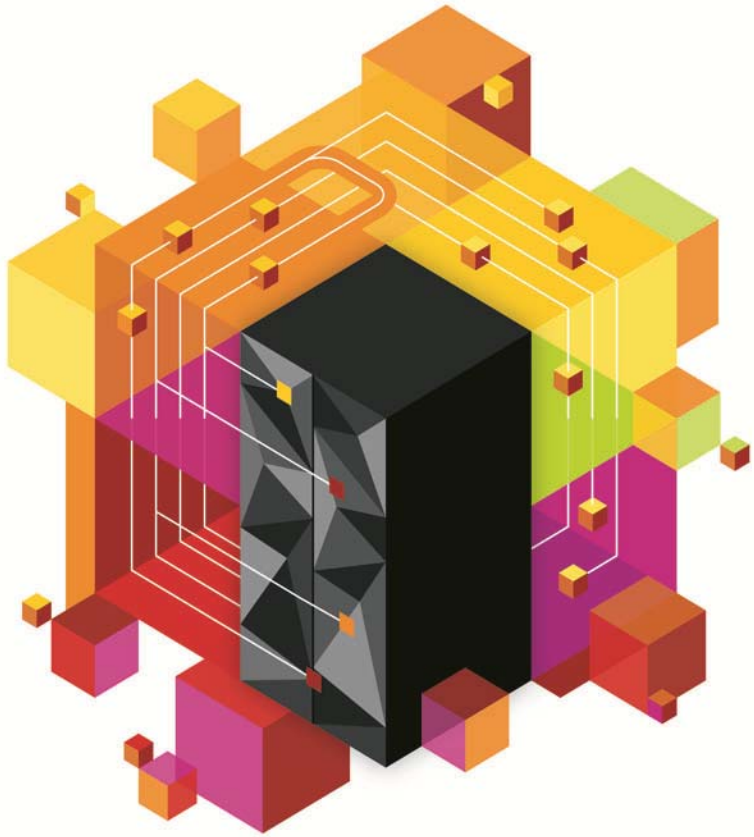
IBM zEnterprise Technology Summit



Presenter – Title

Date

Four key barriers preventing optimal return on IT investments

Decades of application investments

"We don't understand the effort, risk and impact of modernizing our legacy applications."

Islands of skills, languages and platforms

"Our skills gap keeps growing. How do we stay current with all the language and technology changes?"

Poorly integrated teams

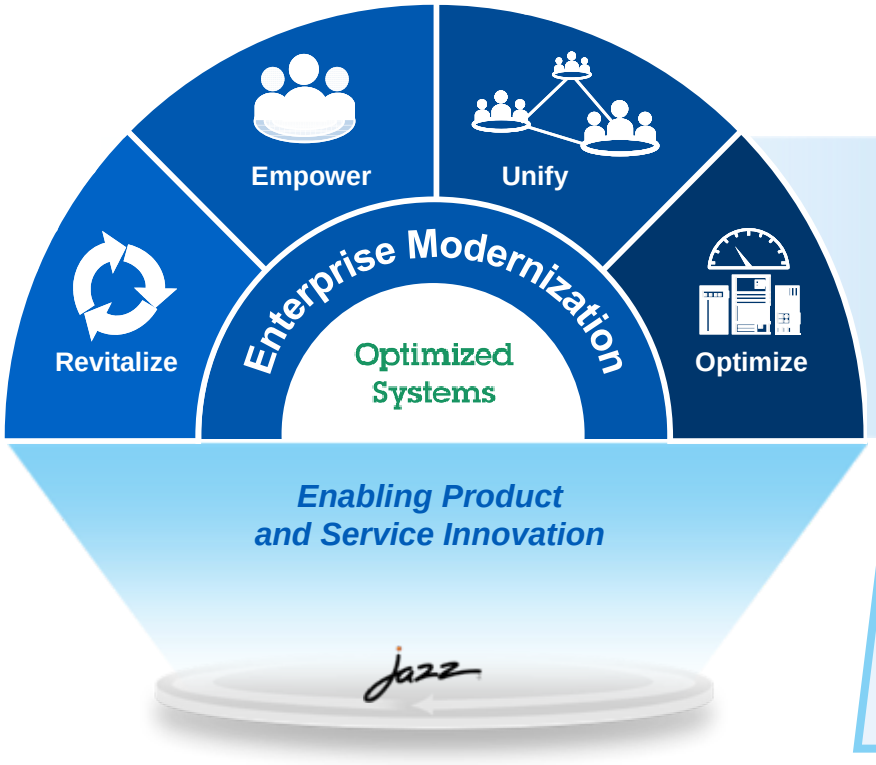
"We need to enable our teams to collaborate across platforms, languages, and environments."

Infrastructure inefficiency

"We need a cost effective way to improve our infrastructure efficiency and free up capacity to handle more workload."

IBM Enterprise Modernization

An incremental and continuous approach to achieving greater value and performance from your IT investments



20 to 35%
cost reduction in managing and maintaining existing application portfolios

30 to 50%
cost reduction in renewal/re-architecture

Increase Application Flexibility

22-37%
improvement in developer productivity with modern tooling

50-80%
reduction in host CPU usage

Boost Individual Productivity

Maximize Team Productivity

15 to 20%
decrease in development cycle time through common team infrastructure for collaborative application lifecycle management

Optimize System Utilization

20 to 60%
improvement in application performance with latest compilers for IBM Systems

Trends in enterprise application management & development

Portfolio Strategy and Management

- "Average amount spent on **ongoing operations and maintenance exceeds 65%** of the IT budget, but many firms report much higher percentages" [1]
- Understanding the application portfolio results in development spend where it can have **the most value**. [2]

Continuous Integration [2]

- Early and frequent builds and testing provides immediate feedback to developers, resulting in bugs being found earlier when **less costly to fix**.
- This has **rarely been done** in mainframe development where the time to deploy and test changes is measured in weeks not hours, and cost for test automation can be prohibitive.

Mobile Development [3]

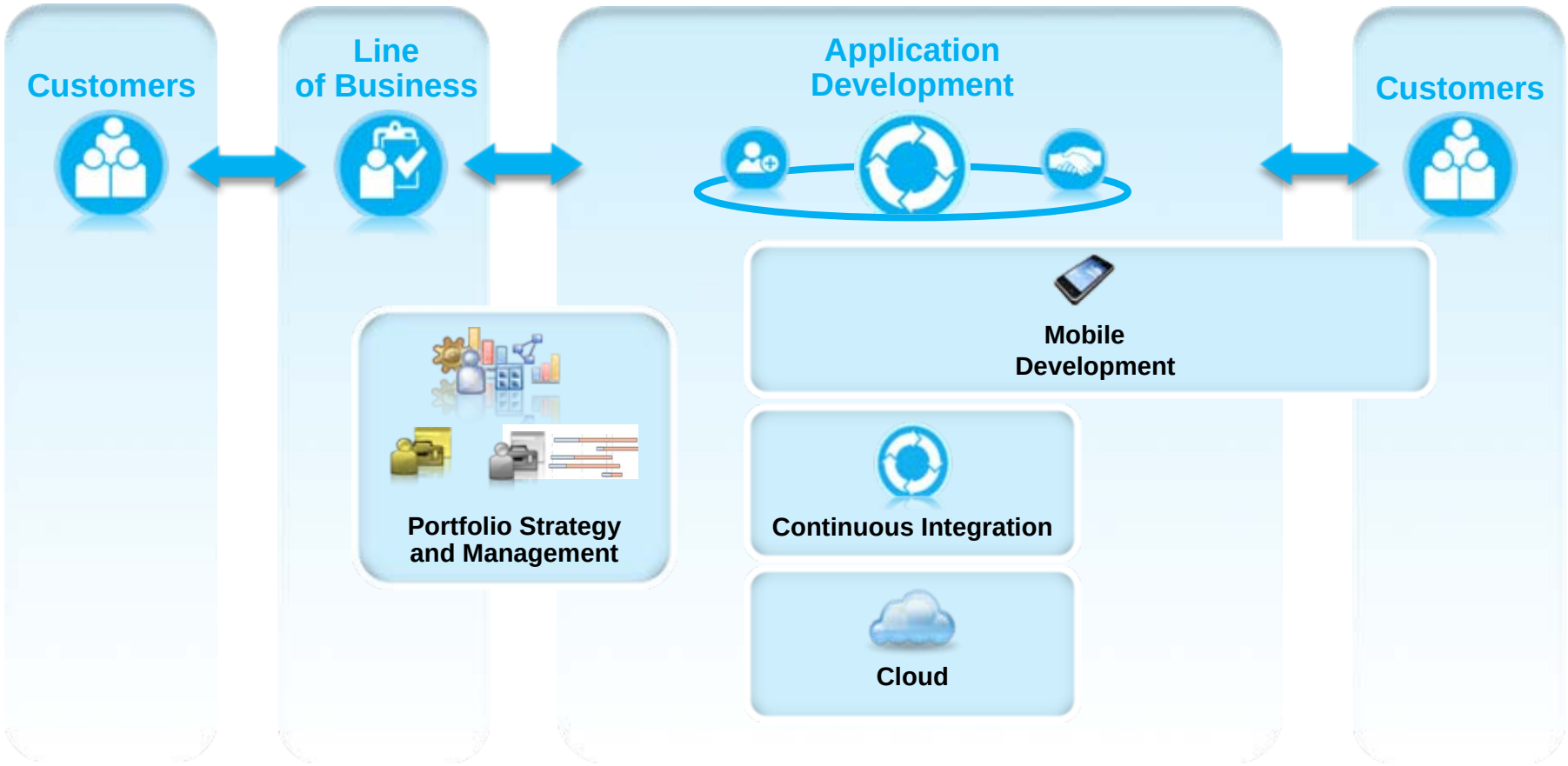
- **75% respondents** currently working in mobile computing, **growing to 85%** within the next two years
- **31% are focused** on extending existing core applications with mobile capabilities

