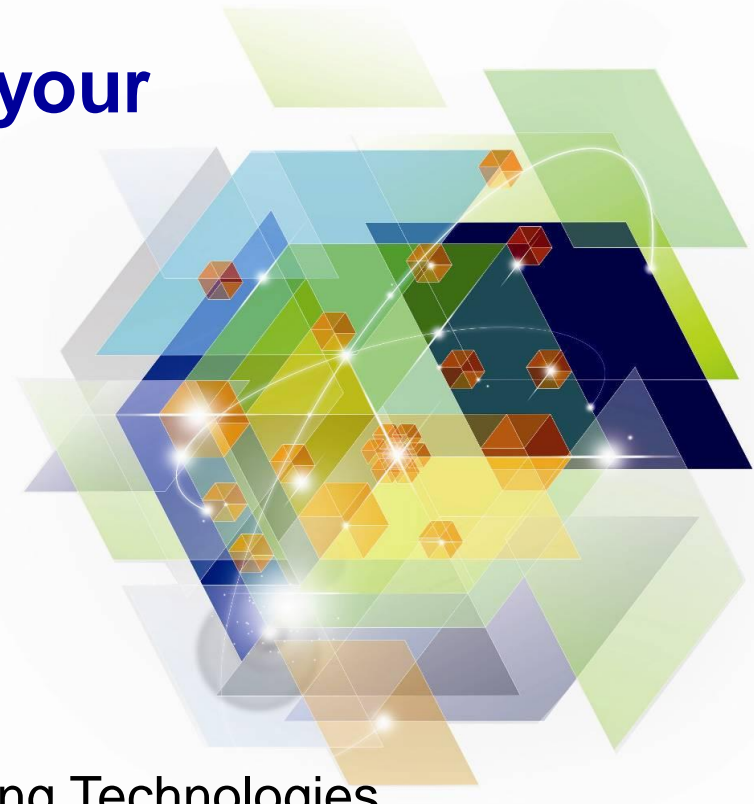




# Enterprise Modernization - Realizing Greater Value from your IT Investments



Hayden Lindsey

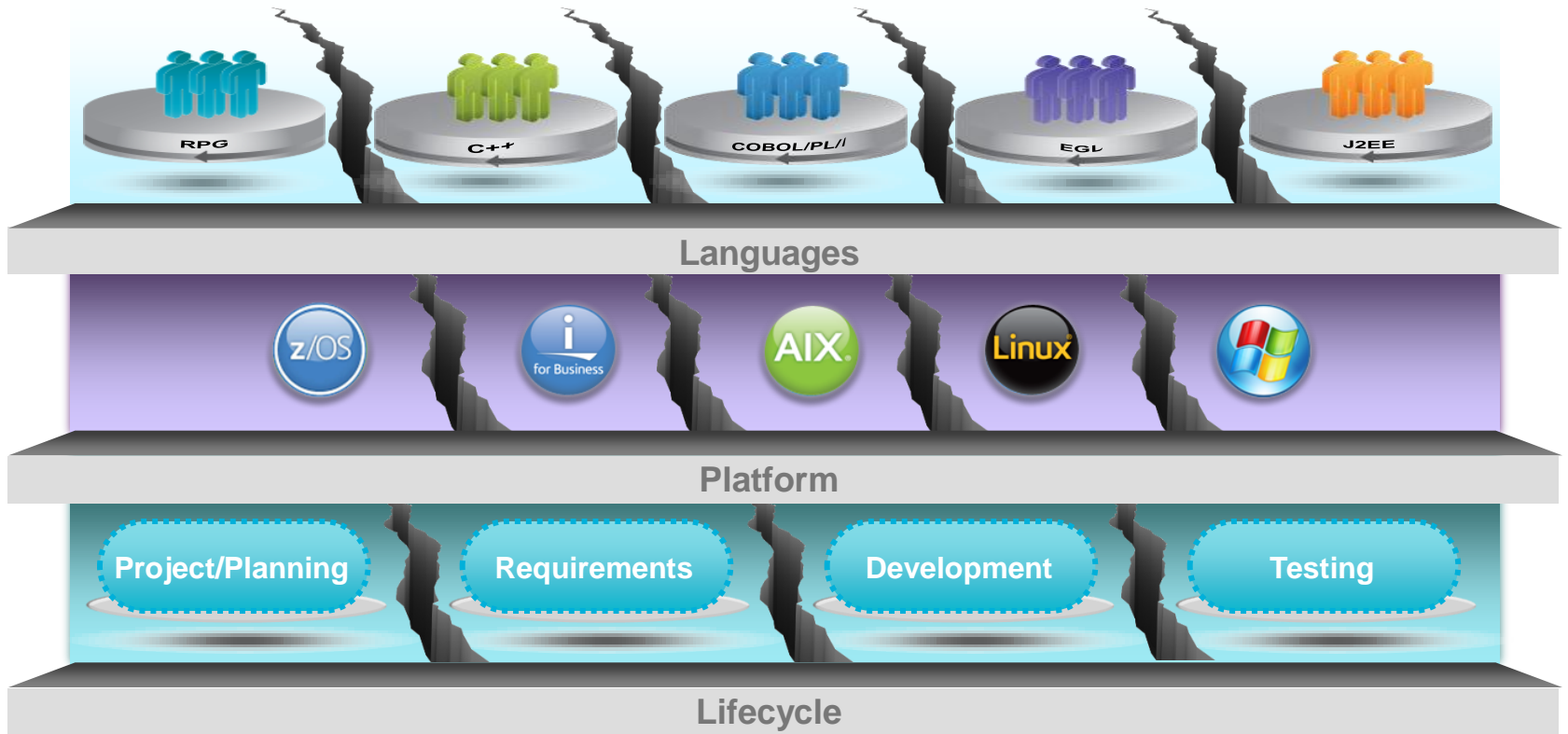
Vice President & Distinguished Engineer

Rational Enterprise Modernization and Emerging Technologies

April 2012

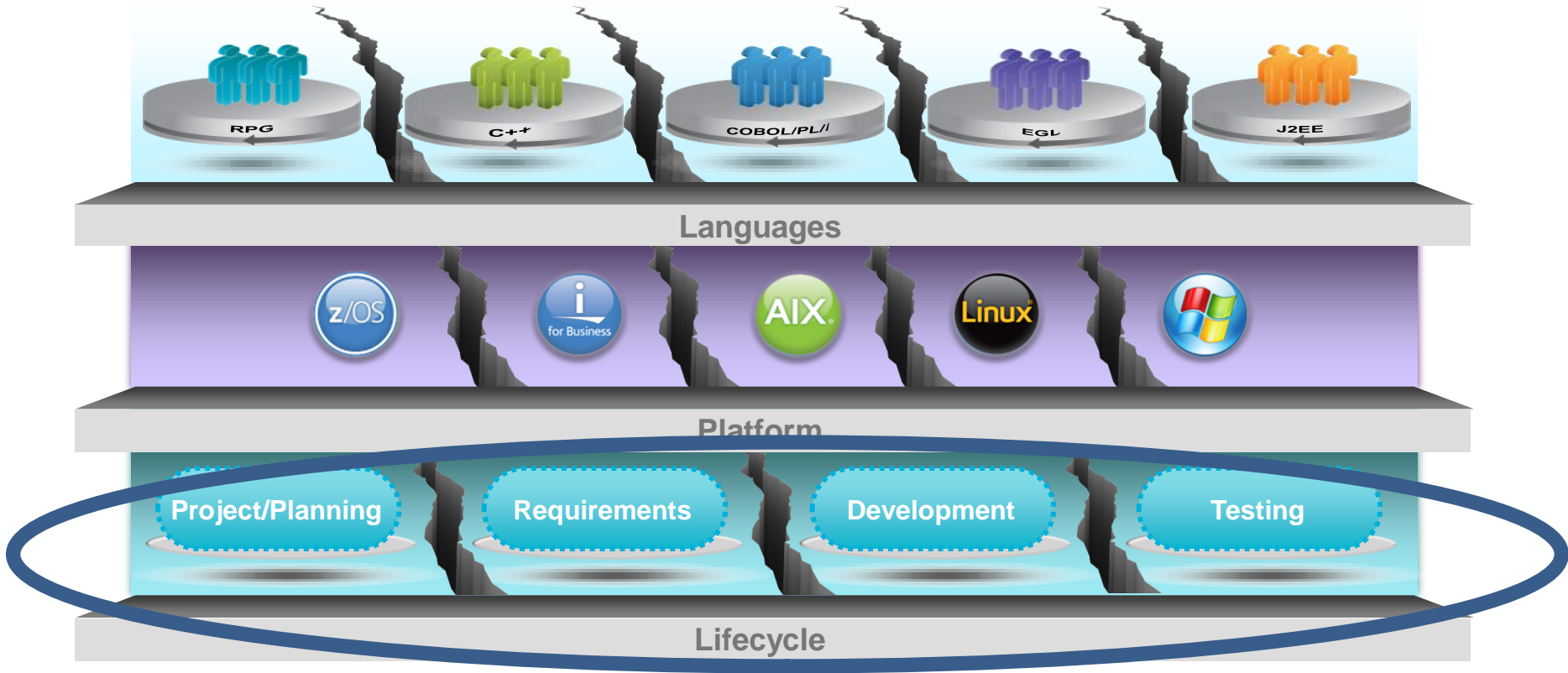
# Enterprise Integration Barriers

*A main deterrent to recognizing greater value from your IT investments*



# Enterprise Integration Barriers

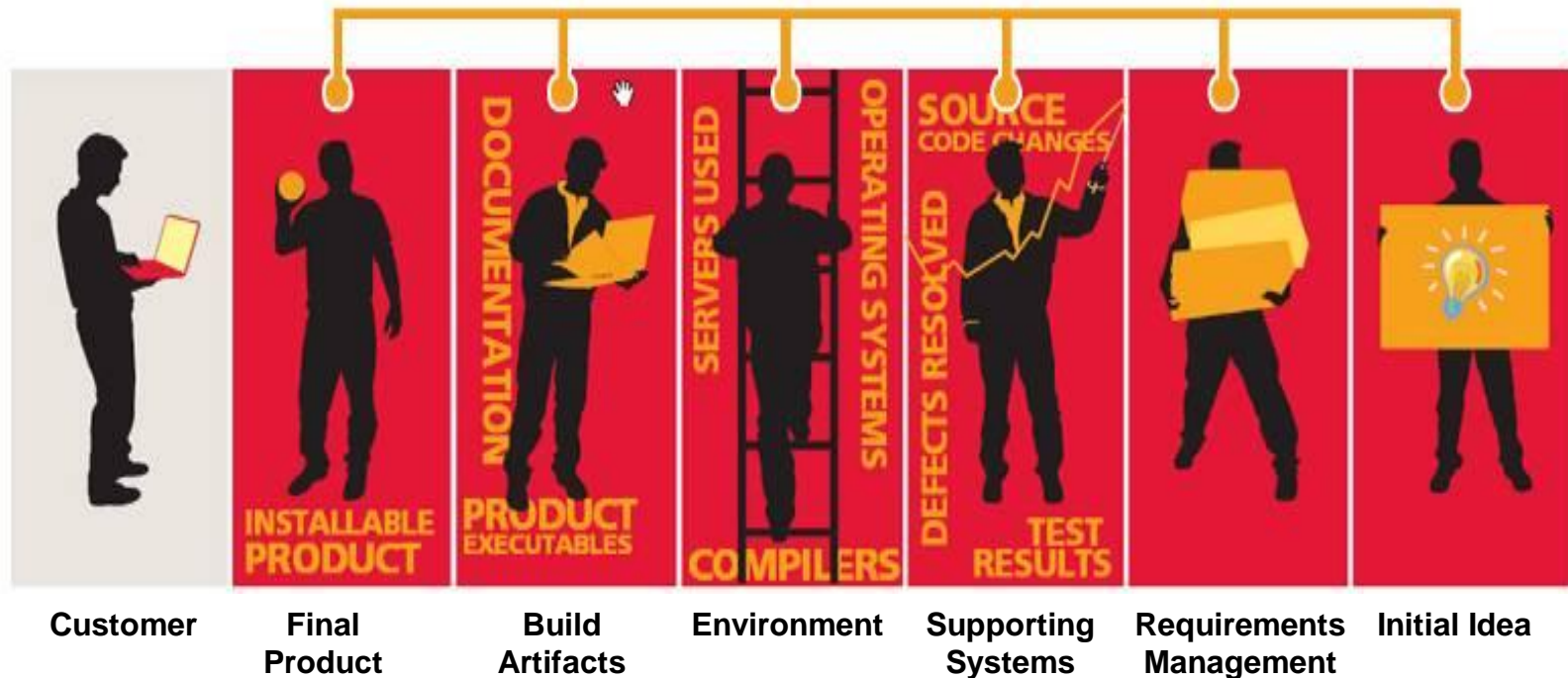
*A main deterrent to recognizing greater value from your IT investments*





## Imperative 2: Lifecycle Traceability

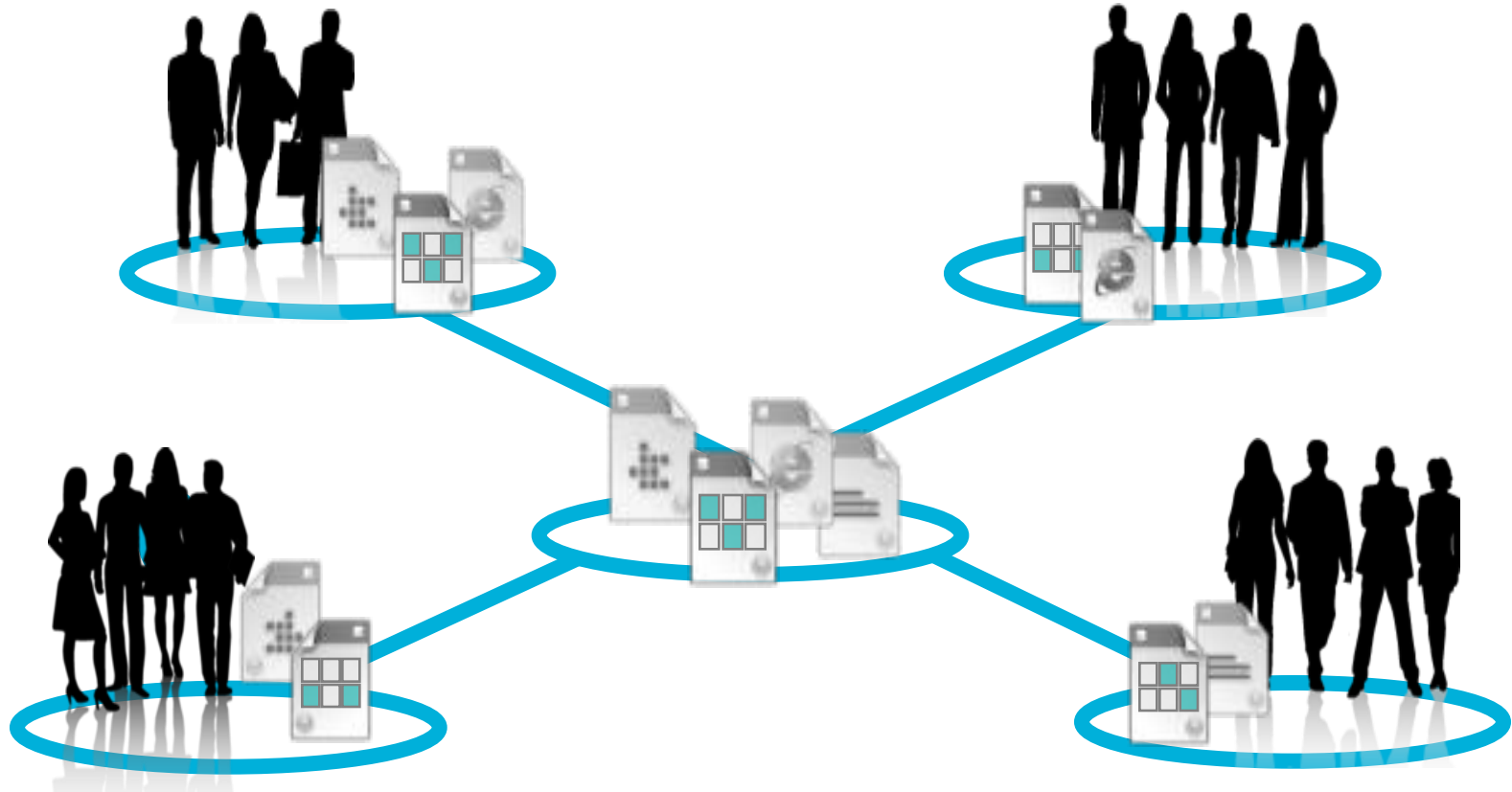
*Instant access to details from any point in the development process*



Improves quality by:

- ✓ Enabling impact analysis across all artifact types
