# Collaborative Lifecycle Management enabling agile development
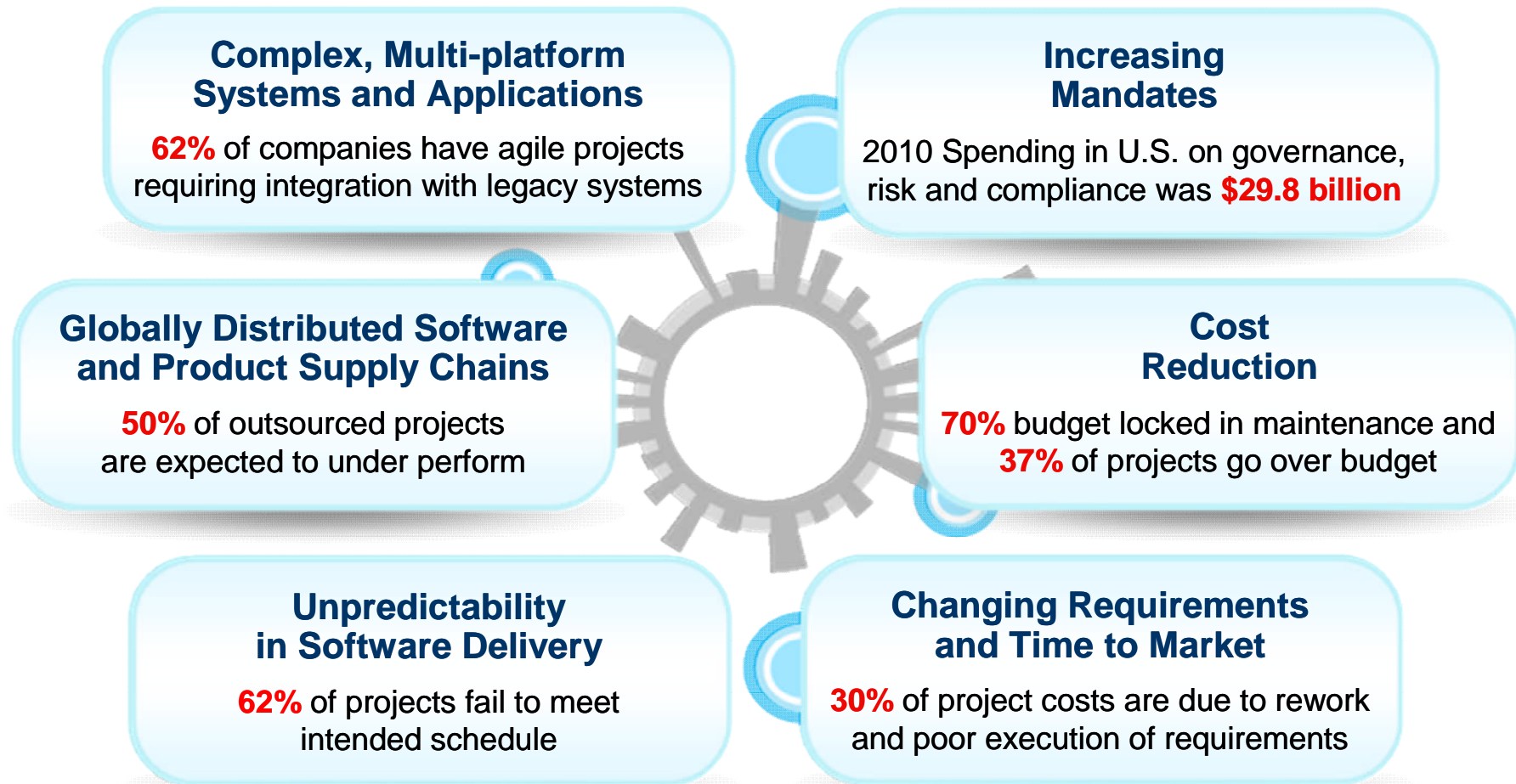
Brian Colbert – Enterprise Modernization Architect

North America Rational S&D

# Realities can stall software-driven innovation
## *Complexities in software delivery compounded by market pressures*

**Complex, Multi-platform Systems and Applications**

**62%** of companies have agile projects requiring integration with legacy systems

**Increasing Mandates**

2010 Spending in U.S. on governance, risk and compliance was **$29.8 billion**

**Globally Distributed Software and Product Supply Chains**

**50%** of outsourced projects are expected to under perform

**Cost Reduction**

**70%** budget locked in maintenance and **37%** of projects go over budget

**Unpredictability in Software Delivery**

**62%** of projects fail to meet intended schedule

**Changing Requirements and Time to Market**

**30%** of project costs are due to rework and poor execution of requirements

Source: Numerous sources, see speaker notes for details

# What happens if you do nothing?

## When failure is not an option…

"What happens if you can't easily or effectively integrate your most critical software delivery applications?"

*Only 47% are successful, 36% are challenged, and 17% are failures

"What happens if your deliverable date slips?"

"What happens if you can't effectively manage product quality before your ship/release?"

### Software failures do impact the bottom line!

*Source: 2010 IT Project Success Rates, 2010 – Scott Ambler  LINK

# Software-driven innovation with IBM Rational
## *Addressing IT, systems, and enterprise modernization*

**STRATEGIC VALUE**

**REDUCED COSTS**

**Business Planning and Alignment**

**Optimize**

Measure business effectiveness of projects | Prioritize investments
Understand business value | Manage risk and impact of change

**Collaborate**

Integrated Application
and Systems Lifecycle Management

**Integrate**

*Collaboration across teams, roles, platforms and geographies*

**Security**

Design, Development and Deployment

*Automation and Know-how*

Requirements | Architecture and Design | Development | Testing | Deploy and Release | Operations

**Open Platform for Data and Tools Integration and Automation**

**What is required to deliver end-to-end visibility across teams, tools and projects?**

Five Imperatives for <u>Effective</u> Application Lifecycle Management to improve organizational productivity

Maximize <u>product value</u> with **In-Context Collaboration**

Accelerate <u>time to delivery</u> with **Real-Time Planning**

Improve <u>quality</u> with **Lifecycle Traceability**

Achieve <u>predictability</u> with **Development Intelligence**

Reduce <u>costs</u> with **Continuous Improvement**

*Learn more at <u>ALM Everywhere</u>*

## In-Context Collaboration improves product value

- Teams can collaborate on and review software development artifacts while **incorporating feedback early and often to continuously** align delivery with the stakeholders' vision

- Provides a **single source of truth** hosted in a shared repository so team members can collaborate effectively around the globe and build a collective intelligence

- Makes **information immediately accessible** to all team members in the context of their work
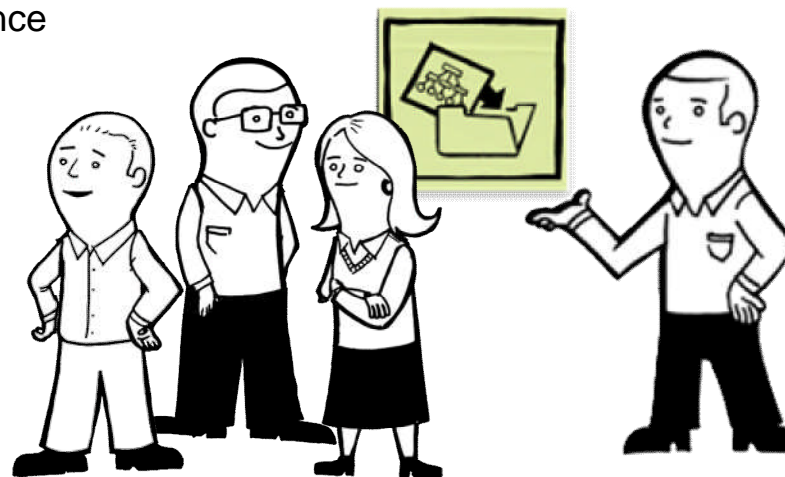
## Real-Time Planning accelerates time to delivery

- Provides a **single plan** that spans requirements, development, and test, ensuring the whole team understands the overall scope of a project

- **Integrates planning with execution** ensuring the entire team understands the true project status

- Allows **everyone to participate** in keeping the plan current and accurate

- Helps teams **respond to the unexpected** in a timely manner ensuring the team stays on schedule

# Lifecycle Traceability improves quality

- Establish **relationships between software artifacts**

- **Identify and close artifact gaps,** ensuring **coverage** across disciplines

- Provide visibility into the **completeness** of planned items by inspecting all related artifacts

- Provide easy **access to related artifacts** ensuring everyone shares the same view

- Deliver transparency which enables everyone to make **fully informed decisions** based business priorities

*Instant access to details from any point in development process*
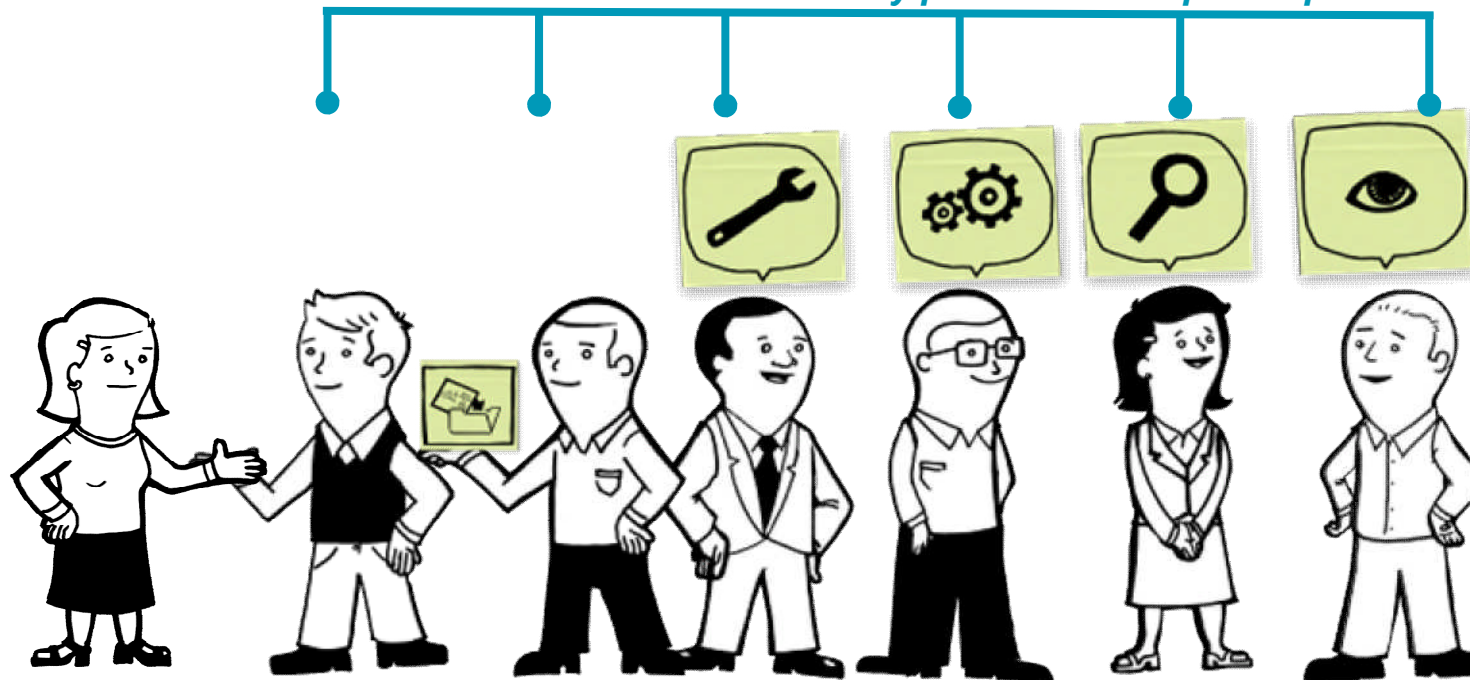


