



# Modern Application Development Featuring Web 2.0 for System z

Introduction and Agenda

**Rational.** software

# Speakers



## **Will Smythe**

Product Line Manager  
Rational Business Developer, EGL, HATS



## **Dave Myers**

Product Line Manager  
Rational Developer for System z,  
Rational Team Concert for System z

## Goals

- This briefing will explore the innovations provided by IBM Rational Enterprise Modernization software development tools, their broad range of functionality, and their use throughout the entire software development process.
- Attendee will get an understanding of the breadth and depth of these Rational tools, how well they're integrated, and how easy they are to use.
- This session will also help attendees understand the value of Web 2.0 to their businesses.

# Solutions from IBM

- **This briefing will provide information on the following products:**
  - Rational Asset Manager (RAM)
  - Rational Asset Analyzer (RAA)
  - Rational Transformation Workbench (RTW)
  - Rational ClearCase (CC) / ClearQuest (CQ)
  - Rational Build Forge
  - Rational Developer for System z with EGL (RDz EGL)
  - Rational Business Developer (RBD)
  - Rational EGL Rich UI
  - Rational Host Access Transformation Services (HATS)
  - IBM PD Tools
  - IBM CICS
  - IBM WebSphere Application Server

# Agenda

9:00 am	Introduction to Enterprise Modernization
	What is Web 2.0? Why Web 2.0 for System z?
10:30 am	Break
	Discover and Transform Application Assets (Hands on)
	Modern Application Architectures
12:00 pm	Lunch
	Modern Application Architectures (Hands on)
2:30 pm	Break
	Create and Integrate Web 2.0 Applications (Hands on)
	Application Lifecycle: Manage, Build, Deploy
	Summary, Resources and Next Steps
4:00 pm	End of seminar

The background of the slide is a vibrant blue with a series of thin, white, wavy lines that create a sense of motion and depth, resembling a stylized wave or a modern architectural design. The lines are most prominent on the left side and fade towards the right.

# Modern Application Development Featuring Web 2.0 for System z

IBM Enterprise Modernization

**Rational.** software

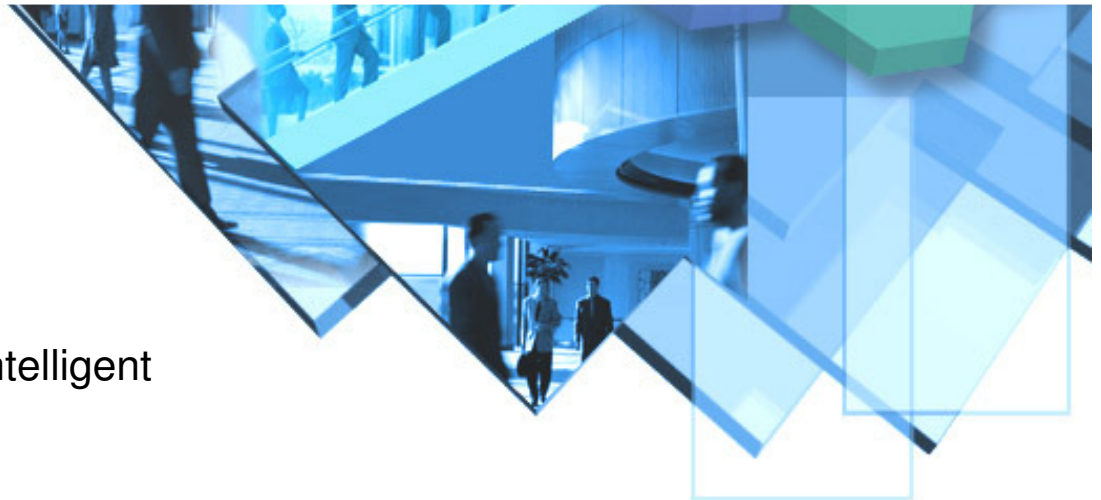
# Agenda



- **Accelerating Software Innovation**
- **The Rational Software Delivery Platform:  
An Enterprise Modernization View**
- **Q&A**

## Innovation will require a significant investment in software

- For businesses and institutions everywhere, there have never been so many ***new possibilities*** at our disposal
- Imagine the amount of software necessary to:
  - Deliver a green world
  - Take advantage of information base explosion
  - Communicate with a trillion devices
- We are moving to a new generation of intelligent software and systems
- To accelerate innovation and take advantage of these new possibilities, clients must get better at ***managing effective software delivery***

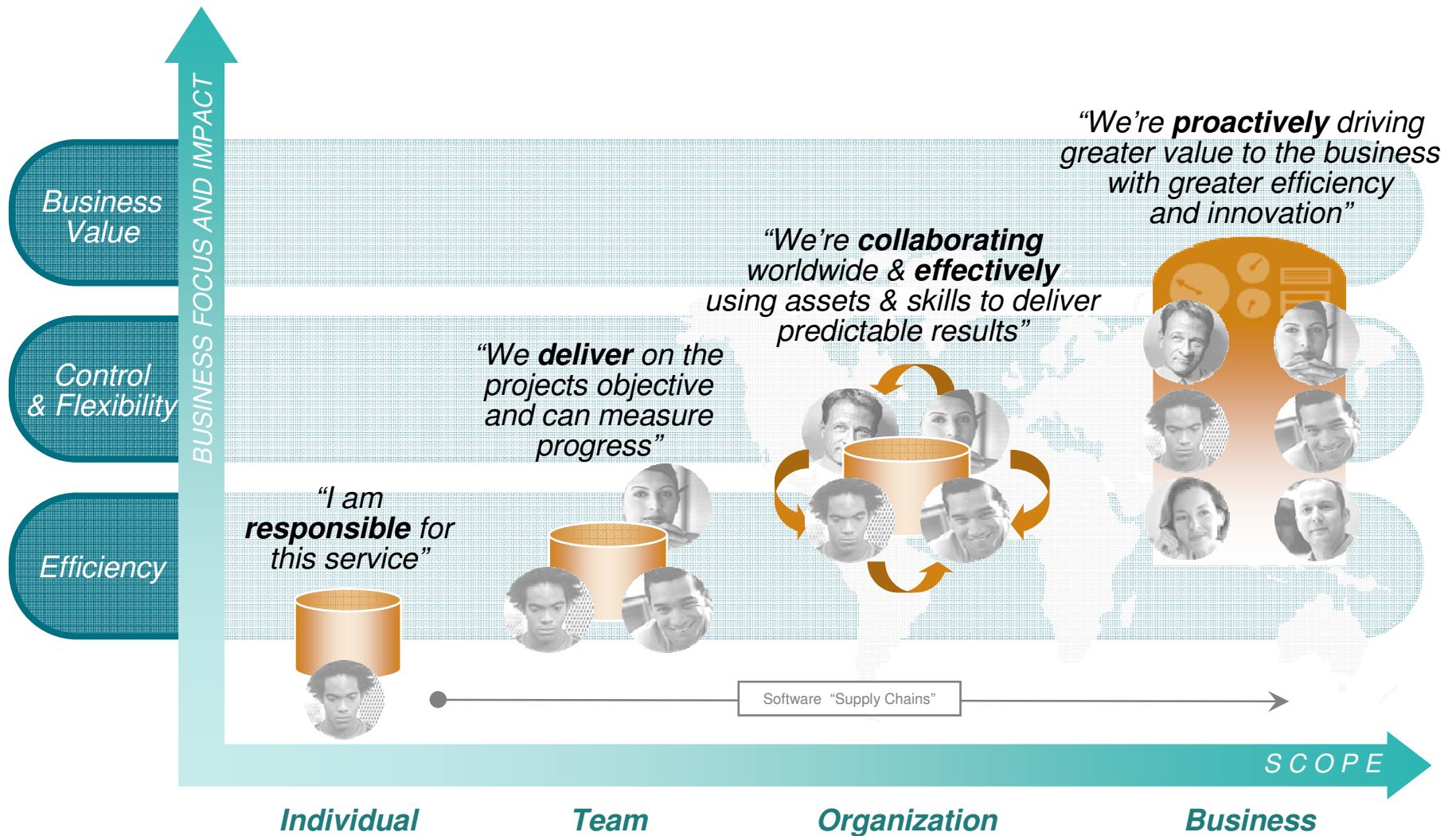




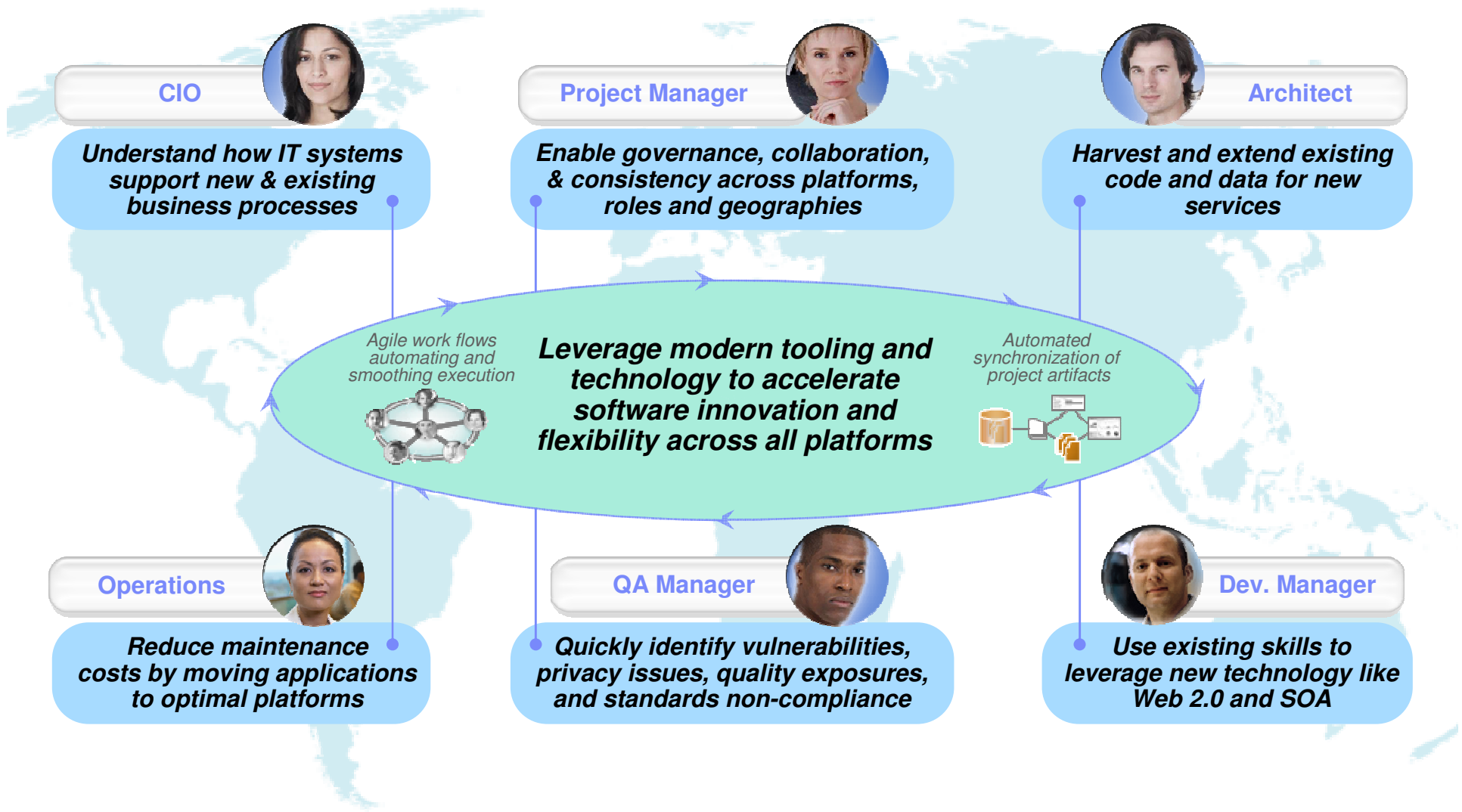
# Customers are asking...How can we ?...

