

# Z13 Innovations with IBM DevOps for Enterprise Systems

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# Agenda

- The Problem - Criticality of effective software delivery
- The Solution – DevOps for Enterprise Systems
- Next Steps
- Q&A



***From Mobile to Mainframe***



# Software delivery is at the heart of today's top technology trends

## Big Data

Insights on new products by more efficiently interpreting massive quantities of data



## Cloud

Demand for apps requires fast, scalable environments for dev and test, as well as production



## Social Business

Broader set of stakeholders collaborates to deliver continuous innovation and value



## Instrumented Products

Industry requirements demand faster response to regulations and standards, with traceability and quality



## Mobile

Modern workforce expects constantly updated software to connect to enterprise systems



# Software delivery

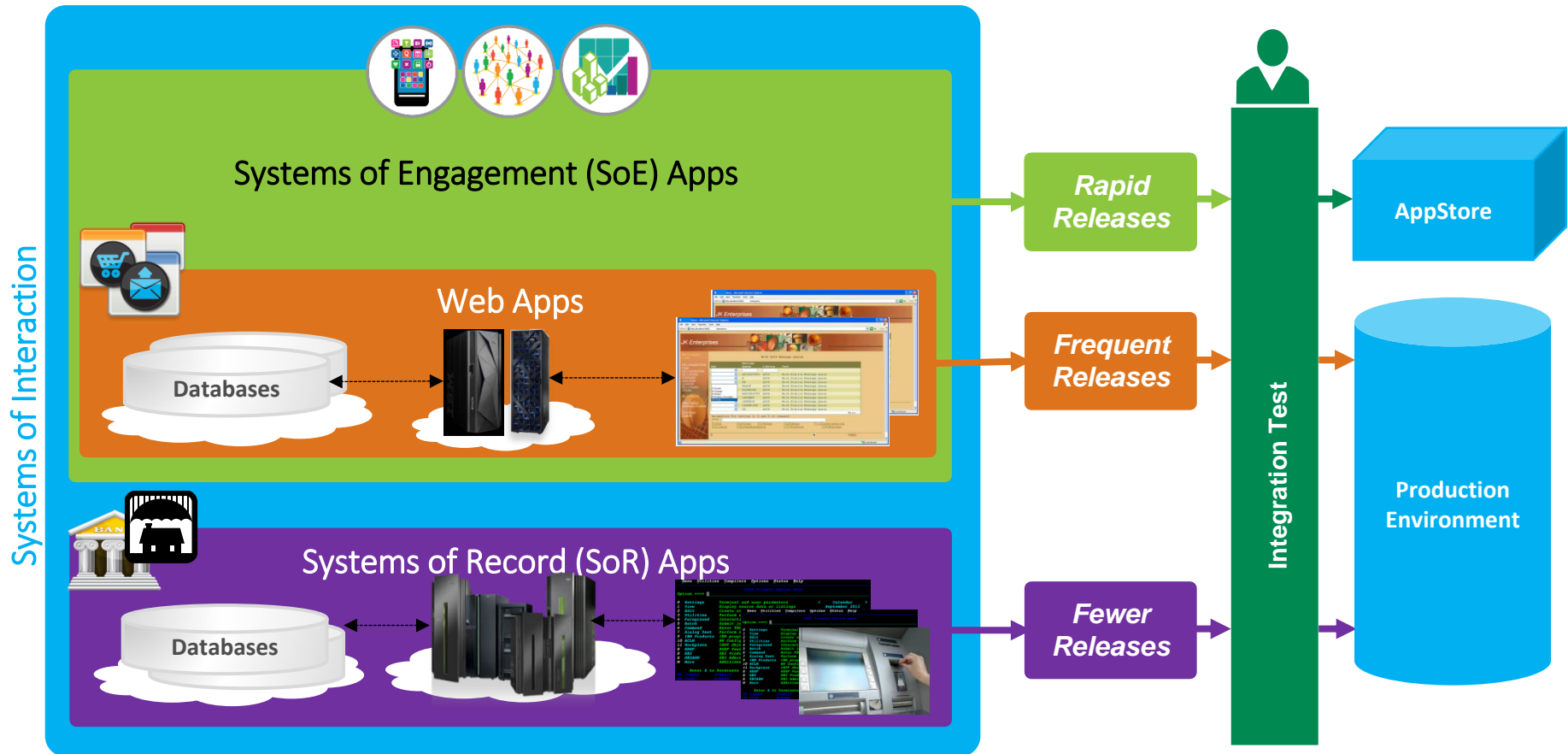
## Intelligent/ Connected Systems

Software component in smart products driving increased value and differentiation



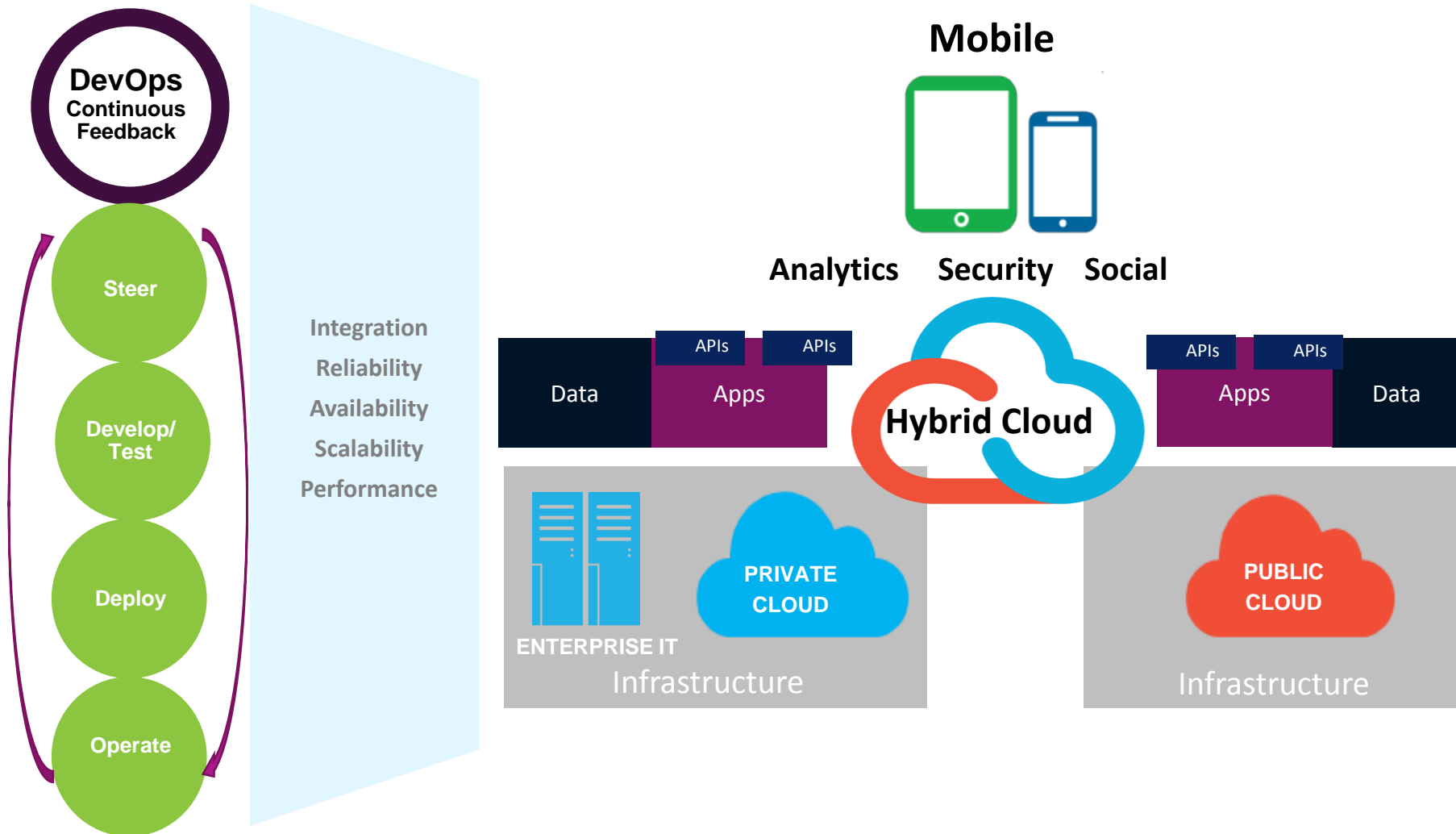
