

Application Life Cycle Management –

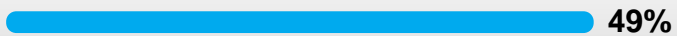
Implementing a Collaborative Approach to Software Development

Karen Hunt, Director
Enterprise Modernization and Compilers
May 2011



Many businesses are challenged by growing complexity

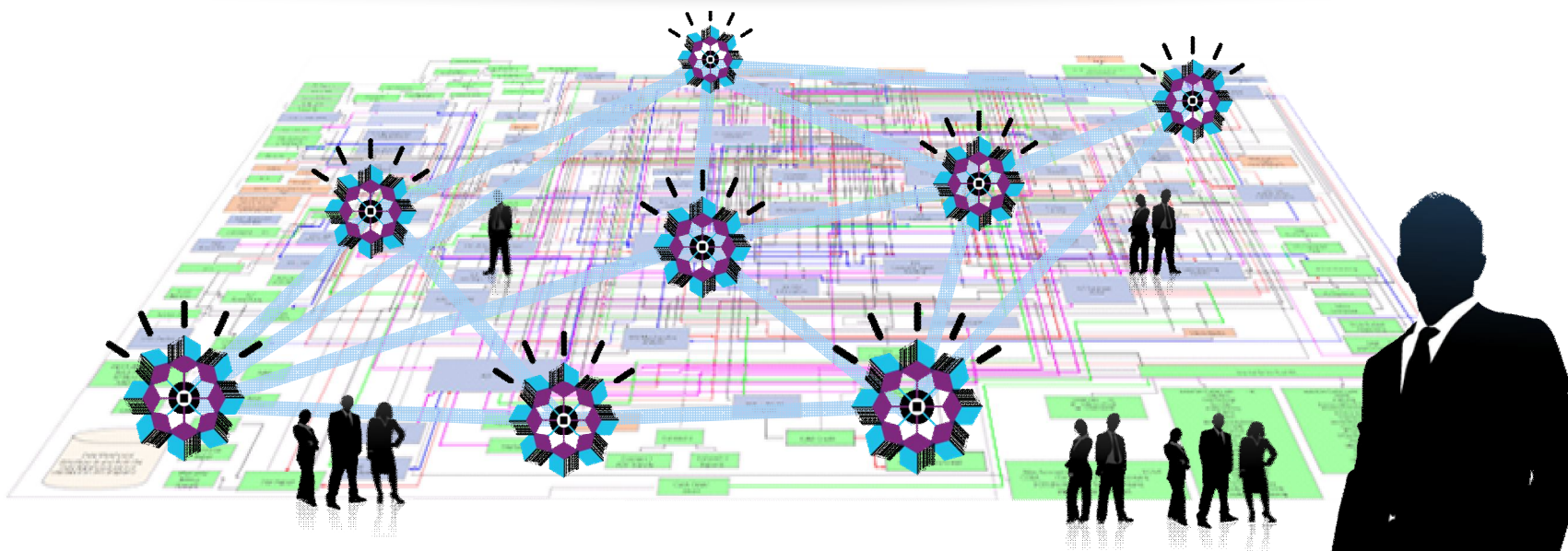
8 in 10 CEOs anticipate significant complexity ahead.



Half Feel prepared to handle it.

30%
complexity gap

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

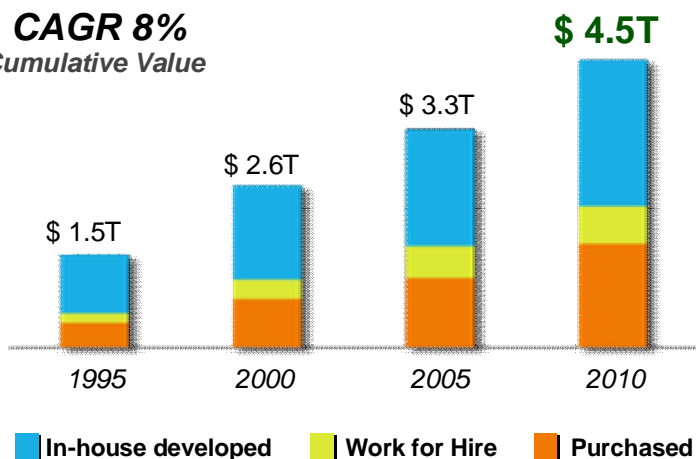


Growing Complexity

...and the numbers can be unpleasant

Investment

CAGR 8%
Cumulative Value

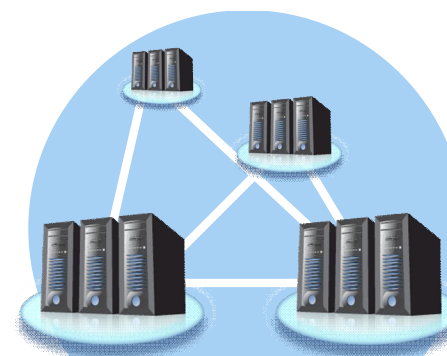


Challenges

- **70%** budget locked in maintenance
- **80%** of Mainframers are 50+ years old
- **50%** IT projects rolled back
- **85%** of distributed computing capacity is idle



Mainframe



Distributed

...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."

Shed Your Preconceptions: Business Technology In 2020, Forrester Research, Inc., December 13, 2010

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

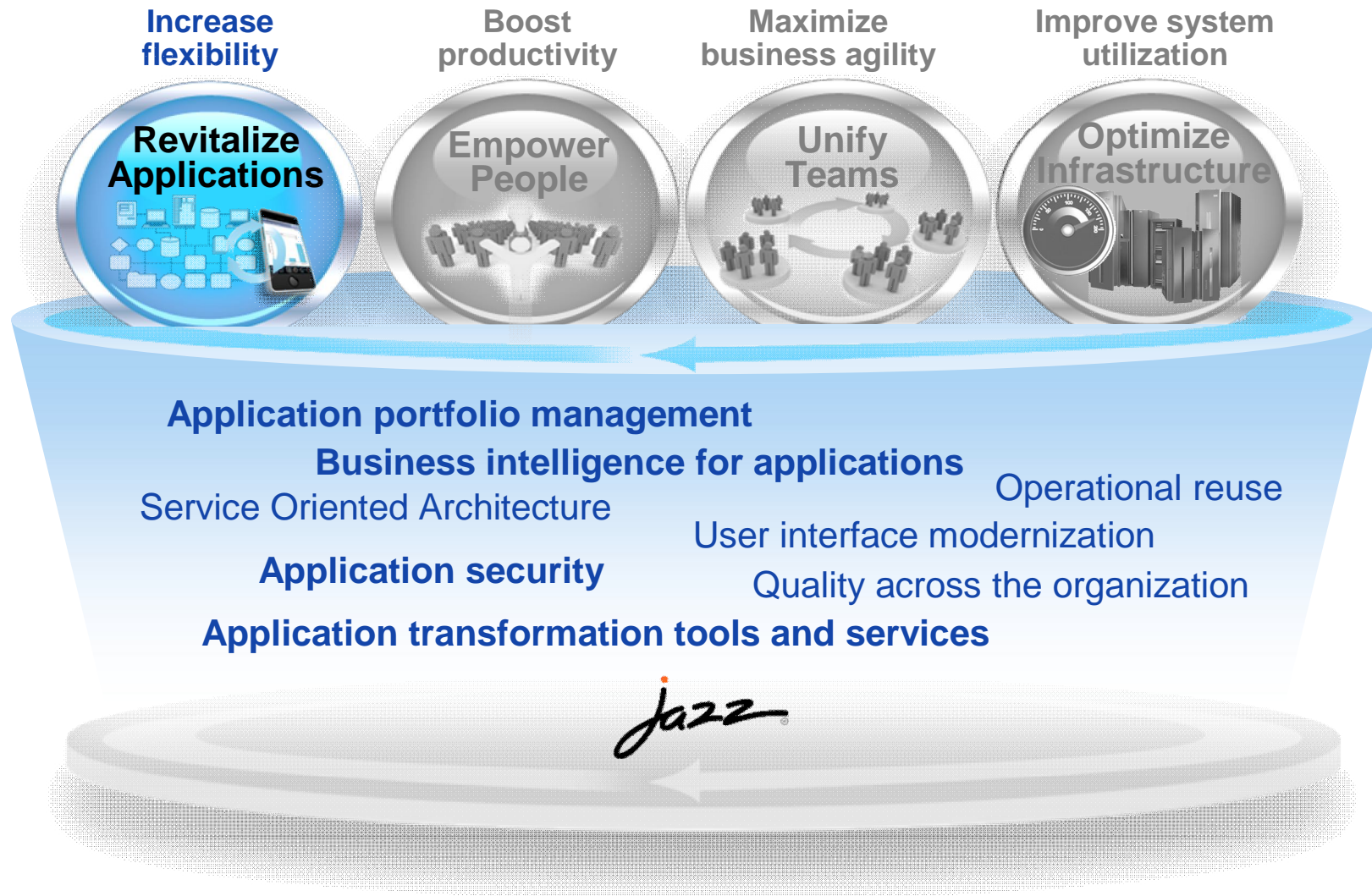


"We need a cost effective way to improve our infrastructure efficiency and free up capacity to handle more workload."

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

Minimize costs for maintaining and operating existing systems

Enable new business opportunities through new and innovative systems

Minimize risk exposure (Compliance, Schedules Security, ...)

