

### **IBM Software Group**

New & Enhanced i products from IBM Rational including Rational Team Concert for i

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# Agenda

- Enterprise Modernization for IBM i
  - What's New?
- Rational Team Concert for i
  - Customer Challenges
  - Overview of Jazz & RTC
  - RTC for IBM i
  - Scenario









### **Enterprise Modernization – Solution Overview**

#### **Assets**

Understand, transform, reuse and manage enterprise application assets

#### **Architectures**

Discover new SOA applications, reuse existing application as services

# Team Infrastructure

Leverage modern processes, tools and middleware to reduce costs, improve quality and productivity

#### Skills

Rapidly develop cross-platform applications using new and existing skills

#### **Investments**

Invest resources in new opportunities

System z

IBM i

**Distributed** 

- ✓ Leverage value in existing assets
- ✓ Develop new workloads with SOA and web technology advancements
- Leverage existing and new staff on multi-platform projects
- ✓ Improve quality and flexibility with a consolidated team infrastructure
- ✓ Reduce maintenance costs

For more information, visit:

www.ibm.com/rational/modernization







# Business intelligence and technical analysis of application systems



# Understand how their IT systems support their business processes and then enhance them in a predictable manner

- ✓ Map business processes to IT systems
- ✓ Harvest business rules & potential services within existing apps, including 5250 apps
- Refactor existing System i apps for reuse?
- Perform impact analysis for all enterprise assets, avoid downtime due to unforeseen code dependencies
- Manage asset development & deployment throughout the software lifecycle
- Maintain control over code provided by outsourcers, business partners, or acquired through a merger?
- ✓ Accelerate SOA efforts?

#### **Enterprise portfolio management**

- Map business processes to IT Systems
- Comprehensive inventory of assets for impact analysis
- Identify business rules & potential services, refactor for reuse
  - X-Analysis from Databorough
- Use Application Diagram tool to show flow charts of ILE RPG, ILE COBOL, CL, programs and service programs
  - Rational Developer for i
- Manage assets during development
  - Rational Asset Manager
- Manage deployed services
  - WebSphere Services Registry & Repository







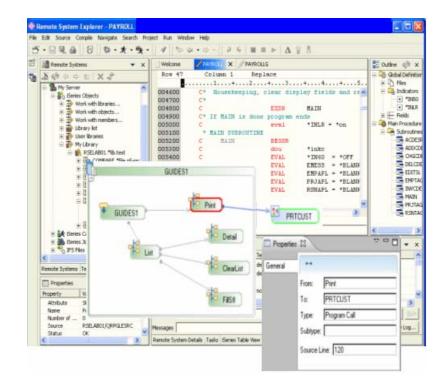


# Accelerate development of traditional RPG & COBOL applications for IBM i



#### **IBM Rational Developer for i v7.5**

- ✓ Accelerate development of IBM i applications
  - Eclipse-based IDE for RPG and COBOL programmers, including edit/compile/debug capabilities.
- Increase developer productivity and flexibility
  - New and existing skills can collaborate, navigate IBM i applications and make code changes quickly
- ✓ Integrated application lifecycle
  - Support for centralizing IBM i resources in a common change management repository with Rational Team Concert for i v1.0



IBM Rational Developer for i v7.5

GA: Oct 31st









# Develop new SOA apps, reuse existing apps as services



Move to a more flexible architecture to enable business agility

- Create web services easily form existing code including RPG, COBOL and green screen applications
- Build services once and deploy them across all platforms
- Ensure new SOA applications will be easy to extend and maintain

#### Solutions to move to flexible architecture

- ✓ Expose 5250 applications as web services
- HATS for 5250
- ✓ Quickly create web services from existing COBOL, RPG, Java or EGL applications
  - RDi SOA
  - Rational Business Developer (EGL)
  - Rational Application Developer
- √ Create new platform-independent services
  - RBD (EGL Service Keyword)
- Leverage Model Driven Development transform UML to Java, EGL, WSDL
  - Rational Software Architect











### Transform green screens to user interfaces and services

#### IBM Rational Host Access Transformation Services for 5250 v7.5

- Extend reach of 5250 screens applications to new users
  - Transform 5250 screens to Web, rich client, portlet, or mobile applications, or can be SOA-enabled as Web services
- ✓ Faster return on investment with lower risk.
  - Reuse proven, dependable and reliable business processes instead of rewriting
- Shorten learning curve and training costs
  - Reduced average service times, training time, and employee turnover
- ✓ Simplify customer and partner integrations
  - Achieve integration with other business information with minimal development cost
- Build robust and reliable Web services easily
  - New Visual Macro Editor enhancements and full support
- Support for latest runtimes
  - IBM WebSphere Application Server V7.0, IBM WebSphere Portal V6.1
- Support for latest development environments
  - Eclipse 3.4-based IBM Rational development environment.

#### Rich Client



#### Web



#### Web Service





#### Mobile



IBM Rational Host Access Transformation Services

for 5250 v7.5

GA: Oct 31st

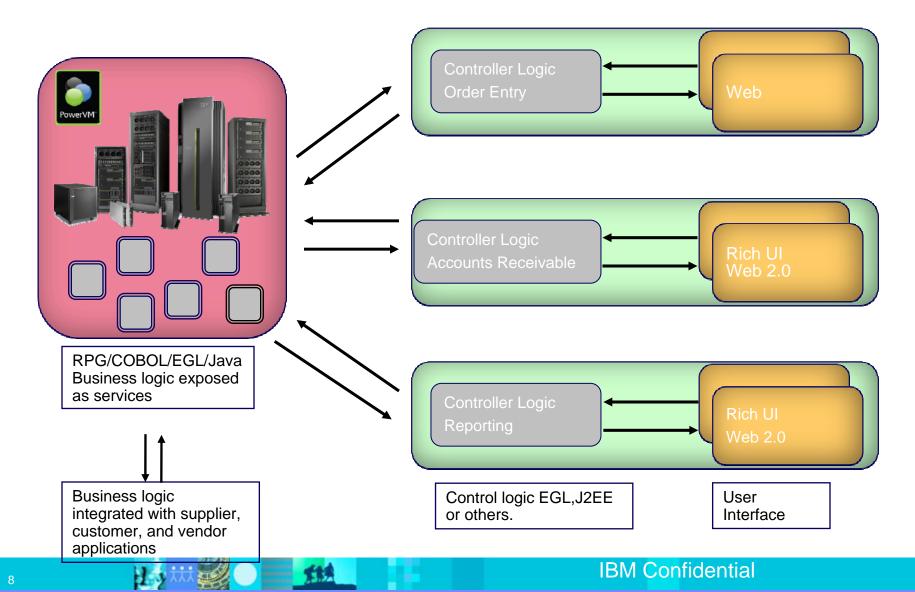








### **Target Architecture**





# Accelerate development of traditional RPG and COBOL applications and web services and SOA for IBM i

### IBM Rational Developer for i for SOA Construction v7.5



# Rational Developer for IBM i (RDi)

- RPG, COBOL, CL
- Edit, Compile, Debug
- New 5250 Screen Designer
- New application diagrammer
- Smaller footprint (minimum 512mb memory)



