

Enterprise Modernization: *Revolutionizing the development of multiplatform applications*

Matthew Magee matmagee@us.ibm.com
IBM Brand Strategy: Rational Enterprise Modernization, Modeling
and Construction

IBM Software

Innovate2011

The Premier Event for Software and Systems Innovation

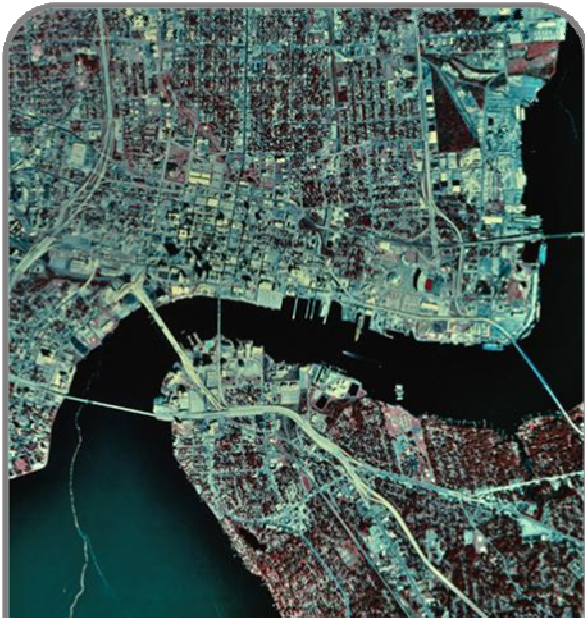


Software. Everyware.

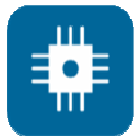
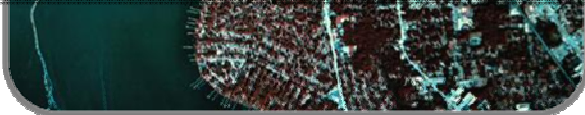
August 9-11, Bangalore | August 11, Delhi



We are seeing dramatic shifts



AS OUR PLANET BECOMES SMARTER.



INTERCONNECTED



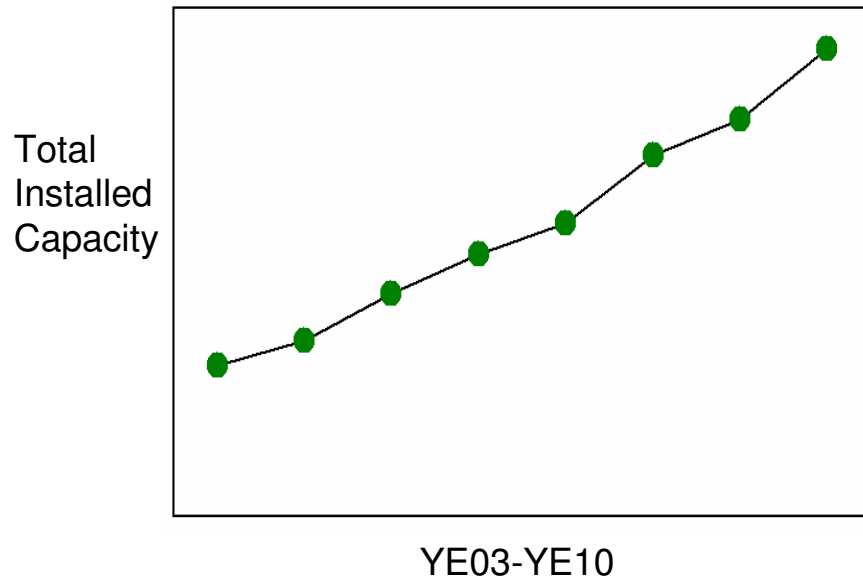
INSTRUMENTED



INTELLIGENT

System z Marketplace Momentum

System z Install Base



“... we are poised to take advantage of upcoming features of the new zEnterprise System, including the ability to manage workloads on select Power and System x servers as if they were a mainframe. ... to further simplify our IT architecture and reduce costs.”

– David Wade, CIO of Primerica.

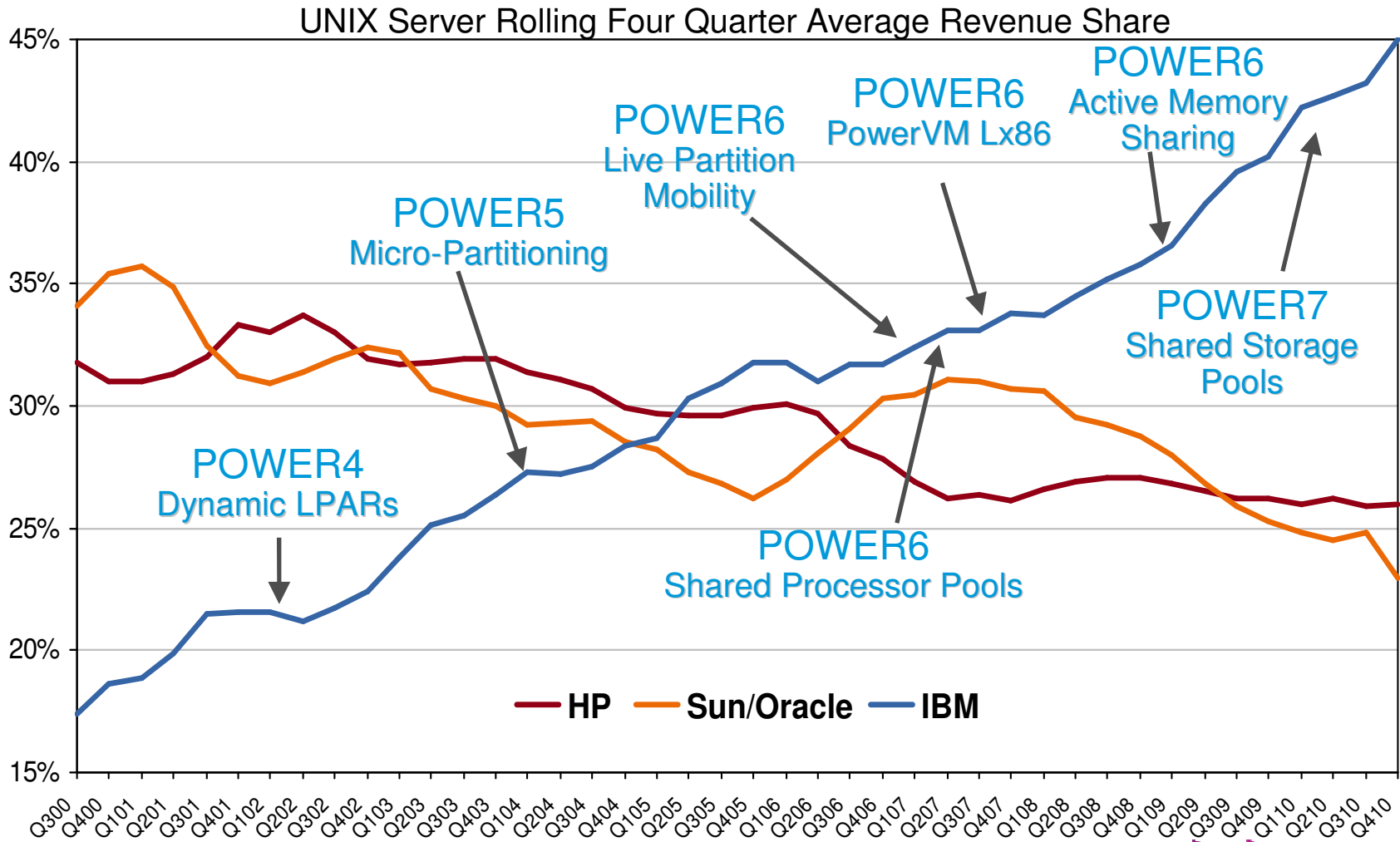
34 percent MIPS growth in 1Q11, following 58 percent MIPS growth in 4Q10 – the highest growth in a decade

percent year to year revenue growth in 1Q11, following 69 percent growth in 4Q10 – the best growth in the last decade

41

IBM's Ten-Year March to UNIX Leadership

The largest shift of customer spending in UNIX history



Power Systems Marketplace Momentum

3,500+

successful Power migrations to date.

1,900 migrations to Power in 2010

60% from Oracle/Sun Solaris

30% from HP-UX

10% from others

Source: Reliance Case Study http://www-01.ibm.com/software/success/cssdb.nsf/CS/JHAL-8E6UL3?OpenDocument&Site=corp&cty=en_us

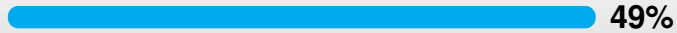
“The total cost of ownership with DB2 running on IBM Power servers is almost **half the cost** of Oracle Database on Sun systems.”

- Anuprita Daga, Chief Manager Reliance Life Insurance



Many businesses are challenged by growing complexity

8 in 10 CEOs anticipate significant complexity ahead.

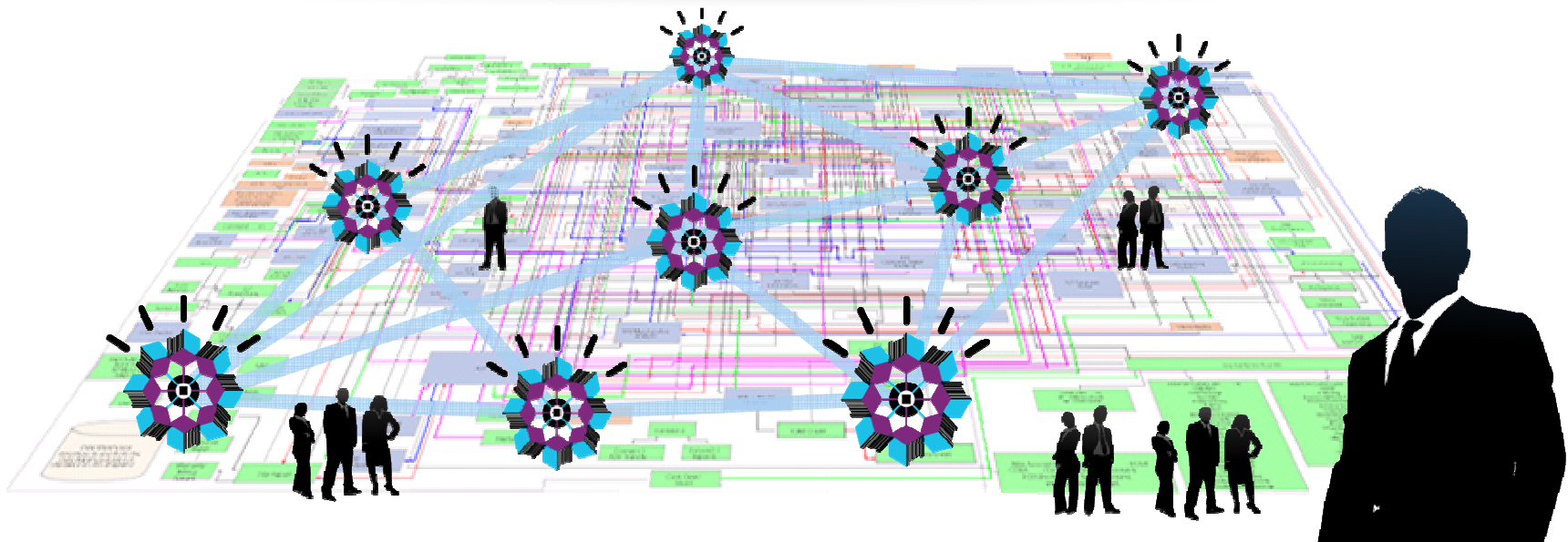


Half Feel prepared to handle it.

30%

complexity gap

Source: IBM Global CEO Study 2010
"Capitalizing on complexity".