Drive business process optimization through technology

Aging population possessing key domain, business and technology knowledge

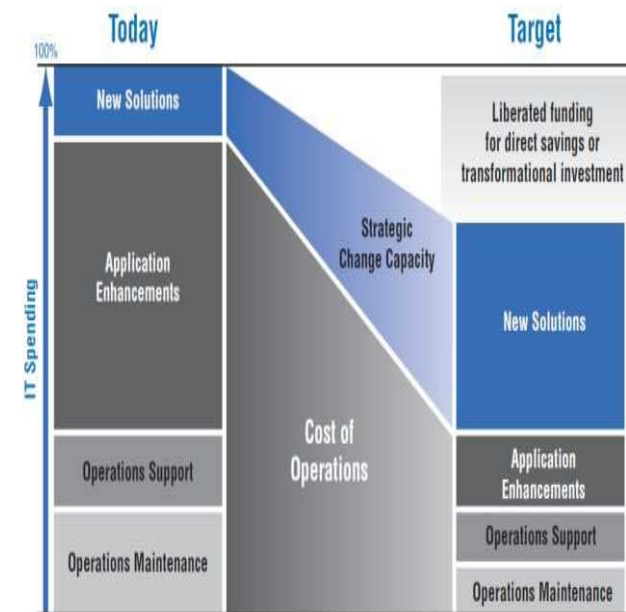
Complexity driven by continued expansion of technology options

Duplicated and competing capabilities and technologies

Degrading maintainability as a result of aging technology and brittle architectures

Increasing IT Constraints

Insufficient Strategic Spend



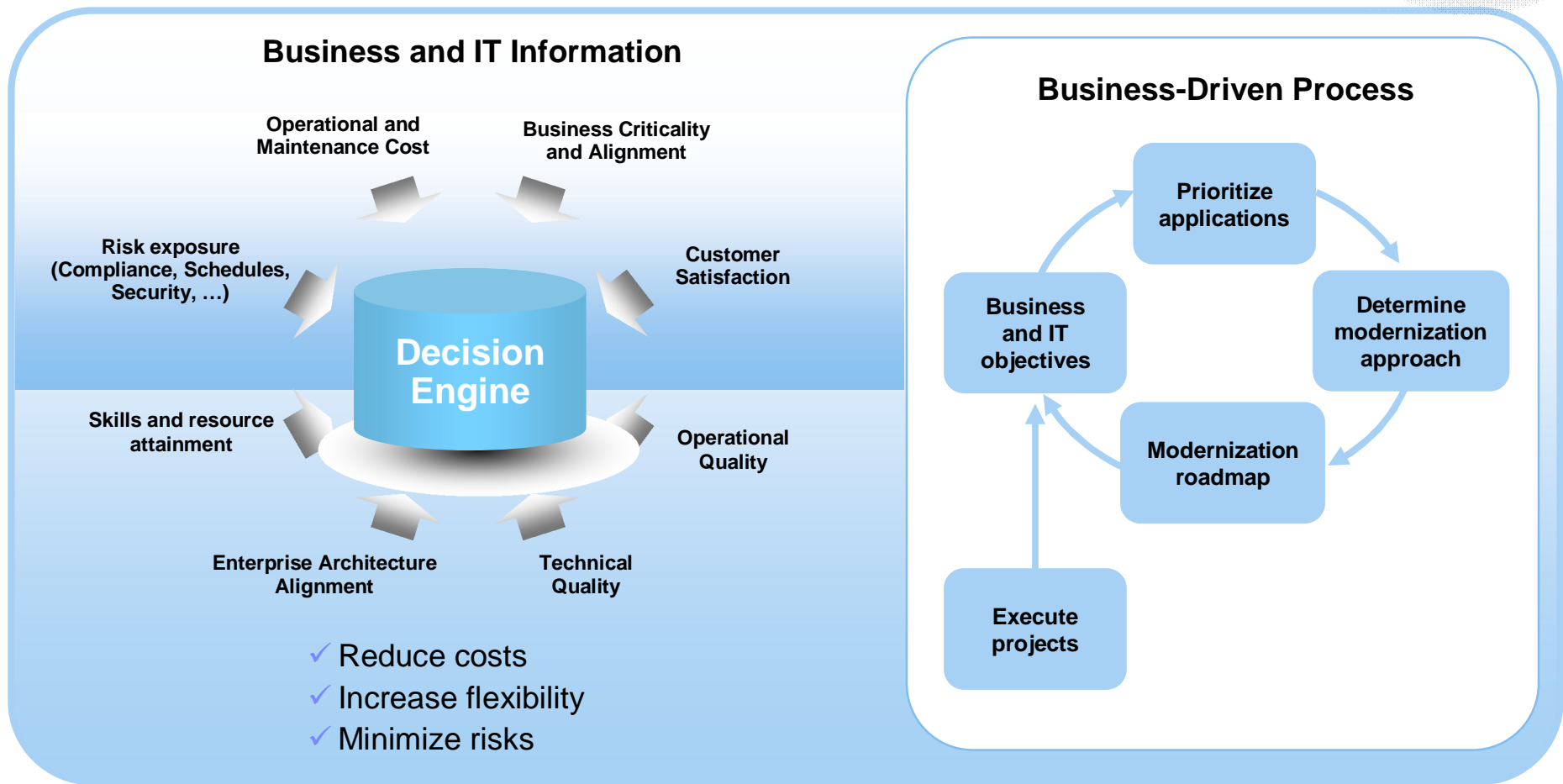
But...

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%.”

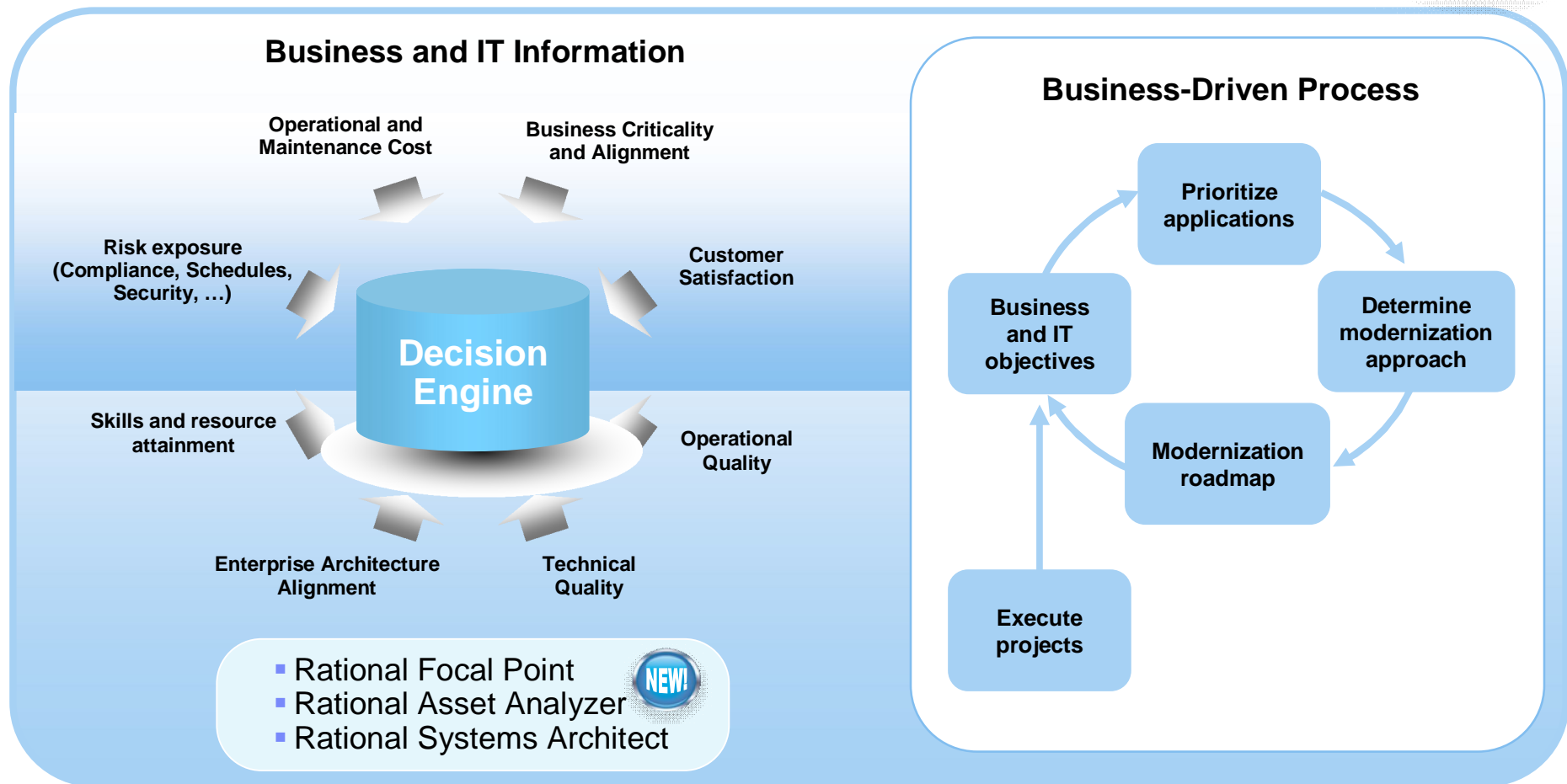
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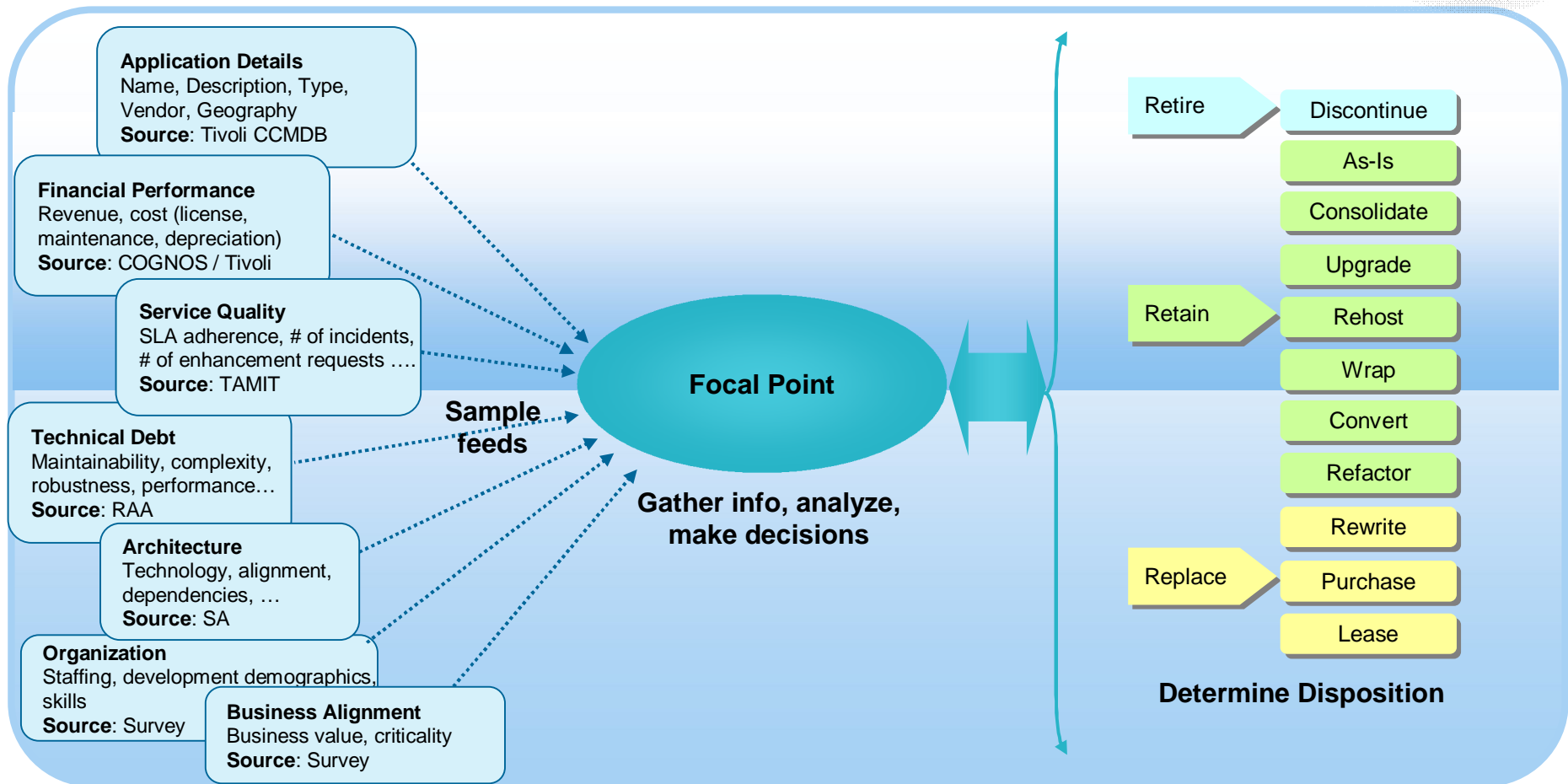
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A well-defined process with information feeds