Customer      Final Product      Build Artifacts    Environment    Supporting Systems    Requirements Management    Initial Idea
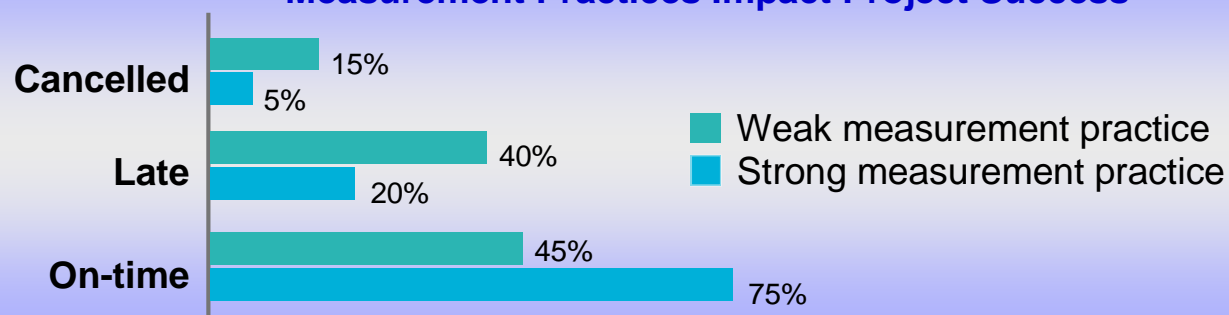
# Development Intelligence improves predictability

- Enable **fact-based decision making** to communicate status, monitor progress, diagnose problems, identify corrective actions

- **Steer projects and programs** to deliver on-time

- Apply **Business Intelligence techniques** to software and systems development

## Measurement Practices Impact Project Success

| Category | Weak measurement practice | Strong measurement practice |
|---|---|---|
| Cancelled | 15% | 5% |
| Late | 40% | 20% |
| On-time | 45% | 75% |

Legend:
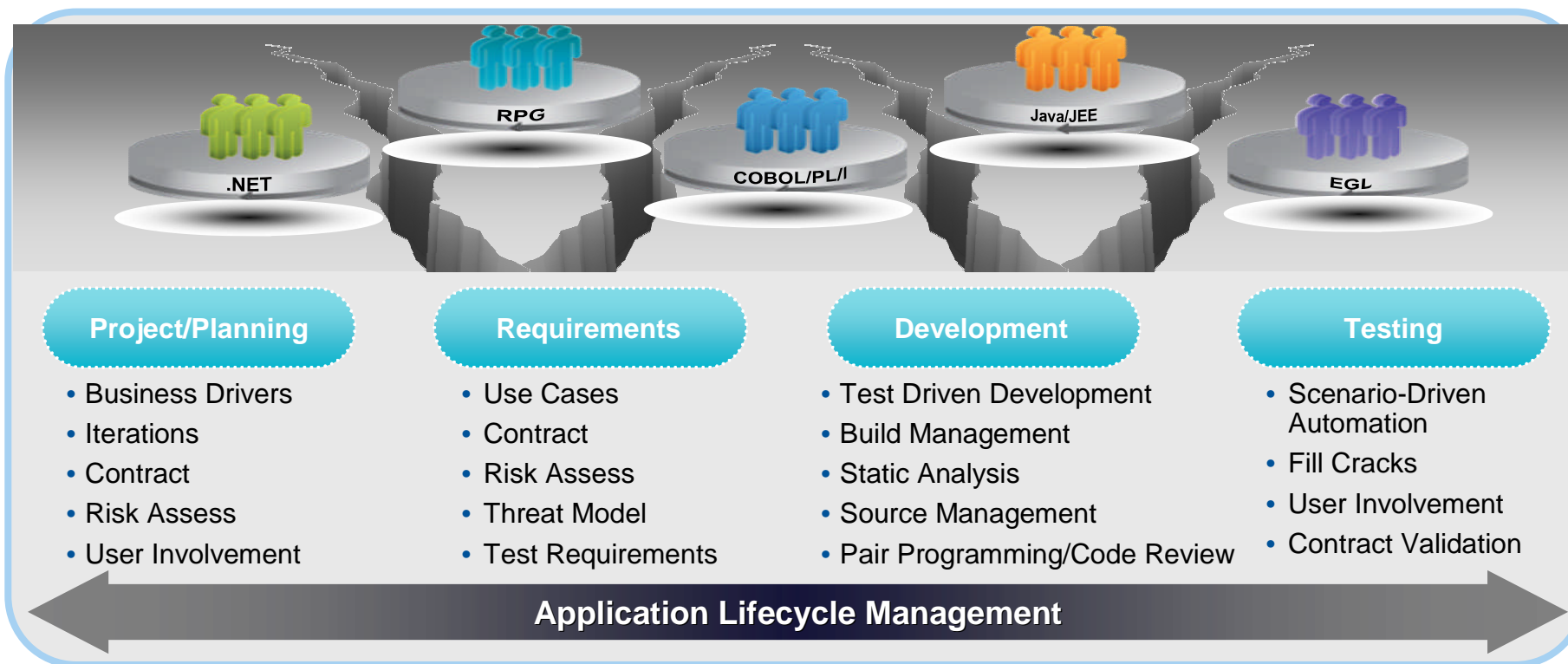- Weak measurement practice
- Strong measurement practice

# Continuous Improvement reduces cost

- Improve software delivery through the ongoing **adoption of best practices and automation** to reduce manual, non-creative and error prone tasks

- Promote **incremental improvement of a project** when needed

- Enable breakthrough improvement by **capturing best practices and reusing** across teams

- Allow **everyone to participate** with easy to adopt best practices at your fingertips.

# Enterprises want to…

*Deliver to market faster and cheaper by exploiting agile and test-driven development practices, effectively tracking end-to-end requirements, reducing team infrastructure costs and increasing cross-geo collaboration and governance*

RPG

Java/JEE

.NET

COBOL/PL/I

EGL

## Project/Planning

- Business Drivers
- Iterations
- Contract
- Risk Assess
- User Involvement

## Requirements

- Use Cases
- Contract
- Risk Assess
- Threat Model
- Test Requirements

## Development

- Test Driven Development
- Build Management
- Static Analysis
- Source Management
- Pair Programming/Code Review

## Testing

- Scenario-Driven Automation
- Fill Cracks
- User Involvement
- Contract Validation

**Application Lifecycle Management**

# But…

*They have "islands" of development, each with different tools and processes that do not support real-time collaboration, integration, comprehensive oversight, or lifecycle traceability, all of which results in reduced quality and slower time to market*

# Transforming Software and Systems delivery requires
## *Evolving from lack of ALM to Collaborative Lifecycle Management*

### Lack of Appl. Lifecycle Mgmt

- **SW investments not delivering the expected value**
- **Time to market issues due to delayed projects**
- **Customer satisfaction issues due to poor quality**
- **Inaccurate project planning**
- **Inability to invest on Innovative projects due to cost constraint**

"At some point, you take a step back, and you realize you have an awful lot of **siloed systems** that are **limiting transparency** across strategic projects."

- Development Director *Temenos, Inc.*

### Collaborative Lifecycle Management

**Optimize the flow of information, people, and process in an iterative cycle of software delivery activities to improve productivity in the areas of:**

- **Maximize product value with** In-Context Collaboration
- **Accelerate time to delivery with** Real-Time Planning
- **Improve quality with** Lifecycle Traceability
- **Achieve predictability with** Development Intelligence
- **Reduce costs with** Continuous Improvement

## Enterprise Customers

### Chaotic
- Silo-ed teams – no collaboration
- lack of and/or disjoint process

**Individual Focus**

**1**

### Repeatable
- Tools per discipline
- Best practices per discipline
- No cross-discipline integration

**Discipline Focus**

**2**

### Defined
- Real time planning
- Team collaboration
- Process support (Agile, Iterative, Waterfall, Hybrid)
- Continuous Build & Test

**Project Focus**

### Measured
- Development Intelligence
- SW dev. lifecycle traceability
- Cross teams collaboration
- Process Enactment
- Governance & Compliance

