

IBM.

Rational. software



【2009 IBM開發者大會】

開發，不只玩**真**的！

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

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開發，不只玩**真**的！

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Real Teams. Real Insights.
Real Results. ● REC

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開發，不只玩**真**的！

開發無國界 管理全自動

— 輕鬆進入階協同開發時代



Real Teams. Real Insights.
Real Results. ● REC

Agenda

- What's the Challenge of Software Development Today?
- Jazz & Rational Team Concert Overview
- How we use Rational Team Concert in IBM
- Development & Test on IBM Cloud

What's the challenge of Software Development Today?

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改變，是當今的行為準則



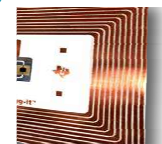
現在全世界有 **10億** 台可照像的手機



IBM Roadrunner 超級電腦...
如果把全世界**60億**人集合起來,每個人每秒做一道計算,需要**46年**才能完成 **Roadrunner**一天能做的運算量。

“80% CEOs 預見未來世界將有重大改變” - 2008 IBM CEO Survey

使用 **internet** 的人口已超過**10億**。
Internet 上記錄的事情已超過**1兆件**。



到了 **2010**, 將會有**300億**個 **RFID tags** 在電路當中

很會的上網人口將會超過**20億**。



中國每週送出的簡訊, 超過美國一年的量。

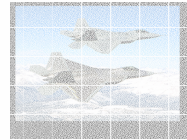


開發，不只玩**具**的！

"改變" 可能變成罷能造成新的機會

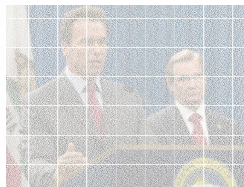
IT 人才短缺,
達到近10 年的最高峰

F-22 飛越國際換日線時- 軟體
系統Crash 的原因是
bug 造成的



50% 的外包專案
執行結果都不如原先預期

**“預期的改變及駕馭改變能力間的落差自2006 年來
增加了三倍”**
— 2008 IBM CEO study



COBOL 阻礙了
加州政府推動工
作

北卡羅蘭納州失業者宣稱
將癱瘓 州政府網站 Web



Ohio 俄亥俄州選舉網站在
駭客攻擊之後關閉



What's next for chemical
and petroleum companies?
Get the IBM perspective

IBM Smarter
Oilfields 提供智慧
的油源探索

馬爾他正在建立智
慧型的電力網路及
供水系統



行動電話提供 三款新手機能
夠免費撥打 Skype

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面對多變的環境 軟體開發者所面臨的挑戰



在快速多變的業務目標之下，如何讓IT的錢投資在最需要的項目



如何提升專案管理績效，讓資源運用在需要的地方、並降低風險



如何降低作業成本及提升全球化作業的效率



在全球化環境下如何確保資訊安全與資訊規範



整合組織中的IT價值鏈，快速反應多變的業務環境

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您對軟體開發的速度及品質滿意嗎？

成員間的溝通是協同開發最困難之處

只有 **37%** 的業主滿意公司內部軟體開發速度...

只有 **42%** 的業主滿意開發的品質。

50% 的外包專案 品質不符要求。

團隊成員,作業流程和專案管理
的隔閡

阻礙了協同開發

地理上的限制

- 不良的溝通
- 語言文化時區的差異
- 新成員上手時間長
- 切割過細的組織

組織上的限制

- 缺乏有意義的業主意見參與
- 作業流程的間隙造成錯誤與重工
- 高階主管無法見到整體狀況
- 不佳的專案治理

IT 基礎設施的限制

- 不相容的工具及資料儲存方式
- 無法正可靠取得一般的專案產出
- 淺薄且脆弱的工具整合



開發團隊的心聲：

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如果開發工具能夠**即時**提供這些我想要的資訊.....
並且讓一些繁瑣工作**自動化**



CIO

Project status and cost analysis anytime for all business sponsors

專案進度/成本分析報告



Project Manager

Top down and the low level views linking configuration, bug and cost tracking

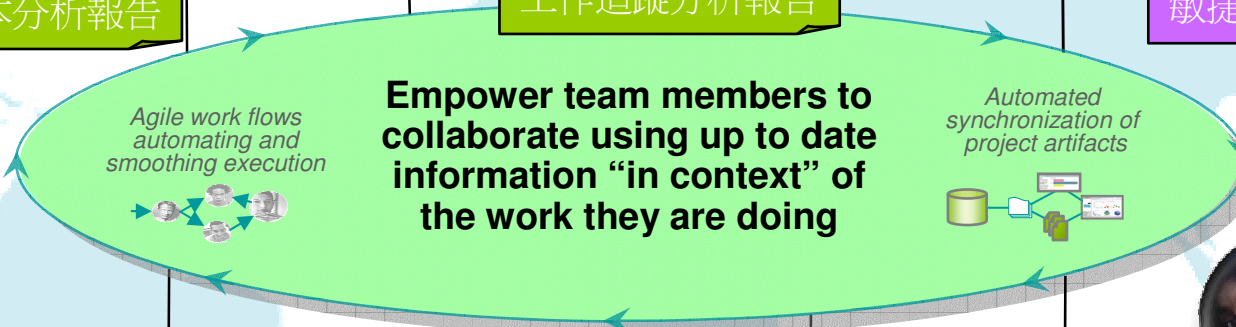
工作追蹤分析報告



Developer

Easily extend and automate short iteration cycles to meet hot business needs

敏捷式開發方法



Legal Counsel

Easy triggers to catch licensing issues early

軟體授權檢測報告



Compliance Officer

Seamless access to highest risks and security vulnerabilities

風險及弱點分析報告



QA Manager

Onboard team members across the world across projects in a day not months

快速佈建測試環境

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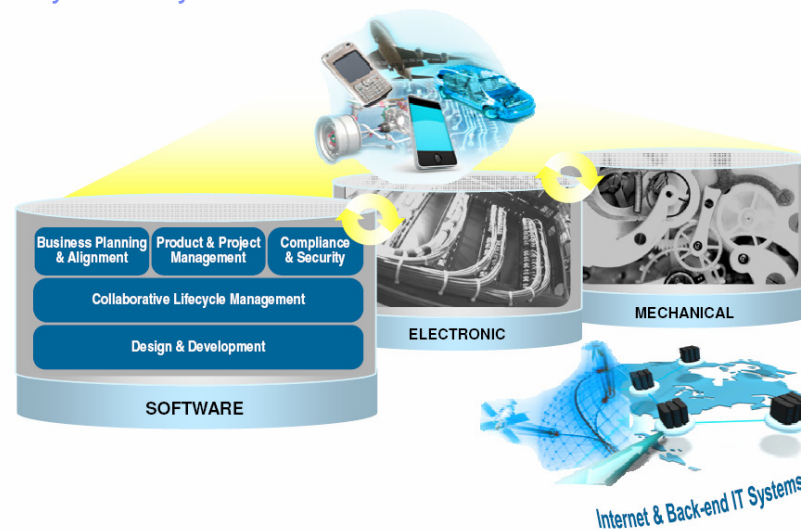
而且.....

資訊必須是.... real



自動化必須是....smart

Are you ready for a *smarter* future?