Effectively translating business needs to executable roadmaps



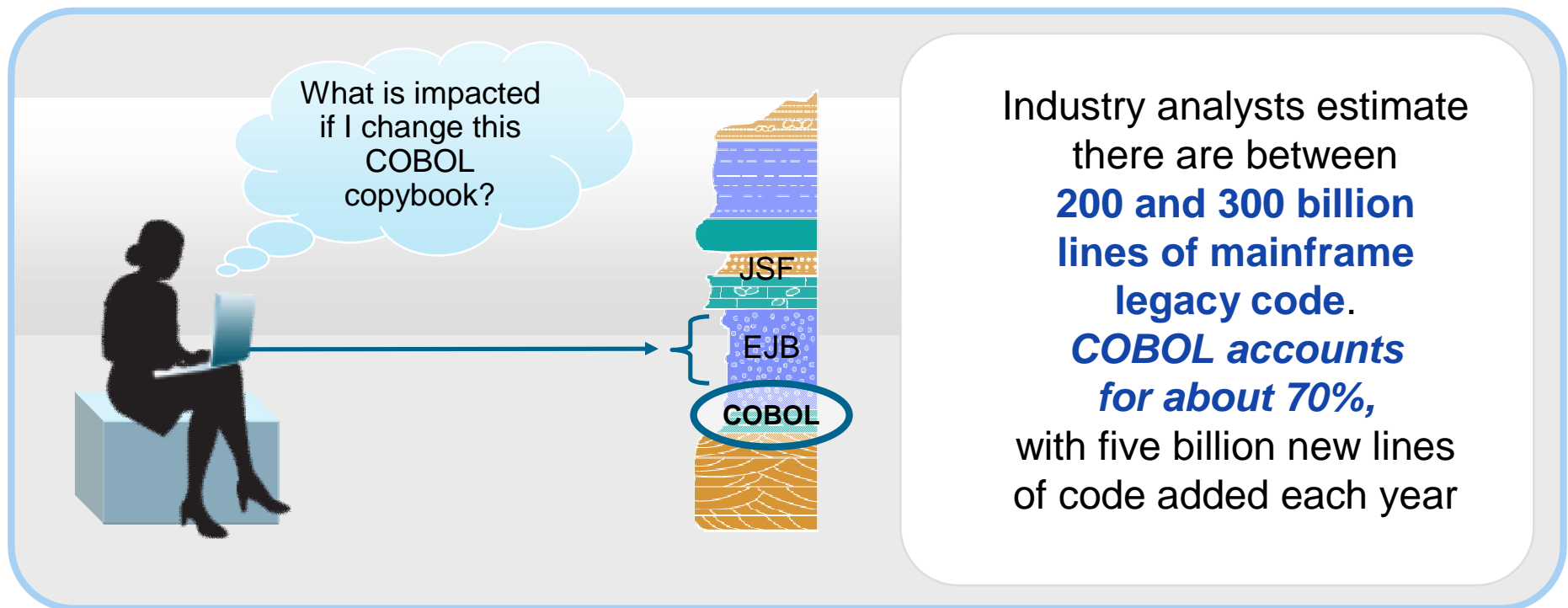
"Making IT resource consumption transparent and understandable to business leaders enables healthy business discussions around how to shift resources to where they will do the most good for the whole business."

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



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



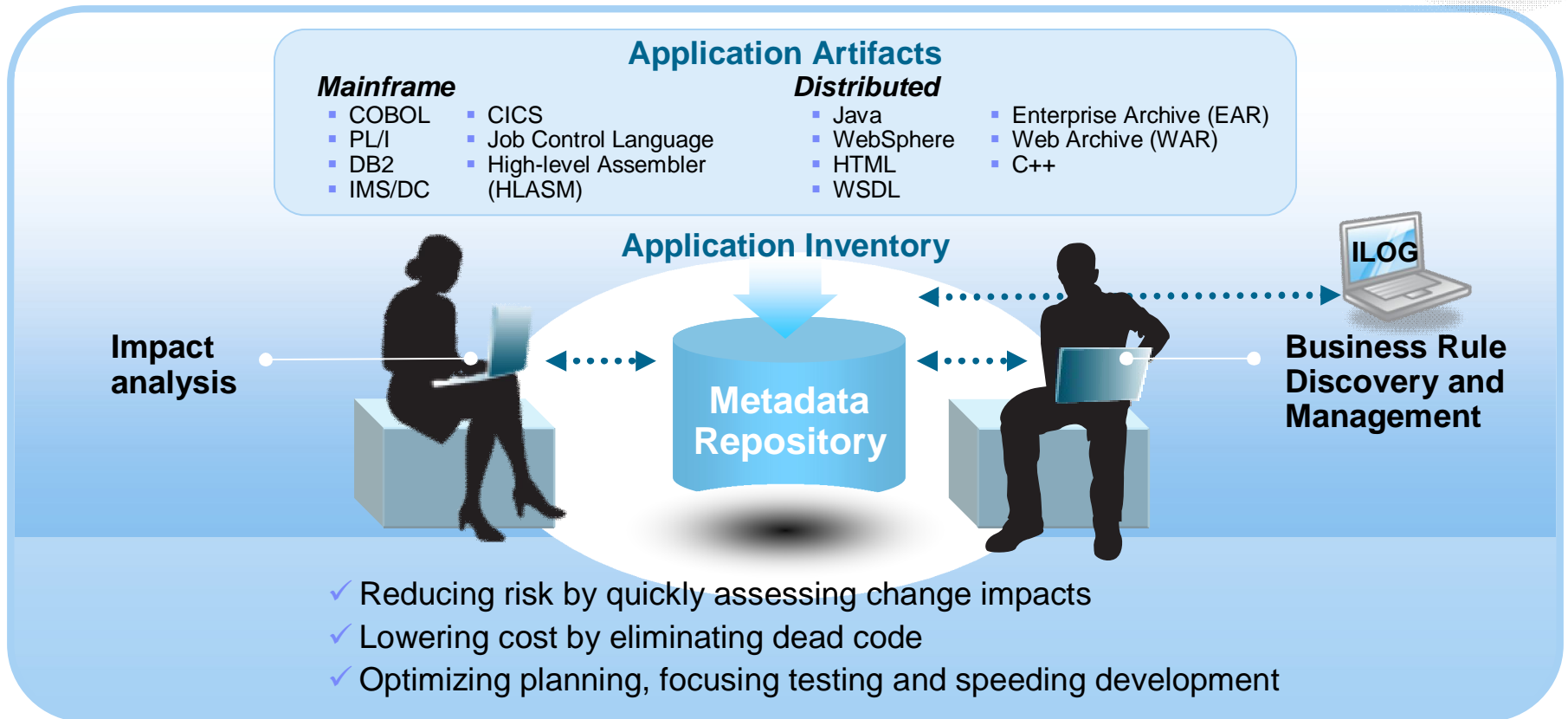
But...

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.”

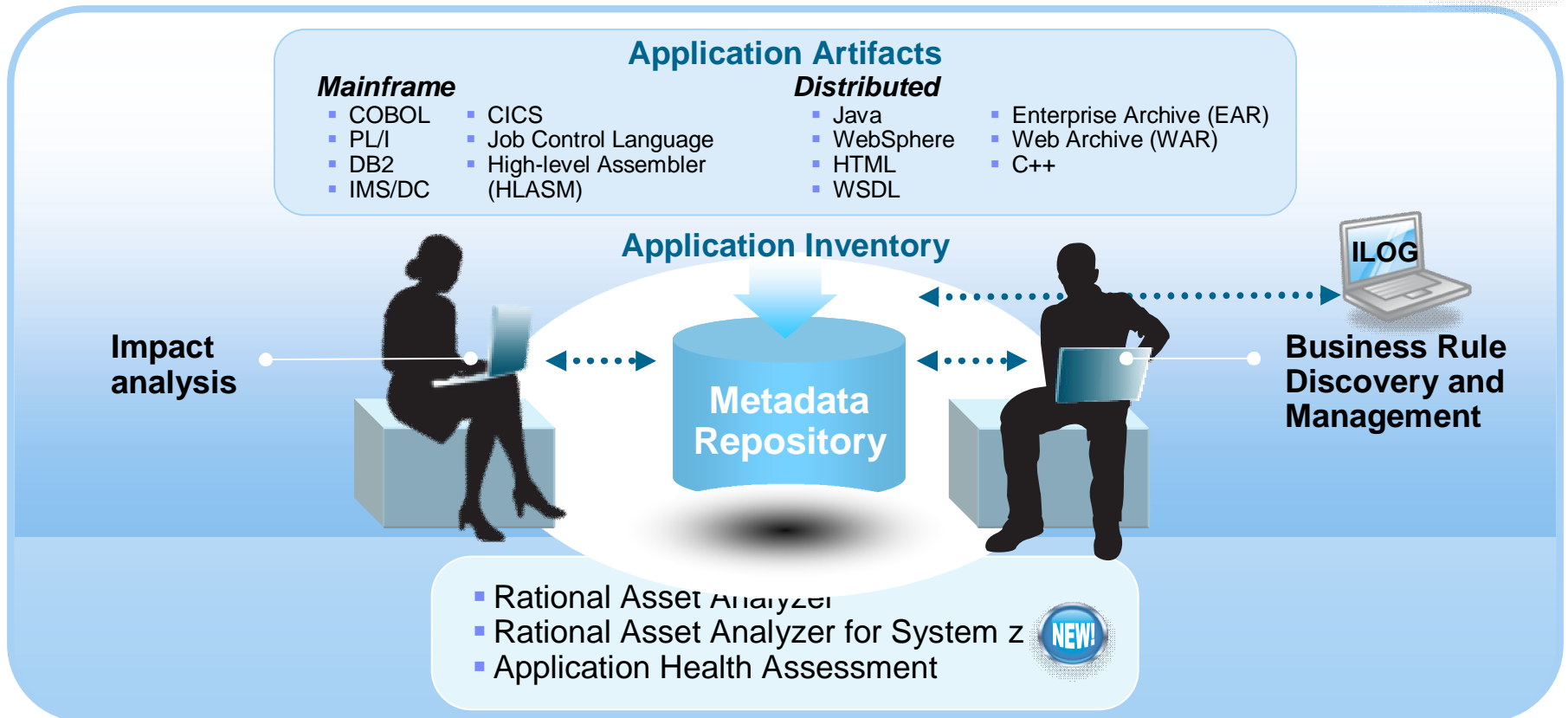
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Mining business rules from within existing software assets

