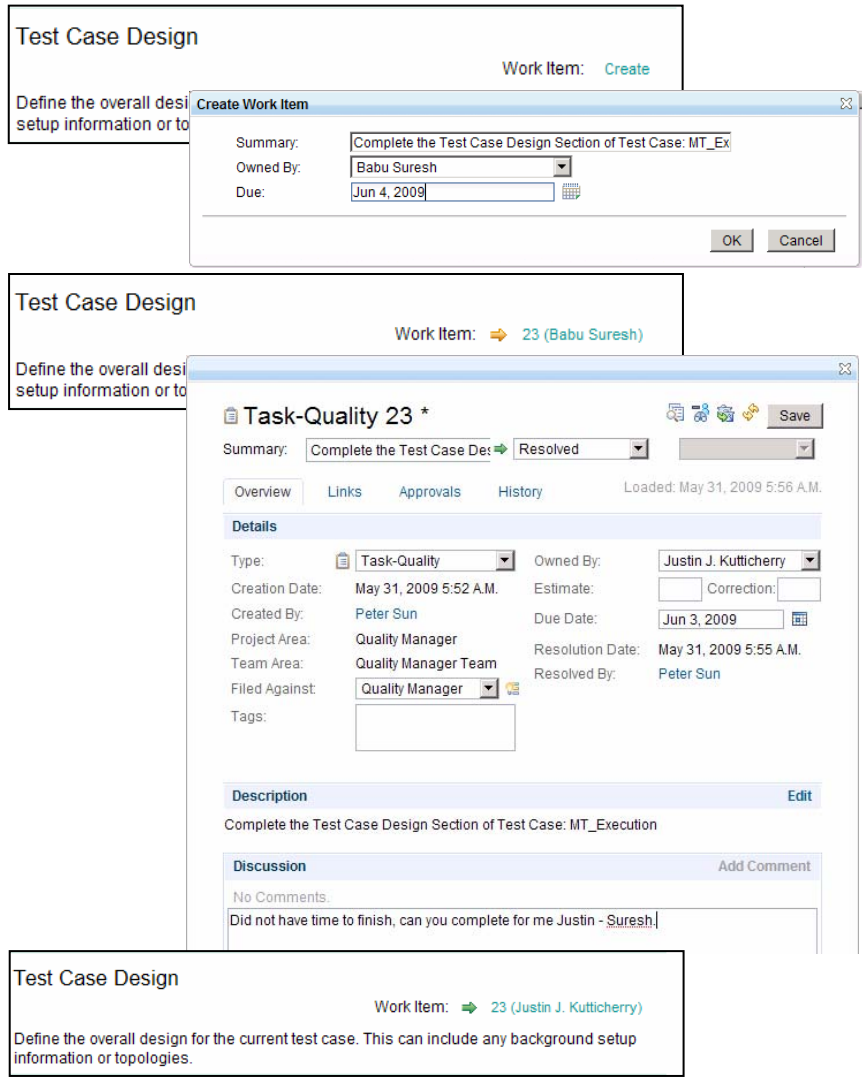


Work Items

- Use work items to hand off work to teams in different time zones.
  - Allows more complex testing
  - Great for performance testing
  - Builds awareness and skills globally