#### **RDi SOA**

- Traditional RPG, COBOL development
- Create Web Services from IBM i programs
- Consume Web Services via EGL
- Create modern Web 2.0 applications leveraging RPG/COBOL via EGL



#### Rational Business Developer (RBD)

- EGL (Enterprise Generation Language
- Java without the Java
- Web 2.0
- Web Services
- Modern language and user interfaces
- Generate JavaScript & API support

Modern Language Merges with Core Business Systems & Heritage Languages









## Leverage new & existing skills to build new apps



Use existing developers to build modern cross-platform apps that leverage new technologies like Web 2.0

- Use existing staff to build end-to-end, multiplatform apps, including sophisticated Web 2.0 and SOA solutions
- Use abstractions to hide technology, middleware, and platform complexities
- Attract new staff with EGL "IBM's newest business language"
- Harness a growing community of partners, ISVs, and customers with the EGL Café

#### **Cross-platform application development**

- ✓ Provide tools for traditional development languages including RPG, COBOL
- RDi SOA with RDi
- ✓ Apply existing business-knowledgeable staff to build all elements of multi-platform applications... including end-to-end from Web 2.0 to services to batch processes
- ✓ Attract new staff with IBM's latest business language
- ✓ One application, supported on multiple platforms with EGL
- RDi SOA with Rational Business Developer (EGL)











### EGL - Enabling Web 2.0 for the enterprise



- ✓ Users now expect modern, interactive UIs (e.g. Google<sup>™</sup> Maps, ESPN <sup>™</sup> gamecast)
- Browsers are ubiquitous and increasingly powerful
- Web 2.0 for enterprise apps requires browsers for presentation logic, backend servers for business and data access logic
- √ Implementation involves many low-level technologies
- ✓ EGL Rich UI hides complexities, enabling business developers to build sophisticated Web 2.0 solutions



RSDC conference scheduler application for iPhone, built with EGL Rich UI



Google Maps is a familiar example of Web 2.0 technology at work





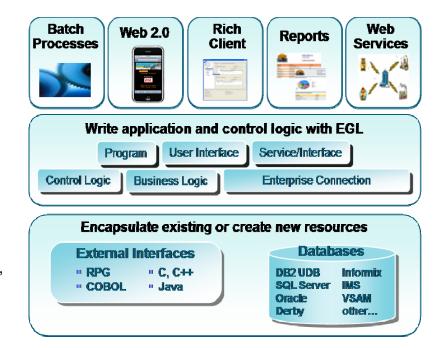


### Simplify Multiplatform SOA and Web 2.0 development

# IBM Rational Business Developer v7.5 and v7.5.1



- Deliver modern innovative solutions with the available resources
  - Simpler, faster way to integrate mainframe, mid-range or distributed applications to Web 2.0 and SOA
- Lower development costs and decrease time to market
  - Platform independent development approach induces a significantly lower error rate and higher quality overall
- Increase competitive advantage
  - Break down skills and technology silos for faster delivery of new business solutions
- Increase programmer productivity
  - New developers can work independently with minimal support from subject matter experts
- Deploy to your choice of target environment
  - J2EE, IBM i (System i), Windows, Linux, zLinux, HP/UX, Solaris, AIX, and z/OS (batch CICS and IMS)
- ✓ Support for latest runtimes
  - IBM WebSphere Application Server V7.0, IBM WebSphere Portal V6.1, CICS v3.2, IMS v10 and MQ
- Support for latest development environment
  - Eclipse 3.4-based IBM Rational development environment, including JSF v1.2



IBM RDi SOA v7.5 & v7.5.1

GA: Nov 26th









### Achieve high productivity, attract talent with modern IDEs

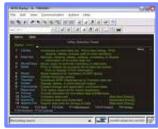


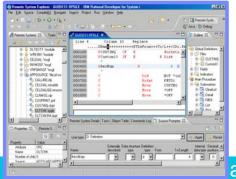
Increase productivity of their development staff, as well as attract new employees to this work

- Attract new and younger developers to backfill retiring developers with Eclipsebased IDEs
- Develop applications faster using built-in high productivity features
- Create web services quickly from existing and new RPG, COBOL, Java, or EGL code
- Reduce IBM i workload by doing verify on developer workstations
- Take advantage of new capabilities in Jazz

#### **Rapid application development**

- ✓ Use modern IDEs to develop and maintain code
- ✓ Debug and test from workstation
- Experienced RPG & COBOL developers made switch to new RDi IDE while sustaining workload
- √ Younger developers appreciated RDi productivity tools and how easily legacy applications could be navigated
  - Rational Developer for i
  - Rational Developer for i for SOA Construction
  - Rational Business Developer
  - Rational Application Developer











# Common infrastructure & tooling to improve collaboration and governance



### Enable multi-platform collaboration, testing and traceability

- Use the same end-to-end lifecycle tools, and processes for IBM i and distributed
- Reduce team infrastructure costs across the enterprise
- Exploit Jazz to increase collaboration and communication for all geographies, roles, programming languages and development platforms
- Improve governance with project management and reporting that spans all platforms
- Automate testing

# **Change and release management and Quality Tools**

- Significantly less effort to synchronize IBM i and distributed teams
  - Rational Team Concert for i
- Reduce time and guarantee repeatability with automated testing, including 5250
  - Rational Functional Tester
- Create test scripts from requirements and document results for any type of testing
  - Rational Manual Tester
- Ensure scalability of applications which expose assets in new ways
  - Rational Performance Tester
- Identify vulnerabilities, privacy issues, quality exposures and standards noncompliance
  - Rational AppScan









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# Collaboration Challenges with Development teams

Why are some developers not following our agreed upon process?

How can I see the status of all of my teams in one place?

How can we verify that all of the components of an application have been built properly?



How are our development teams on other platforms organized? Who is working on what?

Why and when was this code change made?

Distributed software development teams across the hall or spread around the world face similar challenges

We need to deploy an application to our System z, System i, and Unix servers. How can we coordinate that deployment?