Speed maintenance and improve quality



→ Improving maintenance quality

IDENTIFICATION
Rational Asset Analyzer

- What decisions
- Using which rules
- Where in the source

VALIDATION & MANAGEMENT
WebSphere® ILOG® BRMS

- Align rules with business goals
- Manage business rules life cycle
- Test and validate rules

→ Increasing business agility

→ Speeding up maintenance

REMEDIATION
Rational Developer for System z®

- Adjust the source to match the rule
- Extract the rule to a callable element
- Extract the rule to a rule server

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*

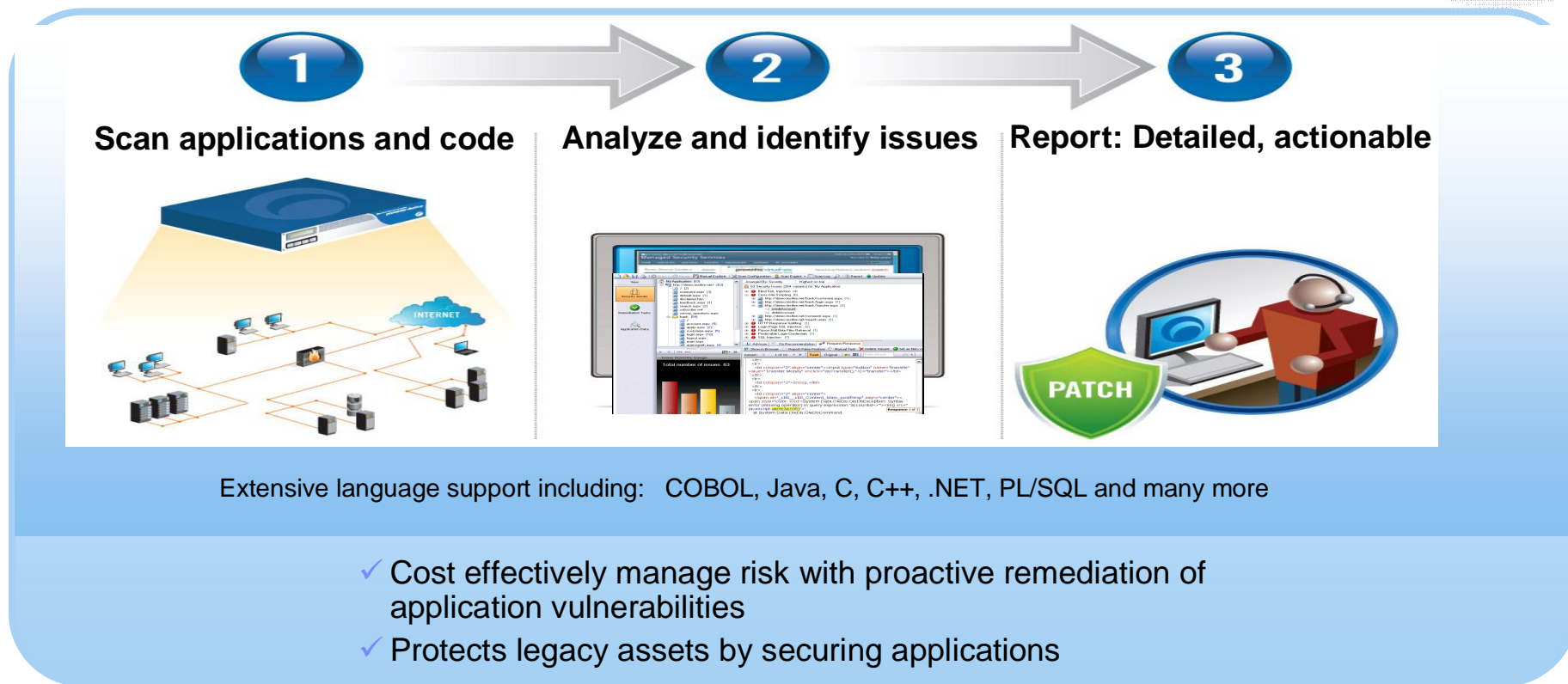


But...