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理想的協同開發平台應具備....

Envisioning a platform that could transform software delivery

An **open technology** initiative to **transform how people work together** to deliver greater value and performance from their software investments



- Robust, extensible and scaleable
- Globally distributed, fluid and dynamic
- Community-based and open at Jazz.net

掌握工作的來龍去脈

- Enable team transparency – a common understanding of “who, what, when, why”
- Build team cohesion – chats, wikis, information in context
- Automate hand-offs – so nothing falls through the cracks

恰如其分的管理機制

- “Just enough” process that can be modified over time
- Automate data collection – no administrative overhead
- Real time reporting and alerts – customized to individual needs

立竿見影的導入成效

- Dynamic provisioning of projects and teams
- Dynamic iteration planning and workload balancing
- Unify teams using a variety of clients

開放、可延伸的架構

運用 IBM, partner and open source 的技術

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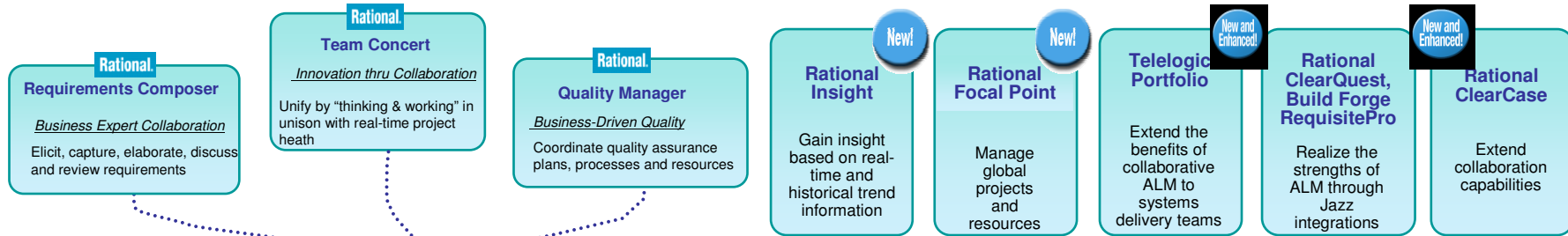
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Jazz & Rational Team Concert Overview

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Products on Jazz

Jazz offerings in 2009 and beyond



eclipse Eclipse / Visual Studio 2005/2008

Client Integrations

Server Integrations

Rational Software Architect / Rational Application Developer
 Rational Developer for z / Rational Developer for i
 Lotus Quickr / Microsoft SharePoint

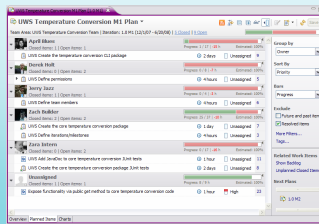
- Existing Rational offerings
- Business partner offerings
- Open source offerings
- Others to come...

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Rational Team Concert (協同開發平台)

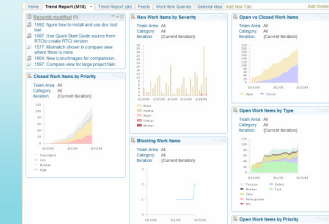
專案計劃

- 整合專案疊代計劃及執行管理
- 連結工時估算及專案里程碑
- 內建敏捷開發流程模版



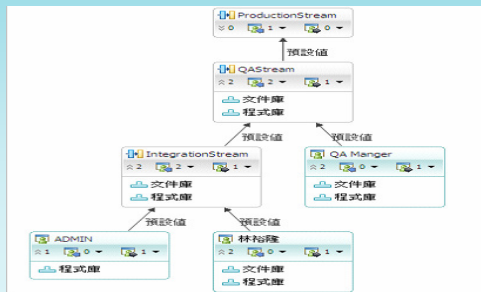
專案監控

- 可客製化的儀表板
- 即時的工作追邁資訊及報告
- 專案里程碑及工作狀態追蹤



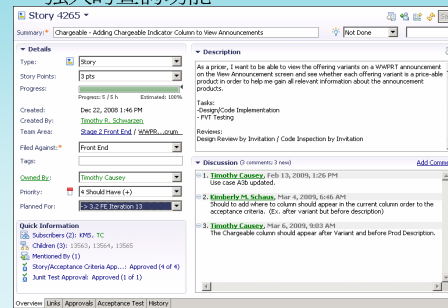
版本管控

- 整合的stream, Component, baselines 功能，提供完整的版本(version) 追邁資訊
- 支援Server-based sandboxes



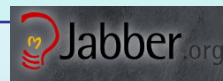
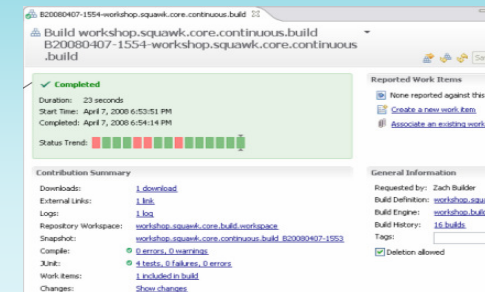
工作項目管理