- Speed software delivery?
  - Meet organizational commitments?
  - Make time-critical market windows?
  - Deliver software projects to operations on time and on budget, with greater reliability?
- Improve software quality?
  - Ensure that business-critical applications meet end-user requirements and performance criteria?
  - Comply with regulatory standards?
  - Pinpoint critical application security vulnerabilities?
- Integrate solutions across platforms and reduce complexity?
  - Drive organizational alignment?
  - Improve efficiency, reduce errors and reduce friction?
  - Harness globally distributed resources for development, delivery and operations?

# Needed: A mature approach to software delivery



# Needed: Solutions that eliminate barriers to innovation

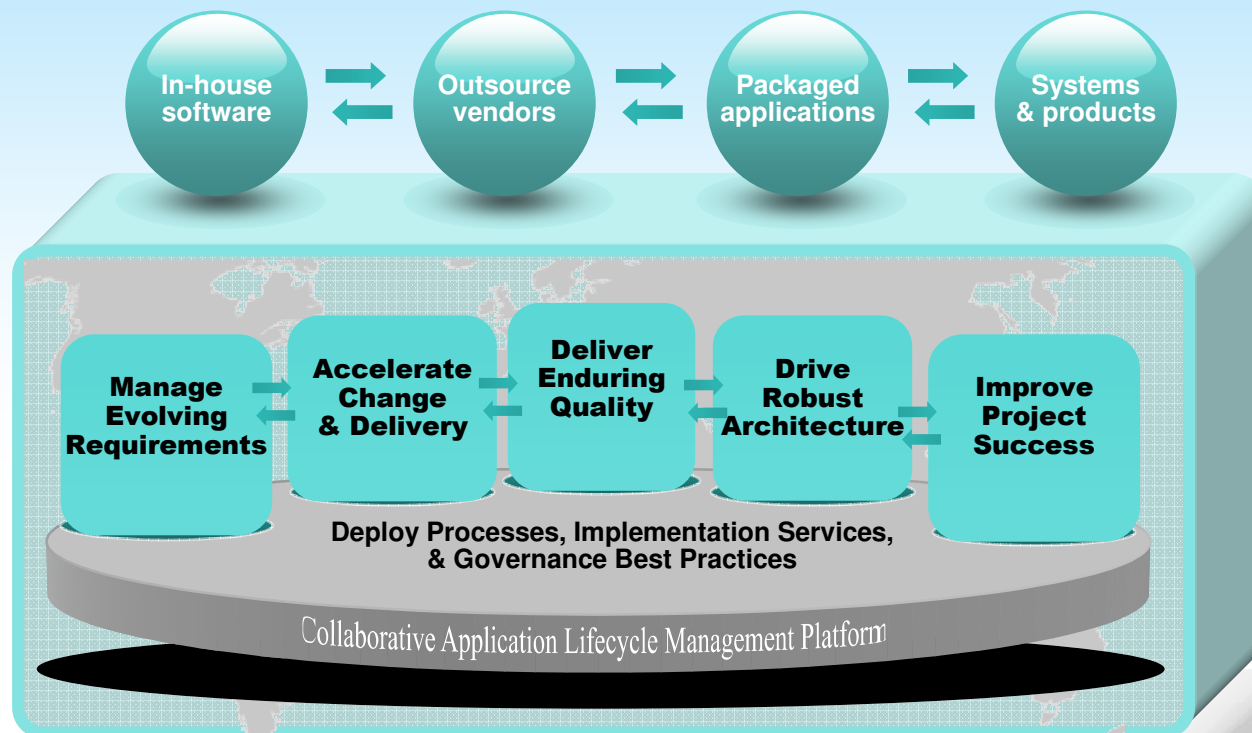


# IBM Rational Software Delivery Platform

*Accelerating software innovation for the entire enterprise*

**Rational.** software

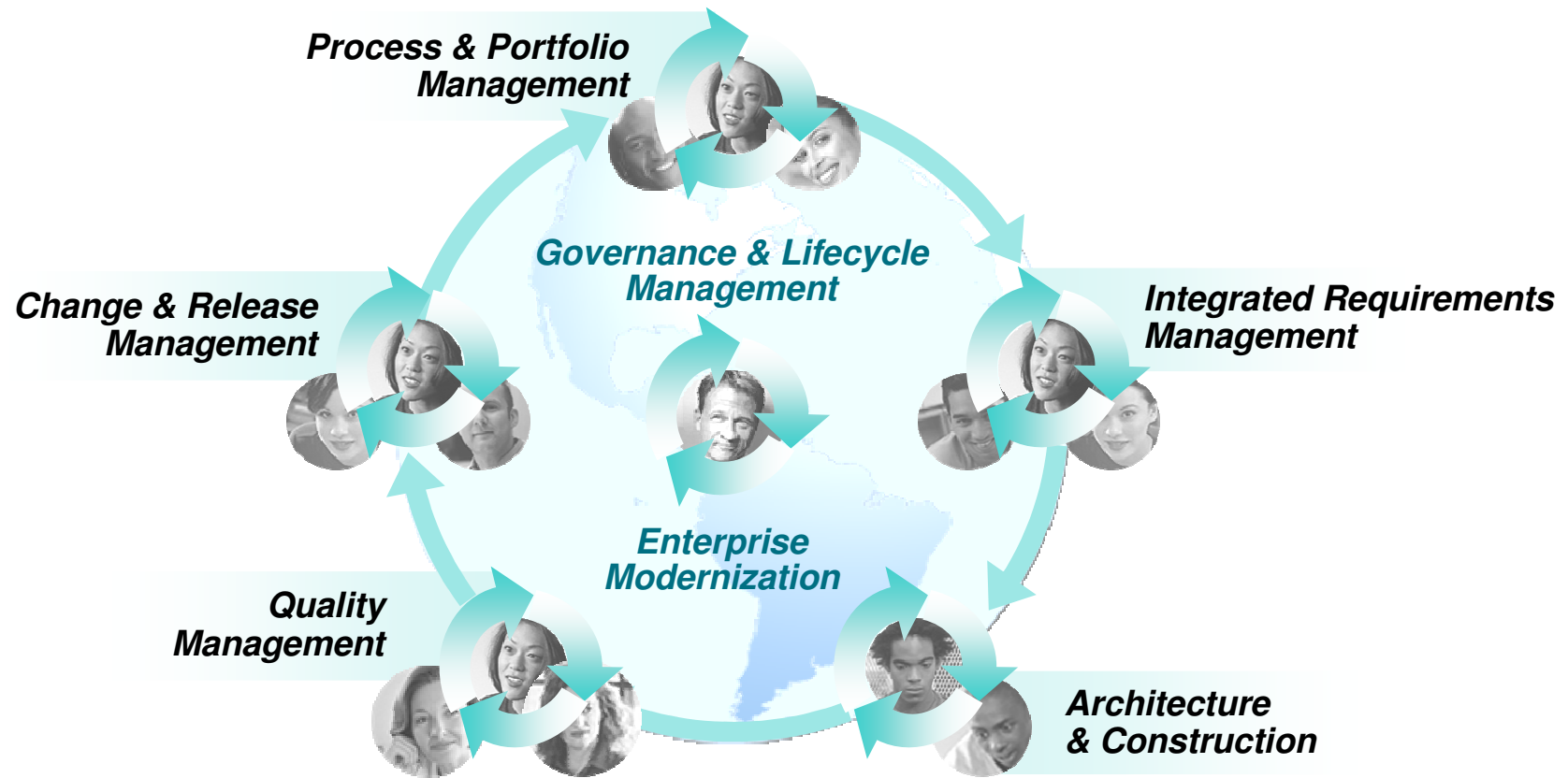
*Solutions to help customers achieve greater value and performance from their investments in delivering software*



- *Enterprise Modernization and Transformation*
- *Organizational Governance*
- *Skill Development and Community*
- *Implementation Services*

# Rational's business

*Governing the business process of software and systems delivery*

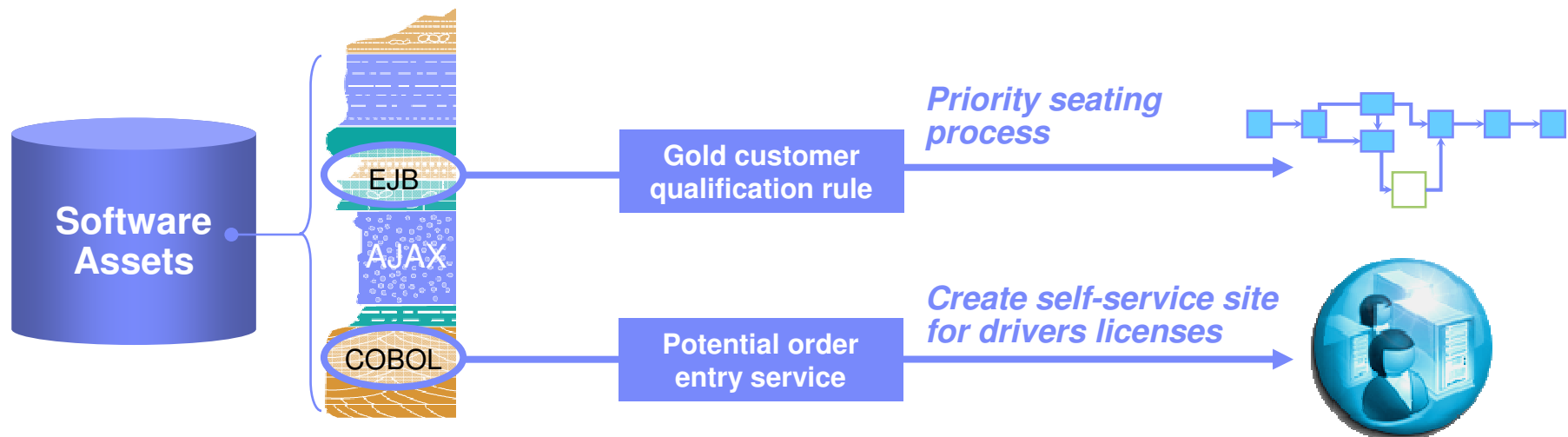


# Managing Software Delivery - for System z ... and distributed

- ▶ Multi-platform development is the norm; System z is key in most enterprises
- ▶ However, many think of z development as “different and unique”, constraining efficiency & flexibility
- ▶ Rational’s Enterprise Modernization solutions provide:
  - a consolidated platform for multi-platform application development
  - a collaborative, integrated environment that supports innovation
  - the same power and flexibility for all types of applications, including z
- ▶ With totally modern tools for System z, customers can choose their deployment platform for new applications based upon runtime requirements (e.g. QoS, proximity to data)  
... and NOT based on out-dated perceptions of z development
- ▶ It is time to re-think how z development is done!