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

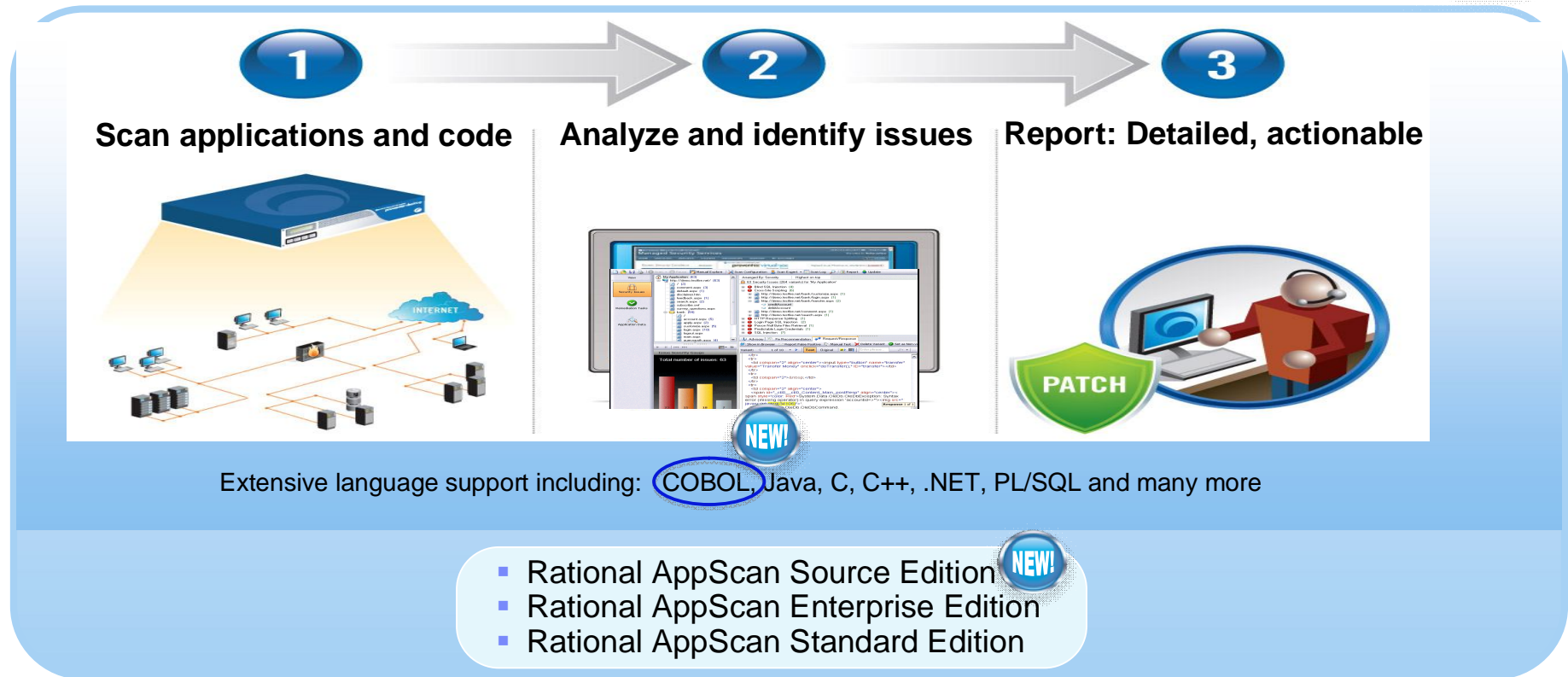


“The real key is that we have the education in place and now implement security early in the application development lifecycle, so we have less overall vulnerabilities to manage.”
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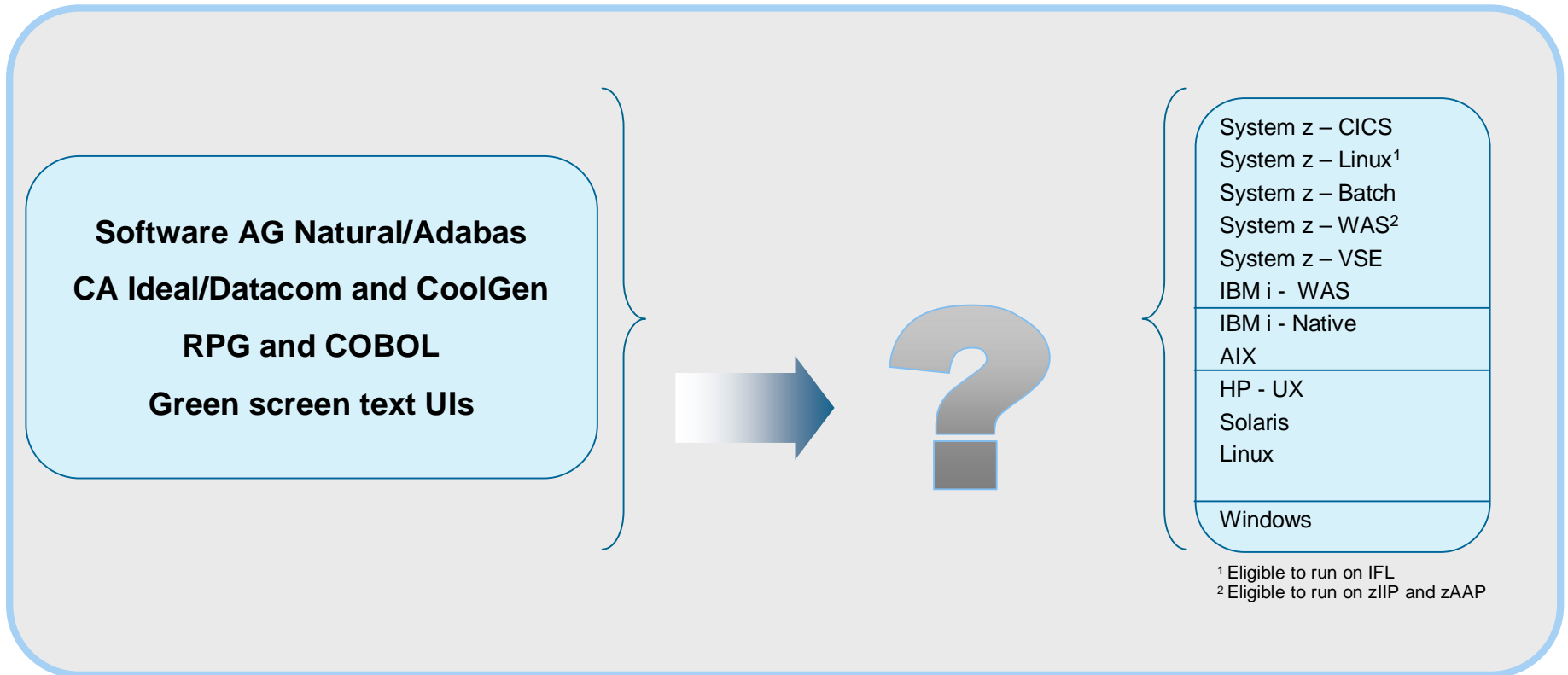
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Enterprises want to...

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



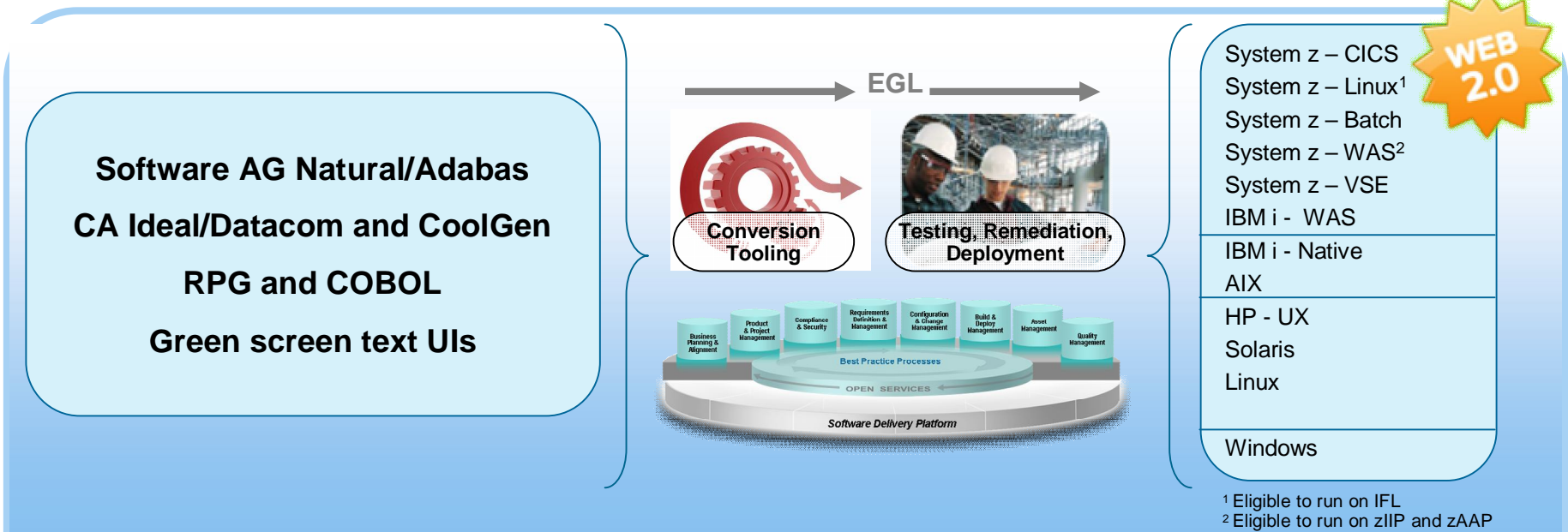
But...

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!

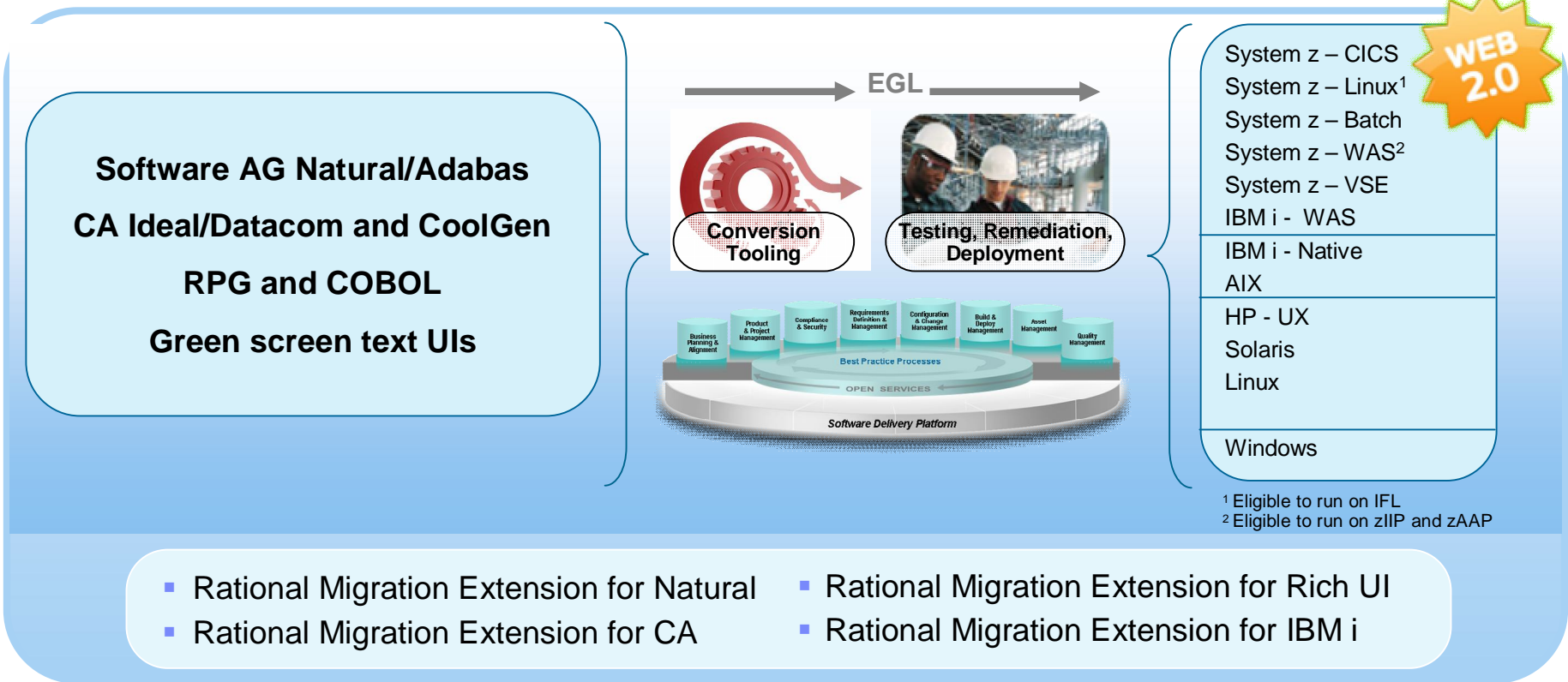
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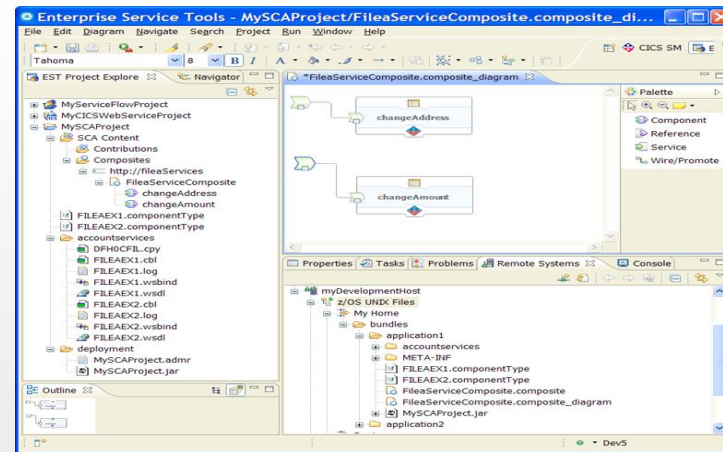
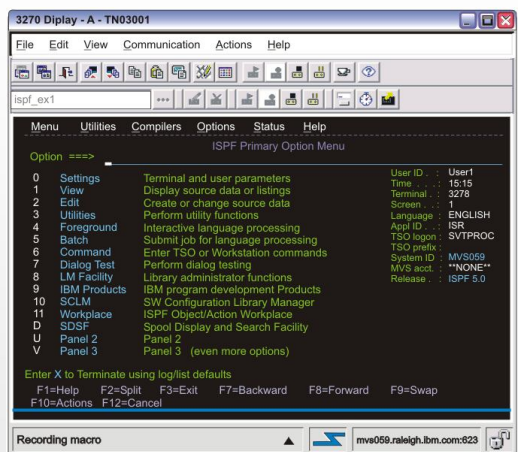


Boost productivity and accelerate innovation with modern skills



Enterprises want to...