The build was broken by another team, how can our team repair w/o waiting







### **Customer Needs/Pain Points**

#### Governance

 to address regulatory compliance issues, adopt better IT Governance approaches

#### Process

- reduce the costs of maintaining infrastructure
- Unified process across different platforms, teams
- Best practice processes and configurable process

### Cross platform & Composite Application Support

to bridge the process islands across platforms and technologies to effective develop and deploy cross platform applications

### Diverse disconnected tools

- to exploit modernization strategies including new languages, tools, and paradigms
- Single Eclipse based IDE

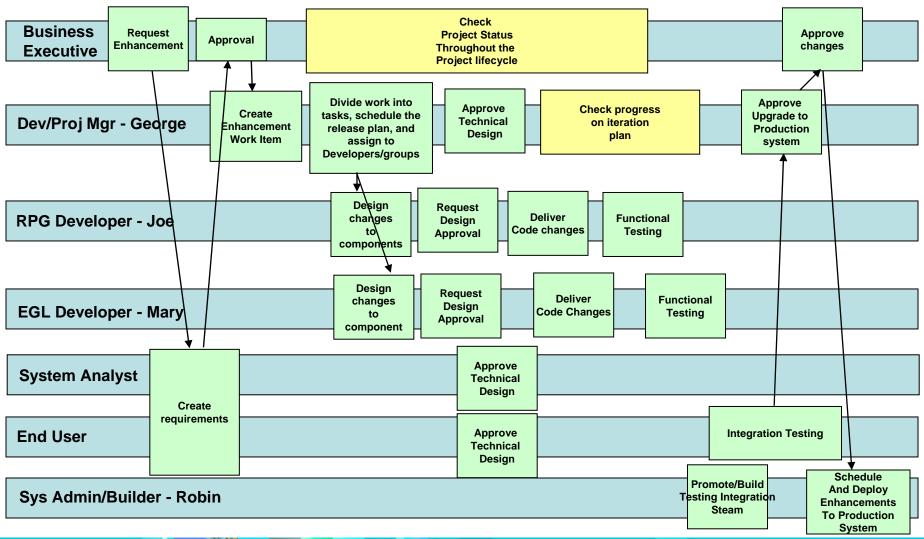






## A sample lifecycle: How do we collaborate?

Sample scenario - Business Executive sends a request to the IT department, which involves a change to a *composite* application with <u>business Logic change with RPG components</u> and <u>web presentation change with EGL components</u>









## What if your tools know...

- ... about your teams
- about your all of your artifacts, i.e. RPG, EGL, change requests, test plans
- ... who is responsible for what
- ... rules under which circumstances code can be delivered
  - Code quality, traceability, test runs, intellectual property
- ... how to setup a new project
- ... how to help new team members get started
- ... your development processes, your favorite work item types and their state transitions
- ... when the build runs and what to do if it breaks







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### The Jazz project: Transforming how people work together



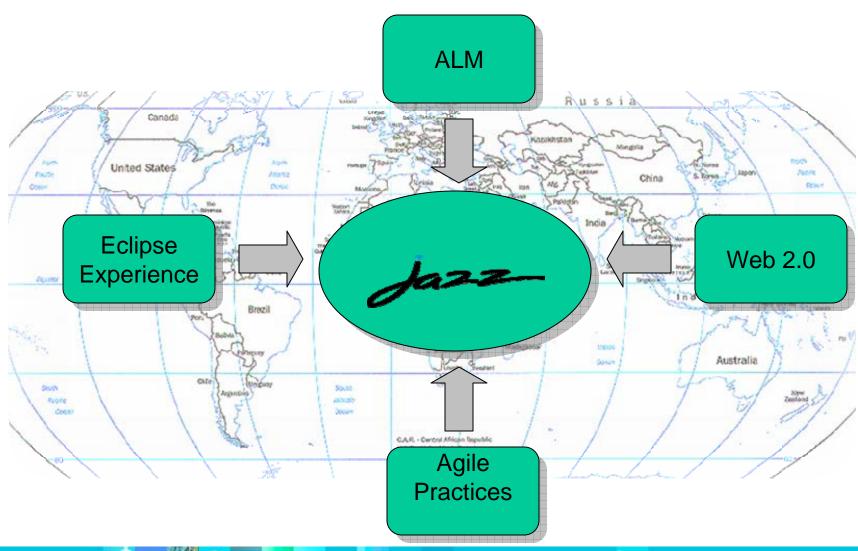
- A major investment by IBM to create a scalable, extensible team collaboration platform
- IBM's vision of the future of software delivery
   globally distributed, fluid and dynamic
- An evolution of the Rational portfolio, which will evolve to support Jazz technology over time
- A community at Jazz.net
  - where you can see Jazz-based products being built







# Jazz: Technology Innovation for the Rational Software Delivery Platform









### What is IBM Rational Team Concert?

## A New Family of Products based on Jazz—Technology

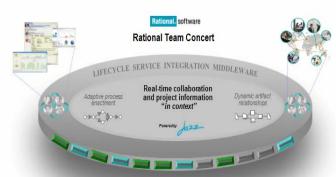
- Optimized for small to midsized development teams
- Integrates the entire team around an integration server
- Includes Enhanced Eclipse Development environment

#### **Primary Features**

- In-place collaboration among team members
- Support and enforcement for development <u>processes</u>
- <u>Transparency</u> of status and trends through automated data-gathering and reporting (Project health status)

#### Motivation

- ▶ Enable flexible, agile application lifecycle management
- Low administrative footprint optimized for agile teams
- ▶ Adds value for existing ClearCase and ClearQuest customers
- Step one in the rollout of "lifecycle service integration" middleware in the Rational Software Delivery Platform

