



[ 2012 IBM 開發者大會 ]

# Agile 軟體發展超彈性 IBM 產品開發團隊案例分享

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Next  NOW!



# 議程

- 經驗團隊簡介
- 大產品也能敏捷嗎？
- 分散在世界各地也能敏捷嗎？
- 敏捷的產品經理最開心
- 敏捷的專案管理最放心
- 敏捷的開發人員最舒心
- 敏捷的測試人員最安心
- 總結
- 演示

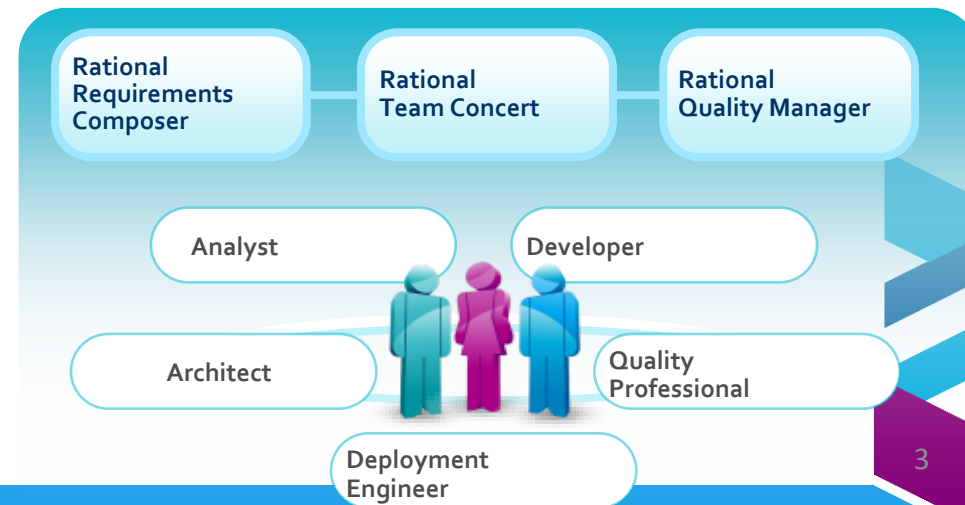
# Rational Quality Manager 開發團隊

## -- 團隊介紹

- 始於2008
- 同時維護 4 個版本
- 開發人員分佈在5個國家
- 40 人以上的開發人員
- 基於 Jazz 平臺
- 同時維護多個版本
- 時區、地域的限制
- 人員眾多
- 開發水準、習慣不一
- 與眾多產品整合、交互



IBM Rational solution for Collaborative Lifecycle Management



# 敏捷的精神

- Whole Team，共同的目標
  - 團隊協作
  - 共同成長 (Peer Review)



敏捷的人員 (People)

- 達成一致的準則



敏捷的準則 (Principle)

- 適應變化且不斷變化
  - 自省以及自我肯定
  - 不斷改進



敏捷的流程 (Process)

# 敏捷的加速器



敏捷的實踐 (Practice)

敏捷的工具 (Product)