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

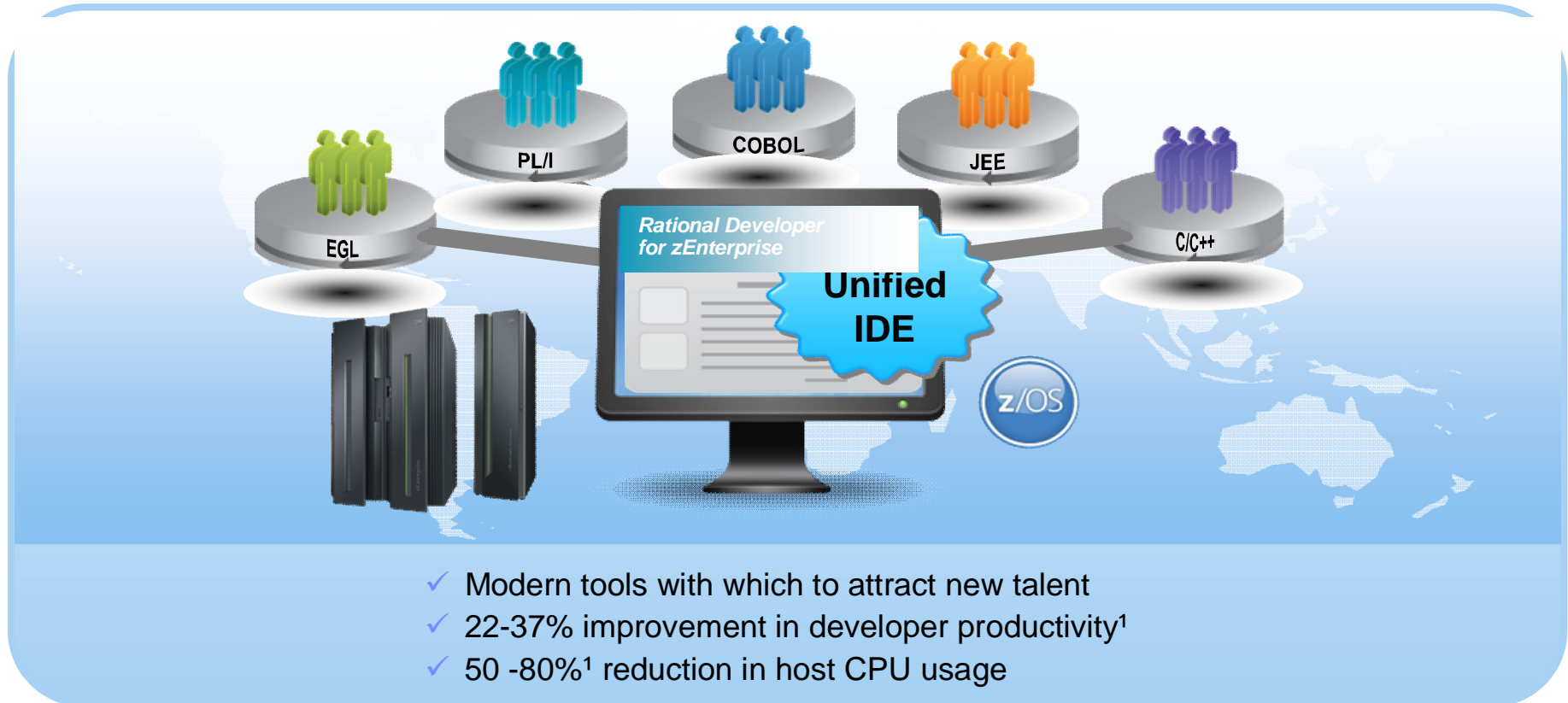


But...

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

Solution: Comprehensive, multi-platform 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



Rational Programming Patterns for System z v8.0.1

Preserve and extend your VA Pacbase investments

NEW!

Recently Announced

- ✓ Experience the Power of programming patterns
- ✓ Low cost migration from VisualAge Pacbase v3.5
- ✓ Leverage traditional and new programming skills
- ✓ Comprehensive integrated development platform

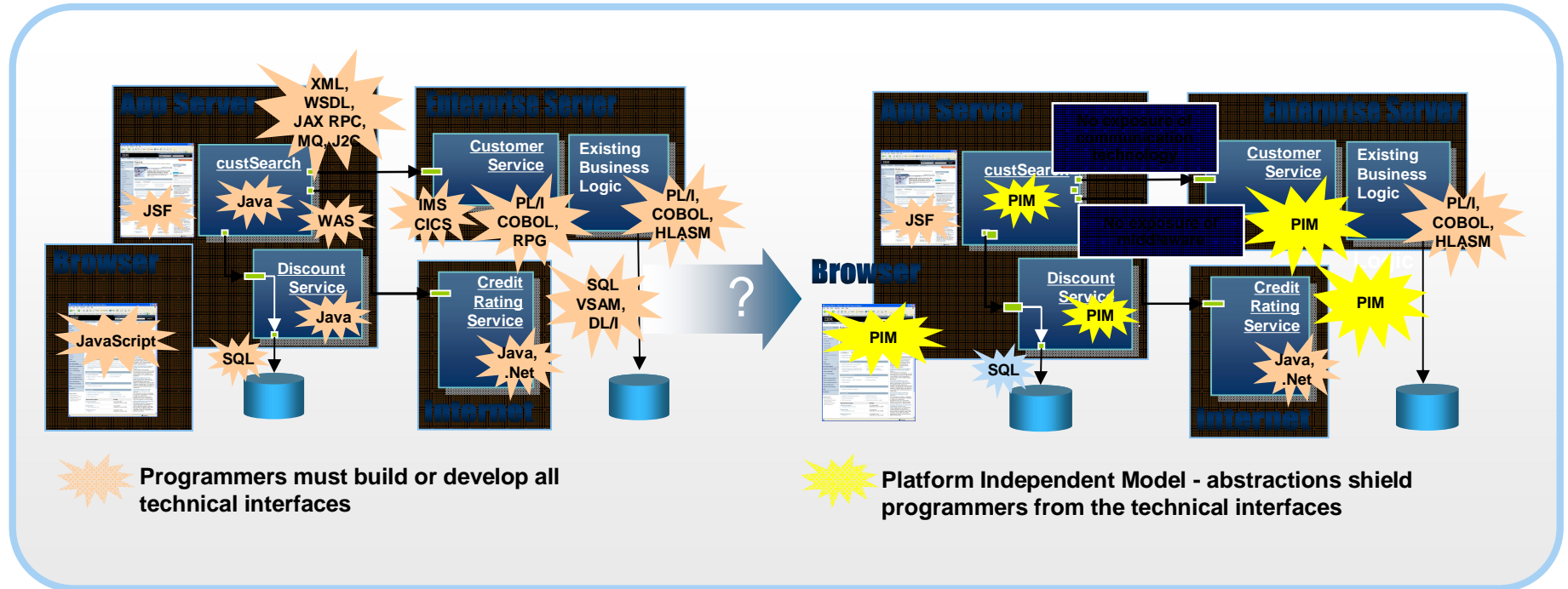


Delivering...

- New integrated development environment for Pacbase models and programs
- Fully integrated with Rational Developer for System z and Rational Team Concert
- Ultimate platform flexibility

Enterprises want to...

Build modern, multi-platform applications with existing and new staff



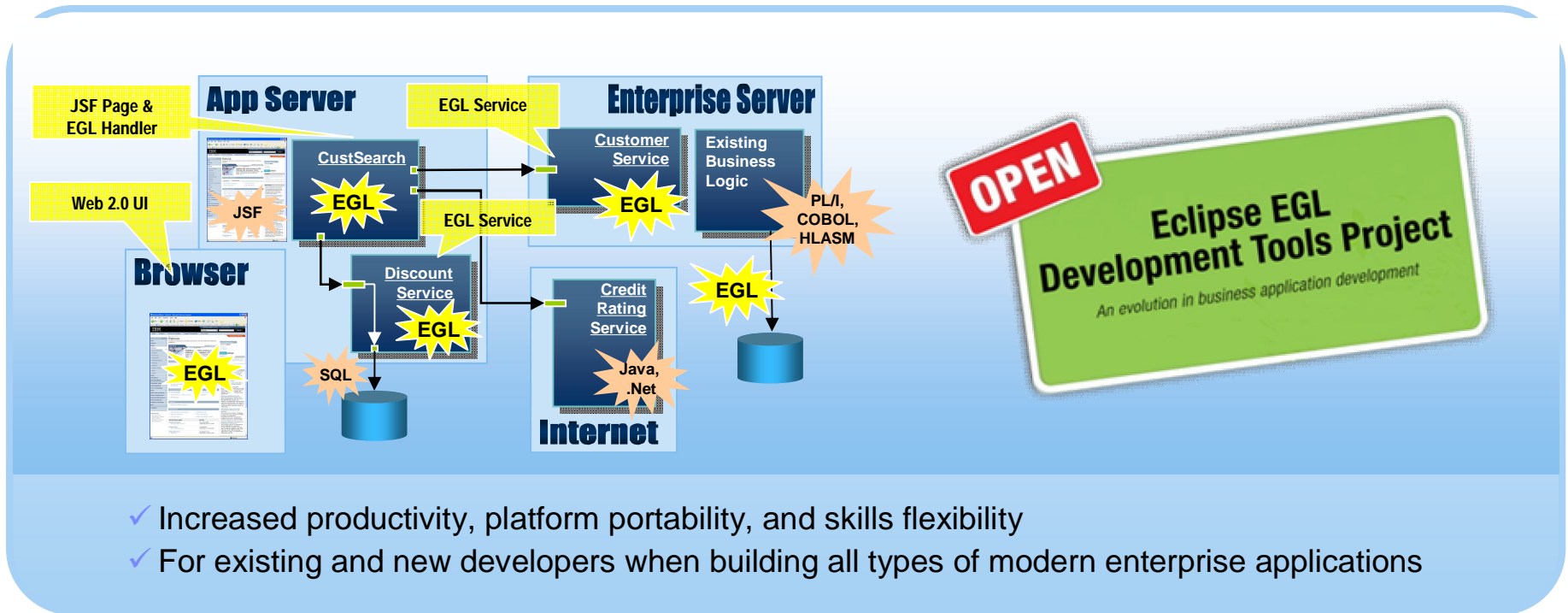
But...

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 multi-platform enterprise applications in EGL with its middleware abstractions, high productivity language, modern IDE, and extensible architecture



“... 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...”