# Building the next-generation of Systems of Interaction Applications

*By bringing together the people, processes, tools across the entire software delivery lifecycle – spanning mobile to mainframe platforms*



# DevOps → The “How” for Cloud and Mobile

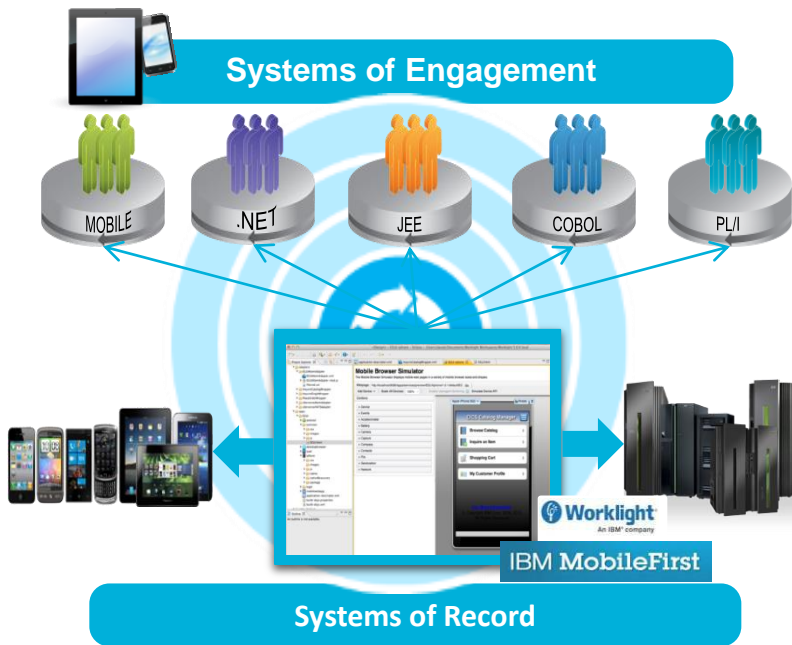
*Enables clients to extend enterprise IT assets for digital business transformation at scale & speed*



# Join the 21st century! Use modern tools for multiplatform development



## Boost developer productivity



- Standardize on common Eclipse-based IDEs for all types of development
- Refactor and extend back-end services and data for optimal mobile experience
- Use code coverage, code governance, and unit test support for improved quality
- Leverage rich program understanding and control flow analysis for onboarding
- Exploit fully integrated source level debugger for increased productivity
- Interoperate with the IBM PD Tools Suite

**New**

# Rational Developer for System z: THE Premier Integrated Development Environment for System z and Multi-Platform Development

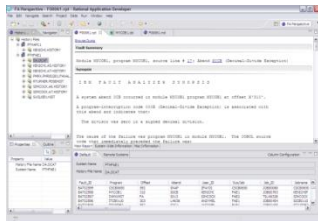
Integration with Team Concert  
for Lifecycle and Source  
Management