- ✓ Helping to quickly understand context by tracing links to associated artifacts, e.g. corresponding requirements
- ✓ Delivering transparency enabling fully informed decisions

## Imperative 3: In-Context Collaboration

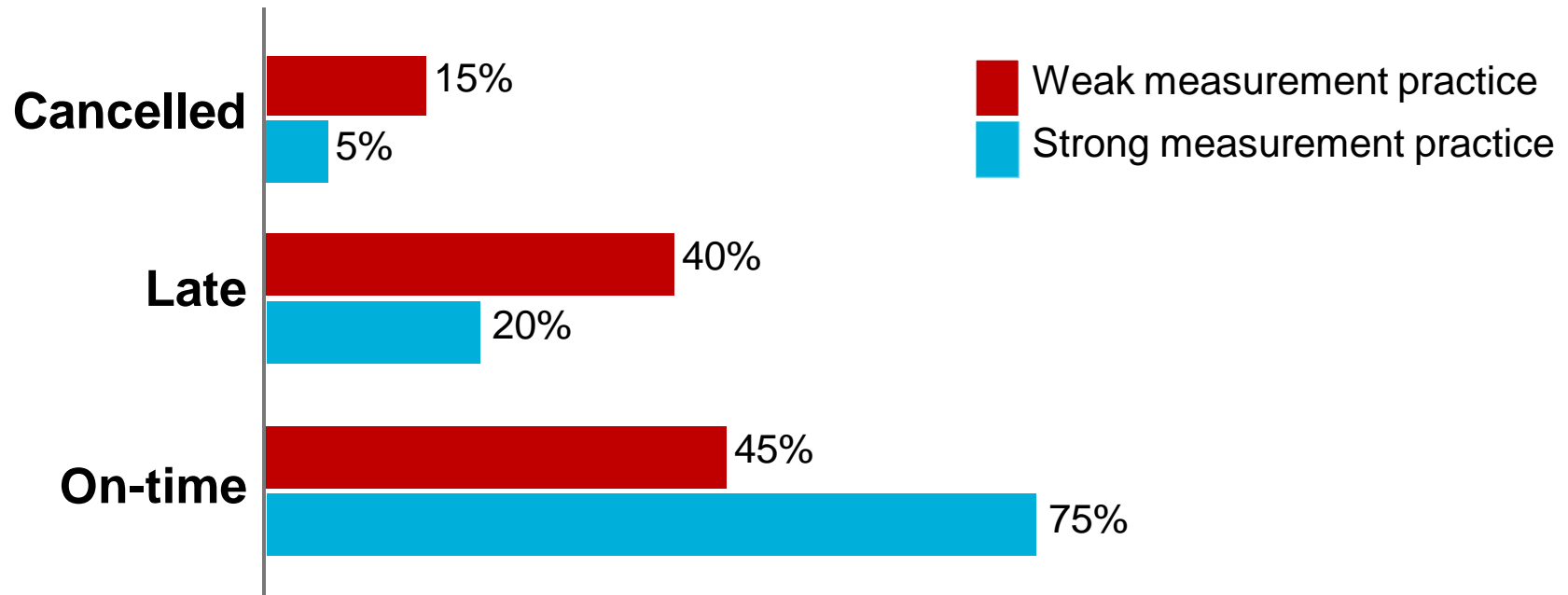


Maximizes time to value by:

- ✓ Making information immediately accessible to the team in the context of their work
- ✓ Empowering teams to collaborate and regularly review software artifacts
- ✓ Providing a single source of truth hosted in a shared repository for all team members

## Imperative 4: Development Intelligence

### Measurement Practices Impact Project Success



Source: Capers Jones, *Measurement, Metrics and Industry Leadership*, 2009 and *Software Engineering Best Practices*, McGraw Hill, 2010.

