



The future runs on System z

Enterprise Modernization

*Optimizing your applications, people,
team and infrastructure investments*

Karen Hunt

Director,

Enterprise Modernization & Compilers

Rational Software



Businesses are challenged to deliver innovation

80%



64%

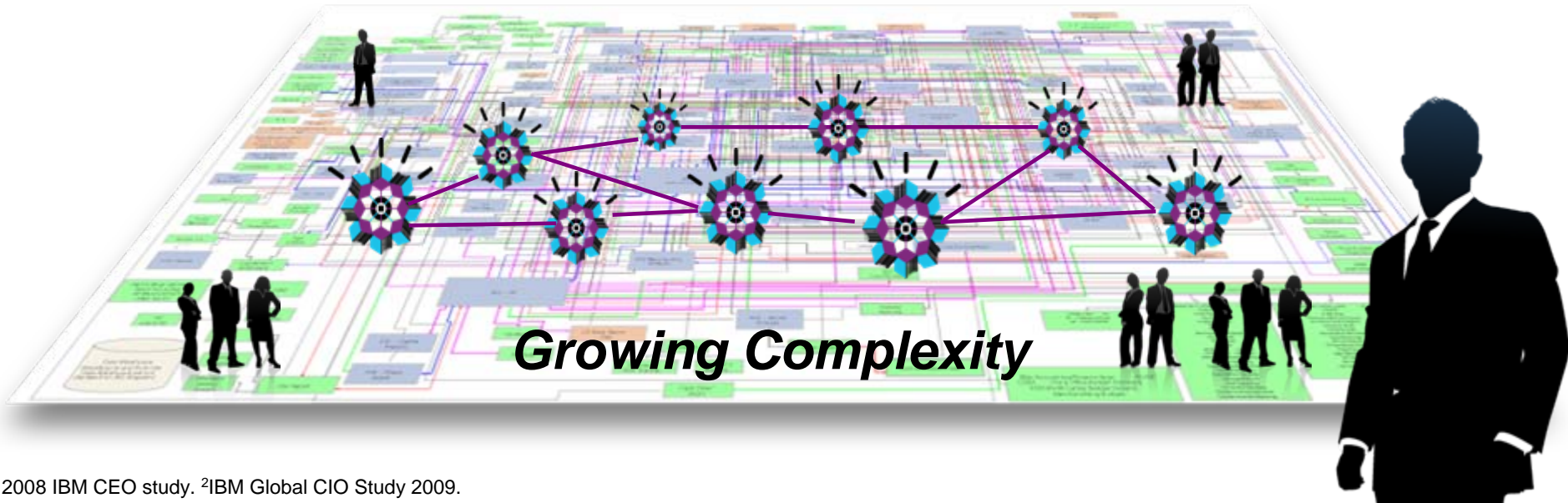


3x

CEOs anticipate turbulent change and bold moves.¹

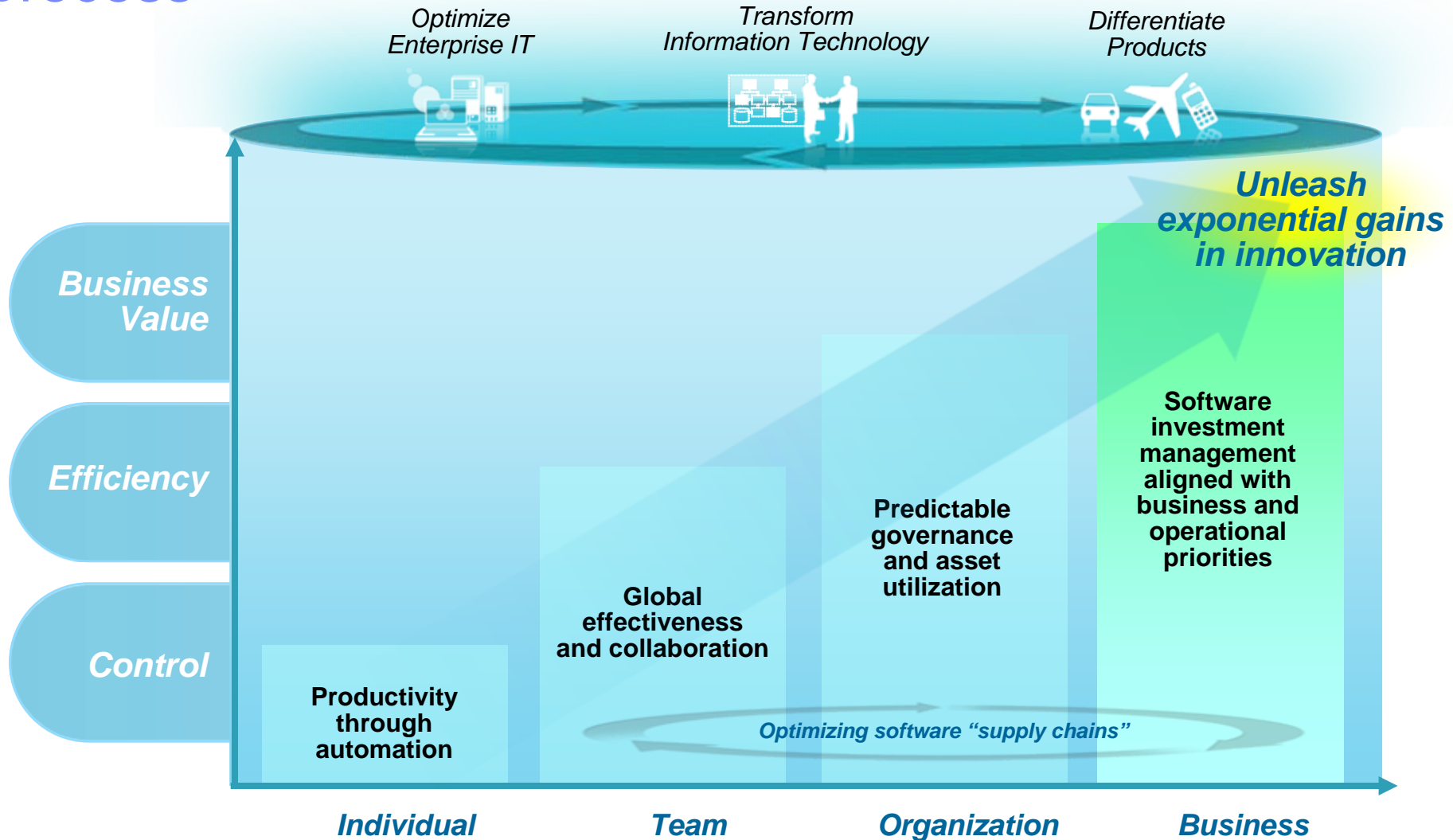
of CIOs work with senior business executives to drive innovation.²

increase in the gap between leaders' need and their ability to deliver it.¹



¹2008 IBM CEO study. ²IBM Global CIO Study 2009.