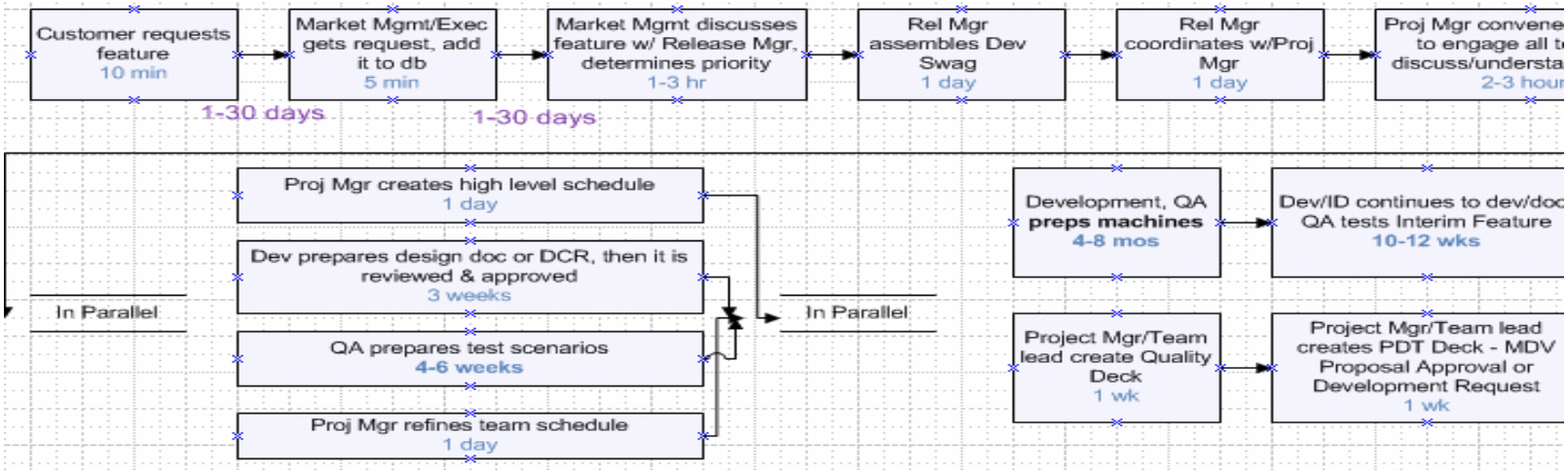
Hand off Process

1. A work item is created for all work.
2. When possible, work is associated to a test artifact in RQM to provide context.
3. At the end of the shift, if work is incomplete. The work item can be assigned to someone in another geography and shift.
4. Leverage dashboards, reports to find available cycles.
5. Repeat until the work item is resolved.



Work Items

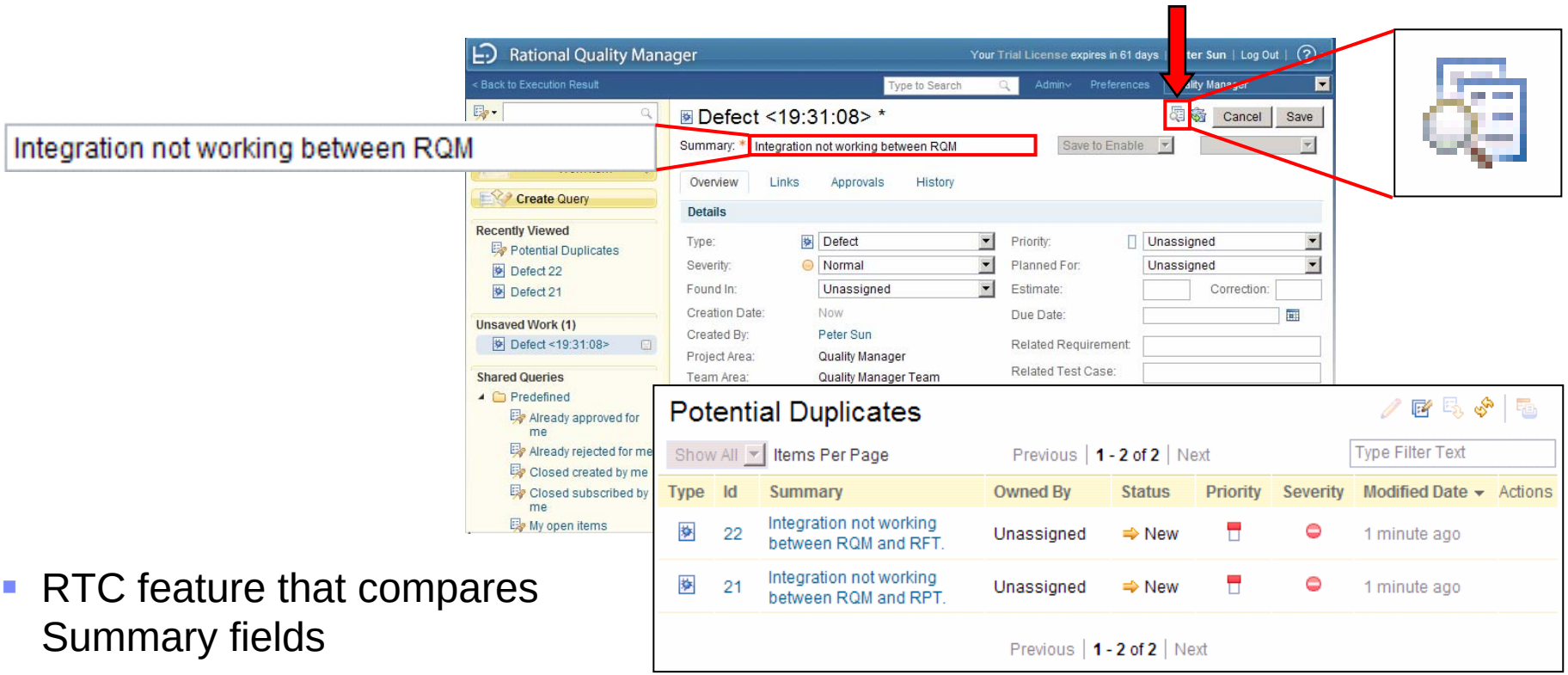
- Use work items to improve and measure test efficiency.
  - Leverage work item fields to capture efficiency data.
    - State history
    - Estimate
    - Due Date
    - Correction
    - Time Spent
  - Apply Value Stream Mapping technique to work item data to identify inefficiencies.
  - New exercise but leading to interesting discussions already.