Integration with RD&T for  
flexible access to System z  
environment

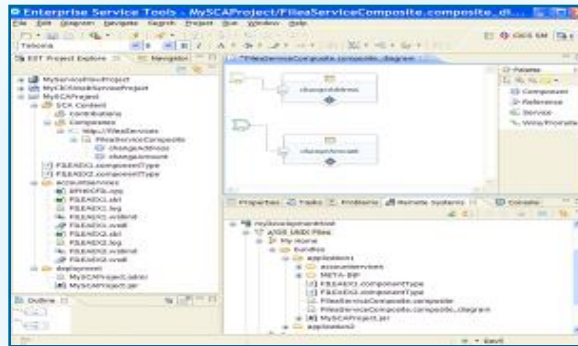


Integration with Fault Analyzer  
for ABEND Analysis



## Rational Developer for System z

A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, ASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications, with a powerful state of the art integrated debugger



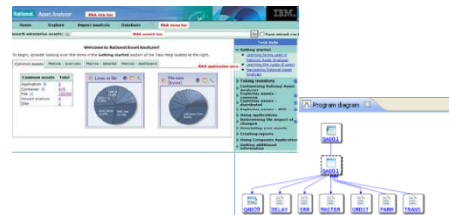
Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS



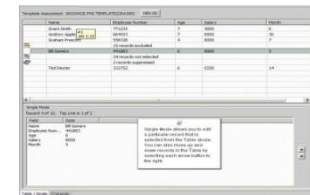
Robust Mobile Development in conjunction with Worklight



Integration with Asset Analyzer  
for Application Understanding  
and Impact Analysis



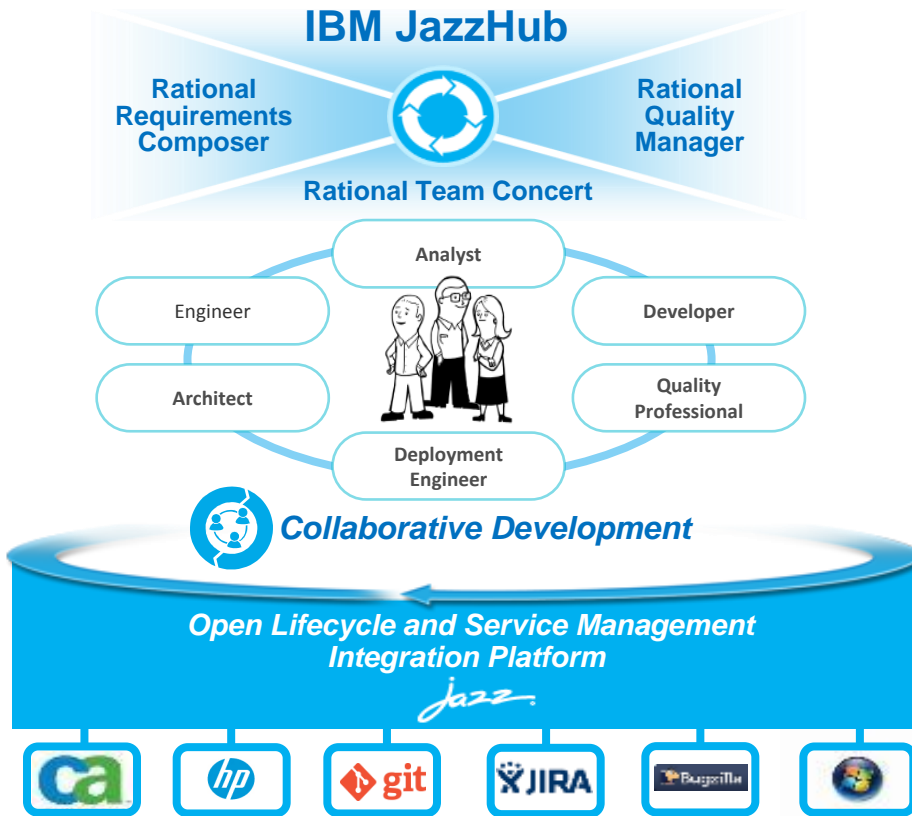
Integration with File Manager  
for file and test data handling





# Break down silos by moving to an Agile team environment

## Maximize team productivity



- Manage all types of code from JavaScript to COBOL – mobile to mainframe

**New** • Instant-on, self-serve development capabilities with JazzHub on SoftLayer

- Accelerate agile adoption on the mainframe

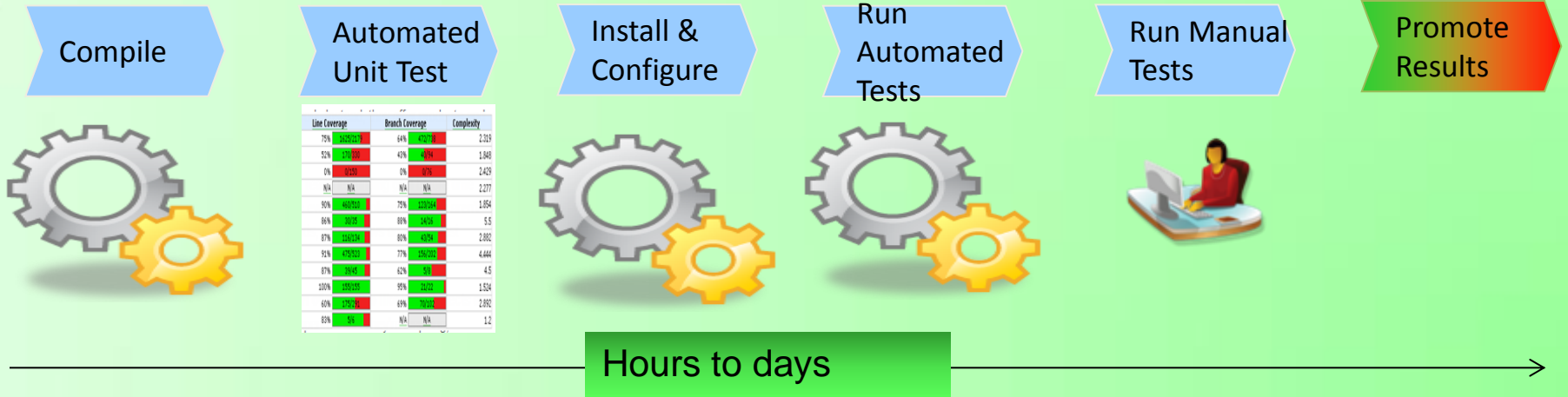
- Integrate existing SCM and deployment tools, e.g. ChangeMan and Endeavor