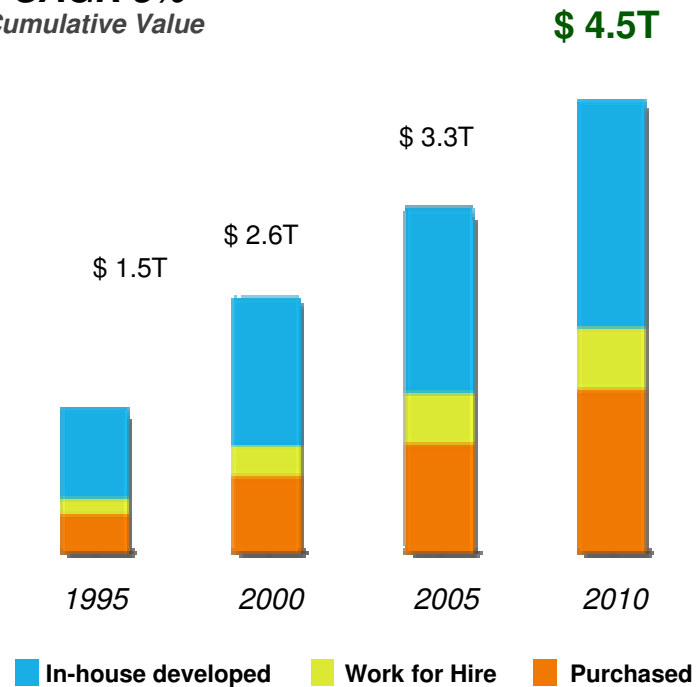


Growing Complexity

...and the numbers can be unpleasant

Investment

CAGR 8%
Cumulative Value



Challenges

- **70%** budget locked in maintenance
- **80%** of Mainframers are 50+ years old
- **50%** IT projects rolled back
- **85%** of distributed computing capacity is idle
- **62%** of projects fail to meet the schedule
- **30%** of project costs are due to rework and poor execution of requirements.
- **34%** gap in information integration across the organization – desired vs. actual by CFOs

...and IT is often viewed as a root cause



"For IT to regain relevance, it must reinvent itself as an organization that moves beyond its legacy burdens and helps the business take charge of the new IT capabilities available in the market."

Forrester Research, Inc., Accelerating At The Intersection Of Business And Technology -- A Sneak Preview Of Forrester's IT Forum 2011, April 2011

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

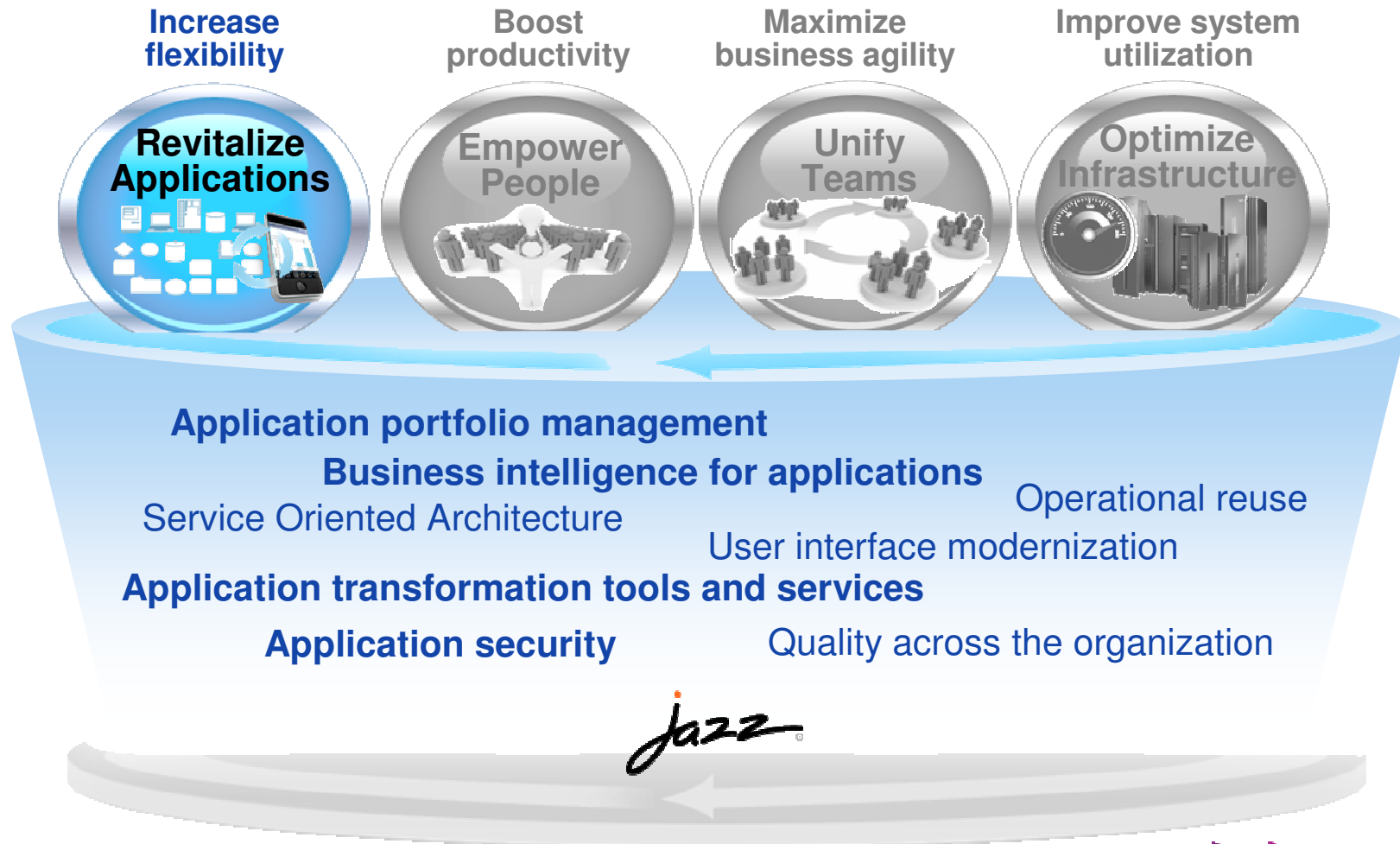


“We need a cost effective way to improve our infrastructure efficiency and free up capacity to handle more workload.”

Enterprise Modernization offers a low risk, high return approach



Increase flexibility by revitalizing existing application portfolios

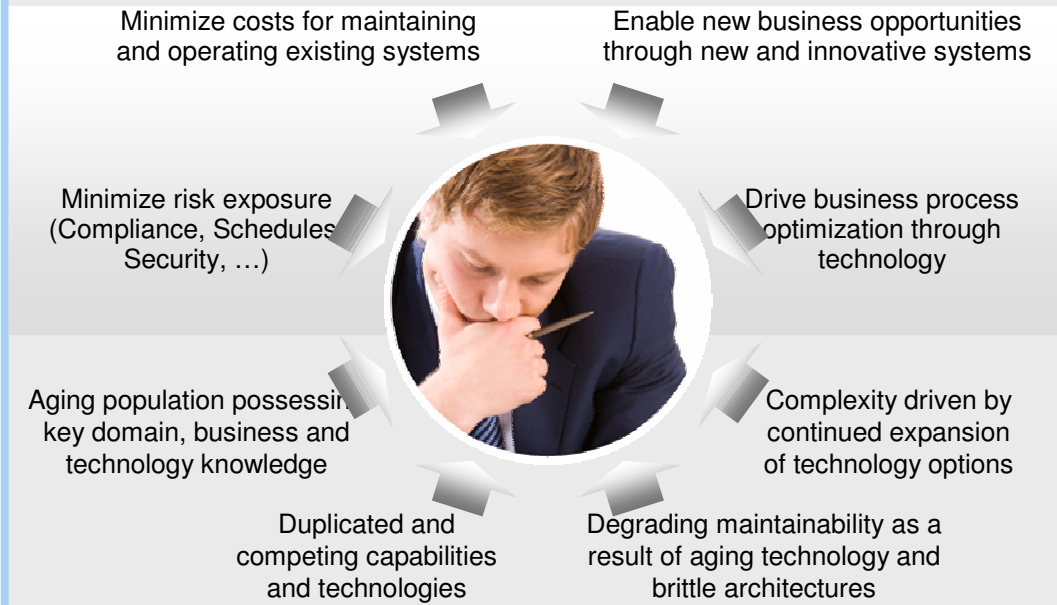




Enterprises want to...

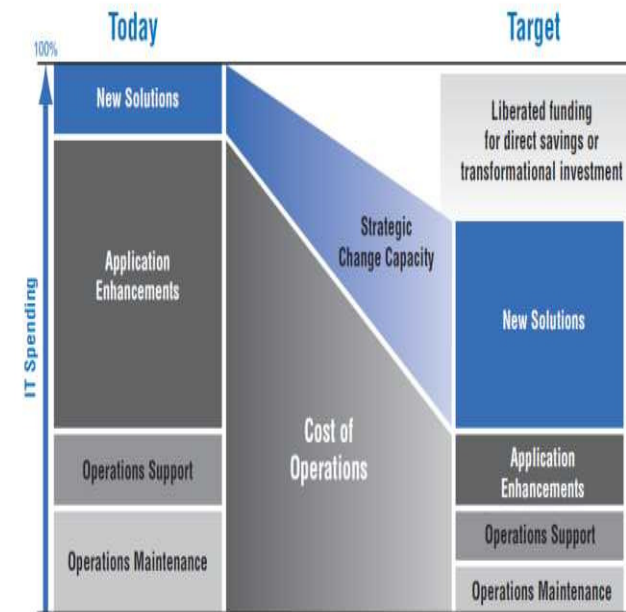
Align their application portfolio to the business' overall strategy

Increasing Business Pressures



Increasing IT Constraints

Insufficient Strategic Spend



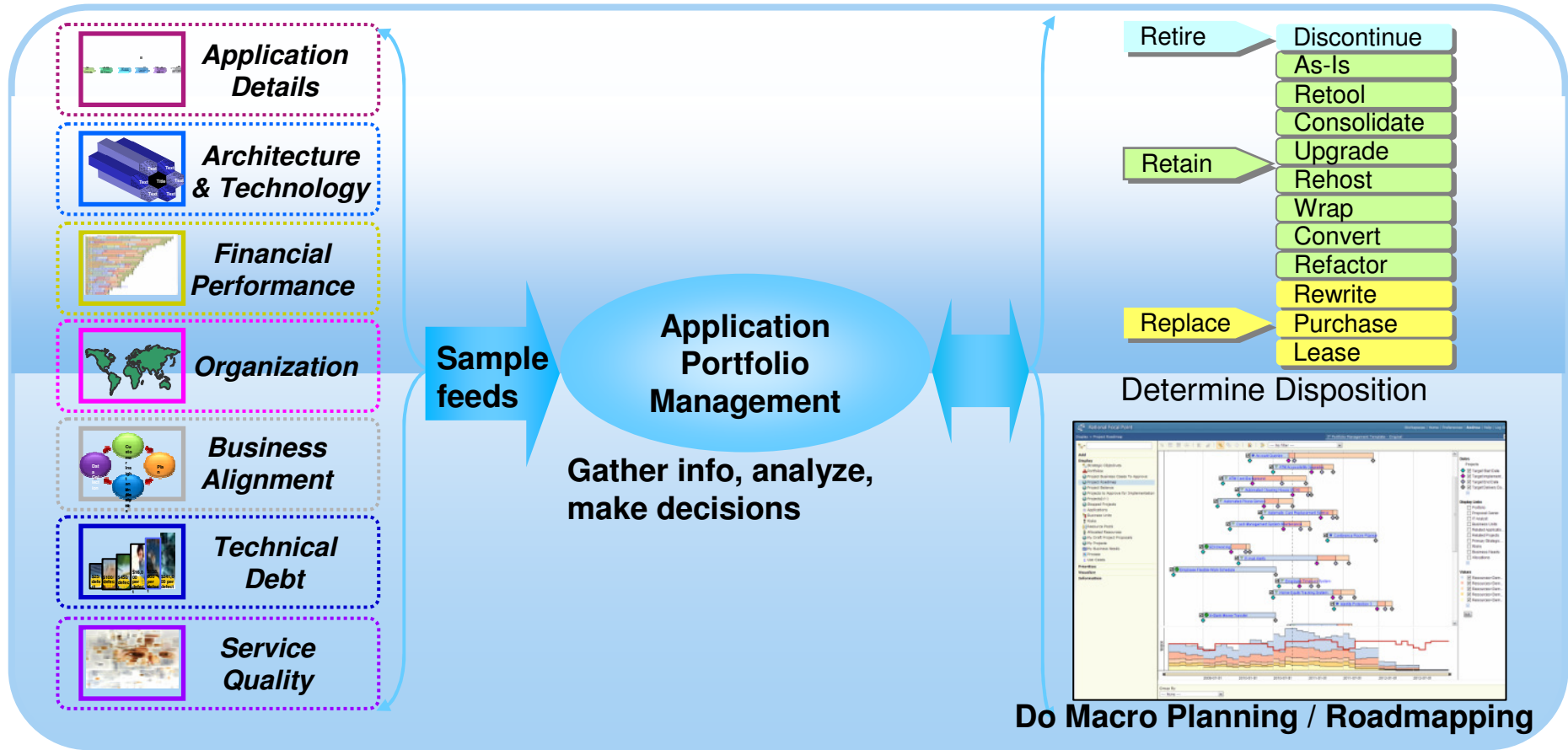
But...