- 內建 缺陷單、新需求功能單, 工作單及客製表單, 及連結, 簽核, 稽核記錄
- 強大的查詢功能



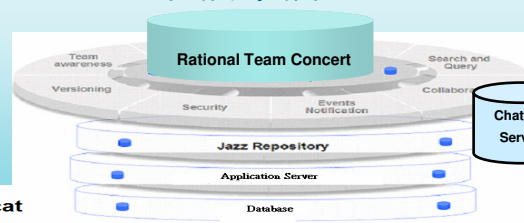
建置管理

- 週成記錄可與工作表單、變更記錄追邁
- 支援本端及遠端編譯

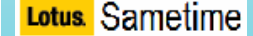


- 單一基礎平台支援全生命週期開發
- 世界級的專案開發組織架構，成員快速上手
- 依角色身分的權責管理，依專案規模、性質選擇專案流程模板

Jazz 團隊伺服器

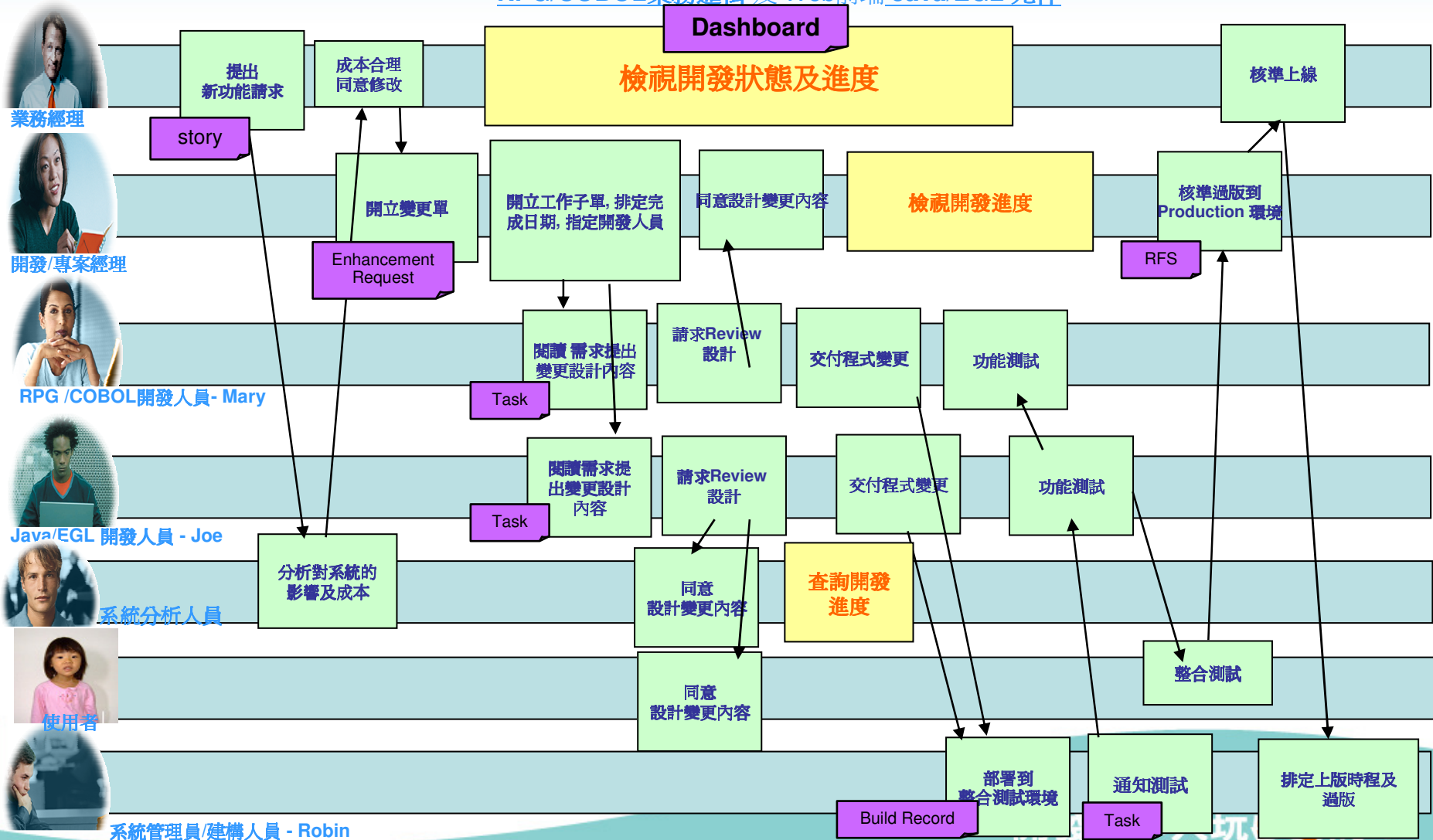


- Team advisor 功能，可定義專案流程規則，持續改善專案交付品質
- 可定義專案流程並強制流程落實
- 以工作產出為基礎的協同合作，即時顯示成員的狀況及進行中的工作



範例：團隊成員如何協作？

開發情境範例 - 業務部經理送給IT 部門一個請求, 經系統分析人員分析 之後, 告知開發經理實作此功能需同時修改 RPG/COBOL業務邏輯 及 Web前端 Java/EGL 元件



Enterprise Scalability for Team Concert 2.0



	Express-C	Express	Standard	Enterprise
	Small Teams <ul style="list-style-type: none"> Quick Start Collaborative ALM Open source servers 	Mid Sized Teams <ul style="list-style-type: none"> Project Dashboards Collaborative ALM Commercial Middleware 	Corporate Teams <ul style="list-style-type: none"> Customizable workflow Advanced Reporting Departmental Scaling 	Enterprise Teams <ul style="list-style-type: none"> Customizable Workflow Advanced Reporting High Availability Unrestricted scaling based on hardware
Maximum developers/contributors	10 / unrestricted	50 / unrestricted	250 / unrestricted	Unrestricted / unrestricted
Database and Application Server	Derby, Tomcat	DB2, Tomcat (SQLServer, Oracle, WebSphere)	DB2, Tomcat (SQLServer, Oracle, WebSphere)	DB2, Tomcat (SQLServer, Oracle, WebSphere)
<ul style="list-style-type: none"> Agile planning: daily, iteration, release SCM -Stream and component based Builds – w/ Continuous Integration Work items w/custom attributes, presentation, discussion, approvals Customizable Process Templates Project Milestone Tracking & Status Subversion Integration Bridge Role-based process permissions Project level permissions Cross repository dashboards 	✓	✓	✓	✓
Customizable Dashboard Mashups	1 per project	1 per project	unlimited project, team, and personal dashboards	unlimited project, team, and personal dashboards
Advanced Reports and Customization			✓	✓
Customizable work item workflow			✓	✓
Plan risk assessment			✓	✓
CC/CQ Connectors and Bridges			✓	✓
Floating Licenses Available			✓	✓
LDAP import / synchronize			✓	✓
HTTP proxy support			✓	✓
High Availability				✓*

- 藍色字為 RTC 2.0 新增功能

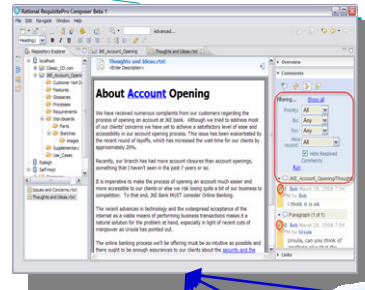
* 需要Websphere Application Server



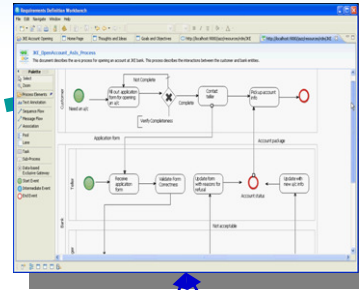
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Rational Requirements Composer(需求發展協作平台): Capture And Connect The Web Of Information

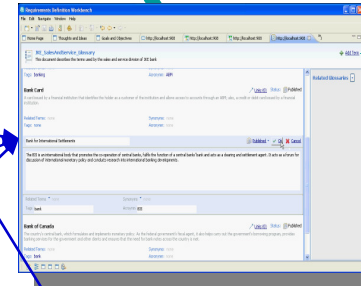
文字說明
Use **Rich-text Documents** to capture structured and unstructured information (links, images, emails)



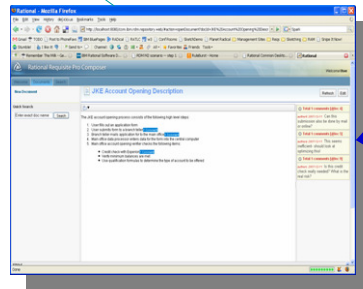
業務流程圖
Capture the Current and Propose a Future State with **Business Process Diagrams**



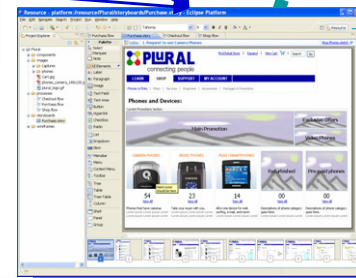
共享資料字典
Remove Ambiguity on Business and Technology Terminology with **Shared Glossaries**



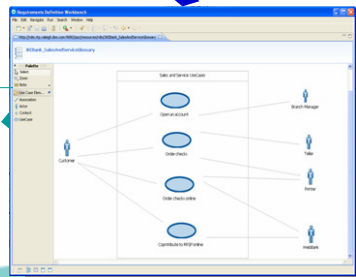
討論知識分享區
Collaborate in real-time using **Wiki-like discussions**, to quickly achieve sign-off.