**Dev Org. Focus**

**4**

### Optimized
- Continuous process improvement
- Collaboration with Business Stakeholders and Operations
- Connecting Business Strategy and Delivery
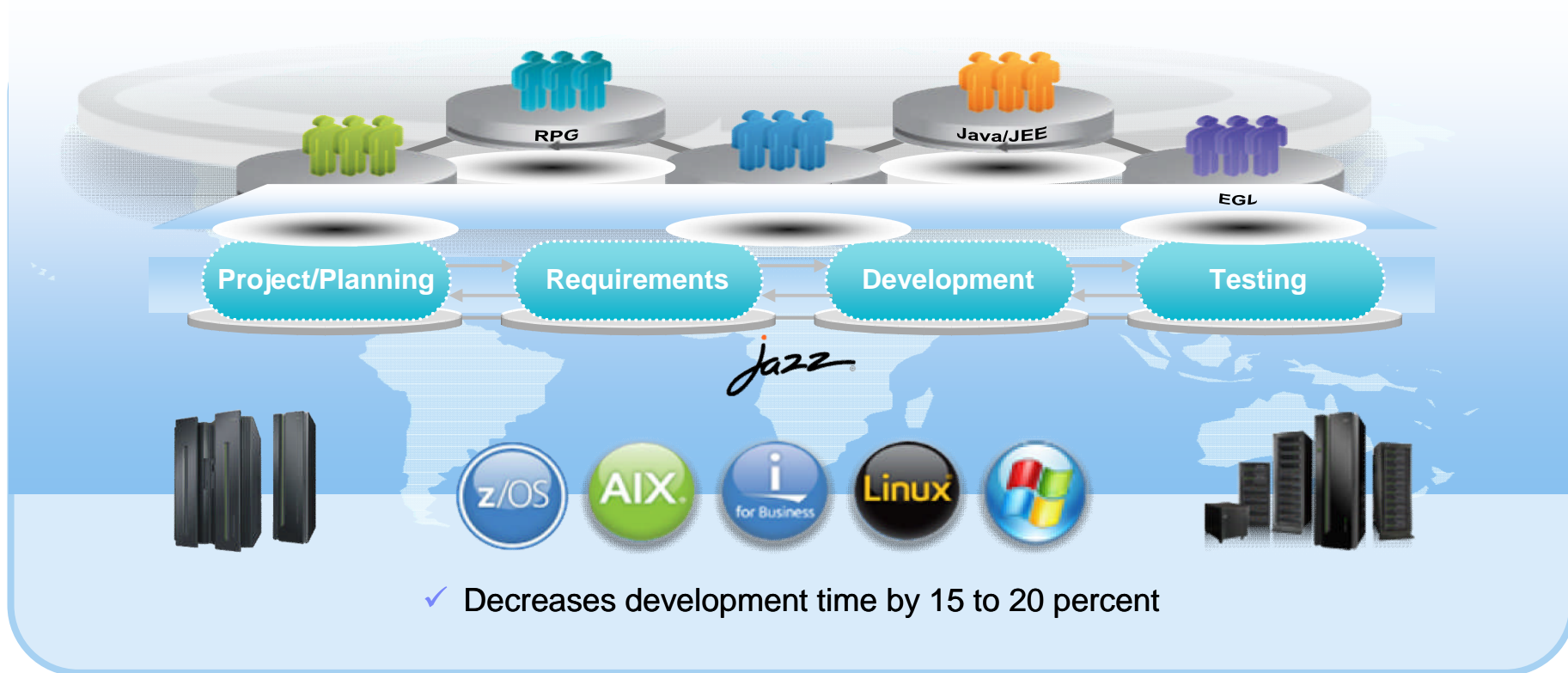- DevOps lifecycle traceability
- Continuous Delivery

**Business Value Focus**

**5**

**ALM adoption steps**

10

# Solution: Collaborative application lifecycle management

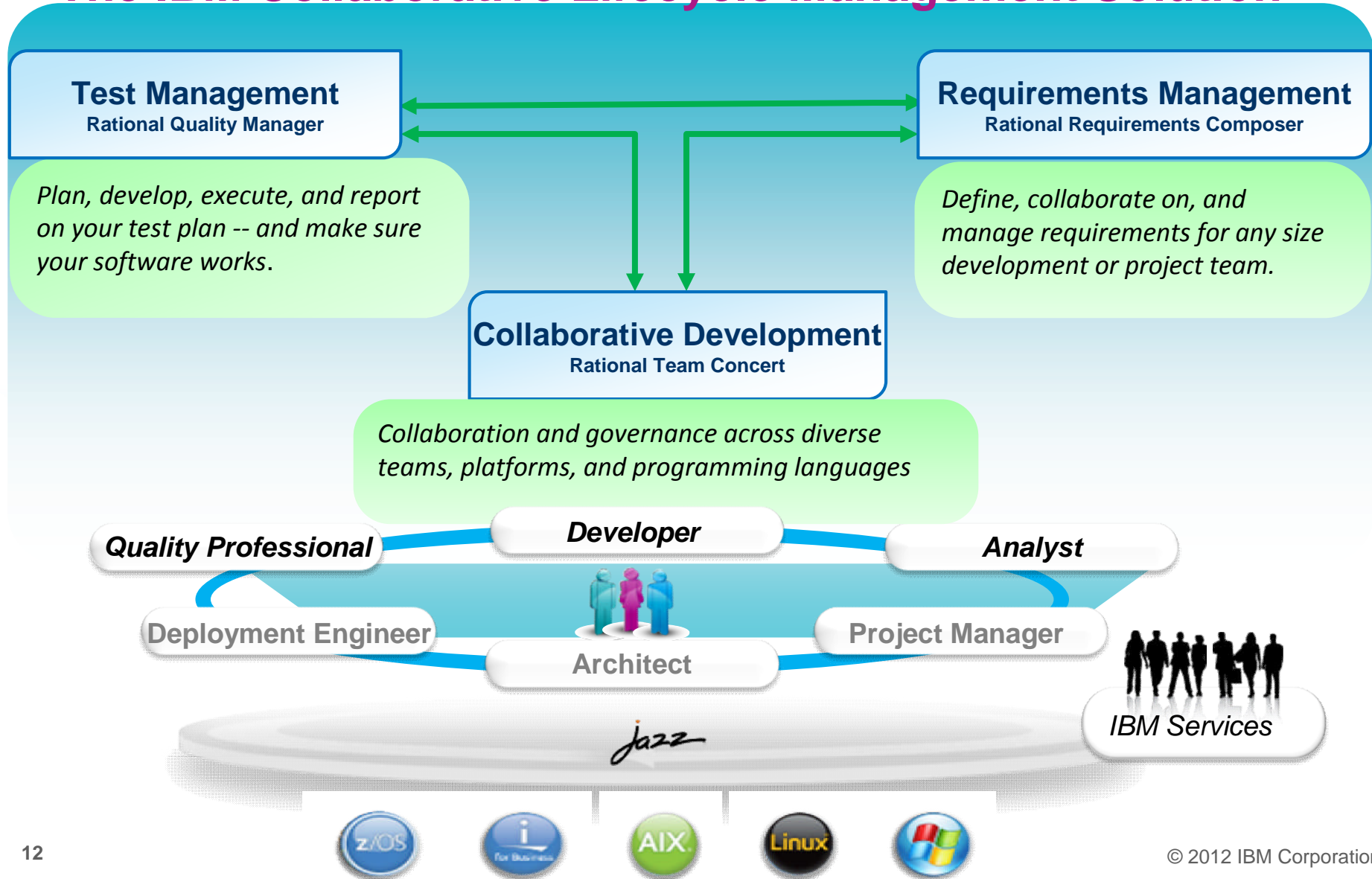*Deploy new, common team infrastructure for source control, change management and build that*



**Project/Planning** → **Requirements** → **Development** → **Testing**

RPG    Java/JEE    EGL

z/OS    AIX    i for Business    Linux    Windows

✓ Decreases development time by 15 to 20 percent

*"Thanks to Rational Team Concert software, our teams can collaborate and develop programs that are increasingly robust in a minimum of time, helping us meet the needs of our clients at a lower cost."*

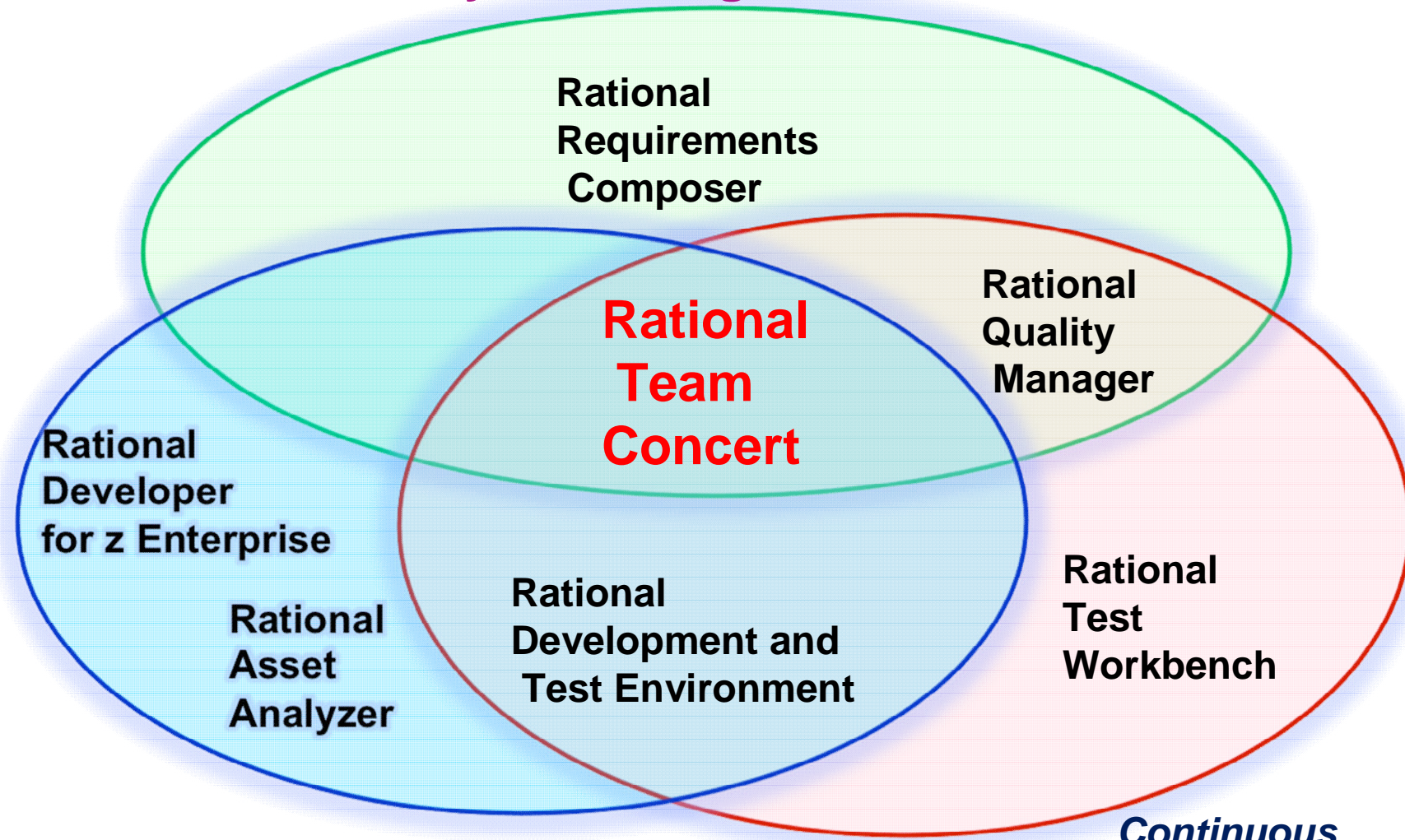-- Open Programs Architect, A financial services company

# The IBM Collaborative Lifecycle Management Solution

**Test Management**
**Rational Quality Manager**

*Plan, develop, execute, and report on your test plan -- and make sure your software works.*