Cloud Computing [3]

- **75% believe** that over the next two years their organizations will begin to build cloud infrastructure
- **25% of the respondents** indicated that they plan to develop new applications for the cloud

[1]The Application Portfolio Management Landscape —Combine Process And Tools To Tame The Beast, Forrester, Phil Murphy , 2nd May 2011
[2] Statement from IBM, May 2012
[3] The 2011 IBM Tech Trends Report: Tech Trends of today. Skills for tomorrow

Positioning of these trends within application management and development



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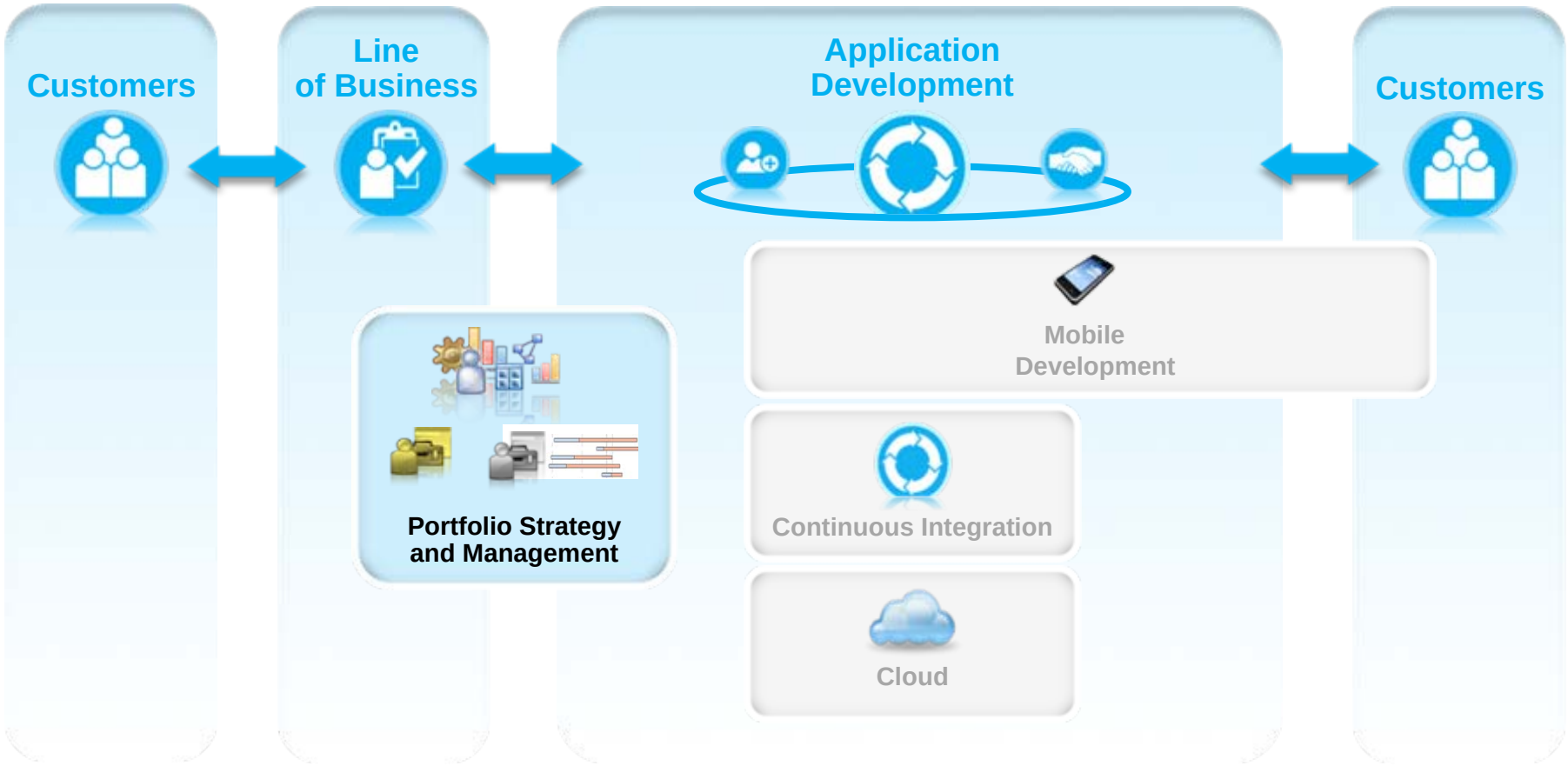
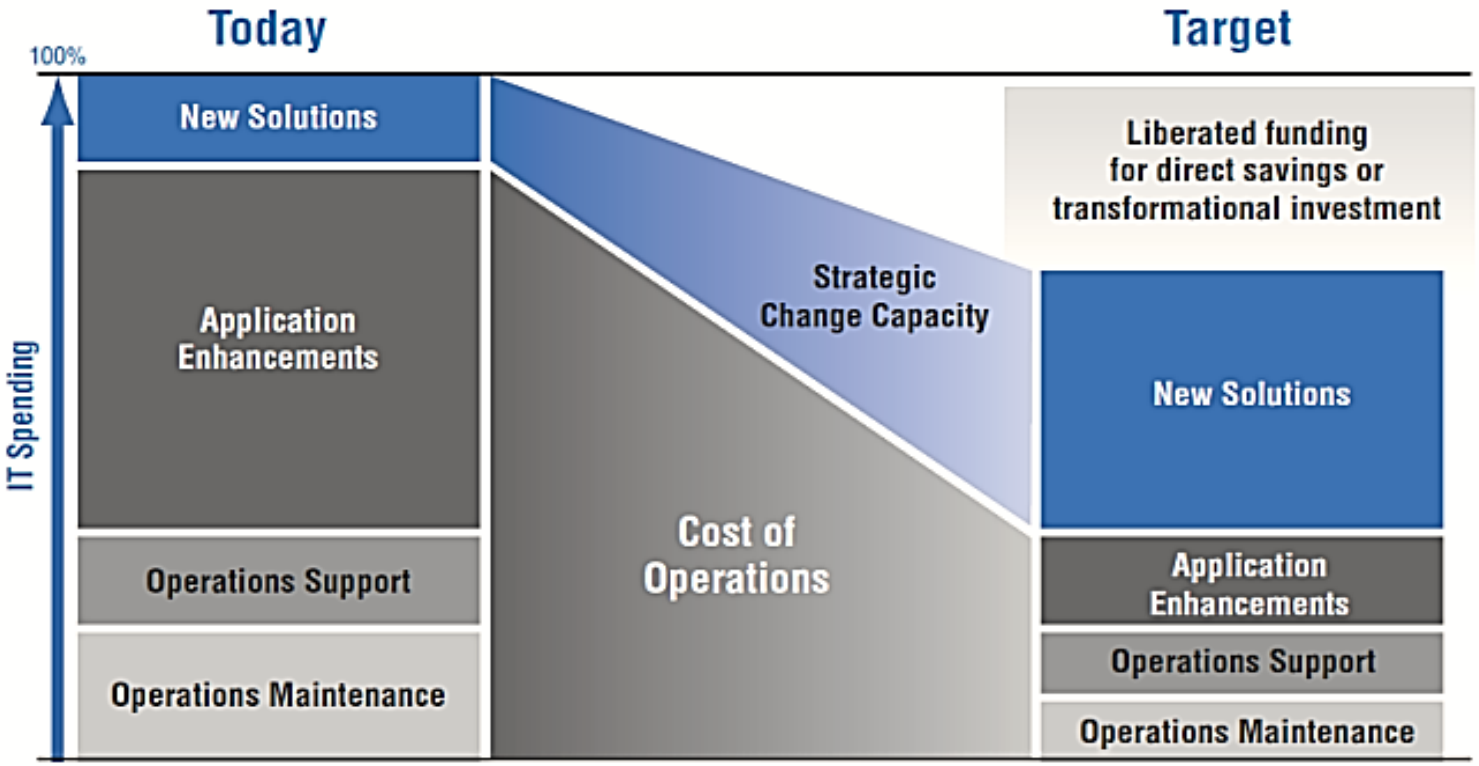


Enterprises want to… *drive business innovation through software*



But…

- *70% of IT budget locked into maintenance and operations rather than enabling innovation*
- *Business and IT not aligned on how to prioritize work to maximize business value*
- *More than 75% of projects miss their target delivery dates*

Solution: Portfolio Strategy and Management

Increase business value with better LOB and IT alignment, proactive portfolio evolution and delivery governance

Mobile
Compliance
Consolidation

Cloud
Outsourcing
Modernization

- Application Portfolio Management: Continuous assessment to improve agility and identify savings that can be targeted towards innovation
- Demand Management: Prioritize business needs and proposals, determine sourcing choice, and align with strategy to maximize value
- Delivery Management: Govern project delivery involving the business, development and operations, track status and manage change

"Making IT resource consumption transparent and understandable to business leaders enables healthy business discussions around how to shift resources to where they will do the most good for the whole business."

