



IBM Software Group

IBM Rational 质量管理平台

Rational. software



ON DEMAND BUSINESS™

议程

- **IBM Rational**的质量理念
- IBM Rational新一代质量平台
- 使用IBM Rational构建质量中心
- IBM Rational整体产品简介



保证业务质量



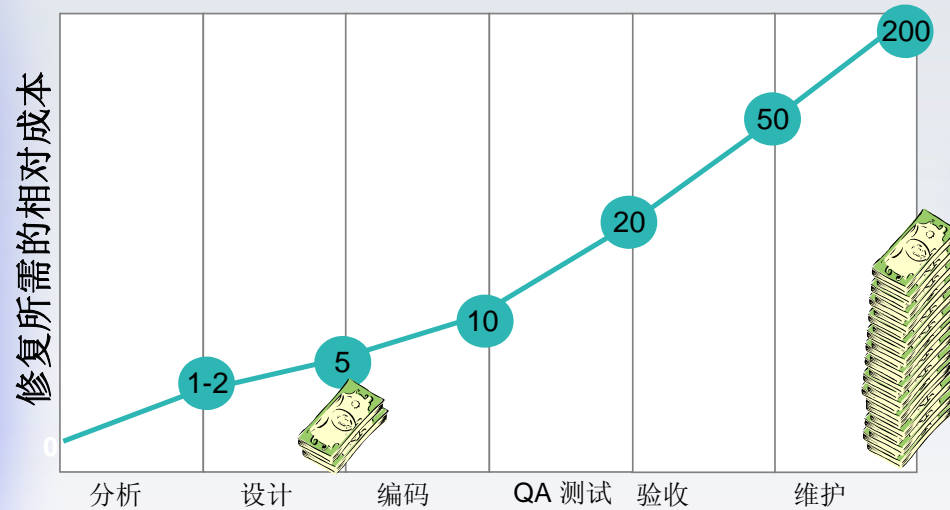
失败的测试导致大量返工、工期延迟、低下质量

早期发现问题、解决问题至关重要

丢失的机会

- 推迟上市 **6 个月以上** 将导致组织损失 **5 年 ROI 的 33%**
- **41%** 的项目未能交付预期的业务 ROI
- **49%** 的项目超出了最初的预算

Standish Group



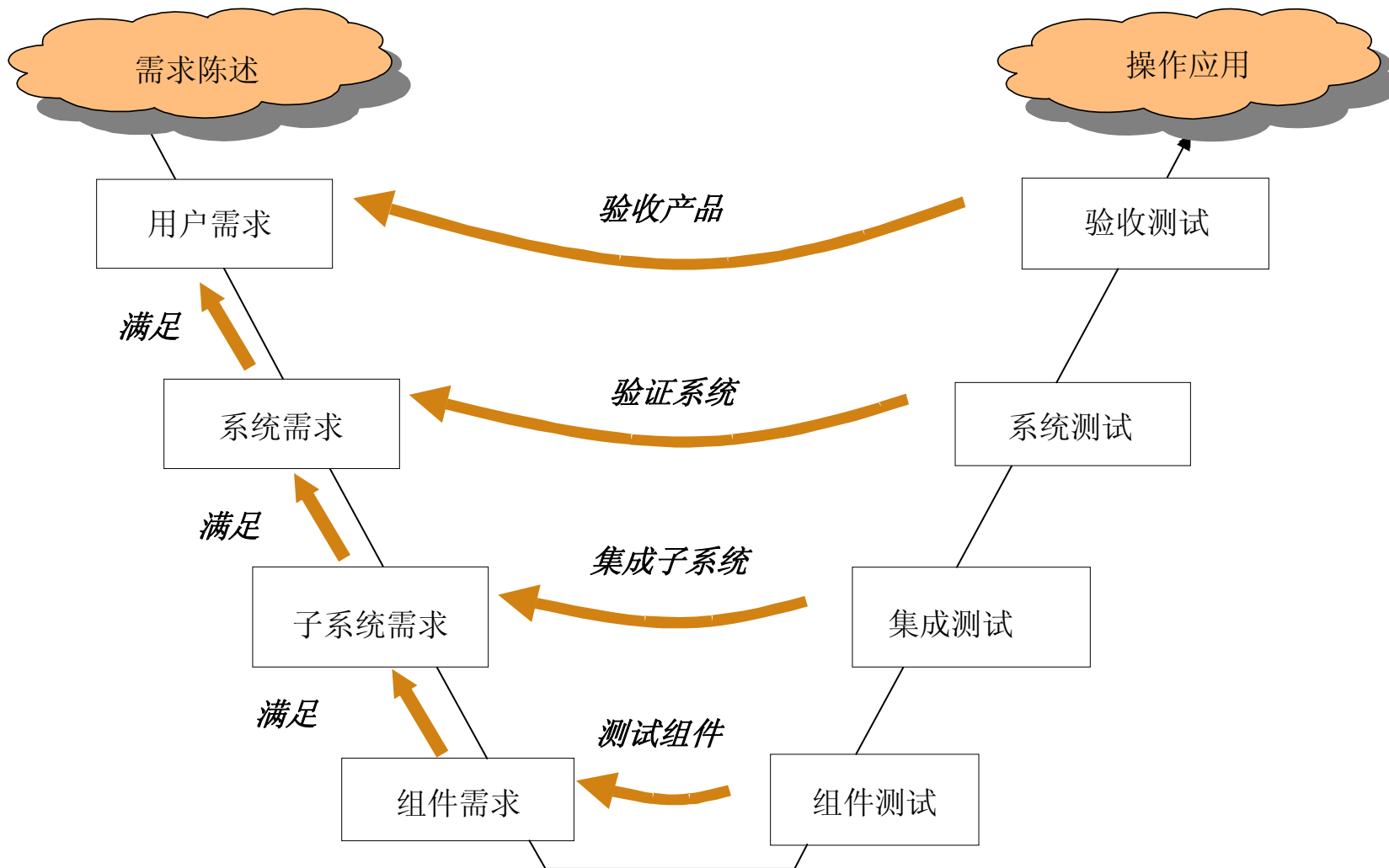
80% 的开发成本都被用来识别和纠正缺陷!

实际测试

- 25 – 30% 的交付时间都用在测试中 (IBM Study)
 - 糟糕的上游质量导致了返工
 - 被压缩的计划使这种情况变得更糟

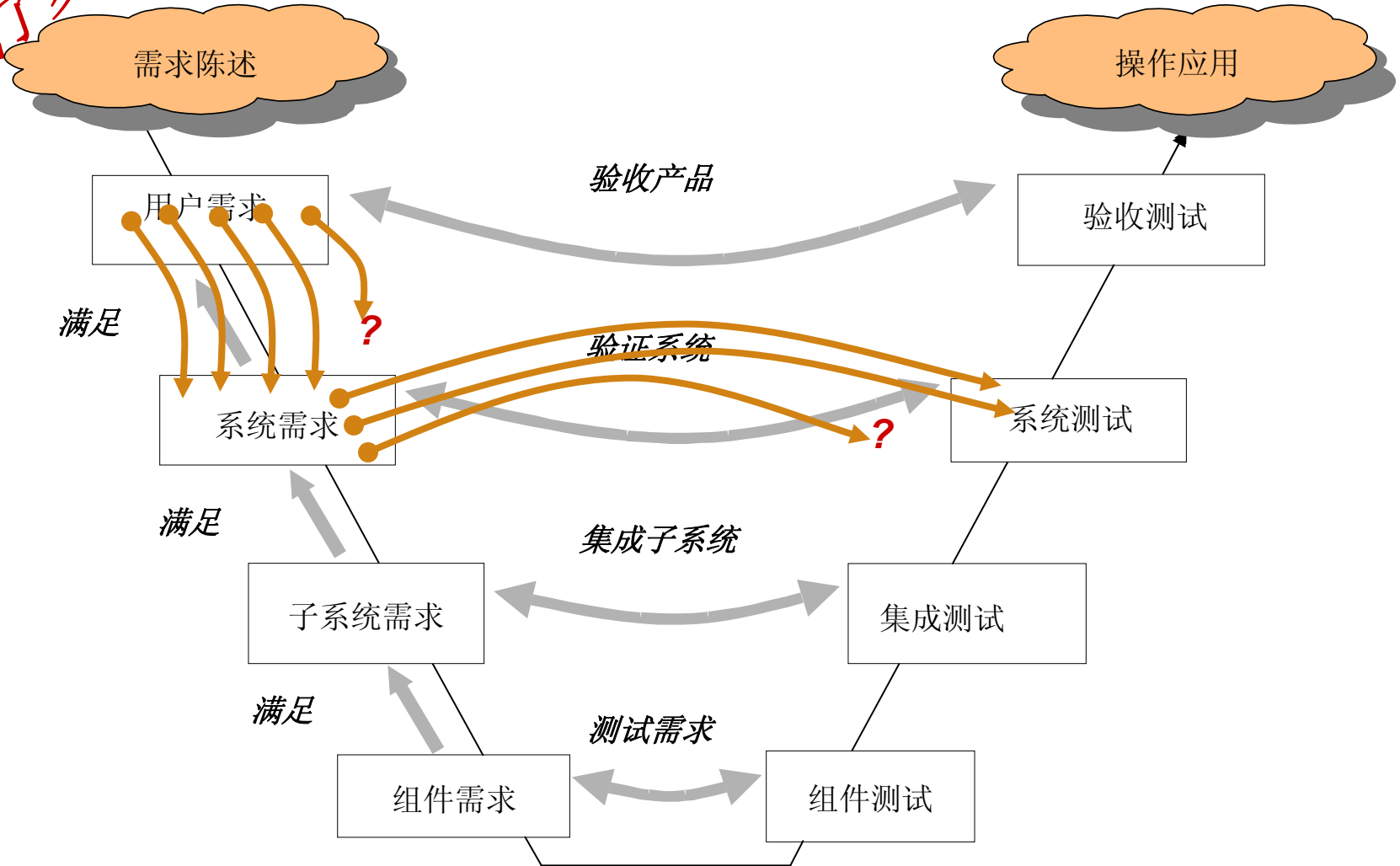


软件质量的 V 模型



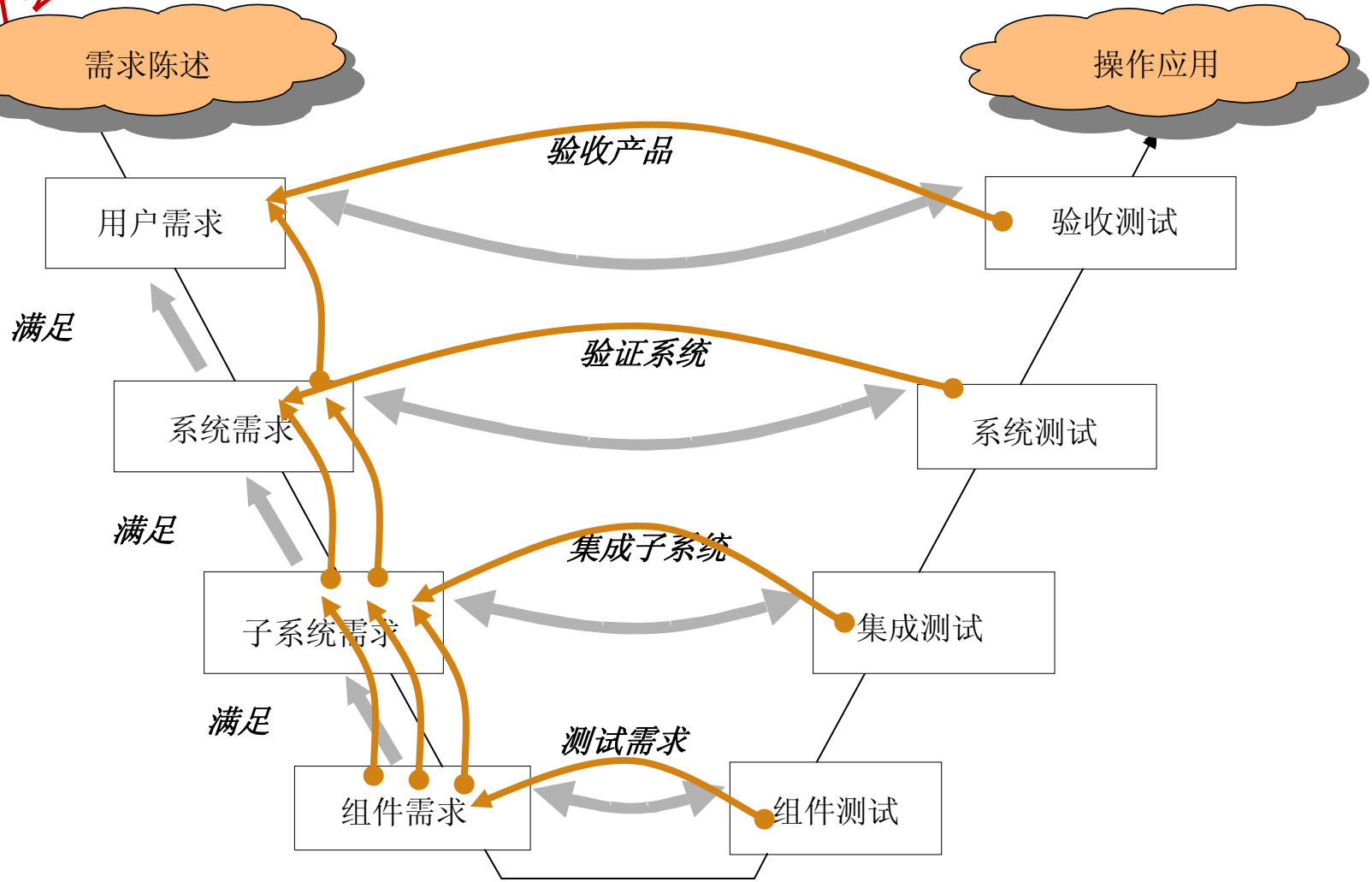
覆盖率分析

完成了多少?