Lack of business and IT information makes decision making ad-hoc, error prone and politically driven versus analytical and fact-based. Limited awareness of applications (usage, design, relationship to business requirements, etc.) increases cost, slows development delivery and reduces quality.



Solution: Comprehensive application portfolio management

Helps organizations proactively make faster and better-informed decisions



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

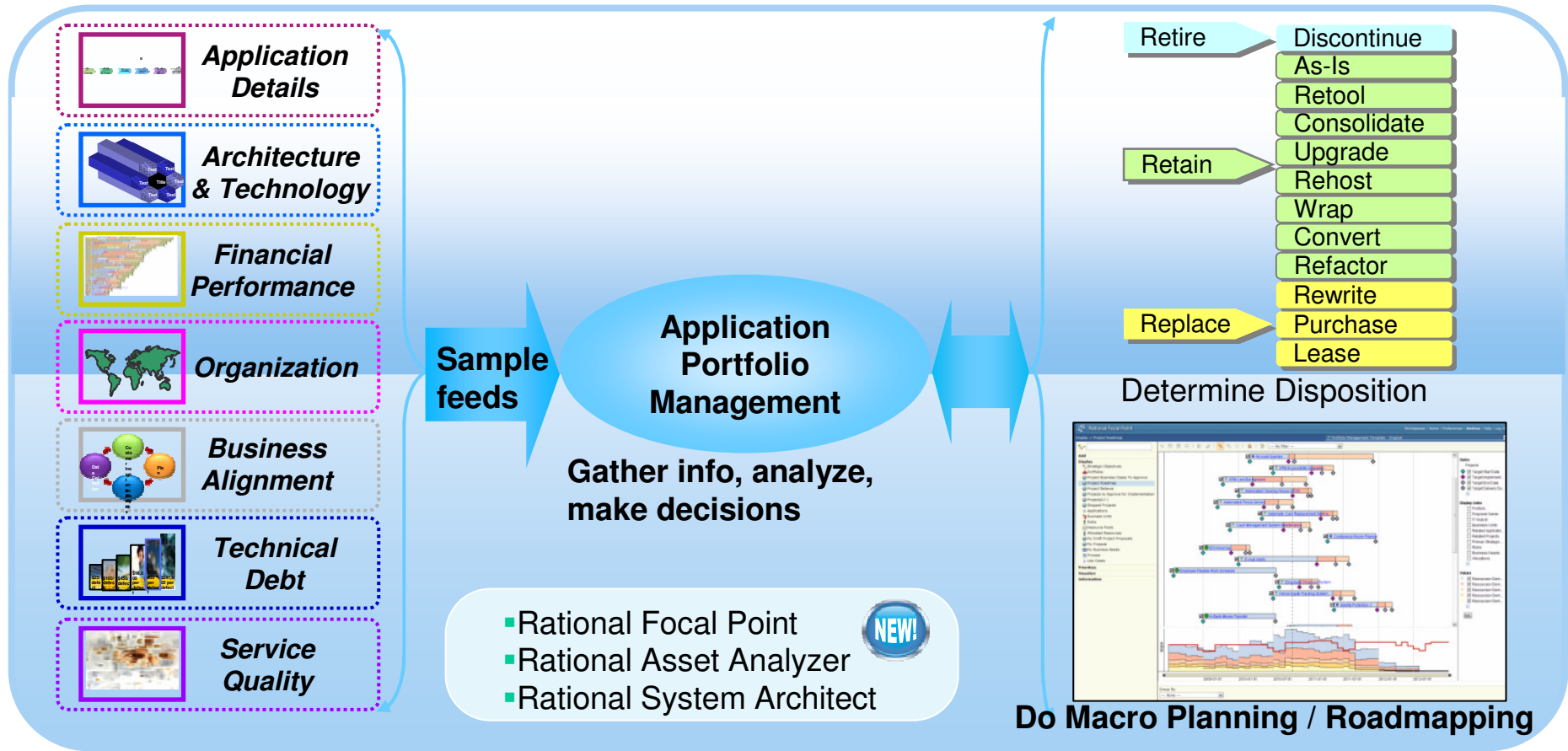
— IBM Corporation





Solution: Comprehensive application portfolio management

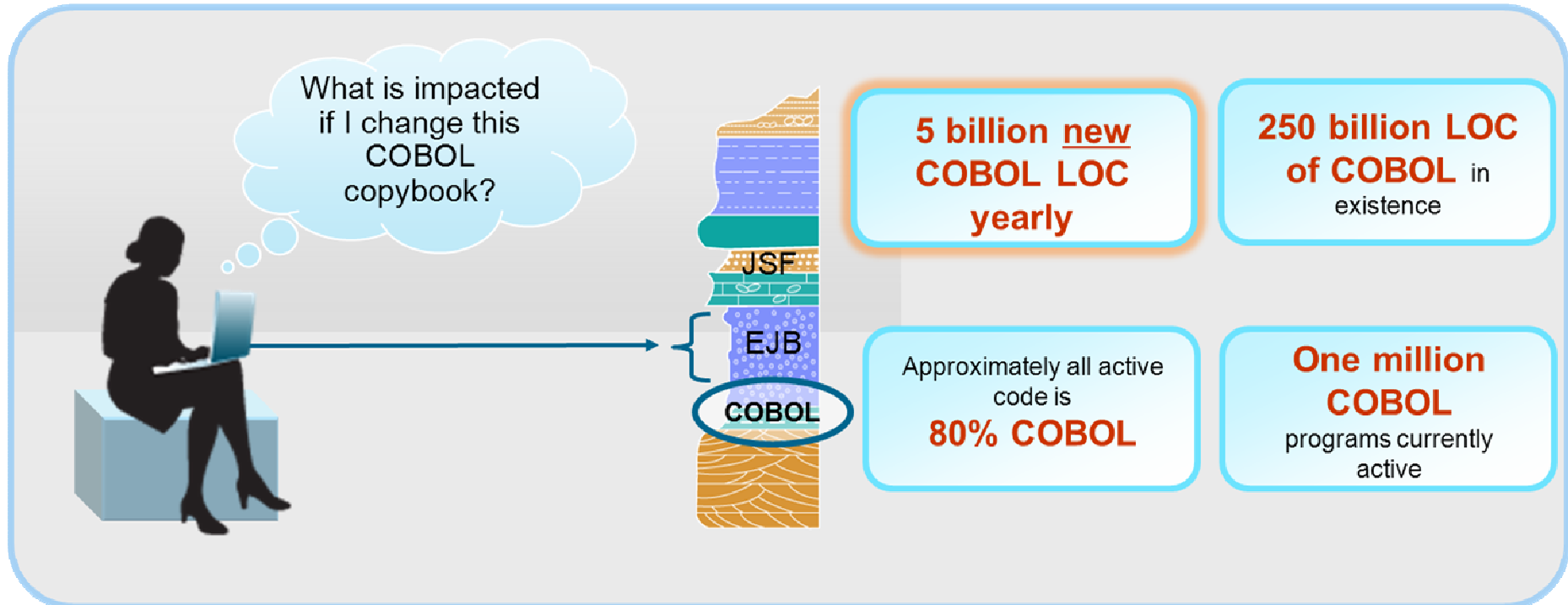
Helps organizations proactively make faster and better-informed decisions





Enterprises want to...

Understand the impact and cost of changes to their IT systems, harvest and manage business rules from existing applications, analyze these rules and minimize rework and points of failure



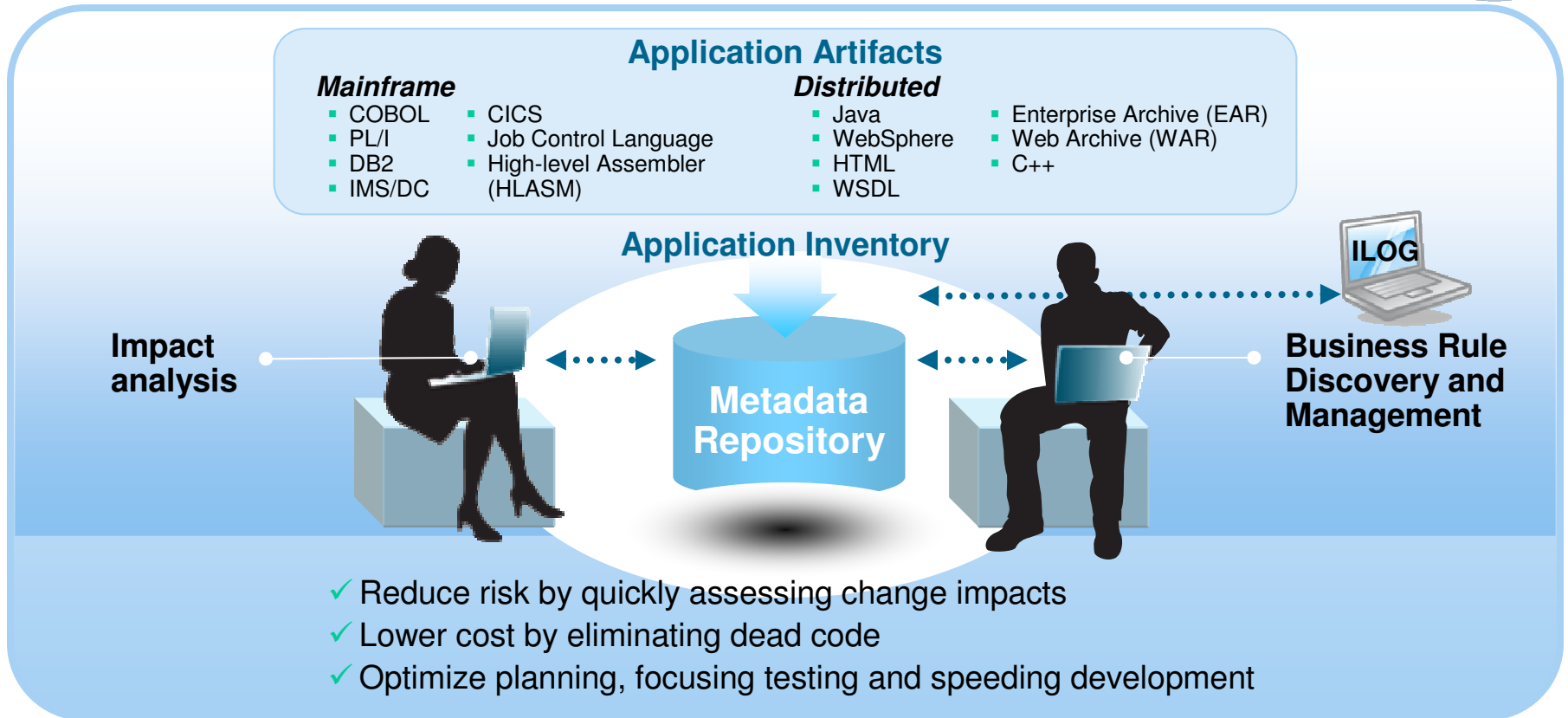
But...

They have no business intelligence inventory of their application assets, relying instead on manual, error-prone processes and incomplete knowledge. They must compensate with more extensive planning and extra testing and by manually 'searching' for code affected by business decisions.



Solution: Business intelligence for applications

Restore lost application knowledge via technical analysis



“IBM Rational Asset Analyzer software is a robust and reliable tool that supports portfolio analysis of large applications in a short period of time, delivering accurate reports that give a clear understanding of the application at the business, architecture and program levels.”