**Requirements Management**
**Rational Requirements Composer**

*Define, collaborate on, and manage requirements for any size development or project team.*

**Collaborative Development**
**Rational Team Concert**

*Collaboration and governance across diverse teams, platforms, and programming languages*

*Quality Professional*

*Developer*

*Analyst*

Deployment Engineer

Project Manager

Architect

*jazz*

*IBM Services*

# Collaborative Lifecycle Management



Rational Requirements Composer

Rational Team Concert

Rational Quality Manager

Rational Developer for z Enterprise

Rational Asset Analyzer

Rational Development and Test Environment

Rational Test Workbench

*Integrated Solution For System z Development*

*Continuous Integration Solution for System z*

# Rational Team Concert: A Closer Look

## Planning
- Integrated release/iteration planning
- Effort estimation & progress tracking taskboards
- Out of the box process templates: formal or agile

## Project Transparency
- Customizable web based dashboards
- Real time metrics and reports
- Project milestone tracking and status

## SCM
- Component based SCM enables reuse across projects
- Change set based for easy addition or removal of features
- Server-based sandboxes
- Use RTC SCM or co-exist with a legacy SCM

## Work Items
- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- Connects to ClearQuest or Change

## Build
- Automated work item and change set traceability
- Build definitions for team and personal builds
- Local or remote build servers
- Multi-level continuous integration
- Can integrate with BuildForge

## Jazz Team Server
- Single structure for project related artifacts
- World-class team on-boarding / offboarding including team membership, sub-teams and project inheritance
- Role-based operational control for flexible definition of process and capabilities

- Team advisor for defining / refining "rules" and enabling continuous improvement
- Process enactment and enforcement
- In-context collaboration enables team members to communicate in context of their work

# Enterprise Platform Capabilities - Dependency Build

- **Build changed and impacted programs only**

- **Options:**
  - Build subsets
  - Personal build
  - Preview build
  - Ignore changes
  - Rebuild

□ **Build Definition** ▾

ID: mortgage.dev | Project or Team Area: JKE Banki

General | Dependency Options

**Build File and Targets**

◉ Generate a build file from these language definitions

| |
|---|
| JKE BMS map processing |
| JKE COBOL compilation |
| JKE COBOL compilation and link-edit |
| JKE COBOL compilation (CICS) and link-edit |
| JKE COBOL compilation (CICS&DB2) and link-edit |

Add...

Remove

Move Up

Move Down

○ Use an existing build file

Specify a custom build file and the targets to be invoked. Properties can be referenced using ${propertyName}.

Build file:*

Build targets:

☑ Trust build outputs

Choose to build all programs or a custom subset of buildable artifacts.

○ Build workspace

◉ Build subset    JKECSMRD    Browse...

☑ Build changed items only

# Enterprise Platform Capabilities – Impact Analysis

© 2012 IBM Corporation

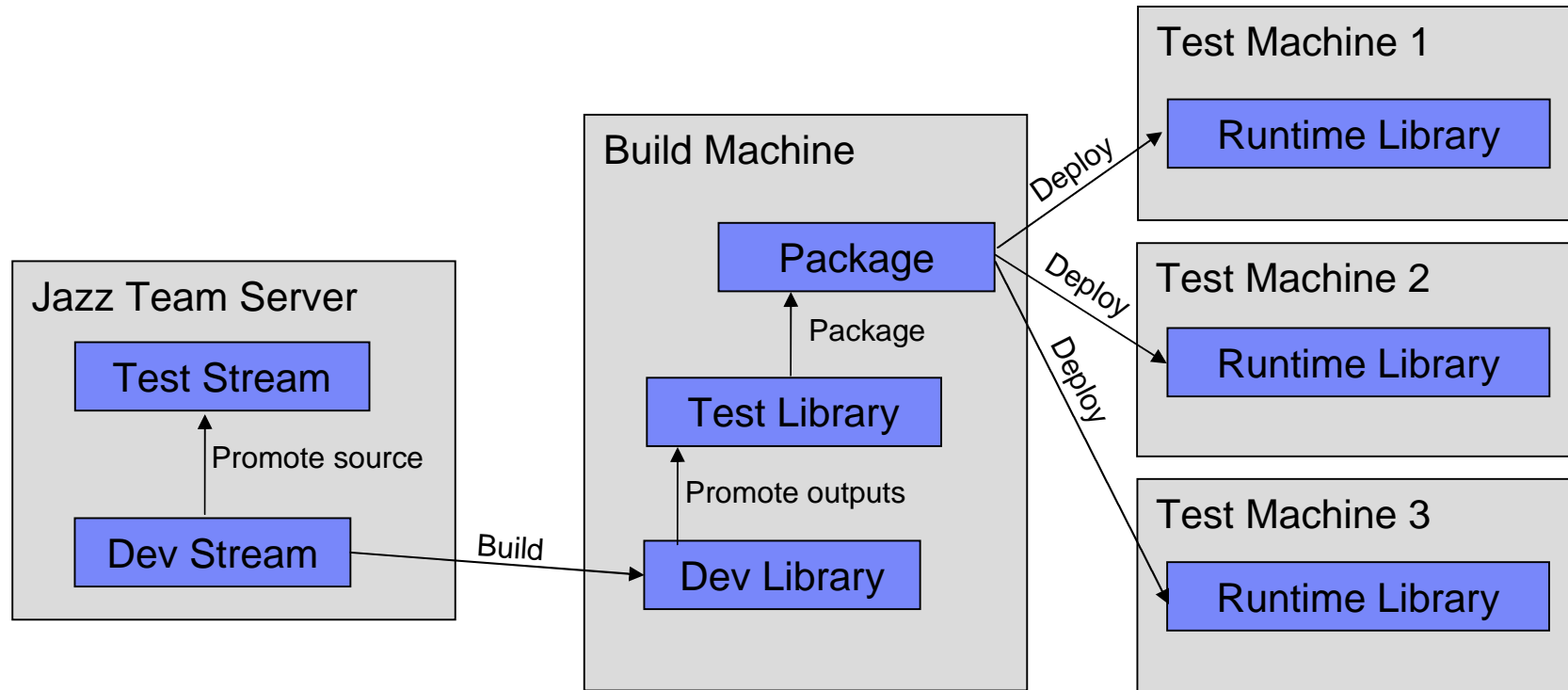# Enterprise Platform Capabilities - Promotion

- **Flow source code changes and build outputs through the development hierarchy**



Source
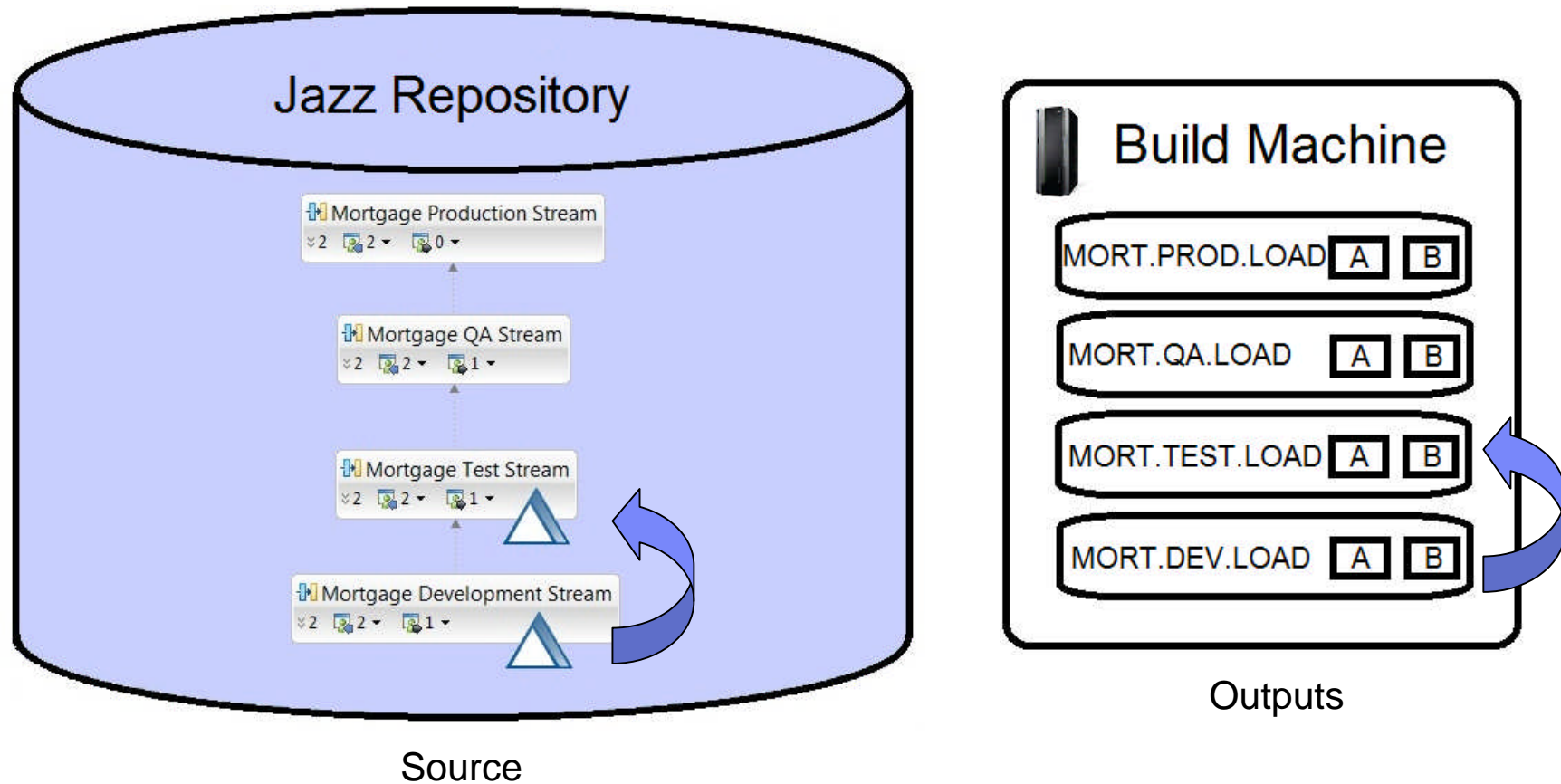
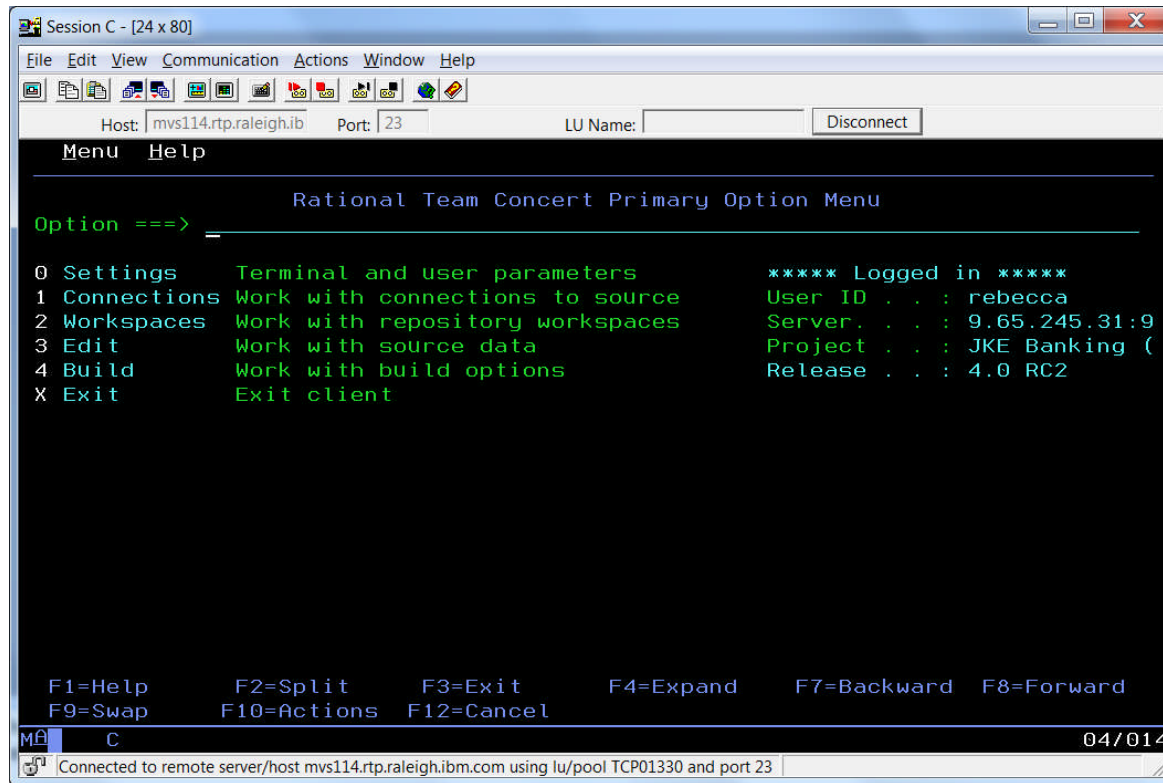Outputs