Duplicate Defect Detection

New 2.0

Global test teams have higher rates of defect duplication. Duplicate defect detection cuts down the cost of managing duplicate defects.

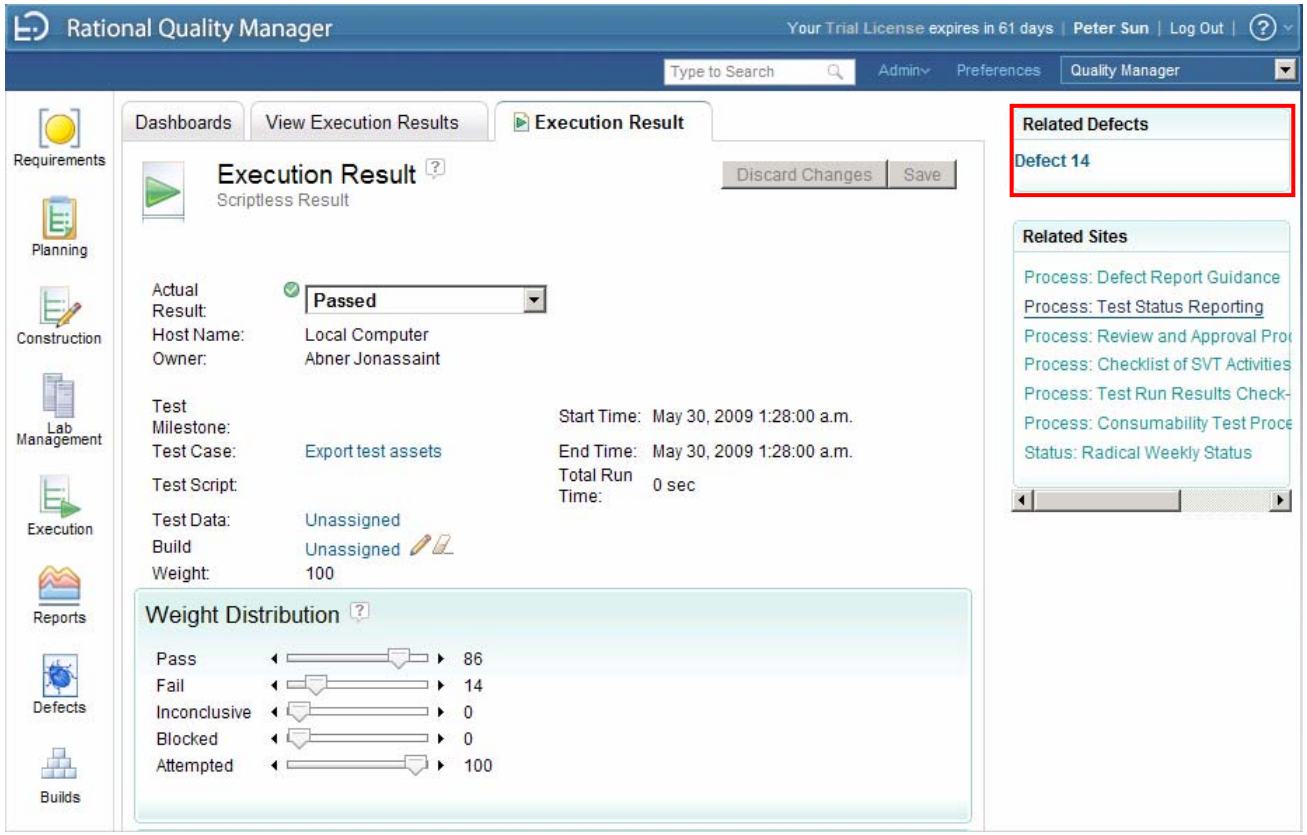


- RTC feature that compares Summary fields

Duplicate Defect Detection

New 2.0