## 反覆計畫

- 可整合的反覆計畫定制與執行
- 工作進度評估與里程碑
- 完善的敏捷開發流程

## 透明化的專案管理

- 基於Web的可訂制的儀表板
- 即時報表
- 專案里程碑狀態與監測

## 程式碼配置管理

- 可整合的程式碼管理
- 模組級的基線
- 基於伺服器的沙箱
- 可與ClearCase 整合

## 工作項

- 任務，缺陷，項目
- 提供查詢
- 提供審批流程及討論區
- 可與ClearQuest 整合

## 構建

- 工作項的變更與追蹤
- 支援本地或遠端伺服器上構建
- 支持ANT及其他命令行工具
- 可與Build Forge 整合
- 為團隊或個人提供構建服務

## Jazz Team Server

- 提供世界級的團隊建設與專案建設
- 流程的制定與加強
- 基於角色的許可權控制，靈活的許可權設置
- 團隊間的無縫合作



# 大產品如何敏捷



## 敏捷的實踐 (Practice)

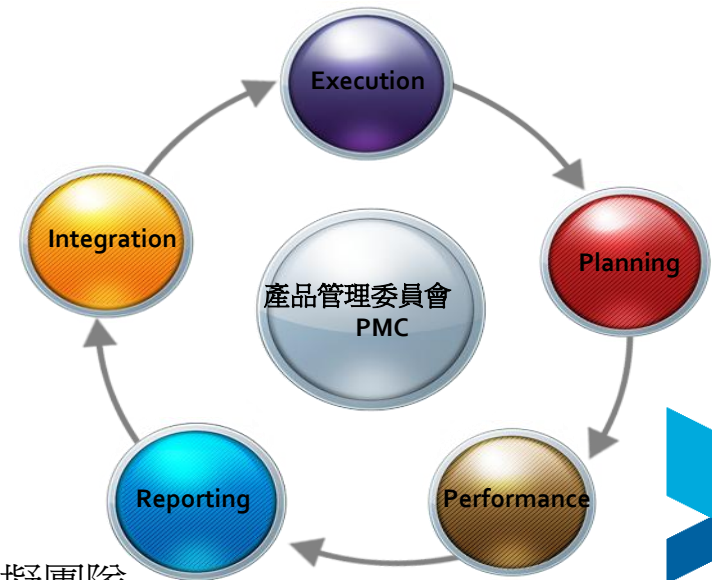
- 特性團隊 (Feature Team)
- Scrum of Scrum



## 敏捷的人員 (People)

- 及時溝通
- 找到便於溝通的途徑和方法

- 開發團隊主要角色
  - **PMC (產品管理委員會)**
    - 由開發部門經理，測試部門經理，專案經理，產品經理，架構師和資深工程師組成
    - 負責定制產品計畫，確定技術方向，監控與評估專案狀態
  - **元件開發小組**
    - 由資深工程師擔任
    - 負責制訂自己元件的計畫項，需求和任務
    - 負責跨組件的溝通
  - **貢獻者**
    - 包括開發，測試，文檔，維護人員
    - 定制自己的每日工作計畫
- 基於元件的開發
  - 通過清晰的介面定義來限制元件間的依賴關係
- 基於特性 (Feature) 組織虛擬團隊
  - 根據要開發的特性，從各個元件團隊抽人組成虛擬團隊



# 大象也能跳舞



敏捷的工具 (Product)

• Rational Team Concert

子團隊 10 人左右

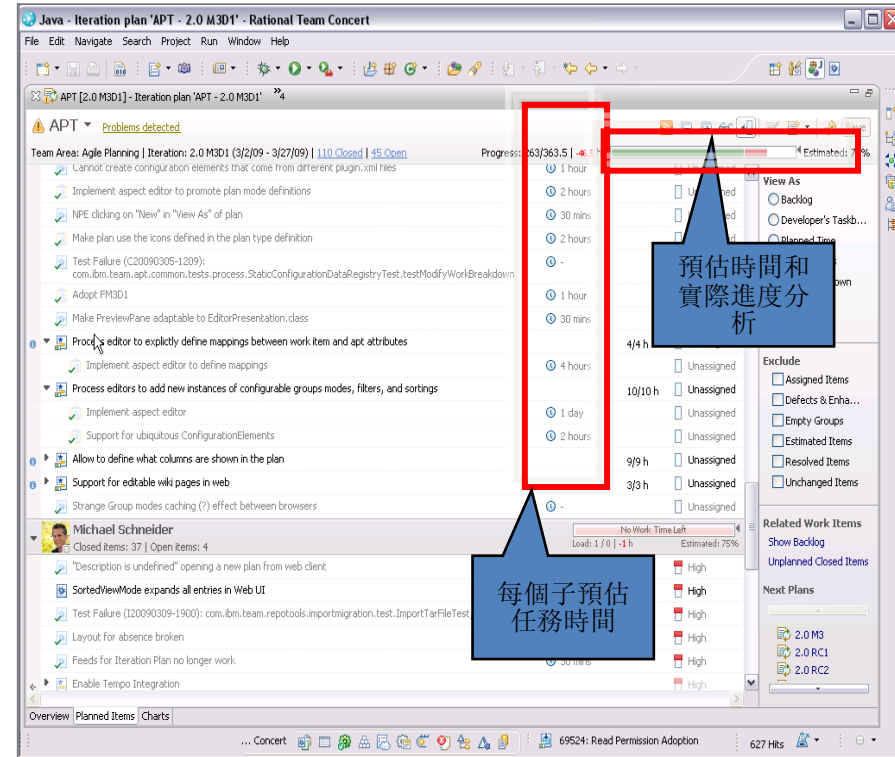
整個團隊 40+ 人

子團隊是個小小的 Scrum 團隊，有自己的 Scrum Master

Scrum of scrum  
ext NOW!