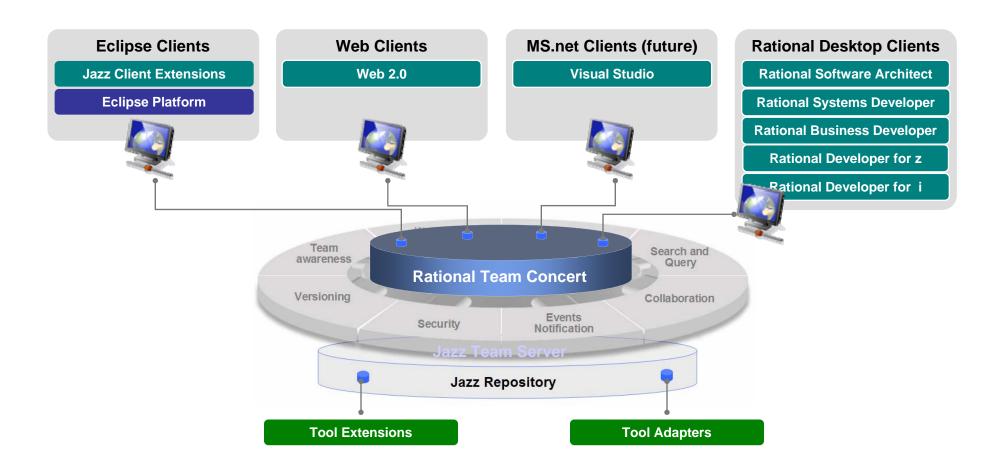








# The Jazz Platform: An open, extensible architecture Supporting a broad range of desktop clients

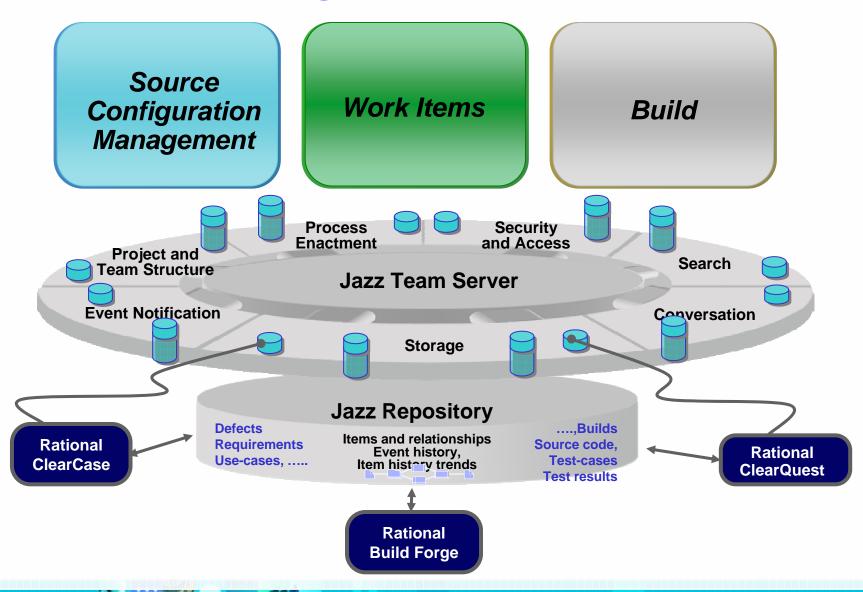








## Jazz as Product Integration Platform





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- RTCi extends the capabilities of RTC:
  - Jazz Team Server which runs natively on the IBM i OS & uses DB2 for i as the repository
  - Integration with RDi to enable team capabilities for native IBM i application developers writing code in RPG, COBOL, CL, DDS, etc.
  - Build toolkit which runs natively on the IBM i OS Run IBM i commands and call native programs
  - Supports both the Native file system QSYS and the integrated file system IFS







- You can use RTCi to:
  - Deploy predefined processes with iterations, user roles, and permissions set up.
  - Customize processes to setup rules (for example, do not allow anyone to check in Java source that has compile errors), user roles and work item types for your organization. RTCi is very flexible!
  - Create plans for project release and any iterations (milestones)
     within the release timeframe
  - Create graphical charts to display project health for example, how many defects closed vs. open



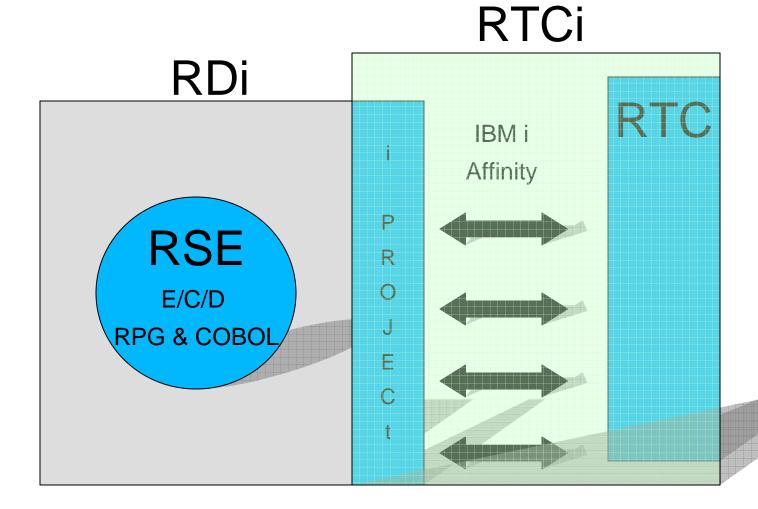




- You can use RTCi to:
  - Put your application code written in RPG, COBOL, Java, EGL under source control.
  - Track changes to your source through work items (tasks, defects, etc.)
  - Look at an audit trail for a particular artifact who made what changes? when were the changes made? why were the changes made?
  - Compile your application artifacts including RPG, COBOL, DDS, CL and Java source, on demand or at scheduled times





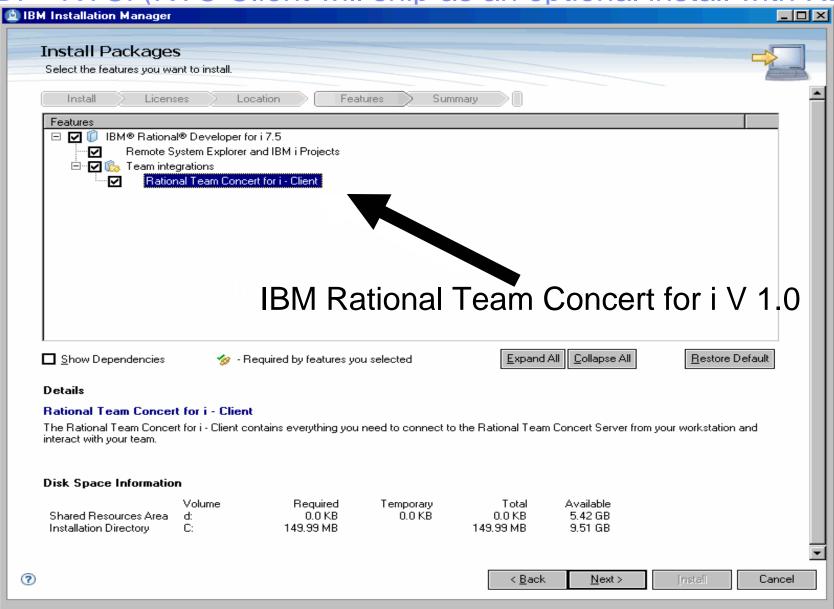








RDi + RTCi (RTC Client will ship as an optional install with RDi)





# Existing RTC components on PPA

IBM Rational Team Concert (Express Edition)	IBM Rational Team Concert (Standard Edition)
Contributor Client License	Contributor Client License
Express Edition Developer Client Access License	Standard Edition Developer Client Access License
Express Edition Server 1.0	Standard Edition Server 1.0