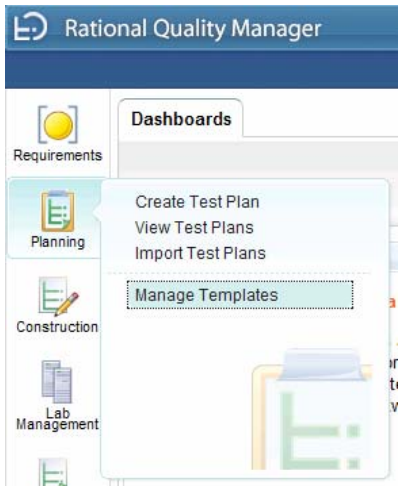
- Related Defects panel appears for the following views:
  - View Test Execution Records
  - Script Execution
  - Execution Results
- Defect has back-link to Related Execution Result

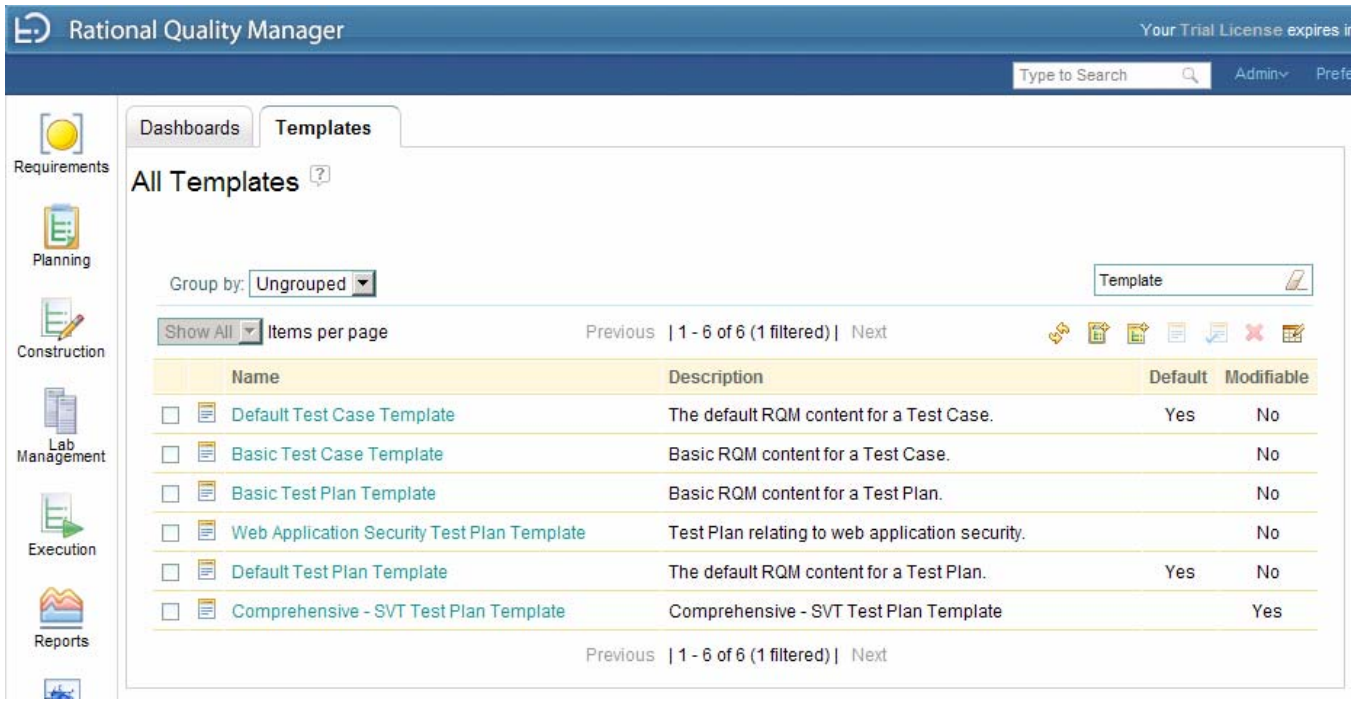


Templates

Templates provide a foundation for coordination.