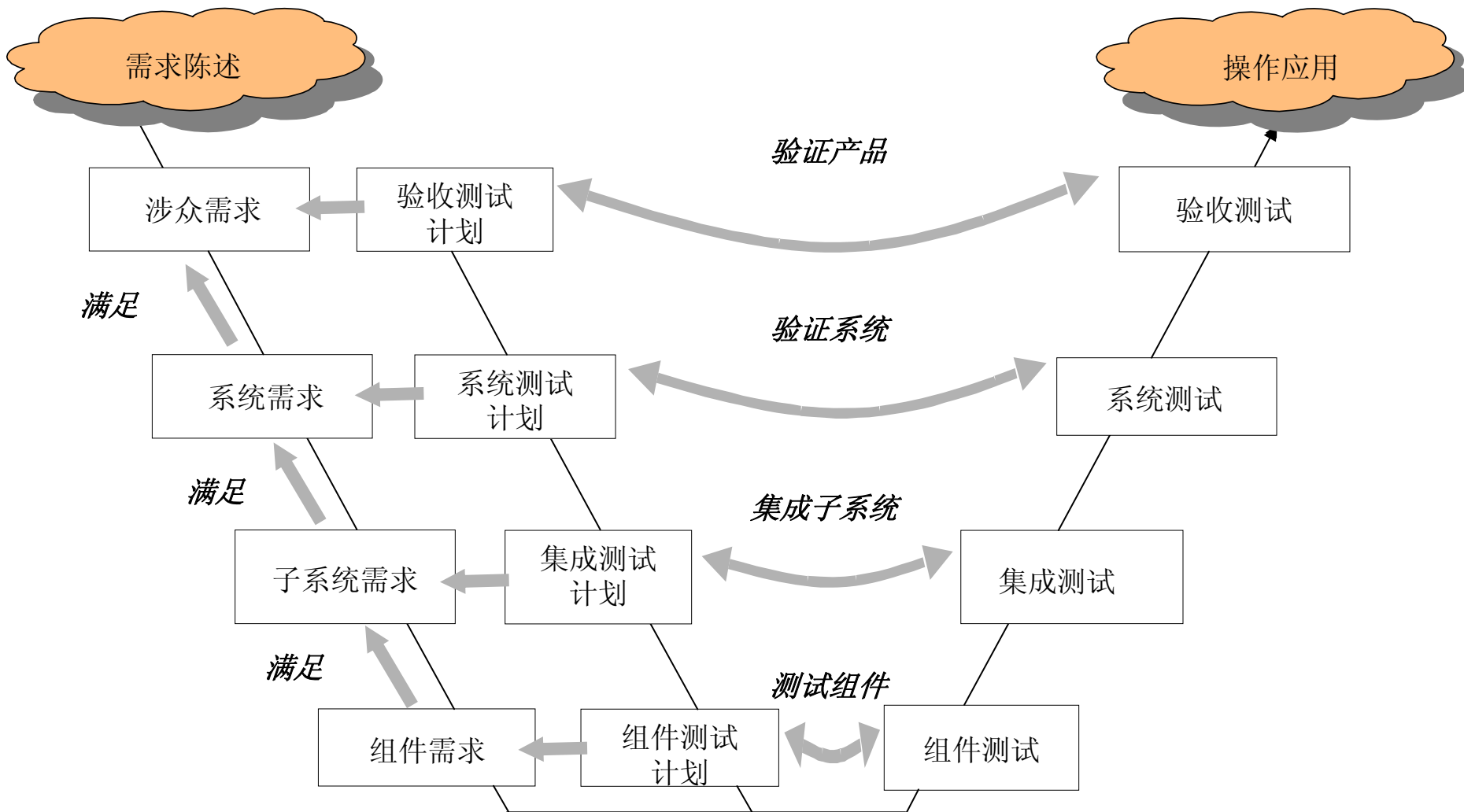


来源分析

为什么?



更进一步W型模型

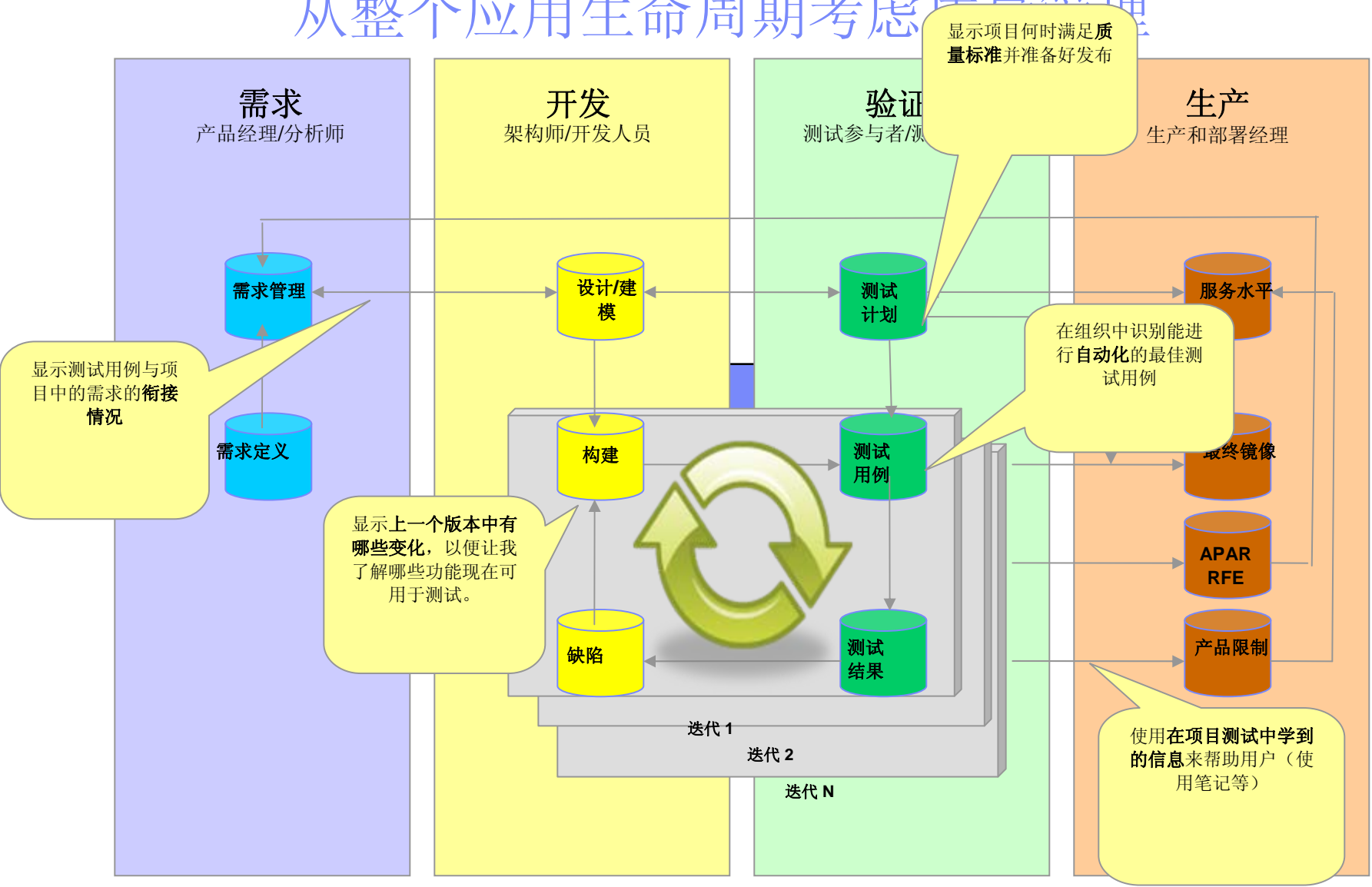


IBM Rational的质量管理理念

- 需求驱动测试
- 尽早准备测试
- 持续的质量保障
- 自动化测试
- 有效的测试管理



从整个应用生命周期考虑质量管理



议程

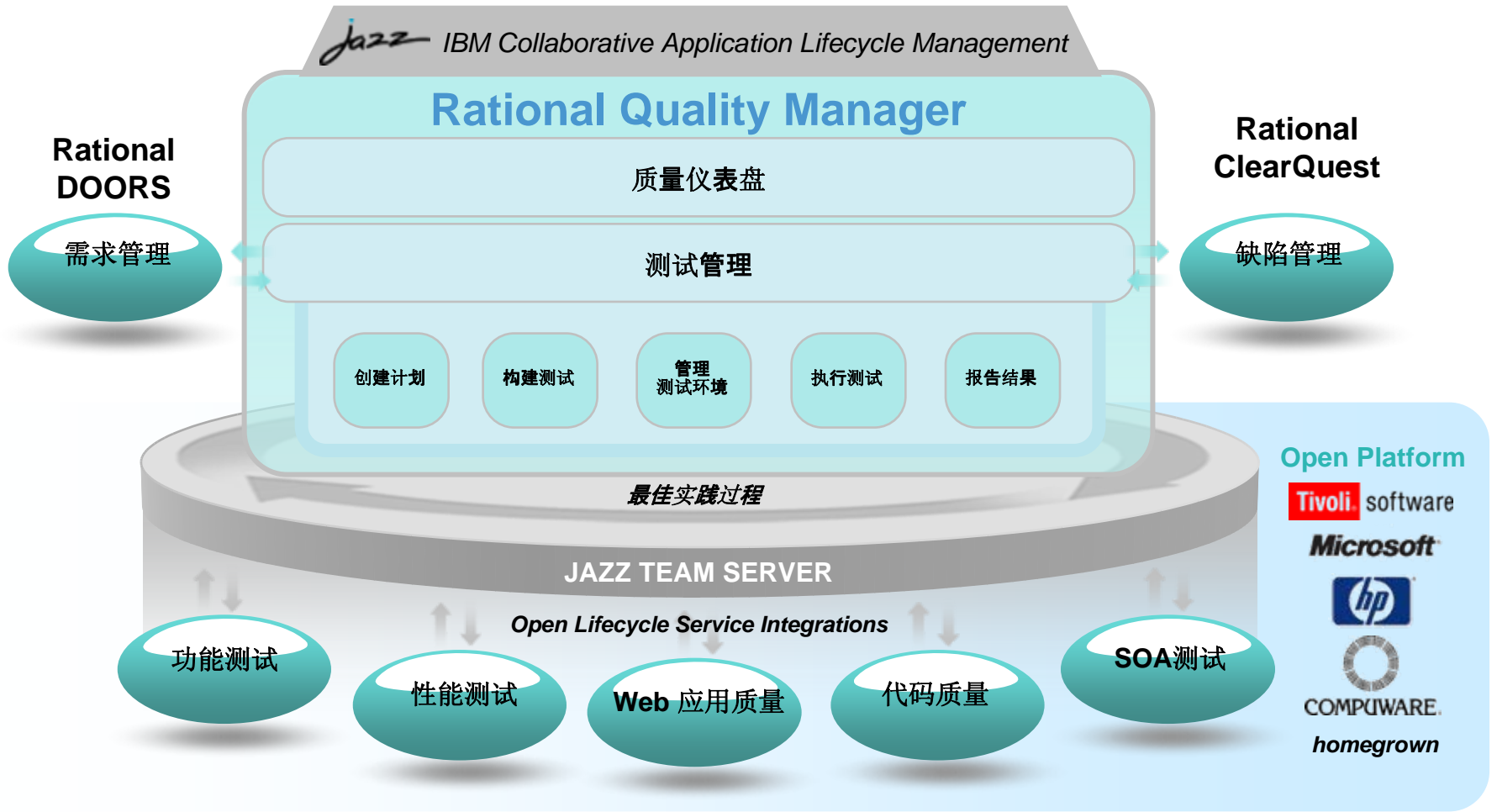
- IBM Rational的质量理念
- **IBM Rational**新一代质量平台
- 使用IBM Rational构建质量中心
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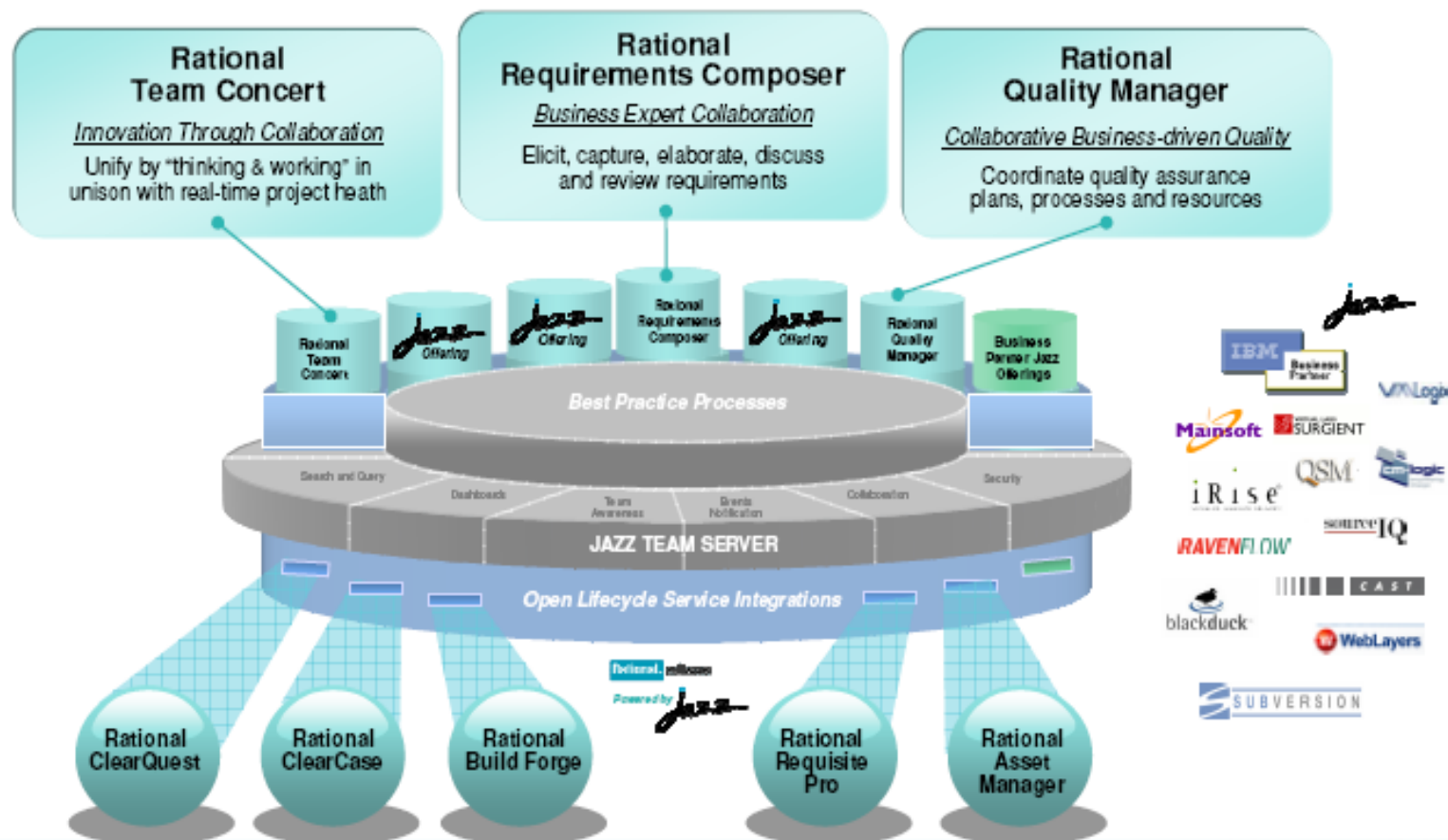
保证业务质量