使用者介面圖示
Visualize the User Experience with **User Interface Sketches and Storyboards**



使用案例
Build **Use Case Models** and Elaborate on the Processes, Actors and Activities



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Rational Quality Manager (品質管理中心): Build High Quality Solution

需求關聯
Integrate with Requirement Tools- RequisitePro, Doors, Excel

測試計劃, 測試個案
Dynamic Project Plan. Test Cases

自動化測試
Integrate through Test Lab to connect automation Testing tool RFT, RPT, Appscan, and HP Mercury.

測試結果報表
Tailorable presentation of execution Results.

開立缺陷單
Create defect in Rational Team Concert

The screenshot shows the Rational Quality Manager interface. At the top, it says 'Rational Quality Manager' and 'ADMIN | Log Out'. Below that, there's a search bar and navigation links. The main content area is titled 'ADMIN's Dashboard' and contains several widgets:

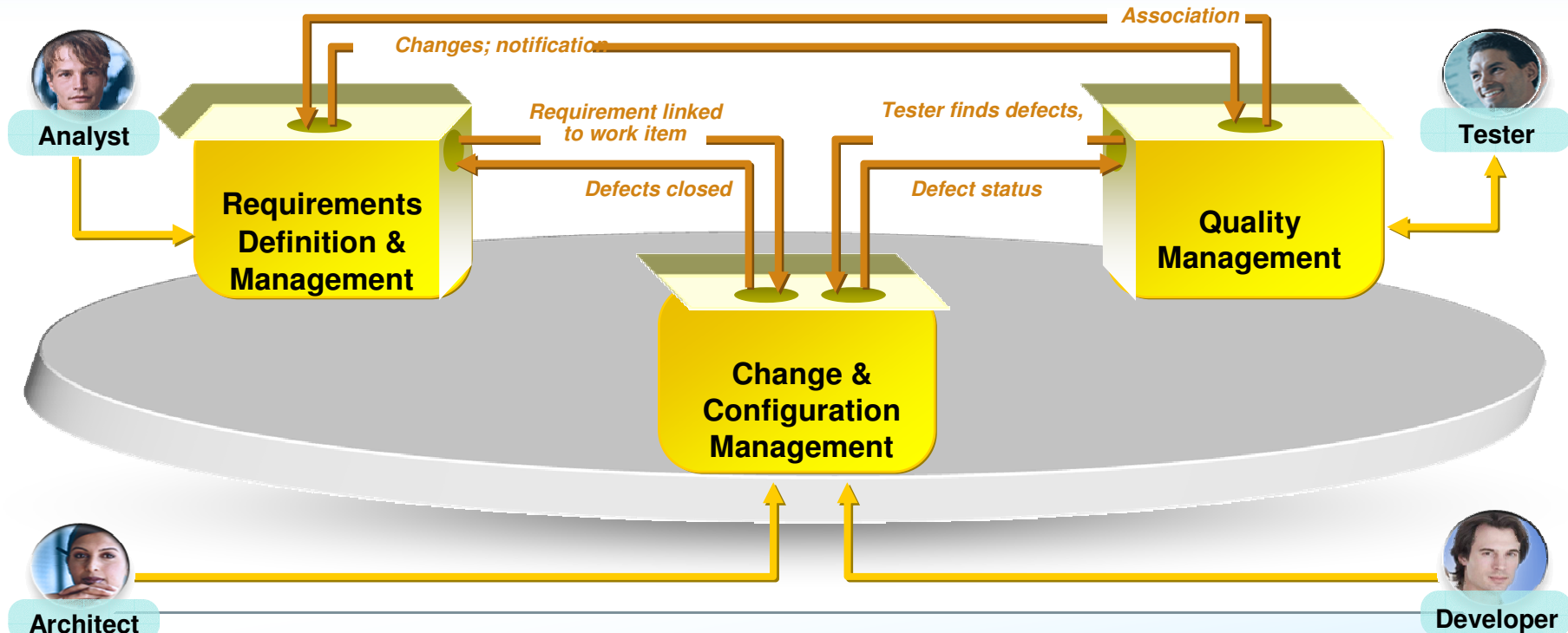
- Tester Report using TER Count:** A horizontal bar chart showing 'Execution status per tester'. The x-axis is 'TER Count' (0 to 3) and the y-axis is 'Owner'. The legend indicates states: Error (dark red), Failed (light red), In Progress (blue), Not Run (grey), and Passed (green).
- Quality Manager Articles & Tutorials (7 new):** A list of articles with titles like 'Integrating IBM Rational Functional Tester and IBM Rational Performance Tester with IBM Rational Quality Manager'.
- Plan Requirements Coverage by Test Case:** A 3D pie chart showing coverage status. The legend indicates 'Covered' (green) and 'Not Covered' (red).
- Unfinished work item count:** A section at the bottom of the dashboard.

On the left side of the dashboard, there is a vertical navigation menu with icons for: Requirements, Planning, Construction, Lab Management, Execution, Reports, and Defects.

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Collaborative ALM connects Analysts, Developers and Testers



Architect

- **Coordinate analysts, developers and testers**
 - Collaborate in context and track status
- **Align teams on project plans**
 - Which requirements are in the development plan?

Developer

- **Track builds and the impact of defects**
 - What build is ready for test?
 - What defects are blocking test from proceeding?
- **Track status with C/ALM dashboard mashups**
 - Transparency across teams and artifacts

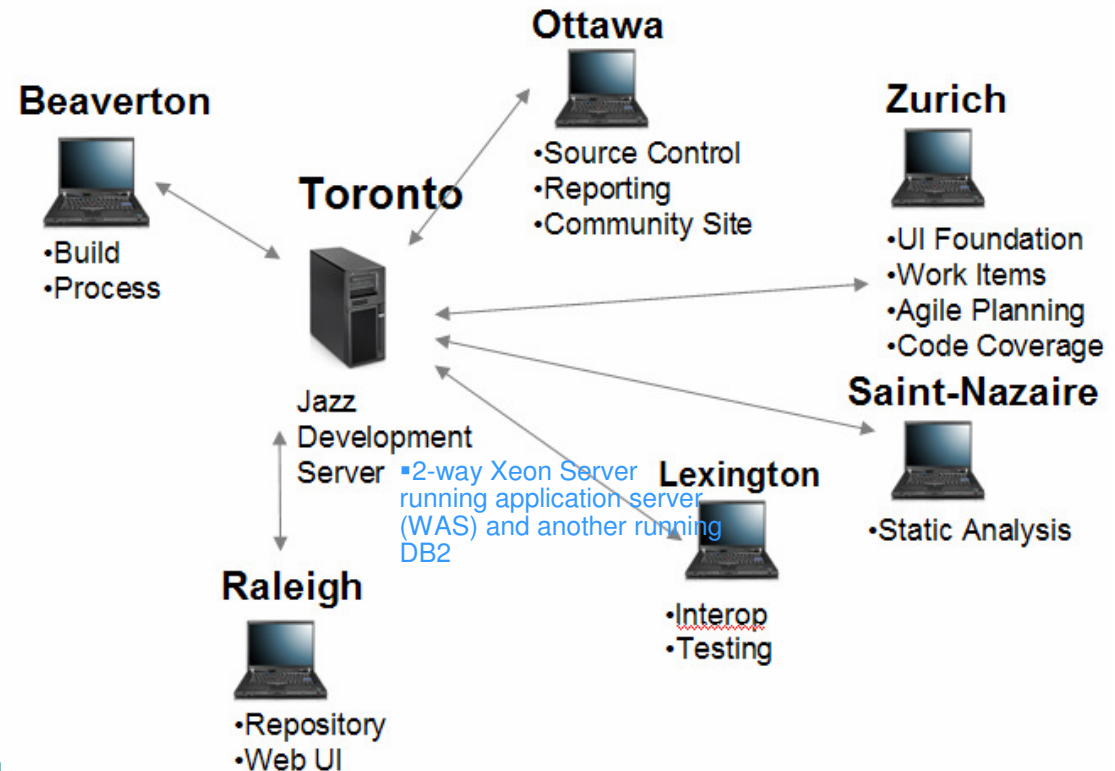
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How we use Rational Team Concert in IBM ?