Treat software development as a strategic business process



Challenges to achieving greater value from your IT investments

Applications



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



People



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



Teams



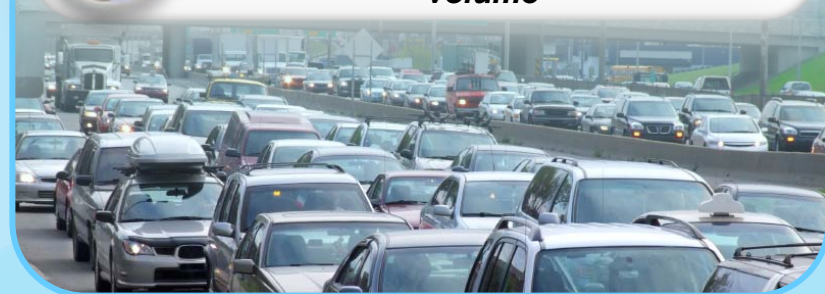
"Our teams on different platforms are struggling to communicate. How do we collaborate in the context of our work?"



Infrastructure

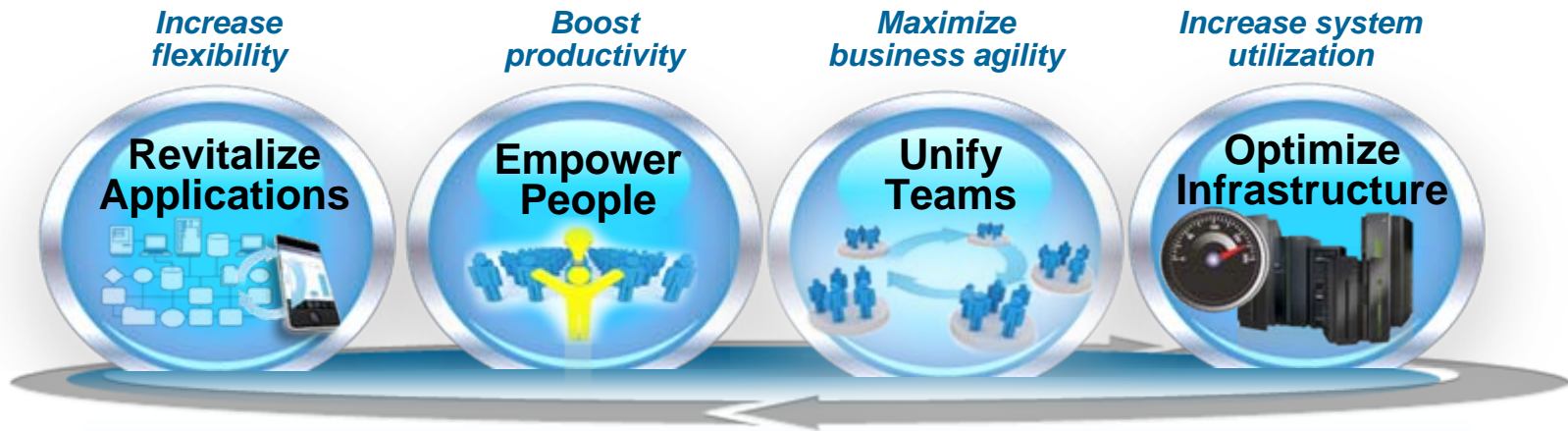


"We are looking for a cost effective way to improve our infrastructure efficiency and free up capacity to handle more volume"



IBM Rational Enterprise modernization solutions can help

Optimize your applications, people, team and infrastructure investments



- **Increase flexibility** by revitalizing existing application portfolios
- **Boost productivity** and accelerate innovation with modern skills
- **Maximize business agility** by bridging organizational silos
- **Increase system utilization** by optimizing application infrastructure

Rational Software Delivery Platform *powered by jazz*

Increase flexibility by revitalizing existing application portfolios

Increase flexibility



Boost productivity



Maximize business agility



Increase system utilization



Business intelligence for applications

Enterprise architecture and portfolio management

SOA tools for all platforms and languages

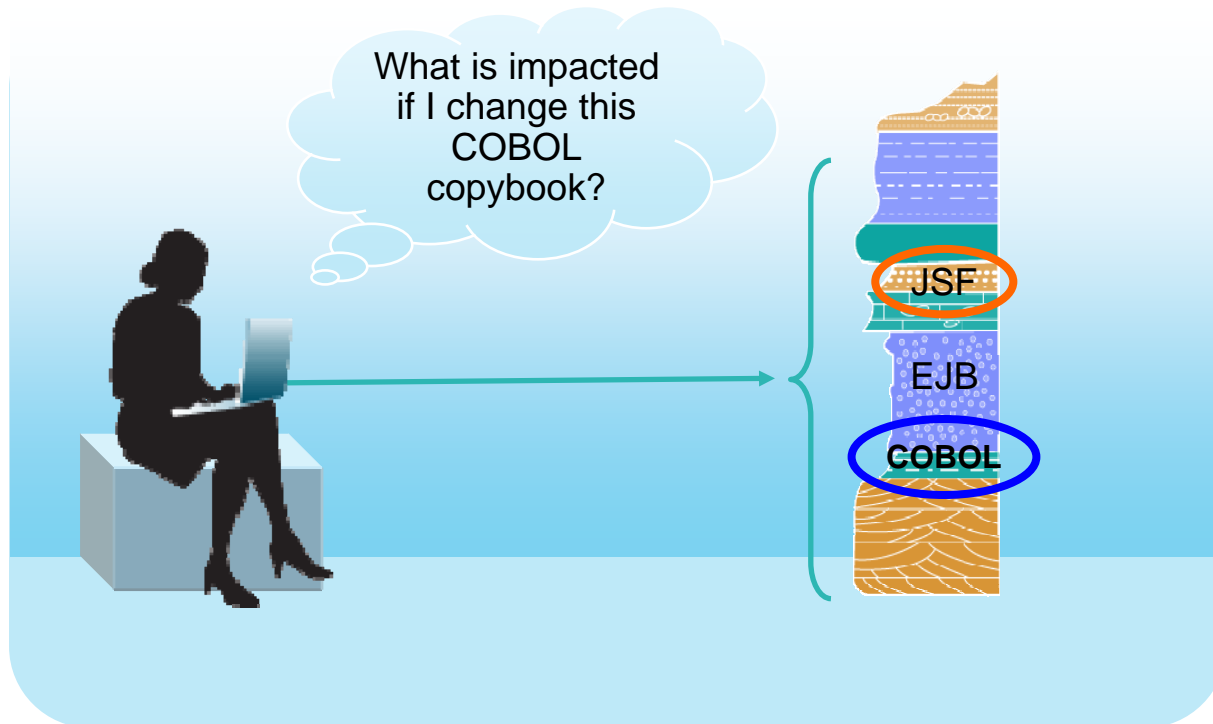
Operational reuse

User interface modernization

Rational Software Delivery Platform *powered by* **Jazz**

Enterprises want to...

Understand the impact and cost of change to their IT systems



But...

They have no business intelligence inventory of their application assets, relying instead on manual and error-prone processes and incomplete knowledge. They must compensate with more extensive planning and extra testing.