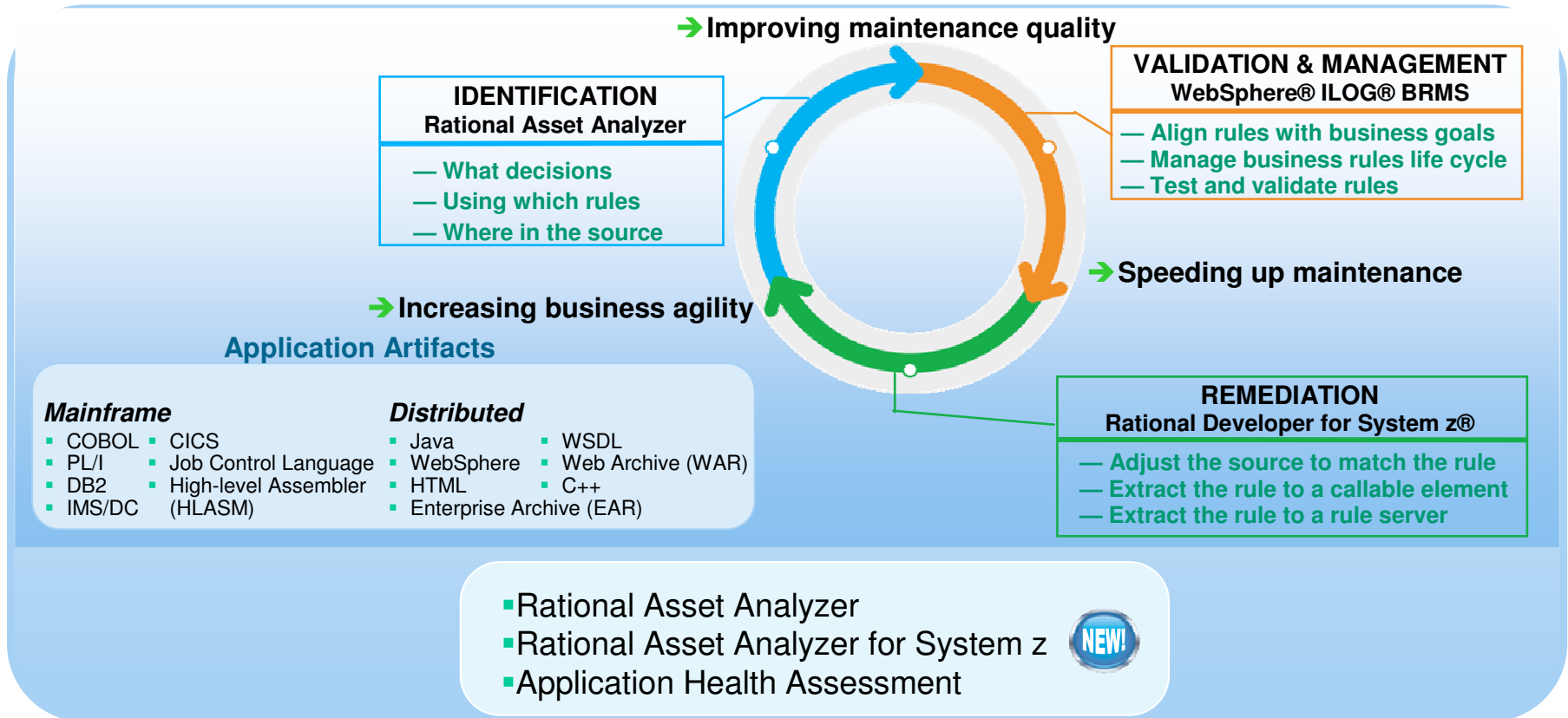
— Sihab Kolaparambil, practice manager, Wipro IT Business





Solution: Business intelligence for applications

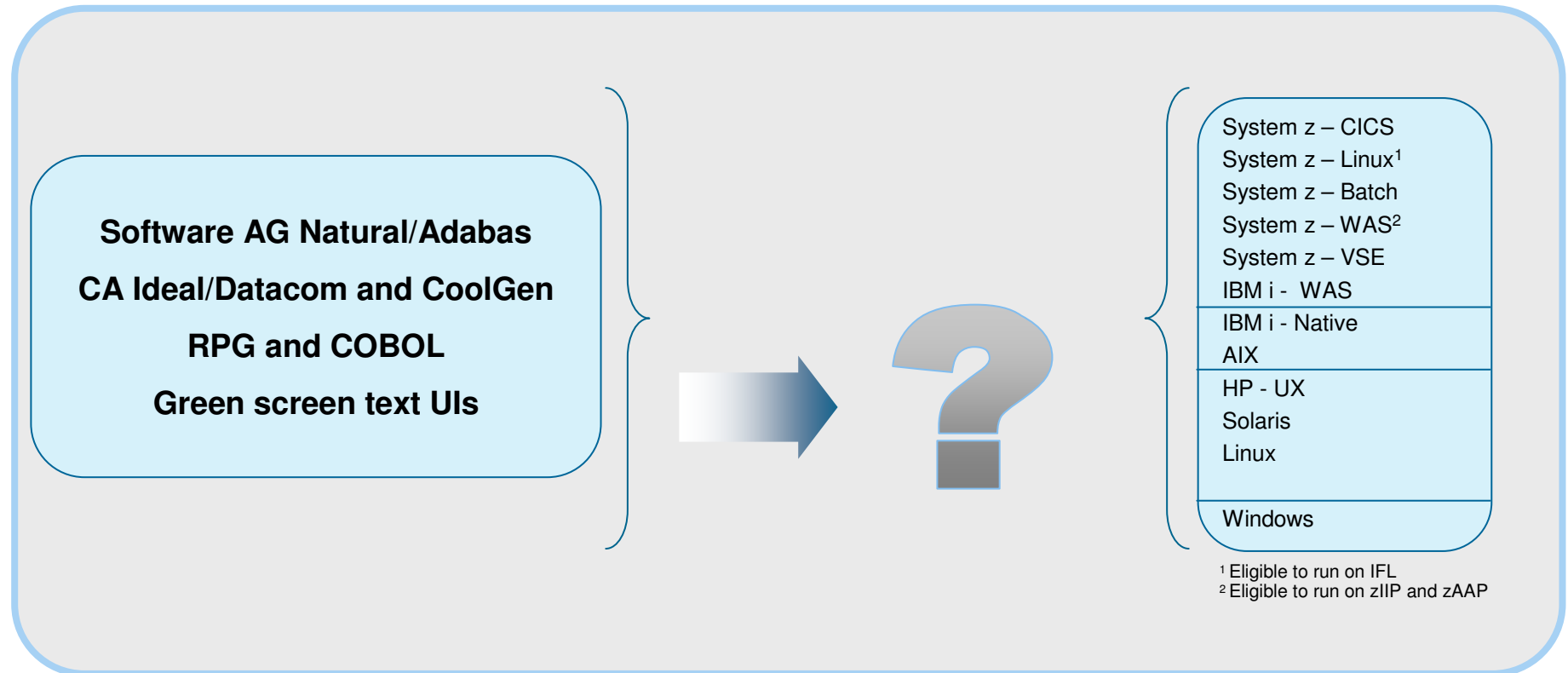
Restore lost application knowledge via technical analysis





Enterprises want to...

Reduce tool support costs and move to modern platforms, languages, and tools for their multiplatform application development



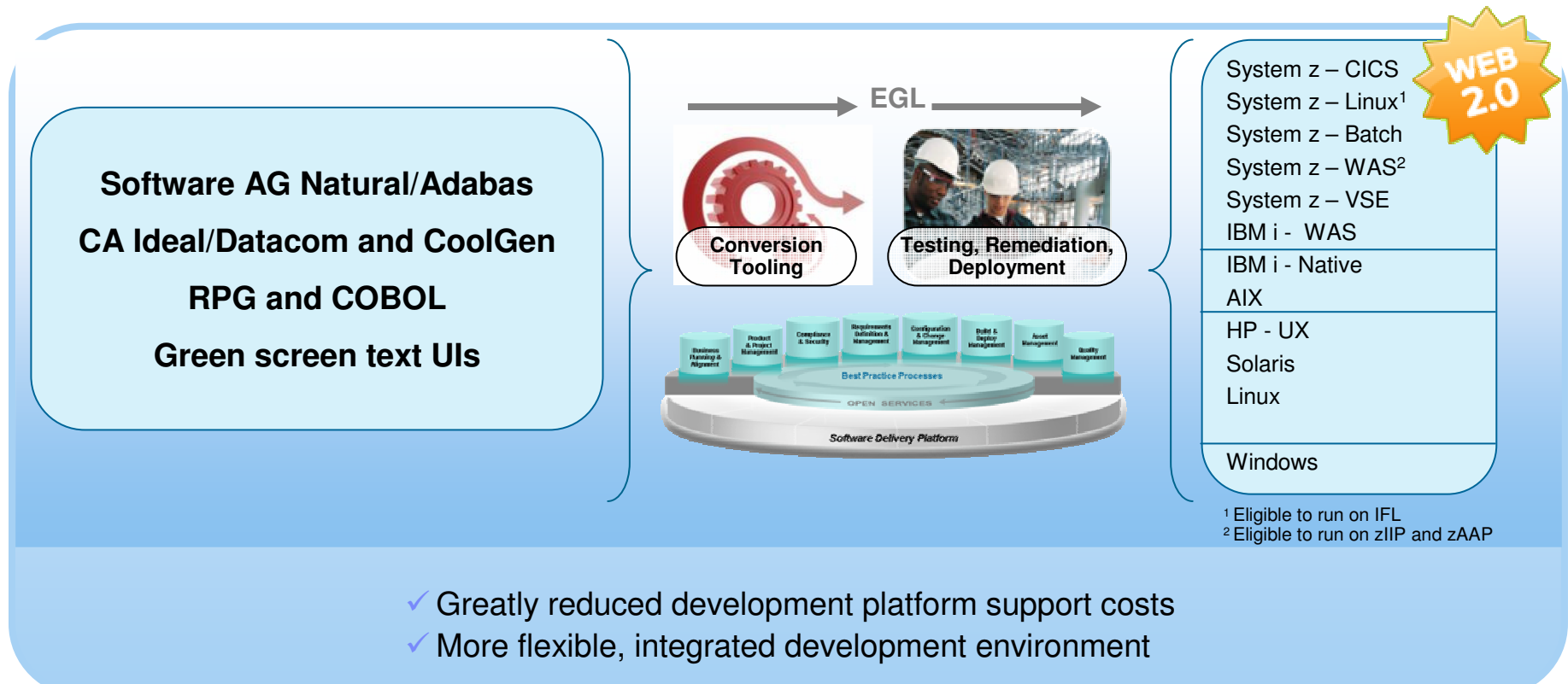
But...

They are using older languages and/or are stuck on poorly supported, expensive, legacy development platforms



Solution: Application transformation tools and services

Migrate from older languages and expensive tools to modern development platforms, languages, databases and tools



- ✓ Greatly reduced development platform support costs
- ✓ More flexible, integrated development environment

Operating costs were reduced 55 percent by migrating from the VAGen legacy application to Java. *“The migration to EGL combines the best of both worlds: The stability of IBM System z and the flexibility of Java.”* Massive cost savings are also included!

