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「 Real Teams. Real Insights.  
Real Results. ● REC 」

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【品質管理】首映場  
一出手，就是最佳品質！  
-軟體交付品質管理



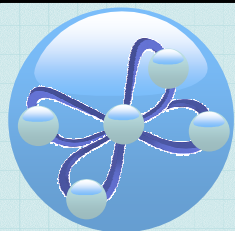
Real Teams. Real Insights.  
Real Results. REC

# Agenda

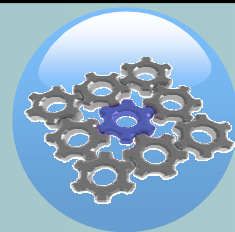
- 軟體品質管理的必要性與挑戰
- IBM 軟體測試管理最佳解決方案
  - Rational Quality Manager (RQM)
  - 專案團隊成員協同合作
  - 測試任務自動化
  - 多樣化且即時之測試管理報表
- Q&A

# 品質管制的必要性

## 品質驅動的軟體交付的挑戰



**協同合作:**明確角色和責任，使團隊成員有效瞭解專案狀態。



**自動化:**任務自動化增加了專案溝通和測試執行的有效性。



**管理報表:**為軟體發展團隊成員提供個性化的報告。

# 建構完整品質管理



- 1000s users
- Web based UI
- No Java experience
- Knows application domain
- Talks business language



## Quality Management



### 測試管理

- Control the planning and ongoing status of the test project
- Responsible for effective execution of test and resources

**Test Management**  
 是一種工作流程引擎，  
 它整合了所有測試的配  
 置與生命週期



- Develops automated tests
- 100s users
- Deep tool/programming language knowledge
- Talks technology language

- #### 測試計劃
- Specify test type
  - Project requirements
  - Platforms
  - Team roles
  - Test cases
  - Quality exit criteria
  - Schedules

- #### 測試建立
- Build test scripts
  - Create manual tests
  - Specify test environment

- #### 測試環境配置
- Identify build location
  - Specify lab request
  - Pick test tools
  - Select cases to run
  - Deploy software

- #### 執行測試
- Execute UI test
  - Execute
  - Report real time progress
  - Create log files

- #### 測試報表
- Examine test results
  - Recommend actions
  - Code scanning
  - Error analysis
  - Run time analysis

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# IBM Rational Quality Manager-業務驅動的軟體品質中心Hub

## 提供跨生命週期的協同合作

- ✓ 定義、客製角色和過程指導活動
- ✓ Web 2.0風格的介面保持團隊同步
- ✓ 360° 的團隊交互視圖、共用資產視圖、進度視圖

## 自動化的密集型測試活動

- ✓ 與專案同步的動態、即時的測試計畫
- ✓ 根據現有資源，最佳化測試配置的覆蓋
- ✓ 構建、配置測試環境 & 最佳化利用

## 持續性的品質指標報表

- ✓ 優先分配完成最重要的問題
- ✓ 資產版本和追溯性
- ✓ 專案指標收集和趨勢分析

## 彈性的整合能力、可擴展的平臺

- ✓ 維持既有的測試工具
- ✓ 可重用的測試資產
- ✓ 整合現有環境的系統與資料

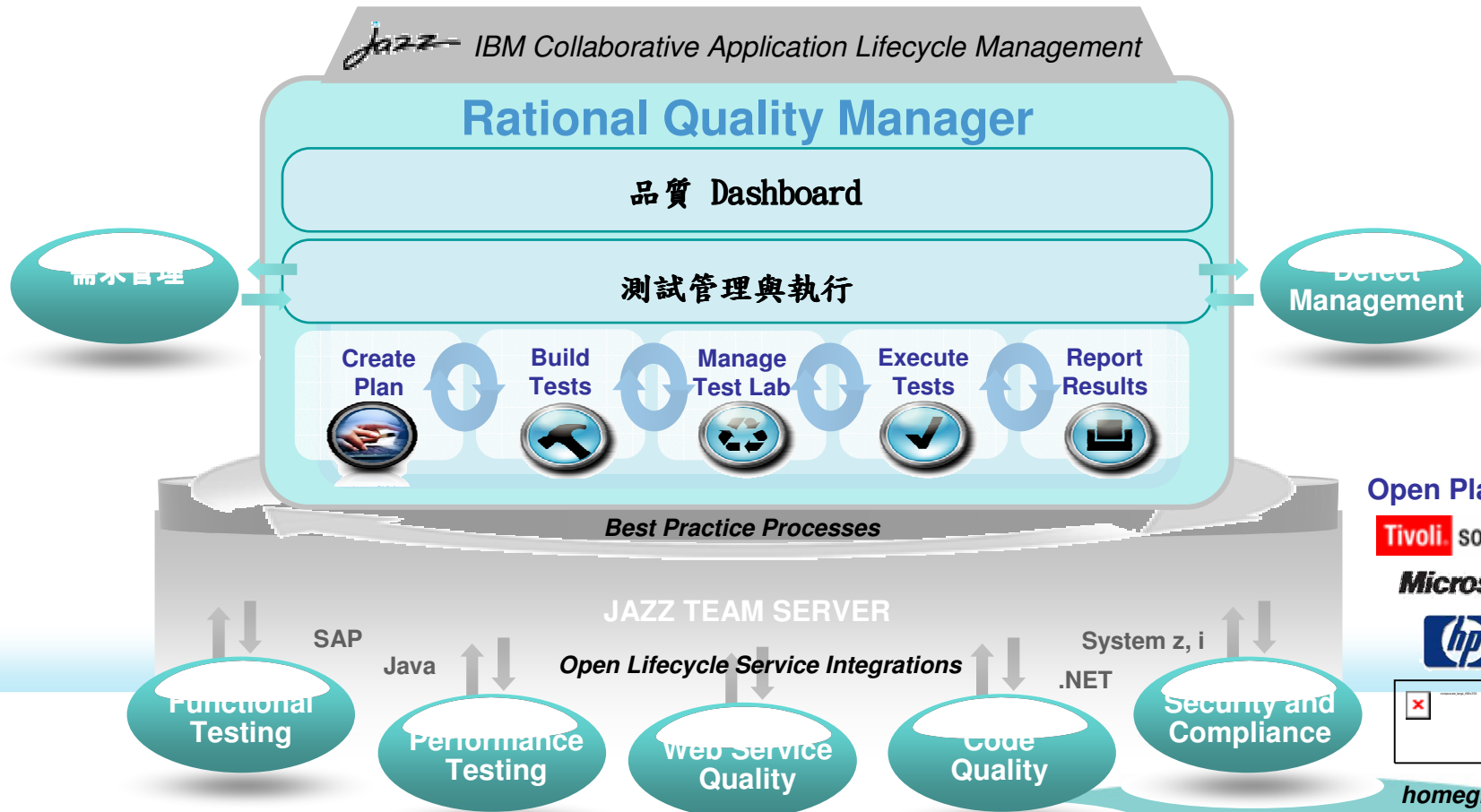


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jazz

# IBM Jazz-based 測試管理Hub

## 支援完整的測試週期所需要之型態與平台



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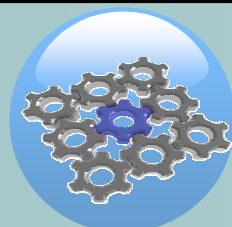