**New** • Enhanced Lifecycle integration adapters for third-party tools

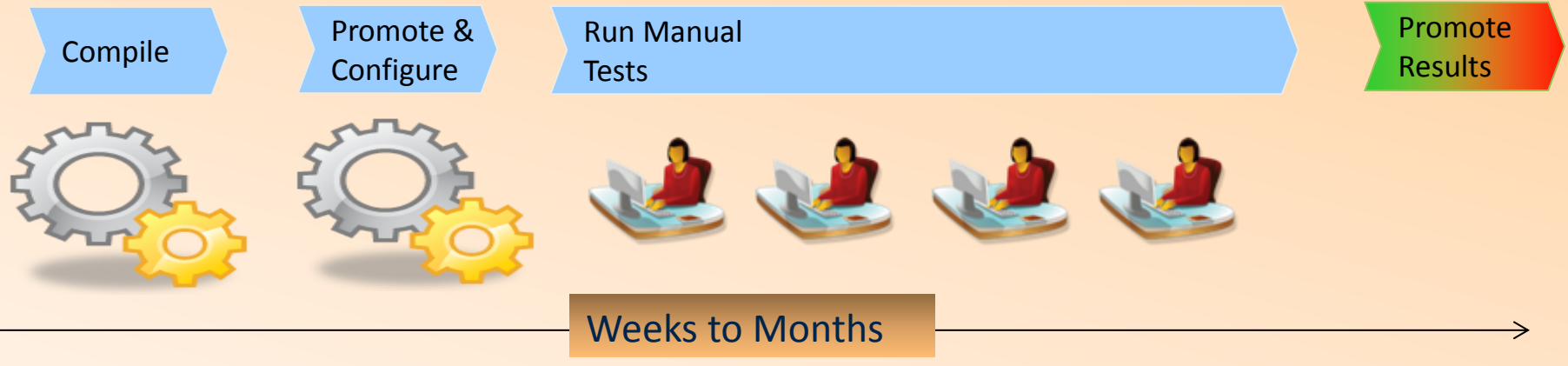


# Testing and Delivery – where are customers today?

## Java / .Net teams



## Mainframe teams current state \*\*



\*\* Feedback from mainframe customers

# Cost is a significant driver

**80% of development costs are spent identifying and correcting defects!\***



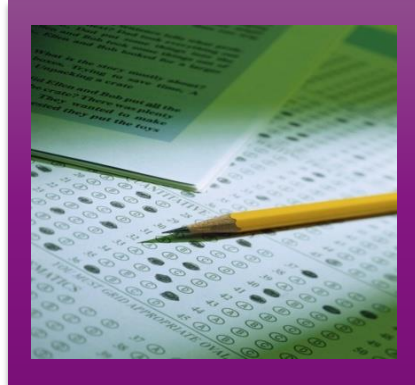
During the **CODING** phase

**\$80/defect**



During the **BUILD** phase

**\$240/defect**



During the **QA/TESTING** phase

**\$960/defect**



Once **released** as a product

**\$7,600/defect**

+

**Law suits, loss of customer trust, damage to brand**

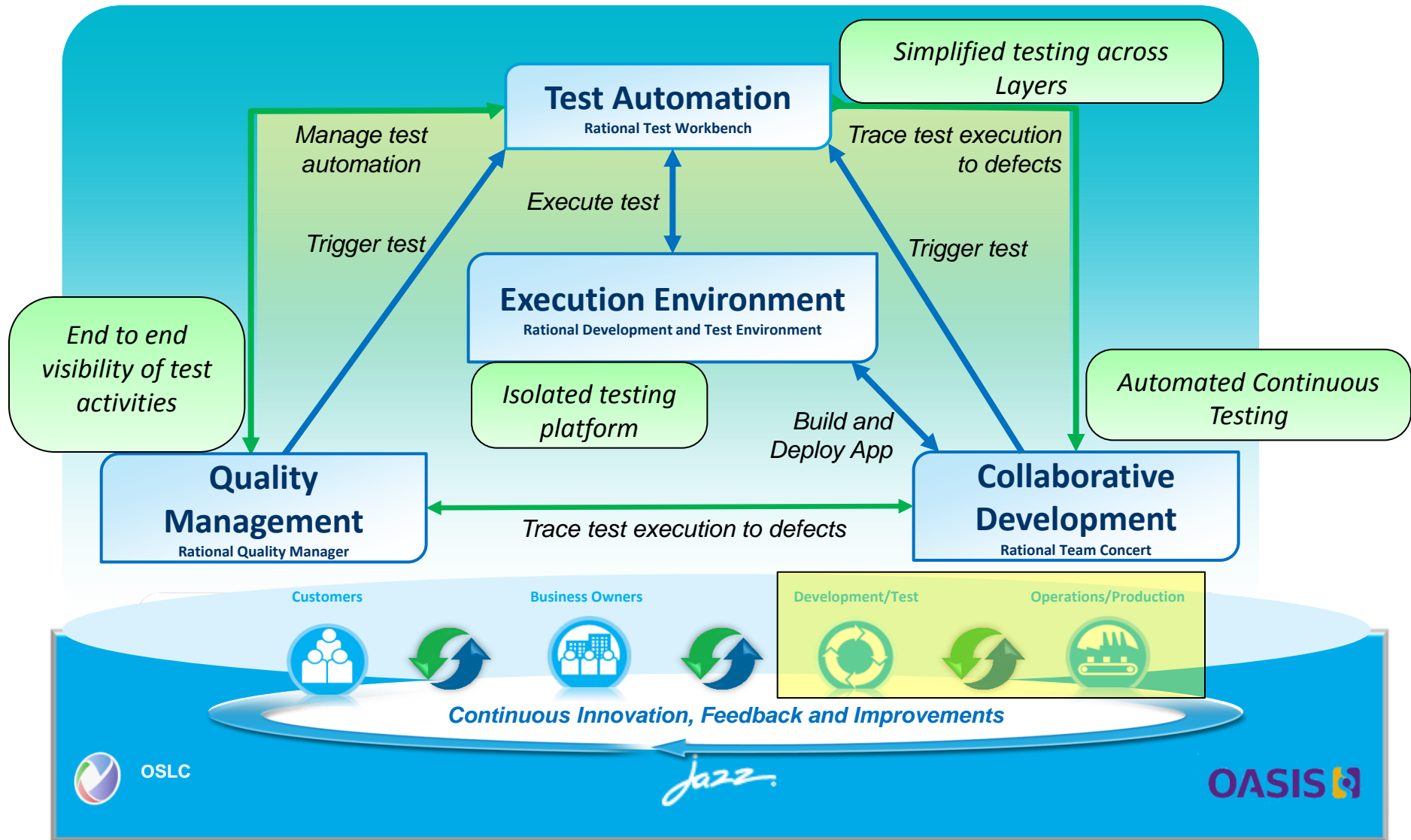
If admitted or not most development LPARs are managed as if starting here

\*National Institute of Standards & Technology

Source: GBS Industry standard study

Cost derived in assuming it takes 8 hrs to find, fix and repair a defect when found in code and unit test. Defect FFR cost for other phases calculated by using the multiplier on a blended rate of \$80/hr.

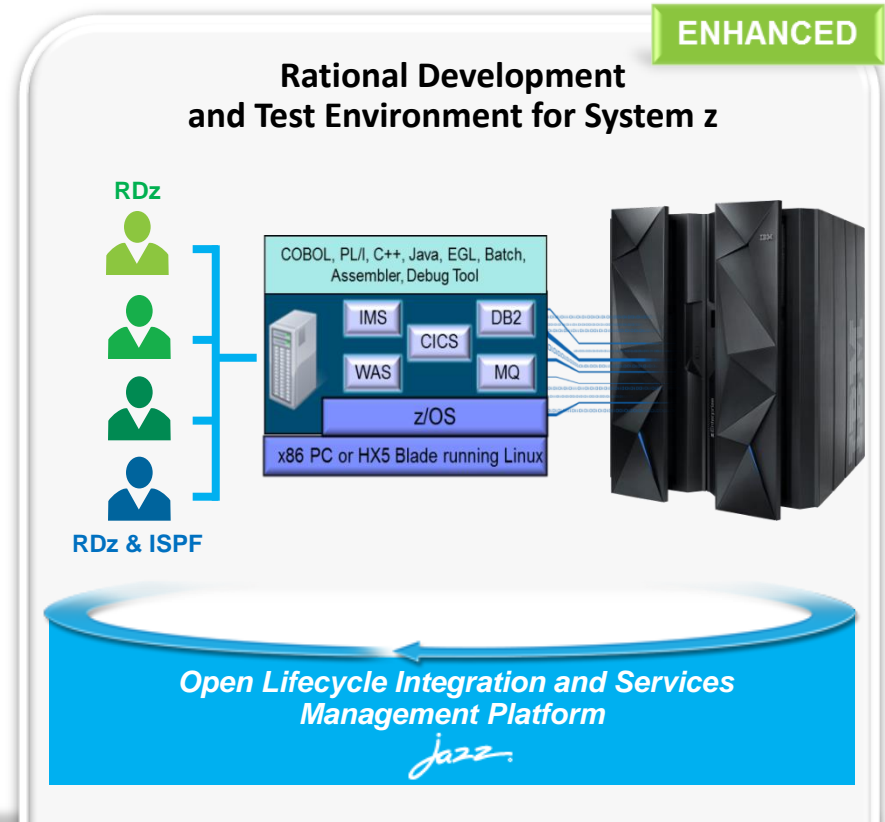
# IBM Continuous Integration Solution for System z



# Rational Development and Test Environment (RD&T) for IBM System z v9

*Reduce System z development costs with off host development and test*

- Exploit added zEnterprise capability for increased mainframe compatibility
  - **New** Parallel Sysplex support via the latest System z coupling facility
  - **New** zEnterprise EC12 platform support
  - Better development and test coverage early in the cycle for higher quality applications delivered more quickly
- Improve hardware utilization and simplify management
  - **New** support for virtualization technologies, including VMWare vSphere and IBM zEnterprise BladeCenter Extension
- **New**, flexible licensing to support automated testing and variable usage patterns



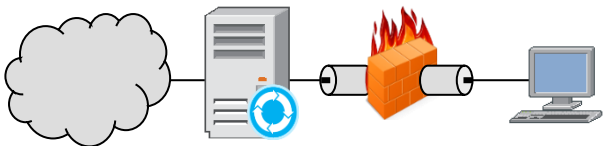
*"RD&T provides us with the ability to try development approaches that may introduce instability to our normal environment with none of the associated risks. It provides an environment where we can quickly start a new project without waiting for setup delays inherent in our day-to-day processes."*