# Companies want to

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

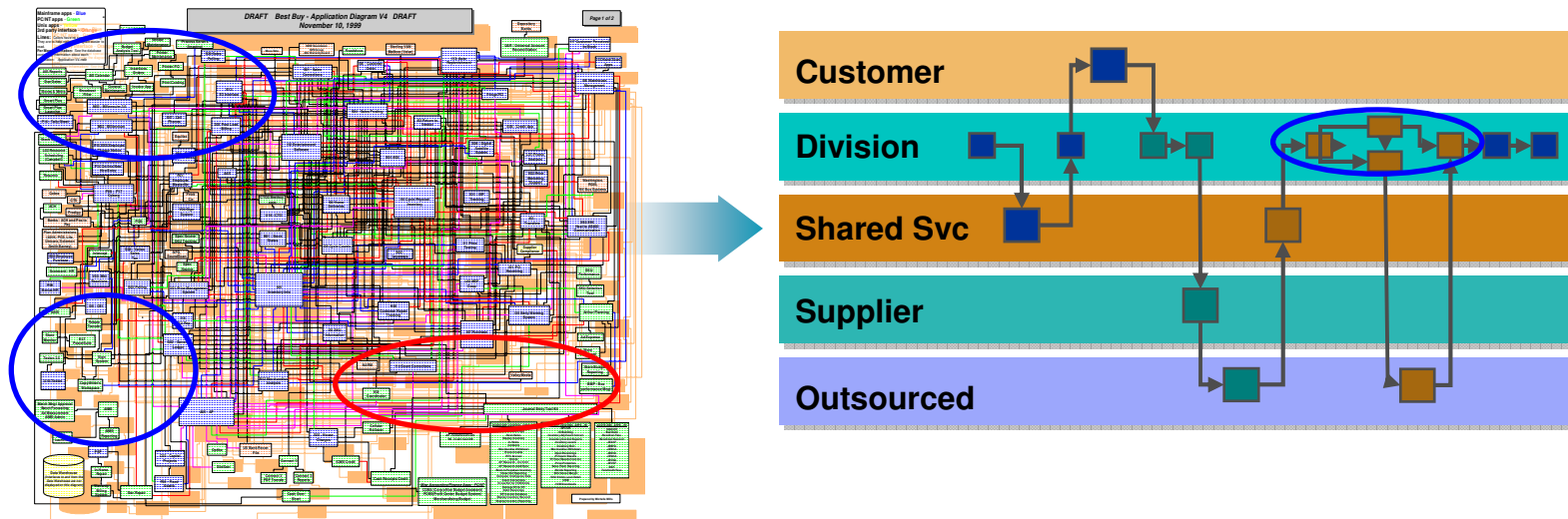


*But...*

*They have no business intelligence inventory of their application assets, relying instead on manual processes & incomplete knowledge*

# Companies want to

Have an IT architecture that quickly adapts to support current business needs



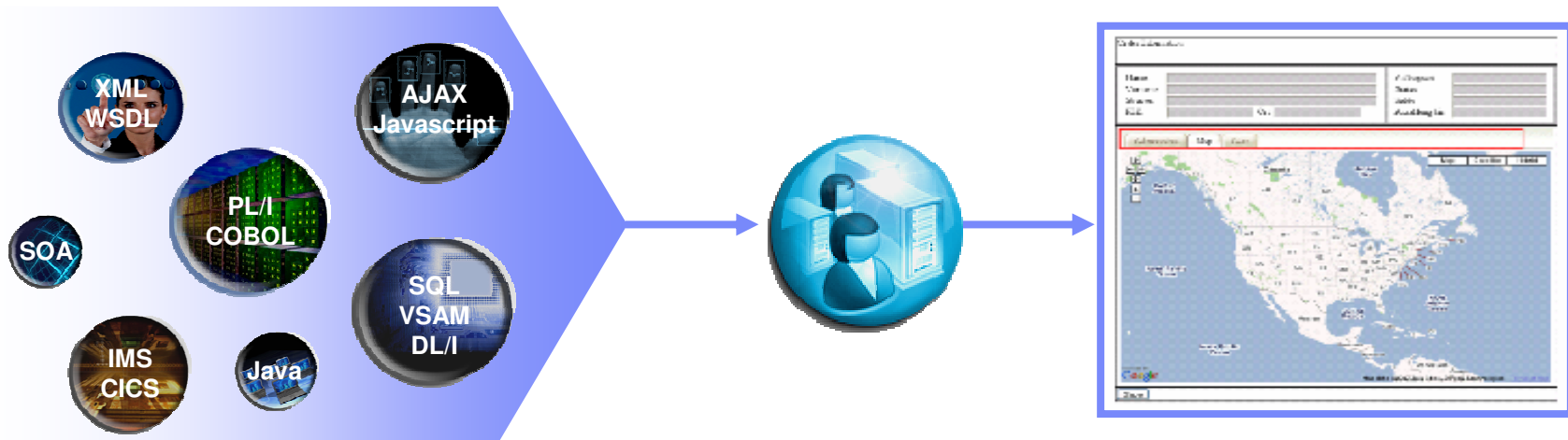
*But...*

*They have application architectures that were incrementally built over the last 20-30 years that are no longer flexible or agile*



# Companies want to

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

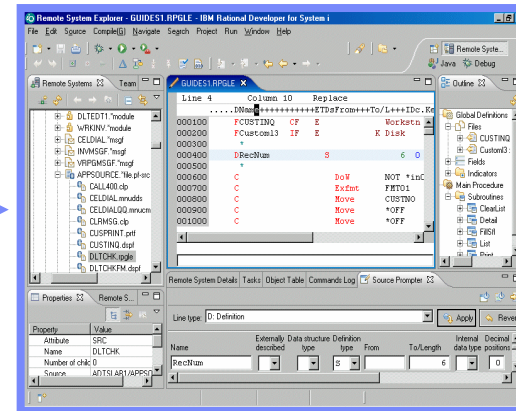
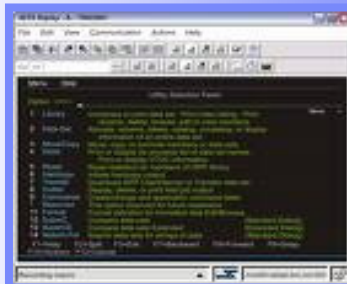


*But...*

They have developers that do not know all of these new technologies, and hiring all new people or doing massive retraining is unrealistic

# Companies want to

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

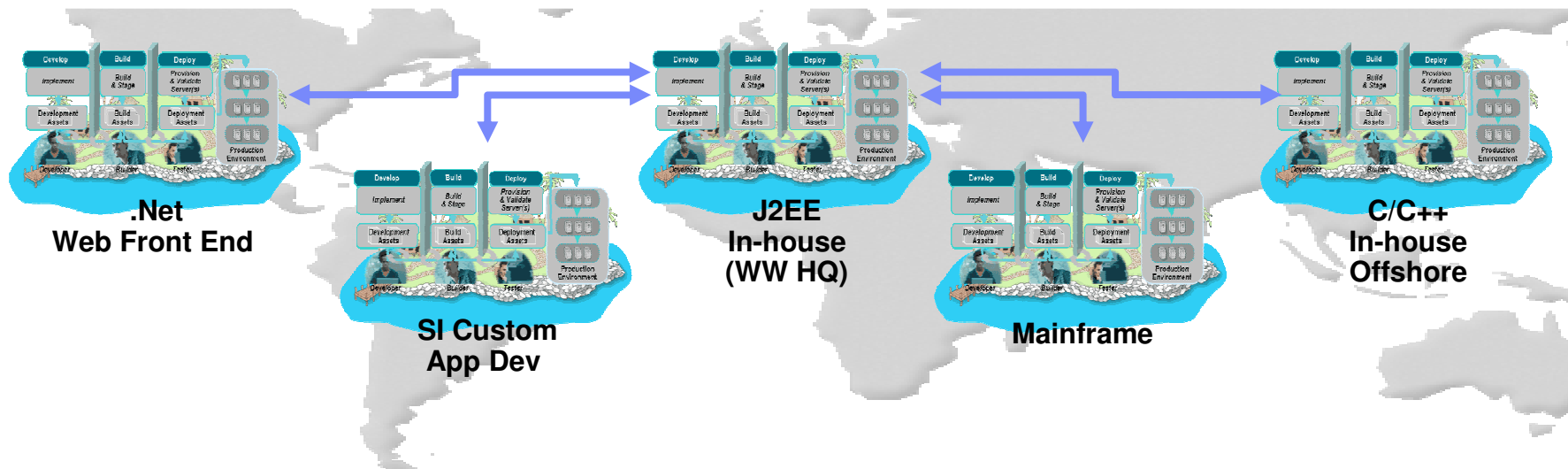


*But...*

They have antiquated development tools which deliver low productivity and are repulsive to younger staff

# Companies want to

Enable multi-platform and cross-geo collaboration and governance

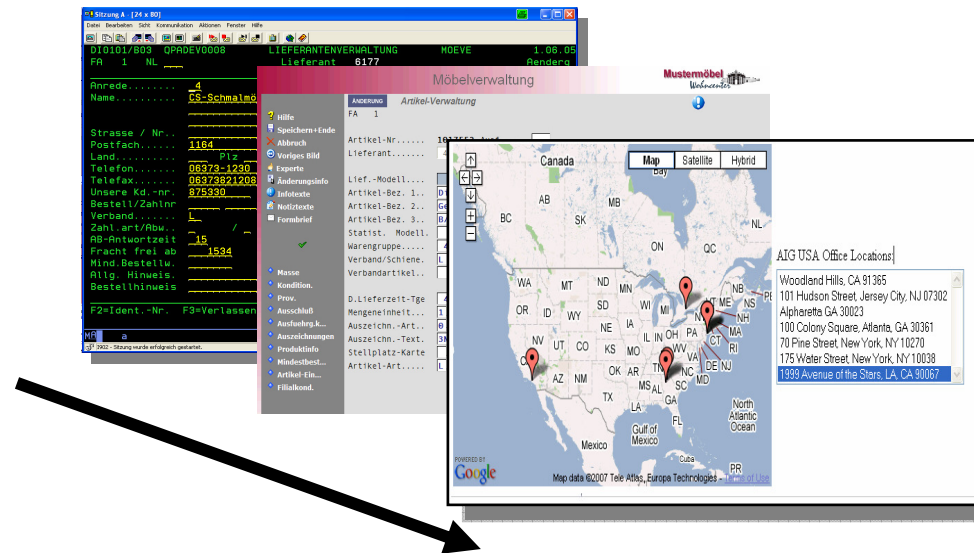


*But...*

They have different tools, processes and team infrastructure for each deployment platform, greatly complicating development of composite apps