Improves predictability by:

- ✓ Applying business intelligence techniques to software and systems development
- ✓ Enabling fact-based decision making
- ✓ Steering projects and programs to deliver on-time



## Imperative 5: Continuous Improvement



***“Successful analytics requires taking it beyond software and reporting, and into the realm of management practices and operations improvement.”***

Information Management Online, February 23, 2011

Reduces cost by:

- ✓ Delivering “out of the box”, customizable, development process templates
- ✓ Improving delivery through ongoing adoption of best practices and automation
- ✓ Promoting both incremental and breakthrough improvement



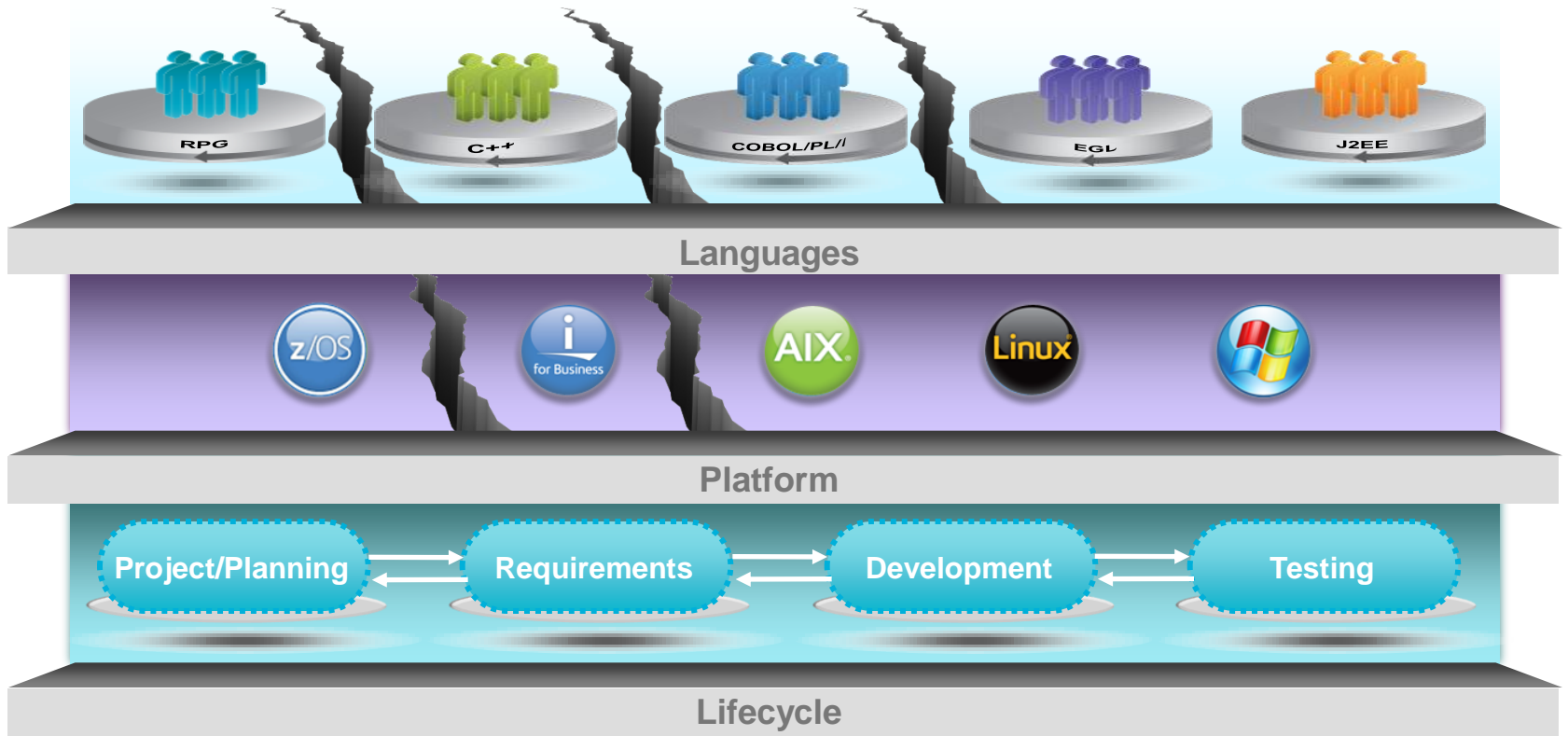
# The Five Imperatives of Application Lifecycle Management

*Improve productivity 4-6% annually*

1. Accelerate **time to delivery** with real-time planning
2. Improve **quality** with lifecycle traceability
3. Maximize **time to value** with in-context collaboration
4. Refine **predictability** with development intelligence
5. Reduce **costs** with continuous improvement



# Remaining Enterprise Integration Barriers



# IBM Enterprise Modernization

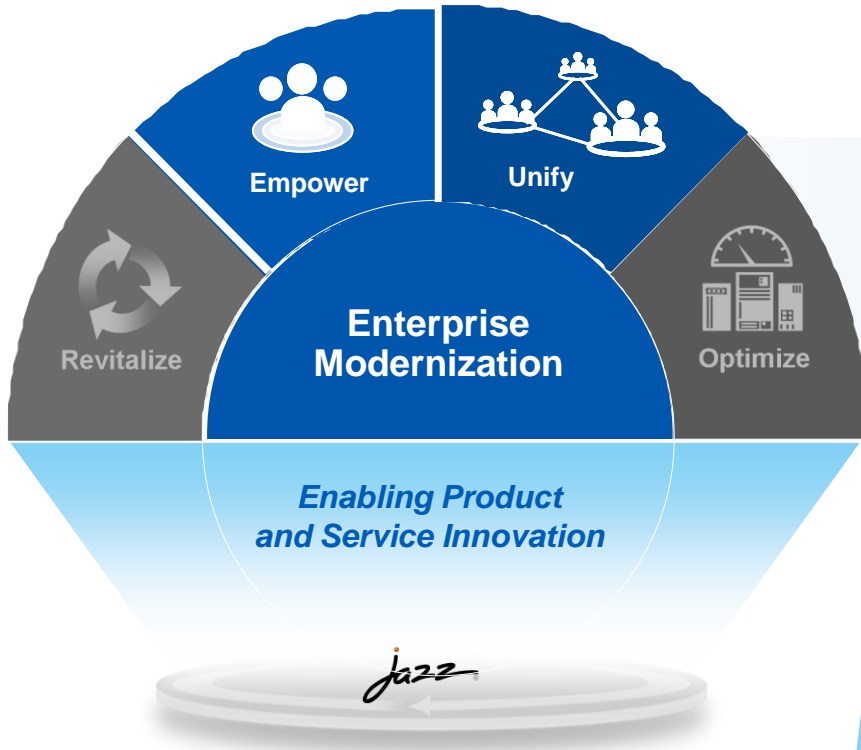
*An incremental and continuous approach to achieving greater value and performance from your IT investments*



<p><b>20 to 35%</b> cost reduction in managing and maintaining existing application portfolios</p> <p><b>30 to 50%</b> cost reduction in renewal/re-architecture</p> <p><b>Increase Application Flexibility</b></p>	<p><b>22-37%</b> improvement in developer productivity with modern tooling</p> <p><b>50-80%</b> reduction in host CPU usage</p> <p><b>Boost Individual Productivity</b></p>
<p><b>Maximize Team Productivity</b></p> <p><b>15 to 20%</b> decrease in development cycle time through common team infrastructure for collaborative application lifecycle management</p>	<p><b>Optimize System Utilization</b></p> <p><b>20 to 60%</b> improvement in application performance with latest compilers for IBM Systems</p>

# Boost productivity and accelerate innovation with modern skills; Maximize organizational agility by unifying development teams

- Modern IDEs for all platforms and languages
- Modern business languages
- Enterprise training programs, communities and resources
- Consolidated and agile team infrastructure



<p><b>20 to 35%</b> cost reduction in managing and maintaining existing application portfolio</p> <p><b>30 to 50%</b> cost reduction in renewal/re-architecture</p> <p><i>Increase Application Flexibility</i></p>	<p><b>22-37%</b> improvement in developer productivity with modern tooling</p> <p><b>50-80%</b> reduction in host CPU usage</p> <p><b>Boost Individual Productivity</b></p>
<p><b>Maximize Team Productivity</b></p> <p><b>15 to 20%</b> decrease in development cycle time through common team infrastructure for collaborative application lifecycle management</p>	<p><b>Optimize System Utilization</b></p> <p><b>20 to 60%</b> improvement in application performance with latest compilers for IBM Systems</p>