# 品質管制的必要性

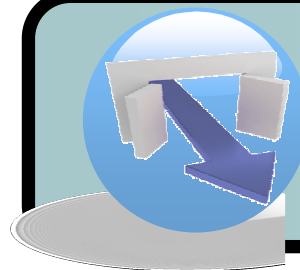
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# 協同合作使團隊更加有效率



## • 增強團隊協同

- 測試計畫主導軟體品質，描述了對應的職責
- 為關鍵測試計畫元素提供Review和approval，提供過程證明
- 測試案例的版本化，維護品質演進的歷史
- 個人和團隊的dashboards保持專案狀態的持續更新
- 開放的擴展平臺，進行企業級應用的整合

# 整個軟體交付團隊的品質Contract

## 全面且豐富的測試計畫



- 收集多維測試資料
  - 整合分散在測試過程中的需求，測試案例，平臺及資源，缺陷等等
- 定義職責
  - 將測試任務明確分配給團隊成員
- 目標導向
  - 明確定義測試完成標準
- 可擴展性
  - 增加sections, 導入客制化的資料
- 版本控制
  - Snapshot版本控制追蹤各項資產變更

# 測試需求管理

- 從需求產出測試案例
  - Users can create Test Case(s) from Requirement(s)
  - Users can multiple-select requirements and do some operations
- 需求資料 archive
- 多樣化需求連結(link) : Files/Test Cases/External Tools....

## Requirement 8

Summary:

\* PR2

Overview Links Approvals History

### Attachments

Add File:

No Attachments.

### Links

Add:  Related ▾

Associated Test Case

↳ 3: Test Requirement Delete

Associated Test Plan

↳ 2: Test Plan for Demo

Related Artifacts

↳ [RequisitePro] PR2: The following template is provided for u...

The screenshot displays the Rational software interface. At the top, it says 'View Builder' and 'Show Requirements that match the attributes in the View Builder.' Below this is a table with columns: Status, ID, Risk, Source Id, Name, Description, and Owner. The table contains several rows of data, with some rows highlighted in yellow. A 'Create Test Case' dialog box is open over the table, showing options to create test cases per requirement or for all requirements. The dialog includes fields for Name, Description, Template, Weight, Owner, Test Plan, Category, Function, Test Phase, and Theme, along with checkboxes for 'Name test case same as requirement' and 'Edit new test case'.

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# 視覺化測試資產管理

The screenshot displays the 'View Test Plans' interface. At the top, there are dropdown menus for 'Group by: Project' and 'View by: Tree'. Below this is a tree view of test assets for 'Project: Paint Shop'. The tree includes 'Test plans', 'Red', 'Requirements', 'Test Cases', 'Viscosity', 'Viscosity requirement', 'Viscosity script', 'Viscosity execution' (highlighted), 'Viscosity result', 'Viscosity defect', 'Weight', 'Purity', 'Brightness', and 'Tone'. Below the tree view, there are tabs for 'Dashboards' and 'View Test Plans'. Under 'View Test Plans', there is a 'View Builder' section with the text 'Show Test Plans that match the attributes in the View Builder.' and dropdowns for 'Group by: Ungrouped' and 'View as: Explorer'. At the bottom, there is a table with three columns: 'Quality Manager', 'Test Plan A', and 'Test Cases'. The 'Quality Manager' column lists 'Test Plan A', 'Test Plan B', and 'Test Plan C'. The 'Test Plan A' column lists 'Test Cases' and 'Requirements'. The 'Test Cases' column lists 'Test Case A', 'Test Case A\_1', 'Test Case A\_3', and 'Test Case A\_2'.

- 多種形式的測試Artifacts 檢視模式
  - Tree/Table/Explorer
- 強大的測試資產搜尋
  - Additional Searching/filtering capabilities
- 多樣化的Catalogue 客製定義

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# 測試計畫管理

測試計畫很容易隨著專案建立和演進

The screenshot shows the Rational Quality Manager web interface. At the top, it displays 'Rational Quality Manager' and 'ADMIN | Log Out'. Below the header, there are tabs for 'Home', 'New Machine', 'Java PetStore Test P...', and 'My Test Plans'. The main content area is titled 'Java PetStore Test Plan' and includes a 'Table Of Contents' sidebar with items like Summary, Business Objectives, Test Objectives, Review and Approvals, Requirements, Application Security, Test Iterations, Sizing, Environments, Test Team, Quality Goals, Entry Criteria, Exit Criteria, Test Cases, and Attachments. A 'Create Section' button is visible above the sidebar. The main content area shows the 'Summary' section with fields for 'Originator: ADMIN', 'State: Draft', and 'Owned By: Mary (Manager)'. A 'Description' field contains the text 'Provide full test coverage for Java PetStore Test Plan'. Three callout boxes with arrows point to specific features: '追蹤測試計畫歷史' (Track test plan history) points to the 'View Snapshots' link; '指定Owner' (Specify Owner) points to the 'Owned By' dropdown; and '可自行定義section, 建構測試計畫' (Can self-define sections, construct test plan) points to the 'Table Of Contents' sidebar.

追蹤測試計畫歷史

指定Owner

可自行定義section, 建構測試計畫

測試計畫管理

# 流程審核

為測試流程指派審核人，追蹤版本歷史

- 所有專案參與人皆可輕易的review、refine 和 sign-off所有和品質相關的文件
  - 需求、測試計畫、測試案例、完成標準等
- 維護版本歷史，追蹤品質的演進

流程的審核

|                          | Review Type | Name                | Status  | Comments | Modified |
|--------------------------|-------------|---------------------|---------|----------|----------|
| <input type="checkbox"/> | Approver    | Mary (Manager)      | Pending |          |          |
| <input type="checkbox"/> | Reviewer    | Larry (Lab Manager) | Pending |          |          |

測試資產版本

| Type | Revision | Name          | Date         | Originator | Details | Copy |
|------|----------|---------------|--------------|------------|---------|------|
|      | 1        | Draft version | 1 minute ago | ADMIN      |         |      |

# 測試計劃風險管理

- 有效率的測試風險管理需要工具及流程的輔助。

Classics Java Test Plan  
Test Plan Overview | View Snapshots

Originator: ADMIN Action: Select Action State: com.ibm.rqm.planning.common.new

Test coverage for the Classics Java application.

Test Cases

Lists the test cases associated with a given plan. You can add and remove associations to test documents and create and associate a new test case. Removing a test case will remove the association to this test plan but not delete the test case.