Solution: Business intelligence for applications

Restore lost application knowledge via technical analysis



Application Artifacts

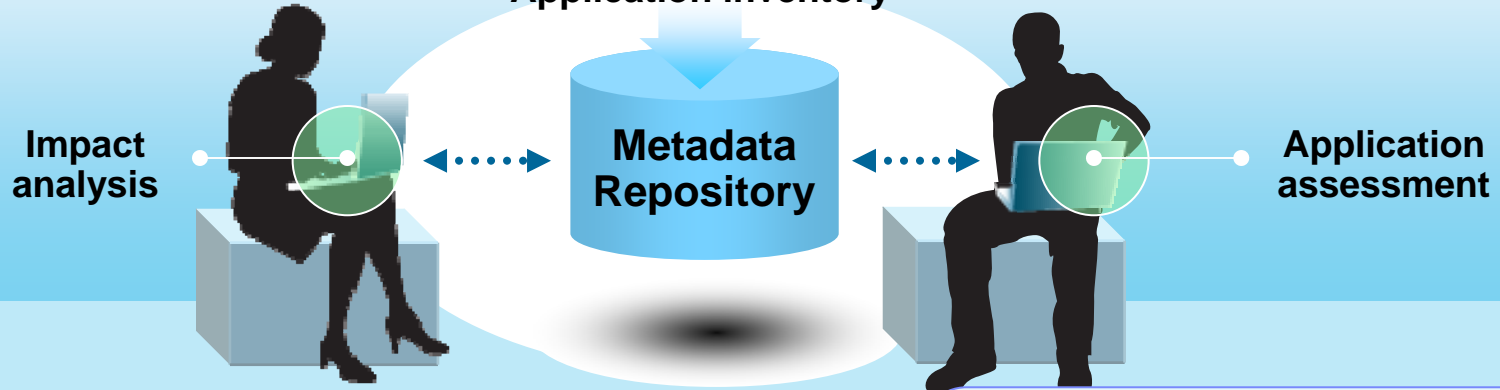
Mainframe

- COBOL
- PL/I
- DB2
- IMS/DC
- CICS
- Job Control Language
- High-level Assembler (HLASM)

Distributed

- Java
- WebSphere
- HTML
- WSDL
- Enterprise Archive (EAR)
- Web Archive (WAR)
- C++

Application inventory



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

Enterprises want to...

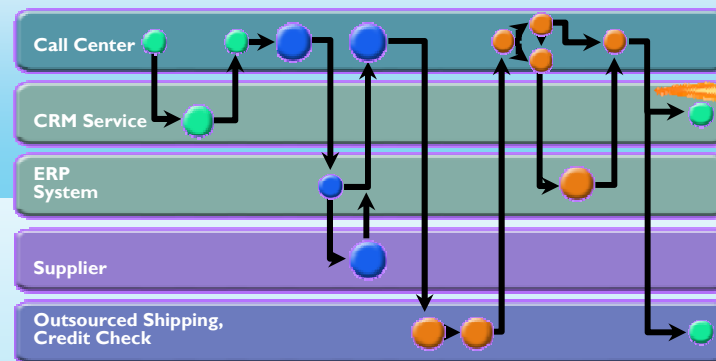
Have a nimble IT organization that leverages SOA to respond more quickly to the needs of the business



Customer Order & Fulfillment



Customer Order & Fulfillment



But...

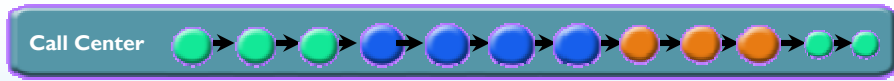
They have application architectures that were built incrementally over the last 20-30 years and are no longer flexible or agile.



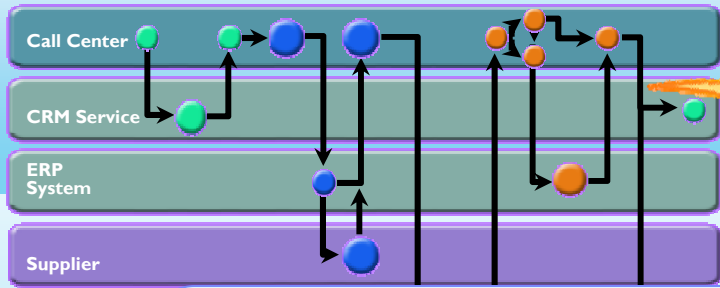
Solution: SOA tools for all platforms and languages

Use powerful tools to quickly begin SOA evolution by harvesting and repurposing proven assets

Customer Order & Fulfillment



Customer Order & Fulfillment



- Rational Application Developer*
- Rational Developer for System z*
- Rational Developer for Power Systems*
- Rational Business Developer*
- Host Access Transformation Services*



Delivering

5x lower costs and reduced risk through reuse of existing assets, higher productivity, and platform portability of new services

Enterprises want to...

Reuse existing assets to reduce duplication and speed time to market

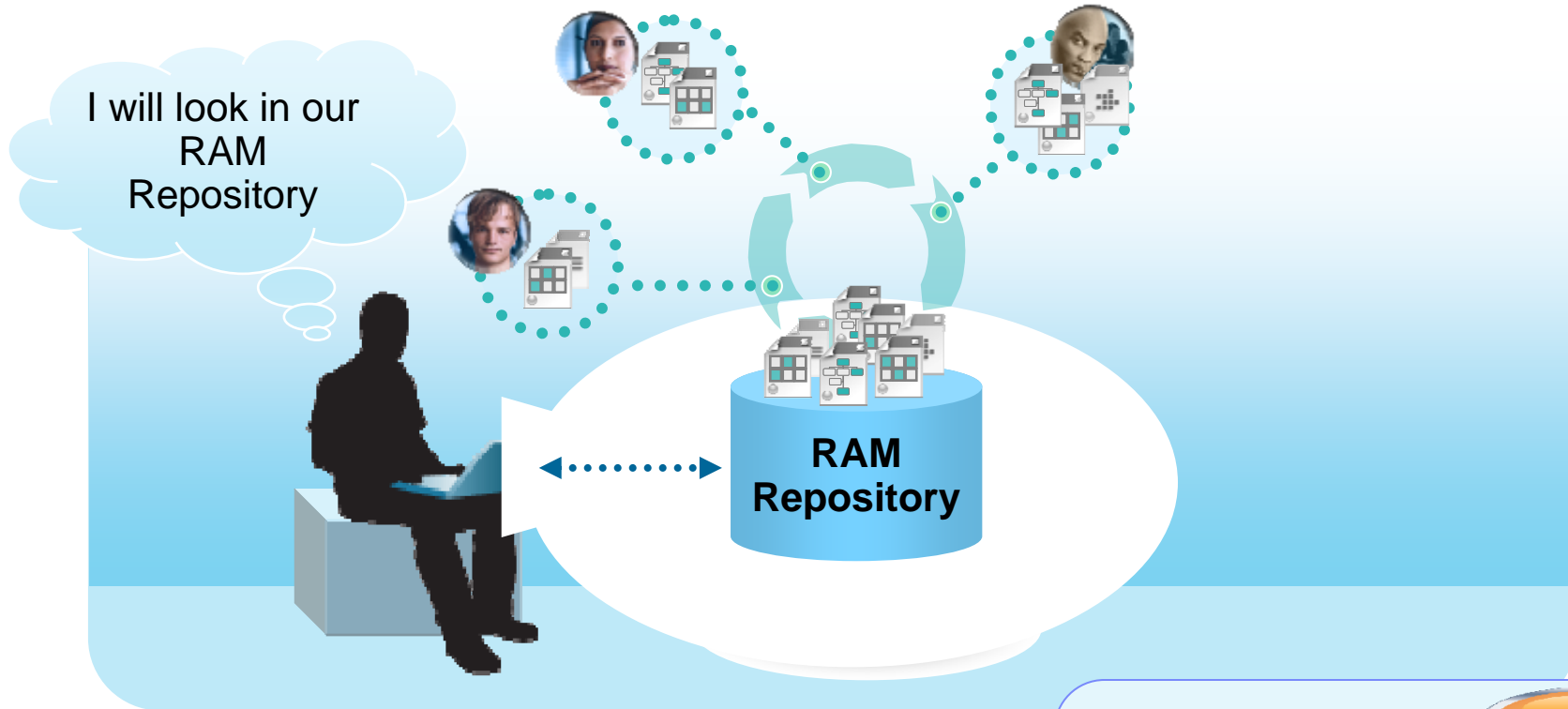


But...