IBM新一代质量管理平台



基于Jazz的质量管理解决方案--RQM



RQM面向质量管理

减少业务风险



协作

协作的、持续的和全面的信息共享，减少缺陷、改进传递效率并增加客户满意度

改进运行效率



自动化

使劳动密集型活动自动化，缩短上市时间、增加可预见性和一致性，改进投资回报

作出自信的决定



报告

时刻了解软件质量指标，为发布作出决策，以满足业务和IT需要



质量管理的核心hub

通过协作降低业务风险

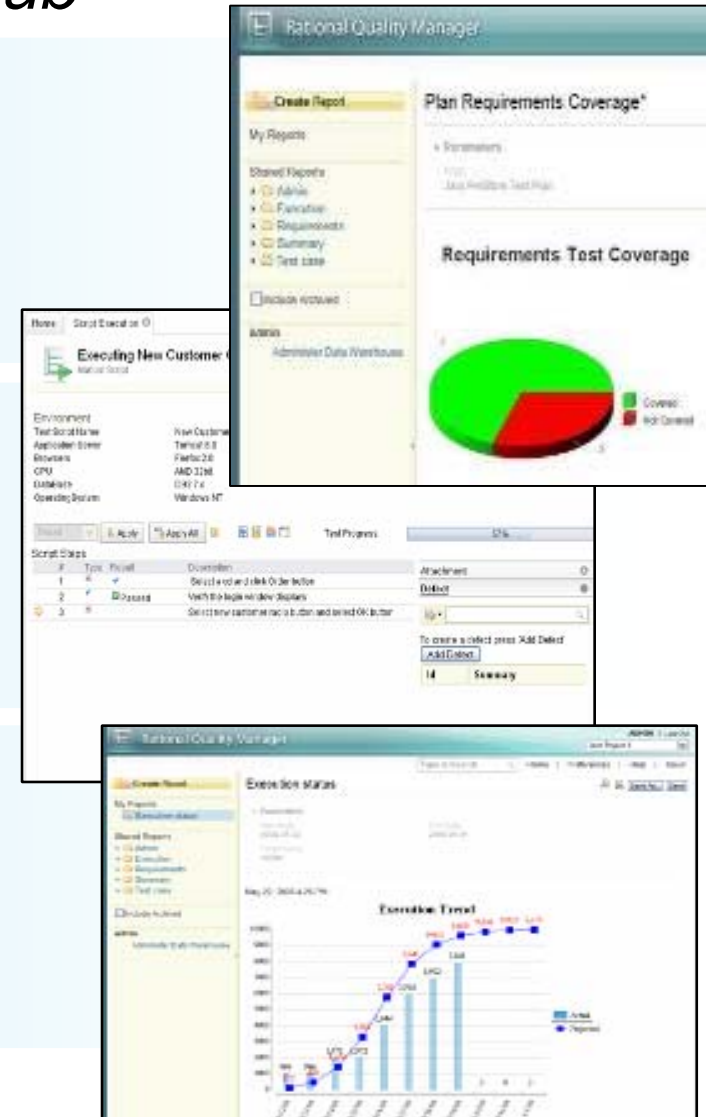
- 在团队中协调测试计划
- 可实施的过程 workflow
 - 上游和下游质量

通过自动化改进运营效率

- 提高实验室效率和资产利用率
 - 测试配置优化
- 环境和生命周期覆盖

通过快速的报告作出自信的决定

- 动态分析和流程改进
- 主动的风险预防
- 更高的可预测性



软件质量的仪表盘 被定制的信息实时刷新

The screenshot displays the Rational Quality Manager interface for a user named Marissa. The dashboard is titled "Marissa's Dashboard" and includes several key components:

- Navigation:** Home, Create Request, View Requests, and a search bar.
- Recently modified (7) Owned By:** A pie chart showing ownership distribution among Stacey, Marissa, Scott, and Unassigned.
- Environment Requests:** A table listing requests with columns for ID, Summary, Created, Respond By, Assigned To, and Priority. One request is visible: ID 1, Summary "Eway Catalog Upgrade", Created 4 minutes ago, Responded by May 23, 2008.
- My Tasks:** A table listing tasks with columns for Id, Summary, and Artifact. Two tasks are visible, both related to "Provide the Test Team Section for Release 938".
- Artifact List:** A table listing artifacts with columns for Id, Name, State, and Modified. Two artifacts are visible: "Java PetStore Test Plan" (Draft, Modified Yesterday at 8:56:23 PM) and "Release 938" (In Progress, Modified 28 minutes ago).
- Live Execution Status:** A bar chart titled "Execution status p" showing the status of "Java PetStore Test Plan" with values 155, 75, 9, and 40.

At the bottom of the dashboard, it says "IBM" on the left, "© IBM Corporation 1996, 2007" in the center, and "Powered by jazz" on the right.

使用者可自己定义版面和内容



根据管理流程建立测试计划

迭代的测试管理

The screenshot displays the Rational Quality Manager interface for a test plan titled "Java PetStore Test Plan". The interface includes a top navigation bar with "ADMIN | Log Out" and "Jazz Project 1". A search bar and navigation links ("Home", "Preferences", "Help", "About") are also present. The main content area shows the test plan details, including the originator (ADMIN), state (Draft), and a description: "Provide full test coverage for Java PetStore Test Plan". The "Owned By" field is set to "Mary (Manager)" and the "Status" is "New". A "Table Of Contents" sidebar on the left lists various sections like "Business Objectives", "Test Objectives", "Review and Approvals", etc. Three blue callout boxes with arrows point to specific elements: "追踪测试计划历史" (Track test plan history) points to the "View Snapshots" link; "指定属主" (Specify owner) points to the "Owned By" dropdown; and "使用多用户定义section, 构建测试计划" (Use multi-user defined sections to build test plan) points to the "Table Of Contents" sidebar.

追踪测试计划历史

指定属主

使用多用户定义section, 构建测试计划



为测试关联需求

Test Cases ? ✕ 🟢

Owned By: Status: 📄 Authoring 1

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:

Items per page Previous | 1 - 4 of 4 | Next 📁 + 📄 📄

	Id	Name	Owner	State	Theme	Category	Function	Weight	Modified
<input type="checkbox"/>	6	Reporting Dashboard Test 6	Donald (Developer)	Draft	Performance	Reporting	Dashboard	70	Yesterday at 7:24:28 PM
<input type="checkbox"/>	7	Web Services Login Test 7	Laura (Lab Manager)	Draft	Usability	Web Services	Login	60	Yesterday at 7:24:30 PM
<input type="checkbox"/>	8	Rich Client UI Execution Test 8	ADMIN	Draft	Functionality	Rich Client UI	Execution	55	Yesterday at 7:24:32 PM
<input type="checkbox"/>	10	Java PetStore Shopping Test	Unassigned	Draft	Functionality	Web UI	Execution	5	1 minute ago

Previous | 1 - 4 of 4 | Next



将测试任务和测试计划关联

✕

Authoring 1

Summary: →

Overview
Links
Approvals
History

Loaded: Jul 1, 2008 10:25 AM

Details

Type:	<input type="text" value="Authoring"/> ▼	Owned By:	<input type="text" value="Mary (Manager)"/> ▼
Creation Date:	Jun 28, 2008 5:53 PM	Estimate:	<input type="text"/> Correction: <input type="text"/>
Created By:	ADMIN	Due Date:	<input type="text" value="Jun 29, 2008"/>
Project Area:	Samples		
Team Area:	Lab Managers		
Filed Against:	<input type="text" value="Samples"/> ▼		
Tags:	<input style="width: 100%;" type="text"/>		

Description [Edit](#)

Author Test Case Java PetStore Test Plan

Discussion (1 comment) [Add Comment](#)

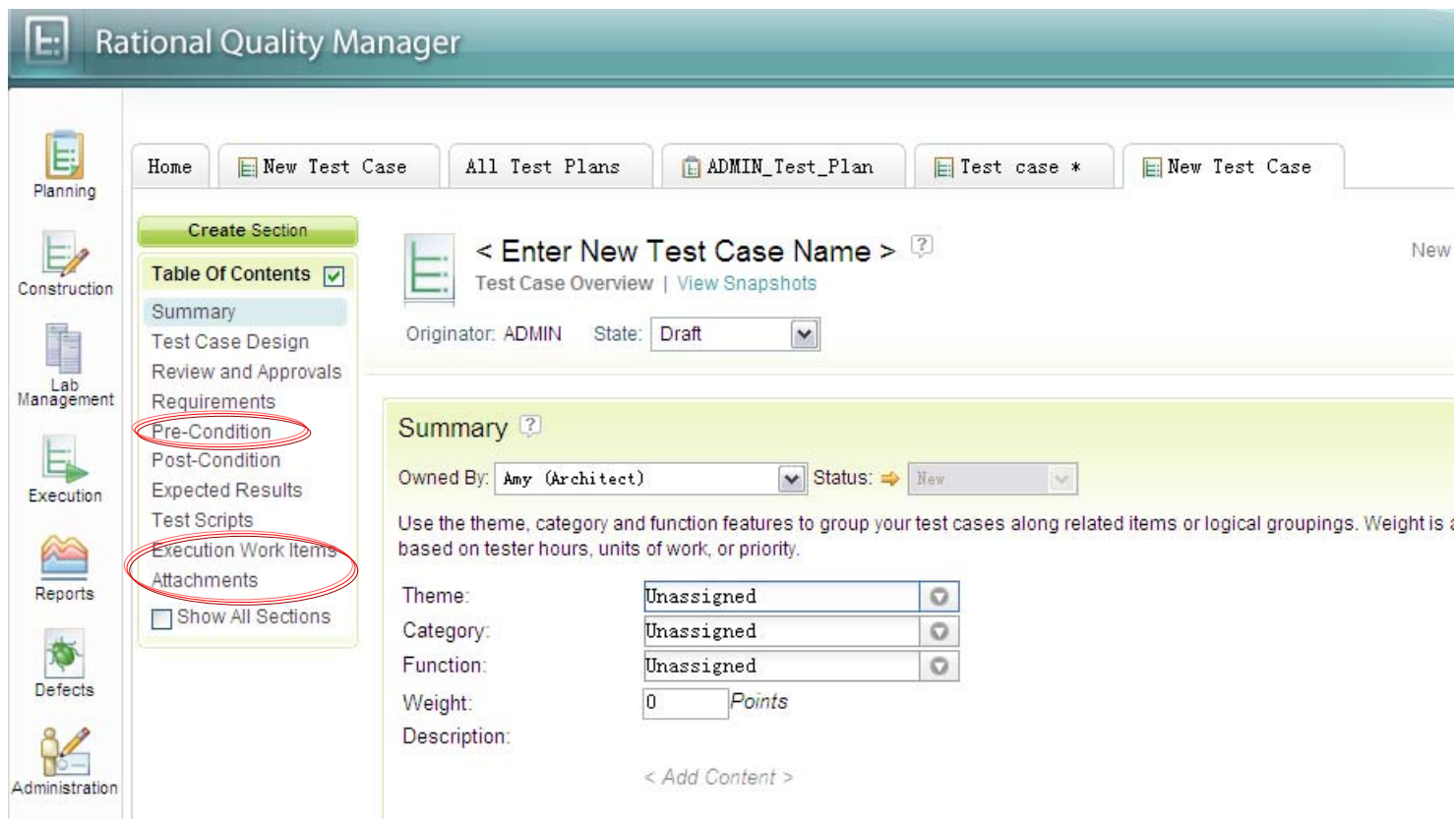
[Collapse All](#) | [Expand All](#)

1. [Amy \(Architect\)](#) Jun 30, 2008 1:35 PM
Mary -- just added a new requirement.