– Define "Application" Based On Your Content To Avoid False Starts In Your Rationalization Efforts,
Forrester Research, Inc., January 26, 2011

Solution: Portfolio Strategy and Management

Increase business value with better LOB and IT alignment, proactive portfolio evolution and delivery governance

Mobile
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Cloud
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Modernization

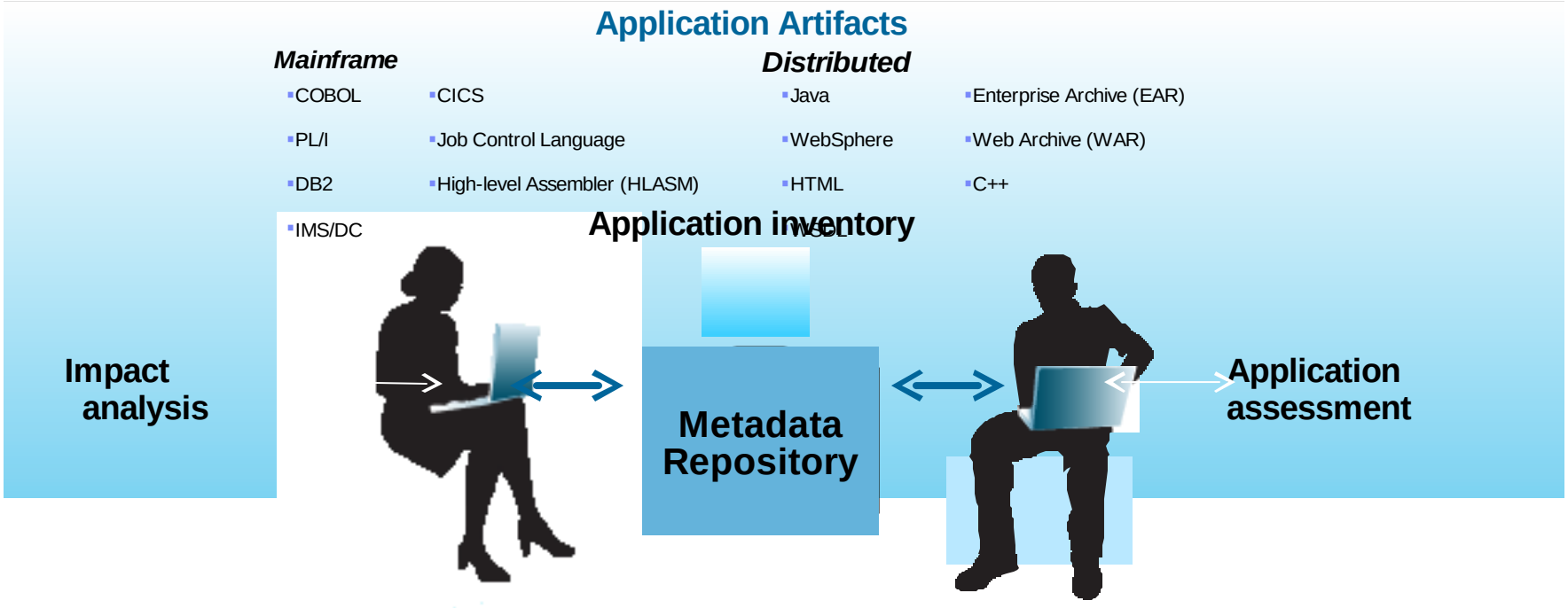
- Rational Focal Point 6.5.1
- Rational Asset Analyzer 6.0.0.11
- Rational System Architect 11.4.1
- Rational Requirements Composer 4.0
- Rational Team Concert 4.0

"IBM raises the level of management information and control within our organization, and this has already made a significant contribution to the successful management of our core banking replacement program."

– Jan Kühnel, CIO, Bank DnB NORD

Application Portfolio Management

Restore lost application knowledge via technical analysis



Rational Asset Analyzer

Delivering

Reduced risk by quickly determining the full impact of proposed changes and lowered costs via dead code elimination, optimal planning, focused testing and faster development.

New functionality to assist clients in their business rule mining efforts

Application Portfolio Management

Proactively manage application portfolio evolution

- ***Application Details***
- ***Architecture & Technology***
- ***Financial Performance***
- ***Organization***
- ***Business Alignment***
- ***Technical Debt***
- ***Service Quality***

Sample feeds

Application Portfolio Management

Gather info, analyze, make decisions

- ✓ Reduce costs
- ✓ Increase flexibility
- ✓ Minimize risks

Retire	Discontinue
Retain	As-Is
	Retool
	Consolidate
	Upgrade
	Rehost
	Wrap
	Convert
	Refactor
	Rewrite
Replace	Purchase
	Lease

Determine Disposition

Do Macro Planning / Road mapping

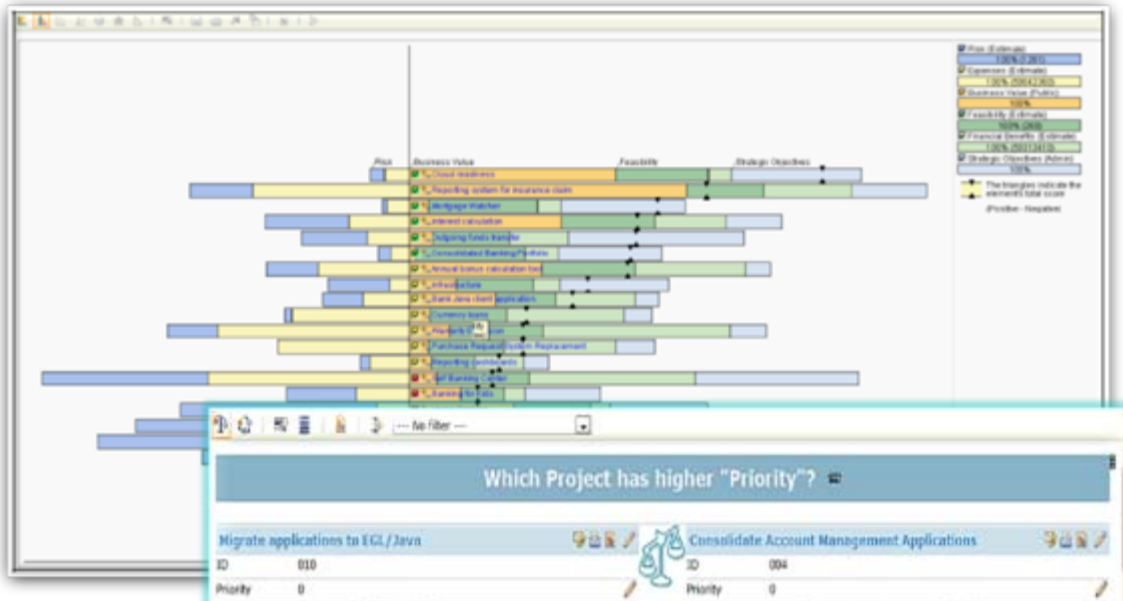
"APM and associated application revitalization has enabled IBM's IT to cut maintenance costs by 20% and defects by 58%."

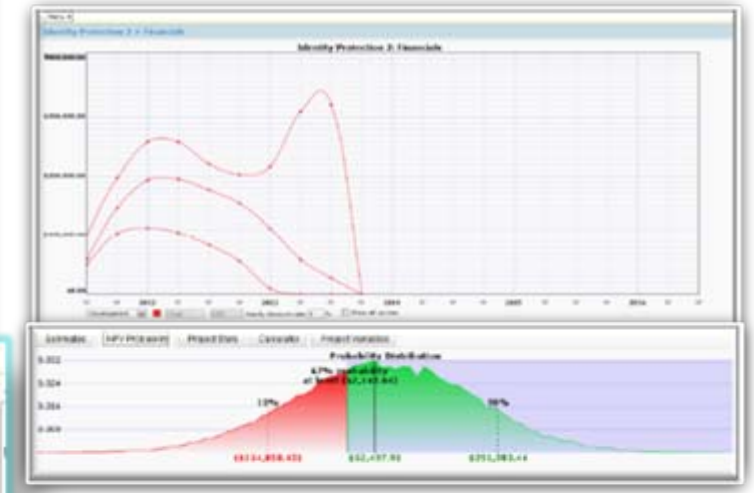
— IBM Corporation

Demand Management

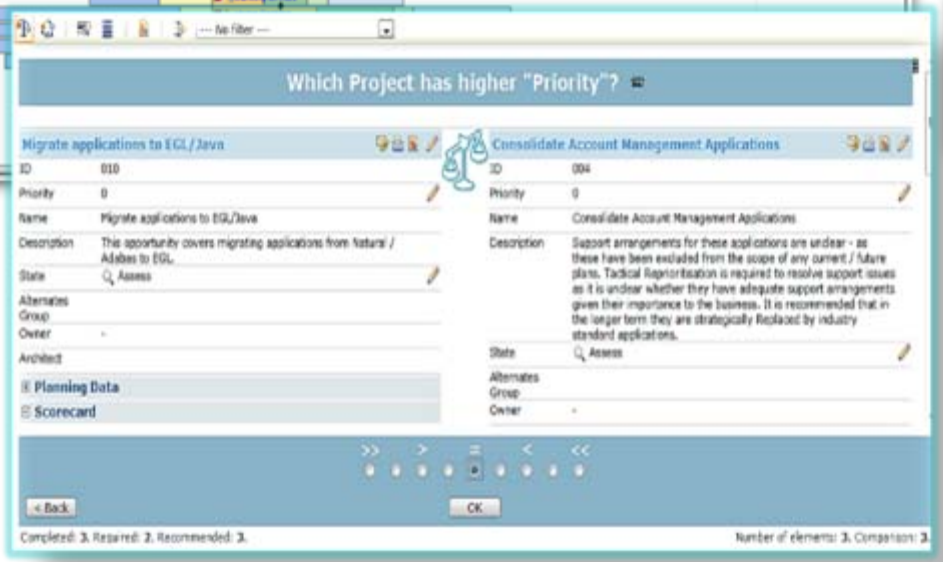
Evaluate and prioritize business needs and projects