# 大象也能跳舞 Cont.

- 為期4周的反覆
  - 周 1：計畫
  - 周 2, 3：設計和編碼
  - 周 4：測試和發佈
- 每日和每週建置計畫
  - 每週都有穩定的整合建置計畫
- 使用儀表板和報告來回顧專案進展
- 每個開發小組每天實施專案進度更新
- 每個資訊都保存在存儲庫中並得到即時的更新
- PMC(專案管理委員會)每週1次實施專案進度會議



**★ 敏捷的實踐 (Practice)**

- 反覆計畫
- 持續構建
- 持續整合
- 可持續發展的速度



# 分散在世界各地也能敏捷嗎？





# 分佈各地的團隊

-- 主動、被動的獲取“新聞”

- Team Center - 獲取各類制訂的團隊資訊
  - 新事件、工作量分佈、建置狀況、...
- 自定義以及團隊共用的“查找”
  - 可以根據Tag等屬性，定義非常靈活的查找

The screenshot shows a dashboard with several sections:

- News (48 unread):** A list of news items with titles like "Gorkem Ercan: Eclipse moment of competition" and "Litrik De Roy: Dark side of the moon".
- Team Load:** A section for "Jazz Development, current [0.6 M6]" showing workload for team members with "No Work Time Left" and "Estimated: 0%".
- My Open Work Items:** A bar chart showing work items by priority (Unassigned, Low, Medium, High) with values 282, 531, and 111.
- New Incoming Work Items:** A bar chart showing work items by severity (Unclassified, Minor, Normal, Major, Critical, Blocker) with values 20, 177, 181, 19, and 4.
- Event Log:** A list of events, including "Outgoing synchronization error (WorkItem)" and "Improvements to QcTest reports (46379)".

The screenshot shows the "Work Item Query" interface with the following sections:

- Owned By is:** A list of users including Chip Senkbel, Chong Yuan Yin, Chris Chin, Chris Thornton, Dong Bing Li, Elohim Arranaga, Frank McGrath, Hai Feng Luo, and hao wan. 8 values are selected.
- Planned For is:** A list of work items with version and date ranges, such as "3.0.1.2 [11-10-18 - 11-12-17]" and "4.0.0.1 [12-6-12 - 12-9-15]". 6 values are selected.
- Type is:** A list of work item types including Defect, Track Build Item, Task-Project, Task-Development, Enhancement, and Plan Item. 5 values are selected.

The screenshot shows a detailed view of an event log entry:

- Event Log:** Shows "Events (35 unread)".
- Defect Details:** "JUnit4 should detect and report if it cannot invoke a method (38)".
- Description:** "On Nov 27, 2008 5:30:57 PM Markus Kent mentioned you in comment 3: @bill: This defect has no 'Planned For'. Should we fix it for 4.0M1?"

# 分佈各地的團隊

## -- Work Item 做有"背景"的人



敏捷的工具 (Product)

• Rational Team Concert

訂閱你感興趣的工作項；  
讓相關的人“知道”此事；

可追溯查找的快捷途徑

Tag, Filed Against

The screenshot shows a Work Item in Rational Team Concert. The left sidebar contains metadata such as 'Type: Defect', 'Severity: S2-Major', 'Found In: 3.0.1.2', 'Customer Use', 'Creation Date: 2012-3-11 下午7:29', 'Created By: Said Asadullin', 'Team Area: Integrations and OSLC / Rati...', 'Filed Against: Integrations/RTM', 'Tags: is\_40', 'Activity: Unassigned', 'Trigger: Unassigned', 'Impact: Unassigned', 'Test Escape: Unknown', 'Customer: ', 'APAR Number: ', 'Owned By: Dong Bing Li', 'Priority: P2-Medium', 'Planned For: 4.0 RC2', 'Estimate: 2 d Correction: 1 w', 'Time Spent: 3 d', 'Due Date: 2012-4-4', 'Resolution Date: 2012-4-2 下午9:04', 'Resolved By: Dong Bing Li'. The main area shows a description of a migration issue and a discussion with 91 comments. Comments are from users like Dong Bing Li, Paul McMahan, Pramod Chandra, and Said Asadullin, with dates and times. A 'Quick Information' box at the bottom left shows subscribers and attachments. A red box highlights the 'Quick Information' section.