[Add Comment](#)



测试用例



Rational Quality Manager

Home | New Test Case | All Test Plans | ADMIN_Test_Plan | Test case * | New Test Case

Create Section

- Table Of Contents
- Summary
- Test Case Design
- Review and Approvals
- Requirements
- Pre-Condition**
- Post-Condition
- Expected Results
- Test Scripts
- Execution Work Items**
- Attachments**
- Show All Sections

< Enter New Test Case Name > ? New

Test Case Overview | View Snapshots

Originator: ADMIN State: Draft

Summary ?

Owned By: Any (Architect) Status: New

Use the theme, category and function features to group your test cases along related items or logical groupings. Weight is based on tester hours, units of work, or priority.

Theme: Unassigned

Category: Unassigned

Function: Unassigned

Weight: 0 Points

Description:

< Add Content >

过程审核

对测试内容进行审核和审批

- 管理流程review、refine 和 sign-off所有和质量相关的工件
 - ▶ 需求、测试计划、测试用例、完成标准等
- 维护版本历史，追踪质量的演进
- 重用历史版本

工件的审核和审批

Review and Approvals ?

Work Item: [Create](#)

List the people who will be reviewers and approvers of this content and define your approval process.

View: All

Type Filter Text

Show All Items per page Previous | 1 - 2 of 2 | Next

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

工件版本

Java PetStore Test Plan ?

Test Plan Overview | View Snapshots

Saved successfully at: 20:47:42 [Create New Snapshot](#)

Type Filter Text

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

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

Previous | 1 - 1 of 1 | Next

规划测试执行

The screenshot displays the Rational Quality Manager web interface. The main content area shows the configuration for a test plan named 'Classics Admin'. The 'Environments' section is expanded, showing a table of supported platforms and configurations.

Classics Admin
 Test Plan Overview | View Snapshots
 Originator: Mary (Manager) State: Draft

this test plan covers the scope and approach for testing the administrative functions of Classics CD

Environments

Owned By: Unassigned Status: New

Lists the various environments supported and tested by this test plan. You can add various platforms such as browsers, databases, operating systems and other items. This list is then used to generate test configurations.

Type	Attributes
Application Server	Tomcat 6.0, WAS 6.1, WAS 7.0,
Browsers	Firefox 2.0, Internet Explorer 6, Internet Explorer 7,
CPU	AMD 32bit, System i, System z,
DataBase	DB2, DB2 7.x, DB2 8.x,
OperatingSystem	Vista, Windows NT, Windows Server 2003,

- 指定测试用例的执行环境，并确定测试配置
- 测试配置常用来帮助搜索是否有可用于测试的机器

查找可用的测试资产并部署

Rational Quality Manager

Home | All Test Plans | All Requests | View Request

Searching for machines to fulfill request...

Refresh

Configuration

Enter a label for the Lab Resource Description

Processor Type: AMD 32bit | Installed Software: Firefox 2.0 | Installed Software: DB2 7.x | Installed Software: Tomcat 6.0

Operating System: Windows NT

Edit Find Machines

Type Filter Text

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

Machine
<input checked="" type="checkbox"/> demosys

Previous | 1 - 1 of 1 | Next

Reserve

Automation

Automations

Available Jobs to Run

Previous | 1 - 3 of 3 | Next | Type Filter Text

Name	Provider
<input type="checkbox"/> Check Dir	BuildForge RTLM Integration Adaptor
<input checked="" type="checkbox"/> Test Project	BuildForge RTLM Integration Adaptor
<input type="checkbox"/> RTLMTestProject	BuildForge RTLM Integration Adaptor

Available Machines for Automations

Previous | 1 - 5 of 5 | Next | Type Filter Text

Name
<input type="checkbox"/> RTLM IBM-C7E48D03EB7
<input checked="" type="checkbox"/> qwin318
<input type="checkbox"/> qmw165
<input type="checkbox"/> qmw150
<input type="checkbox"/> RTLM TrainWreck

Running Automations

Previous | 1 - 2 of 2 | Next | Type Filter Text

Job Name	Start Time	End Time
Test Project	12/31/69 7:00 PM	4/7/08 6:28 PM
RTLMTestProject	4/7/08 4:53 PM	4/7/08 4:53 PM



执行测试并提交缺陷

Executing Security Editors Test 8 Cancel

Manual Script

Environment

Test Script Name: Security Editors Test 8 Script #1
 Browsers: Firefox
 CPU: x86
 OperatingSystem: Windows XP

Failed Apply Apply All Test Progress 100%

Script Steps

#	Type	Result	Description
1		Passed	Perform Step No 1
2		Passed	Perform Step No 2
3		Passed	Perform Step No 3
4		Passed	Perform Step No 4
5		Failed	Perform Step No 5

Defect 18 Save

Summary: * Wrong credit card format New Unresolved

Overview Links Approvals History Loaded: Jun 13, 2008 11:07 AM

Details

Type:	Defect	Owned By:	Donald (Developer)
Severity:	Blocker	Priority:	High
Found In:	Unassigned	Planned For:	Unassigned
Creation Date:	Jun 13, 2008 11:07 AM	Estimate:	
Created By:	ADMIN	Due Date:	Jan 19, 2008
Project Area:	Samples		
Team Area:	Lab Managers		
Filed Against:	Samples		
Tags:	credit, card, java, petstore, shopping, cart		

Description Edit

Entered 16-digit card number in credit card field. Format was not accepted.

Discussion Add Comment

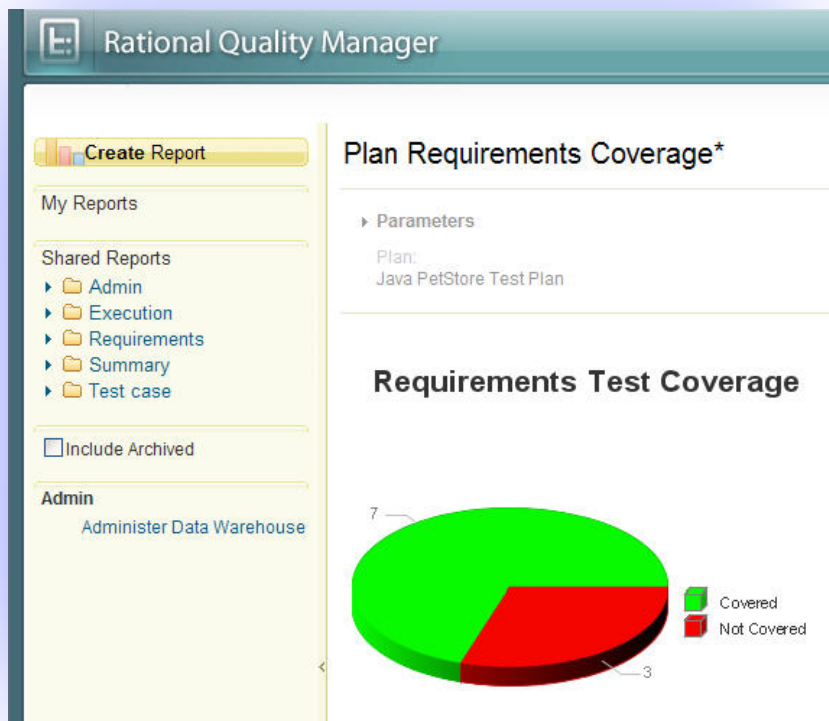
No Comments.

Add Comment



报表

来自多个角度的项目状态的静态视图



定制的报表能够共享和了解重要项目信息

[回到前面](#)



在 RQM 中查看需求

The screenshot displays the Rational Quality Manager (RQM) web interface. The top navigation bar shows the user is logged in as 'Amy, Test Architect' and provides options for 'Log Out', 'Type to Search', 'Preferences', and 'Help'. The main content area is titled 'All Requirements' and features a 'Group by' dropdown set to 'Ungrouped' and a 'Type Filter Text' input field. Below this, there is a table listing requirements with columns for Status, ID, Tag, Name, Description, and Owner. The table shows 7 items, with 10 items per page displayed. Navigation links for 'Previous' and 'Next' are visible, along with a page indicator '1 - 10 of 17'.

Status	ID	Tag	Name	Description	Owner
<input type="checkbox"/>	1		Add New Customer	Add New Customer	Carmen, Test Lead
<input type="checkbox"/>	2		Add New Products	Add New Products	Tony, Tester
<input type="checkbox"/>	3		Administer Orders	Administer Orders	Carmen, Test Lead
<input type="checkbox"/>	4		Existing Customer Order	Existing Customer Order	Unassigned
<input type="checkbox"/>	5		Login	User shall have the ability to log into the application or proceed as a guest	Unassigned
<input type="checkbox"/>	6		Logout	Logout of the system.	Unassigned
<input type="checkbox"/>	7		New Customer Order	New Customer Order.	Unassigned

在 DOORS 中检查 QA 状态

'Test Requirements' current 0.0 in /DOORS-RQM Demonstration (Formal module) - DOORS

File Edit View Insert Link Analysis Table Tools Discussions User Help

Save (Ctrl+S) results All levels

Object	Verdict	Test Status	Verdict	Passed	Deferred	Error	Failed	Perm Failed
UR-6	1 User Requirements	Mixed Status	Perm Failed					
UR-8	2 Order processing	Approved	Perm Failed					
UR-4	Customers shall have the ability to update existing orders until orders are ready to ship	Test 16:Perm Failed Test 18:Error	Approved	Perm Failed	Test 18: 2 of 3	Test 16: 1 of 3	Test 18: 1 of 3	Test 16: 1 of 3
UR-3	All customer support representatives shall have the ability to update and cancel existing until orders are ready to ship	Test 17:Passed Test 19:Deferred	Approved	Deferred	Test 17: 3 of 3 Test 19: 2 of 3	Test 18: 1 of 3		
UR-1	All customer support representatives shall have the ability to add new customer records	Test 1:Passed Test 2:Passed	Approved	Passed	Test 1: 3 of 3 Test 2: 3 of 3			
UR-7	3 Security		Not Approved	Failed				
UR-2	Level 3 inventory administrators shall have the ability to add, update and archive products, product attributes	Test 3:Failed Test 27:Passed	Not Approved	Failed	Test 3: 2 of 3 Test 27: 3 of 3		Test 3: 1 of 3	

Save the changes that have been made to this module.



在 DOORS 中检查测试覆盖

'Test Requirements' current 0.0 in /DOORS-RQM Demonstration (Formal module) - DOORS

File Edit View Insert Link Analysis Table Tools Discussions User Help

View Test phase 1 traceability mat All levels

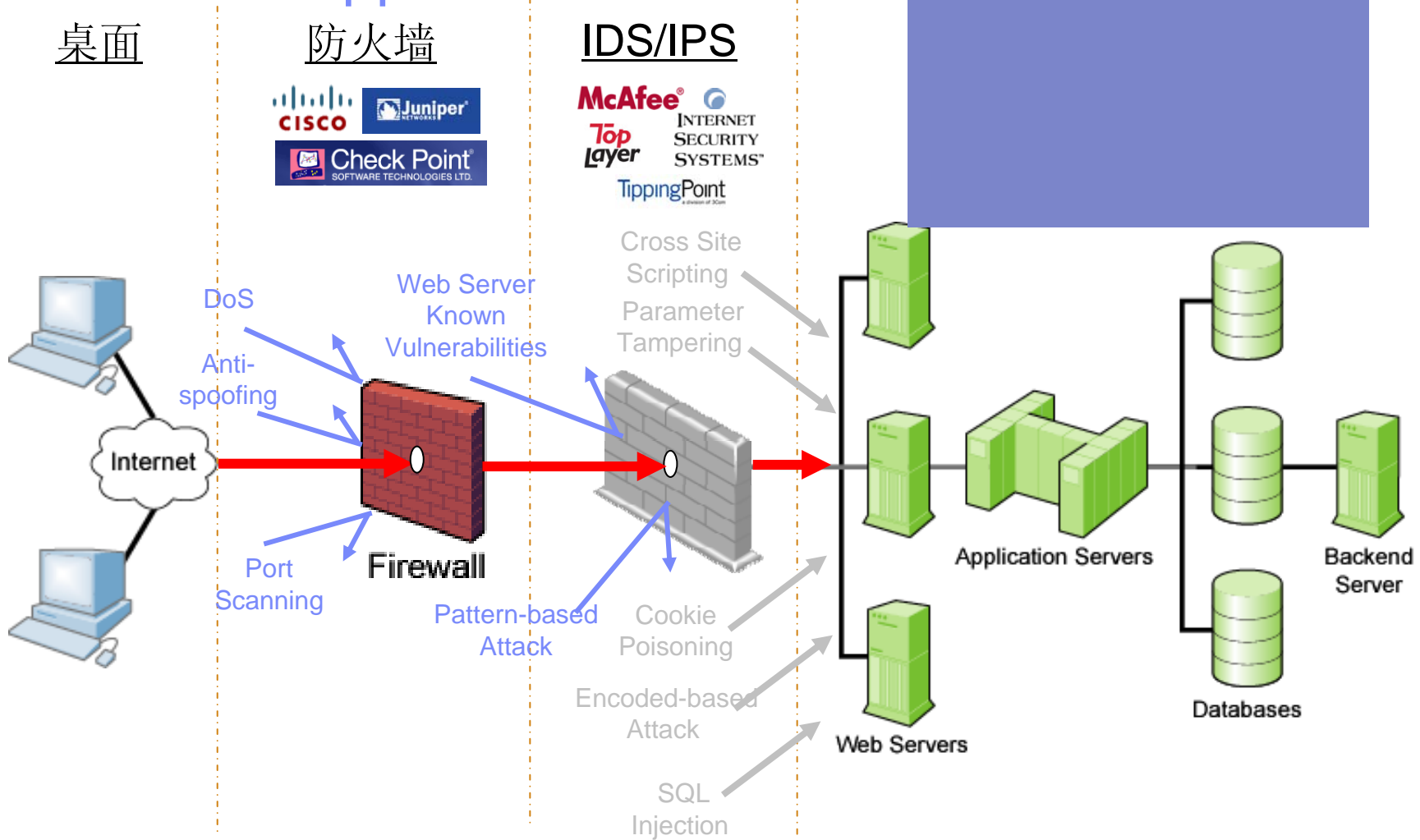
Object Identifier		Test Plan and Test Cases
UR-6	1 User Requirements	
UR-8	2 Order processing	
UR-4	Customers shall have the ability to update existing orders until orders are ready to ship	Test Phase 1 16: Valid customer update test 18: Error condition - customer update after ship
UR-3	All customer support representatives shall have the ability to update and cancel existing until orders are ready to ship	Test Phase 1 17: Valid support update test 19: Error condition - Support update after ship
UR-1	All customer support representatives shall have the ability to add new customer records	Test Phase 1 1: Valid - Add a customer record 2: Customer attempt to add customer record
UR-7	3 Security	
UR-2	Level 3 inventory administrators shall have the ability to add, update and archive products, product attributes	Test Phase 1 3: Test for archiving product attributes 27: Non-functional performance test for archive