Have business drivers determine priorities





Assess value and uncertainty

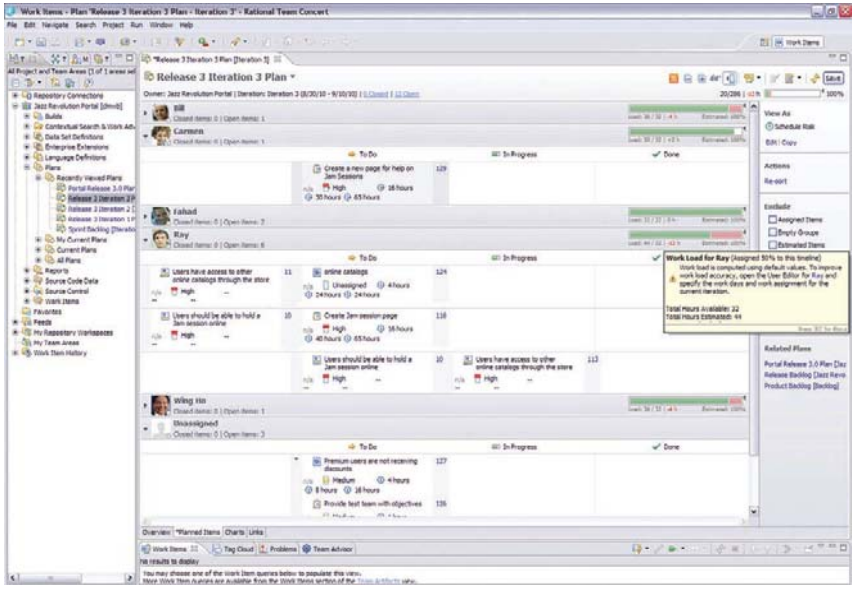


Collaborate to choose between competing projects

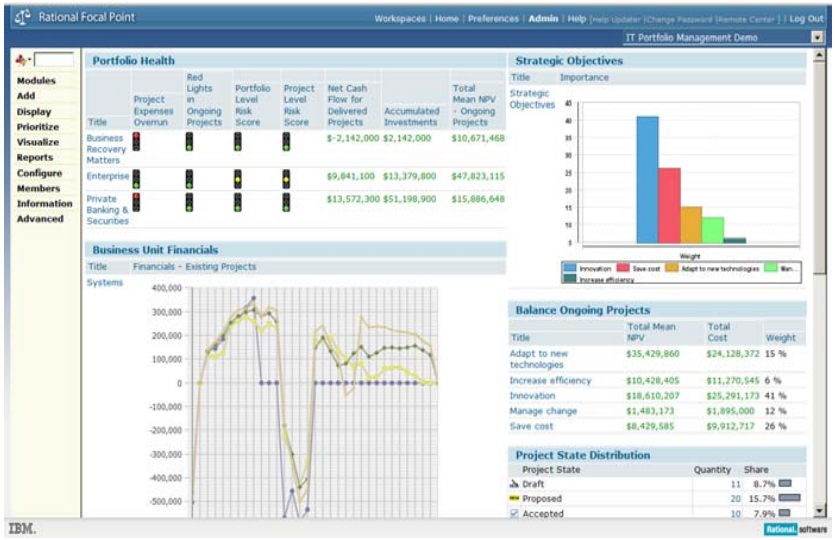
Delivery Management

Govern project execution and make course corrections

- Define and approve business commitments, and link to RTC to enable execution and tracking
- Improve project success rates through milestone reviews with stakeholders from the business, IT and operations
- Manage project change and monitor value delivered

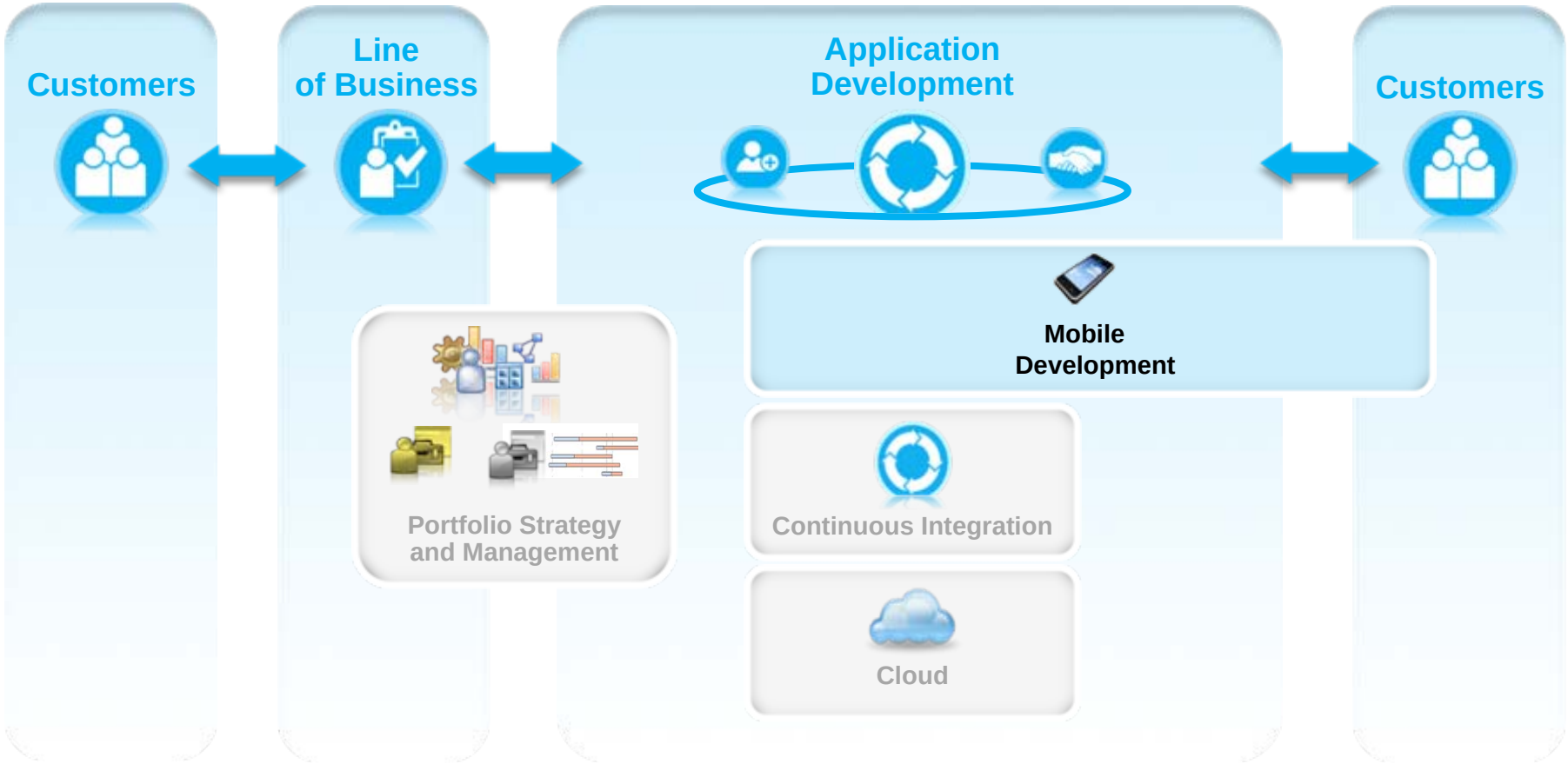


Drive day-to-day development.
Identify and escalate delivery issues



Track project status, and drill down into development artifacts as needed

Positioning of these trends within application management and development



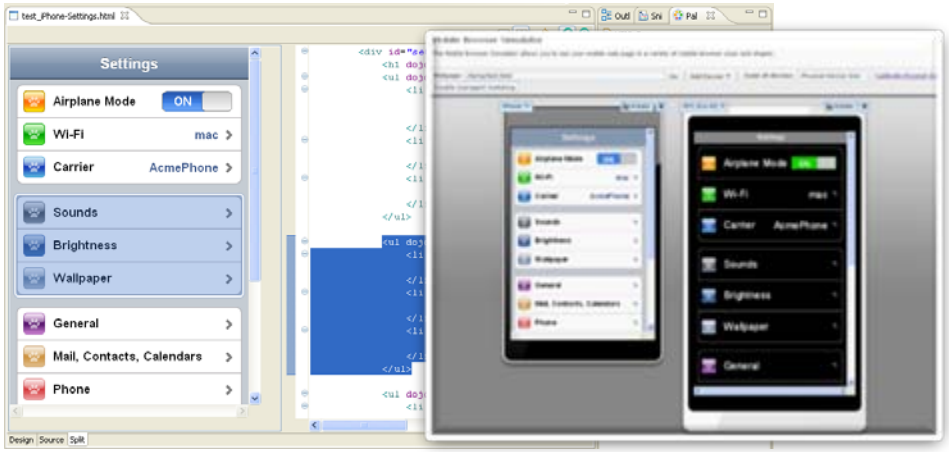
Enterprises want to… ***extend existing services and information to customers and employees on their smart phones and tablets***

But…

They lack the skills and time to re-write their existing applications, and they cannot afford to develop natively for multiple mobile platforms and devices

Solution: End to end mobile development

Design, code, build, test, and deploy mobile apps that run on a wide variety of mobile platforms; Quickly refactor and extend existing back-end services and data to new mobile UIs



Construct, debug, and test mobile UIs

Refactor and extend existing logic as mobile-consumable services

- Quickly deliver to the most popular mobile platforms (iOS, Android, Windows Phone, Blackberry) by
  - leveraging portable standards like HTML5 & JavaScript
  - supporting native functions like camera and GPS from a single code base with hybrid approaches
- Refactor and extend existing back-end services to provide an optimal mobile experience

Over 60% of respondents indicate mobility spend in the range of 10–40% of total IT spend and nearly 80% of organizations plan to spend the same or more on mobility in the next 12–18 months
— The State of Mobile Enterprise Software in 2011:
An IDC Survey of Applications, Platforms, Decisions, and Deployments