They do not have the infrastructure to establish a reuse culture.

Solution: Operational reuse

Instill proactive asset management of all IT artifacts into the organization's processes and culture by deploying a reuse infrastructure



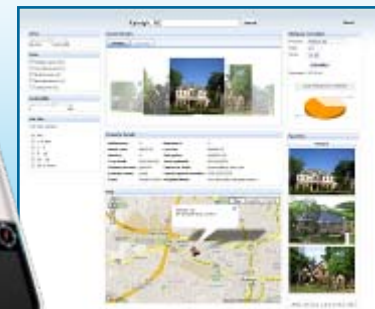
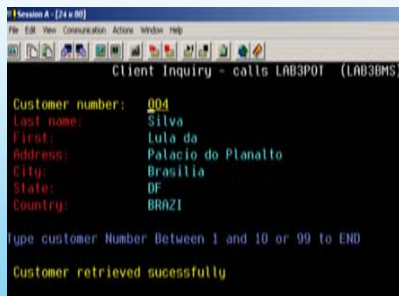
Rational Asset Manager **ENHANCED!**
WebSphere Service Registry and Repository

Delivering

Greater reuse, development efficiency, faster time-to-market, and higher quality

Enterprises want to...

Provide a range of appealing, more intuitive user interfaces to increase employee productivity and boost customer satisfaction



But...

The cost of replacing or re-writing these applications is prohibitive, and they may not have the necessary web and UI technology skills.

Solution: User interface modernization

Deploy the ideal UI for your application, from quickly creating a modern Web UI out of an existing green screen application to customizing a highly interactive, graphical Web 2.0 UI



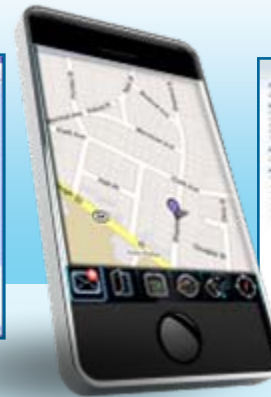
```

Session A - (24 x 80)
File Edit View Communication Actions Window Help
Client Inquiry - calls LAB3P01 (LAB3BMS)

Customer number: 004
Last Name: Silva
First: Lula da
Address: Palacio do Planalto
City: Brasilia
State: DF
Country: BRAZI

Type customer Number Between 1 and 10 or 99 to END

Customer retrieved sucessfully
  
```



*Rational EGL Community Edition
Host Access Transformation Services
Rational Developer for System z
Rational Developer for Power Systems
Rational Business Developer*

NEW!

Delivering

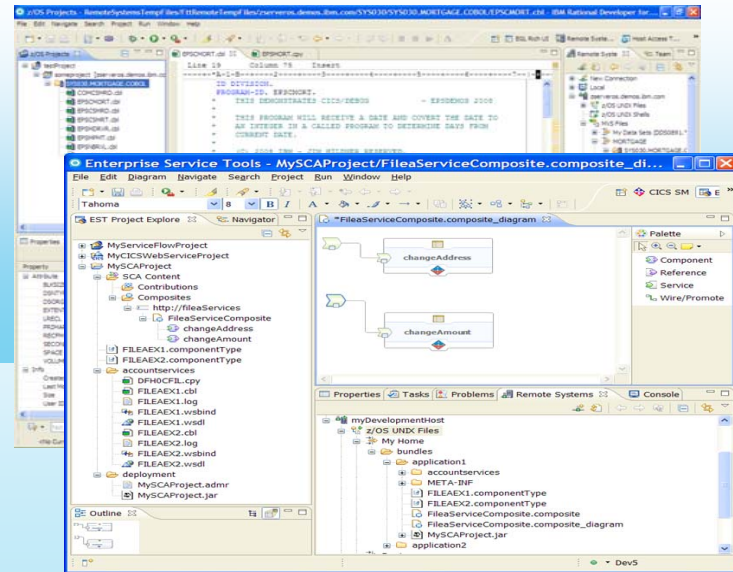
Greater customer satisfaction, lower employee training costs, and fewer errors from more modern and compelling UIs

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

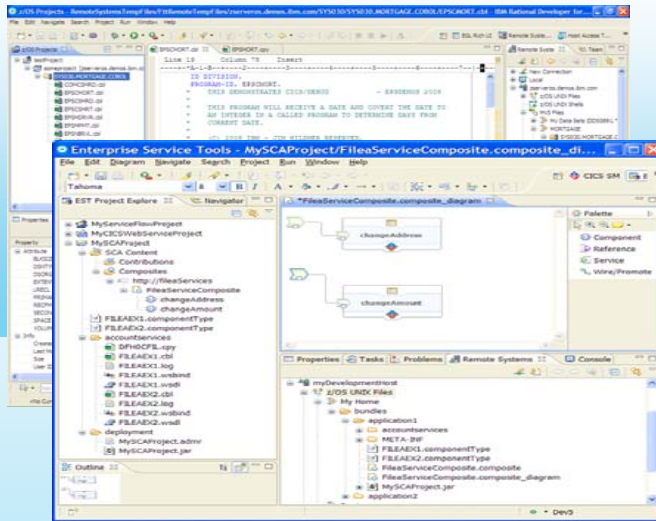


But...

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

Solution: Modern IDEs for all platforms and languages

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



*Rational Developer for System z
Rational Developer for Power Systems
Rational Application Developer
Rational Business Developer*

NEW!