Double-click to display the properties of the current object.



IBM Rational AppScan

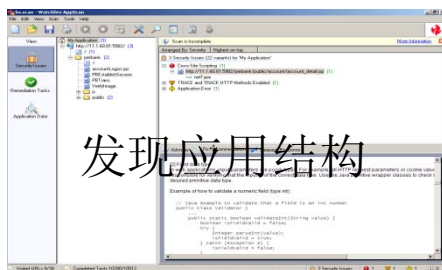
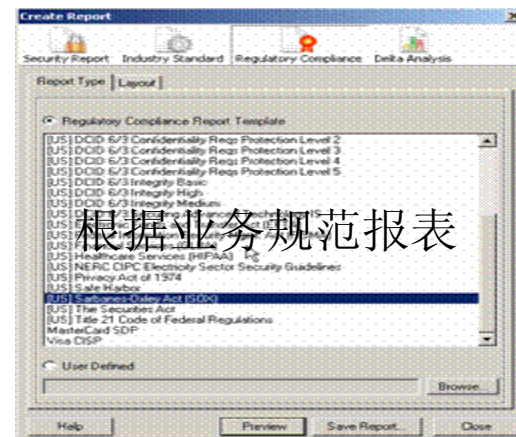
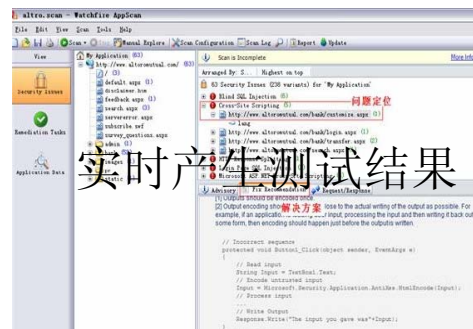
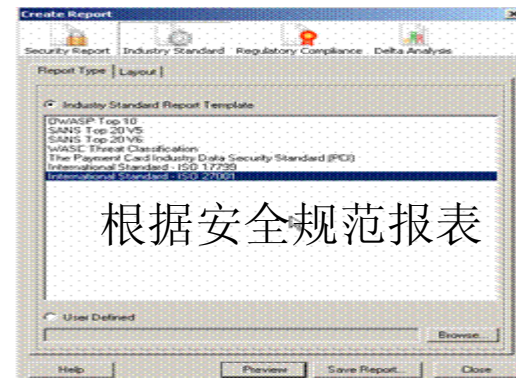
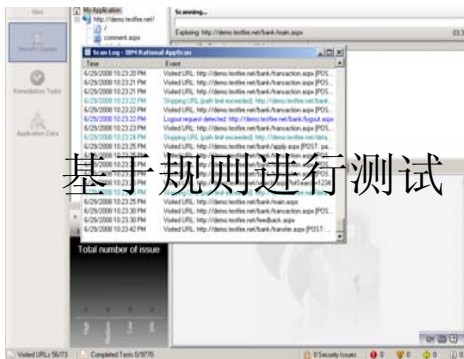
IBM Rational AppScan



WEB 应用

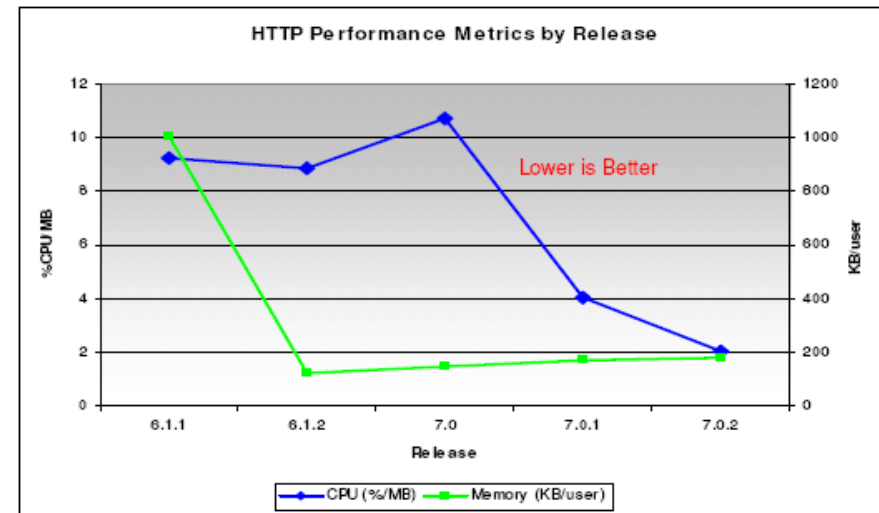
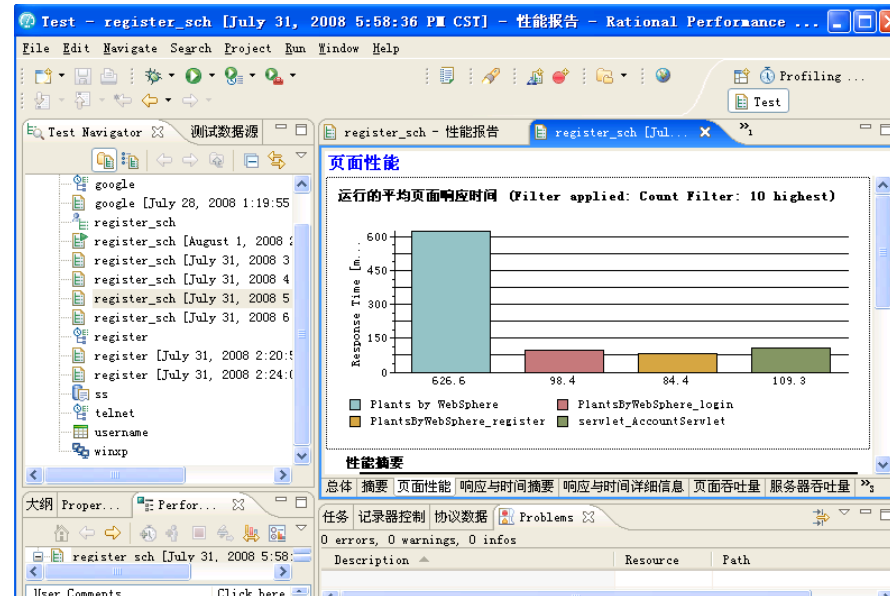


AppScan工作过程



新一代性能测试工具：Rational Performance Tester

- 开放性，降低工具采购成本
 - ▶ 基于Eclipse的性能测试工具
 - ▶ 测试脚本语言采用Java语言
 - ▶ 利用协议SDK扩展自定义协议
- 易用性，加快工具学习速度
 - ▶ 直接支持HTTP/HTTPS、SAP、Siebel、Ctrip、Socket等协议
 - ▶ 单一界面完成测试脚本开发、负载模型定义、性能测试执行以及测试结果分析
 - ▶ TreeView方式直观组织请求序列，无须编程就可丰富脚本基础功能
- 全面性，快速评估性能，定位性能瓶颈
 - ▶ 通过基于Java的定制代码完成脚本高级功能
 - ▶ 响应时间、吞吐量、交易成功率、活动用户数等全面的性能数据
 - ▶ 丰富的资源数据
 - ▶ 详尽的J2EE应用性能分析数据，定位到模块级的性能问题



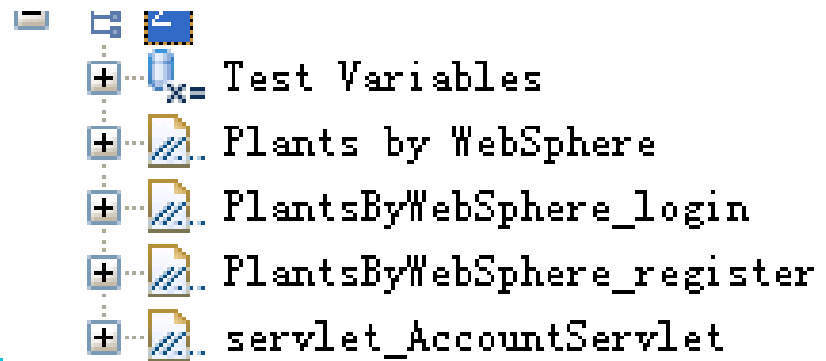
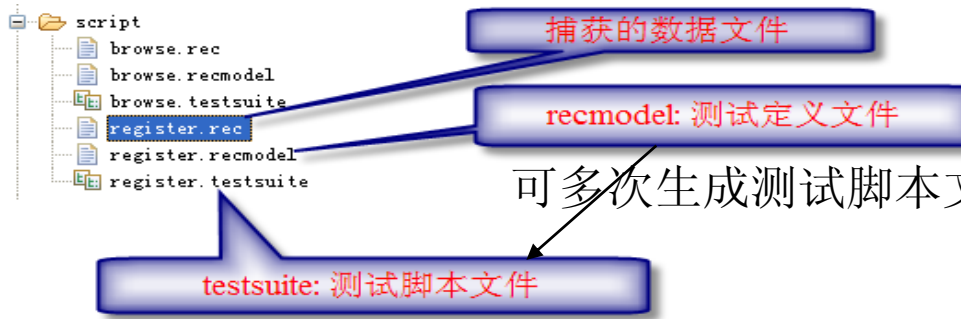
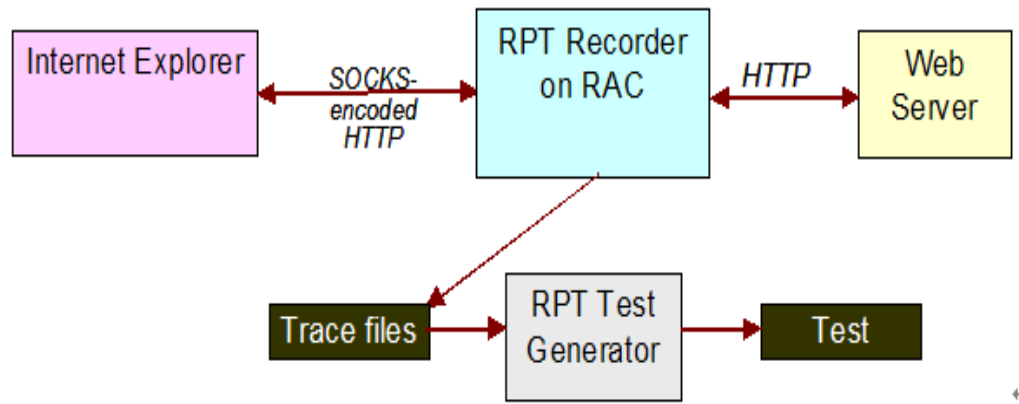
1、创建一个性能测试脚本

捕获用户和服务器的交互来创建测试

创建的测试结果在树视图 (tree view) 中显示为一系列访问过的页面

创建脚本时的关键考虑点

- ▶ 消除编程的需要
- ▶ 不同的用户, 不同的输入数据
- ▶ 关联系统响应数据



2、创建一个性能测试 制定工作负载

- 定义负载模型
 - ▶ 设置资源监控
 - ▶ 设置网络访问速度
 - ▶ 设置IP欺骗
 - ▶ 设置响应时间细分
 - ▶ 设置日志采集级别
 - ▶ 定义虚拟用户
- 实时运行监控

Schedule Element Details

SchSmartLoad

User Load Think Time Resource Monitoring Statistics Test Log >>

	Users	Stage Duration	Change Rate	Settle Time	
	50	10 Minutes	All/1 Minute	30 Seconds	Add...
	100	10 Minutes	One/1 Second	60 Seconds	Edit...
	200	10 Minutes	All/1 Minute	30 Seconds	Remove
	50	10 Minutes	One/1 Second	30 Seconds	Up
					Down