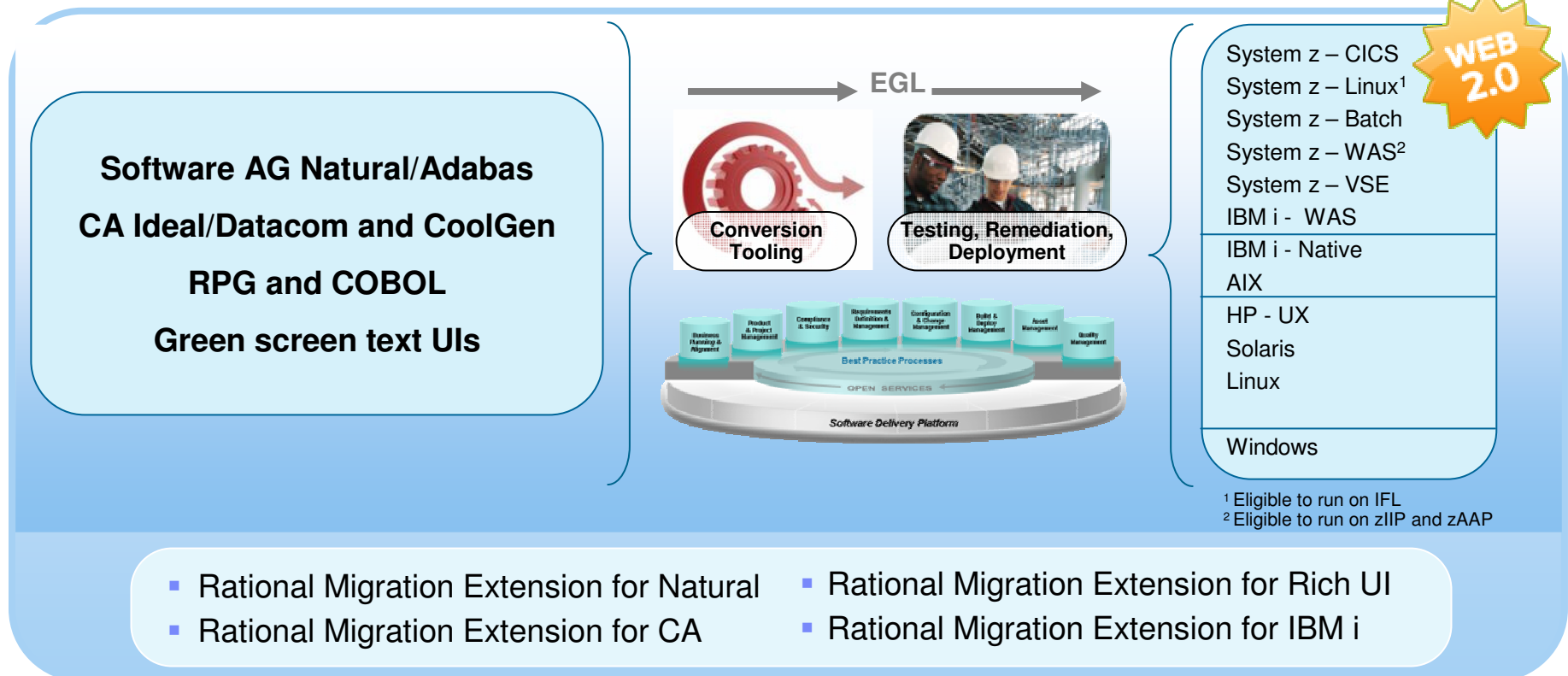
— Frank Landewee, project manager, Atos Origin GmbH, Essen





Solution: Application transformation tools and services

Migrate from older languages and expensive tools to modern development platforms, languages, databases and tools



¹ Eligible to run on IFL
² Eligible to run on zIIP and zAAP



Enterprises want to...

Proactively manage and mitigate security exposures as they open their legacy applications to the Web

Legacy functionality exposed in web applications and services creates significant risk without security measures

- ❖ **76%** of CEO's surveyed feel reducing potential security flaws within business-critical applications is the most important aspect of their data protection program - *Business Case for Data Protection - A Study of CEOs and other C-level Executives in the United Kingdom, March 2010, Ponemon Institute*
- ❖ **55%** of all cyber vulnerabilities are Web application vulnerabilities - *IBM Xforce 2010 Mid-Year Trend Report*
- ❖ **79%** of compromised records were compromised using Web applications as the attack method - *Verizon 2010 Data Breach Investigations Report*



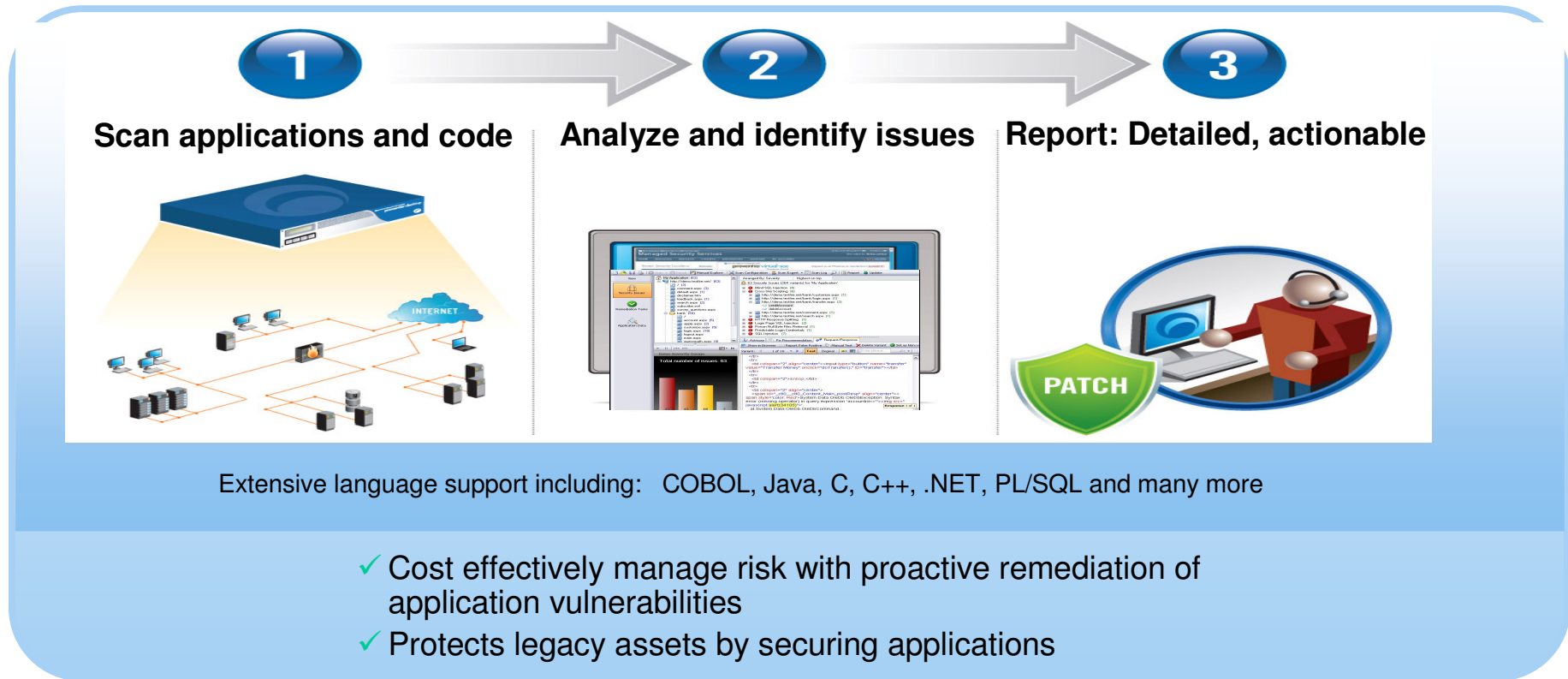
But...

Developers are uninformed of the problem and not mandated to develop secure applications causing applications to be deployed that are riddled with security flaws and that are often non-compliant with industry regulations



Solution: Proactively secure your applications

Scan applications for security flaws before they are deployed



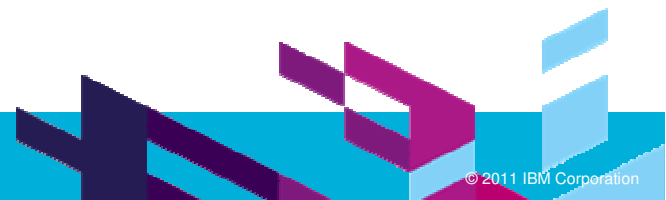
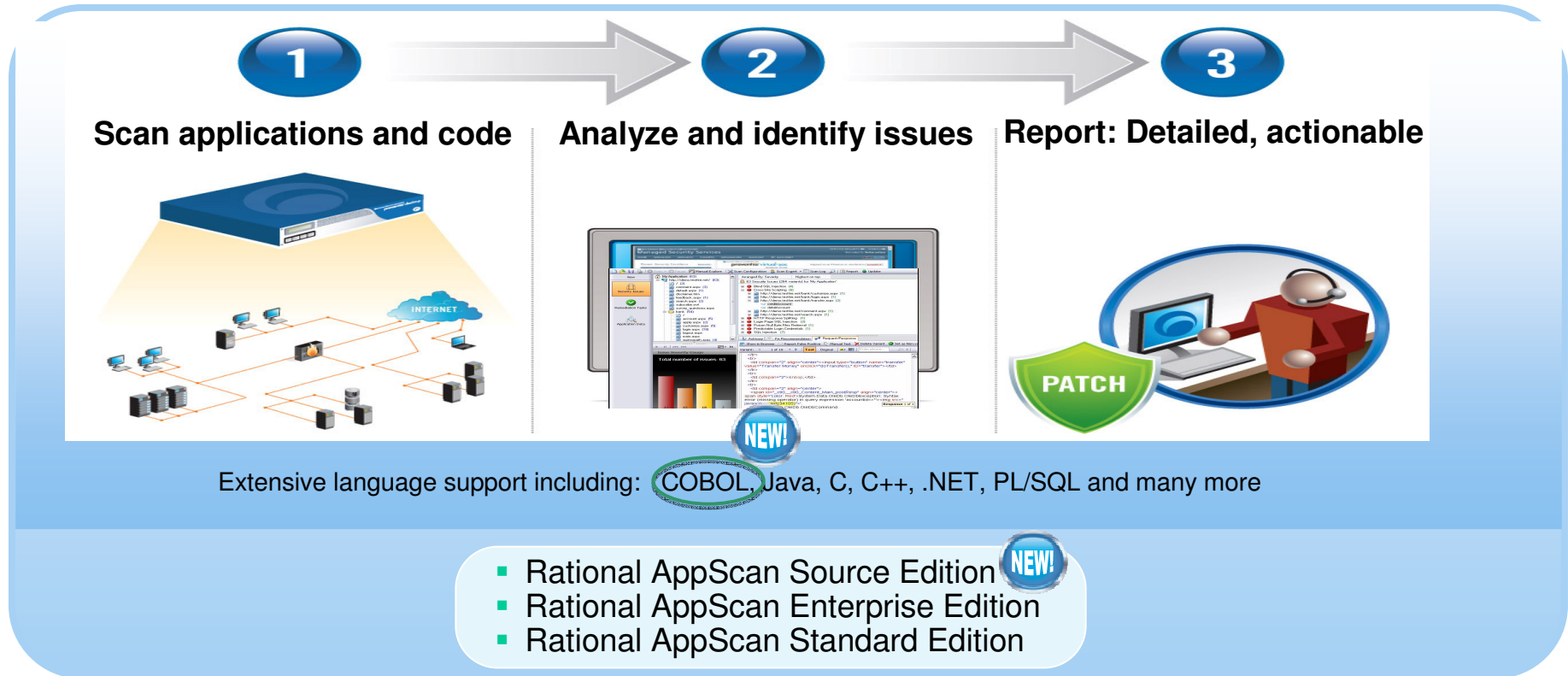
“The real key is that we have the education in place and now implement security early in the application development lifecycle, so we have less overall vulnerabilities to manage.”
— DTCC





Solution: Proactively secure your applications

Scan applications for security flaws before they are deployed



Boost productivity and accelerate innovation with modern skills





Enterprises want to...