Group by: Ungrouped Type Filter Text

| ID | Risk Assessment | Suspect               | Name     | State     | Category  | Function     | Theme | Weight    | Modified |
|----|-----------------|-----------------------|----------|-----------|-----------|--------------|-------|-----------|----------|
| 12 | ○○○○○           | View Report Test Case | com.i... | Reporting | Execution | Functiona... | 20    | 1 minu... |          |
| 15 | ○○○○○           | Add New Customer      | Draft    | Web UI    | Execution | Functiona... | 100   | 1 minu... |          |
| 16 | ○○○○○           | Order Multiple CDs    | Draft    | Web UI    | Execution | Functiona... | 100   | 1 minu... |          |
| 17 | ○○○○○           | Add New Products      | Draft    | Web UI    | Execution | Functiona... | 100   | 1 minu... |          |
| 18 | ○○○○○           | Administer Orders     | Draft    | Web UI    | Execution | Functiona... | 100   | 1 minu... |          |
| 19 | ○○○○○           | Order single CD       | Draft    | Web UI    | Execution | Functiona... | 100   | 1 minu... |          |

Calculated Risk Assessment

Collaborative Risk Assessment

需求  
測試計劃  
測試案例  
風險Profiles

**Risk Assessment:**  
●●●●● very high

**My Risk:**  
Rate this: ●●●●● very low  
Comment here

**Community Risk:**

|            |       |          |
|------------|-------|----------|
| Very high: | 0     | (0%)     |
| High:      | 0     | (0%)     |
| Neutral:   | 0     | (0%)     |
| Low:       | 0     | (0%)     |
| Very low:  | 1     | (100%)   |
| average    | ●●●●● | very low |

- Prioritize efforts where resources are limited
- Drive risk based decisions to meet quality objectives
- Documentation of risk related decisions

Prioritized Tests to meet business needs

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# 測試缺陷關連

- Defect 關鍵字查詢
- 測試案例Defects 關連
  - Associate Defect (related defects)
  - New Defect (more descriptive)

Script Steps

| Step | Result | Description  | Expected Results  | Actual Results            |
|------|--------|--|---|---------------------------|
| 1    |        | Open Classics Java Application                               | Application opens up  | Application opens up fine |
| 2    |        | Select Symphonies Noes 94, 98 product as shown in the image  | The image shows up  |                           |
| 3    |        | Compare CD Image   |   | This image shows up       |
|      |        | Verify that the selection was done and press Ok to continue  | The image should be surrounded by a dotted line to show selection |                           |
|      |        | Report if the next screen does not show product information. |   |                           |

Defects View

Show related defects  
 Show defects from query

Related Defects

Group by: **Ungrouped**

Show All  Items per page Previous | 1 - 1 of 1 | Next

| ID                         | Summary                      | Owned By   | Status | Priority   | Severity | Modified Date |
|----------------------------|------------------------------|------------|--------|------------|----------|---------------|
| <input type="checkbox"/> 1 | Failing Test Case "Order CD" | Unassigned | New    | Unassigned |          | 1 minute ...  |

Previous | 1 - 1 of 1 | Next

Defects View

Defect <15:09:12> \*

Summary:

Overview Links Approvals History

Details

Type:  Planned For:

Severity:  Estimate:  Correction:

Found In:  Due Date:

Project Area: Quality Manager Related: Unassigned

Team Area: Quality Manager Team Requirement: Unassigned

Filed Against:  Related Test Case:

Tags:  Build ID:

Owned By:  Test Environment:

Priority:  Verification Point Failure:

Quick Information: No Links

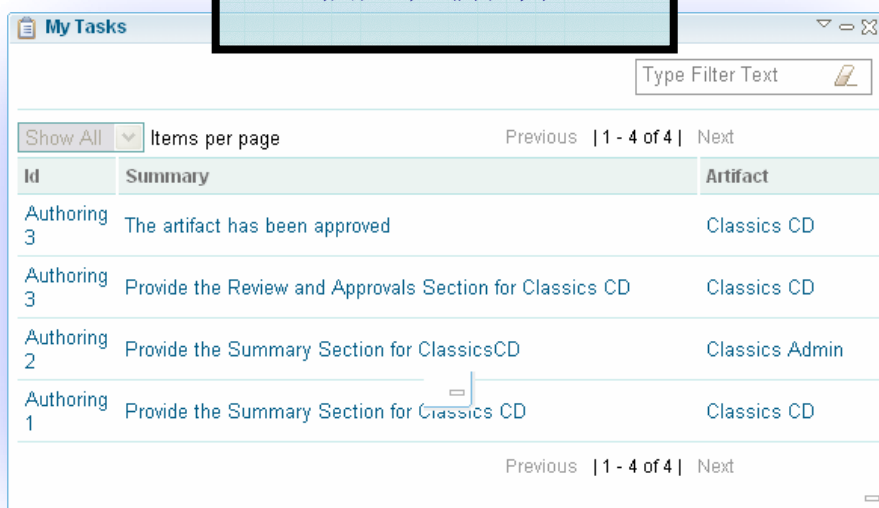
Description

Preview

# 即時的工作進度資訊

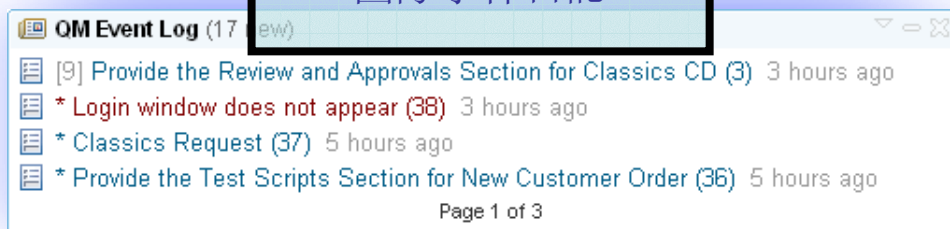
## 個人和團隊的任務管理

### 個人任務列表



| Id          | Summary  | Artifact       |
|-------------|--|----------------|
| Authoring 3 | The artifact has been approved                           | Classics CD    |
| Authoring 3 | Provide the Review and Approvals Section for Classics CD | Classics CD    |
| Authoring 2 | Provide the Summary Section for ClassicsCD               | Classics Admin |
| Authoring 1 | Provide the Summary Section for Classics CD              | Classics CD    |

### 團隊事件日誌



|  |             |
|--|-------------|
| [9] Provide the Review and Approvals Section for Classics CD (3) | 3 hours ago |
| * Login window does not appear (38)                              | 3 hours ago |
| * Classics Request (37)  | 5 hours ago |
| * Provide the Test Scripts Section for New Customer Order (36)   | 5 hours ago |