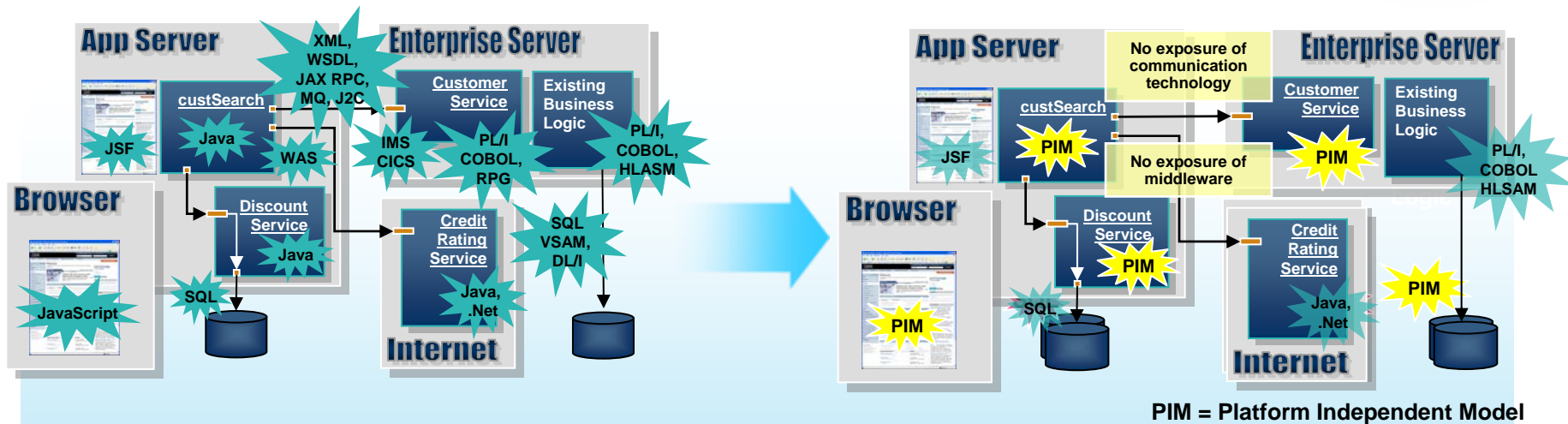
Delivering

*50%-80%¹ reduction in host CPU usage with workstation syntax checking,
~15% improvement in developer productivity¹, and tools with which to
attract new talent*

¹ Aggregation of results from a productivity study conducted by IBM System z customers

Enterprises want to...

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

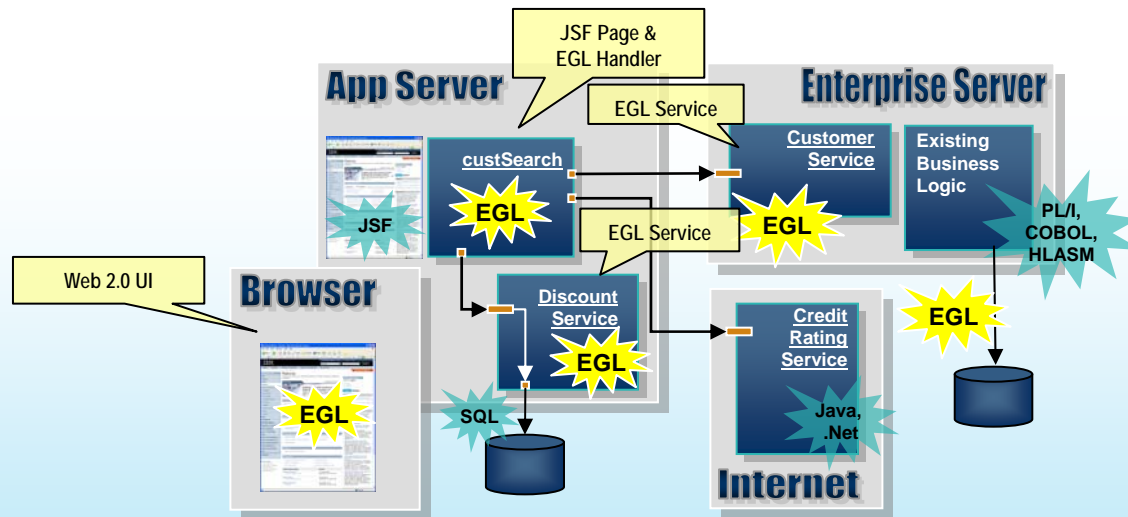


But...

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

Solution: EGL – next gen business language

Build new or extend existing multi-platform enterprise applications leveraging EGL with its middleware abstractions and high productivity language and development environment



*Rational Business Developer
Rational Developer for System z with EGL
Rational Developer for Power Systems*



Delivering

Skills flexibility, high productivity and platform portability for existing and new developers when building all types of modern enterprise applications

Enterprises want to...

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



COBOL
RPG
SYNON*

natural ADABAS

ca Ideal/Datacom
COOL: GEN
COOL: Enterprise
HPS/AppBuilder COBOL

Green Screens



- System z – CICS
- System z – IMS
- System z – Linux*
- System z – Batch
- System z – WAS*
- System z – VSE
- IBM i - WAS
- IBM i - Native
- AIX
- HP - UX
- Solaris
- Linux
- Windows

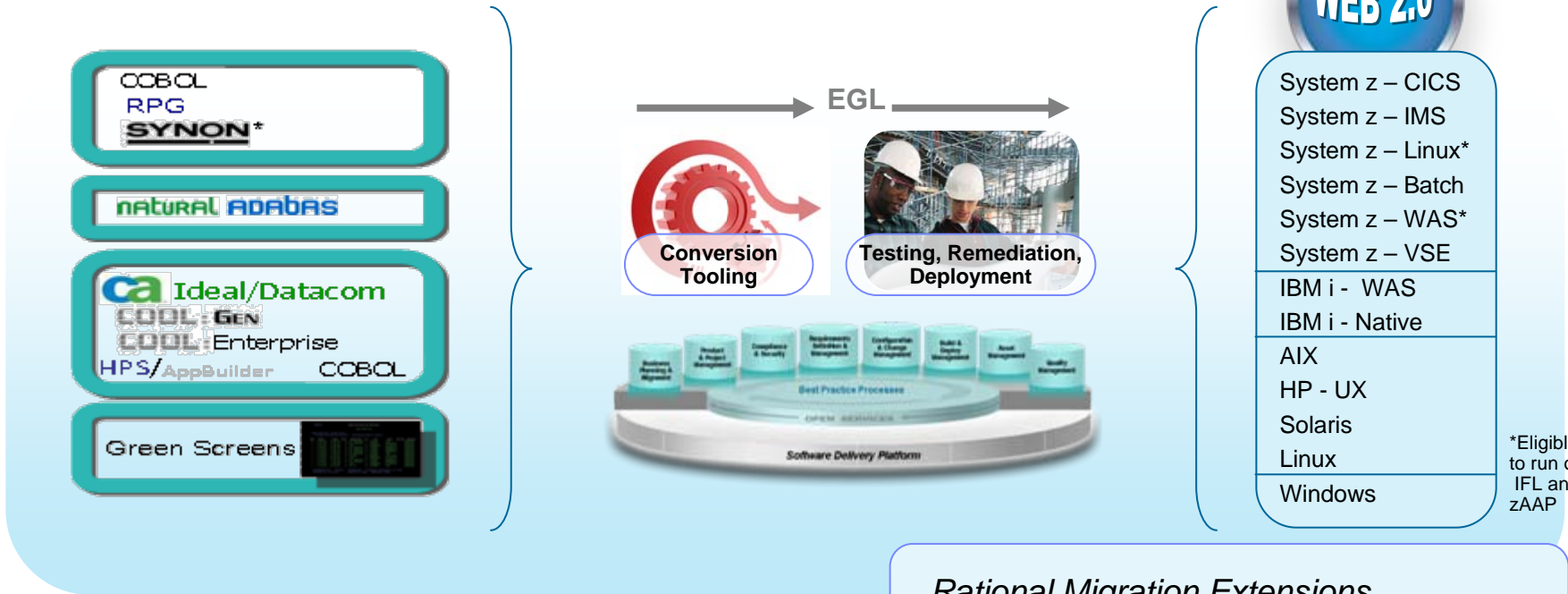
*Eligible to run on IFL and zAAP

But...