Jazz Developer Team & Other IBM Team

- Jazz Project – Using bi-weekly iteration builds
 - Jazz and Rational Team Concert self hosting since 4Q06
 - Global team in 7 locations in NA Europe and India
 - ~100 developers, plus jazz.net webclient access
 - Repro > 10G, 66K files, 43K work items



- Over 60 internal Rational development teams , ~1000 users leveraging Rational Team Concert
- More than 125+ Other IBM teams using Rational Team Concert

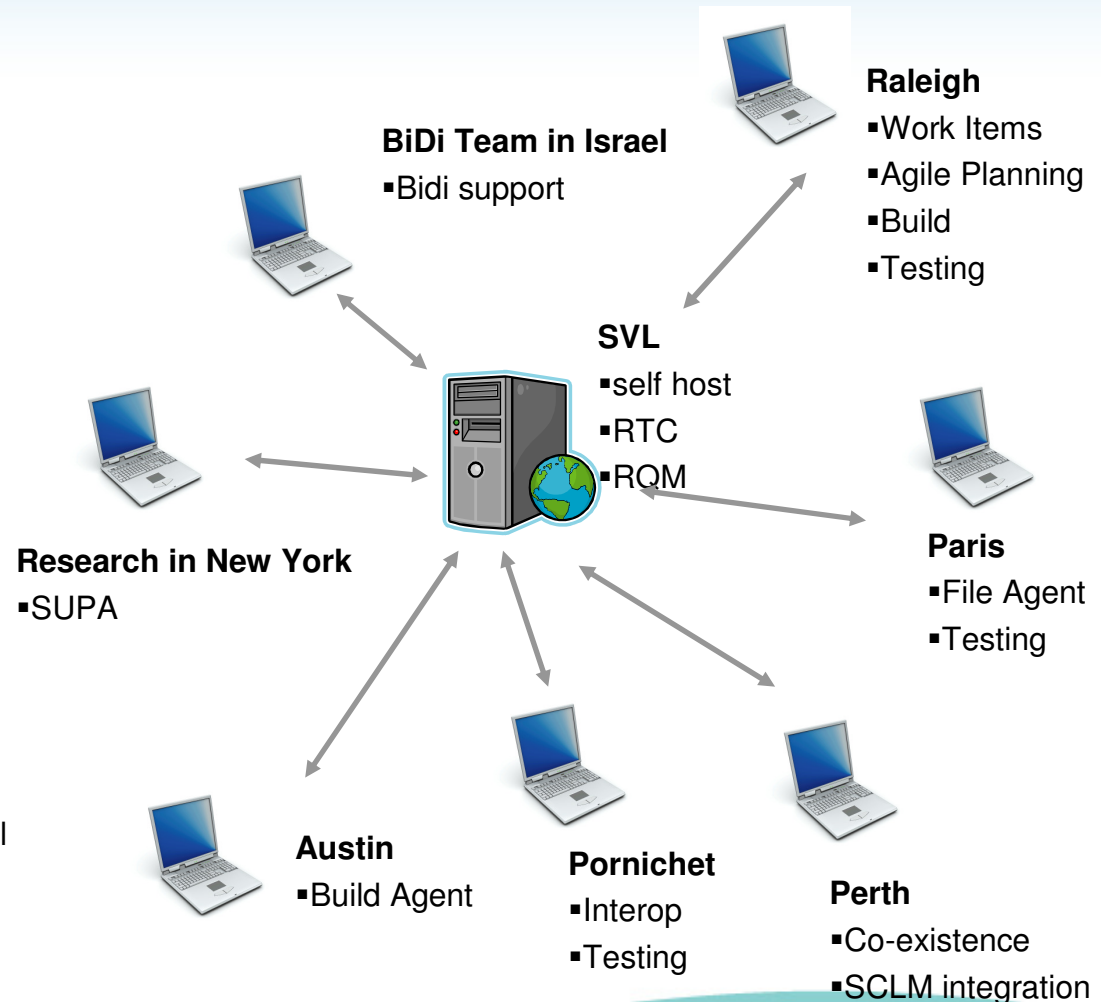
- Rational Development
- Rational Customer Support
- WebSphere Development
- Lotus Development
- Tivoli Development
- IBM Research Division
- IBM Global Business Services

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How we develop Rational Team Concert for System z

- RTCz team deploys RTCz on z/OS using WAS and DB2 z/OS
 - Also using Rational Quality Manager (RQM) on zLinux
- RTCz team in multiple locations
 - Raleigh, North Carolina, USA
 - Paris, France
 - Pornichet, France
 - Perth, Australia
- Extended teams
 - Austin, Texas
 - Israel
 - New York, USA
- All project management, design, code done with RTCz
- FVT and SVT test coordinated with Rational Quality Manager



Rational AppScan move to RTC

How we worked just a few years ago



How we work now

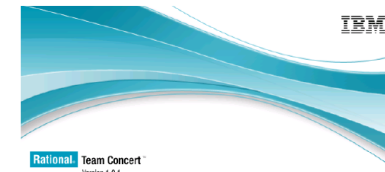


- Most of our development team is located in Ottawa, Canada
- Some team members in Toronto, Herzliya and Bangalore
- Size of our team is about 40 developers and testers
- We produce Rational AppScan Enterprise, which is an application security testing product
- Working on multiple steams in parallel, delivering multiple products
- We have three Scrum teams focused on new development and one team focused on L3 support

The development tools we used before migration



Why we chose Rational Team Concert



- RTC addresses the needs of our geographically distributed, agile development team, doing parallel development
- We like the balance RTC strikes between power and simplicity
- We had positive experiences using RTC on other projects
- Low cost of ownership was important to us
- Jazz is a strategic platform for Rational

資料來源: RSC2009 NCRM02 Rolling Out IBM @ Rational Team Concert™ into a Microsoft Shop,