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

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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    *
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File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW      DDS0001.TEST.COBOL (BNCHS602) - 01.02      Columns 00001 00072
000256
000257    100-MAINLINE.
x88858    MOVE "100-MAINLINE" TO PARA-NAME.
000259    * DISPLAY "100-MAINLINE".
000260    * Validate patient type and insurance coverage
000261    PERFORM 300-FIELD-EDITS THRU 300-EXIT.
000262
000263    IF RECORD-ERROR-FOUND
000264    ADD +1 TO RECORDS-IN-ERROR
000265    PERFORM 710-WRITE-TRMTERR THRU 710-EXIT
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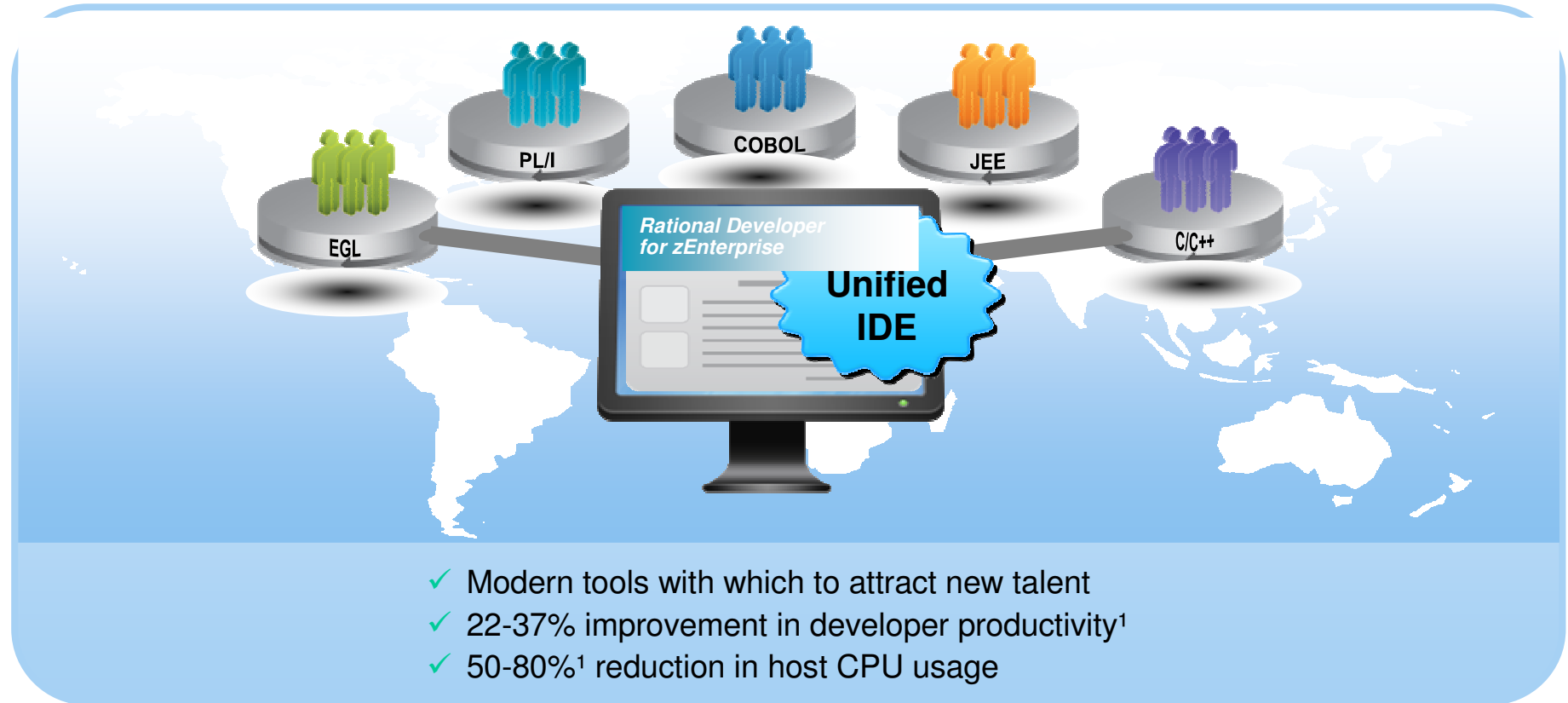
But...

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



Solution: Comprehensive, multiplatform IDEs

Upgrade to modern Eclipse-based tools to develop and maintain enterprise applications spanning multiple platforms, languages, and technologies



“Our team now develops, debugs and tests with more confidence, and it is clear that more and more people here will be using Rational Developer for System z.”
— Almut Geiger, product specialist at HVB IS





Solution: Comprehensive, multiplatform IDEs

Upgrade to modern Eclipse-based tools to develop and maintain enterprise applications spanning multiple platforms, languages, and technologies

- ✓ Lower development cost
- ✓ Faster time to market
- ✓ Enhanced productivity
- ✓ Increased application quality



Newly added

- Endeavor enhancements
- COBOL refactoring wizards
- Improved configuration / collaboration / rollout tools
- Improved edit time
- Additional Linux support
- TXSeries and SQL Support (source color tokenizing and syntax checking)

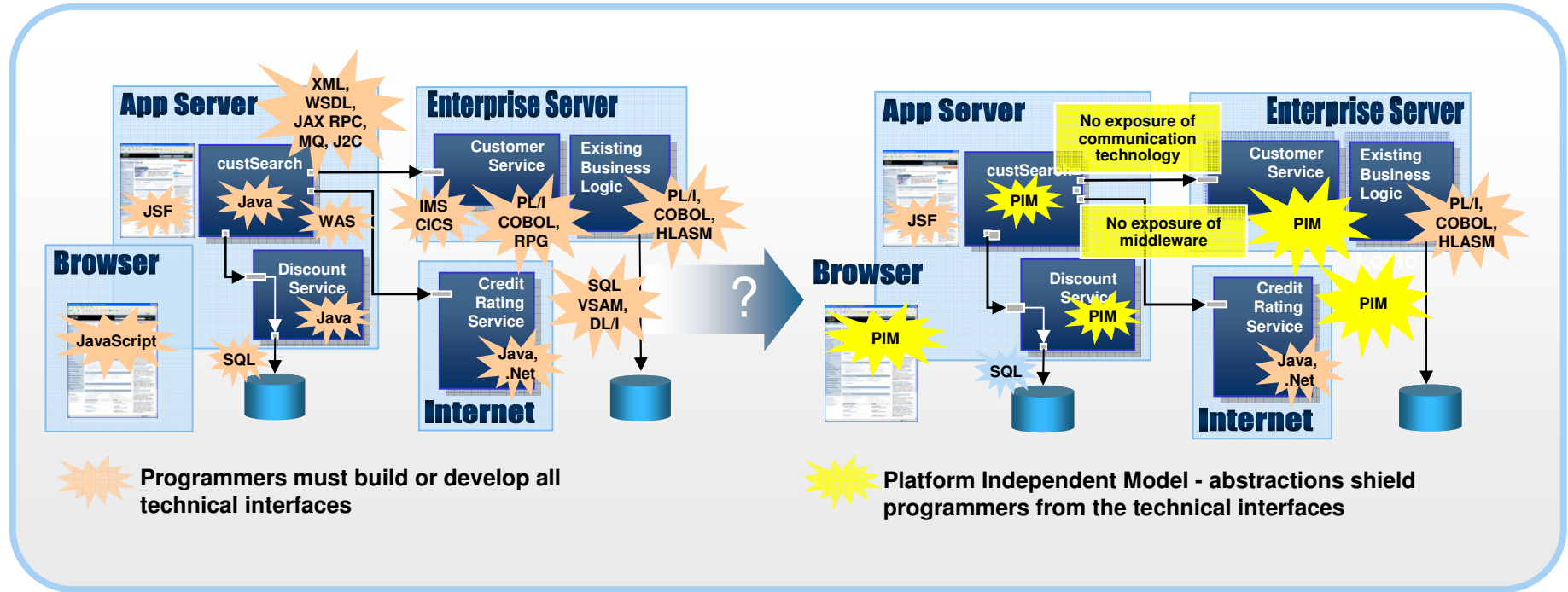


- Rational Developer for System z
- Rational Developer for zEnterprise
- Rational Developer for Power Systems
- Rational Application Developer
- Rational Business Developer
- Rational Programming Patterns for System z



Enterprises want to...

Build modern, multiplatform applications with existing and new staff



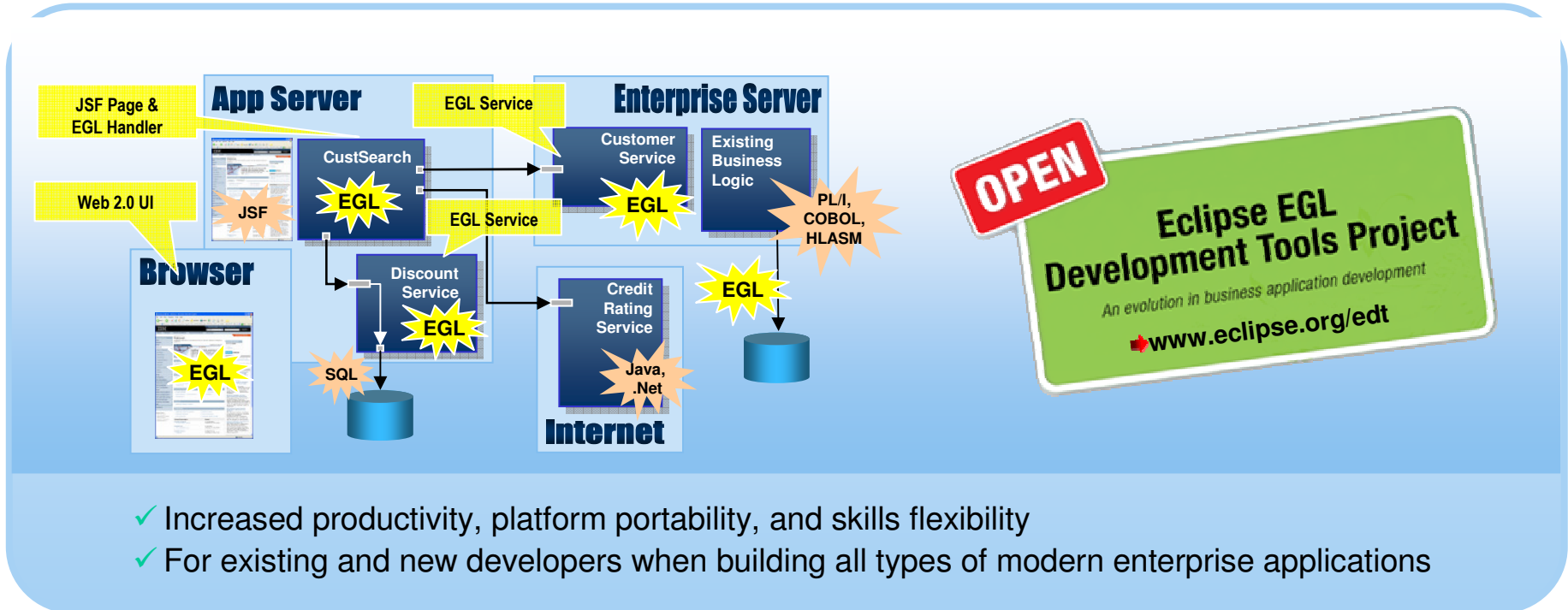
But...

They have different teams of developers for each platform, and re-training them to all the new technologies is costly, time consuming, and often impractical



Solution: EGL – An open, modern business language

Build new or extend existing multiplatform enterprise applications in EGL with its middleware abstractions, high productivity language, modern IDE, and extensible architecture



- ✓ Increased productivity, platform portability, and skills flexibility
- ✓ For existing and new developers when building all types of modern enterprise applications

“... We want to avoid the ‘skill silos,’ what we really need is a large group of general developers who should not worry about target platforms and focus on developing business components, and only a small number of technology specialists, so that we can swiftly allocate general developers to upcoming business needs... EGL is helping us achieve this goal...”

— Lieven Gouwy, IT Architect, KBC





Solution: EGL – An open, modern business language

Build new or extend existing multiplatform enterprise applications in EGL with its middleware abstractions, high productivity language, modern IDE, and extensible architecture



NEW!

- Technical preview provides simplified approach for developing native-looking (Android or iPhone), HTML/JavaScript-based mobile web applications



www.eclipse.org/edt

- Open source project for EGL on Eclipse
- Milestone 1 available June 2011
 - Includes open EGL compiler, extensible Java/JavaScript generators, and base set of tools (edit, debug)
- 0.7.0 delivery planned for September

NEW!

See the migration process live!
Proof/Exploration of Technology workshops now available!