中國

美國

印度

客戶

整合化的討論主題 & 聊天會話

明晰和維繫在SCM和構建(build)工件中工作項之間的關係

# 敏捷的產品經理最開心

--基於客戶回饋的需求清單

**敏捷的實踐 (Practice)**  
 • User Story

**敏捷的工具 (Product)**  
 • Rational Requirement Composer

- 我們根據客戶的需求排列任務的優先順序
- 我們時刻追蹤需求的實現狀況
- 我們只實現完整明確的Story

4.Next Stakeholder Needs (5)

- Optimize flow of key test management scenarios (10109)
- Improve usability of manual test support (10138)
- Support of regulatory environments (10201)
- Improve DOORS Integration (10202)
- Make test execution adapter API public (10203)

Requirements Tracing: 4.Next Implemented By (7)

- 10202: Improve DOORS Integration
- 42248: Improve DOORS integration
- 11066: Support bulk POST of execution results.
- 22826: Simpler and Faster bulk upload of Test Results from external Test Automation Systems
- 10109: Optimize flow of key test management scenarios
- 69992: Consistency: Fix all viewlets that use a Report to return query results
- 68444: Optimize flow of key test management scenarios (reduce number of clicks)
- 10138: Improve usability of manual test support
- 68442: Improve usability of manual testing
- 10203: Make test execution adapter API public
- 21416: Execution API: Publish execution API documentation and sample
- 10201: Support of regulatory environments
- 56355: Improved support of regulatory environments

Rational Quality Manager (RM) > Requirement >

11051: Navigate from Requirement to Test Script steps

3. User click this link in the requirement editor, it would navigate to the test script. Using the parameter from the link, the UI helps to scroll to the chosen step and highlight it. (RC implement it)

Step	Description:	Expected Results	Validates
1	1		
2	1		1037: requirement 1
3	2		
4	3		1037: requirement 1



Scroll to the specific step and highlight

# 敏捷的產品經理最開心

敏捷的實踐 (Practice)

- 反應客戶需求的計畫
- 可交付的Demo
- 反覆的計畫

敏捷的工具 (Product)

- Rational Requirement Composer
- Rational Quality Manager
- Rational Team Concert

--基於商業價值的計畫項

為最有商業價值的工作創建故事



只有得到細化，經過審核的故事才被實現

實現源於故事，可在一個反覆中完成且測試

測試樣例源於故事



OW!

# 敏捷的專案管理最放心



## 敏捷的準則 (Principle)

- 我們有規則有紀律
- 我們作為團隊成員認可規則
- 我們不斷的改進我們的規則

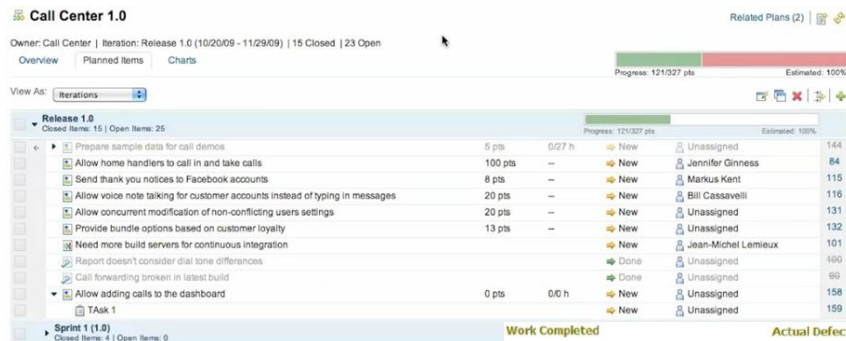
## Planning

Planning for the next iteration starts in the end of the prior iteration.

- We use a component lead meeting to kick off planning and set direction/expectations.
- As a starting point we plan for an iteration using Plan Items from the top of the backlog. Plan items are broken down into Use Cases and reviewed with the PMC. The Plan Item itself is not the place for the design discussion. Instead, we have design discussion and Use Case elaboration [in RM](#). We will also plan from the component enhancement backlog following a similar approach.
- Approved Use Cases are turned into stories for the iteration (and moved into the iteration plan) and stories are further broken down into development tasks, if required. We follow <https://jazz.net/wiki/bin/view/Main/RTCCContinuousDeliveryPlanning#CompletePlanItem> for our plan item checklist and also follow these guidelines for our Stories, with some additional content that is relevant to QM. Refer to [Workitem Templates For Continuous Delivery](#) for more information.
- Plan Items are moved into the release plan by the PMC. A Plan Item may span multiple iterations.

In terms of planning for an iteration we execute on Stories.