Development Team Lead

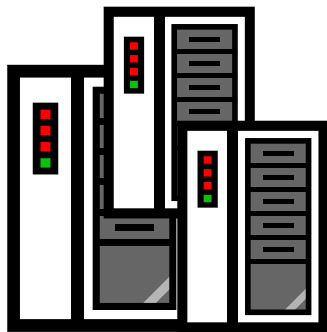
**DEVELOPER VALUE**

# IBM Cloud managed Services → RD&T as a Managed Service simplifies provisioning of test environments by optimizing...

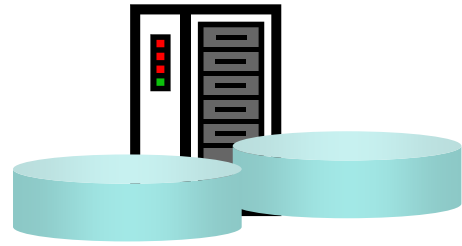
Coming Soon



Configuration planning



Hardware acquisition



Server install and configuration



Image customization



Data and Application migration

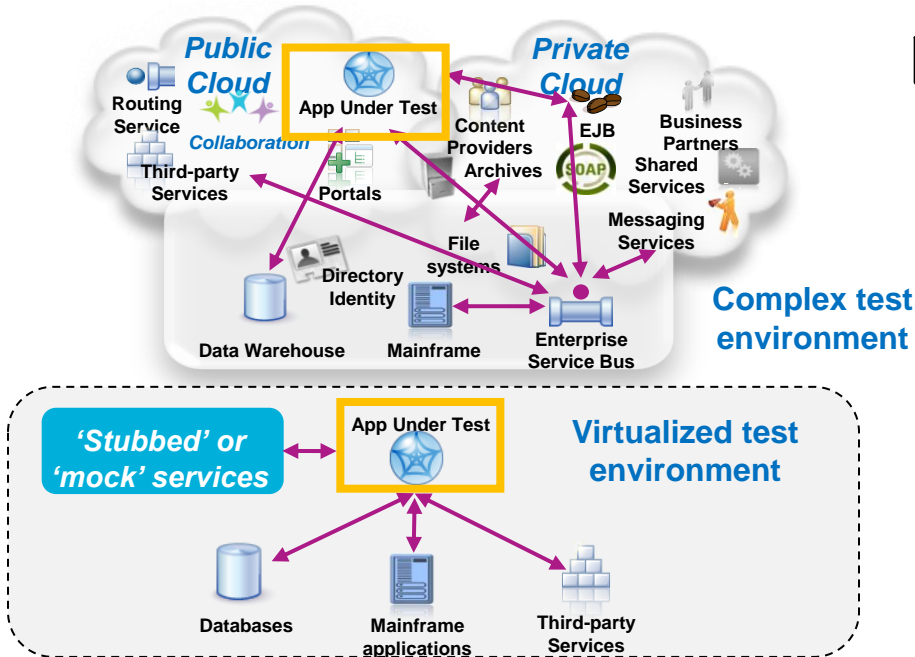


Administration, maintenance, Upgrades



# Virtualize services to reduce ops burden and speed testing

## Maintain test environments effectively



- Test in isolation with 'stubbed' or 'mock' services
- New** • Virtualize CICS applications inside the mainframe and Java applications in the JVM
- Reduce development dependency on operations
- Minimize subsystem dependency during testing
- Reduce infrastructure costs and free up MIPS for production use