They are stuck on poorly supported, expensive, legacy development platforms.

Solution: Application transformation tools and services

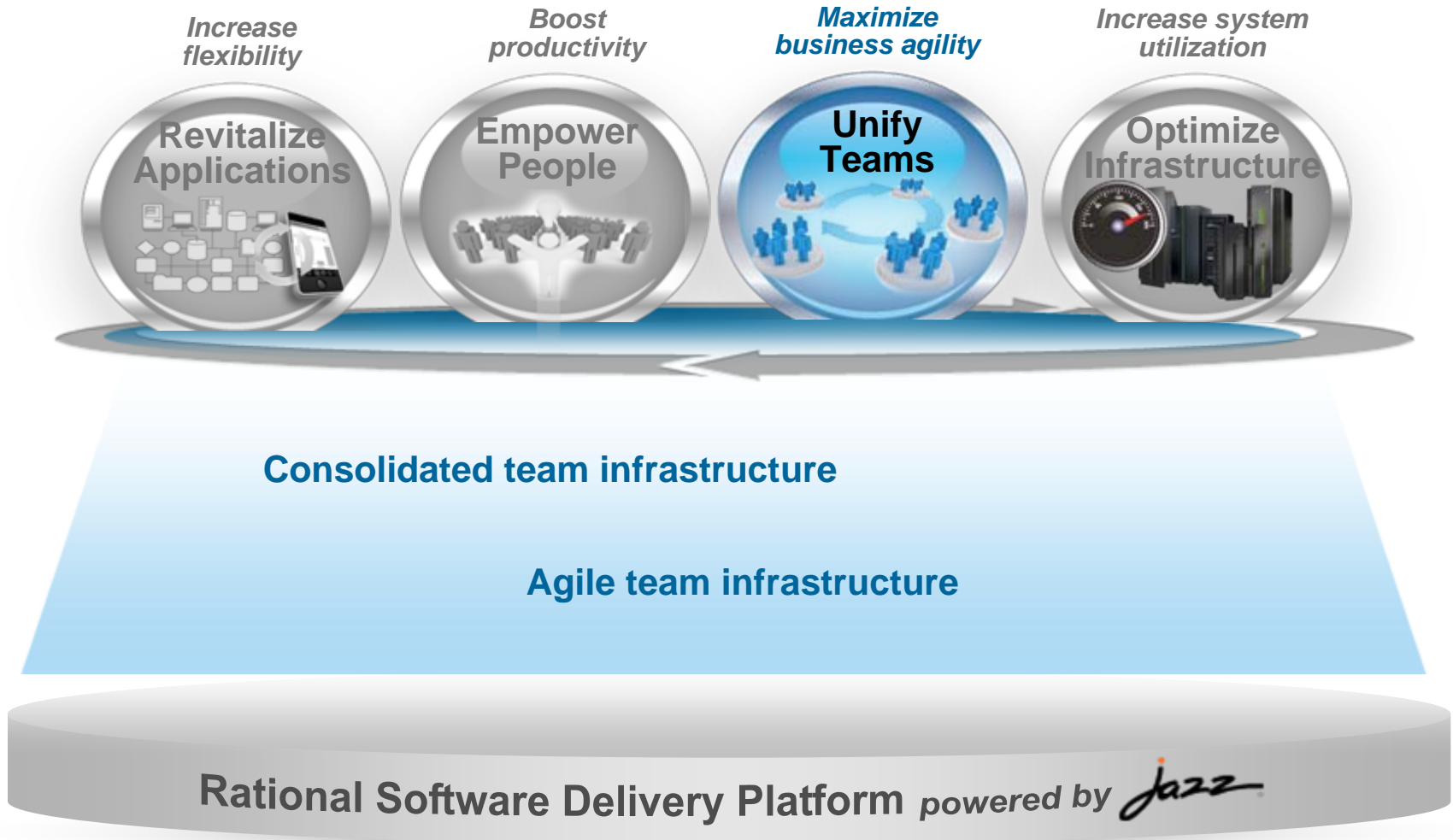
Migrate from older languages and stagnant platforms to modern development platforms, languages and tools



Delivering

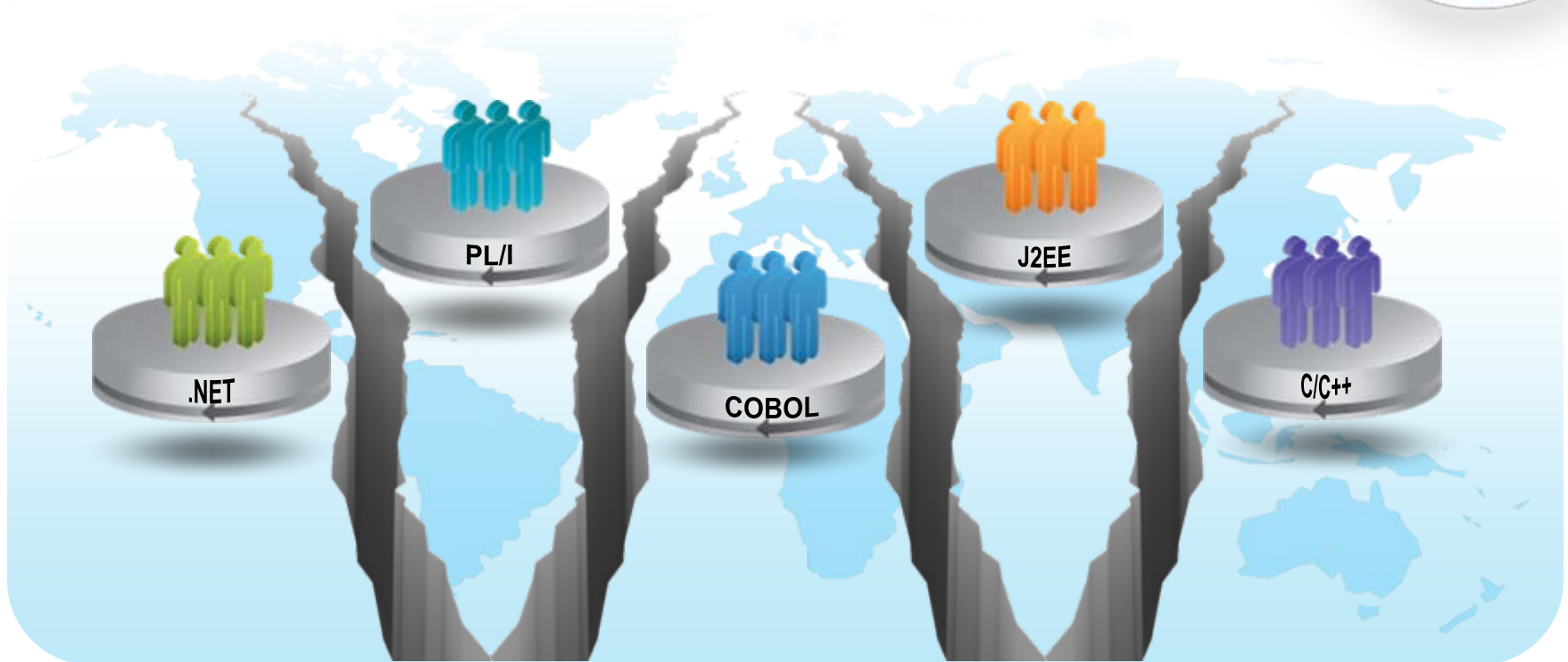
Greatly reduced development platform support costs, and more flexible, integrated development environment for making future application enhancements (e.g. SOA and web 2.0)

Maximize organizational agility by bridging organizational silos



Enterprises want to...