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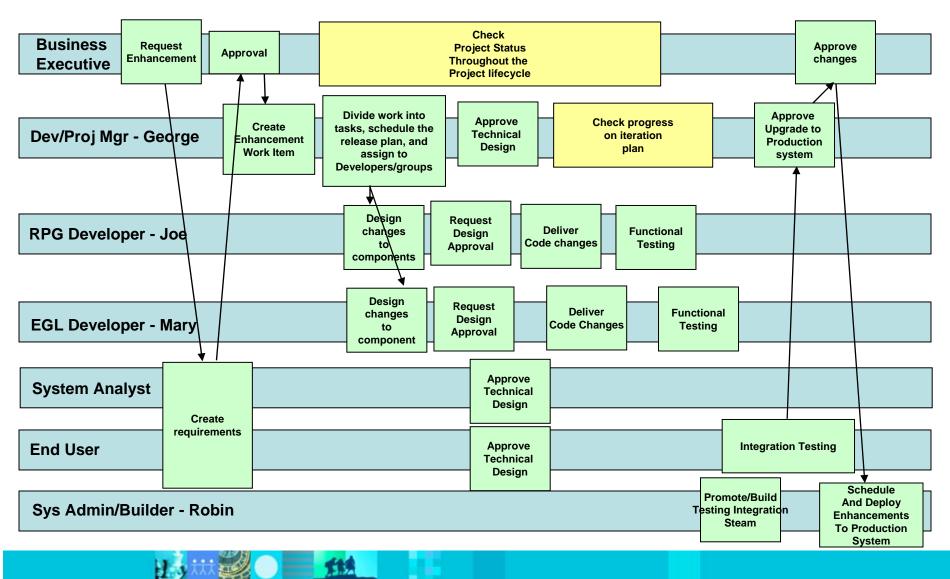






## A sample lifecycle: How do we collaborate?

Sample scenario - Business Executive sends a request to the IT department, which involves a change to a *composite* application with <u>business Logic change with RPG components</u> and <u>web presentation change with EGL components</u>





### Demo Scenario – Executive Submits a New Requirement

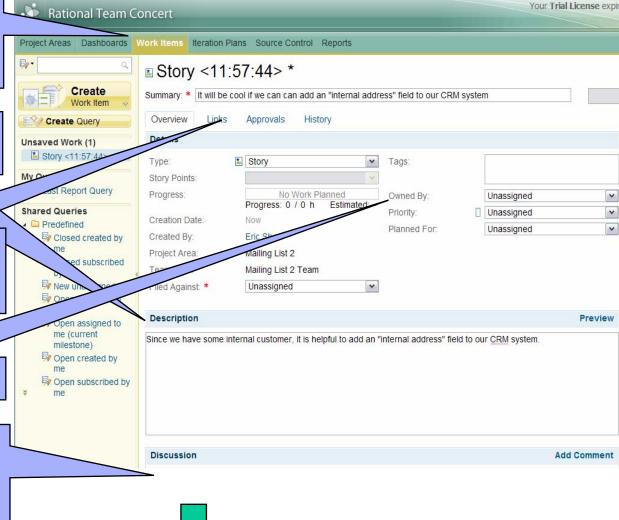
1. Business executive submits a Story Work Item about a potential new requirement via RTC web interface – Project Dash Board.

2. Fill in the description of the idea and pick the product group/team that the Work Item is filed against.

- 3. Select Link tab to attach any files (screen capture, article and etc), also add user names who will be notified about this new requirement Work Item.
- 4. Assign to the system Analyst.
- 5. System Analyst is notified by RTC and via Email.

System analyst works with end User and other stake holders.

All stake holders add their comments into this Work Item.











### Demo Scenario – Executive Approves the New Enhancement

#### An agreement is reached.

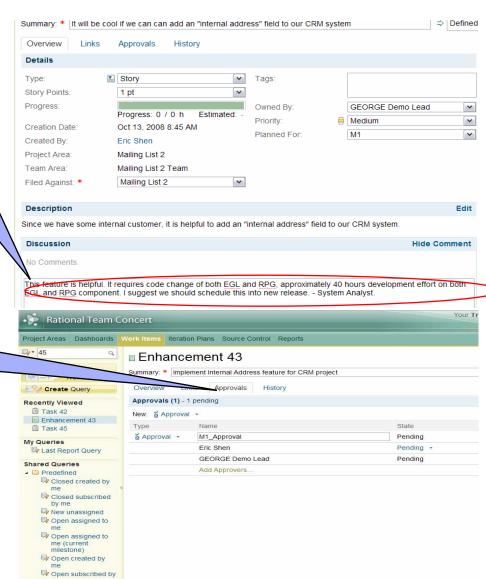
System Analyst clearly <u>defines the requirements</u> - estimated cost, scope, and impact of existing products.

System Analyst requests the approval from Executive.

2. Executive approves the new requirement.

3. System Analyst assigns the Work Item to the Development/Project Manager to work on.



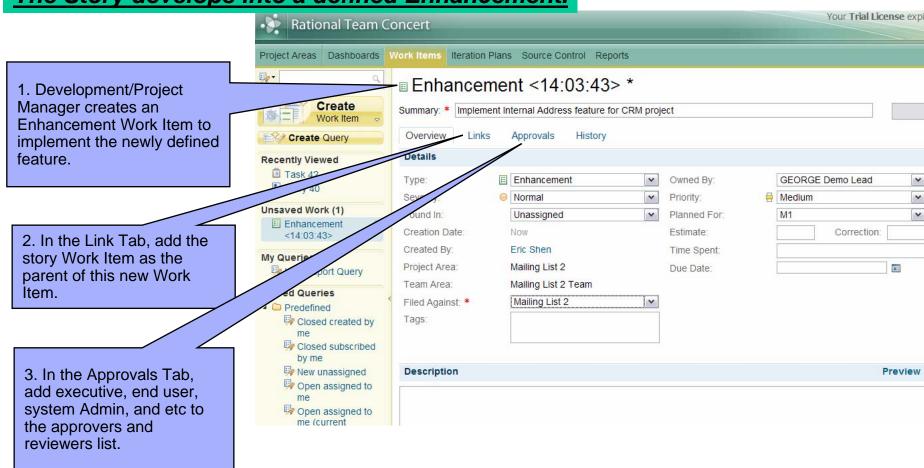






### Demo Scenario – Development/Product Manager Creates an Enhancement

The Story develops into a defined Enhancement.









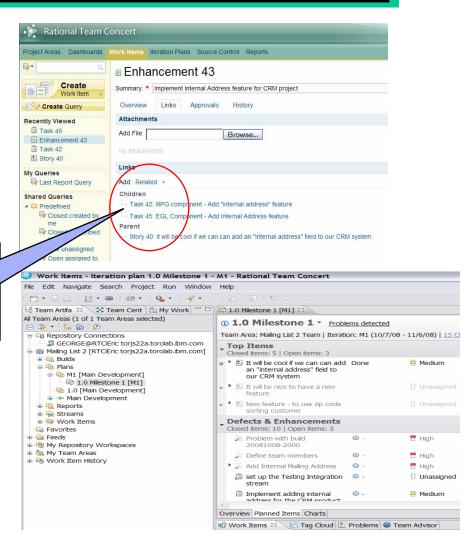


### Demo Scenario – Development/Product Manager Analyzes the Work

### A defined Enhancement is divided into multiple tasks

1. Development/Project Manager creates two new tasks. One is against RPG component, the other is against EGL component. Assign each to the appropriate developer and set the release plan.