## COBOL Fun Facts

**200x more COBOL** transactions/day than **Google searches**

**5 billion new COBOL  
LOC yearly**

**250 billion LOC of  
COBOL** in existence

COBOL training **no longer offered** at most universities

**80%** of all active code is  
**COBOL**

**85%** of all transactions are  
**COBOL**

# ISPF...Modern? Productive?

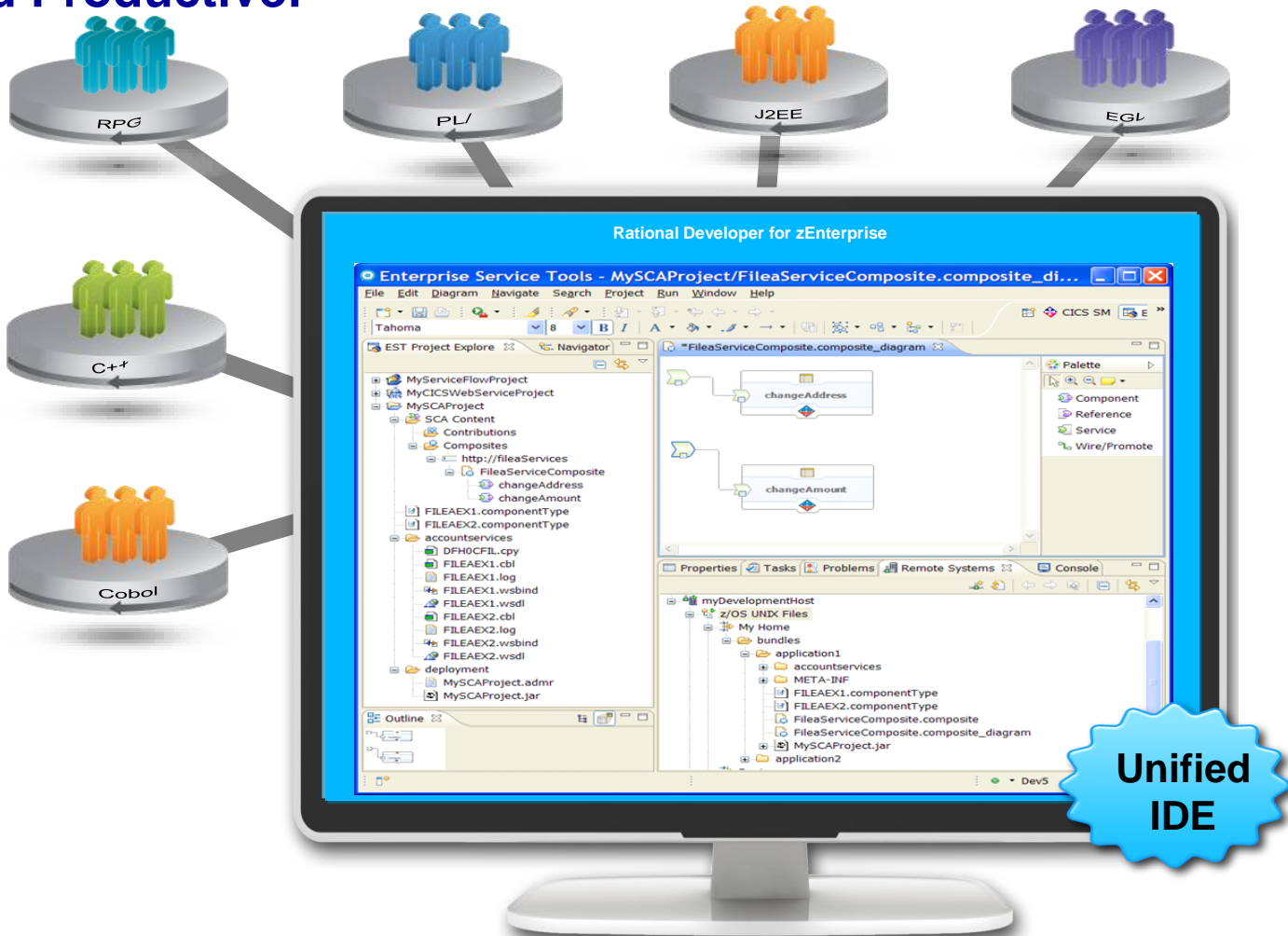
```

File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT
***** DDS0001.TEST.COBOL (BNCHS601) - 01.07 Columns 00001 00072
***** Top of Data *****
000001 IDENTIFICATION DIVISION.
000002 PROGRAM-ID. BNCHS601.
000003 AUTHOR. JON SAYLES.
000004 INSTALLATION. COBOL DEV Center.
000005 DATE-WRITTEN. 01/23/88.
000006 DATE-COMPILED. 01/23/88.
000007 SECURIY. CONFIDENTIAL PATIENT DATA.
000008
000009 *****
000010 *****
000011 *REMARKS.
000012 *
Command ==>
File Edit Edit_Settings Menu Utilities Compilers Test Help
Scroll ==> PAGE
VIEW
DDS0001.TEST.COBOL (BNCHS602) - 01.02 Columns 00001 00072
000256 100-MAINLINE.
000257 MOVE "100-MAINLINE" TO PARA-NAME.
x88858 * DISPLAY "100-MAINLINE".
000259 * Validate patient type and insurance coverage
000260 * PERFORM 300-FIELD-EDITS THRU 300-EXIT.
000261
000262
000263 IF RECORD-ERROR-FOUND
000264 ADD +1 TO RECORDS-IN-ERROR
000265 PERFORM 710-WRITE-TRMTERR THRU 710-EXIT
Command ==>
File Edit Edit_Settings Menu Utilities Compilers Test Help
Scroll ==> PAGE
Mâ a 24/006

```



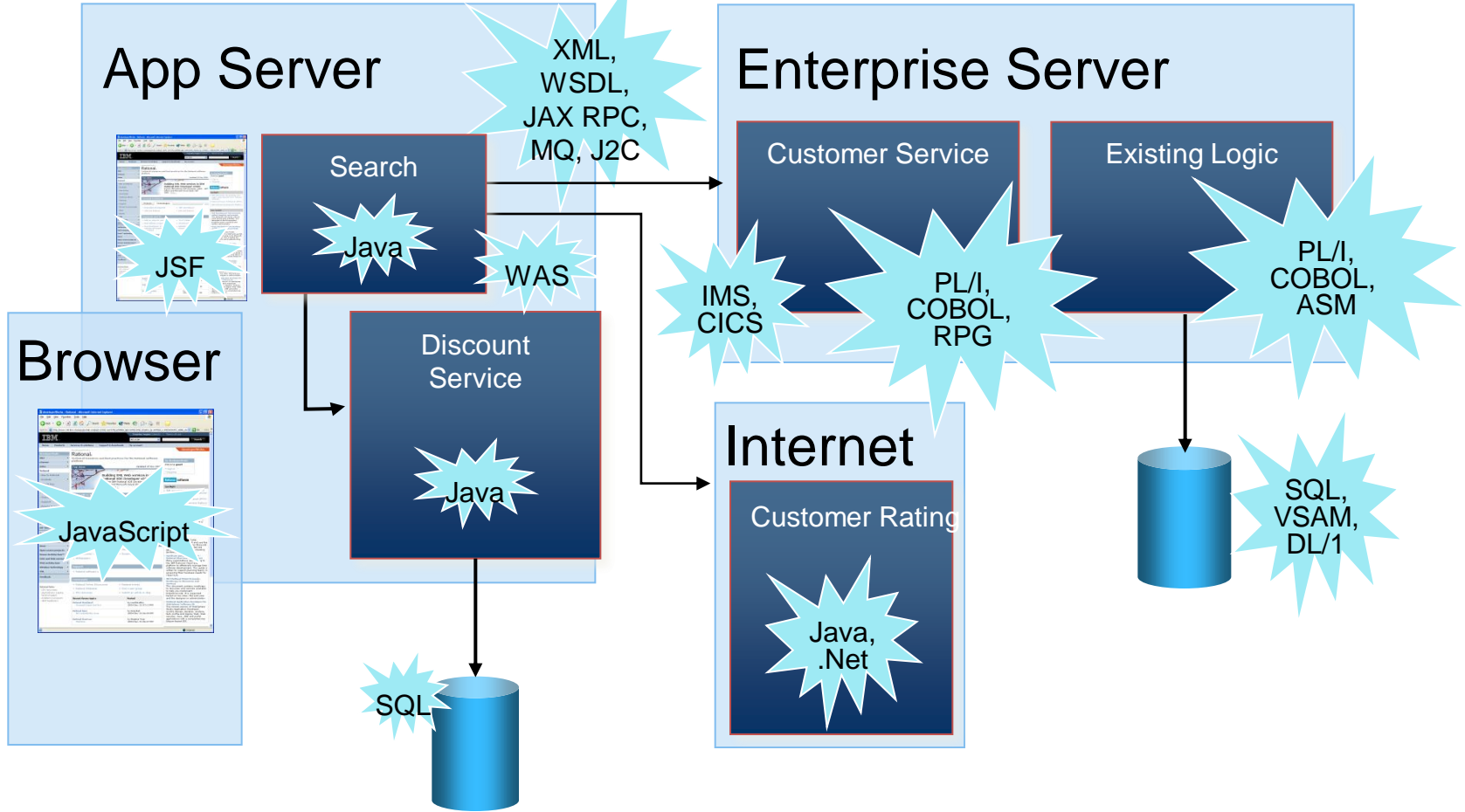
## Modern and Productive!