Enable agile, multi-platform and cross-geo collaboration and governance while reducing their team infrastructure costs

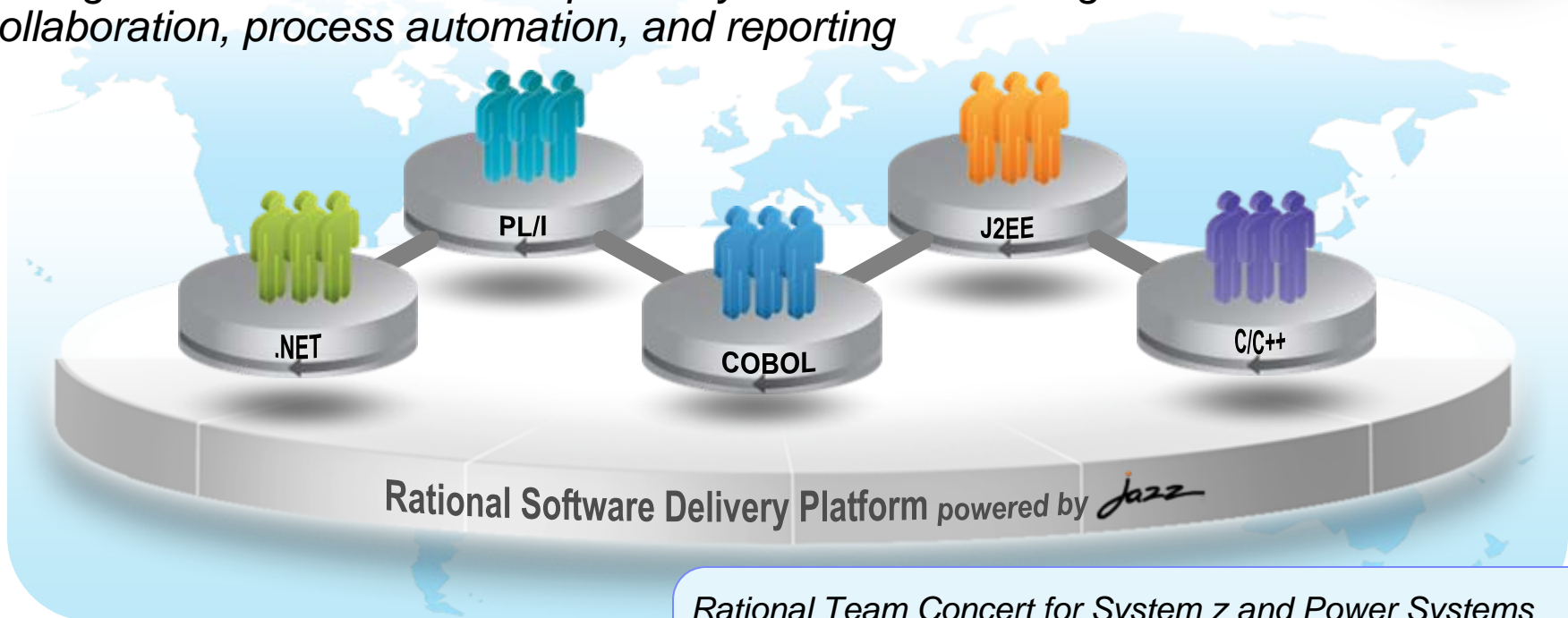


But...

They have “islands” of development, each with different tools, processes and team infrastructure, and they do not support real-time collaboration or integrated, comprehensive oversight.

Solution: Collaborative application lifecycle management

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



*Rational Team Concert for System z and Power Systems
Rational ClearCase / Rational ClearQuest
Rational Buildforge*



Delivering

Improved communication, higher quality, informed decision-making, and more automated, transparent and predictable software development

Increase system utilization by optimizing application infrastructure



Enterprises want to...

*Maximize application performance on existing hardware
to reduce capital expenses*



But...

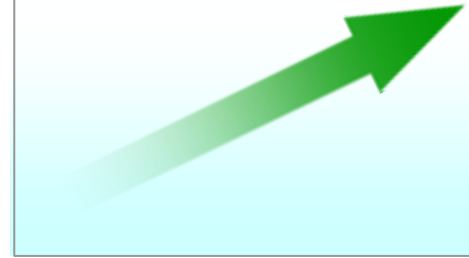
They have back-level compilers or are not fully using optimization.

Solution: Advanced compiler technology

Exploit new advanced optimization technology in C/C++, Java, COBOL, PL/I and Fortran compilers



Performance



Compiler Version

Same hardware + **NEW** compiler
= Increased Performance

NEW hardware + **NEW** compiler
= Maximum Performance

ENHANCED!

- IBM XL C/C++ for AIX and Linux
- IBM XL Fortran for AIX and Linux
- IBM COBOL for z/OS, AIX
- IBM PL/I for z/OS, AIX
- IBM WebSphere® Development Studio (IBM i compilers)

Delivering

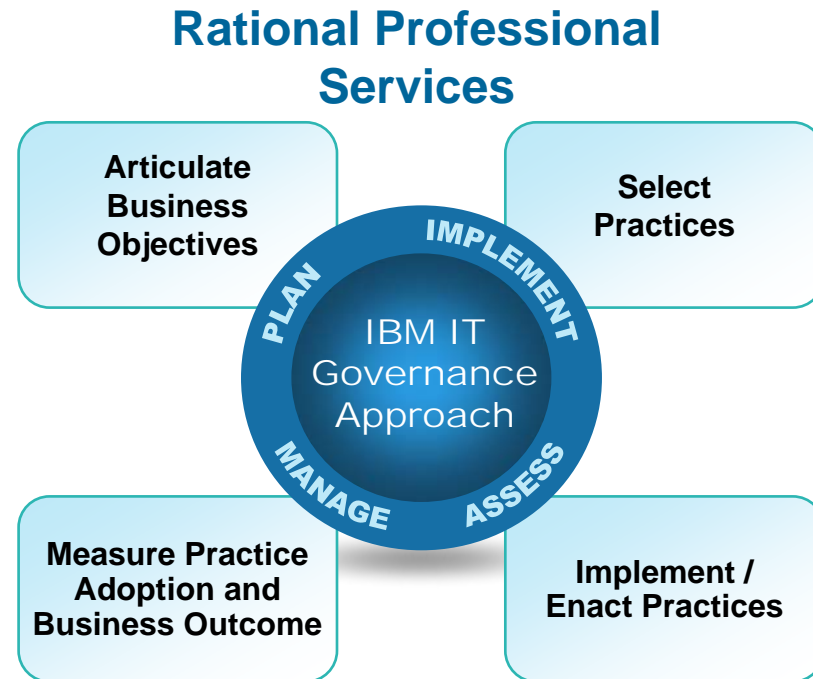
Lower capital outlays by increasing capacity, and improved performance of application suite