# Companies want to

Present a sophisticated, modern user interface to their customers and employees

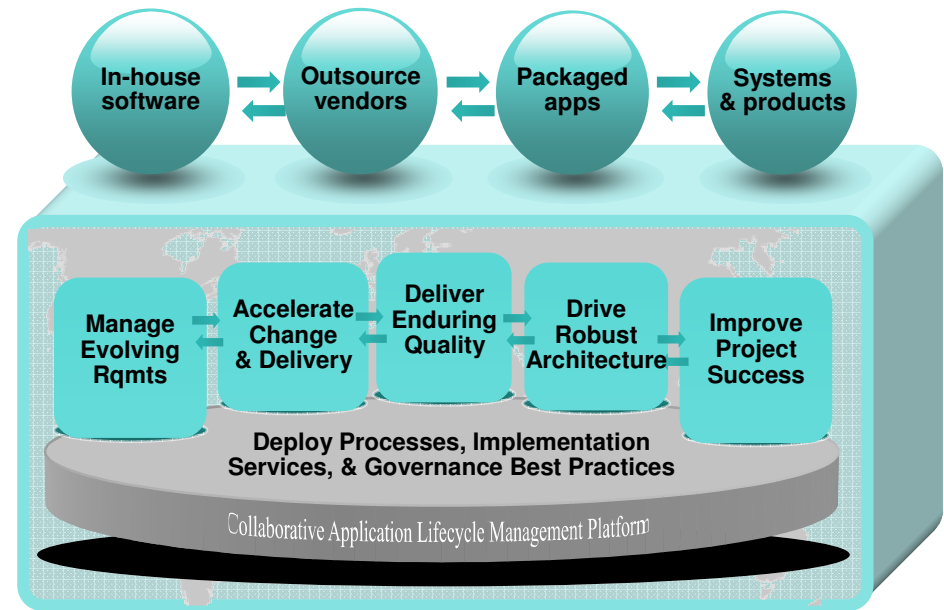
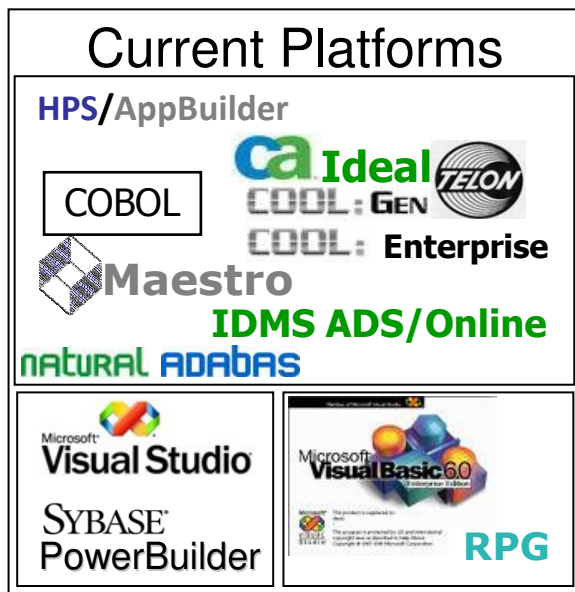


*But...*

They don't know how to upgrade their archaic green screen applications without rewriting their applications

# Companies want to

Reduce costs and move to modern platforms, languages, and tools for all development



*But...*

They are stuck on unsupported, expensive, legacy development platforms

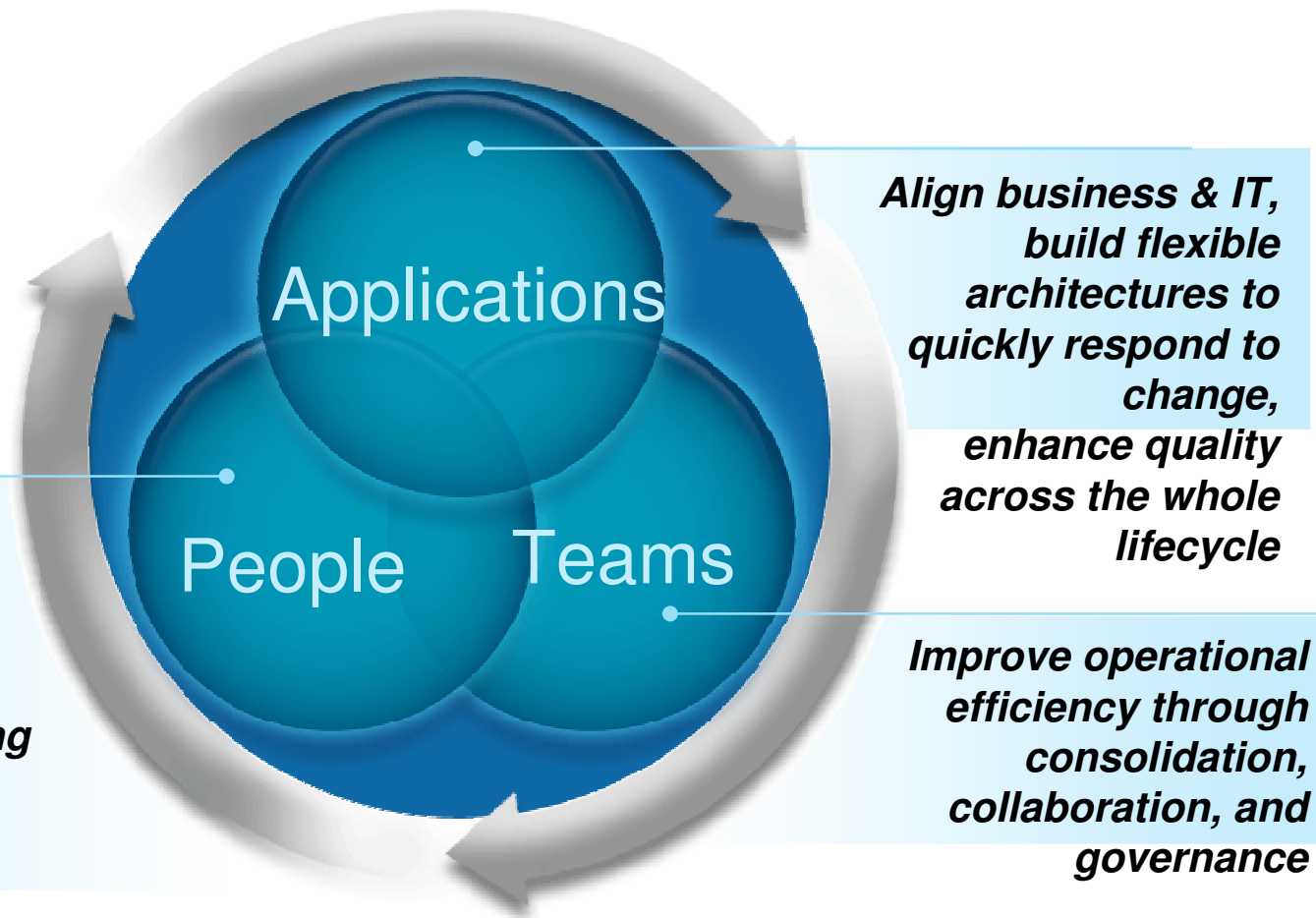
# The Road to Enterprise Modernization



- **Companies need a unique modernization strategy based on:**
  - business requirements
  - budget
  - staffing constraints
- **With our Enterprise Modernization expertise, we can help formulate a customized roadmap for each of our customers**
- **Here are some of our solutions...**

## Enterprise Modernization – Solution Overview

**Connecting applications and people across teams to improve business and IT flexibility**



For more information, visit:  
[www.ibm.com/rational/modernization](http://www.ibm.com/rational/modernization)

# Modernize your Asset Management

I want to improve my business processes, but where do I start?



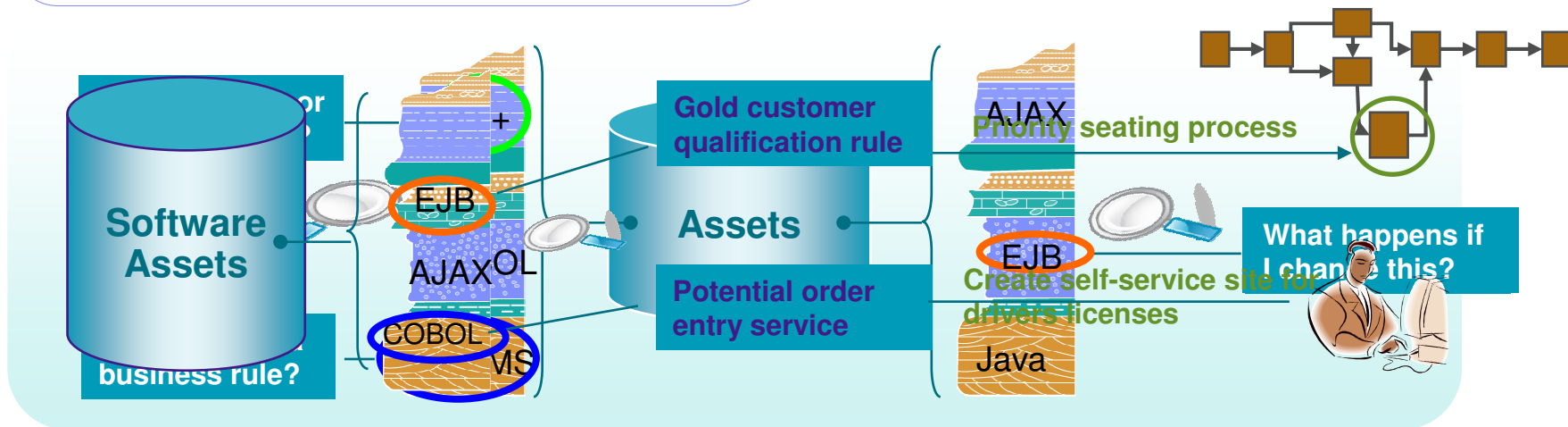
**Business Challenge**  
Difficulty understanding and leveraging existing IT systems to support business processes

**How can we...**

- ▶ Understand how our IT systems support our business processes so we can predictably enhance them
- ▶ Avoid application downtime due to unforeseen code dependencies?
- ▶ Maintain control over code provided by outsourcers, business partners, or acquired through a merger?
- ▶ Accelerate SOA efforts?

**Solutions**  
Comprehensive inventory of assets for impact analysis & reuse

- ✓ Map business processes to IT systems
  - *WebSphere Studio Asset Analyzer* New!
  - *Rational Asset Analyzer*
  - *Rational Transformation Workbench*
- ✓ Manage assets during development
  - *Rational Asset Manager*
- ✓ Manage deployed services
  - *WebSphere Service Registry & Repository*





# Modernize your Architectures

That would make a great web service!