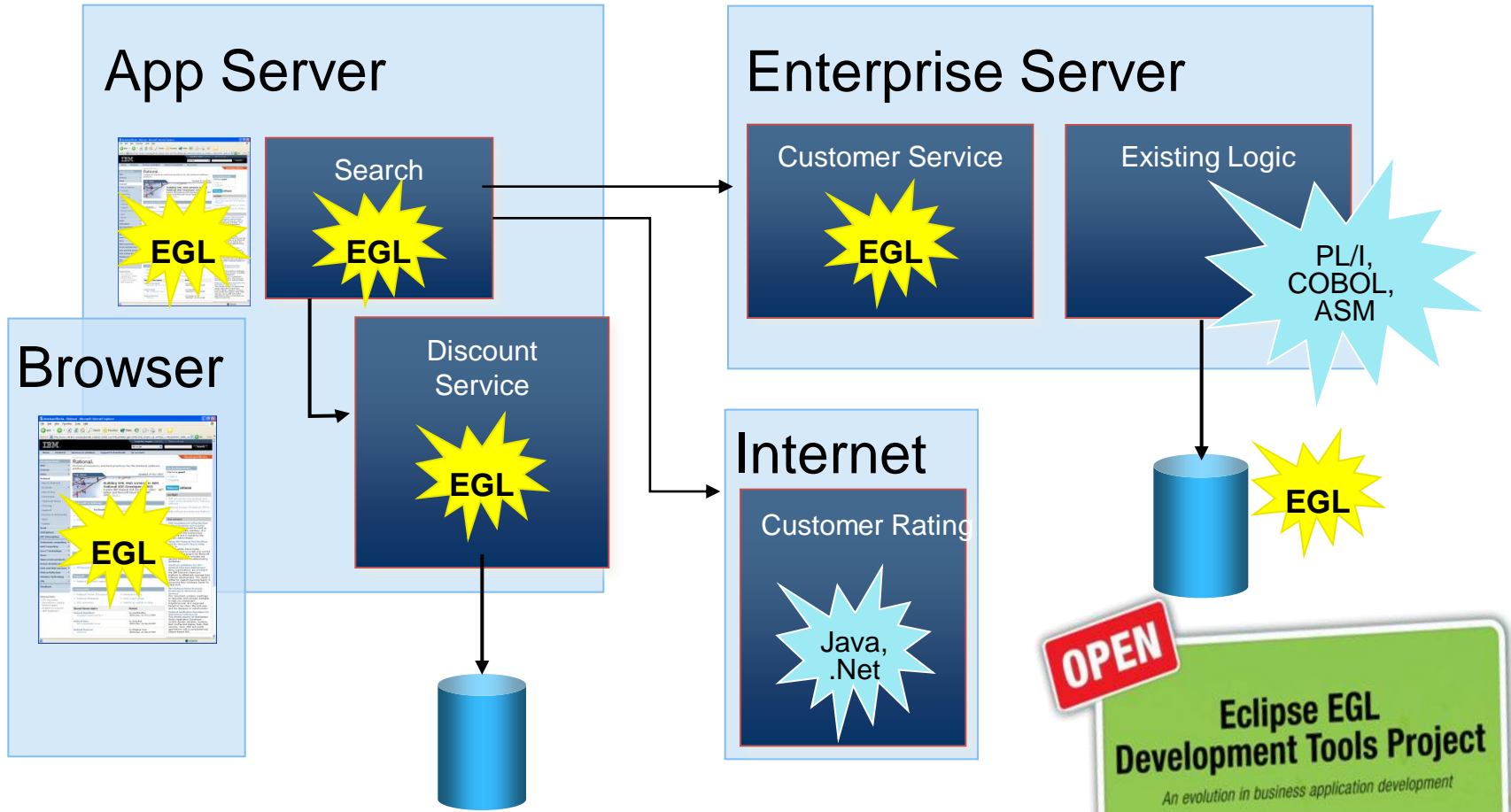
- Rational Developer for System z
- Rational Developer for zEnterprise
- Rational Developer for Power Systems
- Rational Application Developer
- Rational Business Developer
- Rational Programming Patterns for System z



# Middleware Complexities Exposed

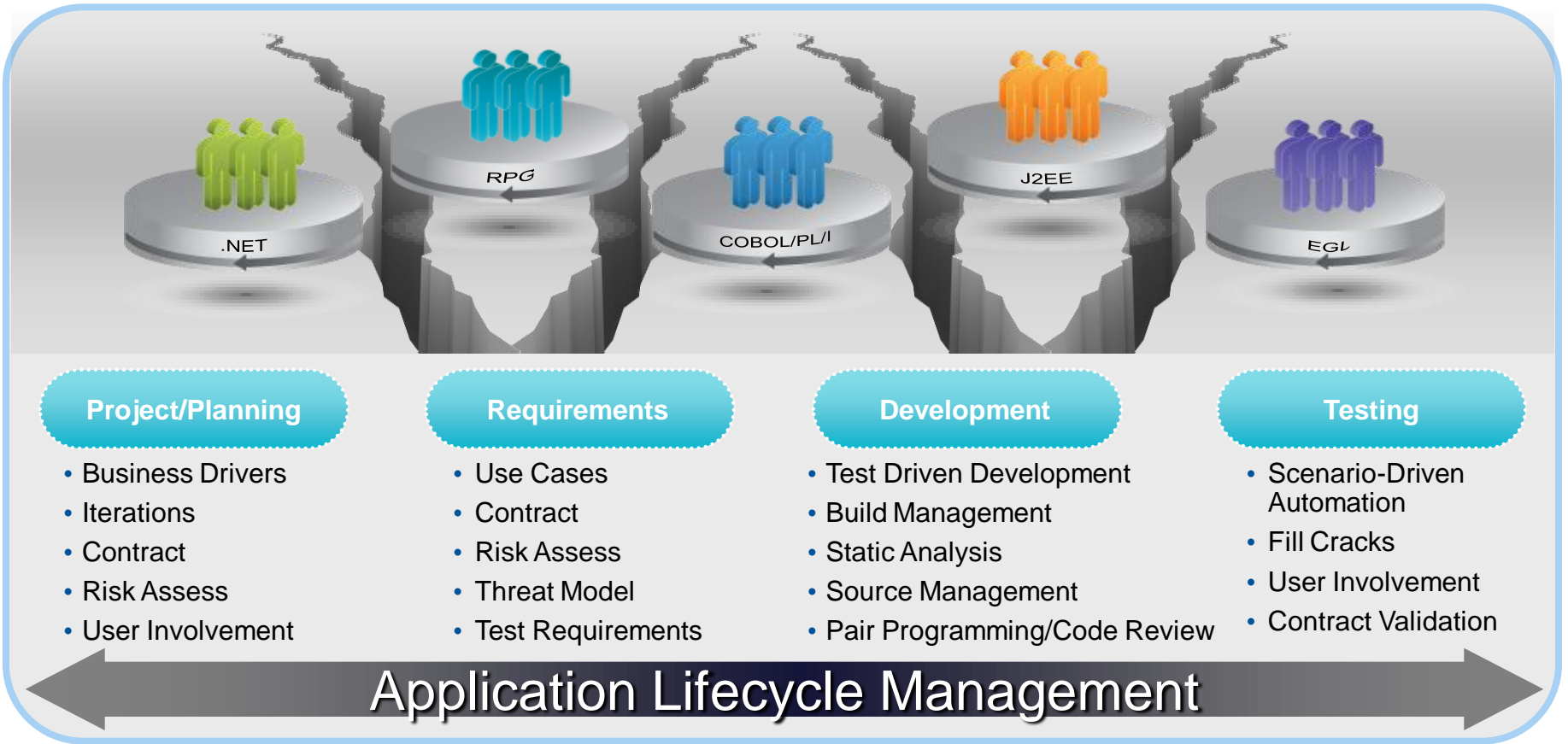


# Middleware Complexities Hidden



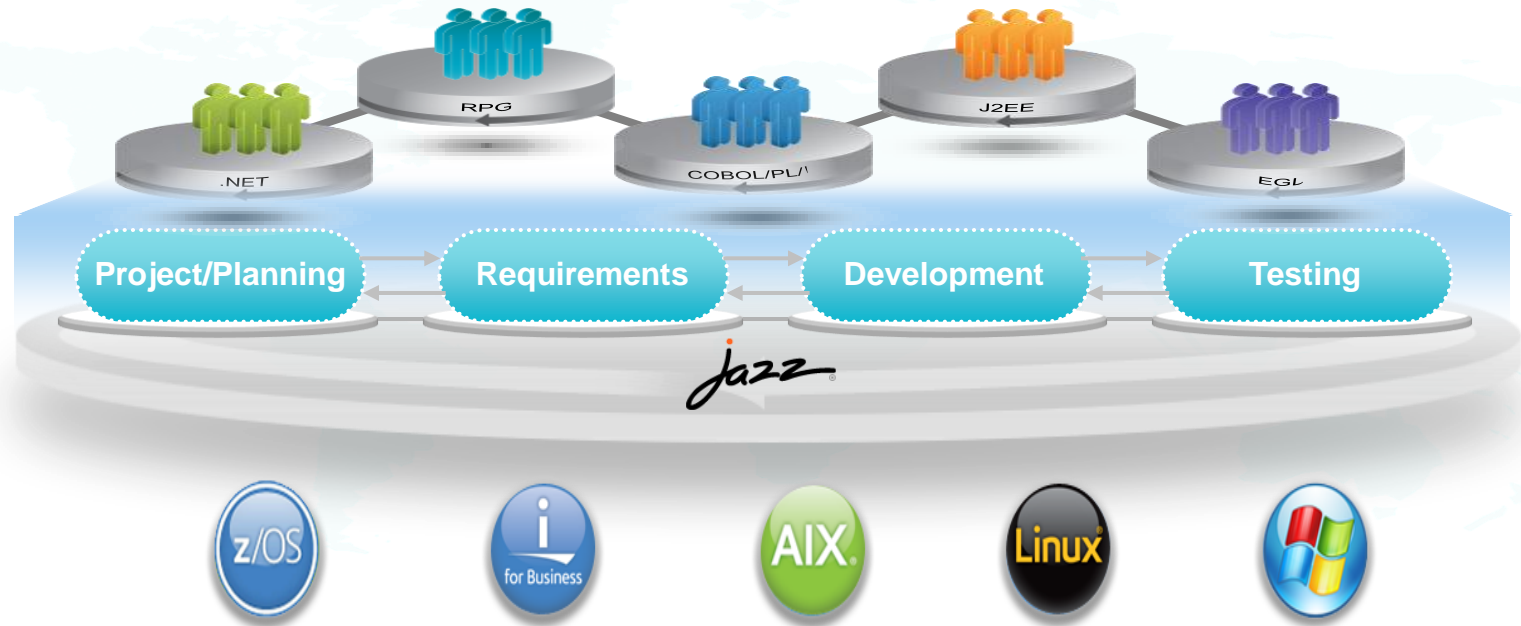
- Rational Business Developer
- Rational Developer for System z with EGL
- Rational Developer for zEnterprise
- Rational Developer for Power Systems
- Rational Developer for I for SOA Construction
- Rational Migration Extension for Natural
- Rational Migration Extension for CA
- Rational Migration Extension for Rich UI
- Rational Migration Extension for IBM i