2. Set the Parent Work Item for both new Tasks. This shows the overall hierarchy of these Work Items.











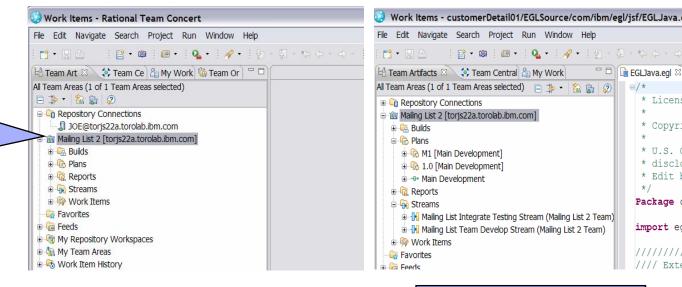
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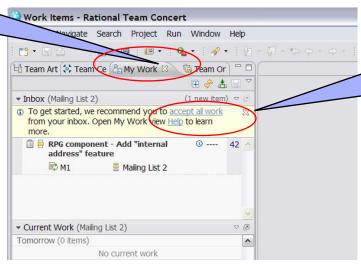
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### Demo Scenario – Developer Joe and Mary Accept the New Assignment

1. Dev Joe and Mary are notified by email and log into RTC project area via RTCi and RDi integrated client.

2. Select MyWork Tab to check his/her new work assignment.







3. Dev Mary accepts all works that newlyassigned to her. Then Mary opens the Work Item and set the Work Item status to Start Working

Joe opens the Work Item and

set the Work Item status to

Start Working



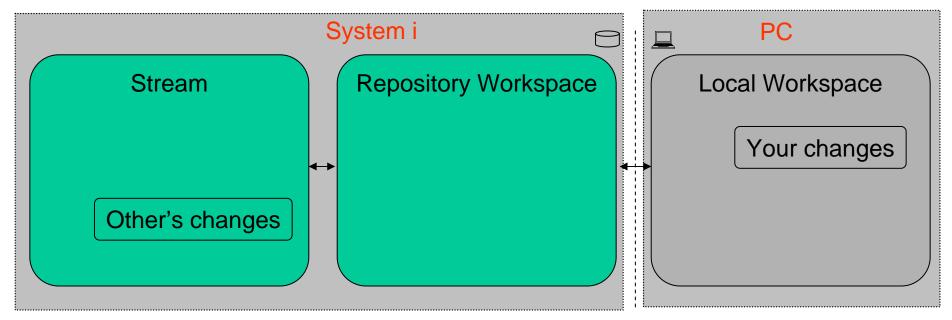








### Basic Software Configuration Management (SCM) Anatomy



- Streams are for sharing resources. For example, a Team Development Stream contains all product assets that a team is actively working on.
- A repository workspace is your personal space saved in the repository. It is for developer to save intermediate work. It is not visible to other team members until you deliver into stream.
- Local workspaces are where you edit resources.
- Changes flow back and forth.

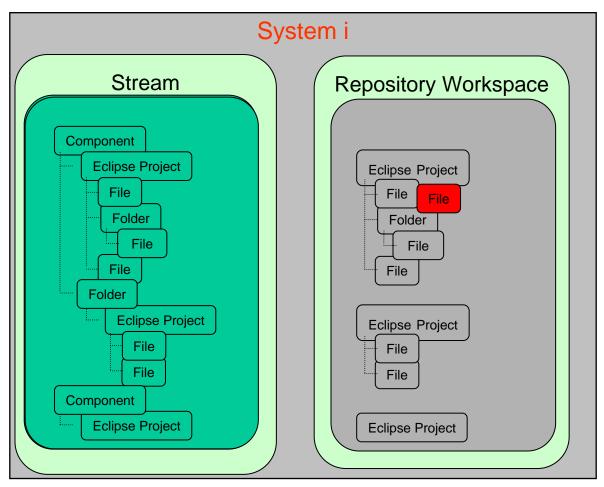


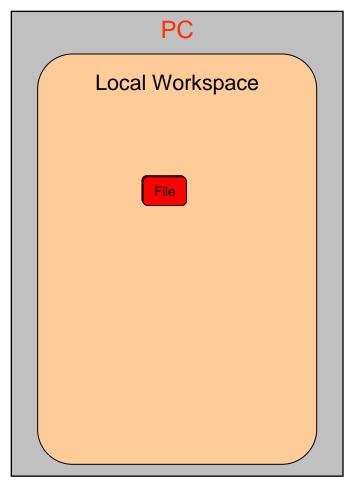


### Set up/load Local Workspace & Check-in and Deliver from Local Workspace

- Create Repository Work Space
- Load into Local Workspace

- Developer Edit the File
- Check-in the new file to Repository Workspace
- Deliver to the Steam to share with other developers