Page 1 of 3

- 視覺化的進度資訊避免 **Gap**

- 知道其他人在做什麼
- 知道其他人希望你做什麼

- 個人任務追蹤

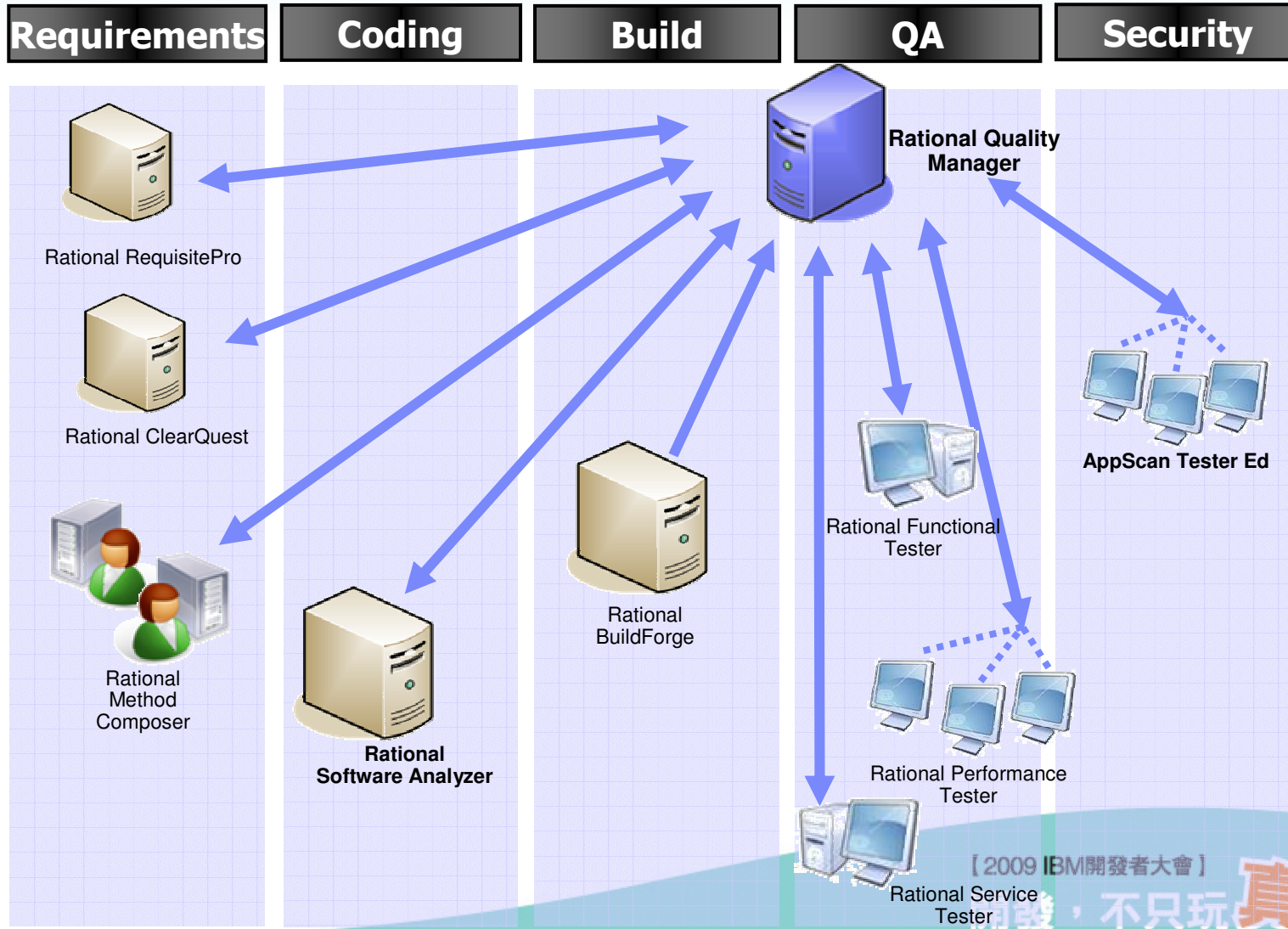
- 追蹤分配給團隊成員的任務

- 監控團隊事件

- 團隊事件日誌自動更新發生的活動

# 結合開發生命週期的品質

構建在開放介面上的緊密性

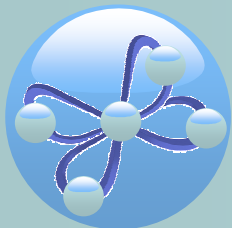


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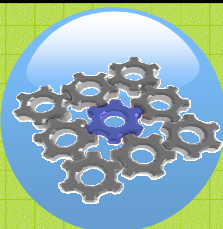
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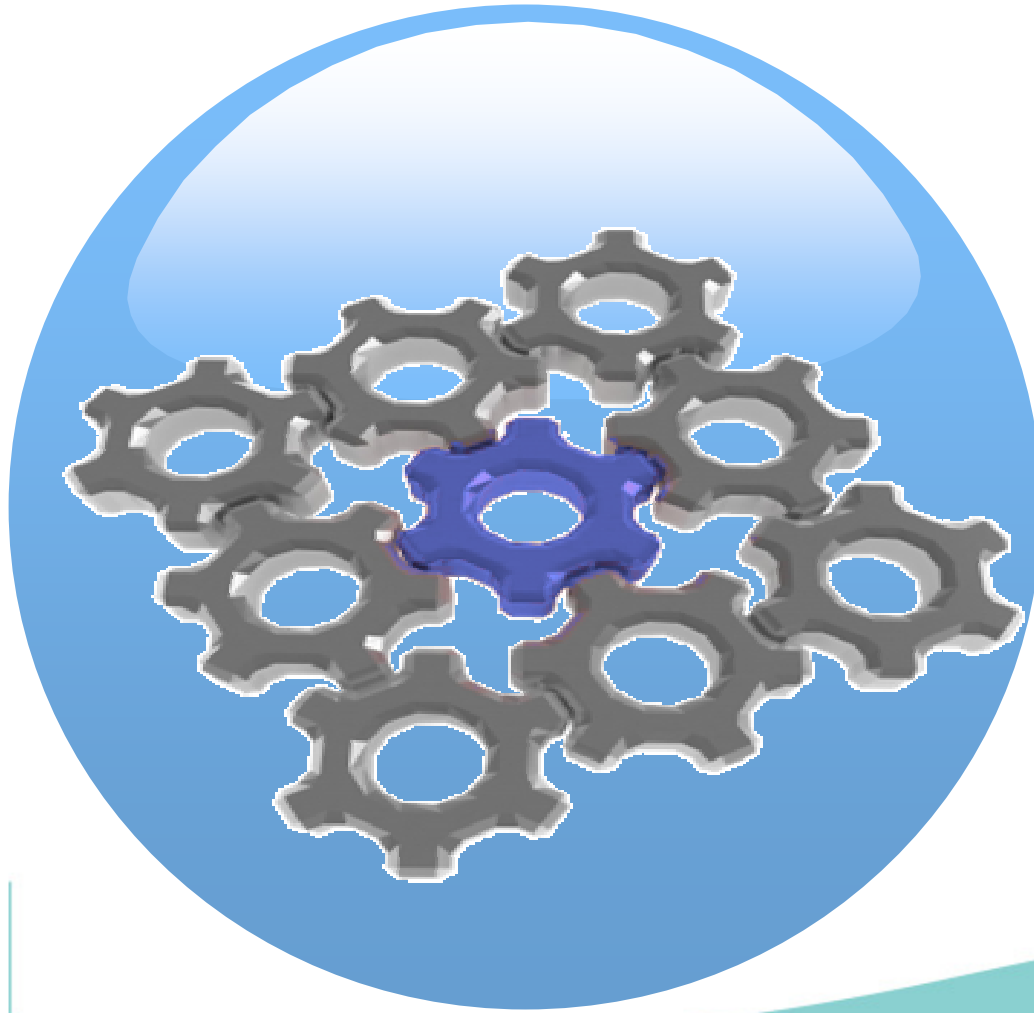
**自動**: 任務自動化增加了專案溝通和測試執行的有效性。