Show Advanced

Time limit for a user to respond to a stop request: Seconds

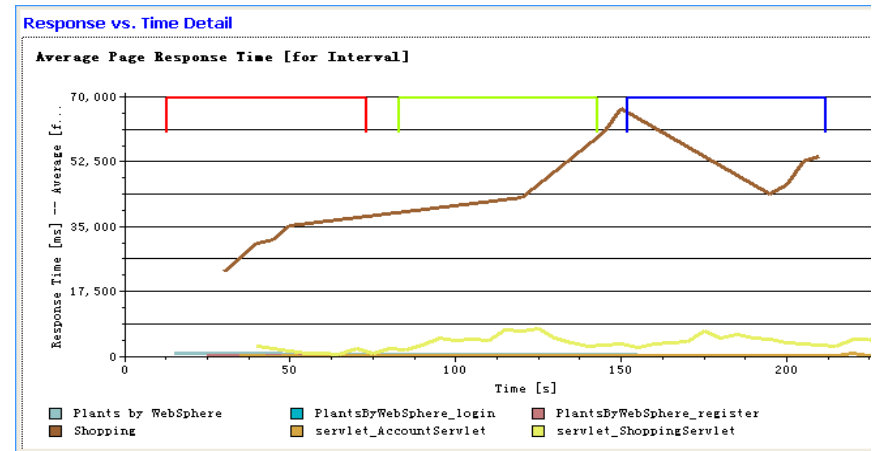
User Load Preview



3、创建一个性能测试 执行和分析

- 中央控制台来执行分布式的测试
 - ▶ 主控制台可以协调和监控所有的活动
 - ▶ 可以用Windows和Linux的代理来生成负载

- 分析时的关键考虑
 - ▶ 找到响应速度慢的页面
 - ▶ 找到资源瓶颈



Performance Summary

	Response Time [ms] -- Minimum [for Run]	Response Time [ms] -- Average [for Run]	Response Time [ms] -- Maximum [for Run]	Response Time [ms] -- Standard Deviation [for Run]	Response Time [ms] -- 85th Percentile	Response Time [ms] -- 90th Percentile	Response Time [ms] -- 95th Percentile	Attempts -- Rate [per second] [for Run]
Plants by WebSphere	360	609.7	1,500	442.8	579	579	579	0.03
PlantsByWebSphere_login	16	62.5	172	57.5	79	79	79	0.03
PlantsByWebSphere_register	31	127.5	266	95.7	157	157	157	0.03
Shopping	23,000	46,030.6	66,906	12,045.9	33,407	33,407	33,407	0.1
servlet_accountServlet	0	132.8	1,234	288.4	79	251	735	0.34
servlet_ShoppingServlet	0	3,267.9	18,110	2,443.9	4,938	5,595	6,969	1.62

Page Performance > Shopping > Response Time Breakdown Statistics

localhost:9080/PlantsByWebSphere/servlet/ShoppingServlet?action=shopping&category=0

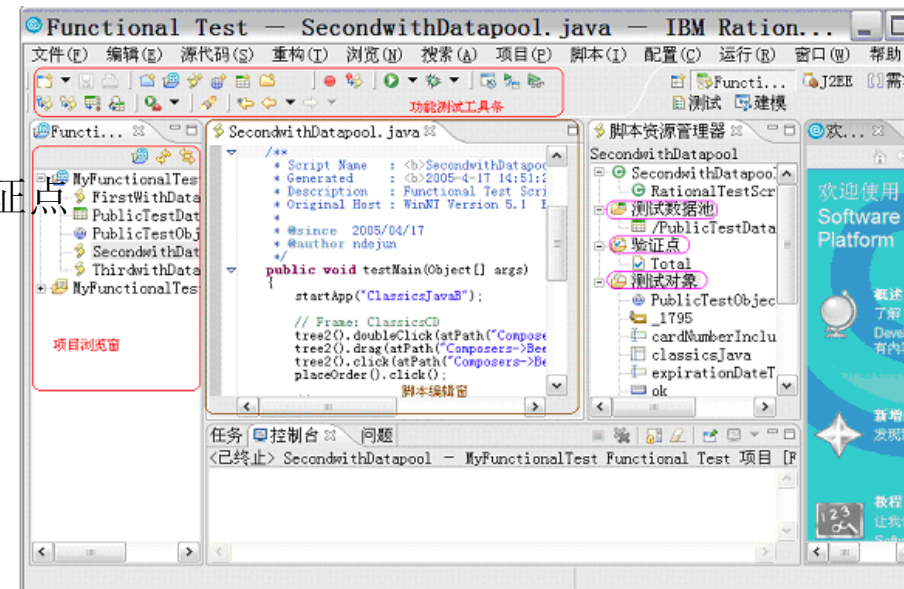
Component	Base Time (seconds)	Average Bas...	Cumulative ...	Calls
winxp	615.028	25.895	1,321.120	4713
J2EE/WebSphere/6.0.0.1/winxpNode01Cell/winxpNode01/server1	198.532	5.070	904.624	4853
JDBC	0.677	0.051	0.677	40
Entity EJB	109.525	0.370	118.652	4499
Session EJB	86.463	4.551	586.299	76
com.ibm.websphere.samples.plantsbywebphere:ejb	86.463	4.551	586.299	76
EJSRemoteStatelessCatalogHome_751217f6	0.254	0.013	0.254	19
_Catalog_Stub	0.784	0.041	196.411	19
EJSRemoteStatelessCatalog_751217f6	1.230	0.085	195.627	19
CatalogBean	84.195	4.431	194.007	19
* getItemsByCategory(int)	84.195	4.431	194.007	19
JSP (Session EJB) com.ibm.websphere.samples.pla	0.464	0.024	0.464	19
Servlet	1.403	0.074	198.532	19
* getItemsByCategory(int)	416.496	20.825	416.496	60
IBM Ratio: Sphere/6.0.0.1/winxpNode01Cell/winxpNode01/server1	208.248	10.412	208.248	20
text/html;charset=iso-8859-1	0.016	0.001	0.016	20
Delivery Time	208.232	10.412	208.232	20
Response time				

回到前面

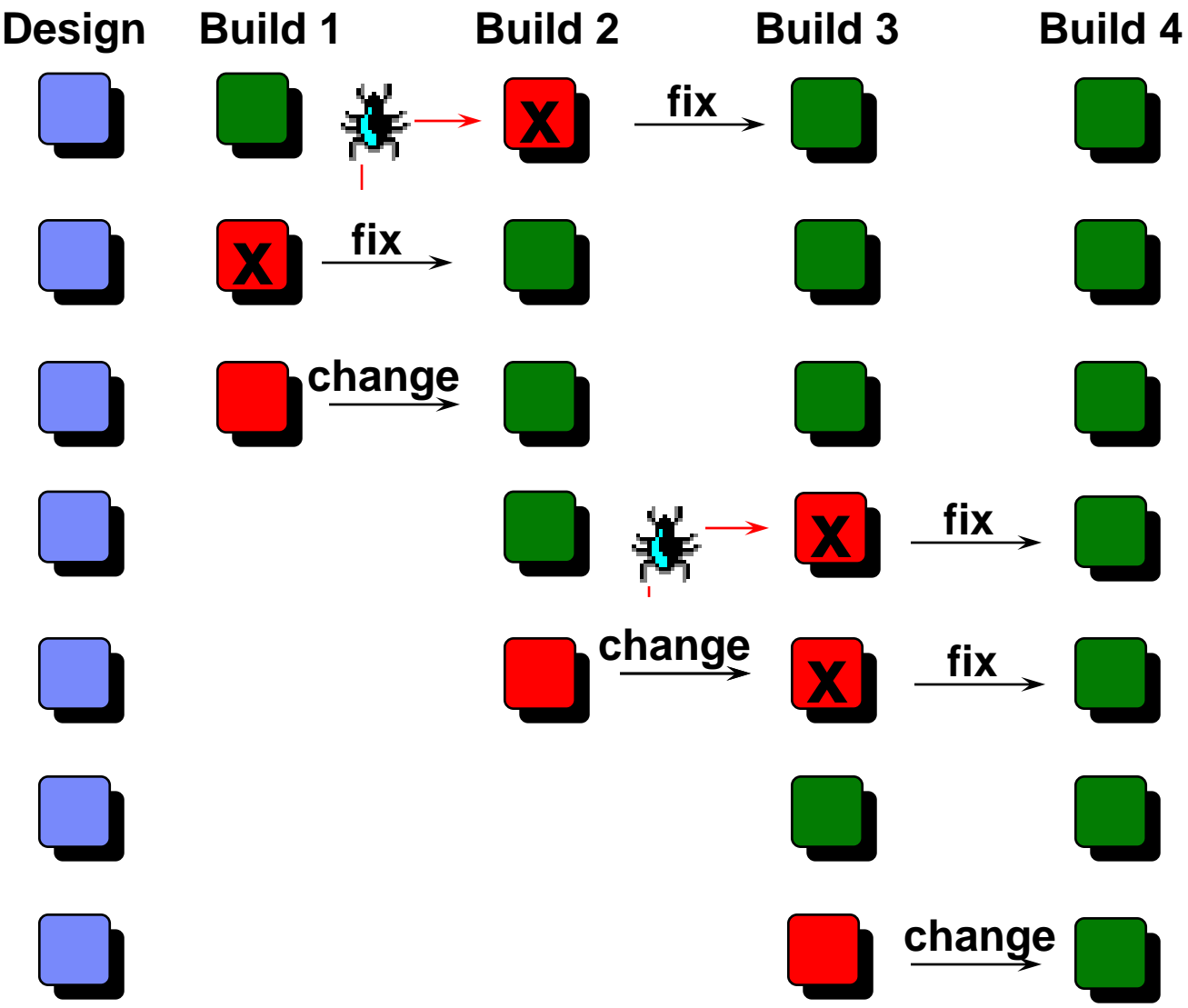


用 IBM Rational Functional Tester 进行功能测试

- 测试脚本开发的两种语言选择
 - ▶ 基于Eclipse 3的Java编辑器
 - ▶ 基于VS.NET的VB.NET编辑器
- 广泛的技术支持
 - ▶ 内置对Java, Web,SAP和 VS.NET Winform应用的支持
 - ▶ 基于3270/5250终端应用的支持
- 自动数据关联和数据驱动测试
- ScriptAssure
 - ▶ 增强测试脚本的灵活性
- 纯Java and VB.NET编辑器和调试器
 - ▶ 工业级的测试脚本开发环境
- 先进的对象图维护能力
- 使用正则表达式和或数据驱动方法建立动态验证点
- 提供针对SAP应用的解决方案
- 支持Linux环境下的测试脚本的编辑和回放
- 可和版本控制工具相结合
- 基于Eclipse和VS.NET的shell
 - ▶ 紧密的集成
- 可和IBM Rational测试管理工具集成