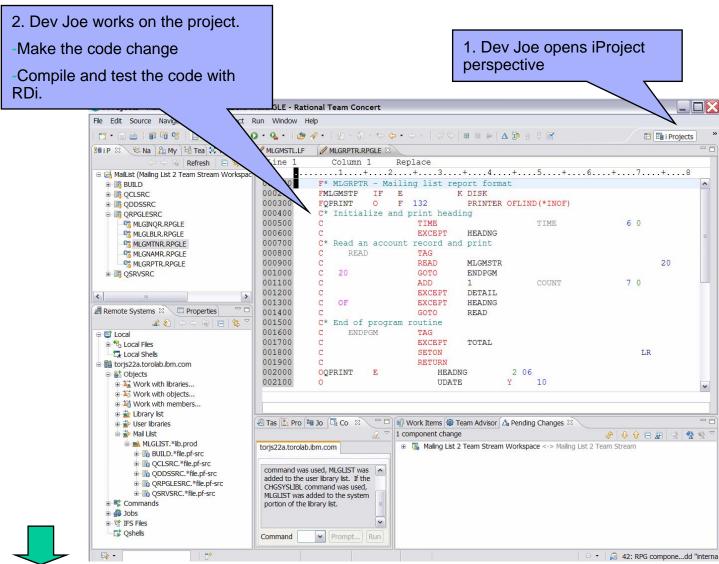








### Demo Scenario – Developer Joe Works on the RDi Project



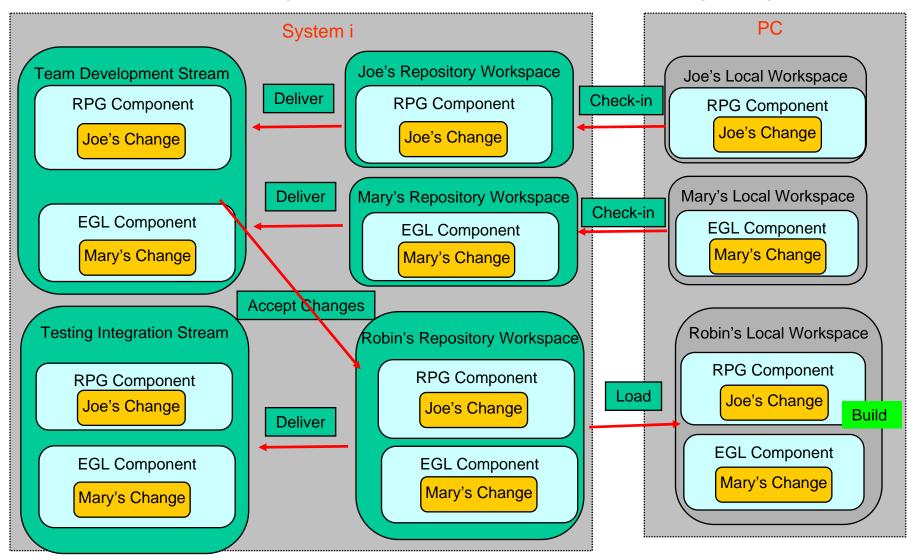








### Builder Promotes Change from Team Dev Steam to Testing Integration Stream

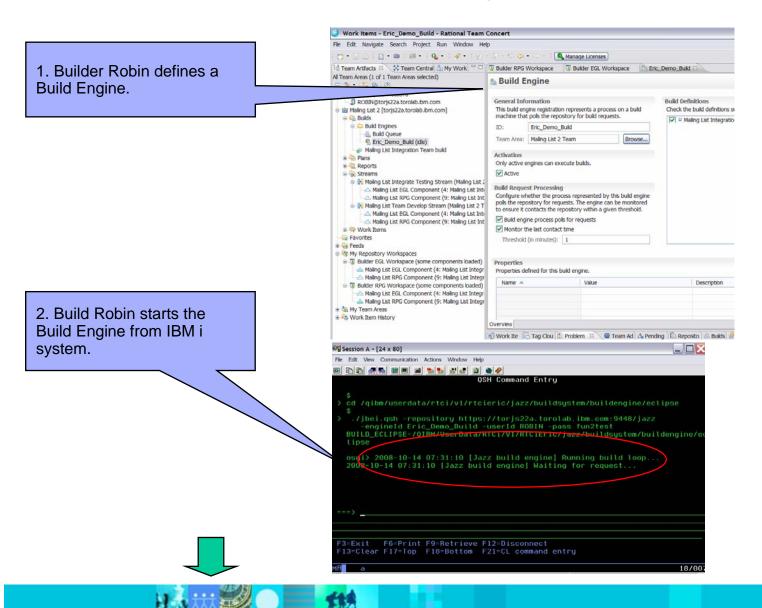








### Demo Scenario – Builder Robin Sets up the Build Environment



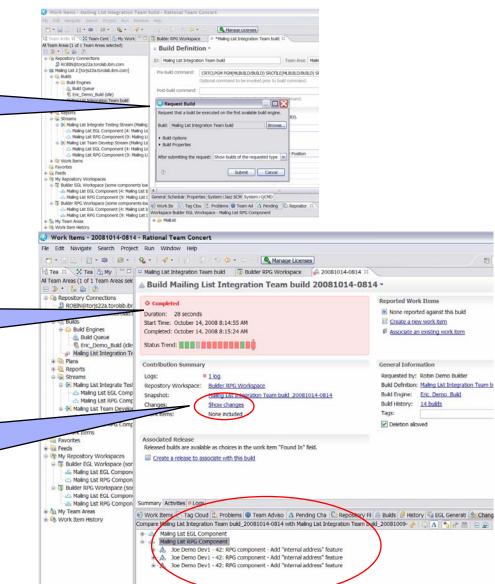


#### Demo Scenario - Builder Robin Launches the Build

1. Builder Robin submits the Build Request.

2. Builder Robin checks the Build Result. In this case, the integrated build failed.

3. Builder Robin finds out that Joe's change breaks the build by opening the *Change Sets* link in build log.



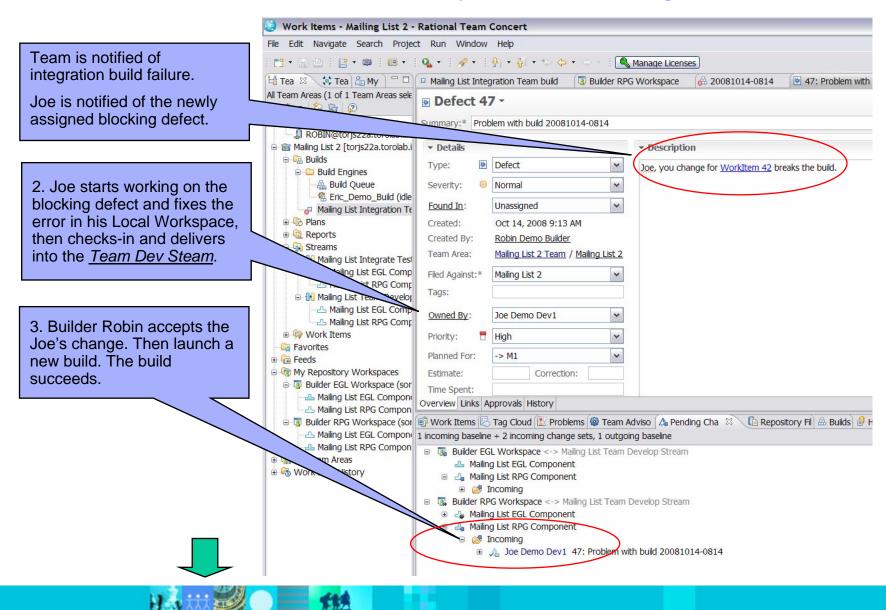








### Demo Scenario - Builder Robin Analyzes the Build Log





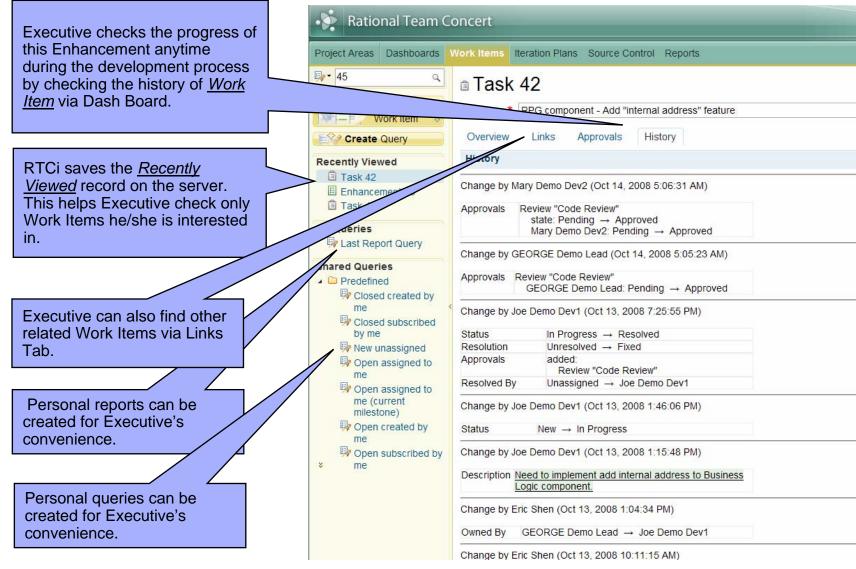
# Additional Features







#### Demo Scenario – Executive Checks Work Item Status via Dash Board

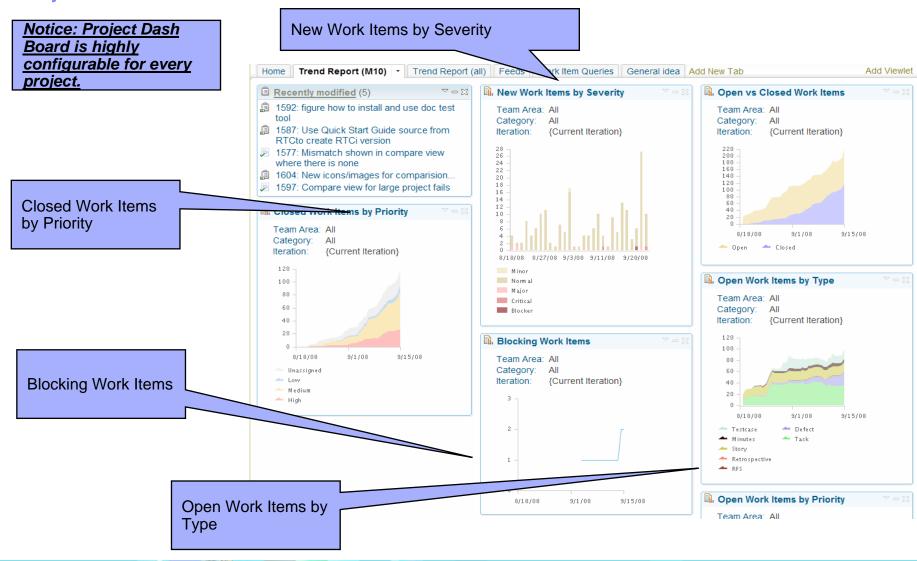








Demo Scenario – Executive/Project Manager Checks Project Status via Project Dash Board



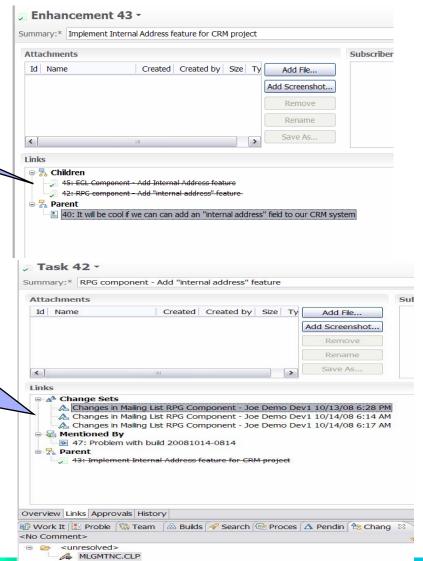


### Demo Scenario – High Traceability of RTC

All related Work Items are linked, from Story to Enhancement, from Enhancement to Tasks.

Each Task includes a complete list of Change Sets.