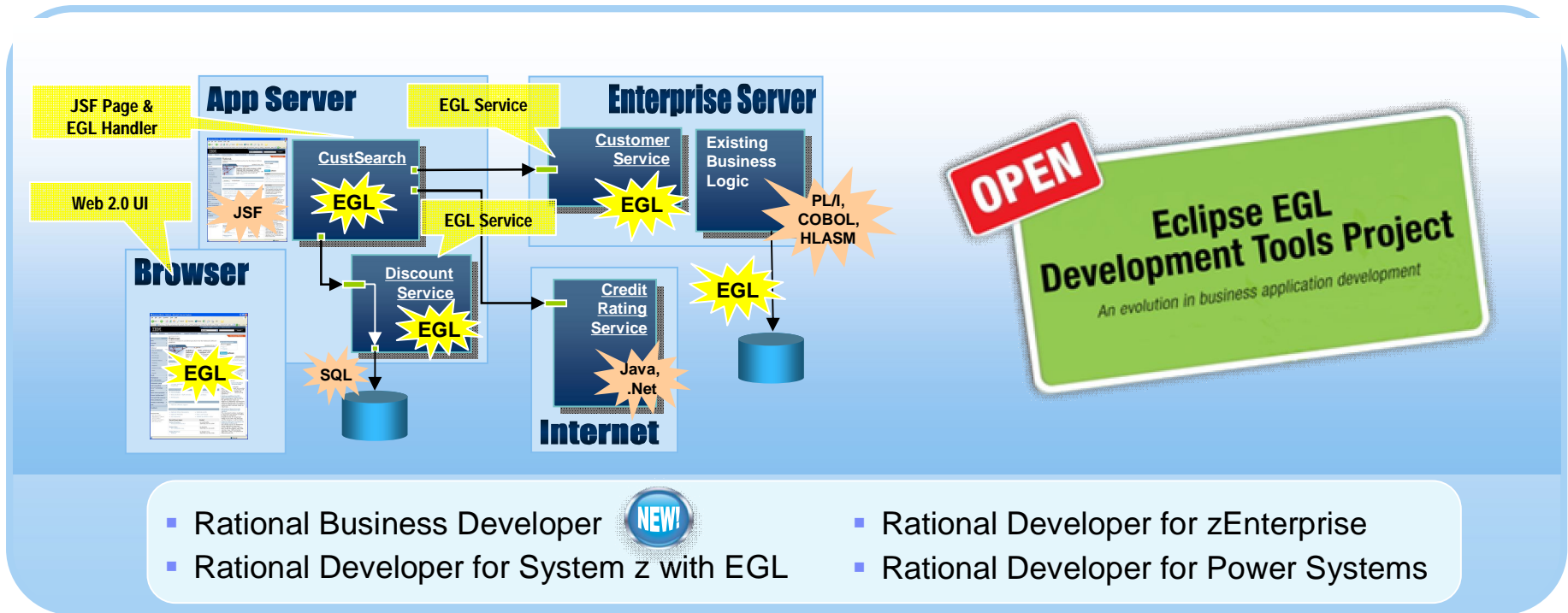
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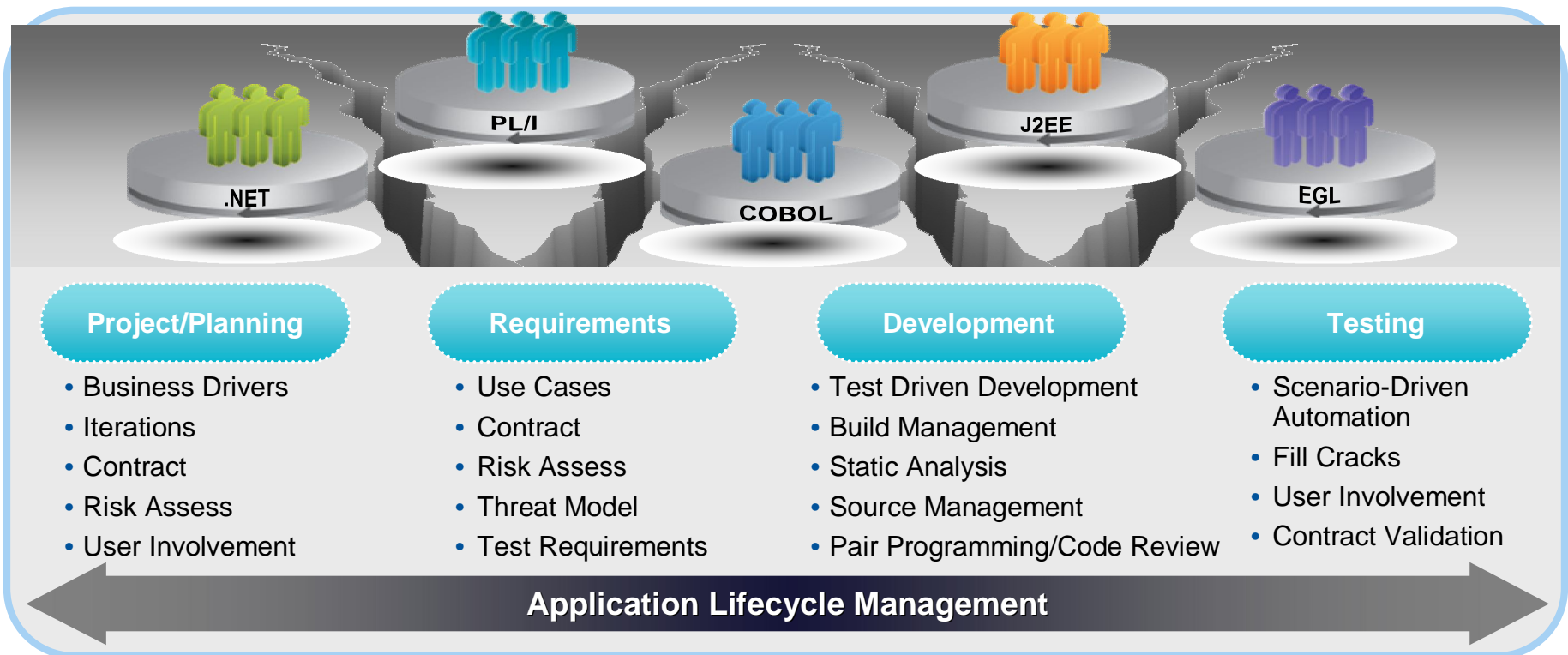
Maximize organizational agility by unifying development teams





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



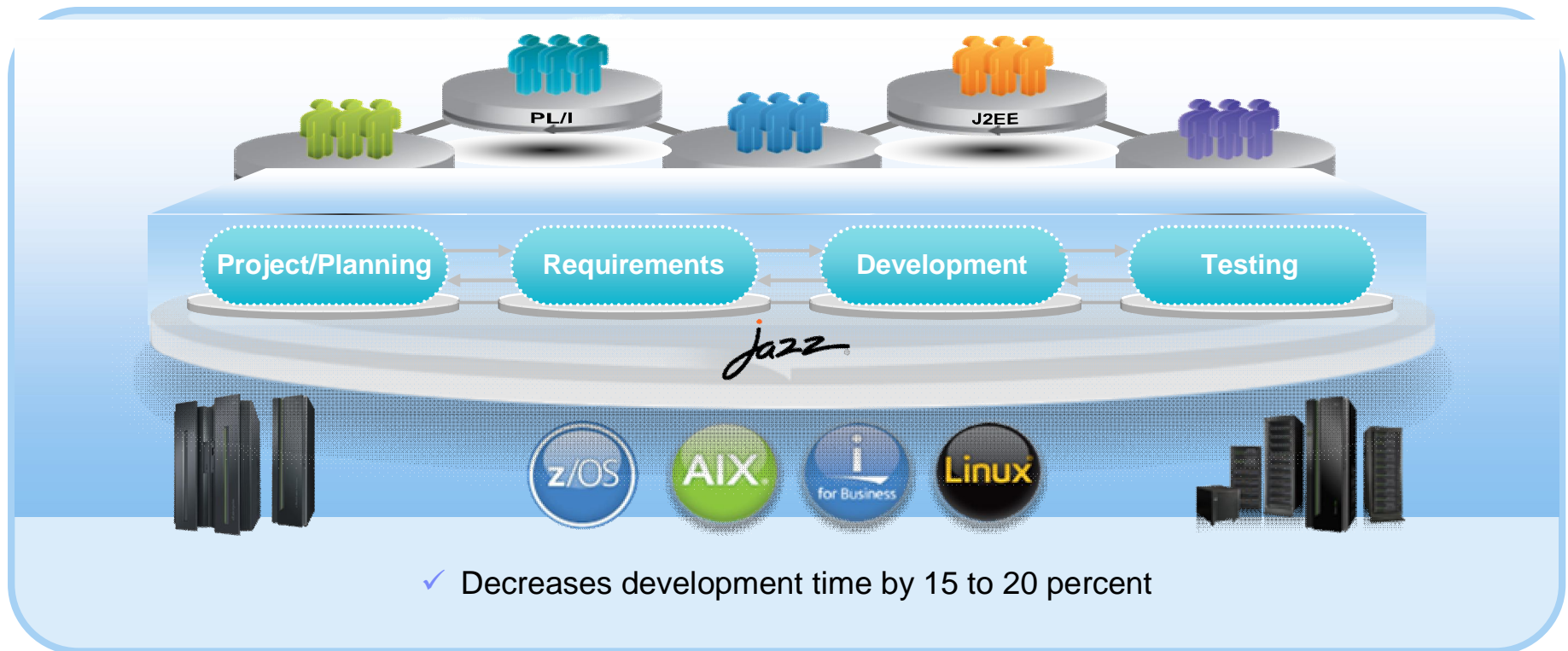
But...

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



“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.”