IDC Analyze the Future

Solution: Rational IDEs including IBM Worklight

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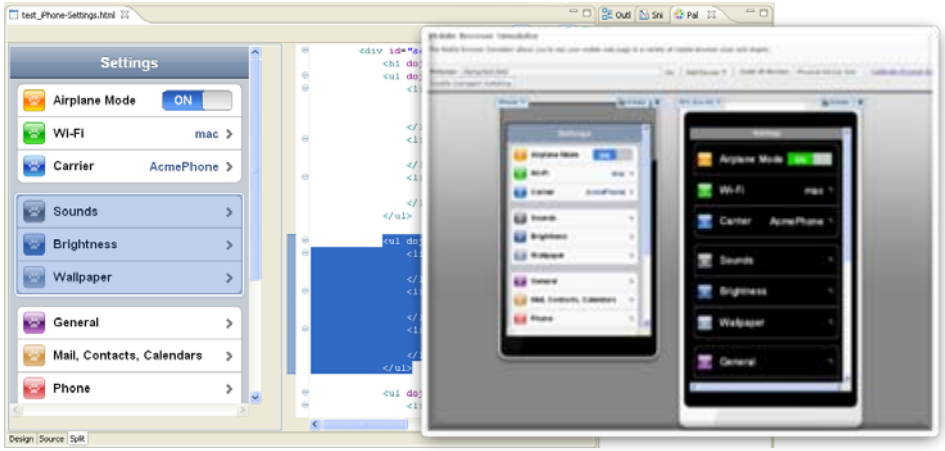


Construct, debug, and test mobile UIs

Refactor and extend existing logic as mobile-consumable services

- Rational Developer for zEnterprise v8.5*
- Rational Developer for Power Systems v8.5*
- Rational Application Developer v8.5*
- Rational Business Developer v8.5

* *Includes IBM Worklight*

"We chose IBM Worklight because it was the best technology for Lotte to consolidate application development, enhancement and maintenance, while ensuring cost savings and timely delivery to our customers."
— Kang, Chang Nam, IT Planning Director, Lotte Credit Card

Key mobile development and delivery challenges

Delivering for multiple platforms

- Highly fragmented set of…
  - Platforms and devices
  - Languages, APIs, and tools
- Native programming models not portable across platforms

Consumerization of IT and need to deliver high quality apps

- High quality user experience is a requirement
- Quality influenced as much by design as it is by function

Accelerated time to market requirements

- Higher frequency of releases and updates
- Added pressure on teams to deliver on time and with quality

Connecting apps and mobile users with existing enterprise systems

- Existing services typically need to be adapted and extended for mobile
- Enterprise wireless networks are running out of bandwidth to accommodate employee devices

Mobile application styles

Web

- HTML, JavaScript, CSS
- Accessed from a mobile web browser
- No device-specific capabilities

Mobile Web

- HTML, JavaScript, CSS
- Accessed from a mobile web browser; mobile-optimized UI
- Limited access to device capabilities

Hybrid Mobile

- HTML, JavaScript, CSS, with optional native code
- Installed and run like a native mobile app; mobile-optimized UI
- Access to most device capabilities

Native

- Native code
- Access to full set of device capabilities

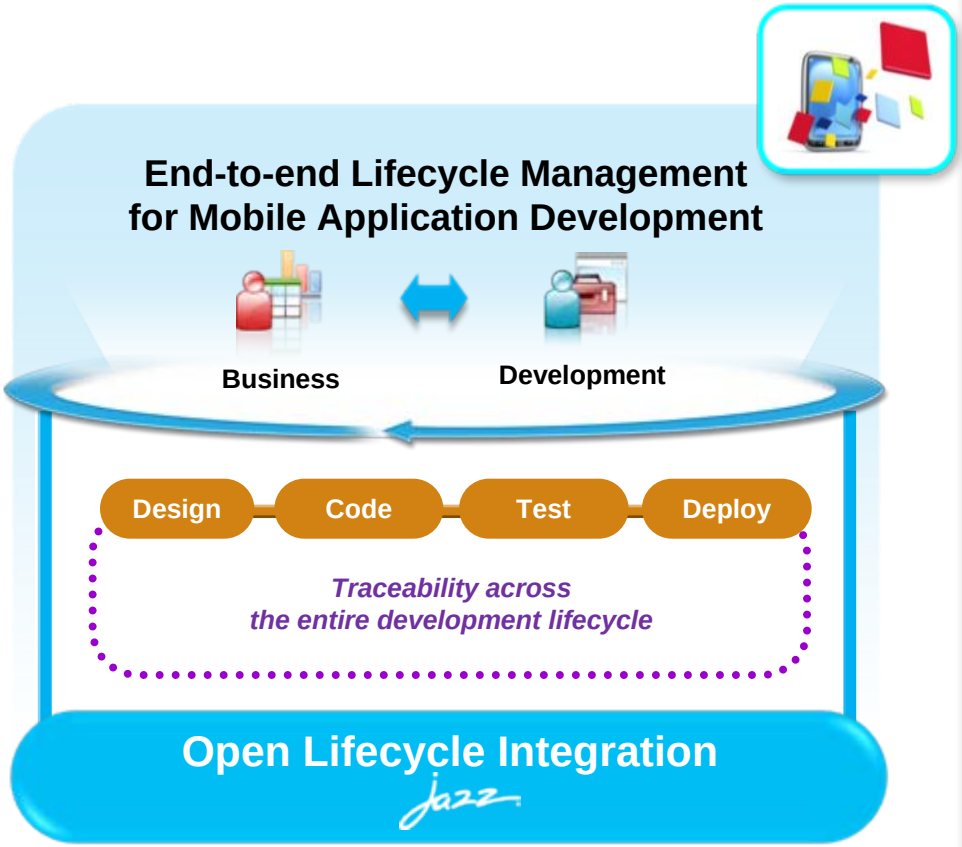
Richness of Mobile Presentation / Services

Portability (cross-device reuse)

Maintenance Cost (TCO)

Aligning teams across the application development lifecycle

IBM Rational Collaborative Lifecycle Management



Client Challenge

Delivering cross-platform mobile applications that align with business goals and are perceived as high quality, both from a user experience and functional point of view.

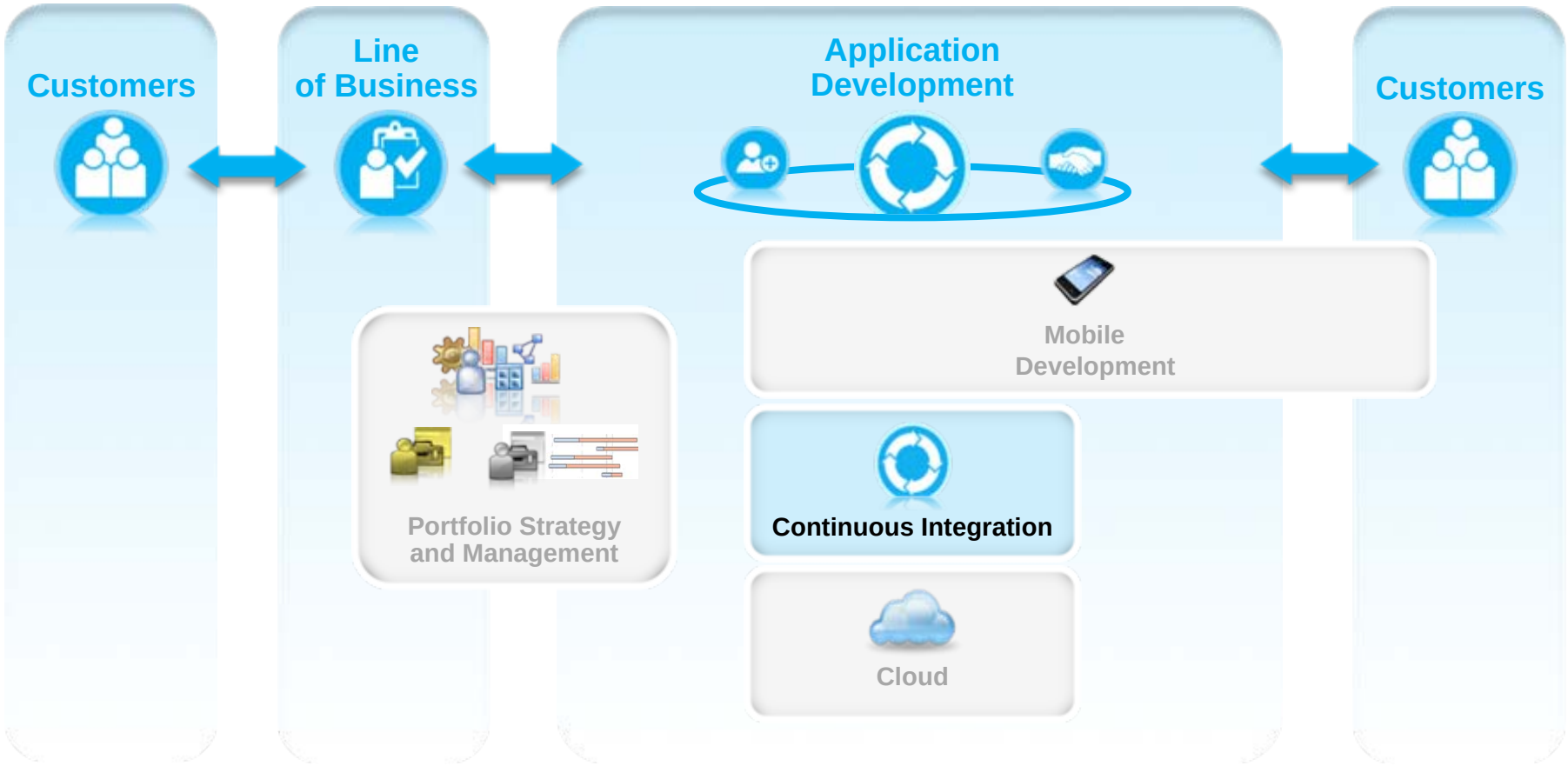
Mobile-relevant Capabilities

- UI sketching and storyboarding with lightweight requirements management
- Test execution management and optimization
- Continuous native mobile app builds