**管理**: 為軟體發展團隊成員提供個性化的報告。

# 自動化加速了測試的建立和執行

## 快速品質週期的手動和自動化測試執行



### • 品質追隨業務的變化

- 手動測試的編寫和執行
- 提供關鍵字測試，保證測試重用和手動與自動化測試的混合
- 分散式的自動測試執行
- 配置設定
- Lab management保證執行的效率

# 與手動測試的編寫和執行整合在一起

## 從手動測試結果追蹤執行結果和缺陷

The screenshot displays the 'Script Execution' window in Rational software. The title bar indicates 'Home' and 'Script Execution'. The main window is titled 'Executing New Customer Order' with a 'Manual Script' icon and a 'Cancel' button. Below the title, the 'Environment' section lists: Test Script Name (New Customer Order), Application Server (Tomcat 6.0), Browsers (Firefox 2.0), CPU (AMD 32bit), DataBase (DB2 7.x), and OperatingSystem (Windows NT). A 'Test Progress' bar shows 67% completion. The 'Script Steps' table is as follows:

| # | Type | Result   | Description   |
|---|------|----------|---|
| 1 |      | ✓        | Select a cd and click Order button                    |
| 2 |      | ✓ Passed | Verify the login window displays                      |
| 3 |      |          | Select new customer radio button and select OK button |












Below the table, there is an 'Add Defect' button and a table with columns 'Id' and 'Summary'. Other sections include 'Attachment', 'Defect', 'Result Attachment', and 'Comment'.

手工測試執行

### • 手動測試編寫和執行

- 一步步的捕捉手動測試的執行
- 關鍵字支援手動和自動化的測試
- 執行期間可捕獲缺陷，包括截圖和附件
- 為快速測試執行提供簡單直觀的介面

# 手動測試的編寫

| Step | Description   | Expected Results  |
|------|---|---|
| 1    | Start Classics Application  |  This window should appear.  |
| 2    | Select a CD. User browses to Schubert and selects String Quarter  |    |
| 3    | Order the selected CD. Press the Place Order Button. The Place Order Window appears with Schubert as a selected item.   |   |
| 4    | Insert CC Number by using assisted data entry.  |    |
| 5    | Validate Trent Cuplito is on Name: field using assisted data verification   |    |
| 6    |  Press the  button. Validate the login screen appears |    |
| 7    | Press the OK Button. Validate the order confirmation window appears.  |    |
| 8    | OK Button   |    |

- 建立手動測試
  - 測試步驟的預期結果
  - 圖形化管理 (thumbnails vs full size)
  - Full off-lining of manual test

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# 匹配性測試

## 確定最可能的平臺，配置覆蓋模式

### Environment ?

Select one or several attributes from the columns below. The number of work items created depends on : the number of attributes selected, the level of coverage that you choose, and the Advanced Properties (attribute Inclusions, Exclusions, and Weightings).

| Application Server                             | Browsers  | CPU   |
|--|---|---|
| <input checked="" type="checkbox"/> Tomcat 6.0 | <input checked="" type="checkbox"/> Firefox 2.0 | <input checked="" type="checkbox"/> AMD 32bit |
| <input type="checkbox"/> WAS 6.1               | <input type="checkbox"/> Internet Explorer 6    | <input checked="" type="checkbox"/> System i  |
| <input type="checkbox"/> WAS 7.0               | <input type="checkbox"/> Internet Explorer 7    | <input type="checkbox"/> System z             |

| DataBase                                | OperatingSystem   |
|---|---|
| <input checked="" type="checkbox"/> DB2 | <input checked="" type="checkbox"/> Vista               |
| <input type="checkbox"/> DB2 7.x        | <input type="checkbox"/> Windows NT                     |
| <input type="checkbox"/> DB2 8.x        | <input checked="" type="checkbox"/> Windows Server 2003 |

[Advanced Properties](#)

### Generation Properties ?

Coverage:

|                                |
|--------------------------------|
| Medium - Pair-wise interaction |
| Minimal - One-way interaction  |
| Medium - Pair-wise interaction |
| Large - Three-wise interaction |
| All - All permutations         |

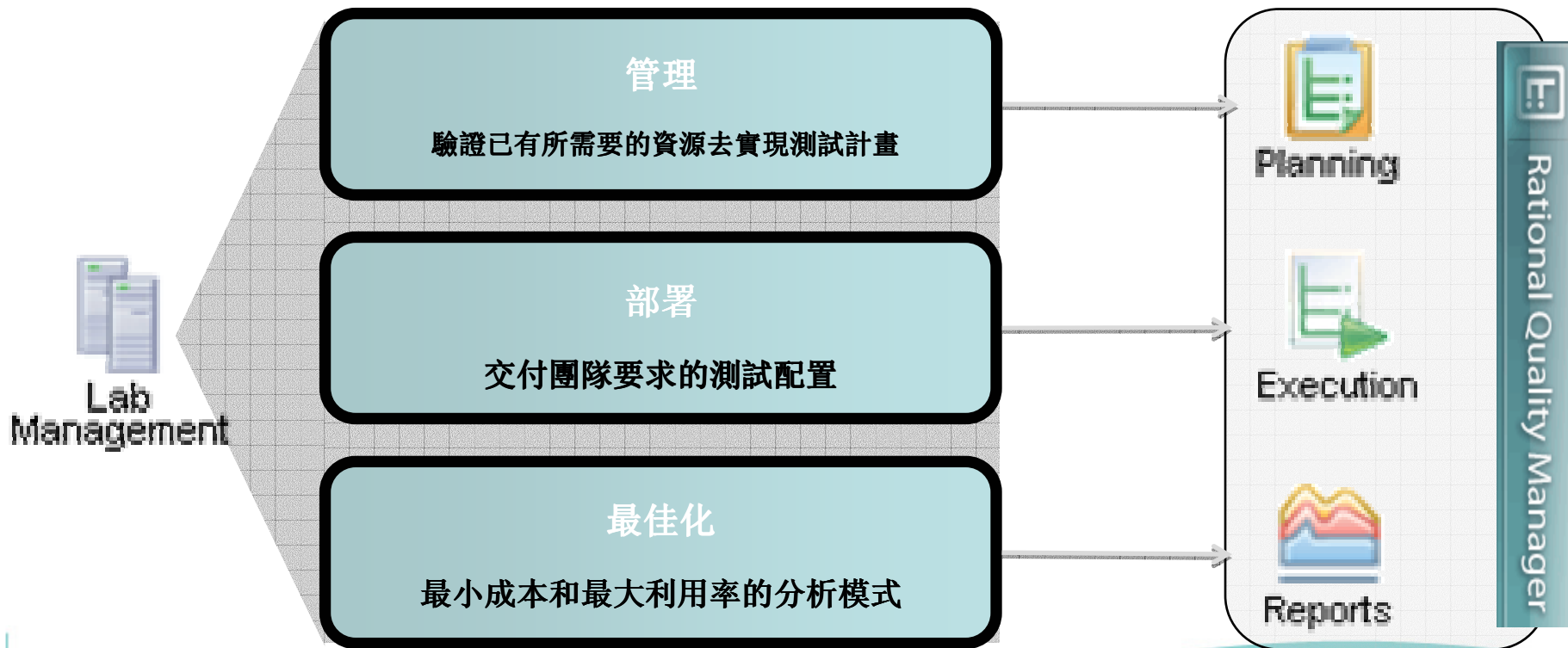
- 匹配性

- 對於你所有的目標環境的測試執行計畫
- Rational Quality Manager將確定最可能的執行路徑優化覆蓋



# IBM Rational Test Lab Manager

整合測試環境到品質管制生命週期中



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# 自動化測試案例執行

- RQM自動化測試執行架構：
  - 排程
  - Completion of a build
  - Test Cell should be reserved in advance
  - Machines in steps validated against test cell contents