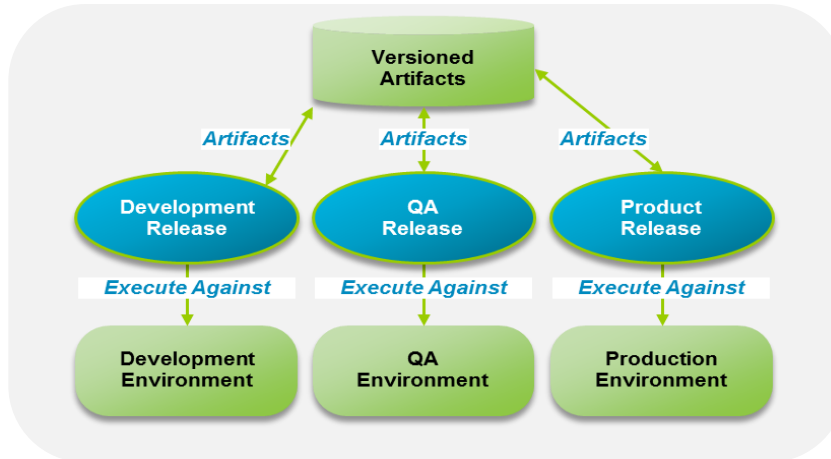


# Accelerate solution delivery and test provisioning



## Deliver test environments in minutes

### Application Blueprint

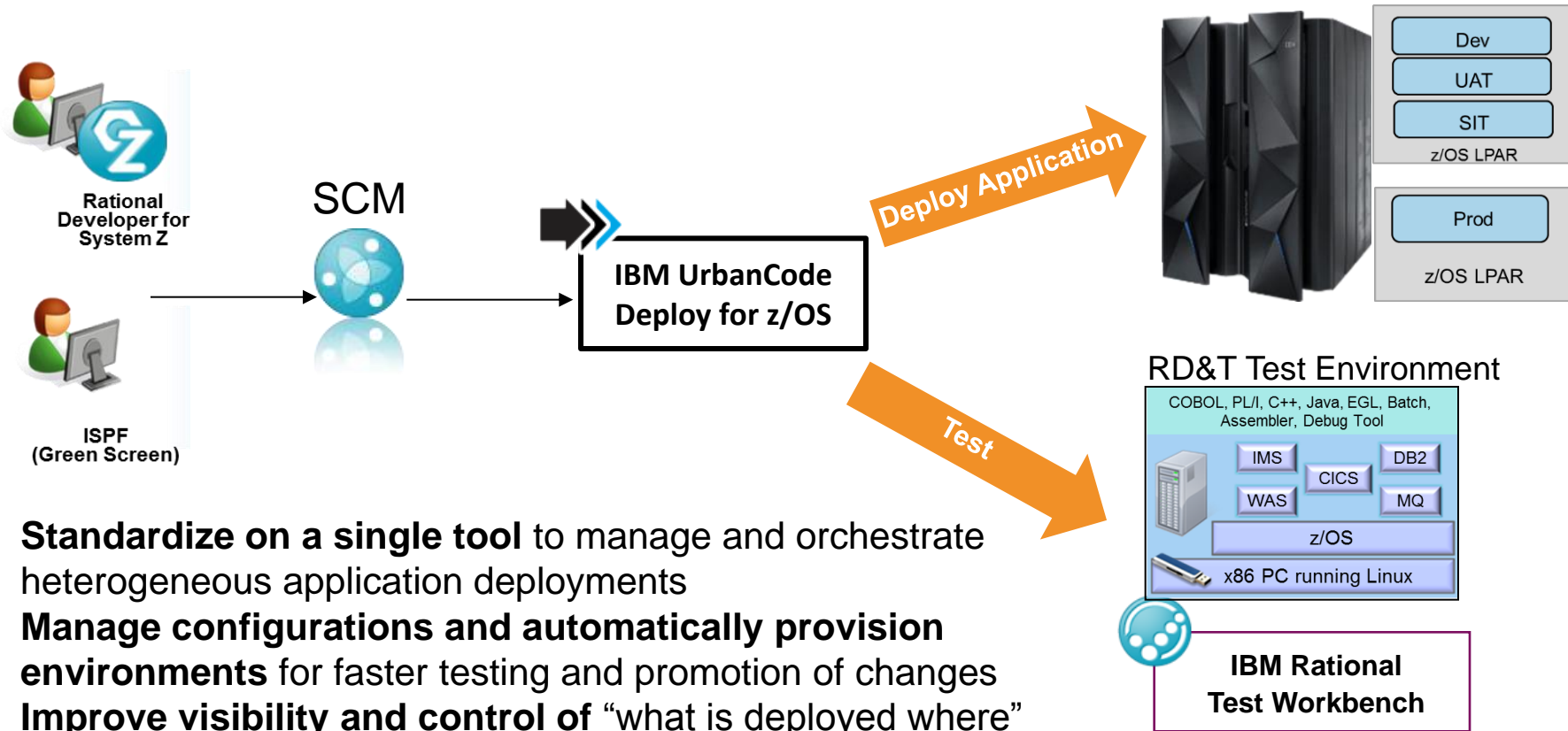


- Orchestrate and automate application deployment across multiple environments
- Quickly deploy multiple test instances in minutes versus hours or days

- New** • Leverage with zLinux today
- New** • Deploy Java applications with new z/OS agent
- New** • Integrate with existing host SCM to deploy z/OS applications using REXX

# UrbanCode For System z

*Integrate Systems of Engagement with Systems of Record*



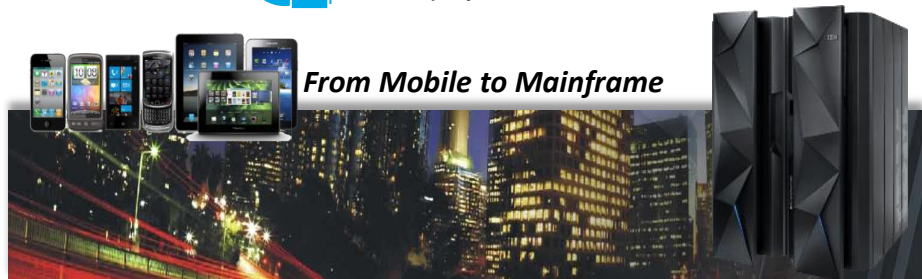
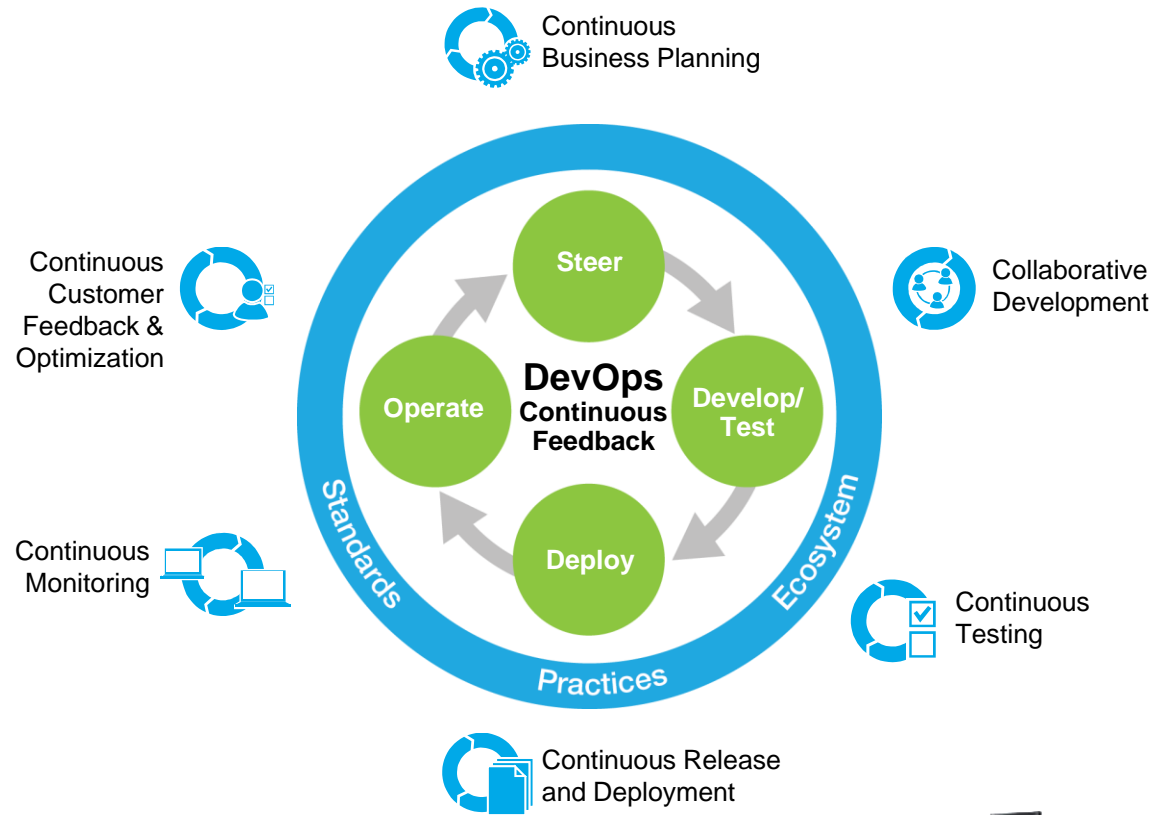
- **Standardize on a single tool** to manage and orchestrate heterogeneous application deployments
- **Manage configurations and automatically provision environments** for faster testing and promotion of changes
- **Improve visibility and control** of “what is deployed where” with the ability to rollback to any prior version at ease
- **Remove dependency** on rigid and error-prone release and deployment processes