## Business Challenge

Inflexibility in adapting applications in support of business needs

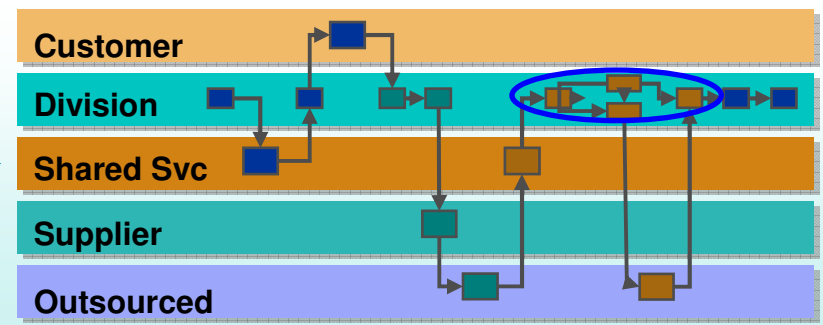
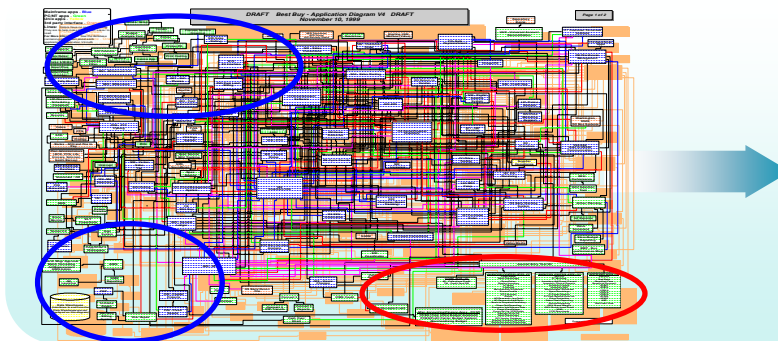
### How can we...

- ▶ Progress our SOA maturity given all our existing code assets, including CICS, IMS, IBM i and green screen applications?
- ▶ Build services once and deploy them across my heterogeneous production environment?
- ▶ Ensure our new SOA system will be more easy to extend and maintain than my current ones?

## Solutions

Flexible architectures to enable business agility

- ✓ Expose 3270 and 5250 applications as web services
  - *Host Access Transformation Services*
- ✓ Quickly create web services from existing COBOL, RPG, PL/I, Java, or EGL applications
  - *Rational Developer for System z (SFM)*
  - *Rational Business Developer*
- ✓ Create new platform-independent services
  - *Rational Business Developer (EGL Service keyword)*
- ✓ Leverage MDD - xform UML to EGL, COBOL, WSDL, etc
  - *Rational Software Architect*



# Modernize your Skills - Languages

I built that cool web 2.0 app with EGL



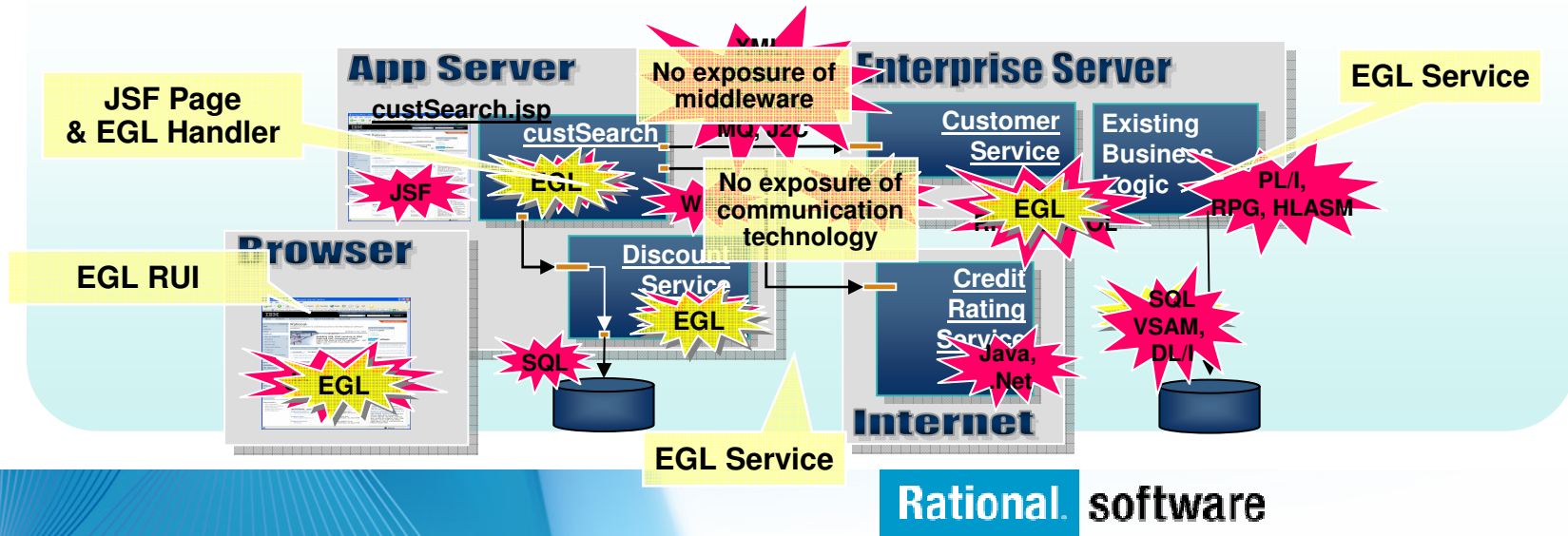
**Business Challenge**  
Staff inflexibility due to “skills silos”

How can we...

- ▶ Exploit new technologies and innovation without retraining existing staff that knows the business?
- ▶ Use new employees on any project, independent of the target platform?
- ▶ Provide modern web UIs leveraging existing skills and systems?

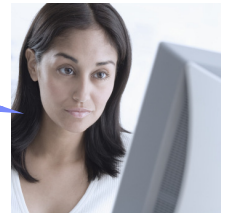
**Solutions**  
Powerful tools & abstractions for cross-platform development using today’s skills & tomorrow’s new employees

- ✓ Apply existing business-knowledgeable staff to build all elements of multi-platform applications ... end-to-end from Web 2.0 to services to business transactions
- ✓ Attract new staff with “IBM’s newest business language”
  - Rational Business Developer (EGL)



# Modernize your Skills - IDEs

I am NOT going to miss my green screen IDE



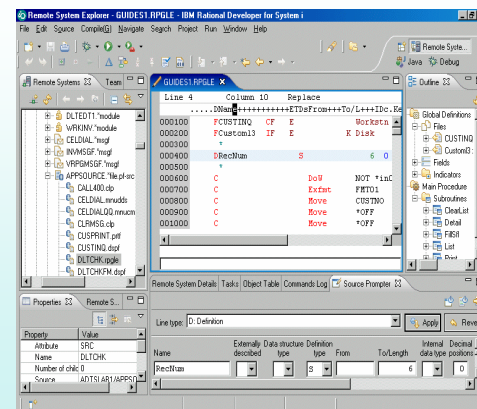
**Business Challenge**  
Low productivity, non-competitive tools for new developers

How can we...

- ▶ Achieve higher productivity for our enterprise developers?
- ▶ Attract new and younger developers to backfill retiring System z and IBM i developers?
- ▶ Simplify license management by standardizing on a single, multi-platform development IDE?
- ▶ Free up System z MIPS for production use?

**Solutions**  
Modern IDEs to achieve high productivity and attract new talent

- ✓ Use modern IDEs to develop and maintain code
- ✓ Debug and test from workstation
  - Rational Developer for System z
  - Rational Developer for System i
  - Rational Business Developer
  - Rational Developer for System i for SOA Construction
  - Rational Application Developer



# Modernize Your Team Infrastructure

The only island I want to see has palm trees



## Business Challenge

### Inefficiencies and quality problems in multi-platform development

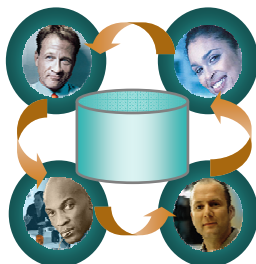
#### How can we...

- ▶ Increase quality and improve responsiveness for multi-platform development teams?
- ▶ Simplify management of team infrastructure for multiple development teams?
- ▶ Reduce team infrastructure costs across the enterprise?

## Solutions

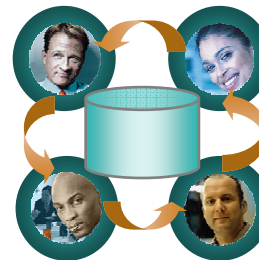
### Coordination, traceability, consistency across platforms

- ✓ Consolidate enterprise and distributed source code management
  - *Rational ClearCase*
- ✓ Automate and orchestrate defect tracking and configuration management across the enterprise
  - *Rational ClearQuest*
- ✓ Produce coordinated, traceable, automated, and cross-platform builds
  - *Rational BuildForge*



Distributed Development Environment

RDz RDi RPP



Enterprise Development Environment

Enterprise  
le Portal

Enterprise  
Asset  
Repository

# Delivering the first wave of New Rational Jazz Offerings

## Collaborative Application Lifecycle Management

New!

### Requirements Composer

*Business Expert Collaboration*

Elicit, capture, elaborate, discuss and review requirements using a variety of techniques & notations

New!

### Quality Manager

*Business Driven Quality*

Coordinate and manage quality assurance plans, processes and resources across the lifecycle

*Coming soon...*

- Real-time enterprise reporting
- Collaborative project management
- Process design & enactment
- **Application Development**



## Jazz TEAM SERVER

*In-context collaboration, real-time project health, event notification, process enactment & enforcement, global search & query, security, role-based access, automated traceability*

New!

### Team Concert

*Software Innovation Through Real-time Project Team Collaboration*

#### Work Item Management

Automated and flexible software change management improving project control and visibility

*ClearQuest Connector*

#### Configuration Management

Source code control, traceability and versioning leveraging dynamic workspaces & parallel development

*Clearcase Connector*

#### Build Management

Automates build planning, project construction, build of materials and release processes