- We use Story Points to determine velocity and aid in planning. This will take some time to work out.
- Stories must fit inside of an iteration.
- Stories represent specific end user value and clearly convey what will be delivered.
- To reiterate from above, Stories have children that are not only the development tasks (code) but also the other "done" activities like test and UA.
- Enhancements (top of backlog, at a minimum) get turned into one or more stories (typically, one). The enhancement is resolved once all stories have been implemented. Associate the stories as children of the enhancement, unless the enhancement is required by a plan item, in which case associate:
  - stories as children of the plan item,
  - stories as related to the enhancement, and
  - enhancement as related to the plan item.

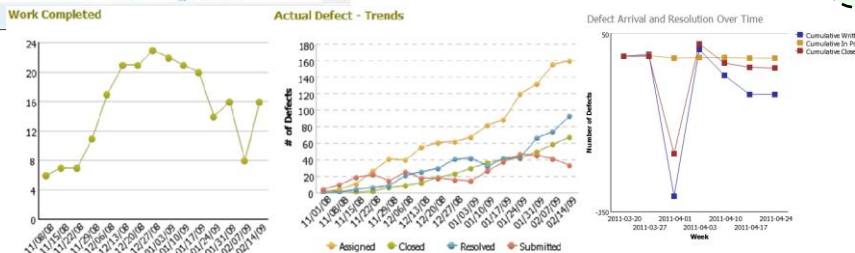


tem checklist - we write test, rough draft UA, and so on in parallel with the new feature development. We work (developer assignment) we do so via top items from component backlog (non-plan item) and defect fixing.



## 敏捷的工具 (Product)

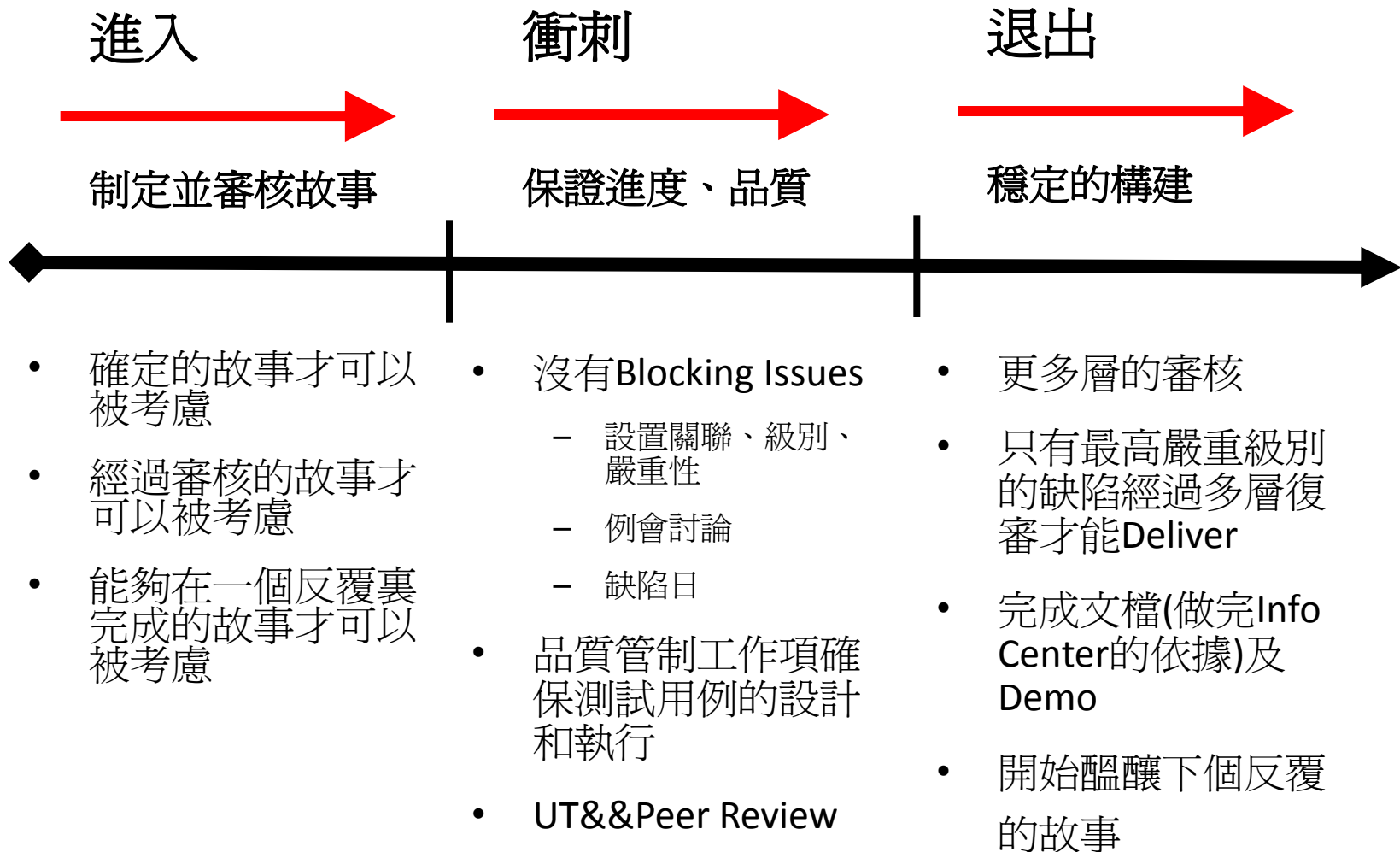
- *Rational Team Concert*  
跟蹤項目進展  
分析項目健康  
管理人員壓力