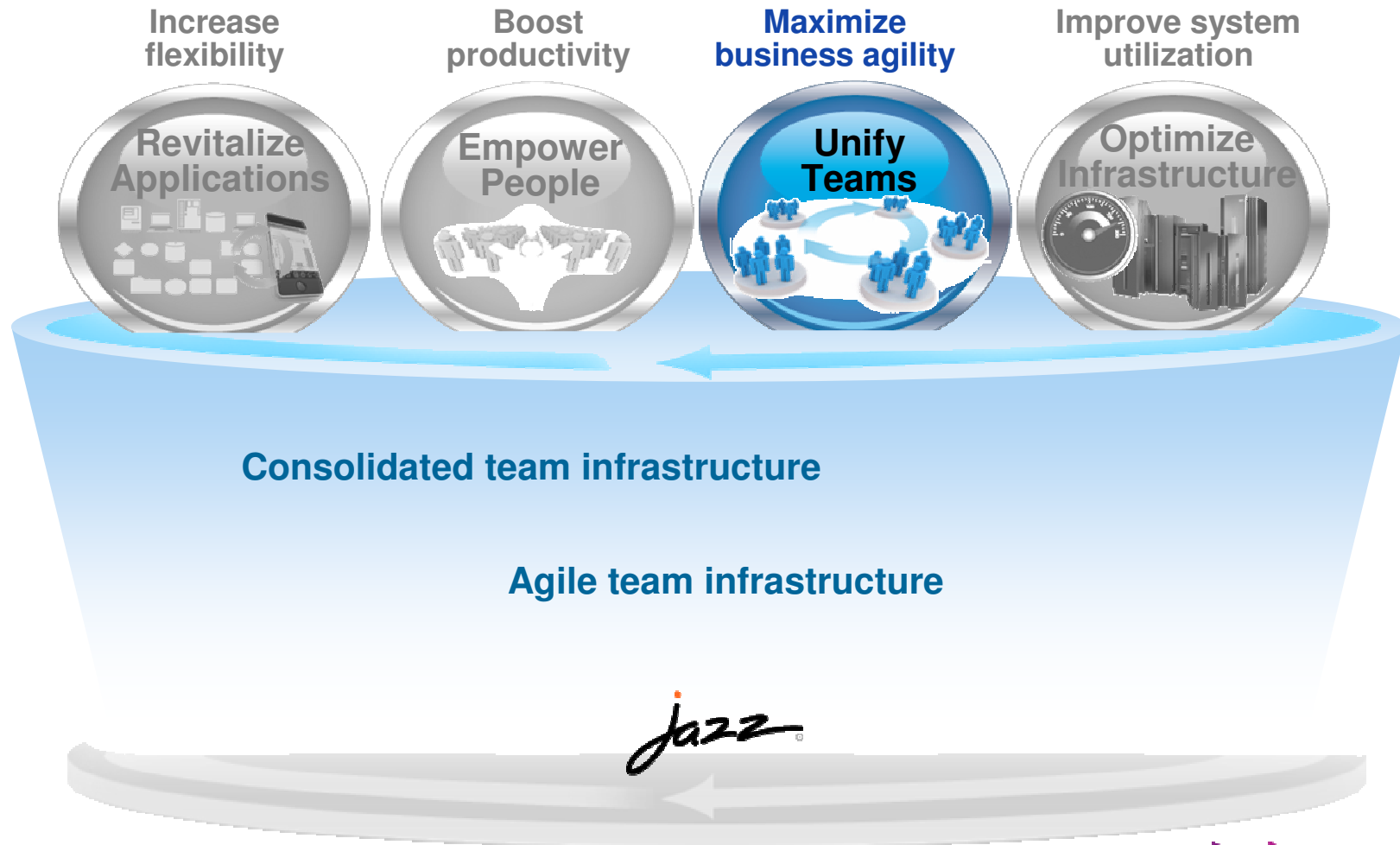
Software AG
Natural Adabas,
CA Ideal
Datacom and
CoolGen,
RPG/COBOL,
TUI/GUI



NEW!

- 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

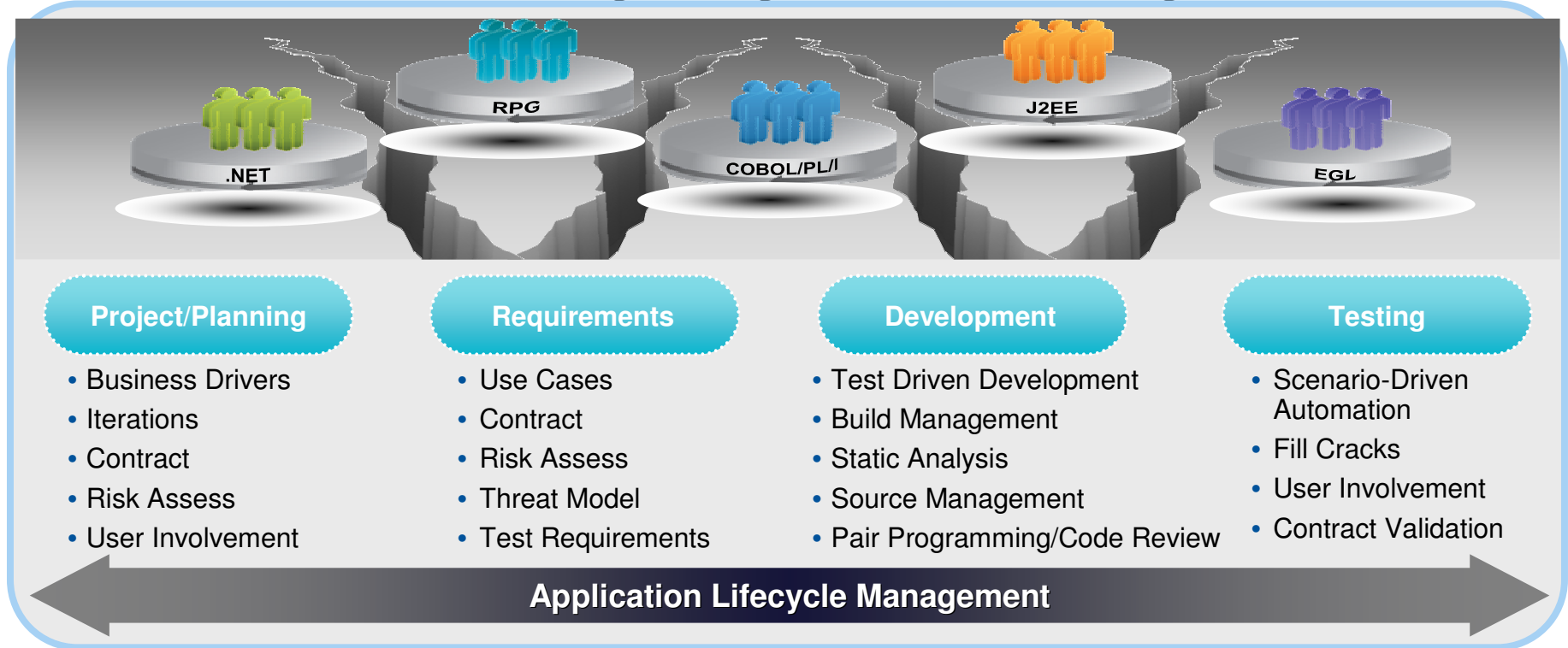
Maximize organizational agility by unifying development teams





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



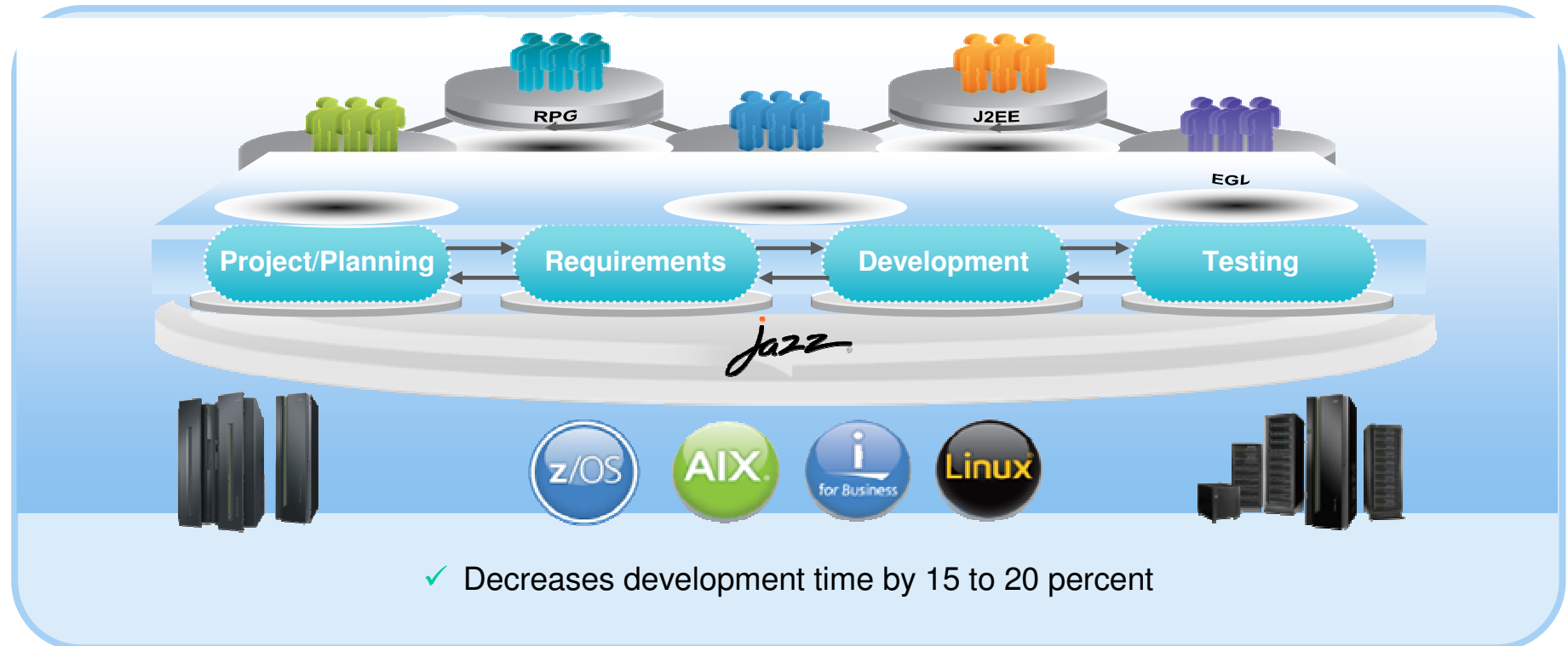
But...

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



Solution: Collaborative application lifecycle management

Deploy new, common team infrastructure for source control, change management and build that empowers your team with integrated collaboration, process automation and reporting



✓ Decreases development time by 15 to 20 percent

“Building an agile development team requires a multiplatform approach, and Sodifrance uses Rational Developer for System z and Rational Team Concert for System z to help application teams synchronize their efforts and improve collaboration. Rational on System z offers a powerful and valuable combination for any company that wants to boost its development team’s productivity.”

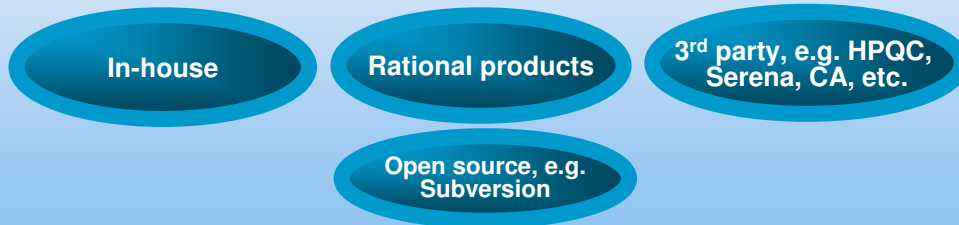
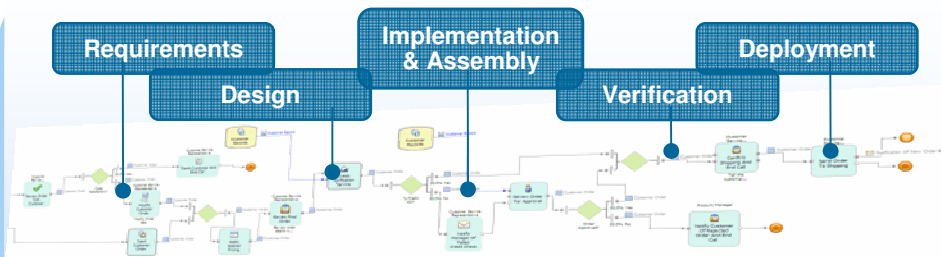
— Hugh Smith, Project Manager, Sodifrance





Solution: Collaborative application lifecycle management


Deploy new, common team infrastructure for source control, change management and build that empowers your team with integrated collaboration, process automation and reporting



All your tools tightly linked and working for you on one platform: jazz.