在迭代化开发中的自动化测试

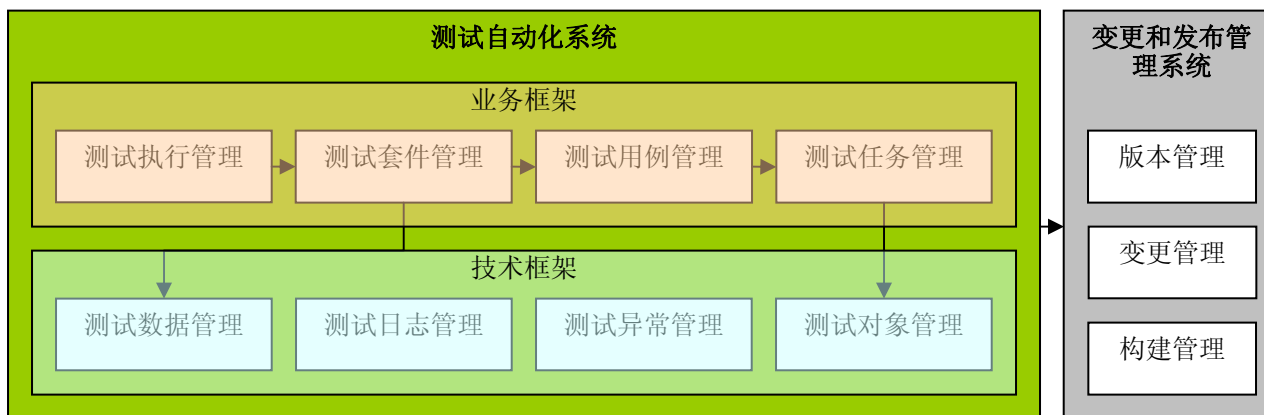


Results		
	Pass	Fail
期望	7	0
实际	7	0



自动化测试关键点

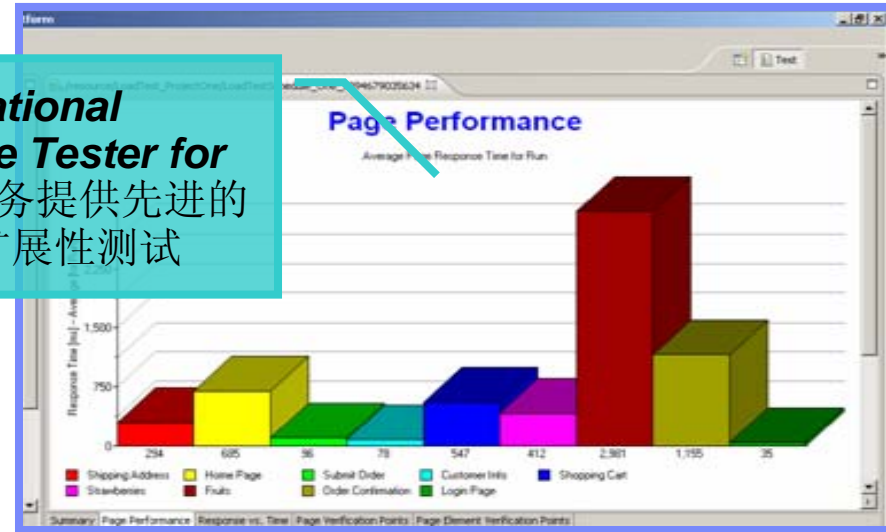
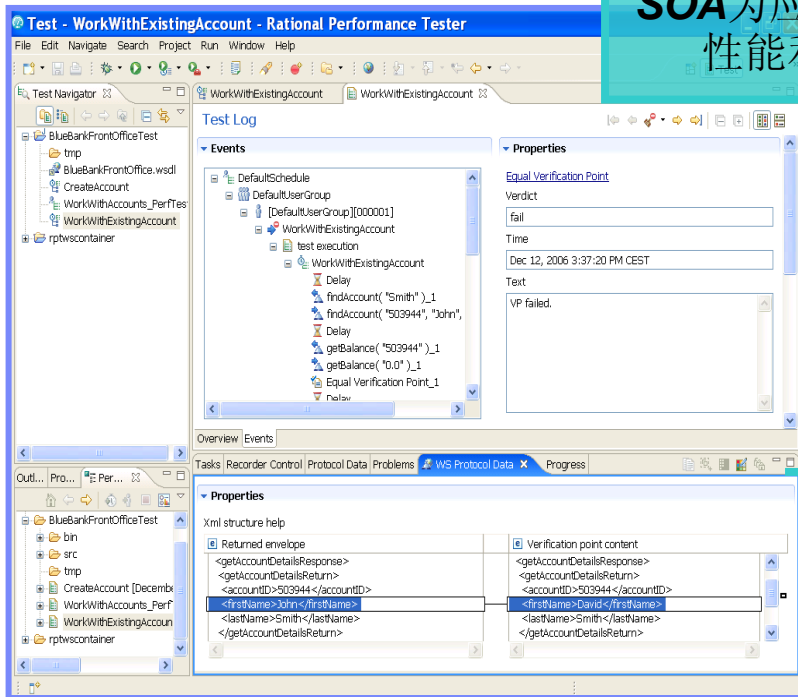
- 自动化工作，减少工作量
- 自动化回归，减少重复工作
- 自动化执行，保证结果准确
- 面向业务进行自动化测试



SOA测试

针对SOA应用， BPEL-WS， Web Seervice， Service组合进行系统功能测试性能测试

IBM Rational Performance Tester for SOA为应用服务提供先进的性能和可扩展性测试



Rational Tester for SOA Quality可自动测试复合应用程序和服务



议程

- IBM Rational的质量理念
- IBM Rational新一代质量平台
- 使用**IBM Rational**构建质量中心
- IBM Rational整体产品简介

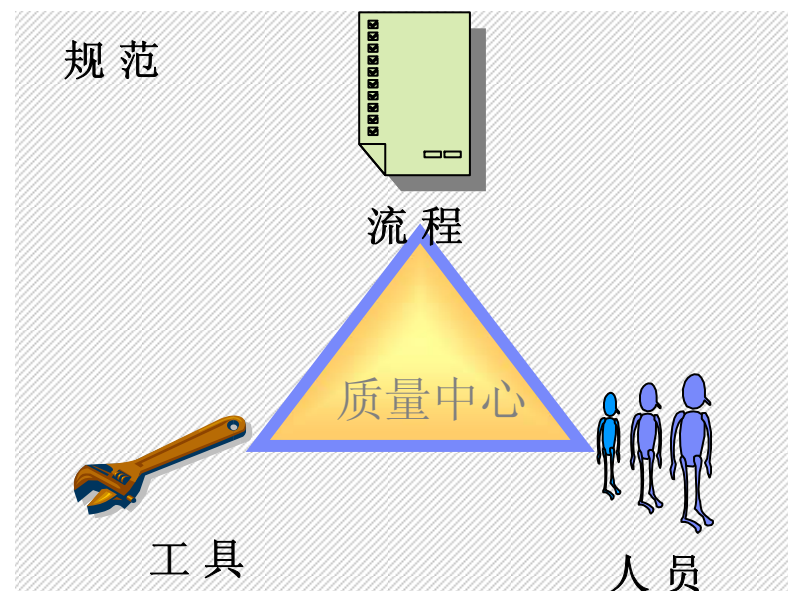


保证业务质量



构建高效的质量汇总新

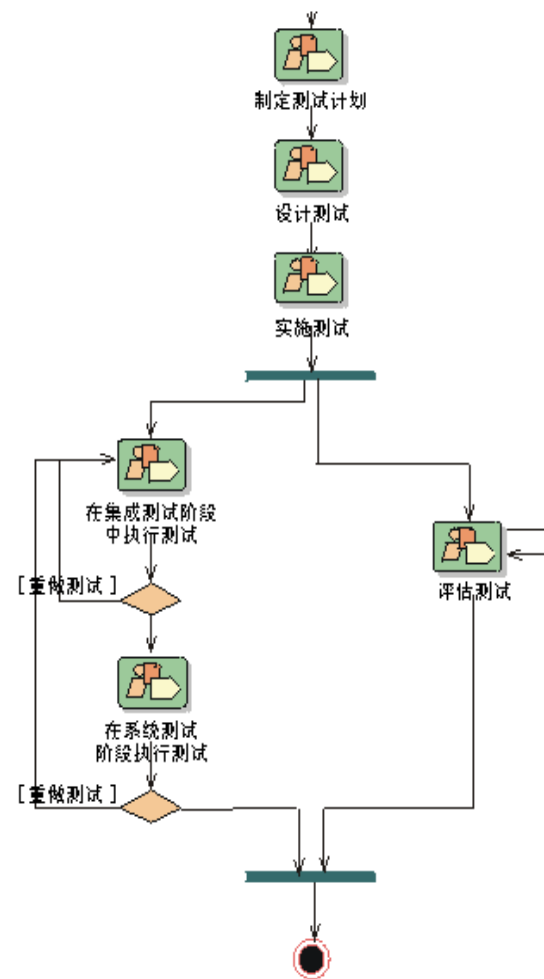
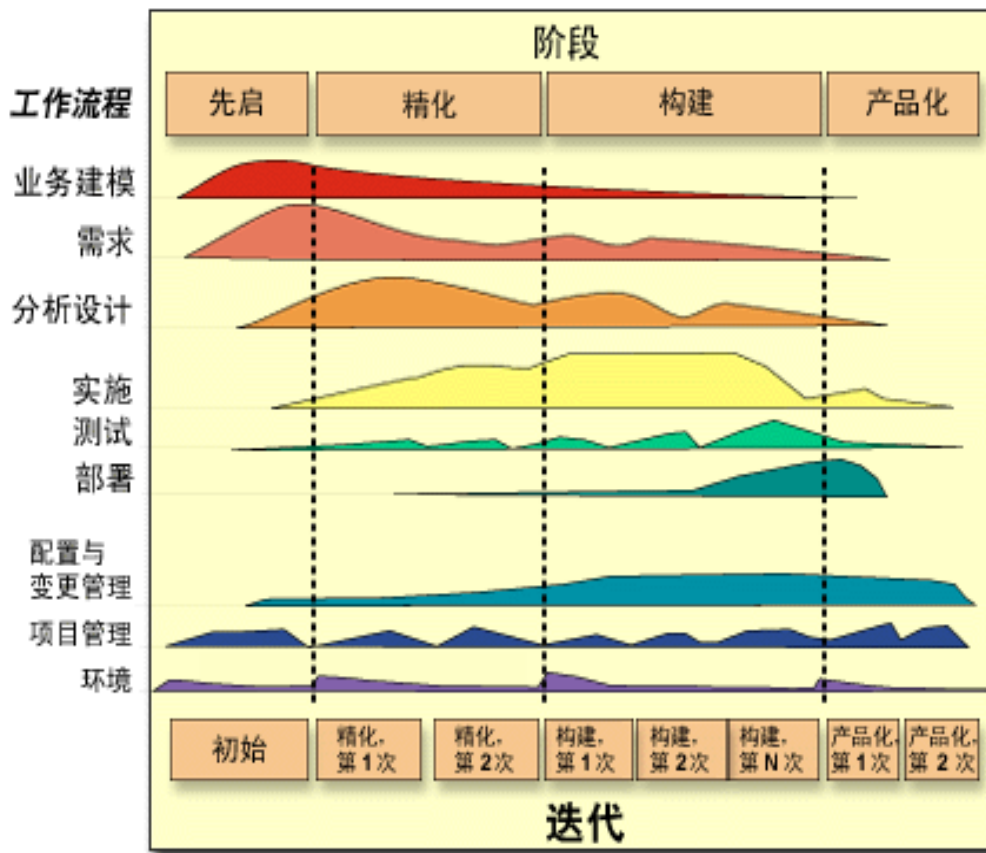
- 选择先进的方法论构筑指导流程
- 从多角度考虑来组建测试团队
- 选择强大的技术平台搭建环境
- 制订标准和规范，稳步提高质量



选择先进的方法论构筑指导流程

- Rational Unified Process为全面质量管理保驾护航

工件 示例 角色 导航图 始点图

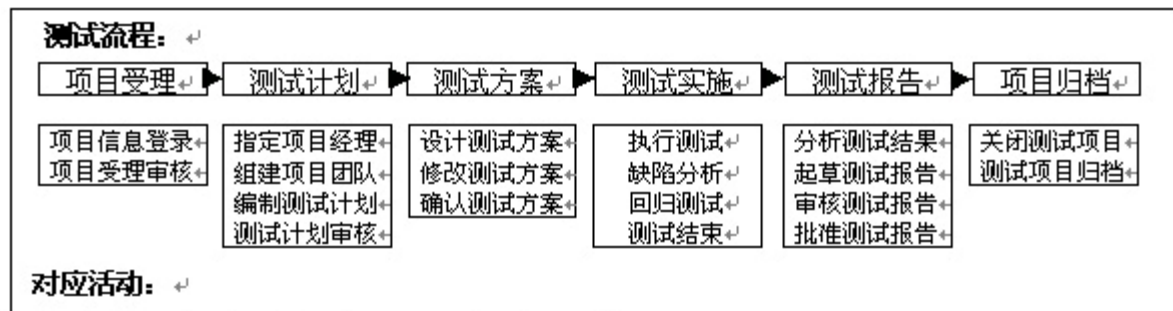
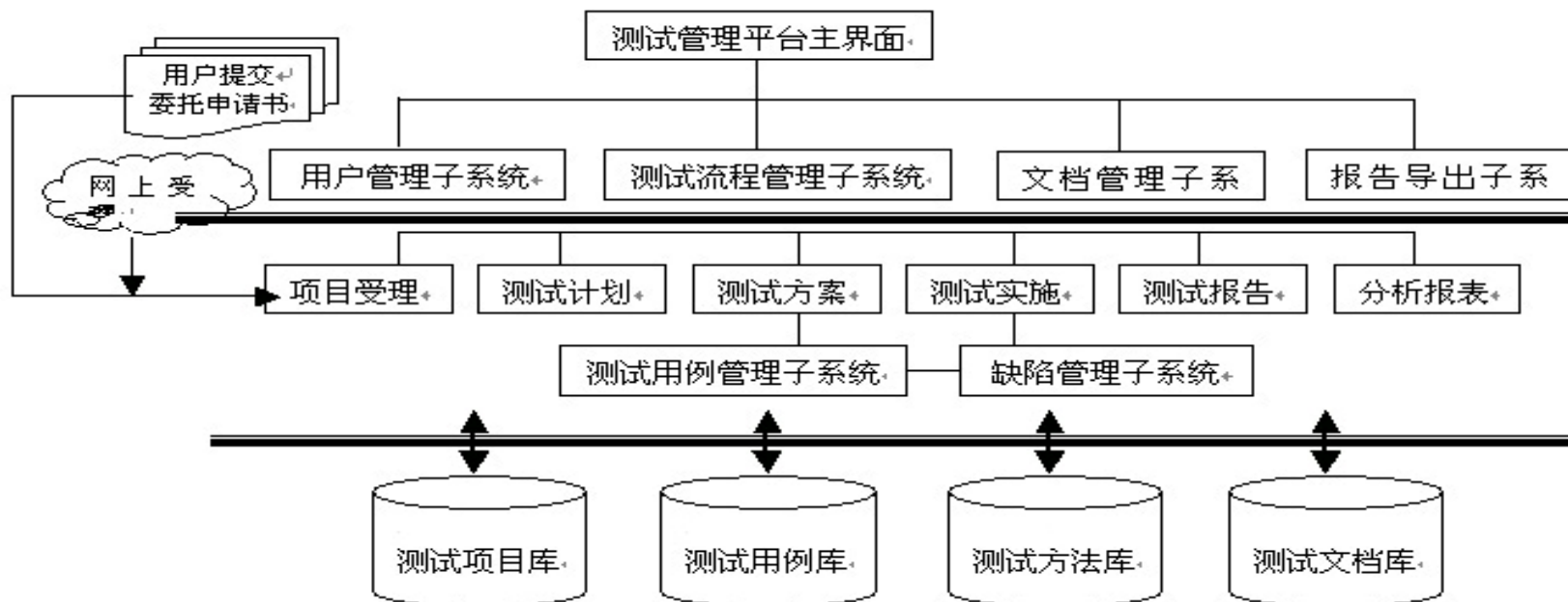