*Build Forge Integration*



Web



Eclipse

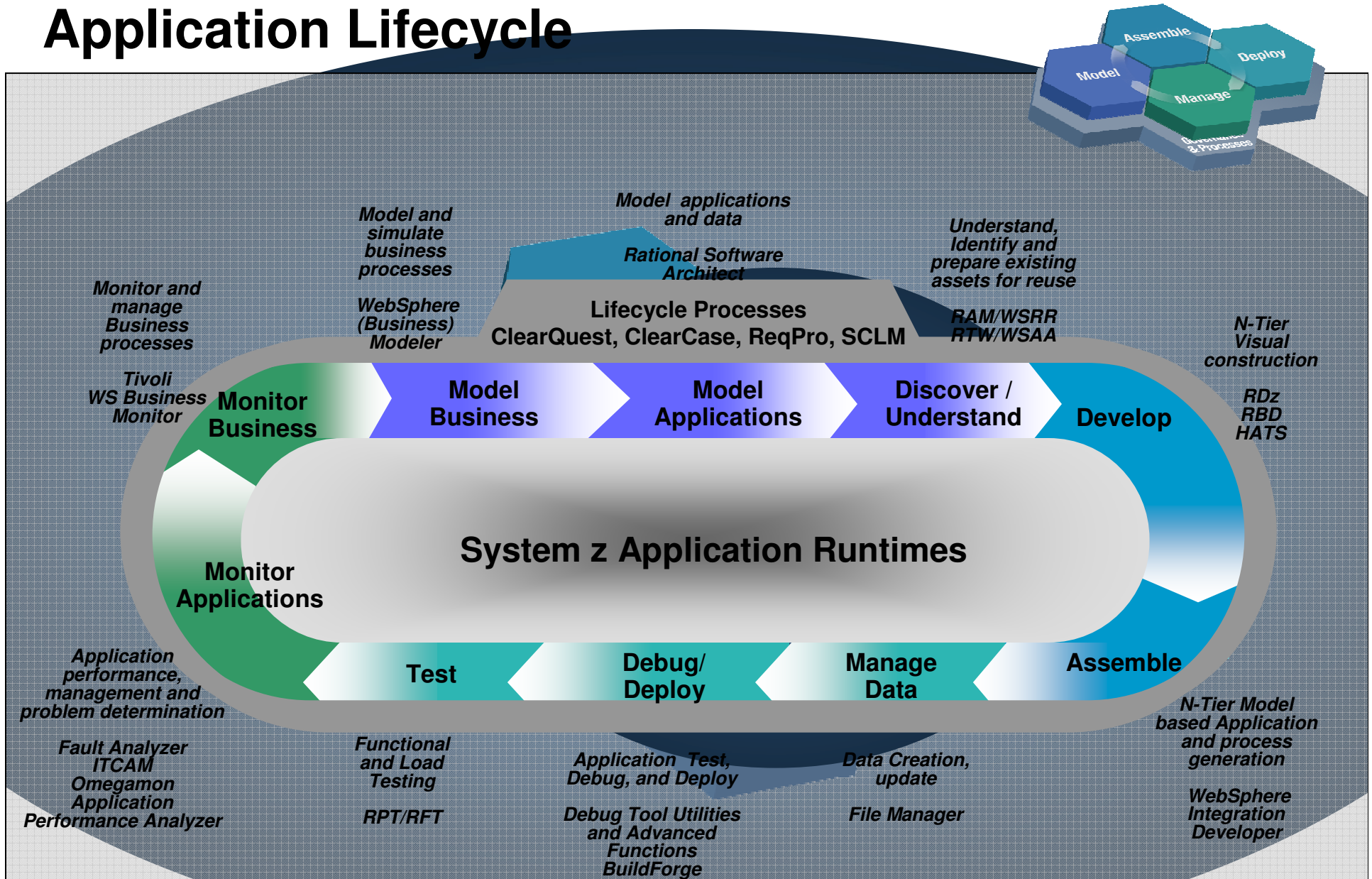


Visual Studio  
(future)

New and Enhanced!

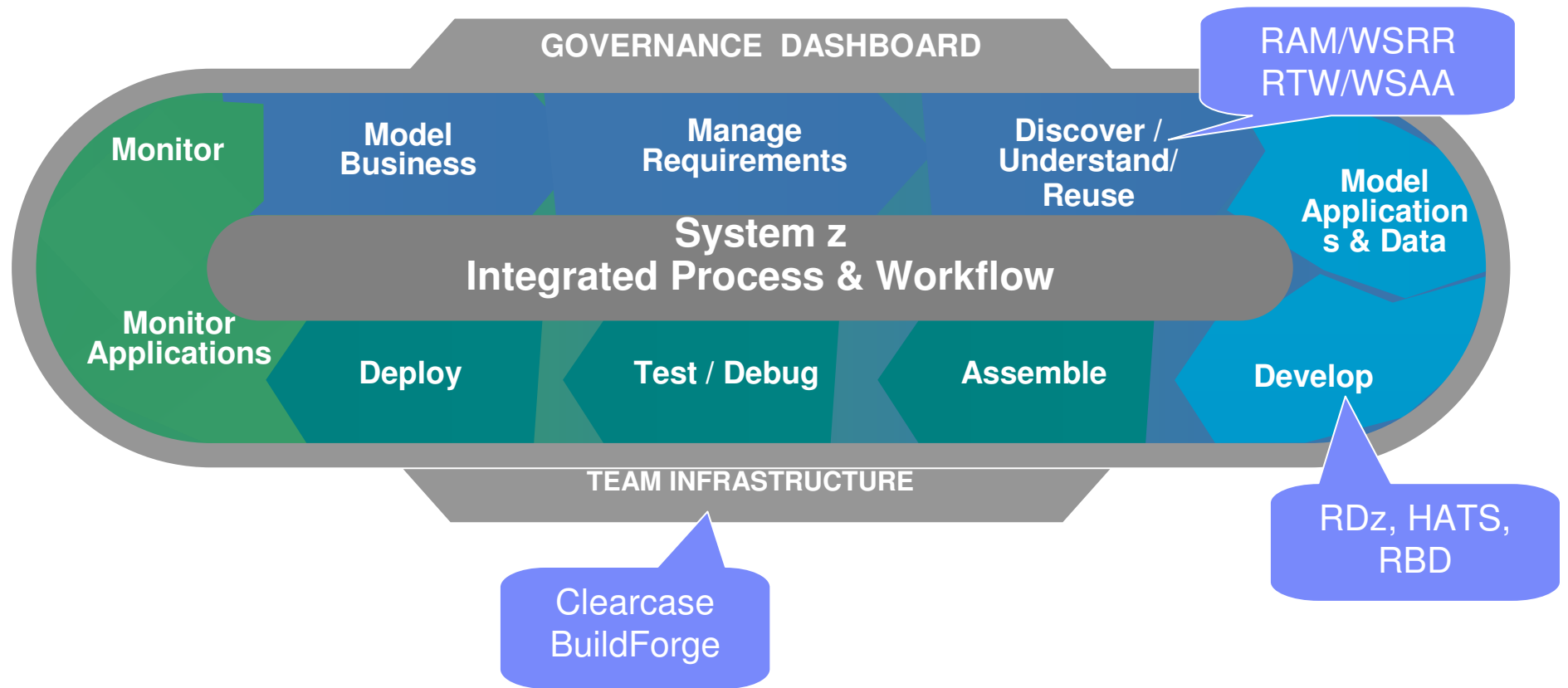
Jazz Enhancements to ClearQuest, Build Forge and ClearCase

# Application Lifecycle



# The IBM Software Delivery Platform

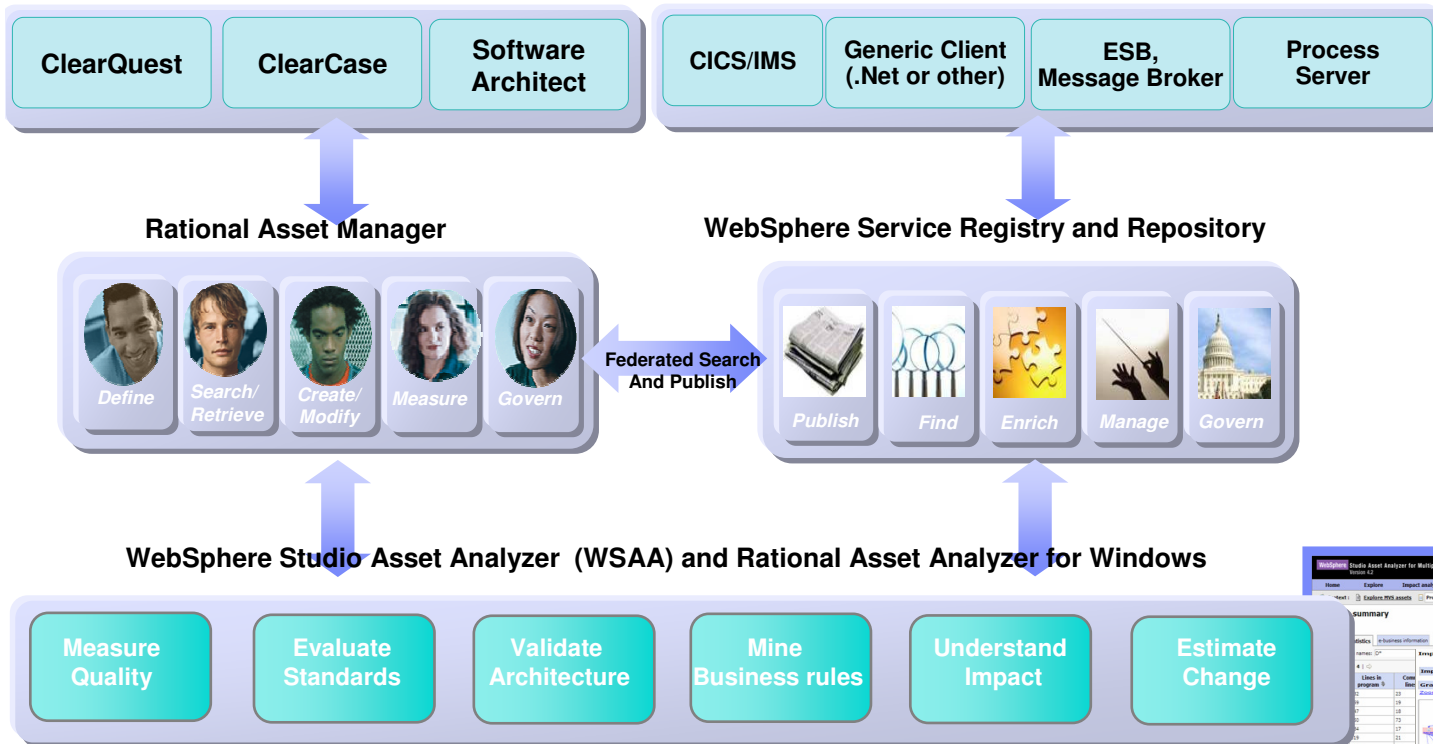
*A complete, coherent and integrated set of AD solutions*



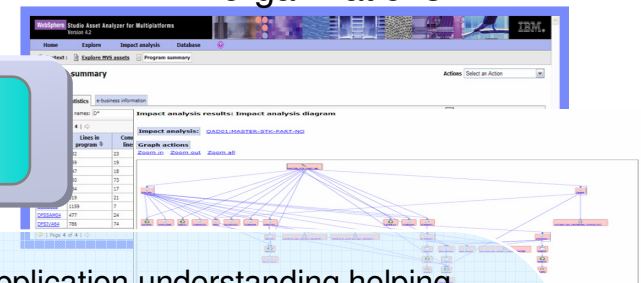
# Bridge the gap between services and application processing

Manages information that is useful for developing, re-using and managing all types of reusable assets

Manages information that is useful for the runtime operation, management and development use of services



- Gain asset clarity with respect to assets, services and relationships
- Combine logical and physical views of service(WSDL) assets and processes
- Discern application impacts of services and underlying processing
- Publish and manage assets across organizations



**IBM WebSphere Studio Asset Analyzer v5.1 (WSAA)** assists in enterprise wide application understanding helping organizations to understand application architecture, perform impact analysis, evaluate application quality an speed a developers overall throughput and lower maintenance costs. It also is part of a broad solution addressing SOA governance providing insight into the processing contained in services. It is a complement to products including RSA, WSRR, and RTW.