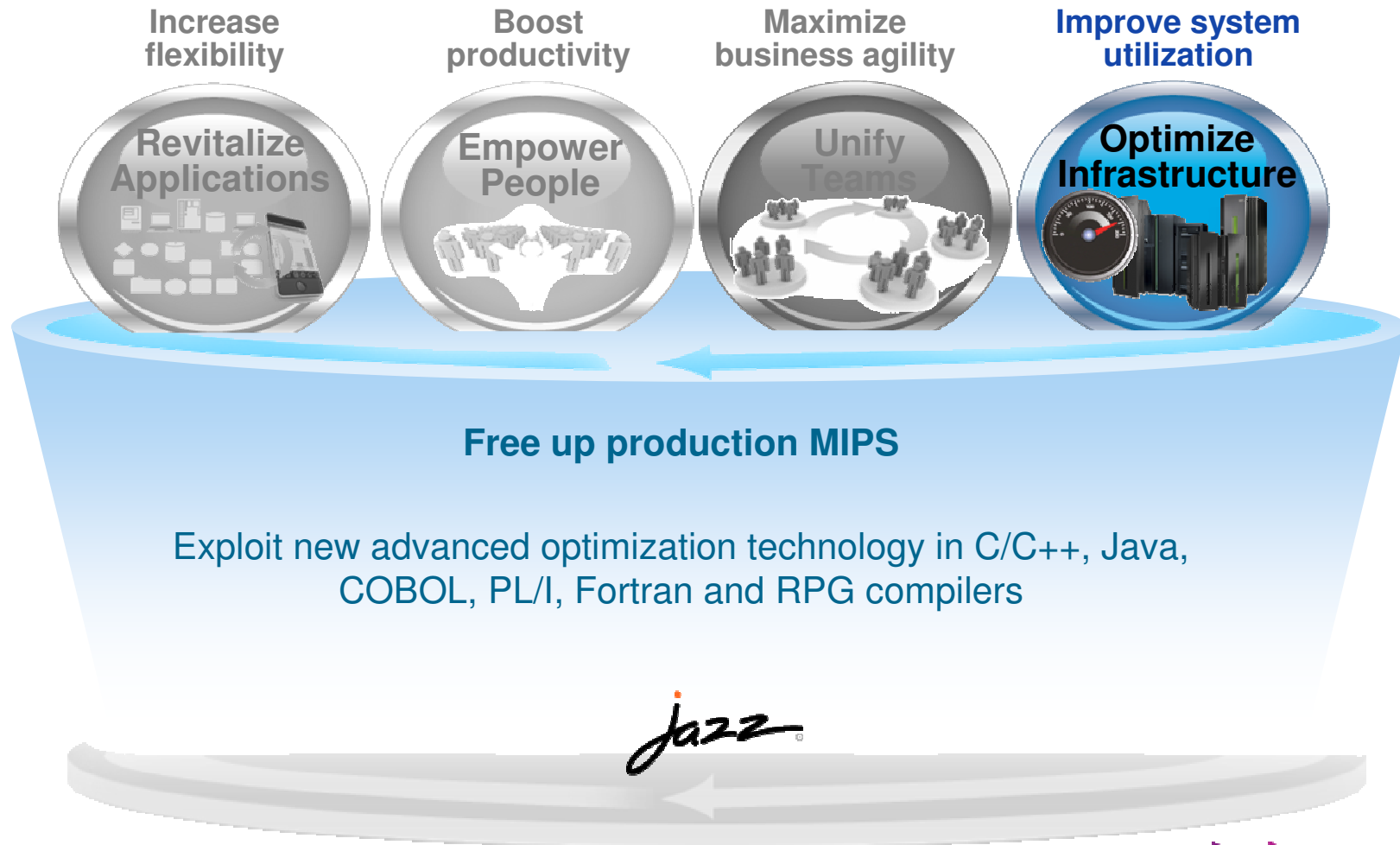
Delivering...

- Single integrated platform for managing delivery of multiplatform projects
- New support for advanced dependency analysis and build capabilities for z/OS
- New integrated ISPF client for z/OS source edit, compile and debug

- Rational Team Concert 
- Rational Requirements Composer

- Rational Quality Manager
- Rational Build Forge

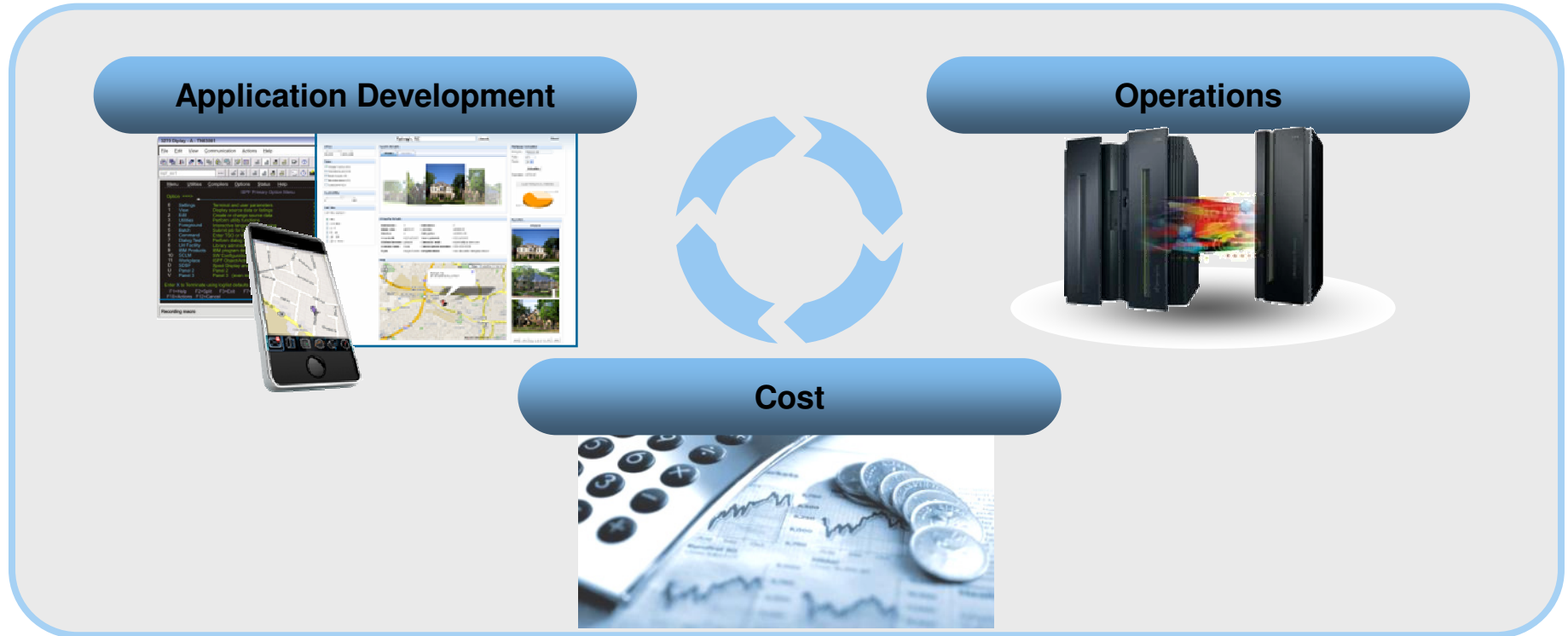
Improve application performance by fully exploiting latest hardware





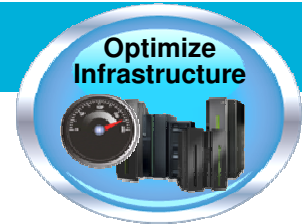
Enterprises want to...

Reduce application development MIPs usage and increase development autonomy

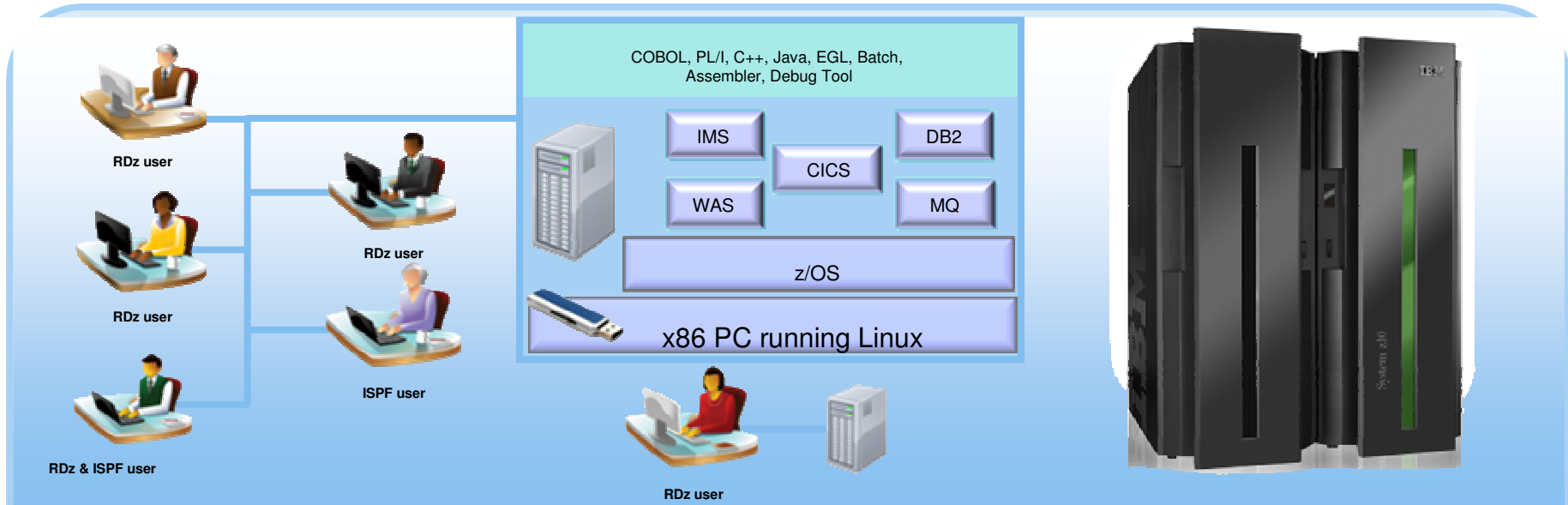


But...

Testing requires System z MIPs and negotiation for time with the production team



Solution: Test mainframe applications on x86 Linux server



- ✓ 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

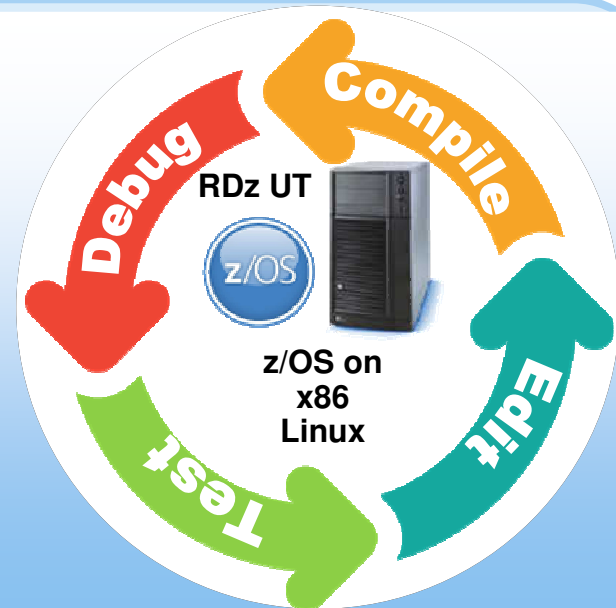
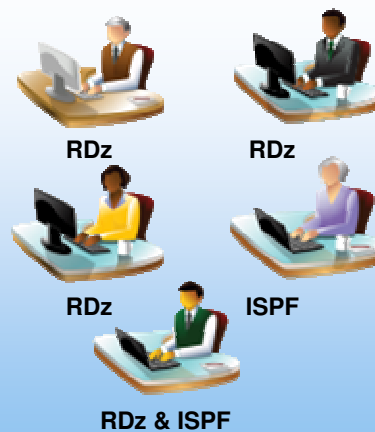




Solution: Test mainframe applications on x86 Linux server

Delivering...

- Licensing flexibility
- Release currency, e.g. IMS 11, debug tool 10, etc.
- Deployment aids; whitepapers around setup, maintenance and roll-out
- EGL COBOL runtime support



- Rational Developer for System z Unit Test Feature



Getting started

Next steps to modernize your enterprise applications



To learn more visit: ibm.com/software/rational/announce/modernization/



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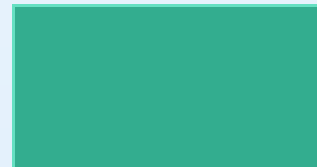
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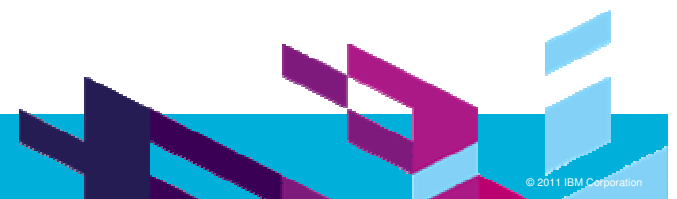
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QUESTIONS

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