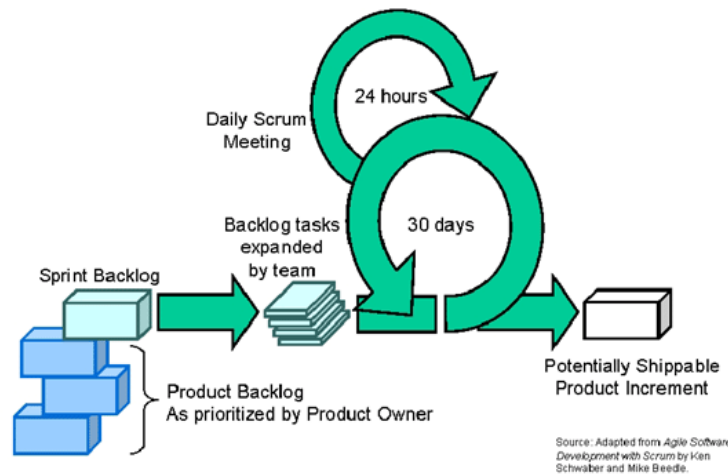
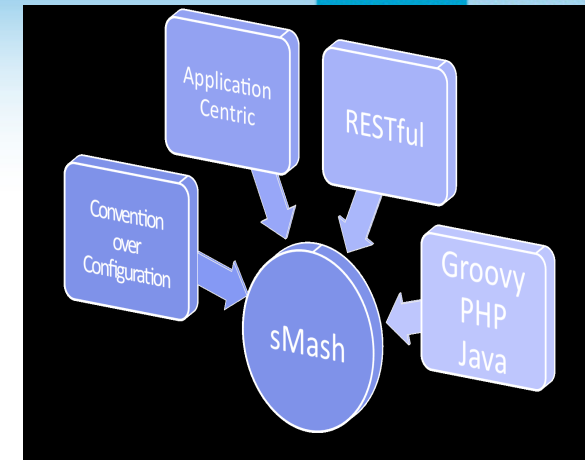
Craig Conboy

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WebSphere sMash

Supporting **SCRUM** is the key reason we select RTC.



- Globally Distributed Team
 - US (10) – Product Owners, Management, Dev Lead, Dev Sub-Team Lead
 - UK (8) – Product Owners, Dev Sub-Team Lead
 - China (14) – Sub-Team Lead, Test support
 - India (3) – Test support

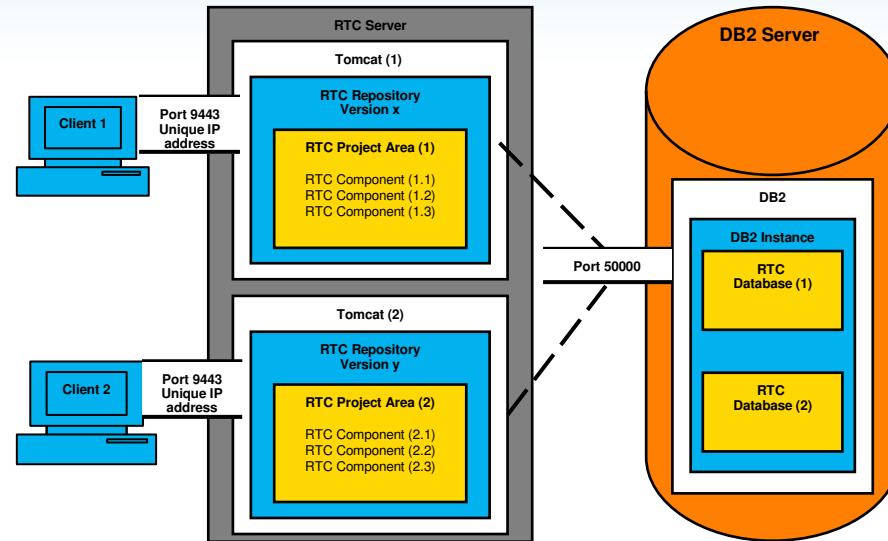
資料來源: RSC2009 RWI04 Lessons Learned:
Using Scrum with Rational Team Concert
Brandon J. W. Smith

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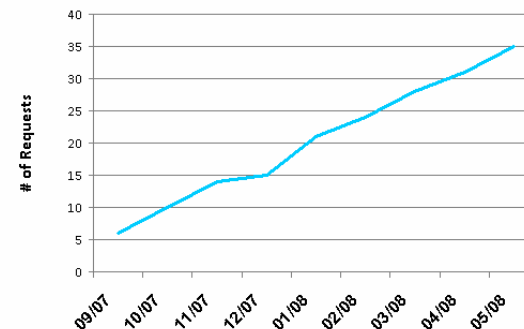
RTC Hosting for IBM internal projects

RTC Hosting Architecture

- **Hardware**
 - ▶ 2 pSeries 9133-55A for both application and database server
 - ▶ 8 GB memory
 - 1 4-core 1.65GHz P5+ Processor Card
 - 8 146.8GB 10K RPM SCSI Drives (~1.2 TB/600GB mirrored)
- **Software**
 - ▶ Server – AIX 5.3
 - ▶ Application Server – Tomcat 5.5
 - ▶ Database – DB2 9.1
 - ▶ Clients – Windows & Linux
- **Allocations for Users**
 - ▶ Diskspace
 - Baseline of 1 GB of disk space per repository for application files
 - 250 MB of disk space per user
 - ▶ Memory
 - 1 GB per repository



Total RTC Hosted Projects



RTC Hosting Request Form

1.	What is your project name?
2.	Please provide a brief project description
3.	Requested start date for hosting
4.	Who will be signing the service agreement?
5.	What is your Group, Division and Department?
6.	Who is your financial analyst?
7.	Who is the primary point of contact for this project?
8.	Who is the project owner or manager?
9.	Who will be your RTC administrator for this project?
10.	What kind of artifacts will you be storing? (Work Items, Builds, Plans, Requirements, Streams)
11.	How many developer & contributor licenses do you anticipate needing for this project?
12.	If you are moving from an existing RTC Server, please provide a link.
13.	Estimated initial disk space requirements in GB. (for source code & attachments.)
14.	Estimated long-term space requirements in GB:
15.	Is your project currently shared with any other group? If so, what groups?

資料來源: RSC2009 SDP30 Jazzing Up IT
Best Practices from Internal Deployment of IBM Rational
Team Concert

Doug Weissman, Cathy Col

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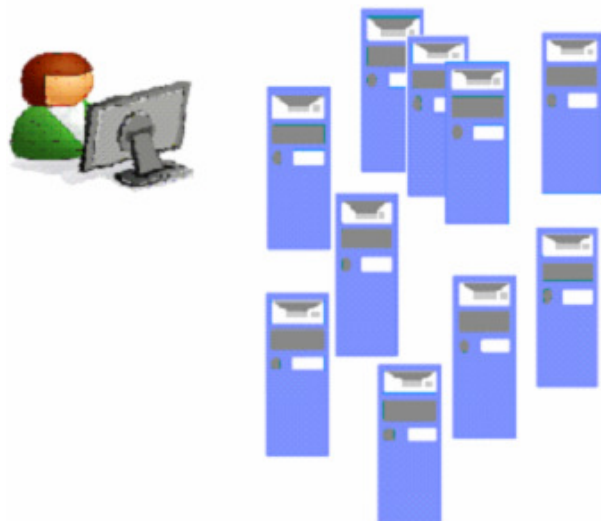
Development and Test on IBM Cloud.