从多角度考虑组建测试团队

- 实施步骤一：确定测试团队在组织中的定位
- 实施步骤二：确定测试团队的规模
- 实施步骤三：确定组织中需要的测试类型
- 实施步骤四：确定组织中需要的测试阶段
- 实施步骤五：建立测试团队内部组织架构
- 实施步骤六：确定测试团队人员职责



建立适合组织中的自动化流程平台



式样

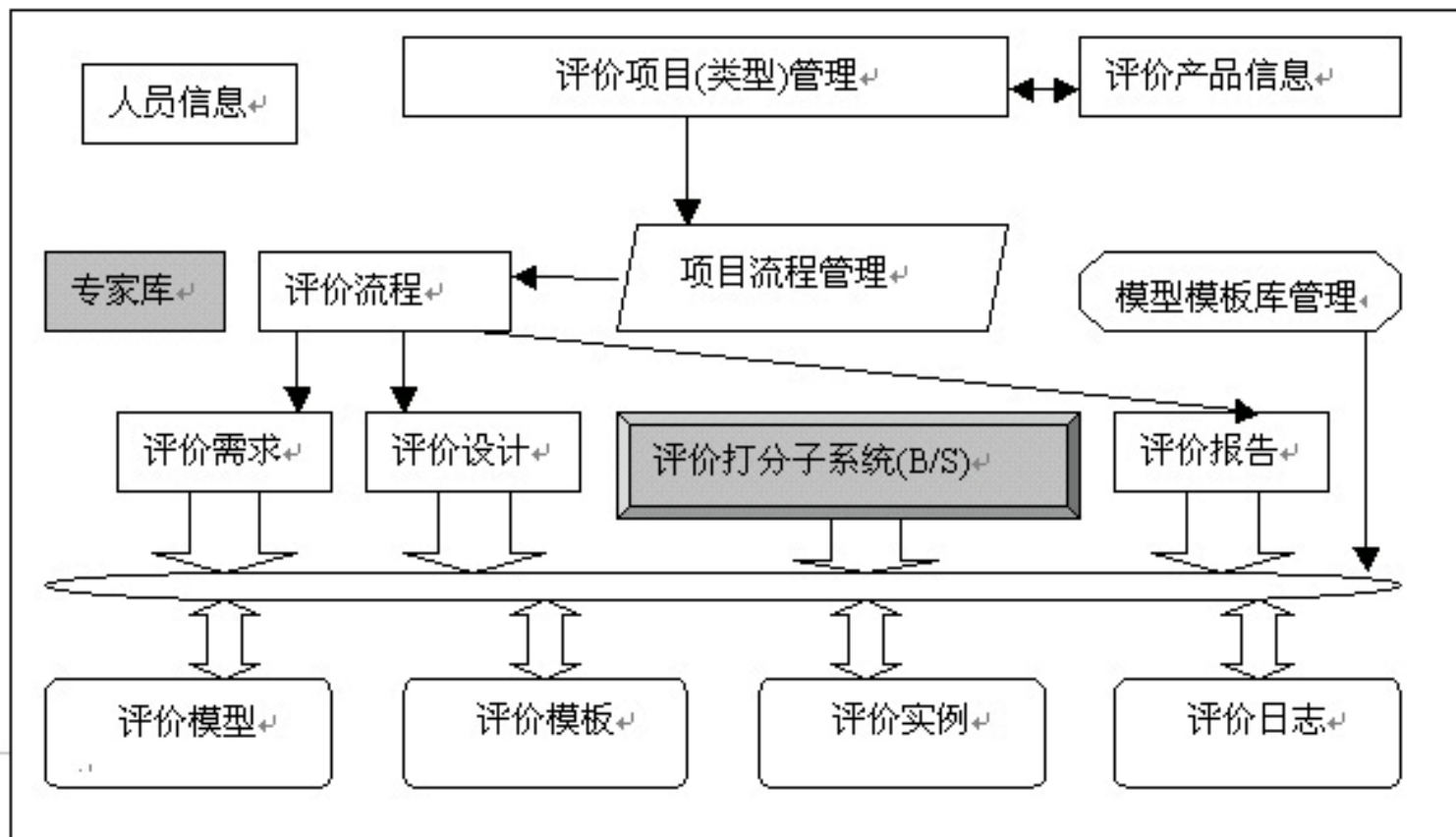


建立有效的评估

式样



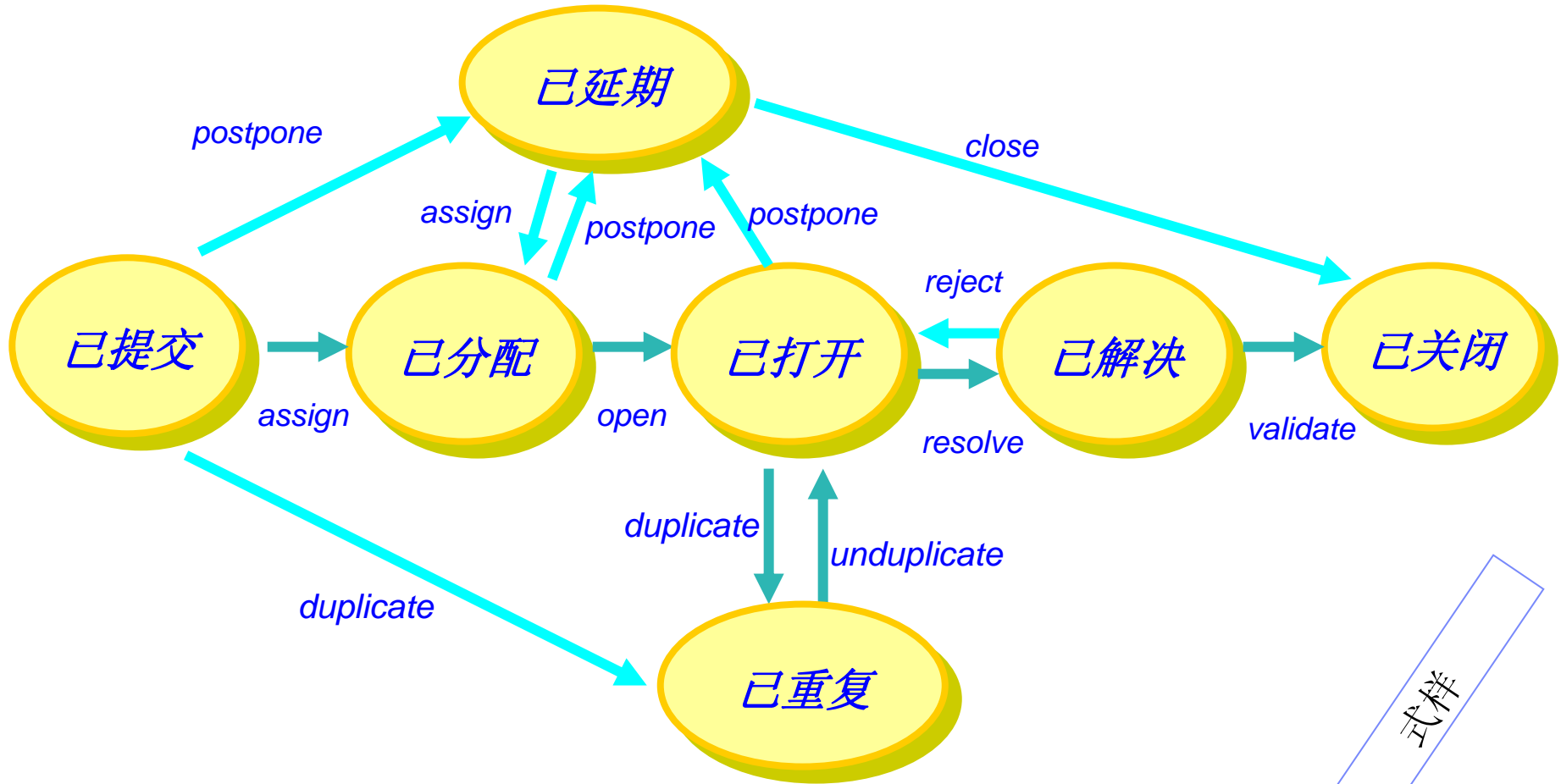
建立适合组织中的自动化流程平台



式样



后续缺陷处理和维护



式样



回顾：管理质量架构



议程

- IBM Rational的质量理念
- IBM Rational新一代质量平台
- 使用IBM Rational构建质量中心
- **IBM Rational整体产品简介**

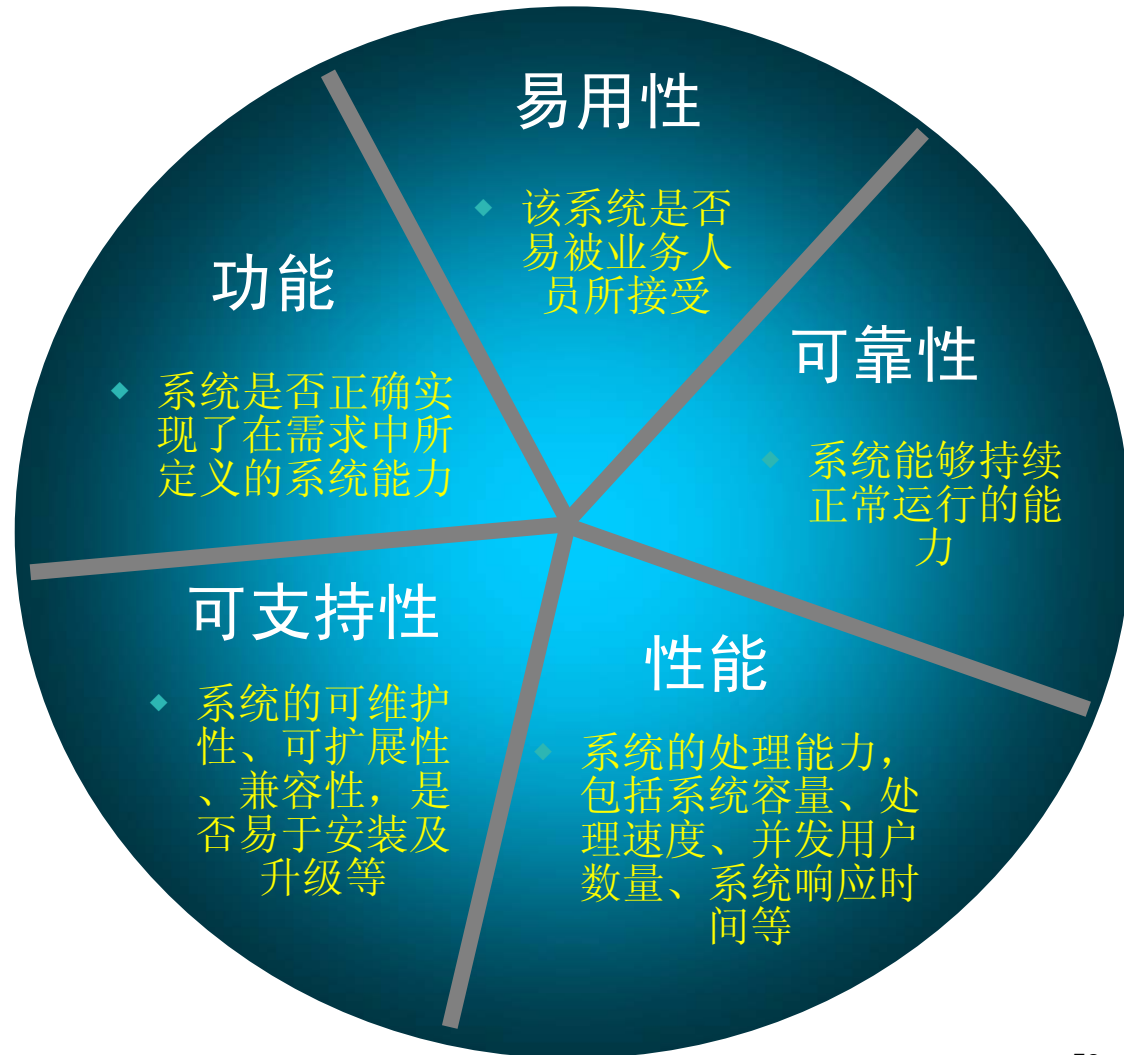


保证业务质量



测试过程的一般业务需求

- 质量体系建设，包括各种测试流程与方法
- 测试需求管理能力
- 应用架构测试与分析能力
- 单元测试能力，包括静态测试和动态运行时分析



IBM Rational测试中心解决方案组成

质量体系/测试方法学与流程: RMC/RUP

测试过程管理

需求管理

RequisitePro
DOORS

测试管理

Rational Quality
Manager

测试环境管理

Rational TestLab
Manager

缺陷管理

Rational Quality
Manager

变更管理

Rational
ClearQuest

自动化测试

开发人员测试

Rational Software Architect
Rational Software Analyzer
Rational Ounce Labs
Rational PurifyPlus
Rational Logiscope
Rational Test RT

功能测试

自动化测试

Rational
Functional
Tester

手工测试

Rational
Quality
Manager

性能测试

Rational
Performance
Tester

性能测试

Rational
AppScan

测试资产管理

Rational ClearCase

质量的度量: Rational Insight

仪表盘/控制台

详细的测试结果

各种分析报告

测试团队绩效报告

THANK YOU