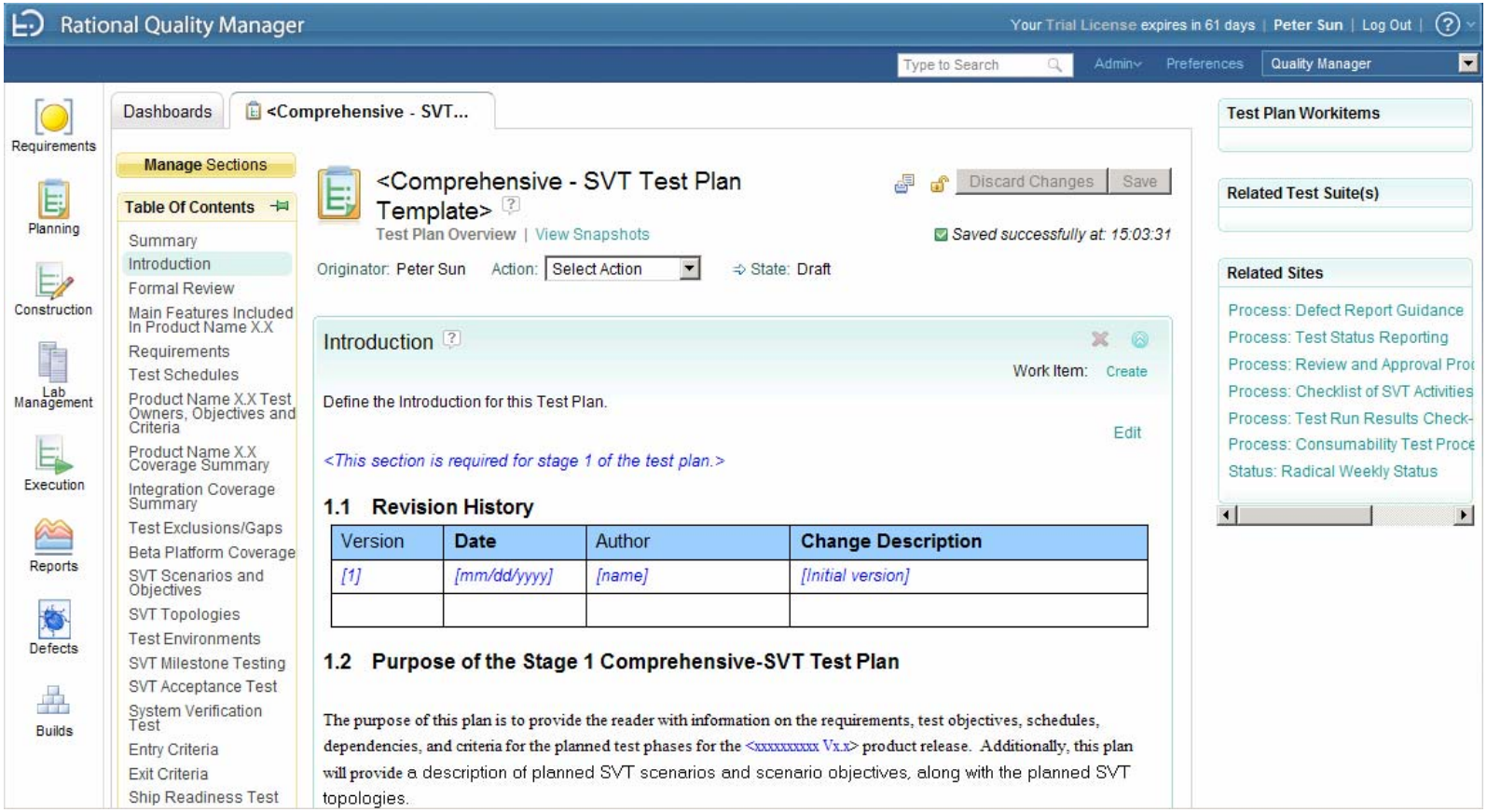
- Templates are an easy way to create enforceable test process
- Templates provide a framework for review.





Templates

- Templates provide a platform to give instructions in context.