- 反覆計畫
- 完整可交付的故事
- 即時的程式碼復審
- 測試驅動開發

# 敏捷的專案管理最放心



敏捷的工具 (Product)

- Rational Team Concert
- 簡單的流管理
- 可追溯的程式碼
- 易分享的環境

# 敏捷的開發人員最舒心

-- 基於流和組件的SCM

The screenshot displays the Rational Team Concert IDE interface. On the left, the Package Explorer shows a workspace structure for 'Rational Quality Manager'. The main editor shows a Java class 'CalmRequirementMigrationService'. At the bottom, the Merges view displays a list of merge operations with their comments.

Merges	Comment
44909:	refactorRequirements infinite loop with > 512 requirements
39848:	revert movement of OSLC common interfaces to process component - #2: encapsulate access to IoslcService and related u
39644:	repotools -refactorRequirements does not migrate all requirements fields into RM - code review changes
39644:	repotools -refactorRequirements does not migrate all requirements fields into RM
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - OSLC/Require
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - OSLC/Require
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - Round-trip me
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - Backport from
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - TODO remind
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #18: code ren
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #16: Reorder
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #15: More de
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #14: new RM
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #13: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #12: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #11: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #10: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #9: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #8: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #7: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #6: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #5: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #4: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #3: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #2: refactor
31651:	Migration of requirement workitems from RQM local repository to remote OSLC workitem provider (Doors RP) - #1: refactor

利用流來控制共用  
從而並行工作

可綁定到工作項變更集修  
改的歷史資訊

輕鬆地從一個流中添加或刪除  
變更集(任務)