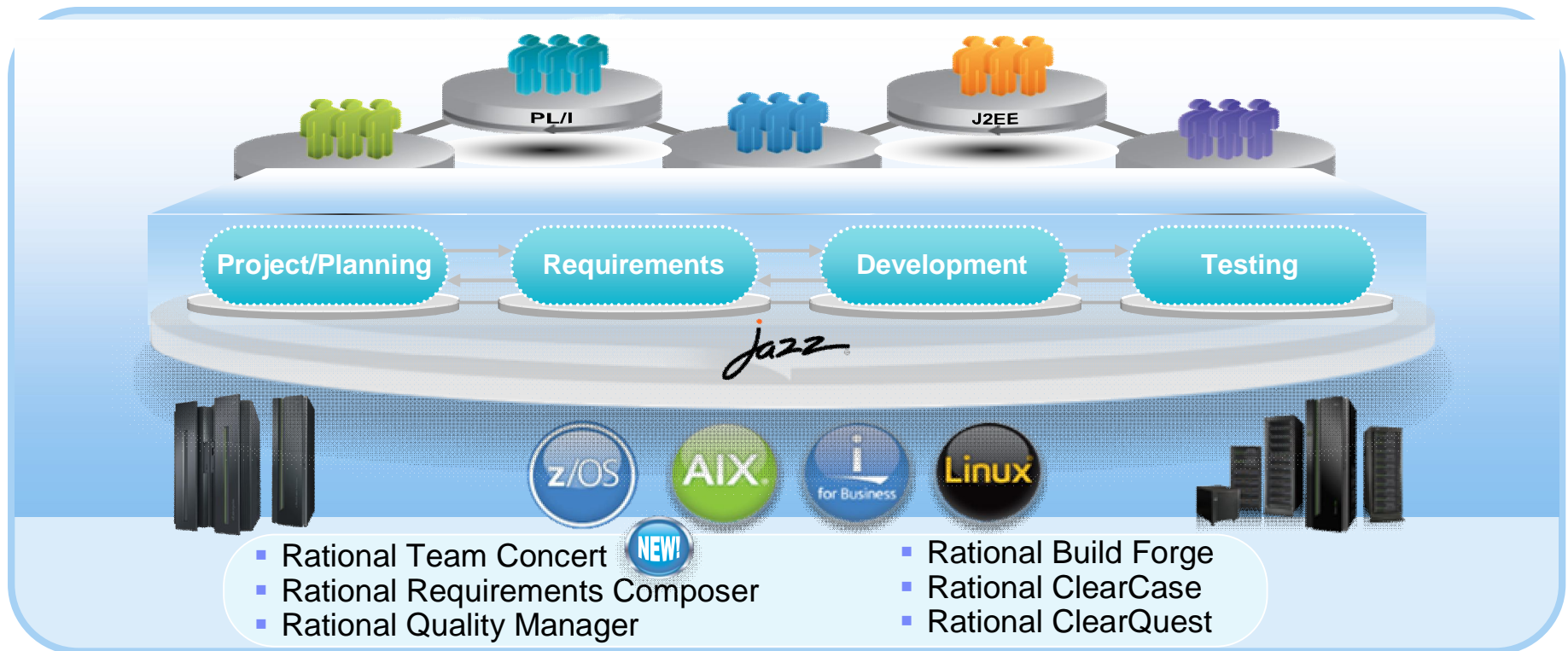
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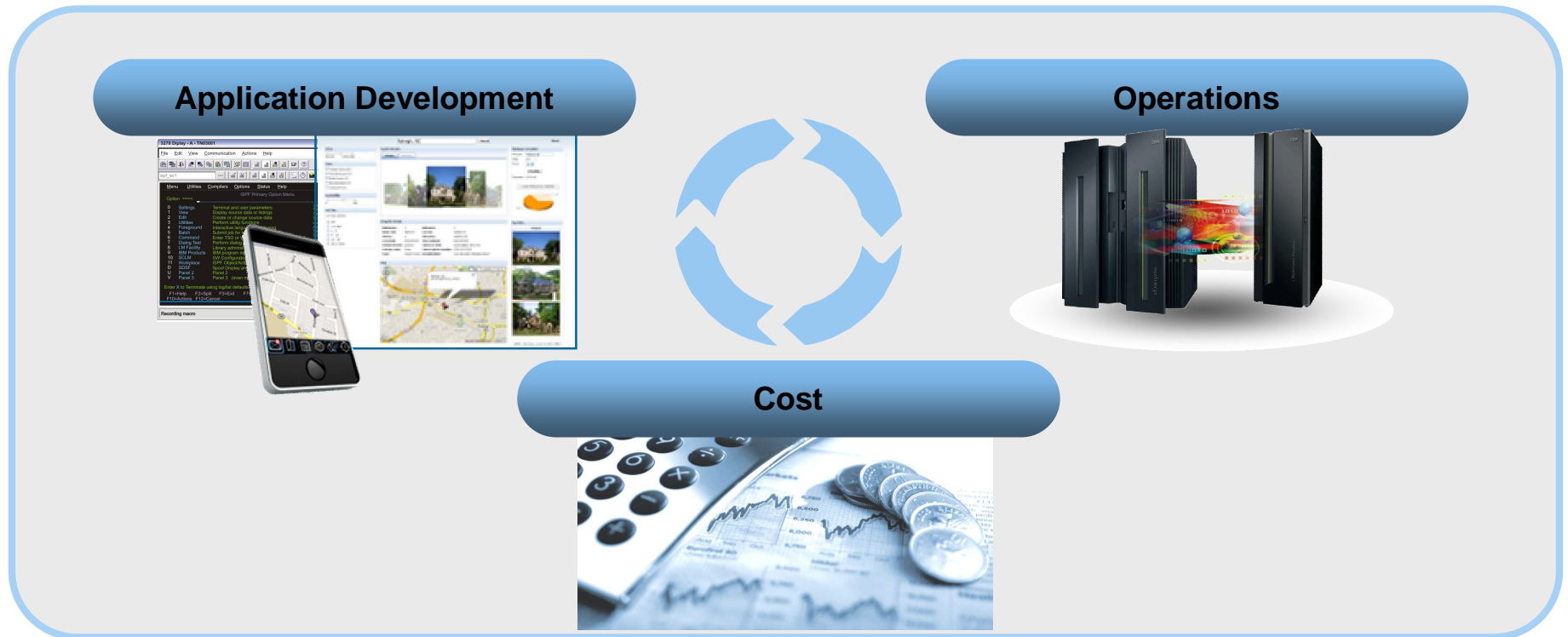
Improve application performance by fully exploiting latest hardware





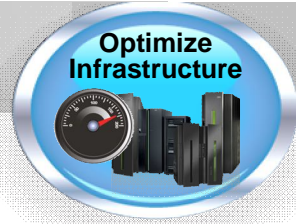
Enterprises want to...

Reduce application development MIPs usage and increase development autonomy

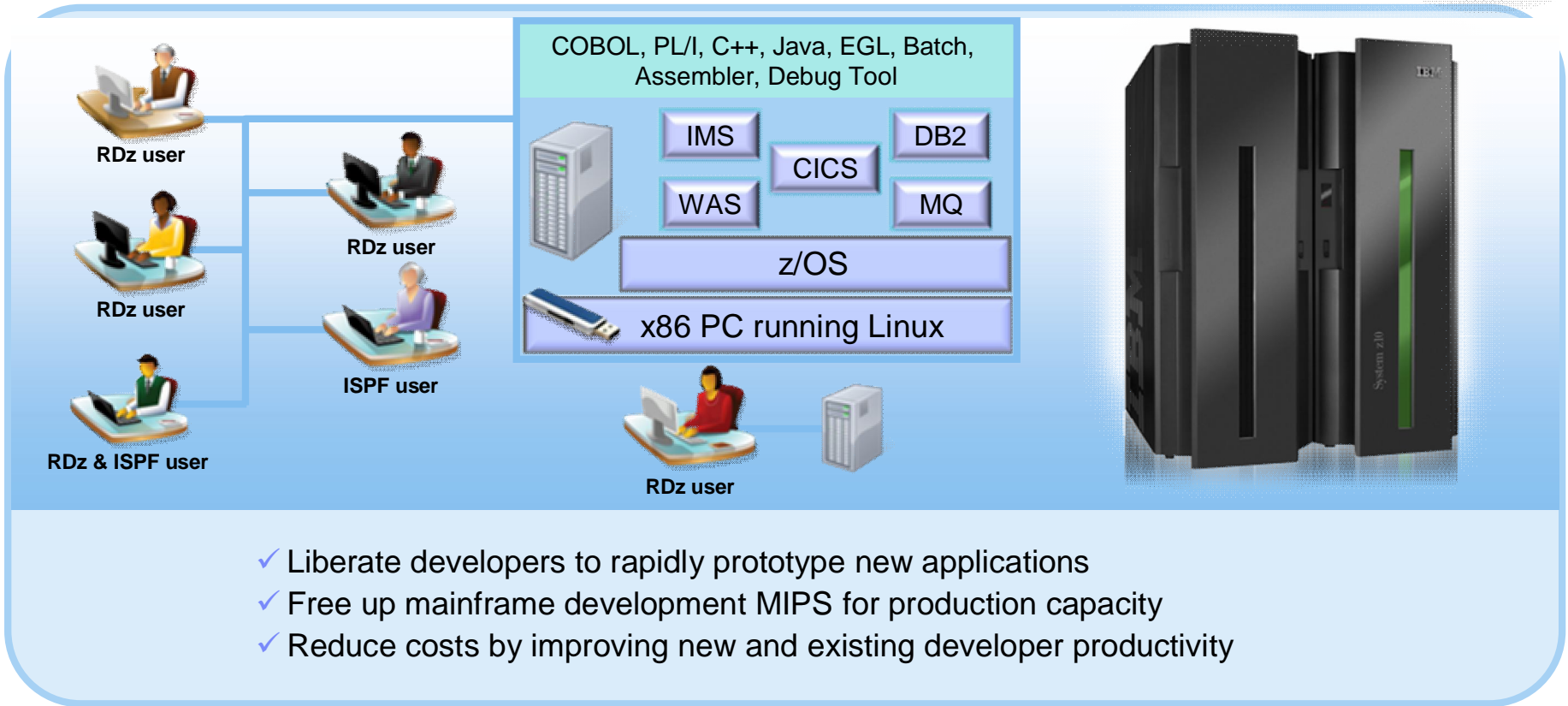


But...

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



Solution: Test mainframe applications on x86 Linux server

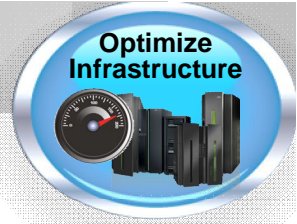


“RDz Unit Test gives our developers the ability to have their own z/OS environment to prototype, compile, debug and test while our customers make the necessary changes to their test, QA and production environments... This shortens our time to delivery, shortens our project cycles, makes our customers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

At the price...it's a no brainer.”


— Eric Simone, CEO, ClearBlade





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- Rational Developer for System z Unit Test Feature 

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Enterprise Modernization offers a low risk, high return approach

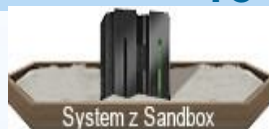


Getting started

Next steps to modernize your enterprise applications



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