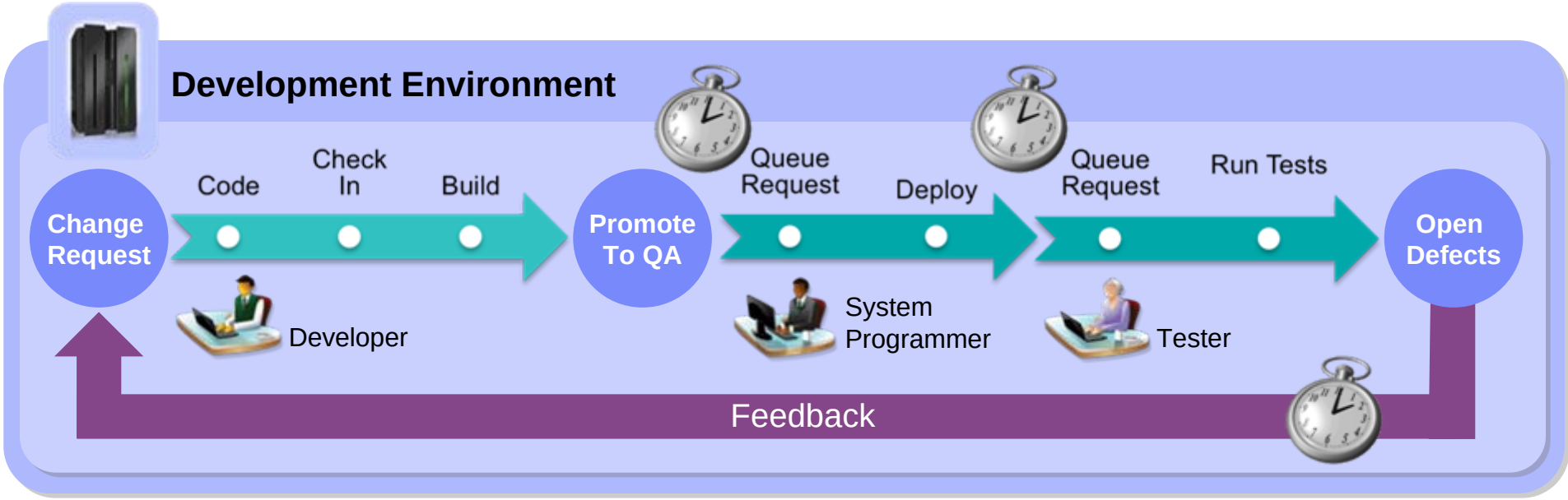
New for Mobile

- RTC Eclipse Client and Build System Toolkit support for Mac OS
  - Extends Worklight Studio with RTC tools for developers on Mac
  - Enables Jazz builds to execute on Mac

Positioning of these trends within application management and development



Enterprises want to… ***deliver end-to-end application enhancements quickly to stay competitive, trust that complex enterprise systems can be broadly integrated, and bolster confidence in application quality***

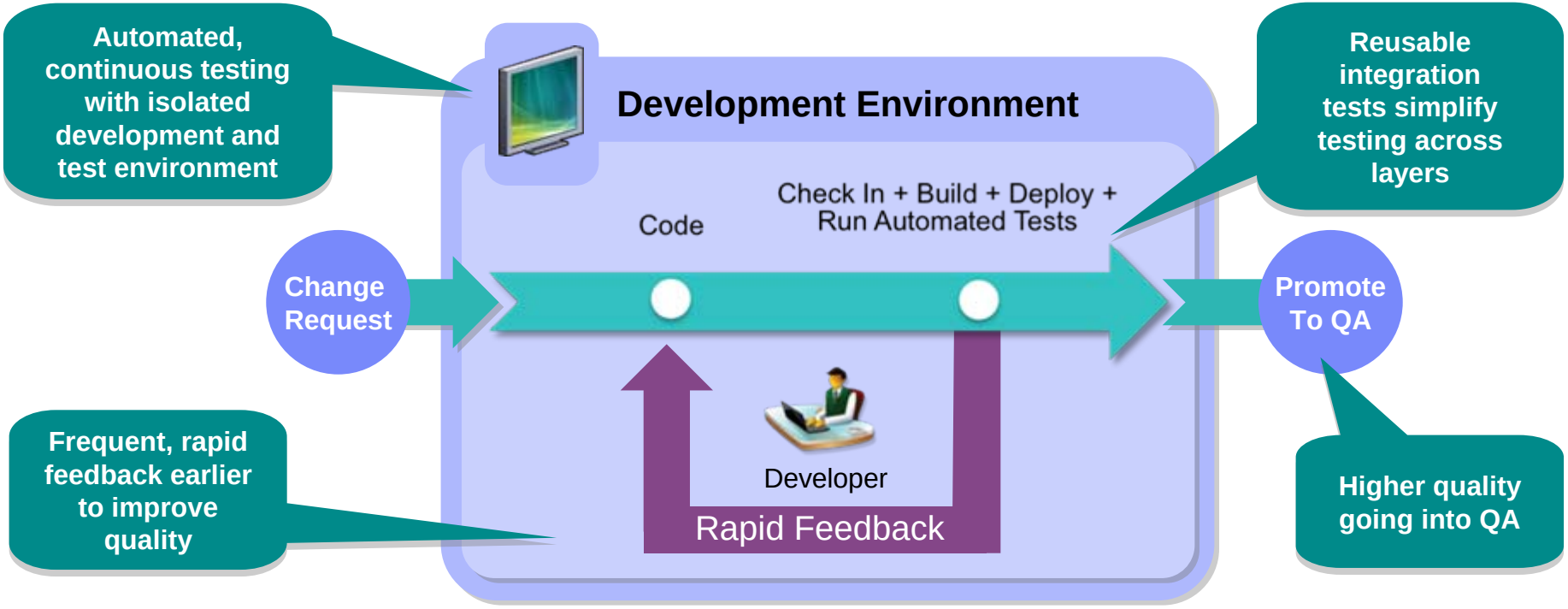


But…

It takes days or even weeks to test and fix changes due to reliance on manual processes and limited access to test resources, and running builds and automated tests frequently can be too costly

Solution: Continuous Integration

Reduced delivery time, end-to-end visibility of test activities, safer and faster V2V migrations



- Fast, dependable, automatic feedback speeds time to market
- Lower cost of application testing using off-mainframe z/OS test environment
- Enables confidence by automatically tracking and promoting code health