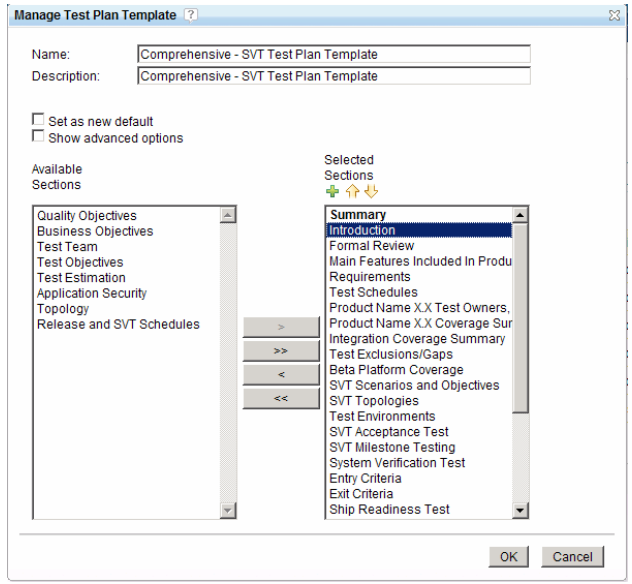


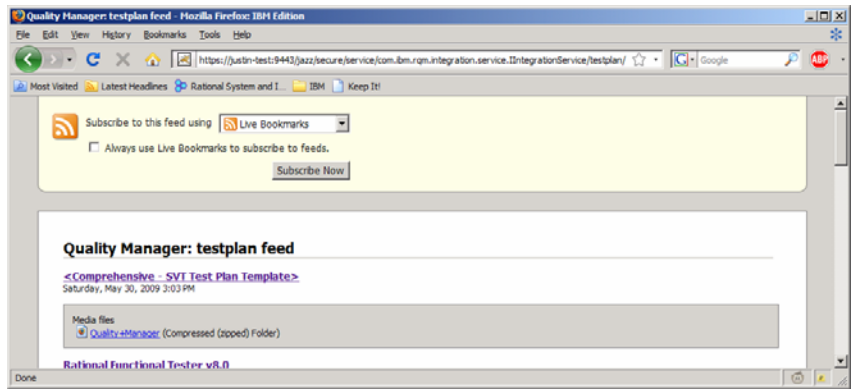
Templates

Enhancing the built-in mechanism:

1. Create a template with desired content.
2. Create a Test Plan or Test Case with that template and name it a template.
3. Fill in the sections with guidance and direction.
4. Save asset.
5. When a new asset is needed, export the XML using the feed mechanism.
   - https://<hostname>:9443/jazz/secure/service/com.ibm.rqm.integration.service.IIntegrationService/testplan/
   - https://<hostname>:9443/jazz/secure/service/com.ibm.rqm.integration.service.IIntegrationService/testcase/
6. Import as new asset and edit

Note: There is currently a 512K limit on imported assets.