不同流之間的合併，  
流之間的相容問題



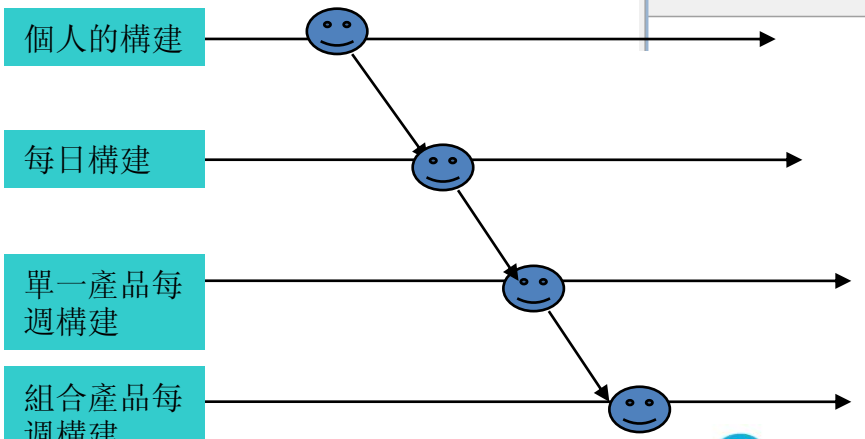
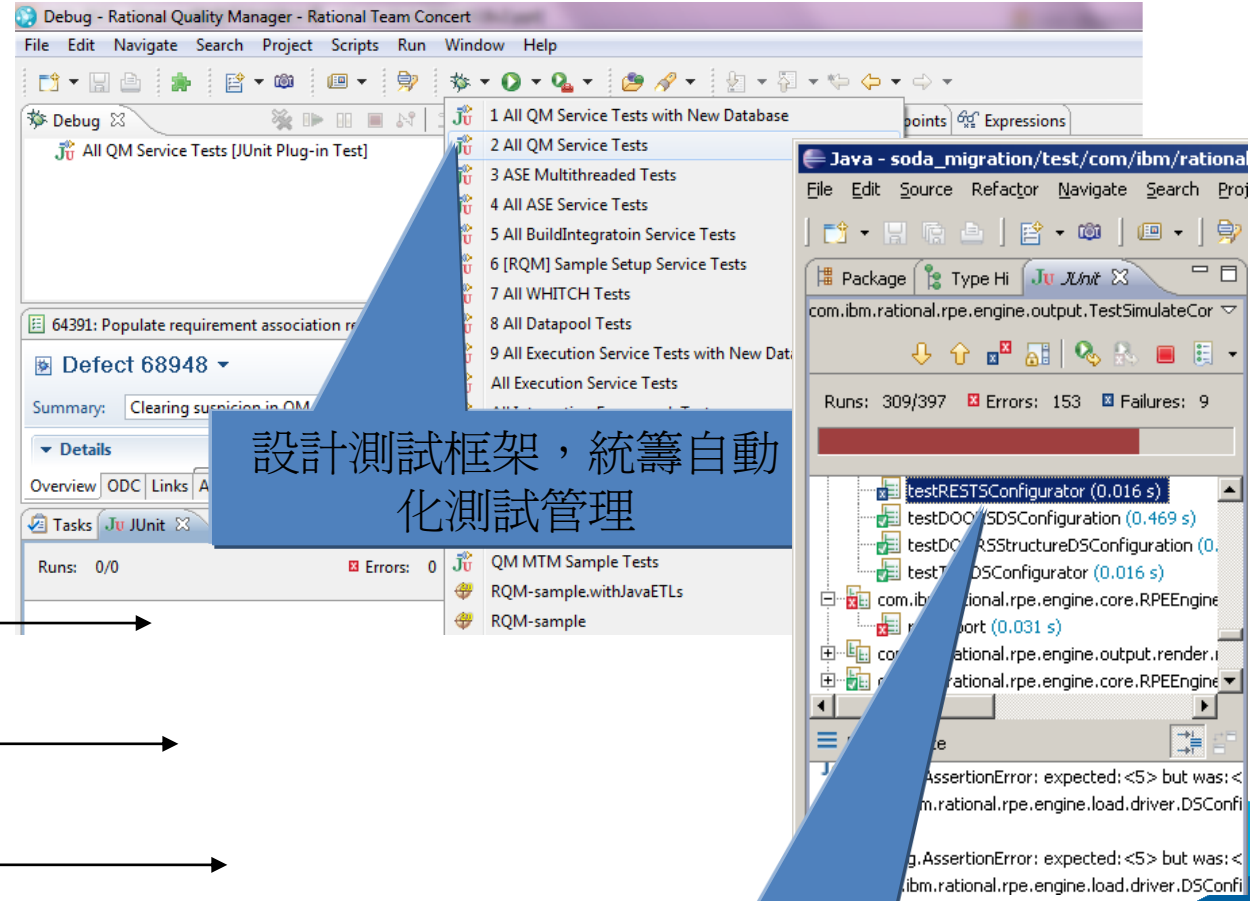
# 敏捷的開發人員最舒心

-- 兼顧自動化測試任務

敏捷的工具 (Product)  
• Rational Team Concert

敏捷的實踐 (Practice)

- 持續整合
- 測試驅動開發
- 測試自動化



持續整合，保證程式碼品質

# 敏捷的測試人員最安心

**敏捷的工具 (Product)**

- Rational Requirement Composer
- Rational Quality Manager
- Rational Team Concert

**敏捷的實踐 (Practice)**

- 特性團隊 (Feature Team)