# Enterprise Platform Capabilities - Deployment

- **Package build outputs and deploy to various runtimes**

# Enterprise Platform Capabilities - ISPF Client

Developers still want a Green Screen?



```
Session C - [24 x 80]
File  Edit  View  Communication  Actions  Window  Help

Host: mvs114.rtp.raleigh.ib   Port: 23        LU Name:            Disconnect

Menu   Help

                 Rational Team Concert Primary Option Menu
Option ===> _

0  Settings      Terminal and user parameters      ***** Logged in *****
1  Connections   Work with connections to source   User ID . . : rebecca
2  Workspaces    Work with repository workspaces   Server. . . : 9.65.245.31:9
3  Edit          Work with source data             Project . . : JKE Banking (
4  Build         Work with build options           Release . . : 4.0 RC2
X  Exit          Exit client




 F1=Help      F2=Split     F3=Exit      F4=Expand    F7=Backward  F8=Forward
 F9=Swap      F10=Actions  F12=Cancel
MA   C                                                              04/014
Connected to remote server/host mvs114.rtp.raleigh.ibm.com using lu/pool TCP01330 and port 23
```

- Full function SCM client
- Uses the usual ISPF editor to edit files and follows common ISPF panel standards for all panels and actions
- Designed to be used with the Web client for planning and work items

# PharmaPartners B.V.
## *Boosts productivity with Collaborative Lifecycle Management*

### The need:

Because of increasing product diversification, complexity and a more demanding market, PharmaPartners B.V. needed to streamline its development process from end to end.

### The solution:

The IBM Rational Collaborative Lifecycle Management solution provides a an integrated application lifecycle solution to capture requirements, create a project plan for a product release broken down into a work items assigned to individual developers, and define and manage test plans.

### The benefits:

▪ Boosted developer **productivity by up to 12%**

▪ Gained **accelerated time to market**

▪ **Achieved full ROI within 12 months** of solution implementation
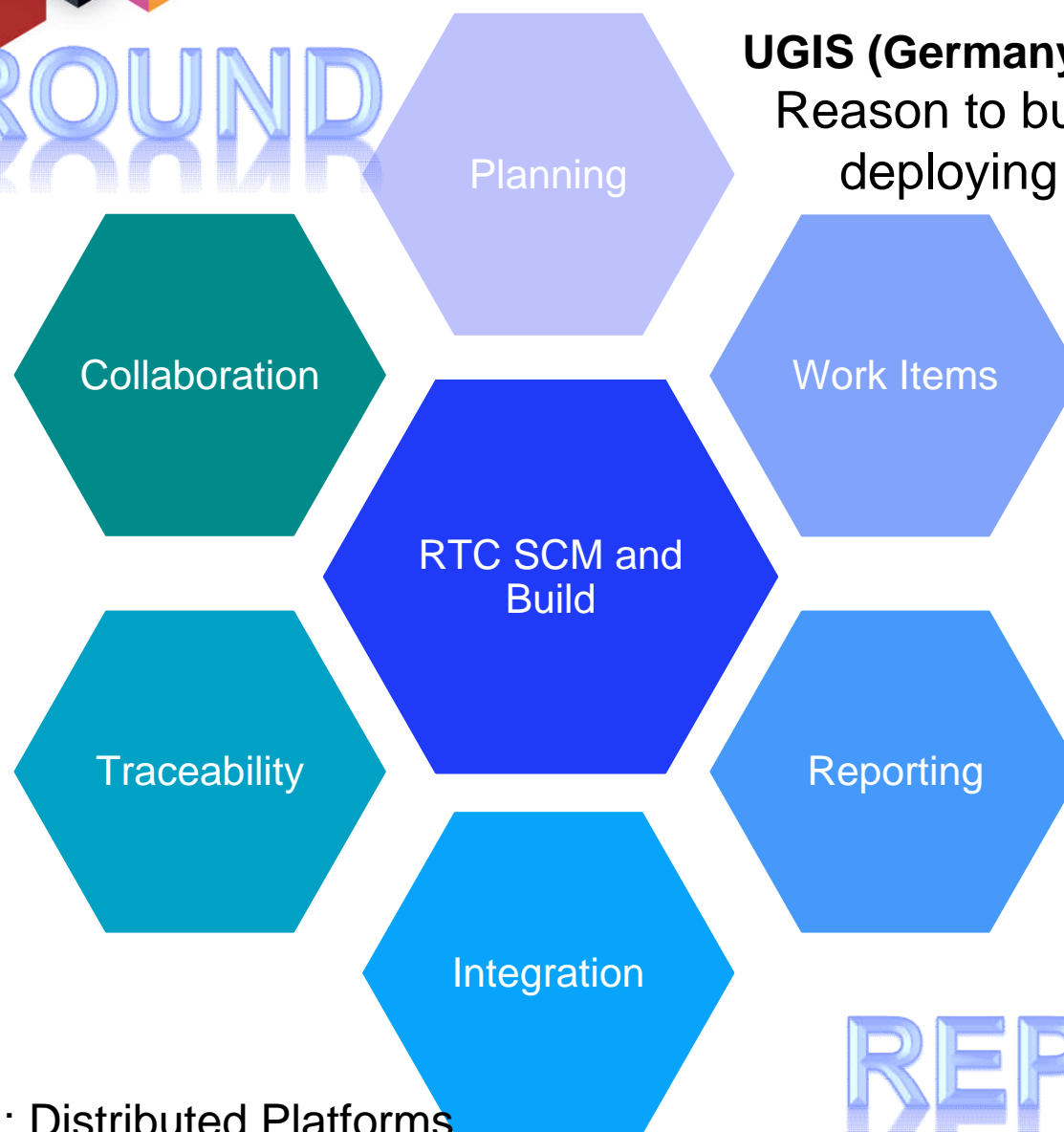
### Solution components:

- IBM® Rational® Quality Manager Standard Edition

- IBM Rational Team Concert Standard

- IBM Rational Requirements Composer

- IBM Rational Software Architect

- IBM Software Services: Rational Custom Consulting and Mentoring; Rational Deployment Services

- IBM Business Partner: Synobsys Nederland B.V.

SPP03079-CAEN-00 (March 2011)

SURROUND

**UGIS (Germany, Austria and Italy)**
Reason to buy : Cross-platform deploying 4000+ developers

Planning

Collaboration

Work Items

RTC SCM and Build

Traceability

Reporting

Integration

REPLACE

**Fidelity (US)**
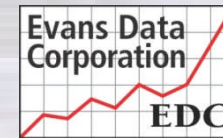Reason to buy : Distributed Platforms
Ran for >1 year in surround mode

# Developers Rate IBM's Rational Tool Suite as #1

- Users of IBM's Rational tool suite are more satisfied with its features and capabilities than users of any other major software development platform

- Rational was rated #1 in several categories

- Rational has been rated #1 in six of the last seven years

*"IBM has shown significant insight into what developers want and need along with an impressive ability to execute."*

*- Janel Garvin, CEO of Evans Data Corporation*

Evans Data Corporation EDC

**Customers**   **Line of Business**   **Software Development**   **Operations**

*Accelerated Delivery*

**Open Lifecycle Integration**

*Jazz*

**Home Grown, Open Source, Third-party, and IBM**

Press Release by Evans Data Corporation, SANTA CRUZ, Ca. May 29, 2012
Evans Data Corp's annual User's Choice for Software Development Platforms, April 2012