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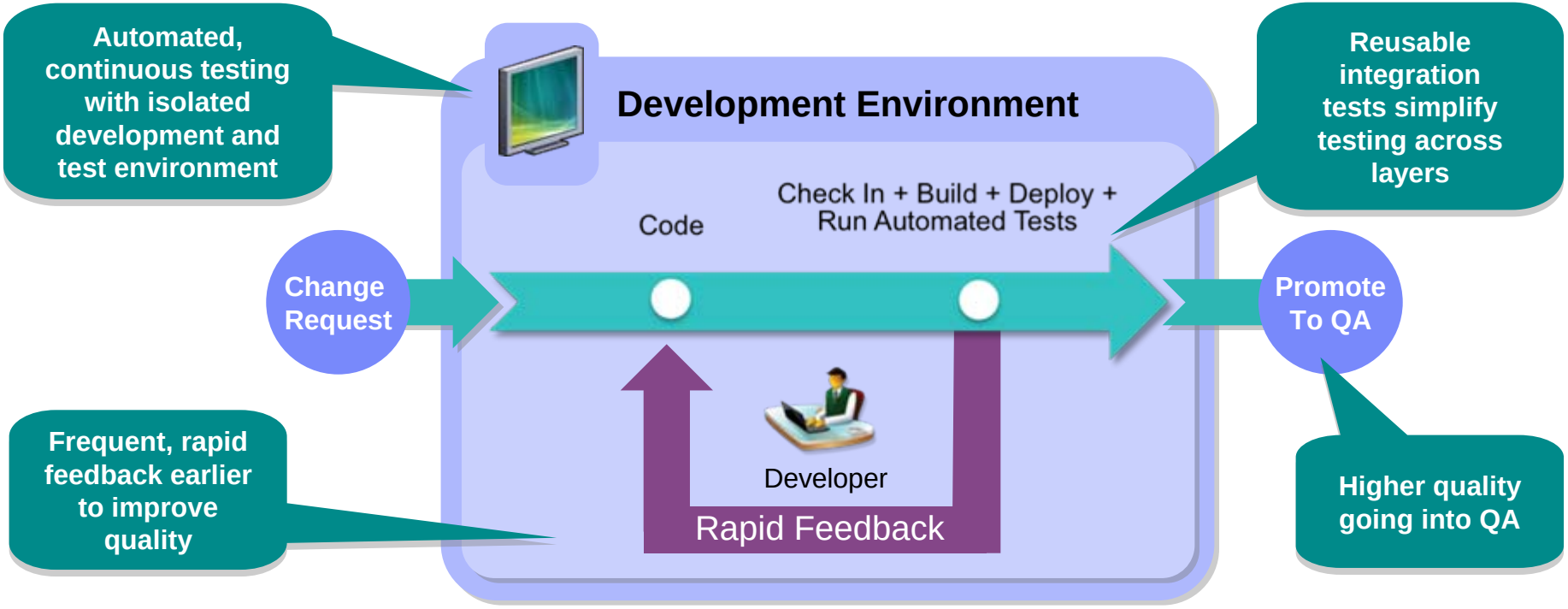
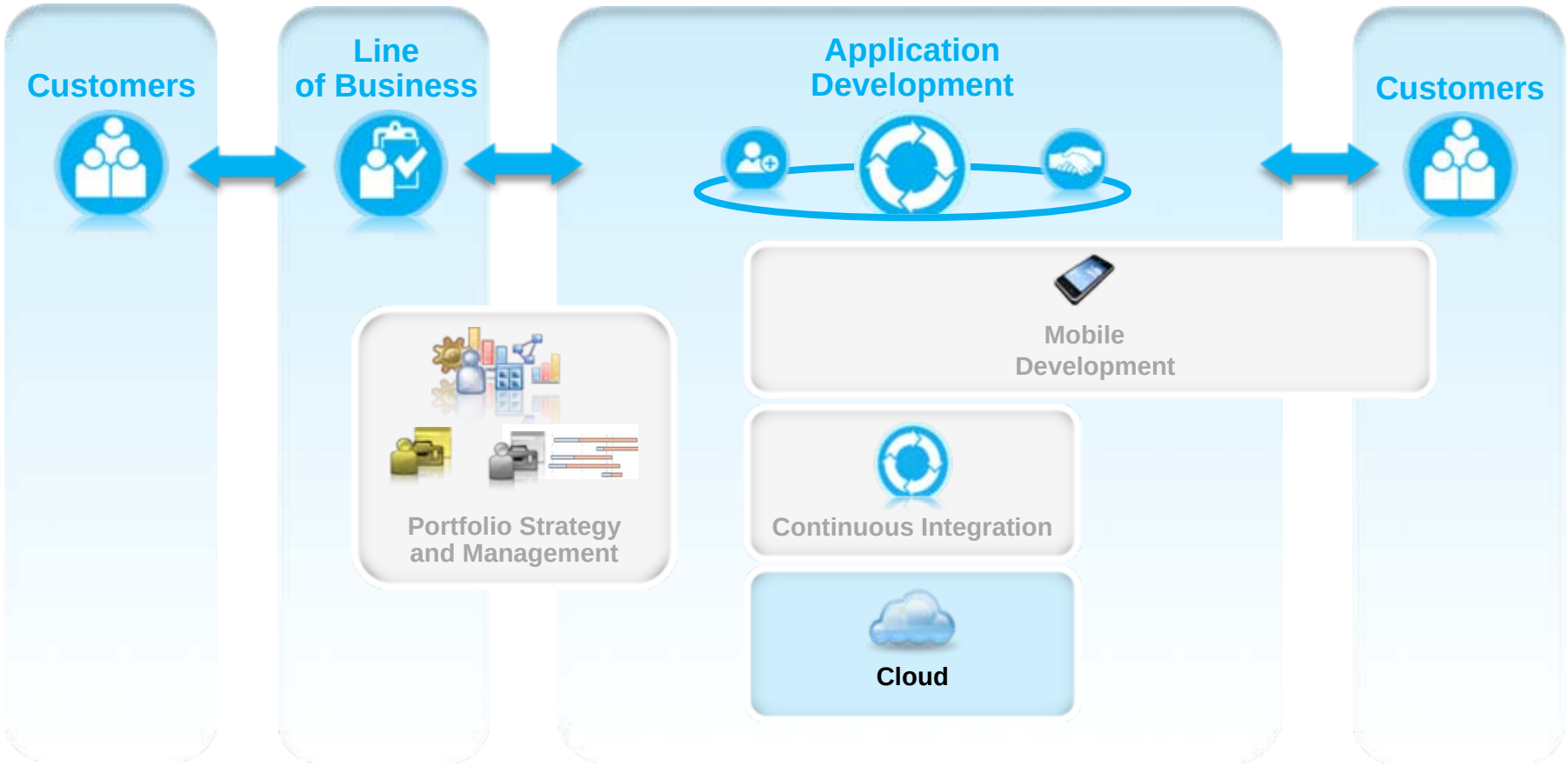
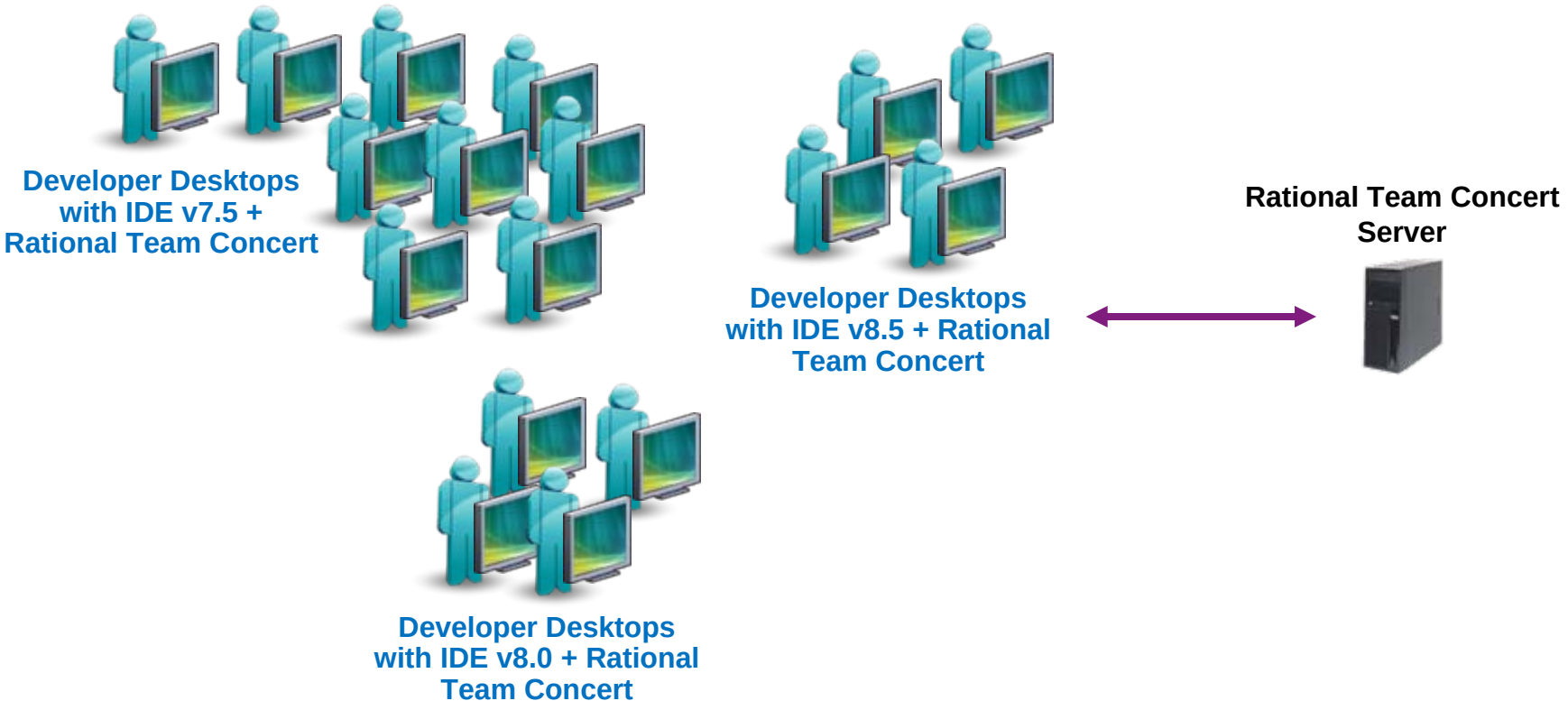


- Rational Developer for System z 8.5
- Rational Team Concert 4.0
- Rational Quality Manager 4.0
- Rational Development and Test Environment for System z 8.5 NEW!
- Rational Test Workbench powered by Green Hat Technology

Positioning of these trends within application management and development



Enterprises want to… ***quickly, consistently and affordably equip practitioners with development tooling for entire teams and easily maintain the environment***