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Making Current Environment more productive, agile and Dynamic

Current typical test environment with **large number of test servers**, **little virtualization**, and primarily **manual allocation and configuration** of individual test environments.

Current



Manual Scheduling,
Provisioning & Configuration

To Be



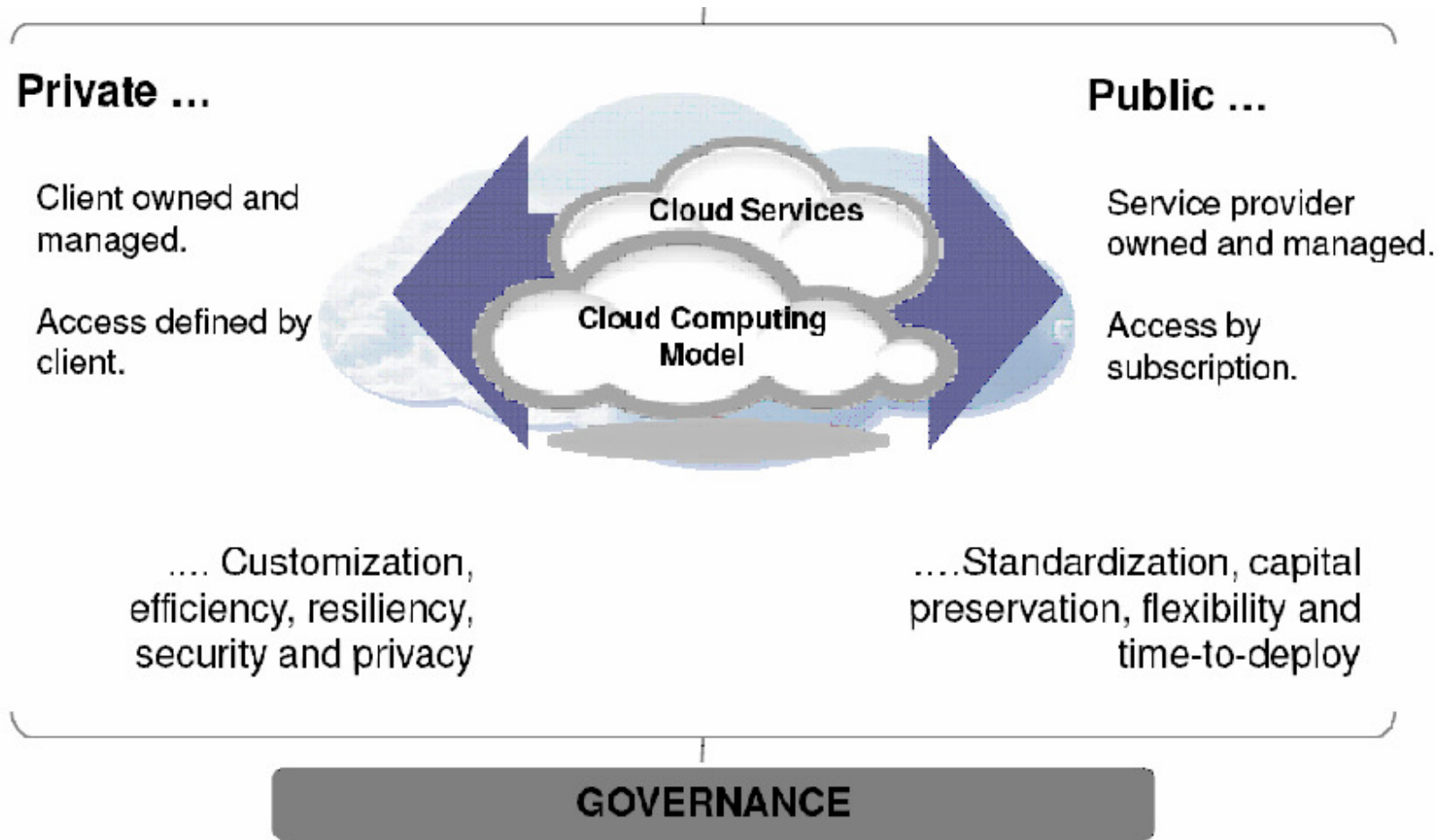
Automated Request Driven **Scheduling, Provisioning & Configuration** of HW, OS, Middleware and Apps. Automated Tracking, Monitoring and De-provisioning. Virtualization Management, Capacity, and Image Management.

Capital & Operational Expense Reduction, Defect Reduction, Increased Productivity & Innovation

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Cloud Drive new sourcing options



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IBM Cloud Computing

http://www.ibm.com/developerworks/spaces/cloud?S_TACT=105AGX23&S_CMP=SPRING

The screenshot shows a browser window with the URL `http://www.ibm.com/developerworks/spaces/cloud?S_TACT=105AGX23&S_CMP=SPRING`. The page title is "Cloud Computing" and it features a search bar, navigation tabs for "Cloud Computing Central", "IBM Software on Amazon Web Services", "IBM Cloud for developers", "Cloud Events", and "Software as a Service". The main content area includes sections for "IBM Amazon Machine Images", "WebSphere for Developers", "In the News" (with a featured article on "Technology preview to support your development and test efforts on the IBM"), and "Join our Cloud Community". A right-hand sidebar contains a "Tags" section with a search box and a list of popular tags such as "cloud", "cloud_computing", and "community_computing". The browser's status bar at the bottom shows "Local intranet" and "100%" zoom.

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Rational in the Cloud

Rational in the Cloud

Leverage a cloud delivery model to increase innovation and gain flexibility



Rational's next evolution of [Jazz](#), a new [technology platform for collaborative software delivery](#), will help transform software delivery by leveraging a cloud delivery model to transform how people work together to build software. Jazz will leverage the cloud to provide services delivered in a dynamically provisioned and scaled runtime environment, for a fully integrated collaborative [application lifecycle management \(ALM\)](#) solution in a cloud delivery model.

Learn more about the next evolution of Jazz, and how you can exploit the cloud delivery model to quickly gain access to everything needed to design, develop, test and deploy applications.

You can also read the recent [Jazz Team Blog](#) to understand the implications of cloud computing to Jazz-based products.



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IBM Software Delivery Services(SDS) for the Cloud

Offerings:

1. Tools in the cloud

- Software delivery tools that can easily be provisioned as services in the cloud. Customers can 'rent' services from public cloud or buy licenses for services in private cloud

2. Tools for the cloud

- Offline tools with functions to design and provision cloud resources and 'exploit' those resources to perform development or testing work, e.g. running tests or running builds in the cloud.