# IBM Rational is a recognized leader in ALM

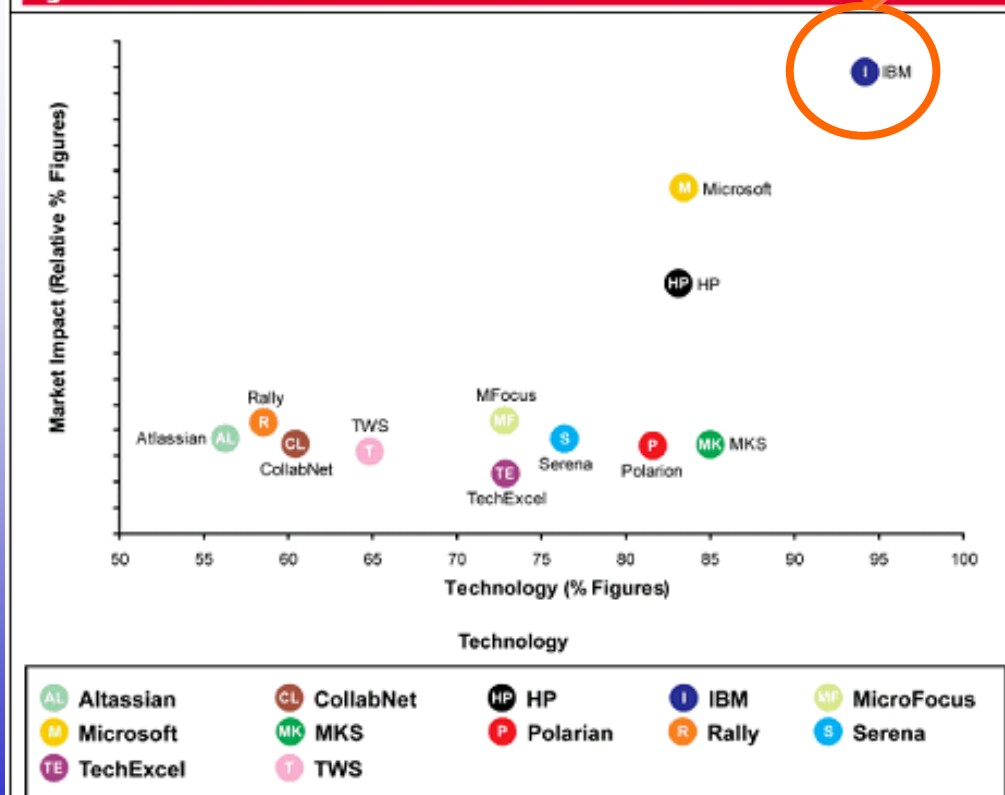## Ovum Decision Matrix: Selecting an ALM Vendor

Reference Code: OI00068-002 Publication Date: March 2011
Authors: Chandranshu Singh, Tony Baer, Michael Azoff

### *Report Highlights*

- "IBM has the broadest and arguably the *deepest portfolio among all vendors profiled in this report*."

- IBM's Technology Score: **94.3%**

- IBM's Market Impact score: **10/10**
  - The highest score!
  - All other vendors were ranked relative to IBM

- "Furthermore, the vendor has ensured that it stays ahead of the pack by having a *good grasp of market demand and meeting it through tool support*"



**Figure 3: Extended ALM Decision Matrix**

Market Impact (Relative % Figures) vs Technology (% Figures)

| AL | Altassian | CL | CollabNet | HP | HP | I | IBM | MF | MicroFocus |
| M | Microsoft | MK | MKS | P | Polarian | R | Rally | S | Serena |
| TE | TechExcel | T | TWS | | | | | | |

Source: Ovum

OVUM

©Ovum published 3/2011 - This report is a licensed product and is not to be photocopied

**Gartner's report examines ALM tool offerings and identifies the trends shaping the emerging marketplace.**

Gartner Market Profile: Application Life Cycle Management (ALM) Tools, 2012

# *Report Highlights*

– **Full software development life cycle (SDLC) support is essential** for a complete ALM solution

– **Industry-specific features** promote **easier** ALM adoption

– **Collaborative functionality is key** to successful ALM productivity

➡ **Link to full report**

ALM Tools Software Development Life Cycle (SDLC) Discipline Support
*Capabilities Offered by Vendor*

Figure 3. ALM Tools SDLC Discipline Support

| | Issue Management | Requirements Management | Software Configuration Management | Integration and Build | Environment Provisioning | Release Engineering | Test Case Management | Automated Testing | Manual Testing | Static Code Analysis | Peer Review |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlassian | + | • | TPI | • | TPI | • | TPI | TPI | • | TPI | • |
| CollabNet | + | • | • | TPI | • | • | TPI | TPI | TPI | TPI | TPI |
| Digite | + | • | TPI | TPI | TPI | TPI | • | TPI | • | TPI | • |
| HP | + | • | TPI | TPI | • | • | • | • | • | • | NA |
| IBM | + | • | • | • | • | • | • | • | • | • | • |
| Inflectra | + | • | TPI | TPI | NA | • | • | • | • | NA | NA |
| Kovair | + | • | TPI | TPI | NA | • | • | TPI | • | TPI | NA |
| Micro Focus | + | • | • | • | NA | TPI | • | • | • | • | NA |
| Microsoft | + | • | • | • | • | • | • | • | • | • | TPI |
| Parasoft | + | • | TPI | TPI | • | TPI | • | • | • | • | • |
| PTC (MKS) | + | • | • | TPI | TPI | • | • | • | • | TPI | • |
| Rally Software | + | • | TPI | TPI | NA | TPI | • | TPI | • | NA | NA |
| Serena Software | + | • | • | • | • | • | • | TPI | TPI | TPI | TPI |
| SmartBear Software | + | • | TPI | • | NA | • | • | • | • | TPI | • |
| TechExcel | + | • | • | TPI | NA | TPI | • | TPI | • | NA | NA |
| ThoughtWorks | + | • | TPI | • | TPI | • | • | • | • | NA | NA |
| VersionOne | + | • | TPI | TPI | NA | TPI | • | TPI | • | NA | NA |

Functionality Legend: • — Has Feature, TPI — Third-Party Integration, NA — Not Currently Available

© 2012 Gartner, Inc. and/or its affiliates. All rights reserved.

Source: Gartner (February 2012)

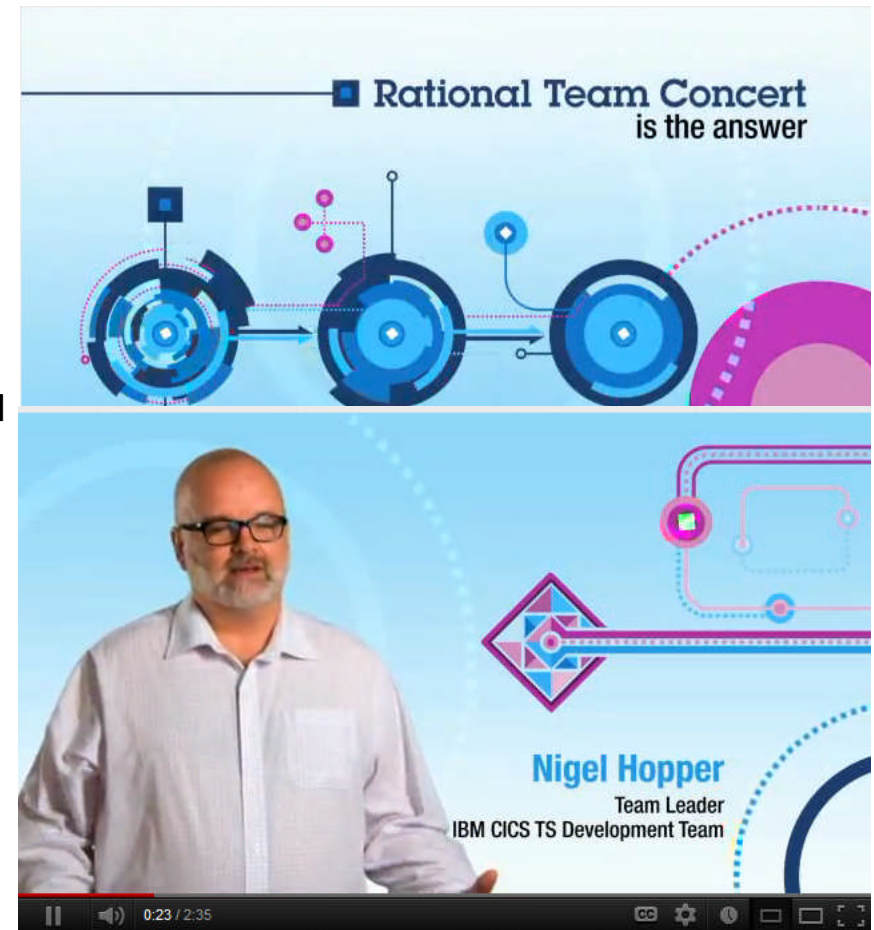# The IBM CICS development team simplifies software builds

*IBM Rational software helps support agile development & improve collaboration*

The need:  **The IBM® CICS® development team recognized that its product development cycle could benefit by switching from its existing waterfall development processes to agile development methods.**

The solution:  **The team used** IBM Rational Team Concert™ **and** IBM Rational® Developer for System z® **software to create a highly configurable, end-to-end integrated development environment.**

Value add:

- **Supports greater visibility via integrated work item and reporting tools**

- **Reduces the amount of preparation required for status meetings by 75 %**

- **Improves the efficiency of status meetings, decreasing meeting times by 33 %**

**video on the <u>Rational You Tube channel</u>** → <u>http://bit.ly/QHMbTc</u>

**www.ibm/software/rational**

**Application Lifecycle Management can help break down the barriers to effective software delivery any team can face…**

ALM manages the flow of:

*People*

*Process*

*Information*

Decide

**1. Business**

Do

Deploy

**2. Development**
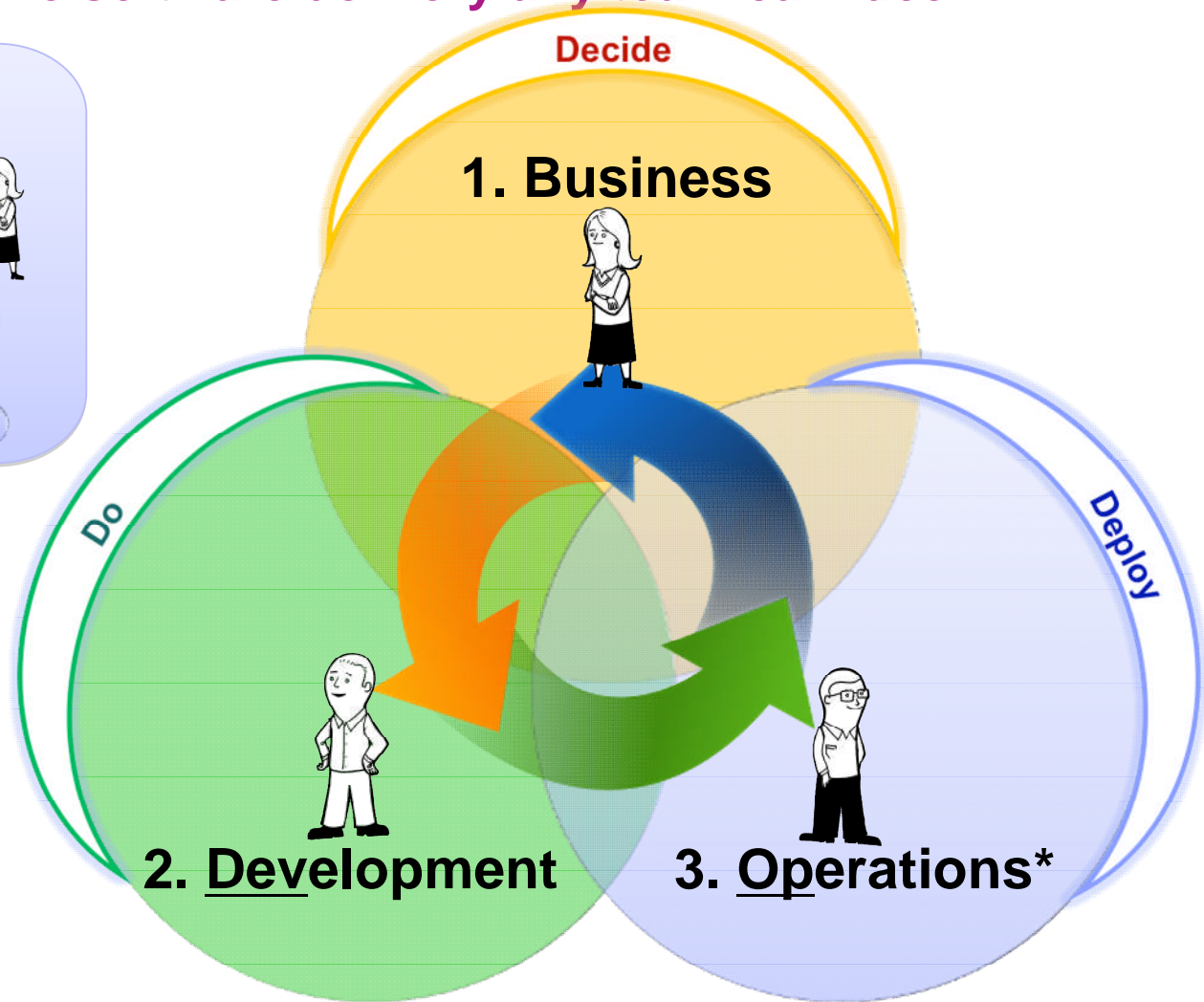
**3. Operations\***

# Integrated and effective Application Lifecycle Management

## Enhanced and expanded for broader focus on the five imperatives for effective ALM

- Centralized administration, evaluation and roll-out capabilities for faster, easier, incremental deployments

- Incremental, flexible upgrade allows each role on a team to upgrade at their own pace

- Integrated software design for broader collaboration and traceability

- Optimized support for Mobile, SAP and IBM WebSphere Application Server
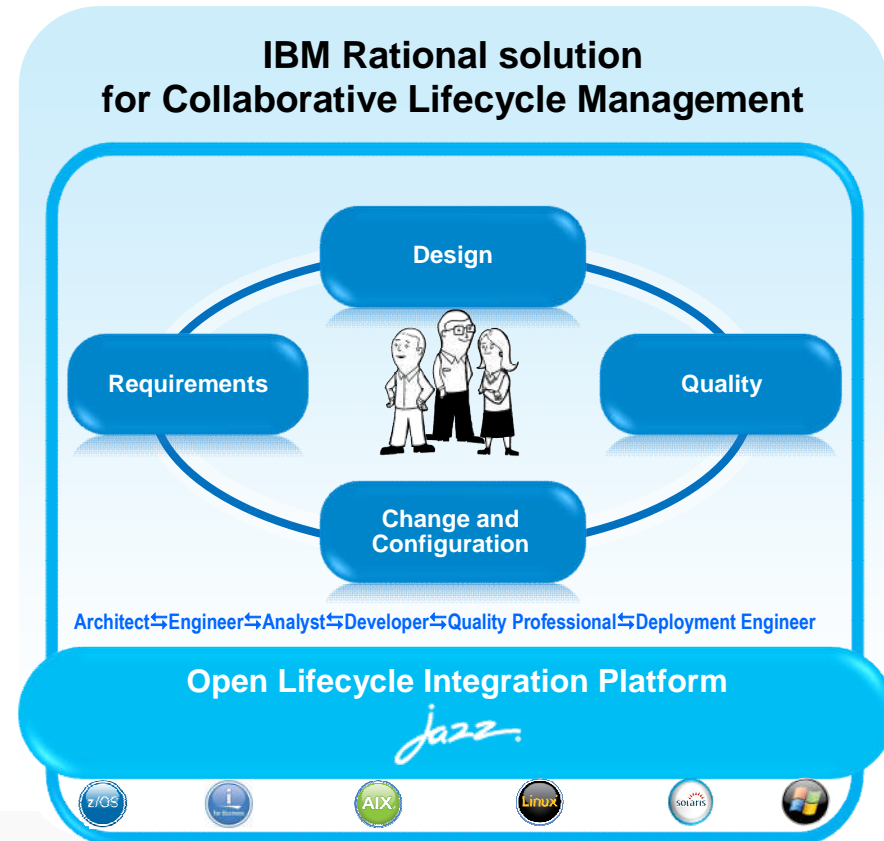
### NEW

- IBM Solution for Collaborative Lifecycle Management
  - Comprised of Rational Requirements Composer , Rational Team Concert , Rational Quality Manager and Rational Software Architect for design management

**IBM Rational solution for Collaborative Lifecycle Management**

Design

Requirements

Quality

Change and Configuration

Architect ⇆ Engineer ⇆ Analyst ⇆ Developer ⇆ Quality Professional ⇆ Deployment Engineer

**Open Lifecycle Integration Platform**

*jazz.*

*"Once fully implemented, we expect to reduce friction, provide value to customers in each delivery stream, reduce rework by improving end-to-end collaboration and planning consistency, and reduce compliance efforts by automating key process tasks and deliverables."*

– Stephan Pauletto, Engagement Manager, IMS Health

# ALM Services to support your journey…

_Quick Starts_ for Common Entry Points

> **Requirements Definition**

> **Quality Management**

> **Collaboration, Planning, Change, Configuration & Build Management**

**EXIT**

**Disciplined _Agile_ Delivery with Rational Team Concert**

**Planning and Governance with Rational Team Concert**

**_Agile_ Jump Start Deployment Package**

**Introducing Rational Team Concert Into Legacy Environment Assessment**

Get up & running quickly!

# ALM Services for continued adoption…

How do I ensure development implements the business needs?
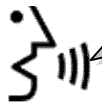
A D O P T

**Requirements Definition**

**Collaboration, Planning, Change, Configuration & Build Management**

How do I ensure development is tested by independent test?

How do I validate quality with the business?

A D O P T

**Requirements Definition**

**Quality Management**

A D O P T

**Quality Management**

**Collaboration, Planning, Change, Configuration & Build Management**
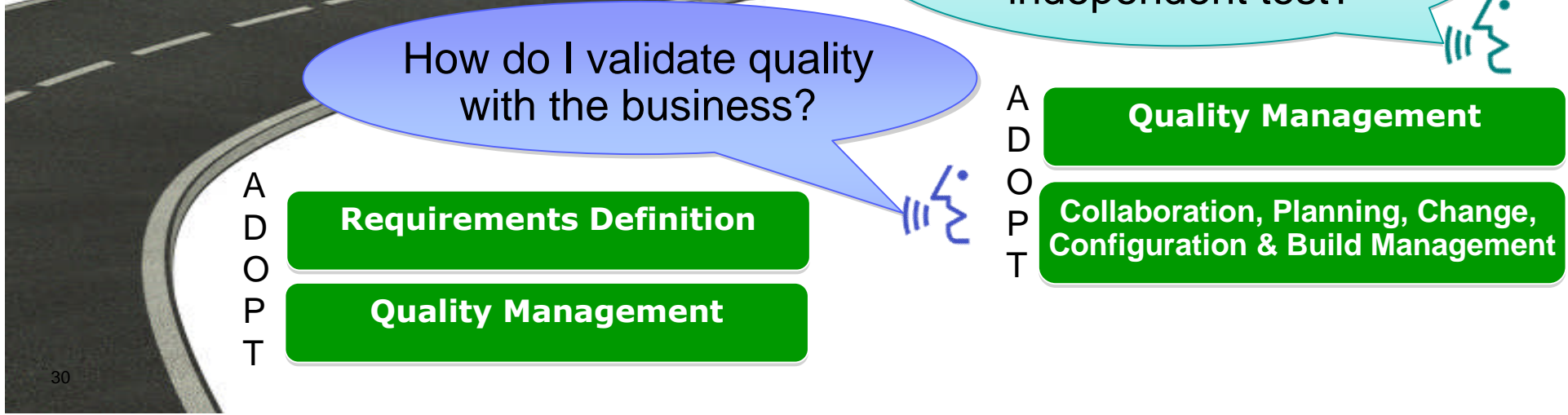
# Imperatives help answer questions such as these

**Can your team(s)…**

…find ***all*** the information related to a specific task?

…***instantly*** see the impact of project changes

…see what requirements we're ***implementing*** in a given release/milestone?

…provide a ***single view*** of project health at multiple levels?

**It's not all or nothing!**

**Tackle the ones causing the greatest pain.**

# Jazz Architecture Overcomes Past Limitations

## Open Choice & Rich Integration.  Evolutionary & Incremental Adoption

**Everything is a resource!**  "I can link any resource to any other resource, regardless of where they live!"

**Standard interfaces**  "Each tool can evolve independently without breaking integrations!"

**Domain specific standards for the lifecycle**  "Each domain can create standards without having to wait on the others or get the whole industry to agree!"