The screenshot displays the IBM Rational software interface for configuring an execution schedule. The left sidebar contains navigation icons for Requirements, Planning, Construction, Lab Management, Builds, and Execution. The main content area is titled "BVT for Example App" and shows the "Execution Schedule" configuration. The "Overview" section is highlighted, showing the "Schedule an execution based on:" options. The "Date and time:" option is selected, and the date is set to "Jul 20, 2009" at "12:00 PM". The "Build completion:" option is also selected, and the "Select Build:" dropdown is set to "Dev Team build - Ant". The "Start execution schedule based on build status:" dropdown is set to "Success (OK)". The "Test Cell" dropdown is set to "BVT Cell 1".

Dashboards **BVT for Example App**

**BVT for Example App** Execution Schedule

Originator ADMIN Owner Unassigned

This runs a BVT sequence.

**Overview**

Schedule an execution based on:

Date and time:

Date: Jul 20, 2009 12 00 PM

Build completion:

Select Build: Dev Team build - Ant

Start execution schedule based on build status: Success (OK)

Test Cell BVT Cell 1

# 測試步驟執行及結果檢視

- 自動化測試步驟
  - 依執行順序，亦可彈性更改。
  - 可預設傳入參數及執行環境。
  - 快速檢視並修正步驟內容

The screenshot displays the Rational software interface for testing. It is divided into two main sections: 'Execution Schedule Results' and 'Test Suite details'.

**Execution Schedule Results:**

- Dashboard: Execution Schedule Result History
- Section: Execution Schedule Results
- Group by: Ungrouped
- Table with columns: Schedule Name, Start time, End time, Status, Actual Result.

| Schedule Name       | Start time    | End time   | Status | Actual Result |
|---------------------|---------------|------------|--------|---------------|
| BVT for Example App | 1 hour ago    | 1 hour ago | ✓      | Pass          |
| BVT for Example App | 3 minutes ago | N/A        |        | In Progress   |

**Test Suite details:**

- Section: Steps
- Table with columns: No., Step, Executable, Target, Status.

| No.                                 | Step | Executable            | Target                  | Status |
|-------------------------------------|------|-----------------------|-------------------------|--------|
| <input type="checkbox"/>            | 1    | Automation            | prjEcho                 | ●      |
| <input checked="" type="checkbox"/> | 2    | Test Suite            | suite1                  | ⚠      |
| <input type="checkbox"/>            | 3    | Test Execution Record | Test the sample_Firefox | ⚠      |
| <input type="checkbox"/>            | 4    | Automation            | Install Build           | ●      |

A red arrow points from the 'Test Suite' row in the 'Steps' table to the 'Test Suite details' section. In the 'Test Suite details' section, there is another table with columns: Test Case, Test Plan, Test Milestone, Test Script, Machine, Test Cell, Health.

| Test Case                | Test Plan       | Test Milestone | Test Script | Machine    | Test Cell  | Health |
|--------------------------|-----------------|----------------|-------------|------------|------------|--------|
| <input type="checkbox"/> | Test the sam... | Unassigned     | cmdScript1  | jnason-T60 | BVT Cell 1 | ●      |
| <input type="checkbox"/> | Test the sam... | Unassigned     | cmdScript1  | jnason-T60 | BVT Cell 1 | ●      |

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# 即時更新建置(Build)訊息

- 自動更新測試案例的狀態至Build
- 完整的顯示建置(Build)健康程度.

Dashboards 20090720-1311

20090720-1311 External Build Record

Status:  OK State:  Complete

Completed At: Jul 20, 2009 1:11:28 p.m.

Description:

### Deployment and Build Verification Test

|             |      |
|-------------|------|
| BVT Result  | PASS |
| Total Tests | 4    |
| Test Passed | 4    |

Type Filter Text

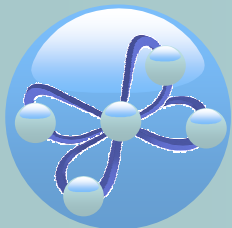
Show All Items per page Previous | 1 - 4 of 4 | Next

| Step                  | Executable              | Target        | Actual Result |
|-----------------------|-------------------------|---------------|---------------|
| Automation            | prjEcho                 | remote_server | Pass          |
| Test Suite            | suite1                  | Multiple      | Pass          |
| Test Execution Record | Test the sample_Firefox | jnason-T60    | Pass          |
| Automation            | Install Build           | remote_server | Pass          |

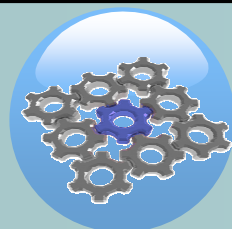
Previous | 1 - 4 of 4 | Next

# 品質管制的必要性

品質驅動的軟體交付的挑戰



**協同合作**: 明確角色和責任, 使團隊成員有效瞭解專案狀態.



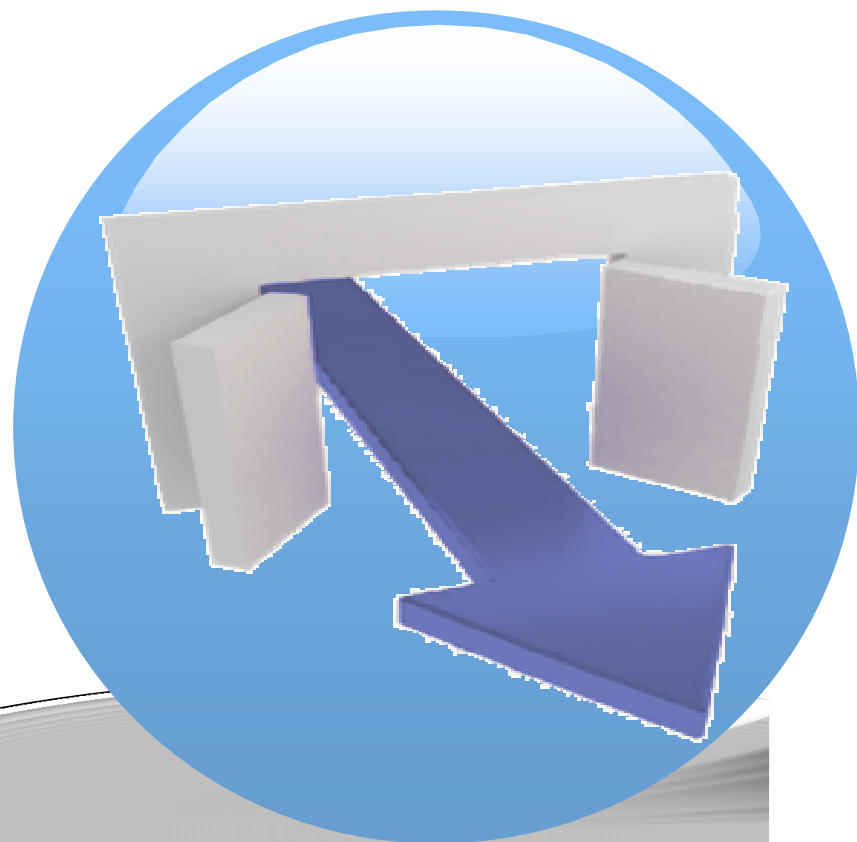
**自動**: 任務自動化增加了專案溝通和測試執行的有效性.