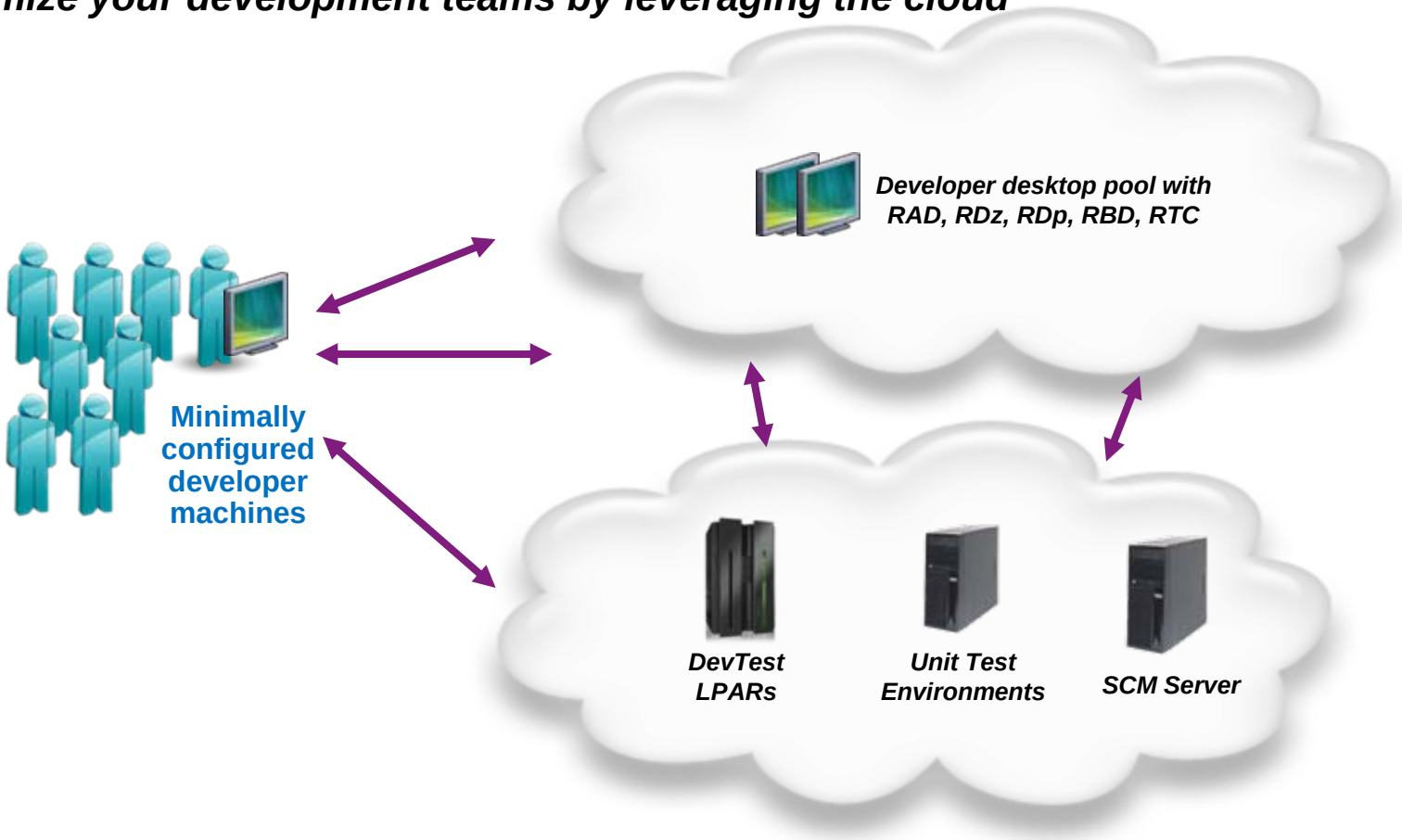


But…

Managing individual desktops is time consuming, costly, and error prone

Solution: Development on the cloud

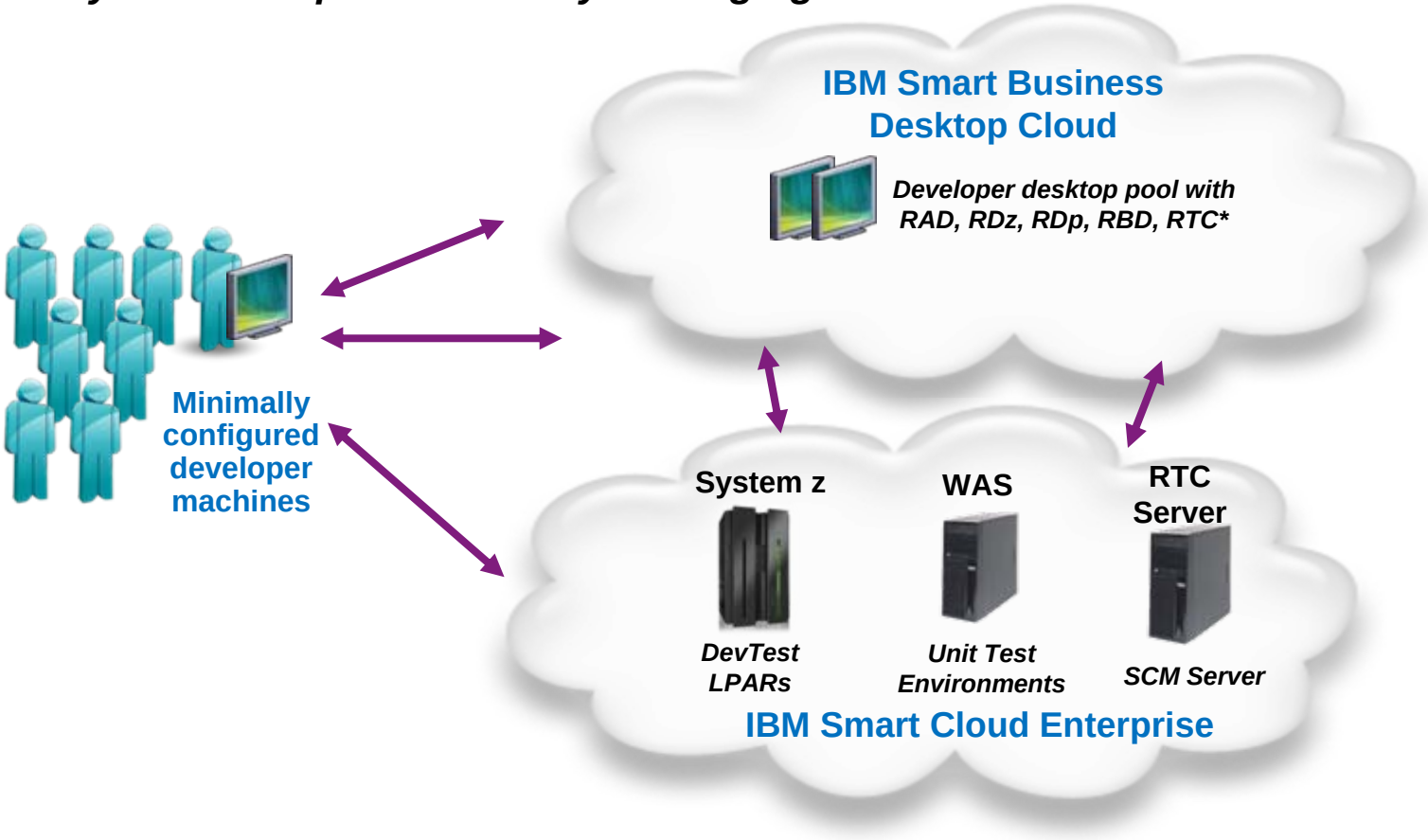
Optimize your development teams by leveraging the cloud



- Save capital expenses by providing your developers with powerful IDEs without high-end machines
- Quickly provision the right tools, in the right configurations for new projects
- Ensure consistent and accurate installs and updates via centralized management

Solution: Development on the cloud

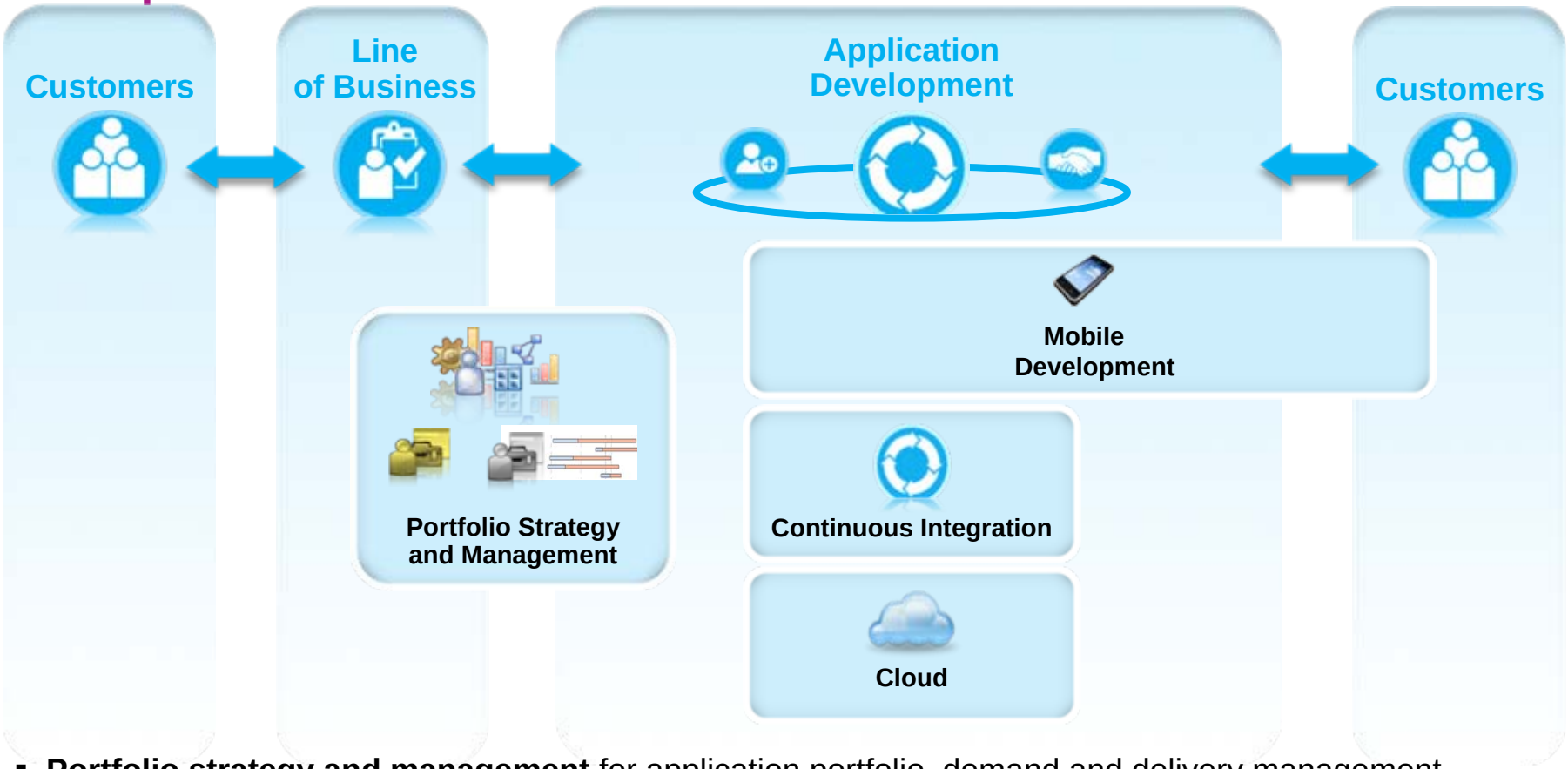
Optimize your development team by leveraging the IBM Smart Cloud



- IBM Smart Business Desktop Cloud – private cloud offering providing custom desktop cloud implementations
- IBM Smart Cloud Enterprise – public cloud offering providing pay per usage infrastructure

*Requirements for virtualization platform varies by product

Positioning of these trends within application management and development



- **Portfolio strategy and management** for application portfolio, demand and delivery management
- **End-to-end mobile development** to quickly extend existing services and information to mobile devices
- **Continuous integration** to accelerate development and improve visibility into test activities
- **Cloud-based development environment** to reduce cost and speed delivery

Summary

Portfolio Strategy and Management

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All of this is relevant to z!

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[2] Statement from IBM, May 2012
[3] The 2011 IBM Tech Trends Report: Tech Trends of today. Skills for tomorrow

Getting started

Next steps to modernize your enterprise applications

www.ibm.com/rational/modernization

- Try latest System z software for free
- Sign up for free web-based training
- Join IBM Rational Cafe Communities
- Get prescriptive service solutions
- Success stories
- Latest news on System z twitter
- Latest customer videos
- Latest skills: System z job board