**NEW in v6.1!**



# Summary

- There are challenges to delivering software-driven innovation
- Disruptive technologies are driving greater need to innovate
- DevOps is critical to your success
- IBM has first class DevOps solutions and is continuing to invest and improve upon these solutions
- DevOps is just as relevant, if not more so, for the Mainframe as it is for mobile, cloud, and distributed platforms



# Enabling next generation cloud applications with IBM Bluemix for z Systems

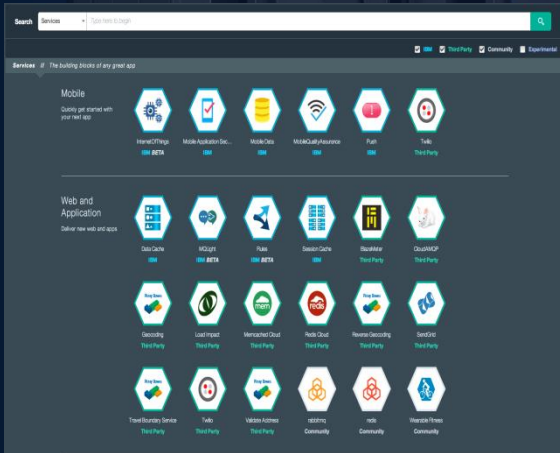


**Days vs. months** from idea to running applications

Delivering full enterprise-level z Systems cloud integration services that are easy to integrate into cloud apps

**Coming soon**

- Simple to use security services integrated with z Systems
- Advanced encryption and decryption services



**2x performance, 1/2 cost**



# Cloud-based trial: IBM Integrated Solution for System z Development

IBM® Integrated Solution for System z Development Trial is a free, cloud-based, hands-on environment that allows you to develop and test z/OS applications in a guided "tinker, test, and try" sandbox environment. The z/OS environment is powered by [Rational Development and Test Environment for System z](#). No downloading or installation required.

The screenshot shows the IBM developerWorks website. The main heading is "Cloud-based trial: IBM Integrated Solution for System z Development". Below the heading, there is a description of the trial and a link to "Request your extended trial access now". A video player is visible on the right side of the page.

The screenshot shows the "Request your IBM Integrated Solution for System z Development trial" form. The form includes a "Business Contact Information" section with fields for "First name\*" and "Requested trial start date\*", both of which are highlighted with a red box. There is also a "Privacy" section with a checkbox for "Please keep me informed of products, services and offerings from IBM companies worldwide." and a "Submit" button.

## Requesting evaluation environment

- Open the URL in your browser
  - [http://www.ibm.com/developerworks/downloads/rdtsandbox\\_systemz/index.html](http://www.ibm.com/developerworks/downloads/rdtsandbox_systemz/index.html)
- Click on Request your extended trial access now link.
- On the next page give your contact details and click Submit.



# DevOps

Continuous delivery of software-driven innovation

## DevOps for IBM Enterprise Systems – Roadshow, Australia

- Experience the power of DevOps for multi platform development, test, & deployment
- A Road show featuring Enterprise Modernization tools, presented jointly by IBM & Royal Cyber Inc.
- Demonstrations & Presentations covering all aspects of DevOps, and featuring,
  - Rational Team Concert
  - Rational Developer for System z
  - Rational Development & Test for System z
  - Rational Test Workbench
  - IBM UrbanCode Deploy
- 3 Locations in Australia – Melbourne, Canberra & Sydney
  - Melbourne -16<sup>th</sup> March 2015, [ibm.biz/roadshowMelbourne](http://ibm.biz/roadshowMelbourne)
  - Canberra – 18<sup>th</sup> March 2015, [ibm.biz/roadshowSydney](http://ibm.biz/roadshowSydney)
  - Sydney – 19<sup>th</sup> March 2015, [ibm.biz/roadshowSydney](http://ibm.biz/roadshowSydney)
- Limited seats , Register today

# QUESTIONS

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