**管理**: 為軟體發展團隊成員提供個性化的報告.

# 報表隨時查看專案狀態

## 時時掌握專案資訊進行決策



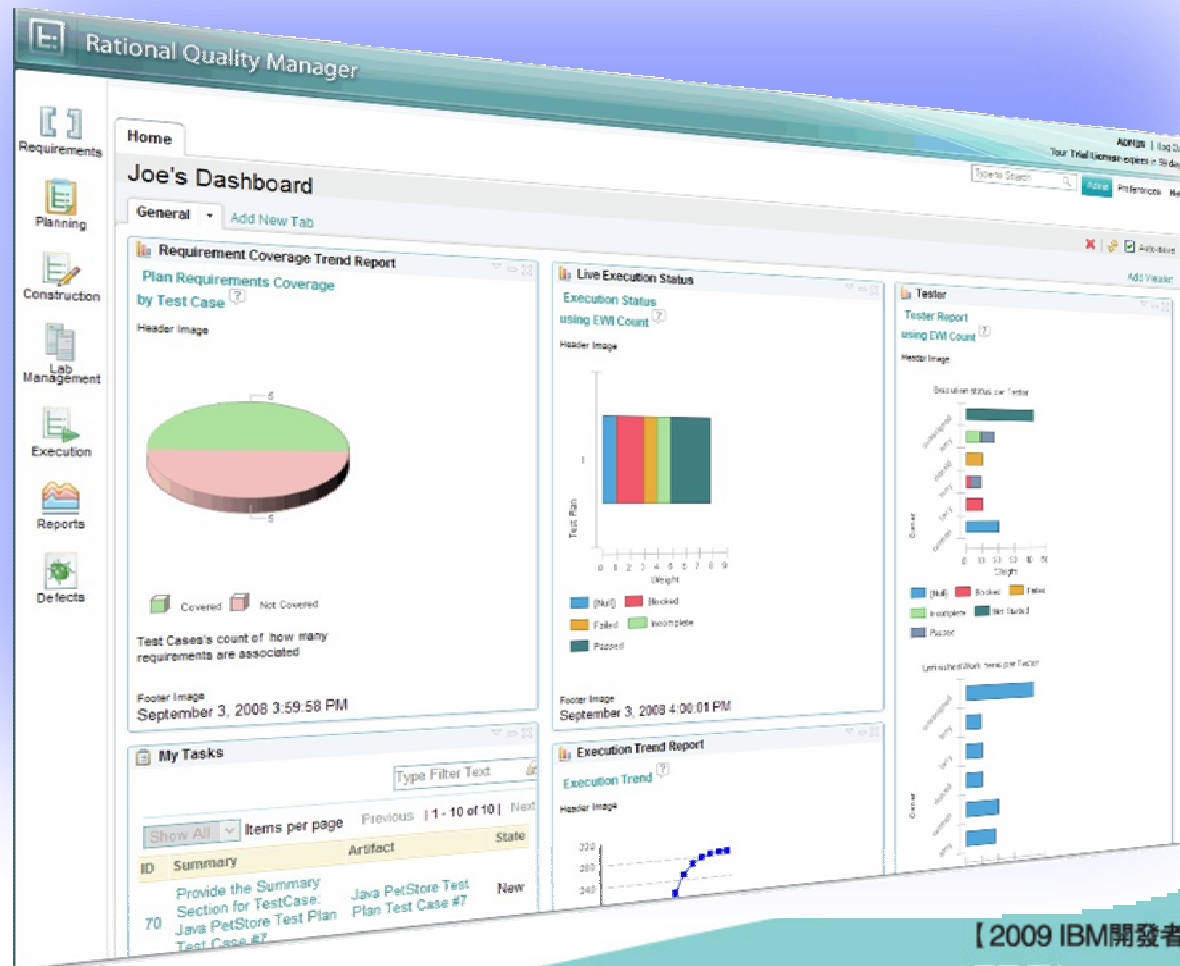
- 隨時提供和品質相關的資訊
- 隨時隨地查看報表和儀表板，管理品質目標。
- 各種報告覆蓋需求、缺陷和測試結果