# Disconnected Teams and Infrastructure



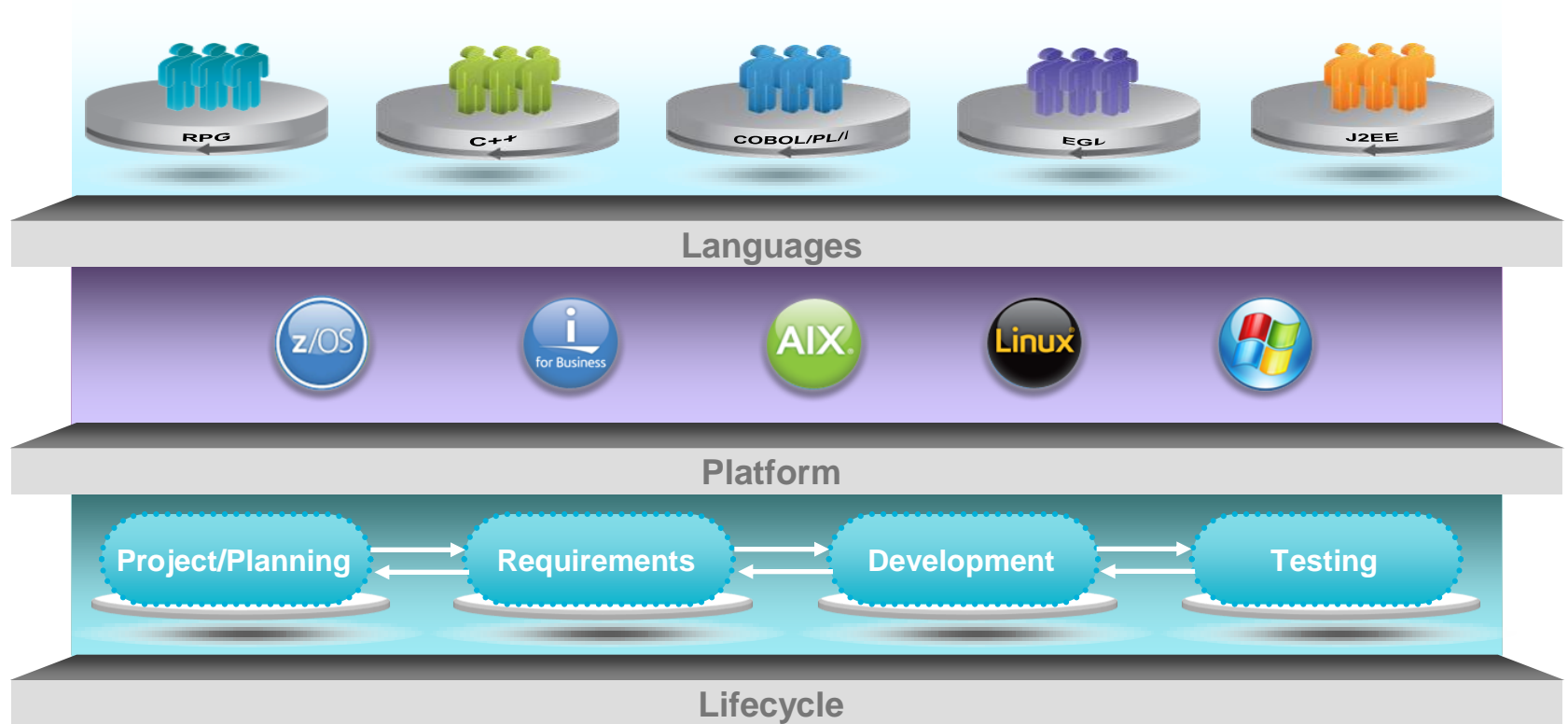
# Integrated Teams and Infrastructure

## Collaborative Lifecycle Management



- Rational Team Concert
- Rational Requirements Composer
- Rational Software Architect Design Manager
- Rational Quality Manager
- Rational Build Forge

# Integrations That Really Do Matter!

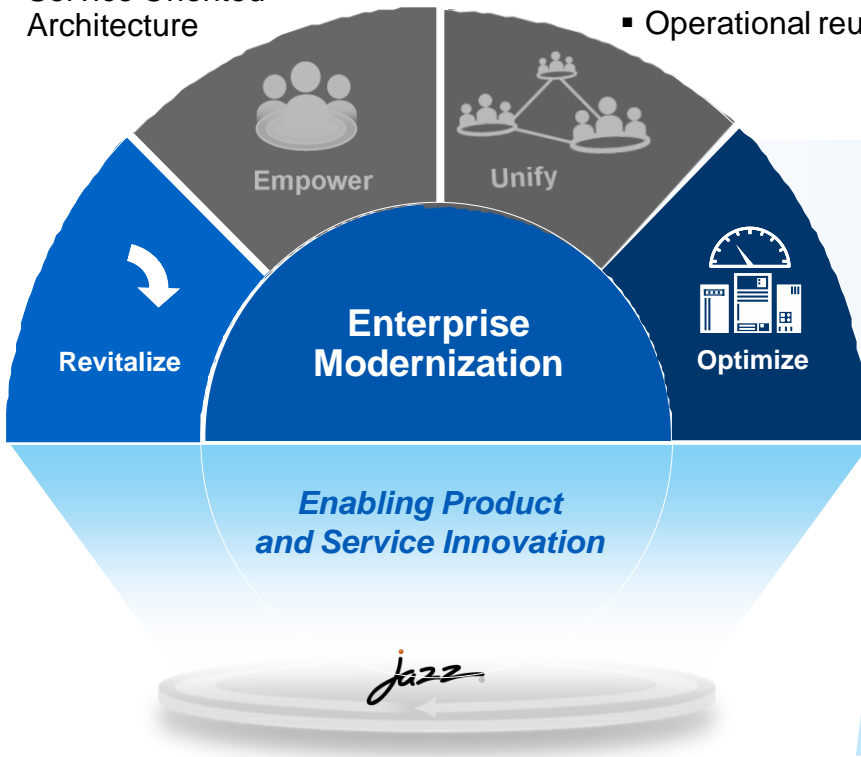


# Show Videos

# Increase flexibility by revitalizing existing application portfolios; Improve responsiveness and costs by optimizing system utilization

- **Application portfolio management**
  - Business intelligence for applications
  - Application security
- **Mobile channel access**
  - Service Oriented Architecture
- User interface modernization
- Application transformation tools and services
- Quality across the organization
- Operational reuse

- **Free up production MIPS**
- Exploit new advanced compiler optimizations



**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



# Comprehensive application portfolio management

Helps organizations make faster and better-informed decisions



- Rational Team Concert integration
- Consolidation, SLA Optimization, Modernization, and Investment Management scenarios
- APM Executive Workshop
- Updated Proof of Technology
- Customer success stories, ROI tool

**Application Details**

**Architecture & Technology**

**Financial Performance**

**Organization**

**Business Alignment**

**Technical Debt**

**Service Quality**

Sample feeds

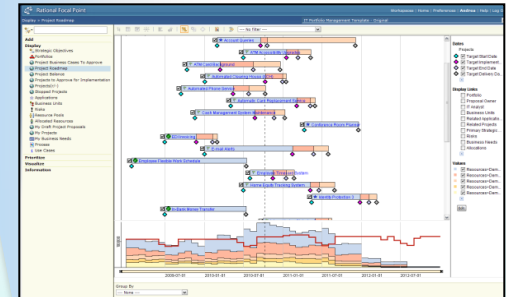
**Application Portfolio Management**

Gather info, analyze, make decisions

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

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

Determine Disposition



Do Macro Planning / Roadmapping

“Smarter APM and associated application revitalization has enabled IBM’s IT to cut maintenance costs by 20% and defects by 58%.”

— IBM Corporation



## Enterprises want to...

*Provide compelling and intuitive mobile UIs (B2B, B2E, B2C, M2M) regardless of the end-user platform*