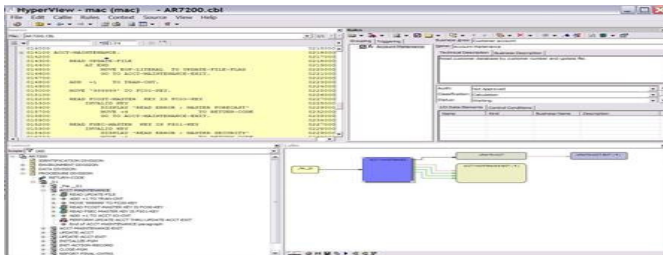
# Extend value of existing enterprise assets

*Accelerate your path to reuse and SOA with Rational Transformation Workbench*

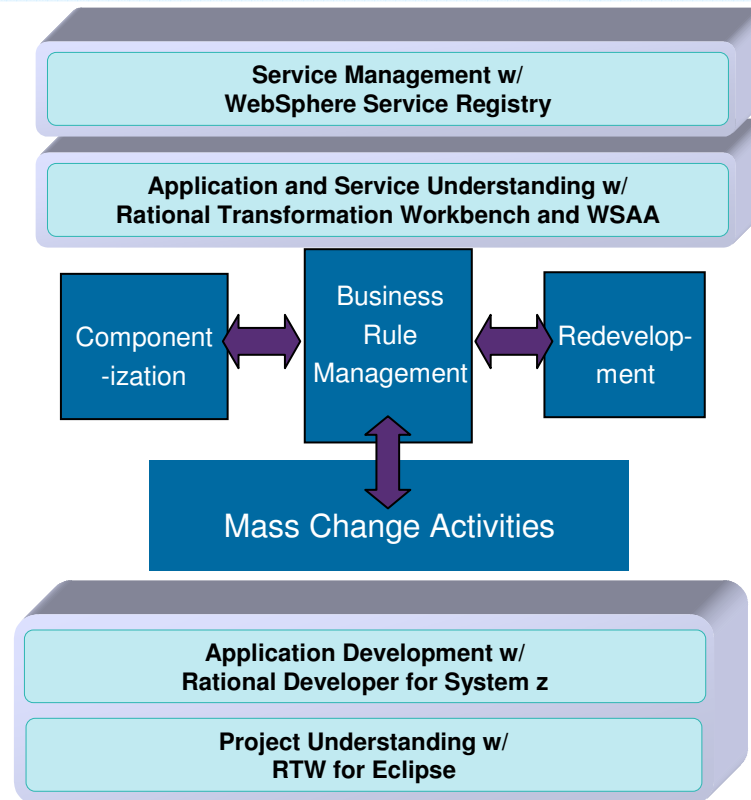
**IBM Rational Transformation Workbench v3.1 (RTW)** assists in restructuring monolithic applications to help reduce complexity and maintenance costs and speed development of SOA services. It provides deep project-level application analysis to complement the enterprise-wide application insight of IBM WebSphere Studio Asset Analyzer software.

## New in RTW 3.1

- ▶ Demystify enterprise applications and their inter-and intra-relationships
- ▶ Gain intellectual control; make fact-based decisions; develop transformation roadmap
- ▶ Identify key assets, mine business rules and restructure for reuse in SOA; Reduce cost and time of modernization projects



IBM Rational Transformation Workbench



# Drive innovation with technology advancements

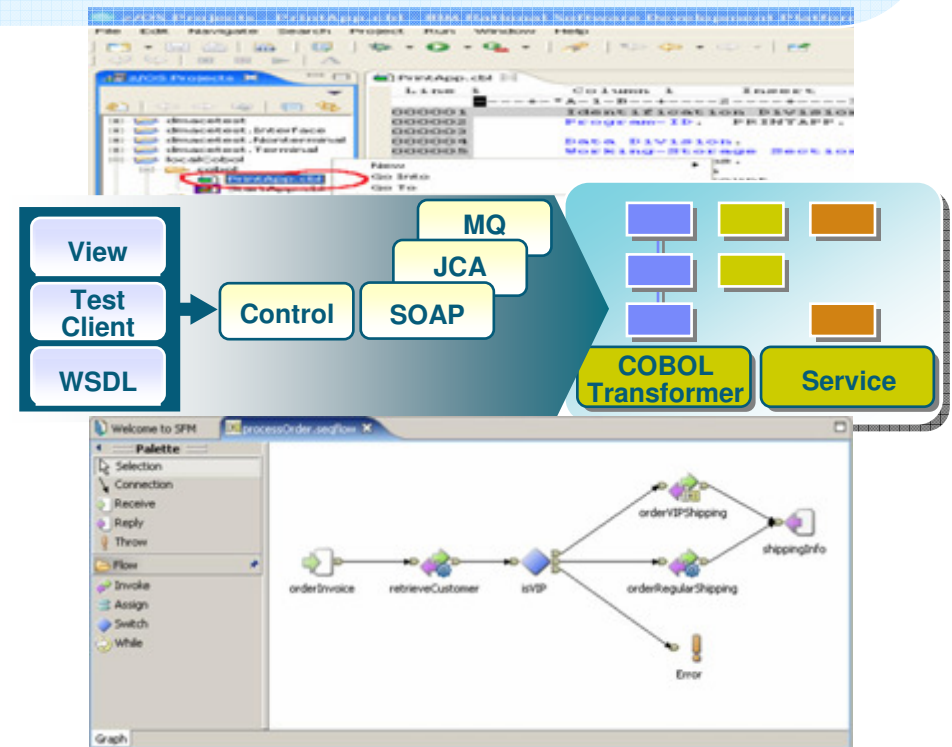
## *Build traditional and composite applications with Rational Developer for System z*

**IBM Rational Developer for System (RDz)** provides powerful eclipse-based tools for building COBOL, PL/I, C/C++, Java, HLASM CICS, IMS and batch applications. RDz is designed to optimize and simplify application development for traditional processes, and for the SOA you're building to address your needs today and in the future—through best practices, visual tools, templates, code generation and a comprehensive development environment.

### RDz 7.5

- ▶ Leverages service flow modeler to automate development of CICS services
- ▶ Develop z/OS applications and CICS and IMS Web services more productively than ever
- ▶ Manage core and composite artifacts from z/OS
- ▶ Speed software delivery with integrated, automated end-to-end processes

- Enables traditional; and modern UI's (via RBD)
- Supports local and remote development
- Creates connectivity via web services, CICS SFM, CTG, IMS Connect
- UML to COBOL speeds Model driven development
- Delivers distributed debugging support for SOA applications via Debug Tool
- Integrates to File Manager, Fault Analyzer

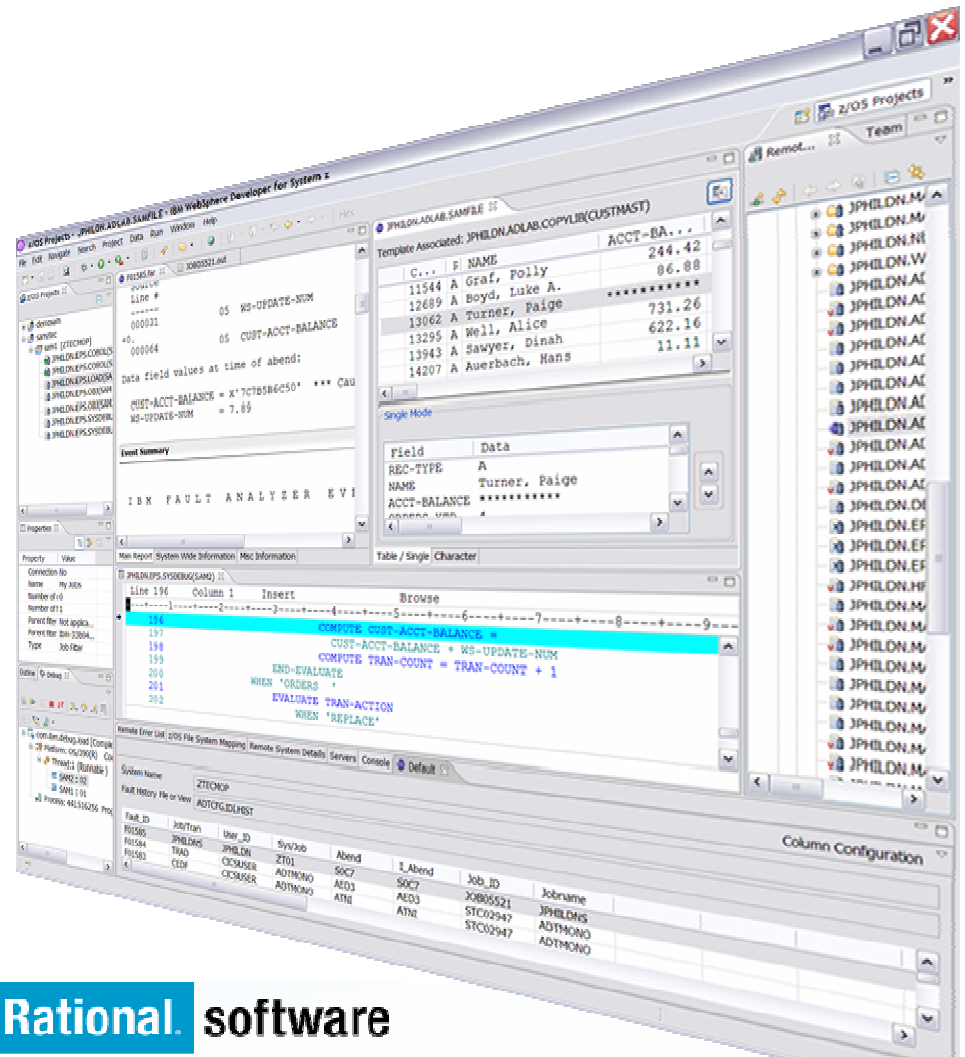


IBM Rational Developer for System z

# Problem Determination Tools Suite Features & Capabilities

Supporting development and testing of SOA and composite applications

- Optimize and manage the performance of application resource
- Compile, debug and test applications, and convert code quickly and easily
- Analyze and correct application failures with minimal down-time
- Manage and generate data files, including XML data files
- Extract/manipulate production data for testing applications (DB2, IMS, VSAM) and provide data privacy functionality
- Conduct stress, performance, regression, function and capacity planning tests