**Vendor agnostic**  "Each vendor can evolve their tool to exploit the services that are valuable to customers like me!"

Requirement
Test Case
Work Item
DOORS
RQM
RTC
Dashboard
Discovery
Process Mgmt
Project Mgmt
User Auth
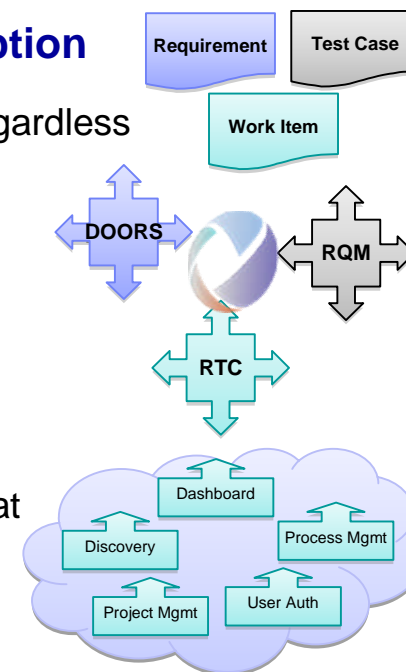
## Open Services for Lifecycle Collaboration
Lifecycle integration inspired by the web

### What is OSLC?

▸ Community Driven – @ **open-services.net**
▸ Specifications for numerous disciplines
  ▸ Such as, ALM, PLM and DevOps
  ▸ Defined by scenarios – solution oriented
▸ Inspired by Internet architecture
▸ A different approach to industry-wide proliferation

## How does OSLC work?

**Inspired by the web**

**Free to use and share**
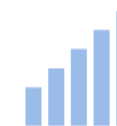
**Changing the industry**

**Get involved & contribute!**

# The IBM Integrated Solution for System z Development

Increase productivity and reduce MIPS with a modern IDE for COBOL, PL/1 & HLASM and C/C++, Java

## Cross-platform and Mainframe Development
**Rational Developer for System z**

## Impact Analysis
**Rational Asset Analyzer**

Better productivity and quality with quick analysis showing application structure and relationships

## Off-Host Development and Unit Testing
**Rational Development and Test Environment**

Free up MIPS for production use, and eliminate delays by providing a low cost Unit Testing environment

## Collaborative Development
**Rational Team Concert**

Collaboration and governance across diverse teams, platforms, and programming languages

Quality Professional

*Developer*

Analyst

Deployment Engineer

Architect

Project Manager

*IBM Services*

Jazz

# IBM Continuous Integration Solution for System z

**Simplified testing across Layers**

## Test Automation
**Rational Test Workbench**

*Manage test automation*

*Trace test execution to defects*

*Execute test*

*Trigger test*

*Trigger test*

## Execution Environment
**Rational Development and Test Environment**

*End to end visibility of test activities*

*Isolated testing platform*

*Build and Deploy App*

*Automated Continuous Testing*

## Quality Management
**Rational Quality Manager**

*Trace test execution to defects*

## Collaborative Development
**Rational Team Concert**

**Quality Professional**

Analyst

**Developer**

Deployment Engineer

Project Manager

Architect

Jazz

*IBM Services*

# Flexible and Incremental Adoption*

| Entry Point | Add Capability | Add Capability | Add Capability |
|---|---|---|---|
| • Increase developer productivity to reduce maintenance backlog<br><br>• Quickly modernize System z apps with coding assists and service creation and refactoring wizards<br><br>• Improve code quality with code review, automated UT, and code coverage | • More rapid, flexible developer testing<br><br>• Reduce development MIPS | • Reduce delivery time by understanding the impact of change, upfront<br><br>• Shortened learning curve for new team members | • Unified status, change management, process, and SCM across tools, teams, and platforms<br><br>• Reduce risks and meet audit an compliance mandates with automated process enforcement<br><br>• Reduce the cost of System z SCM |
| **RDz**<br><br>Modern IDE for applications that include System z components | **RD&T**<br><br>Add z/OS development and unit test environment on an z86 Linux Server | **RAA**<br><br>Add rapid application understanding | **RTC**<br><br>Add collaboration and governance across diverse teams, platforms, and programming languages |

*Elements of the solution may be adopted any order based on your needs

# CLM 2012

- **CLM High Availability / Clustering on WAS**
  - Enable WAS based High Availability via Clustering

- **Support** Rolling Upgrade **capability (N-1) for CLM**
  - Upgrade one CLM application at a time (rather than having to do all at once)
    - Allow RTC, RQM, RRC to upgrade incrementally

- **CLM / JTS** Server Rename
  - Support server URL rename
    - Use Case:
      - Clone a repository from production to

- **Cross Repository Process Inheritance**
  - Share a project's process template across multiple servers
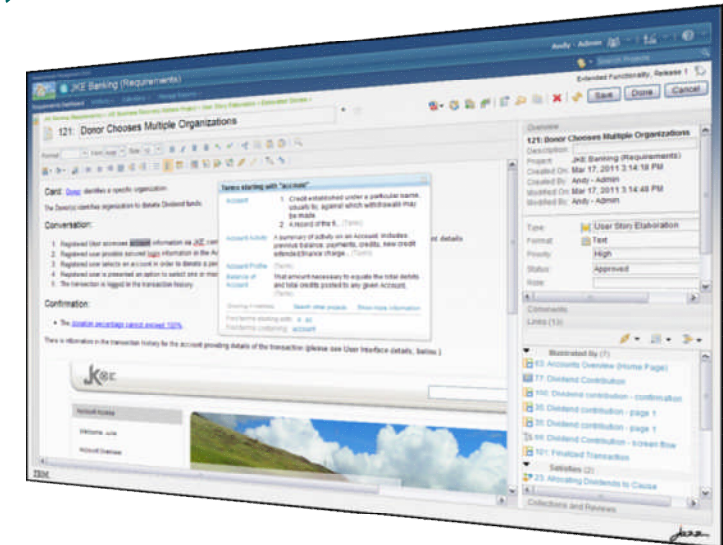
# Team Concert 4.0

- Load with Dependencies
  - Selective load in the eclipse client for performance and ease-of-use
- Dependency build enhancements
  - Build preview
  - Build subsets populated by Work Items
  - Post build report
- Enhanced support for IBM i
  - Full Dependency build with link support
  - Work Item based Promotion and Deployment
- ISPF Client enhancements
  - Enhanced conflict resolution with Compare/Merge
  - Selective loading with dependencies
  - Search and load selected fil

**NEW**



*Build preview window:*

haniaPA5 Stream | haniaPA5 Stream Workspace | (Preview) 20120323-1445410305

Build Hania Maillist build (Preview) 20120323-1445410305

✓ Completed
Duration: 6 seconds
Start Time: March 23, 2012 2:45:41 PM
Completed: March 23, 2012 2:45:47 PM

Status Trend:

**Contribution Summary**
Downloads: 6 downloads
External Links: 1 link
Logs: 1 log

**Associated Release**
Released builds are available as choices in the work item "Found In" field.
Create a release to associate with this build

**Reported Work Items**
Work items reported against this build to help stabilize it.
None reported against this build
Create a new work item
Associate an existing work item

**General Information**
Requested by: haniaa
Build Definition: Hania Maillist build
Build Engine: i7adt10.3333
Build History: 13 builds
Tags:
☑ Deletion allowed

Overview | Activities | Downloads | Logs | External Links | Properties

Team Ar | Team Da | My Work
All Project and Team Areas (20 of 24 areas selected)

- Builds
- Enterprise Extensions
  - Build Subsets
  - Context-Aware Search
  - Deployments
  - Packages
  - Promotions
  - Source Code Data
  - System Definitions
    - IBM i
      - Language Definitions
        - Translators
      - Libraries
        - Existing Libraries
        - Target Libraries
      - Search Paths
    - z/OS
- Plans
- Reports
- Source Control
- Work Items

```
                  Load Component List Actions

Component Mortgage App Component

Load Component Action
_   1. Select zComponent projects
    2. Search for zFile/member
    3. Load all component's files

Select a choice and press ENTER to process action.




F1=Help        F2=Split        F3=Exit        F7=Backward    F8=Forward
F9=Swap        F12=Cancel
```
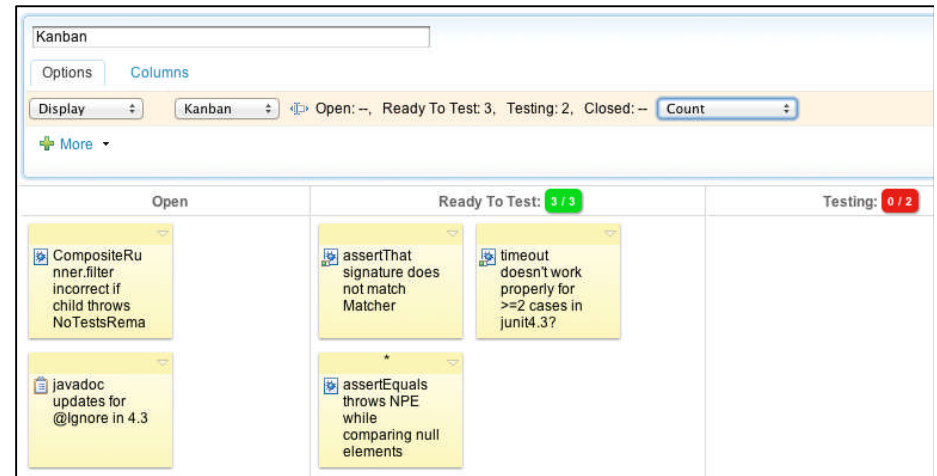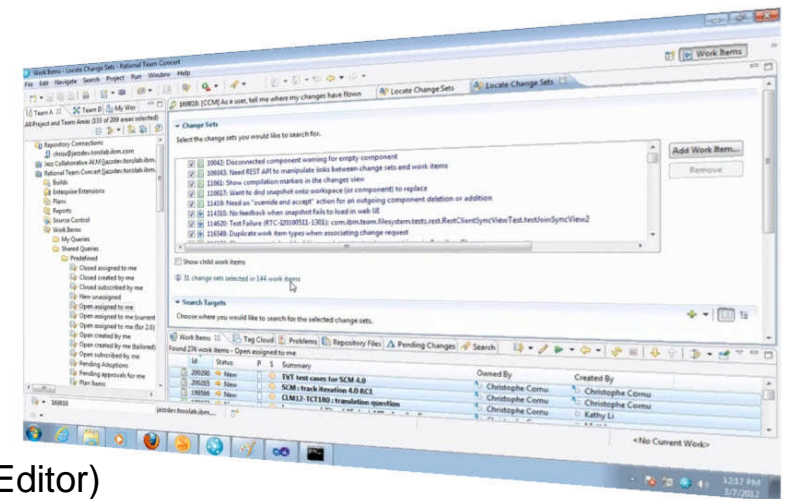
# Team Concert 4.0

- **Planning Enhancements**

  - **Planning Across Multiple Projects**

  - Kanban Taskboard

  - Improved MS-Project Import and Re-import

- **Advanced SCM**

  - **Deletion and Artifact Level Read Permissions**
    - Provide read permissions at the versioned artifact granularity in SCM
    - Permanently delete files
  - **More Flexible Workspace and Load Management**:
    - Check-in History to easily revert to any checked-in version
    - Save and Re-load load rules from files
  - **Variant Management:**
    - Where have my changes flown? (Locate Change Sets Editor)

# Team Concert 4.0

- Enterprise Work Item Enhancements

    - Variables in Work Item Queries

    - External Data Set Providers (HTTP)

    - Flexible Access Control Groups for Work Ite Read Permissions

- Simple SCM UI
    - Windows 7 Explorer SCM integration
- Built-In Hudson/Jenkins Build Integration
    - View build health and control builds from RTC
- MSCCI Support – Basic versioning API
    - Tested with Rhapsody and Matlab
- CLI Scripting and New Commands
    - Improved SCM command line scripting
    - Many new SCM CLI commands

**NEW**

orporation