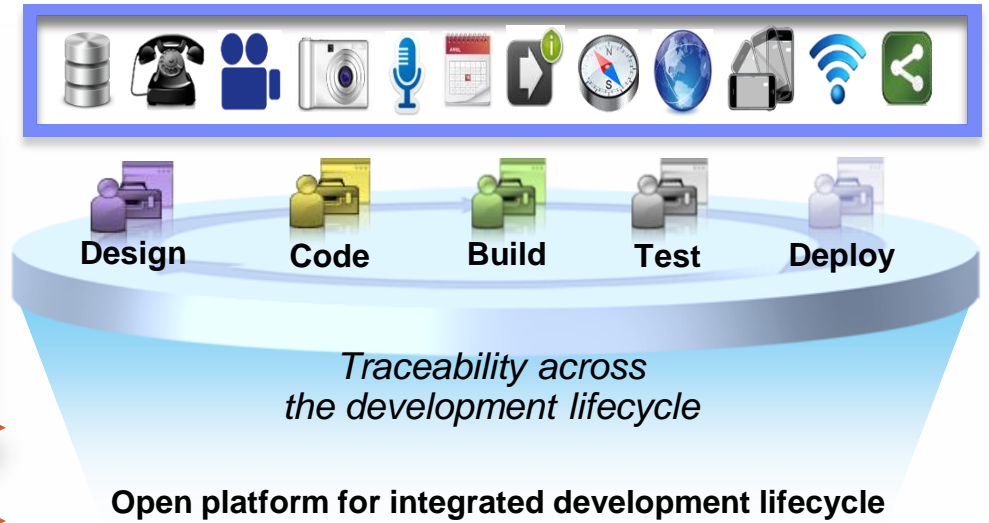
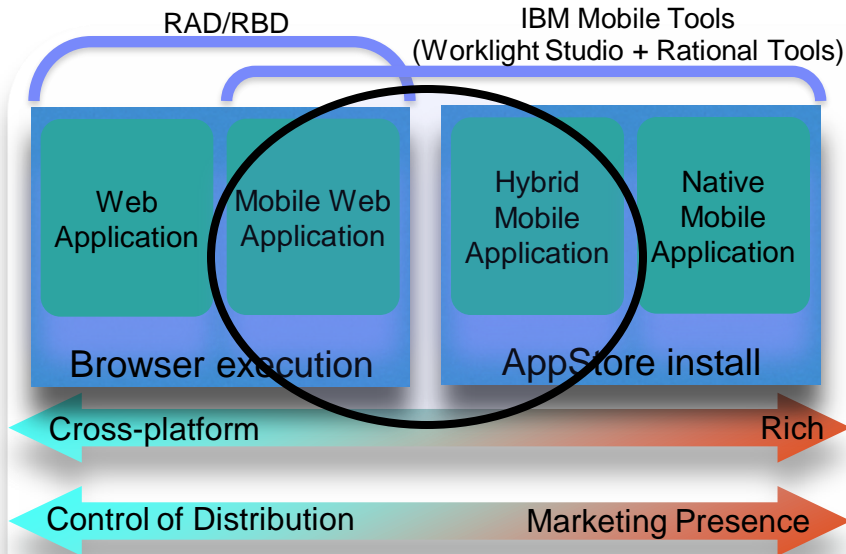


## But...

*They lack the skills and time to replace or re-write their existing applications, and they cannot afford “one off” applications for each mobile device platform.*

# Solution: IBM Mobile Tools

*Design, code, build, test and deploy your code with mobile in mind and independent of the target platform; Integrate mobile development into your broader enterprise-wide teams, processes and tools*



- ✓ Develop all aspects of application—mobile UI, browser UI, services—with one tool family
- ✓ Manage all aspects of development—requirements, modeling, coding, testing, deploying—with one integrated ALM suite
- ✓ Develop once for all mobile platforms—iPhone, Android, Blackberry, etc—with ability to customize for platform uniquenesses

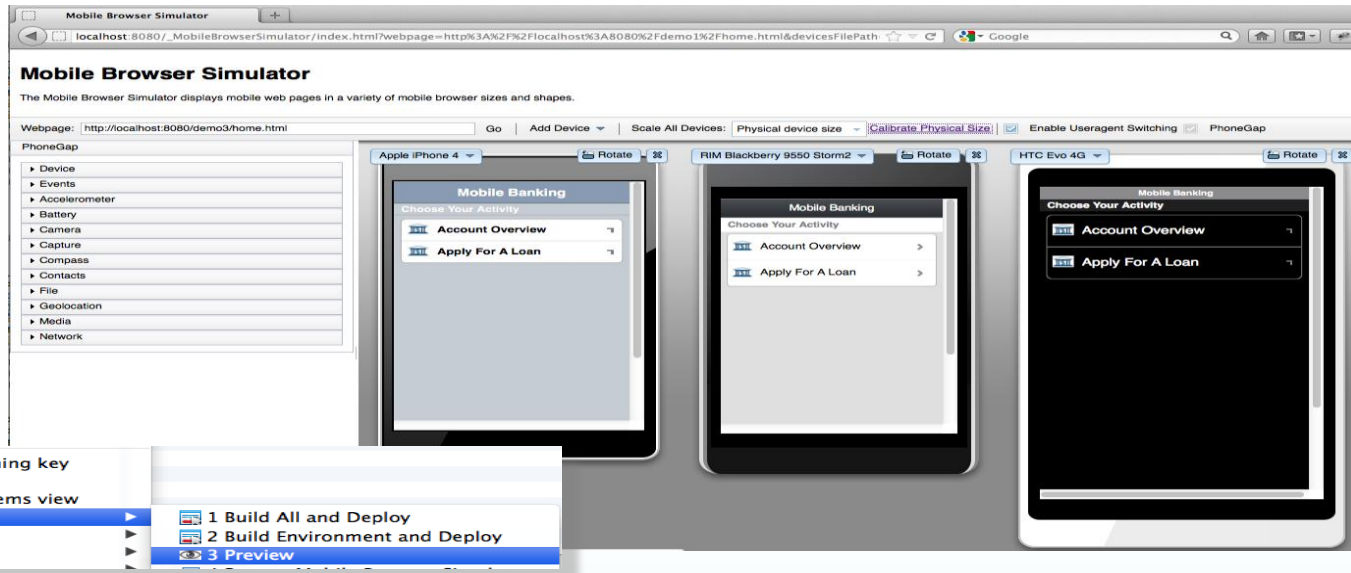
*Over 60% of respondents indicate mobility spend in the range of 10–40% of total IT spend and nearly 80% of organizations plan to spend the same or more on mobility in the next 12–18 months — The State of Mobile Enterprise Software in 2011: An IDC Survey of Applications, Platforms, Decisions, and Deployments*





# Solution: IBM Mobile Tools

*Design, code, build, test and deploy your code with mobile in mind and independent of the target platform; Integrate mobile development into your broader enterprise-wide teams, processes and tools*



- Rational Application Developer
- Rational AppScan
- Rational Asset Manager
- Rational Business Developer
- Rational Focal Point
- Rational Quality Manager
- Rational Requirements Composer
- Rational Rhapsody
- Rational Team Concert
- **Worklight** and **GREENHAT**

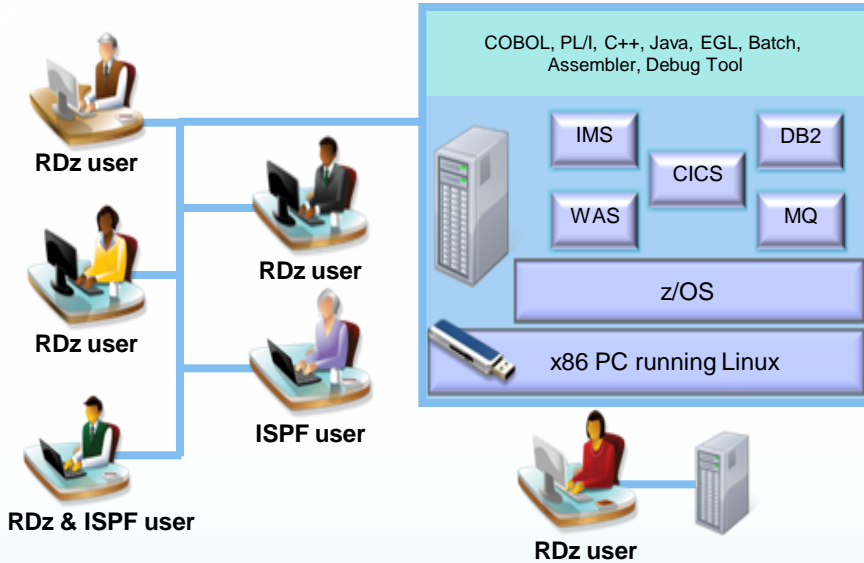
Over 60% of respondents indicate mobility spend in the range of 10–40% of total IT spend and nearly 80% of organizations plan to spend the same or more on mobility in the next 12–18 months — The State of Mobile Enterprise Software in 2011: An IDC Survey of Applications, Platforms, Decisions, and Deployments







# Test mainframe applications on x86 Linux server



- More flexible licensing options
- UT without RDz
- Floating users
- Support for zEnterprise (z196) architecture
- Support for z/OS 1.12, z/OS 1.13, CICS 4.2, and WAS 8.0

- ✓ Liberate developers to rapidly prototype new applications
- ✓ Free up mainframe development MIPS for production capacity
- ✓ Reduce costs by improving new and existing developer productivity

*“RDz Unit Test gives our developers the ability to have their own z/OS environment to prototype, compile, debug and test while our customers make the necessary changes to their test, QA and production environments... This shortens our time to delivery, shortens our project cycles, makes our customers happy and increases our margins...”*