# Problem Determination Tools Suite for z/OS

IBM Problem Determination Tools

## IBM 2009 Offerings

Debug Tool  
for z/OS V9

File Manager  
for z/OS V9

Fault Analyzer  
for z/OS V9

Application  
Performance  
Analyzer for  
z/OS

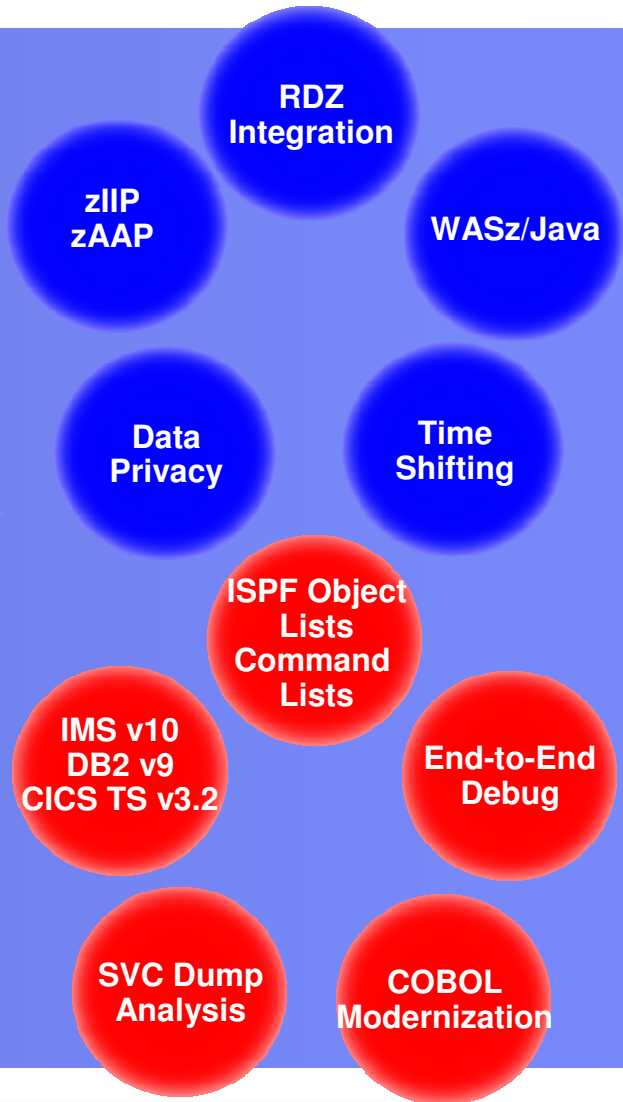
Workload Simulator  
for z/OS & OS/390  
Rational Functional Tester Ext  
Rational Performance Tester z/OS

Optim Move  
for DB2

Application Time  
Facility

ISPF  
Productivity Tool

[www.ibm.com/software/awdtools/deployment](http://www.ibm.com/software/awdtools/deployment)



# Extend value of existing enterprise assets

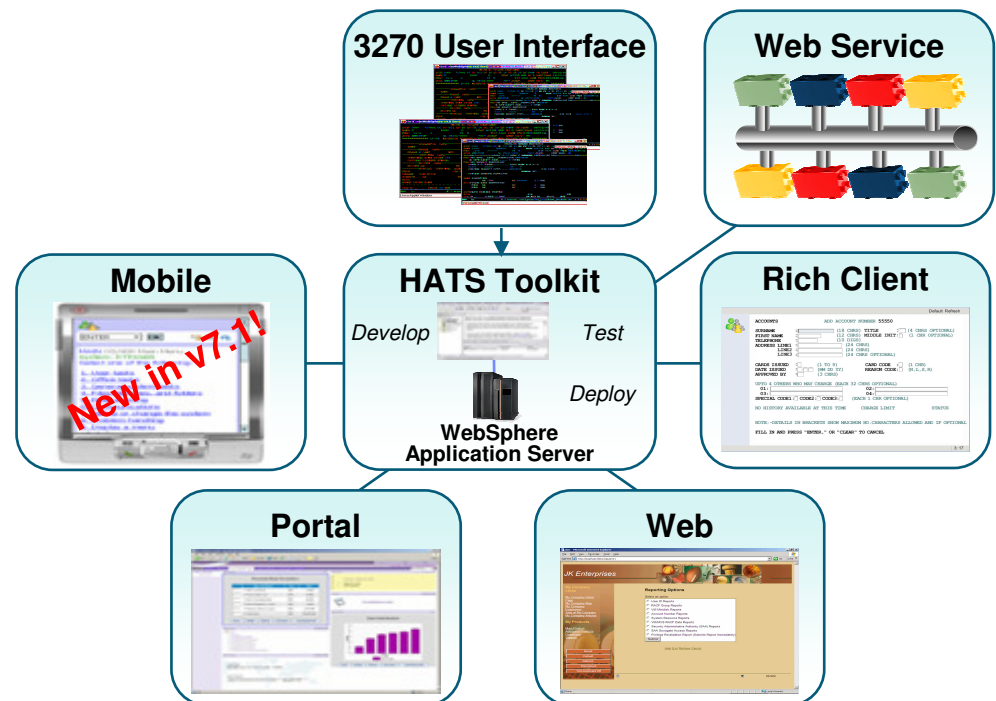
## Transform user experience with Host Access Transformation Services for Multiplatforms\*

With **IBM Rational Host Access Transformation Services for Multiplatforms (HATS)** customers can quickly improve the user interface of their existing System z applications and achieve integration with other business information with minimal development cost. The result is an easy-to-use Web interface to the application, which reduces training cost, simplifies the application, and makes it easy to understand for new users.

### HATS 7.5

- ▶ Rename/Rebrand/Reprice/Repackage
- ▶ WAS 7.0, Portal 6.1, Mobile App Support
- ▶ Visual Macro Editor (Full support)
- ▶ JSR 168 support
- ▶ Web services usability improvements

- Enhance 3270 and 5250 green screen applications with a GUI interface
  - Combine data from multiple screens, applications and databases and deploy to Web, Portal, and rich client
- Use HATS as on ramp to your SOA environment
  - Extends terminal app. tasks as Web Services and insert them in business processes



IBM Rational Host Access Transformation Services for Multiplatforms

# Drive innovation with technology advancements

## Accelerate adoption of Web 2.0 and SOA with Rational Business Developer

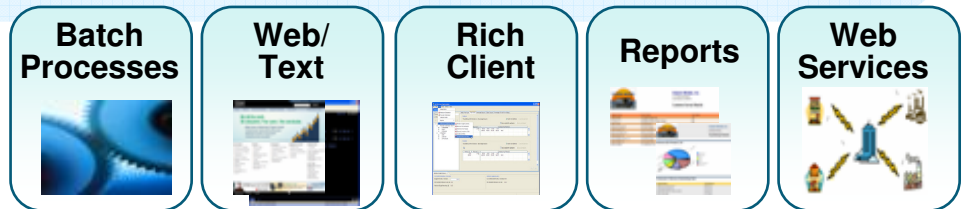
New!

IBM Rational Business Developer (RBD) helps business developers build cross-platform Web and service-oriented applications through "EGL". COBOL and PL/I developers can leverage their domain using "EGL, IBM's newest and most powerful business language", to design, develop, test, and deploy new solutions in record time.

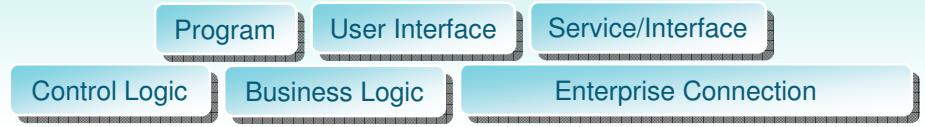
### New in RBD 7.5

- ▶ Create Web 2.0 and AJAX applications using EGL's support for Javascript (RBD V7.5.1)
- ▶ Support for MQ, CSV, DL/1, TUI (3270, 5250), BIRT reporting
- ▶ Deploy generated program to IMS
- ▶ Improved support for System i, Portal development
- ▶ Target for migration from VAGen

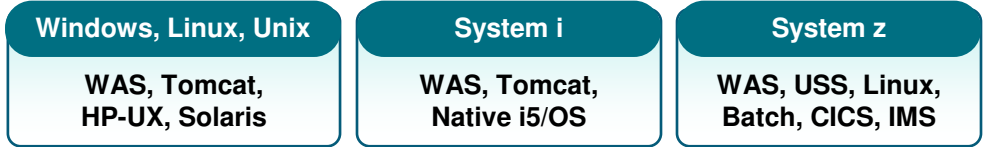
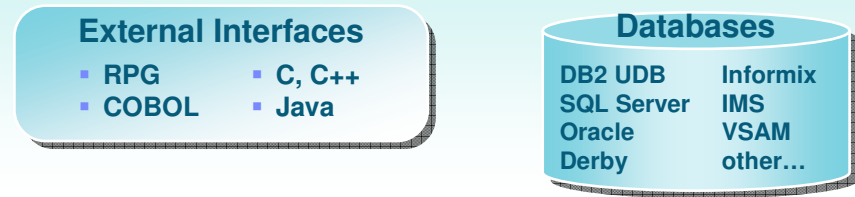
- Simplify delivery of modern User Interfaces
- Modern syntax appeals to today's developers
- UML to EGL speeds Model Driven Development
- Leverage business developer skills
- Enhance integration to existing processing and services and improve application QOS
  - Deploying to WAS, CICS, IMS



### Write application and control logic with EGL



### Encapsulate existing or create new resources



IBM Rational Business Developer

# Consolidate your Team Infrastructure

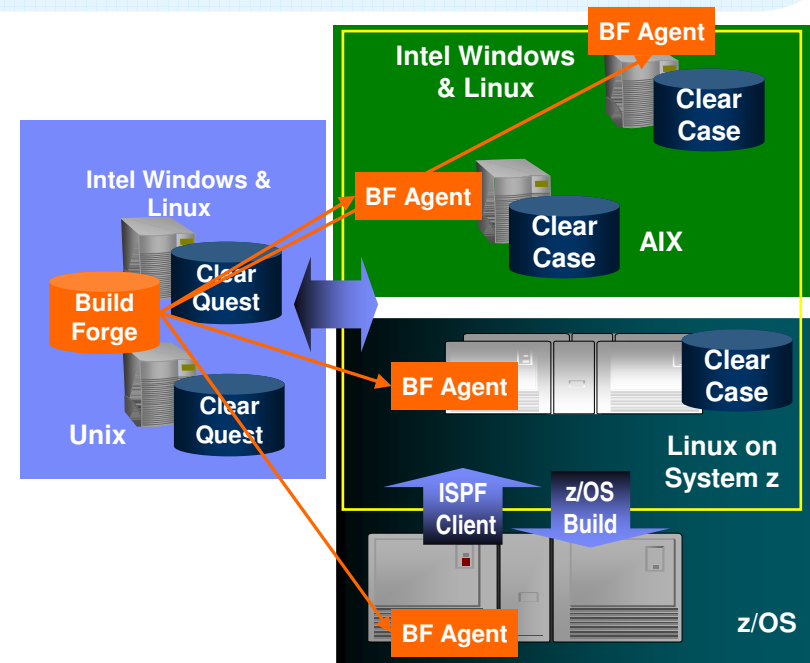
*Provide Coordination, traceability, consistency across platforms*

With **IBM Rational ClearCase v7.0.1, ClearQuest 7.0.1, and Build Forge v7.0.2** customers can reduce development costs with a single infrastructure for software development environments and processes across platforms and technologies; improve quality through improved traceability, automation of processes, and improved reporting; and benefits from lower costs due to elimination of duplicate processes and processes.

## New CRM Solutions

- ▶ **ClearCase 7.0.1**
  - Improved Build Processing
- ▶ **ClearQuest 7.0.1**
  - Enhanced lifecycle integration
- ▶ **BuildForge 7.0.2**
  - Driving distributed builds across platforms

- Provides:
  - single point of control, single artifact repository and set of user interfaces
  - Provides consistent process paradigm across platforms
- Extends power of SDP, Unified change management, and cross platform deployment to z/OS



IBM Rational Change and Release Management Solutions

# Questions