Examples:

- **Rational Jazz server products such as Team Concert, Quality Manager or Requirements Composer instantly provisioned and hosted in the Cloud.**
- **Rational Quality Manager performing tests in the cloud or Build Forge conducting builds in the cloud. RSA designing applications while considering cloud deployment.**

Developing & Testing On the Cloud

The screenshot shows the IBM Smart Business Development and Test on the IBM Cloud website. The page features a blue header with the IBM logo and navigation links: Home, Control, Account, Assets, Support, and About. The main content area includes a search bar, a welcome message, and a call to action to view a demo. The footer contains links for About IBM, Privacy, Contact, and Terms of use.

IBM

Register | Sign in

Development and Test on the IBM Cloud

Home Control Account Assets Support About

Welcome to the IBM Smart Business Development and Test on the IBM Cloud

Successfully verified your account. This a closed, invitation only Technology Preview.

You are now free to browse the site but you will not have access to the provisioning functionality at this time. You'll be notified via email once we are able to grant you access.

[Start using the cloud](#)

Search

[View the demo](#)

About IBM Privacy Contact Terms of use

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IBM use Rational Assets Manager to Manage VM image in the Cloud

The screenshot shows the Rational Asset Manager interface. At the top, there's a navigation bar with 'Back', 'IBM Smart Business', and 'Rational Asset Manager'. Below that, a search bar is visible with the text 'Search for Assets'. The main content area displays a list of assets filtered by 'Category: Developer Cloud'. The list includes various software components like DB2 Express-C, DB2 Enterprise, Rational Software Architect for WebSphere, etc. Each row shows the Name, Version, State (Approved), Community, Rating (stars), and Modified date.

Name	Version	State	Community	Rating	Modified
DB2 Express-C	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20
DB2 Enterprise	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20
Rational Software Architect for WebSphere	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 27, 20
WebSphere Application Server and Rational Agent Controller	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 27, 20
Rational Application Developer	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 27, 20
Large System Size	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 24, 20
Medium System Size	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 24, 20
Small System Size	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 24, 20
SUSE 10 SP2	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 13, 20
Informix Dynamic Server Developer Edition	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20
WebSphere sMash	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20
Rational Quality Manager	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20
Rational Team Concert	1.0	Approved	Cloud Computing Core Community	★★★★★	Jul 20, 20

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Currently we have following VM images in the Cloud for Developing & Testing

Name
DB2 Express-C
DB2 Enterprise
Rational Software Architect for WebSphere
WebSphere Application Server and Rational Agent Controller
Rational Application Developer
Large System Size
Medium System Size
Small System Size
SUSE 10 SP2
Informix Dynamic Server Developer Edition
WebSphere sMash
Rational Quality Manager
Rational Team Concert

Request RTC image

[Back](#) | IBM Smart Business Rational Asset Manager

[Home](#) | [My Dashboard](#) | [Communities](#) | **[Assets](#)**

Asset: Rational Team Concert [1.0] [?]

[General Details](#) | [Content](#) | [Ratings](#) | [Forums](#) | [Statistics](#)

Short description: Rational Team Concert with Sample Data
Owners: Craig Conboy, Master Administrator
Community: Cloud Computing Core Community
Type: Template Topology
Unique ID: {2780C3E1-7BC1-027D-BDF6-E7684CB8D80D}

Attributes

Primary Artifact:	RTC.topology
Image URI:	http://rsc09demo.svl.ibm.com/cloud/rest/images/SU-BASERTC2-011
SKU:	6
Request Image URL:	Start an instance of this image
Product Name:	<input checked="" type="checkbox"/> /RTC.topology <input type="checkbox"/> productName=IBM Tivoli Monitoring Agent <input type="checkbox"/> productName=Rational Team Concert Express-C <input type="checkbox"/> productName=Apache Tomcat Web Server

Description

Rational Team Concert with Sample Data
Image Details

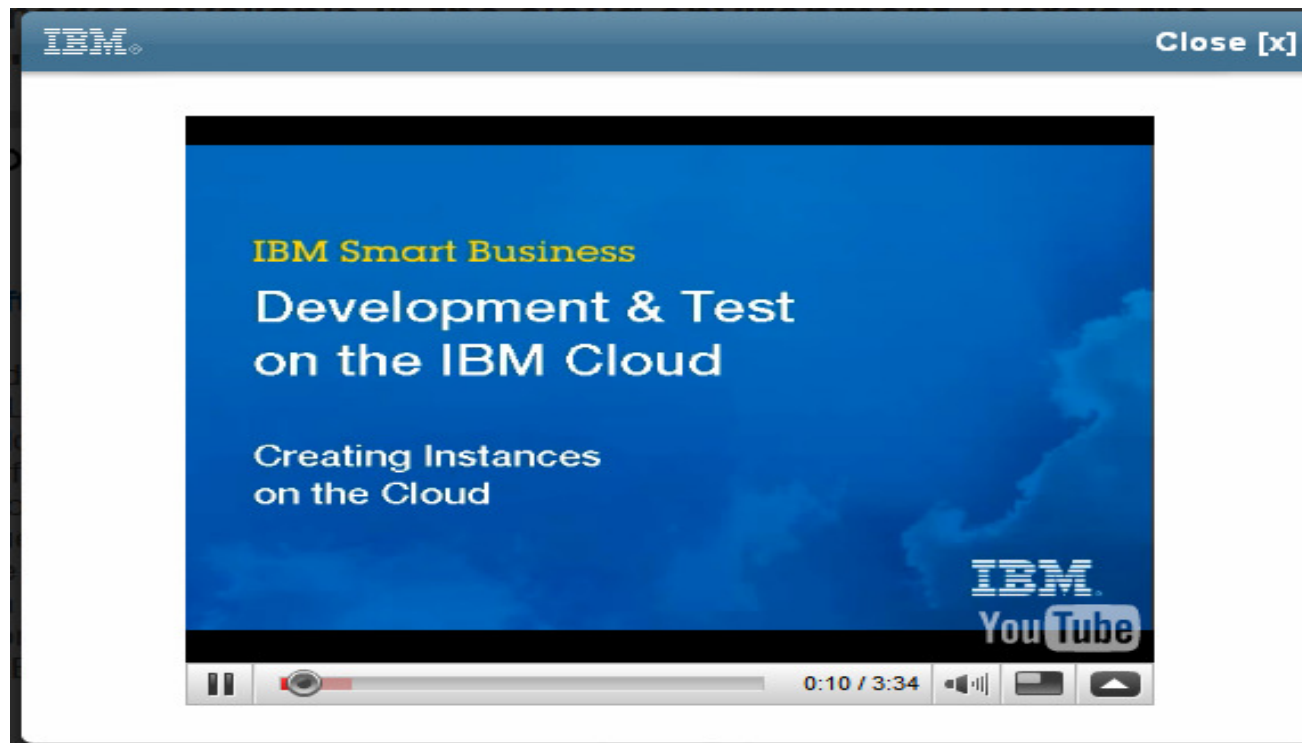
- Rational Team Concert Standard 2.0 RC3 preloaded with the Squawk Instructional Project
- Several user ids are available with varying roles in RTC: ADMIN, zara, jazzy, build or zach
- All user ids use the password your provided earlier
- SSH access is not provided for this image
- Rational Team Concert can also be used with the Client for Eclipse IDE or the Client for Microsoft

Click here to start an instance of RTC image.

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Developing & Testing On the Cloud

- [Goto IBM Cloud demo](#)



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Thank You

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