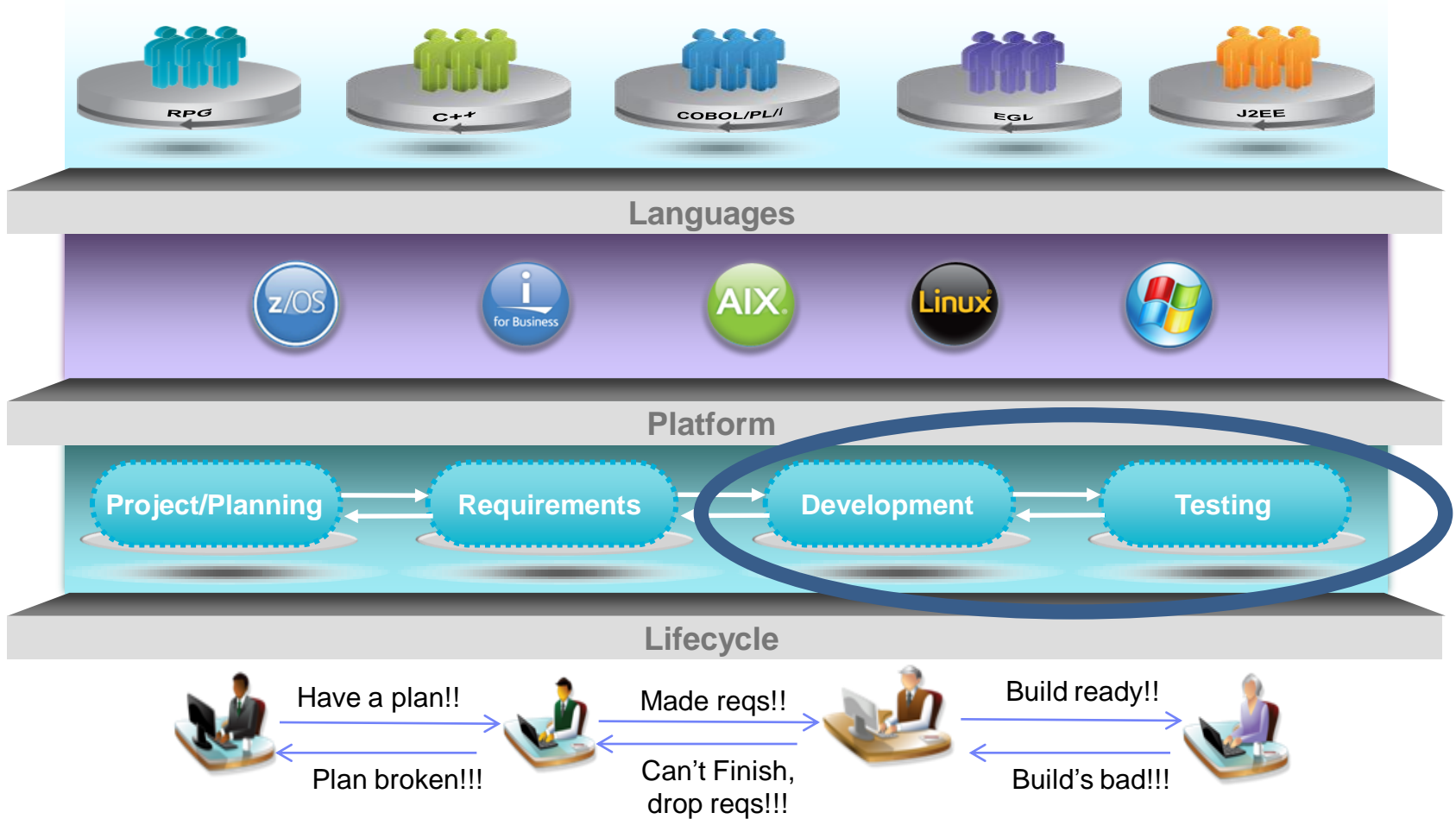
*At the price... it's a no brainer.”*

— Eric Simone, CEO, ClearBlade



# Enterprises want to...

*Deliver compelling and innovative solutions to market faster*

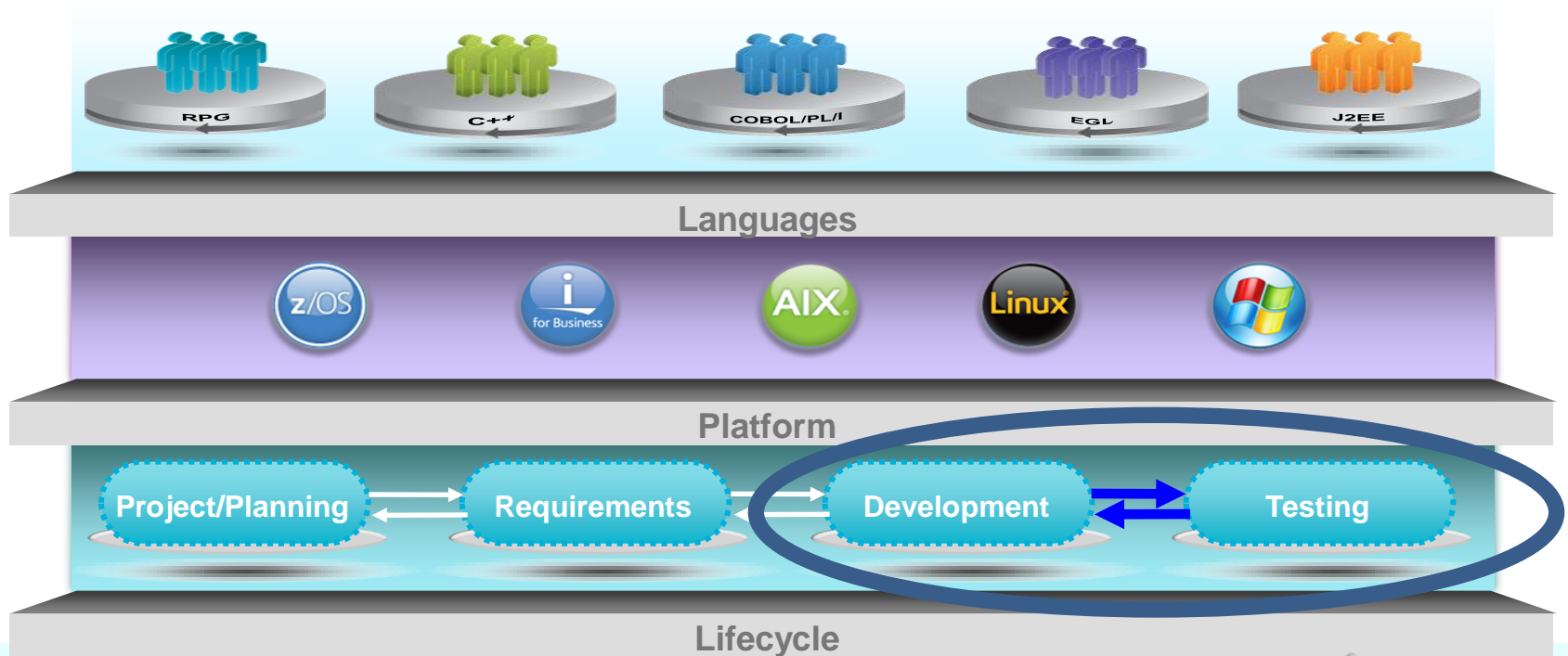


## But...

*There are greater opportunities to automate across the lifecycle. Eliminating manual intervention increases quality, speeds delivery and lowers cost.*

# Compress System z application delivery cycles

## Continuous Integration for System z



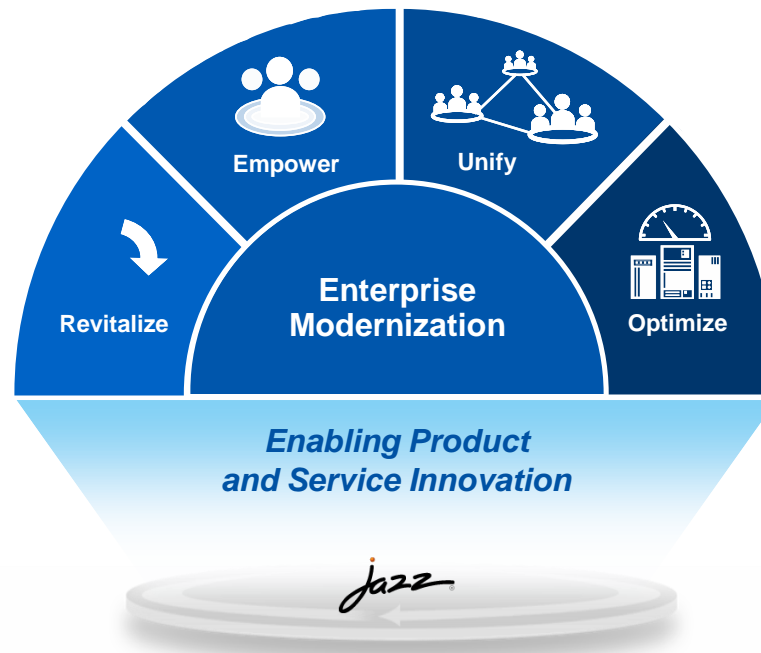
- ✓ Automated unit and function testing of mainframe apps speed feedback to developers
- ✓ Frequent testing locates errors and regressions earlier, driving higher quality
- ✓ Real-time dashboards and reporting of application quality shortly after code check-in provides quick and easy insight
- ✓ Off z testing provides ready availability of test environments while reducing MIPS associated with testing activities



# Getting started

*Next steps to modernize your enterprise applications*

[www.ibm.com/rational/modernization](http://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](#)



# QUESTIONS

The word "QUESTIONS" is rendered in large, white, 3D-style letters. Each letter is filled with a different photograph of a diverse group of business professionals, including men and women of various ethnicities, smiling or engaged in conversation.

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



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

© Copyright IBM Corporation 2011. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.

# Four key barriers preventing greater 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**



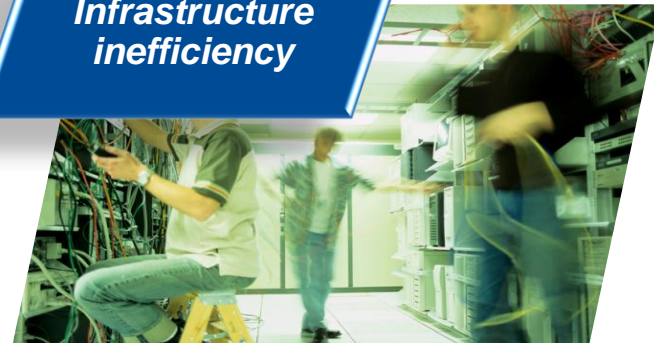
***“Our skills gap keeps growing. How do we stay current with all the language and technology changes?”***

**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 solutions

*Achieving greater value and performance from your IT investments*

## Revitalize Applications

- ✓ Cut maintenance costs and project risks by understanding and managing application portfolios
- ✓ Increase flexibility by modernizing and reusing existing application assets

## Empower People

- ✓ Boost developer productivity with a common IDE and modern business language for multiplatform applications

## Unify teams

- ✓ Increase organization agility by unifying teams with a collaborative team infrastructure for all platforms

## Optimize Infrastructure

- ✓ Free up development MIPS for production use by offloading development and test activities
- ✓ Reduce capital expenses by maximizing application performance on existing hardware