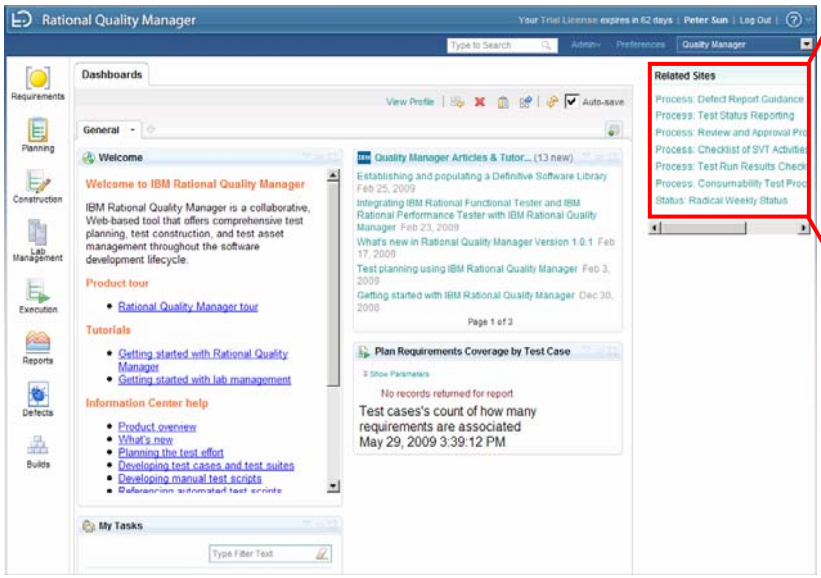


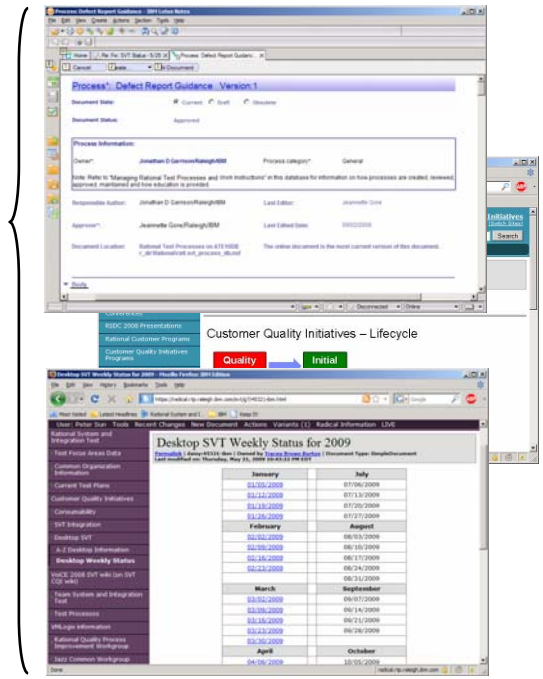


Related Sites

Related sites put need to know information at the forefront.

- Related sites are a great way to centralize and distribute information.
- Related sites prevent processes and best practices from being hidden and ignored.

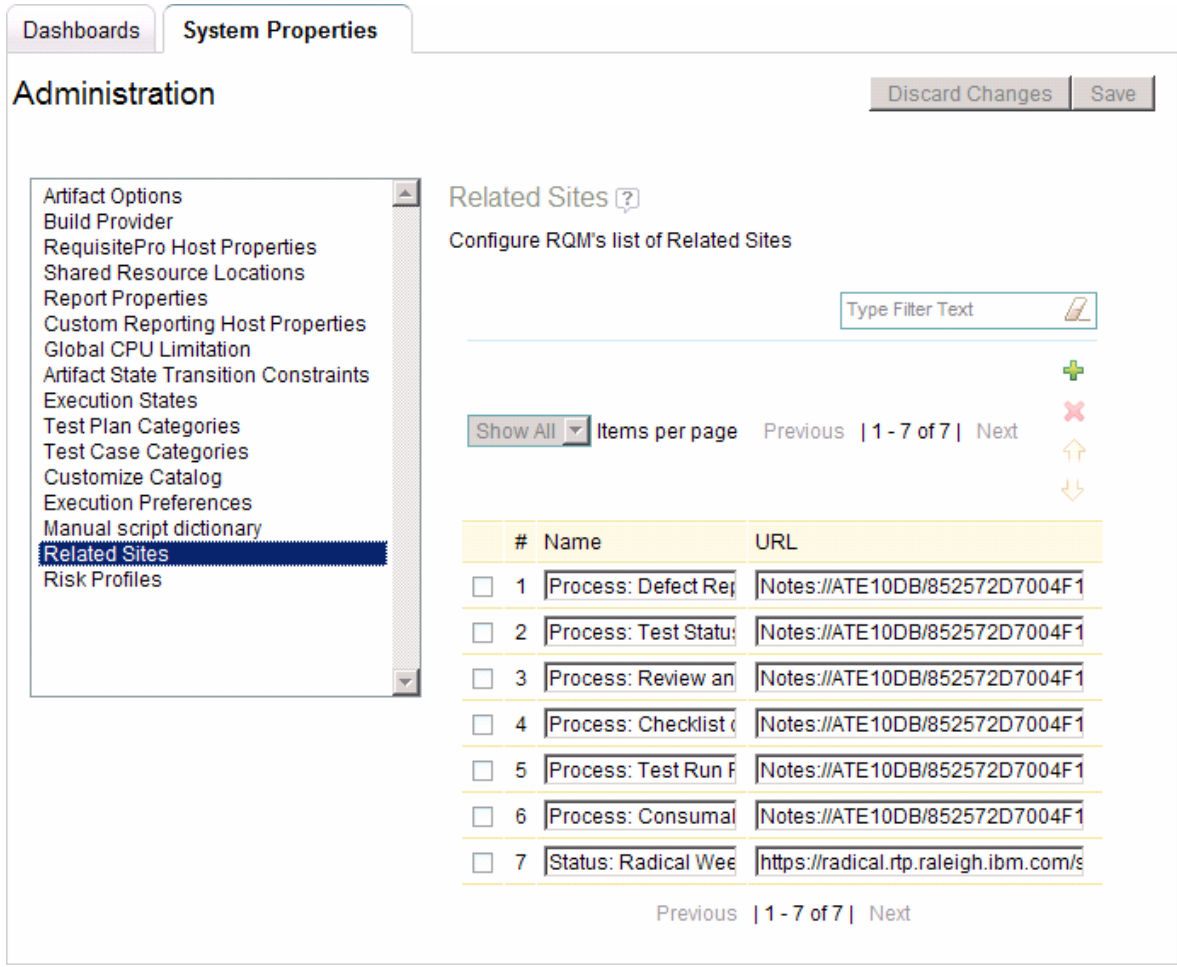




Related Sites

Configuring:

1. In the Global task bar, Admin → System Properties
2. Administration tab will appear as a new document.
3. Select “Related Sites” in the list of administration activities.
4. You can add, delete or change the order.
5. Click Save to save the changes.
6. Refresh the browser to have the sites appear.

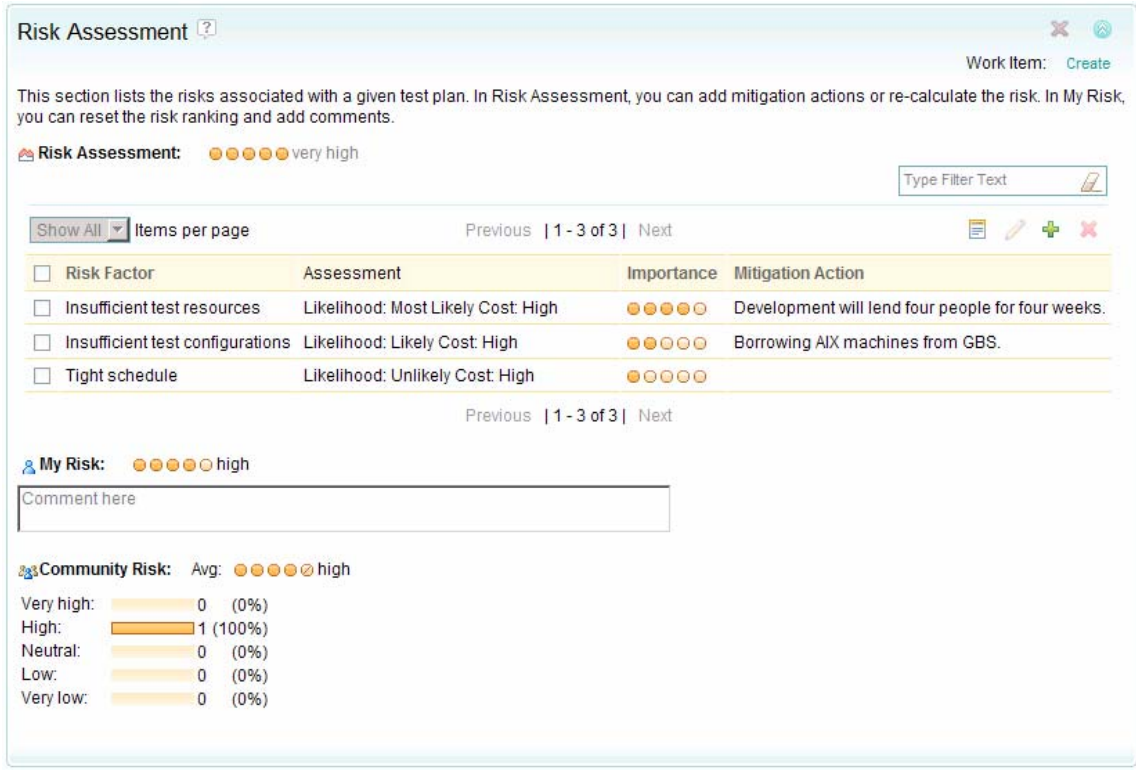


Risk Assessment

New 2.0

Global teams often have different communication styles. RQM provides features like risk assessment.

- Risk assessments allow distributed teams to see a quantitative and qualitative view of a test plan or test case's importance.
- Risk assessments allow divergent stakeholders to express their quality concerns in a common language and metric.



Summary

To be successful with RQM with Globally Distributed teams…

- Build a deployment topology that fits your company's network capabilities.
- Organize and design your test assets with global teams in mind.
- Structure projects and deploy projects to take advantage of RQM's security model.
- Build test processes, communicate them, and keep them visible. Processes do not need to be heavy.
- Leverage the collaborative feature of RQM like work items, risk assessment, defect duplication detection, templates, etc.

Questions

© **Copyright IBM Corporation 2009. All rights reserved.** The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.