Each Change Set includes the detail information for <u>Auditing</u> and other purposes. The time ,the person makes the change, and what are changes are all recorded.

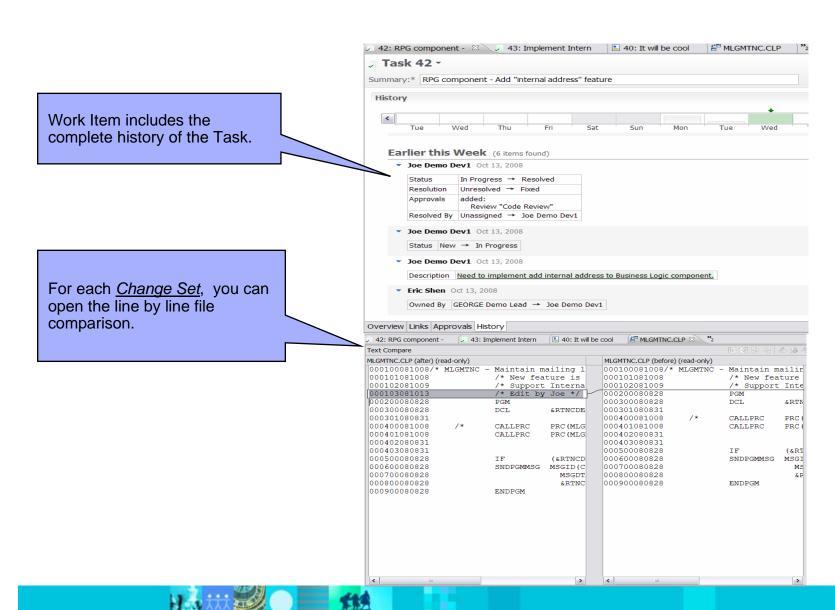








### Demo Scenario – High Traceability of RTC (Continue)





### **Customer Needs/Pain Points**

#### Governance

 to address regulatory compliance issues, adopt better IT Governance approaches

#### Process

- reduce the costs of maintaining infrastructure
- Unified process across different platforms, teams
- Best practice processes and configurable process

### Cross platform & Composite Application Support

 to bridge the process islands across platforms and technologies to effective develop and deploy cross platform applications

### Diverse disconnected tools

- to exploit modernization strategies including new languages, tools, and paradigms
- Single Eclipse based IDE







## Summary

- Jazz is a vision and technology platform
- Rational Team Concert is first product based on Jazz
- Rational Team Concert for IBM i extends
   RTC to support developers on the IBM i OS
- Leveraging Open Commercial Development
- Go to jazz.net and download Rational Team Concert and give us feedback

**MOST IMPORTANTLY**: Enjoy working with RTCi!











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