**敏捷的人員 (People)**

- 及時溝通
- 全程參與

影響產出的缺陷

嚴重故事、實現的測試用例

**Links**

- Affected By Defect
  - 61480-IE9: Error after logging in to QM project area, probably coming from loading a viewlet
  - 61483-IE9: Remove Requirements Link from step menu pick appears when no requirements are linked
  - 61486-IE9: Requirement View inside Test Script does not show Requirements
  - 61489-IE9: Error opening test script that has requirements linked to test steps
  - 61491-IE9: Test Script Traceability view 'Validates Requirement' column renders incorrectly
  - 61494-IE9: Unable to click through to Requirement from Requirement link in Test Script Traceability 'Validates Requirement' column
  - 61507-Validates column blank in execution result for test script linked to validate requirements
  - 61514: Plan Requirements Execution Using Weight report should more granularly report pass/fail points for requirements linked to test script steps
  - 62011-RFE-40331-AMT: Entering text into a HTML textbox records in multiple steps
  - 62013-RFE-40332-AMT: Navigating on HTML page the record records many 'idle-the-shiv-null
  - 62020-RFE-40446-AMT: Saving recorded images in execution column as a link depends hyperlink text to test steps
  - 62021-RFE-40333-AMT: Recorded step for entering text in an HTML form shows the wrong image
  - 61486-IE9: Requirement View inside Test Script does not show Requirements
  - 62020-AMT: Gliding record on a script with existing steps should prompt the user that the script will be overwritten
  - 62031-AMT-IE: Step numbers are modified with greater than 0 steps and full size images
  - 63158-MTA: Firefox browser window not minimizing when recording a manual test script
  - 6689-IE9: Deleted requirement still shows if user hover over it from RQM test case
  - 66820-DOORs: edited requirement does not map aspect to test case in RQM
  - 66810-User not able to browse test case section if user open it from RQM responsible method for DOORs integration
  - 66830-DOORs: RQC modified requirements shows up as removed in RQM
  - 66840-RQC: modified requirements do not show as suspect in RQM test
- Children
  - Duplicated By
  - Mentioned By
- Related
  - Tested By Test Case
    - Test Case 52494 - MO\_RequirementsToTestSteps
    - Test Case 53079 - MO\_Assisted\_Manual\_Testing\_4.0
    - Test Case 58359 - CLM\_Gov\_ChangeControl\_Suspect\_Analysis\_Common

**Plan Item 52837**

Summary: [QM] Requirement traceability to test steps

**Commitment**

FVT: Covered

EVT Owner: Wei Su

SVT: Covered

SVT Owner: Bhavin Shah

Self-hosting: Covered

**Done Criteria**

SVT: Able to achieve finer grain traceability between requirements and test script steps as part of end-to-end scenarios. This entails defining the linkage as well as being able to trace it (from a planning/coverage as well as execution perspective).

**Coverage Description**

SVT: This would be tested as part of the following SVT scenarios:

1. The RQM MediumOrg scenario which will use the distributed departmental golden topology. A new test case will be written to verify this plan item in conjunction with other plan items as part of this scenario. That is, this new test case will verify RRC requirements can be linked to a test script step that in the new assisted manual testing capability (52828) and that such linkage can be traced in the new assisted manual testing capability (52742) including the Filter by Categories tree view and reports. Only the linkage will be considered in this scenario.

2. Assuming this plan item supports DOORs (dependent on plan item 52739) and being considered as stage 2), a new jointly-developed scenario that is focused on the Systems domain and entails DOORs, Life Cycle Query, RTC, RQM, and Reporting. This would be confirming DOORs requirements can be tied to test script steps and such linkage can be traced in life cycle queries as well as reports. In addition it

**Weekly Status**

Overview | Commitment | Execution | Done Criteria | Test | Links | Approvals | Custom | History

Commit的團隊

**测试用例**

列出与给定计划关联的测试用例。您可以添加和除去与测试文档的关联，还可创建并关联新的测试用例。除去测试用例将除去与此测试计划的关联，但不删除测试用例。

查看方式: 常规

输入过滤文本

名称	标识
Team Area Column	1606
Test Suites section in Test Plan enhancements	1607
Add bulk change action for Owner, Status and Weight in Test Case and Suite Results tables	1623
Test ETL and reports about RQM test artifacts workflow customization	1611
Copy Execution Record to other Iteration	1627
Execution Advisors	1626
Category Support for Test Data / Datapool	1609
Show Execution Status Progress bar when view TER and TSER by group	1608
Changes to adopt result execution state names that are configurable via Manage Project Properties in Test Suite ...	1628
Show the parent TCER in an execution result	1629

正在显示 1-10 项, 共 27 项

# 總結

- RQM 還是一個蒸蒸日上的成長型團隊，這個旅程痛苦又充滿喜悅，在我認為完成敏捷有兩大要素：
  - 敏捷的精神，他是團隊的向心力
  - 敏捷的工具，他是項目的加速器
- 我們也是在敏捷的道路上不斷的自我修行。希望聽眾通過本環節能夠有所感悟或產生共鳴，謝謝大家！

# Questions