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# 個人儀表板

## 自行定義相關版面，即時更新

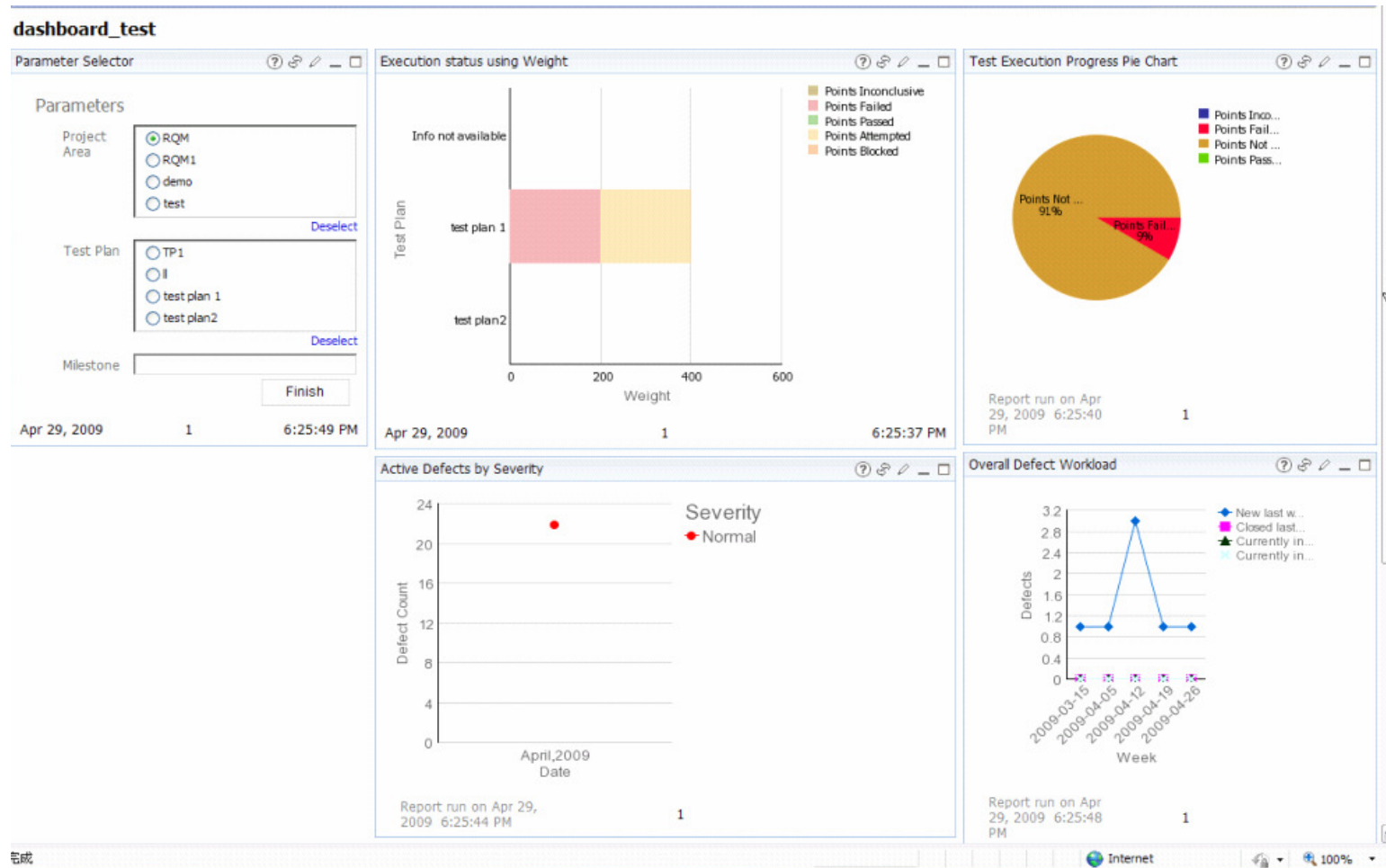


使用者自行  
定義版面和內容

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# 多樣化的測試分析報告

## Overall Status Measures

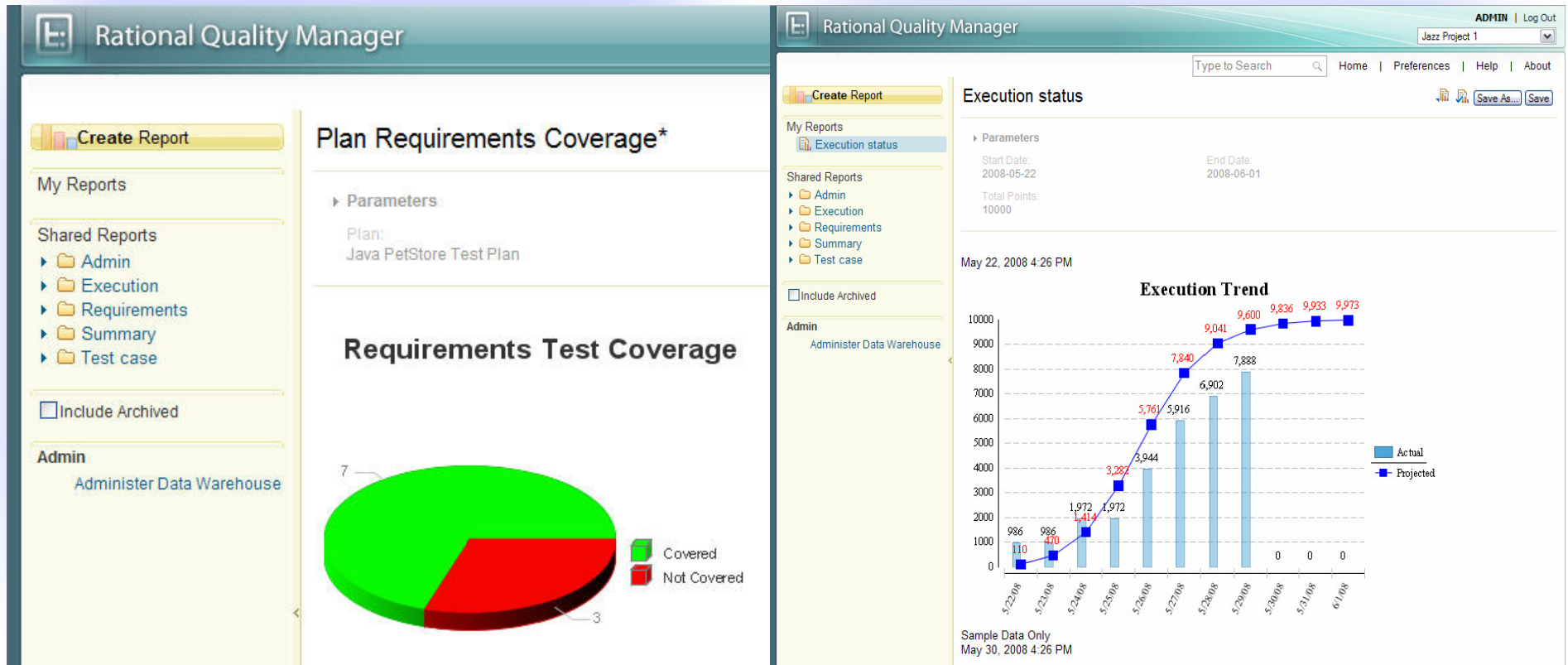


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# 測試報表

來自多個角度的專案狀態的靜態視圖



客製化的報表能夠共用和瞭解重要專案資訊

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# 其他



- 彈性的API
- 便利的Test 資產管理 (Test Plans, Test Cases)
- 支援Excel/Word的文件匯入
- 測試案例執行排程
- 動態測試專案結構的呈現 (Tree/Dynamic view)
- 大量測試資料(Test Plans/Cases)的最佳化

# Rational Quality Manager 優勢及總結

團隊透明的，跨生命週期的資產共用訪問和可追溯性

- 減少含混的、錯誤的地方，降低成本
- 提昇組織效率，減少缺陷

測試計畫中定義角色、流程、工作流和資產的自動化

- 使測試管理簡單/最佳化
- 減少測試負擔、費用、成本

靈活的流程框架

- 最佳化未來專案活動以適合需要
- 鼓勵持續的過程改進

降低測試環境設置的成本

- 節省30-40%的測試時間並能快速部署
- 使資產最大程度的利用並釋放測試資源

中央儲存庫保存測試資產和範本的歷史，便於Reuse

- 保證了測試一致性和發佈的可預測性
- 更快的得到團隊的效率和生產力

自動的資料收集和過濾，供報表的使用

- 提供正確且可靠的決策能力
- 主動地管理專案風險

Open and extensible on

jazz

- ✓ Collaborate in context
- ✓ Right-size governance
- ✓ Day one productivity

!

# Questions

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# Thank You

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IBM Rational Requirements Composer provides a platform for collaborative requirements definition that enables business analysts, client stakeholders and software development teams to elicit, capture, elaborate, discuss, review, and validate requirements using a variety of requirements definition techniques and collaboration capabilities.

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**Participate**

We use our own tools to openly develop this project on jazz.net. Track our progress or get involved:

- 
- 
- 
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**4. Create Defects, review plans, etc**