Leverage IBM Services to get started today

- **Executive Services**
 - ▶ Schedule an *Enterprise Modernization Executive Planning Session* to define modernization strategies

- **Application Modernization Services**
 - ▶ Application Assessments to:
 - Develop Modernization roadmaps to resolve specific business issues
 - Improve Application Quality & Performance
 - Identify opportunities for business software delivery improvements

- **People and Team Modernization Services**
 - ▶ Provide Implementation Services for Rational Enterprise Modernization tools
 - ▶ Provide SCM migration assistance
 - ▶ SDLC Assessments to:
 - Improve Software Delivery performance
 - Implement Software Delivery Metrics to more effectively manage the software development environment



IBM Rational Enterprise Modernization solutions

Optimizing your applications, people, team and infrastructure investments

- **Difficult times present opportunities for businesses to gain efficiencies in the short term while making strategic IT investments for future growth**
- **But application complexity, limited staff productivity, poor team collaboration, and constrained infrastructure limits IT flexibility**
- **Rational Enterprise modernization solutions can help:**
 - ✓ **Increase flexibility** by revitalizing existing application portfolio
 - ✓ **Boost productivity** and accelerate innovation with modern skills
 - ✓ **Maximize organizational agility** by bridging development silos
 - ✓ **Increase system utilization** by optimizing application infrastructure



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



For more information visit ibm.com/rational

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Register by February 26 and Save.

Innovate2010

The Rational Software Conference

June 6-10 Orlando, Florida

Let's **build** a smarter planet.



The premier software and product delivery event of the year!

Top 5 Innovative Reasons to Attend

1. Over 350 sessions focused on software, systems, services and much more
2. New Solution Tracks: Agile, Cloud, Jazz, Systems Development, and POWER
3. Over twenty hands-on technical workshops
4. Participate in the Innovation Jam
5. Networking and innovating with 4,000 peers!

You do so much more than just build, deliver, and manage. *You innovate.*

And since software is the invisible thread that speeds innovation and helps us design and build the smarter products and services we need to build a smarter planet, then you deserve a revamped, upgraded, 2.0 conference. One that sparks and celebrates innovation. Get ready for...

Innovate2010 The Rational Software Conference
Register now and save — June 6–10, Orlando

The premier software and product delivery event. A smarter conference. For a smarter planet. The place to expand and deepen skills you need to keep innovating...

- Software and product development, delivery, and management
- How to seize business opportunities... execute with reduced risk and cost... and achieve precision in desired business outcomes
- And better ways to collaborate, automate, and report

It's your conference, so register now and save!

The innovation conversation has already started!

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www.ibm.com/software/rational/innovate

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

Enterprise modernization
Lower total cost of multiplatform application development

Power your innovation
Optimize assets, skills, and infrastructure
→ Learn more

Revolutionize the economics of application maintenance
→ Learn more

Overview | system z | Power Systems | Distributed

Why enterprise modernization?
Your company faces demands for new products and services, including global support for outsourced operations and integration with business partner and customer applications.

Competitive factors often drive new requirements. Your ability to respond to the business may be limited by your legacy systems. An incremental modernization approach leading to service-oriented architecture (SOA) can provide flexibility to meet your business needs.

What we offer
IBM® enterprise modernization solutions help you cost effectively and incrementally evolve core IT systems toward modern architectures and technologies, reducing maintenance burden and freeing up more resources to develop new business requirements and capabilities.

An incremental and continuous modernization approach provides the roadmap to achieve greater value and performance from your IT investments in today's challenging economic climate.

Learn how IBM Rational® enterprise modernization solutions can help you:

- Increase flexibility by revitalizing existing application portfolio
- Boost productivity and accelerate innovation with modern skills
- Maximize business agility by bridging organizational silos
- Improve system utilization by optimizing application infrastructure

The IBM enterprise modernization solution difference
IBM enterprise modernization solutions are supported by an experienced worldwide staff of professional services consultants. We can implement solutions and support your staff throughout the entire application modernization process from discovery, analysis, modeling, and design to assembly, test, deployment, and management for IBM System z®, IBM i, and distributed platforms. IBM can help you:

- Unlock core business application components by reusing proven, time-tested applications that can lower risk, reduce costs, and speed time to market.
- Lower your support costs by reducing duplicate application components and information.
- Simplify your technology profile by reducing integration complexity and resolving maintenance hotspots to establish a more agile application portfolio.
- Extend flexible reuse and connectivity of core application assets and information across your enterprise with our extensive experience leveraging the value of SOA.
- Reduce skill silos and islands of development.

System z Sandbox
→ Try our latest products in a virtual online environment

IBM i Sandbox
→ Try our latest products in a virtual online environment

Rational Cafe
→ Bringing developer communities together

We're here to help
Easy ways to get the answers you need.

- Call me
- Request a quote
- E-mail IBM

Or call us at:
877-426-3774
Priority code:
109HG03VV

Spotlight

- Latest Announcements: Revolutionize the economics of application maintenance
- Featured Webcast: Bridging the IT Silos: An evolutionary approach to Application Development & Delivery
- Featured Workshop: COBOL / PLI Application Development for IMS Workshop
- Online Conference: Mainframe Modernization and SOA

Highlights

- Brochure: Slash maintenance costs while incrementally evolving core systems
- White paper: The business value of Enterprise Modernization
- e-kit: IBM System z can do it
- e-kit: IBM i can do it

New Customer References

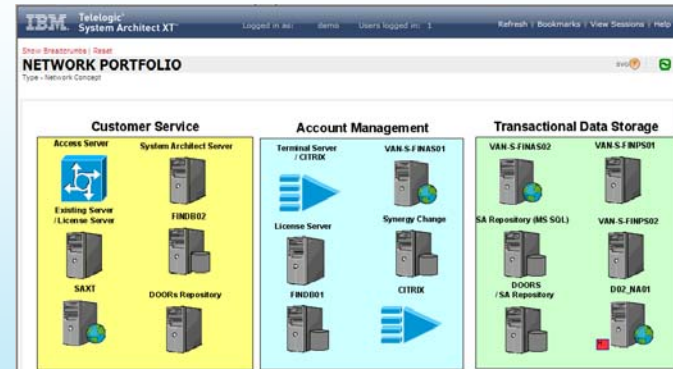
- Softiance decreases development time
- Grocery retailer lowers cost of upgrade
- Wipro modernizes a financial services system
- Complete list of Enterprise modernization references

Demos

- Videos: Enterprise modernization solutions
- Demos: Enterprise modernization products
- New IBM Compilers Flash Demo (ZIP, 14.6MB)

Enterprises want to...

Better align IT activities and investments with their business goals and objectives

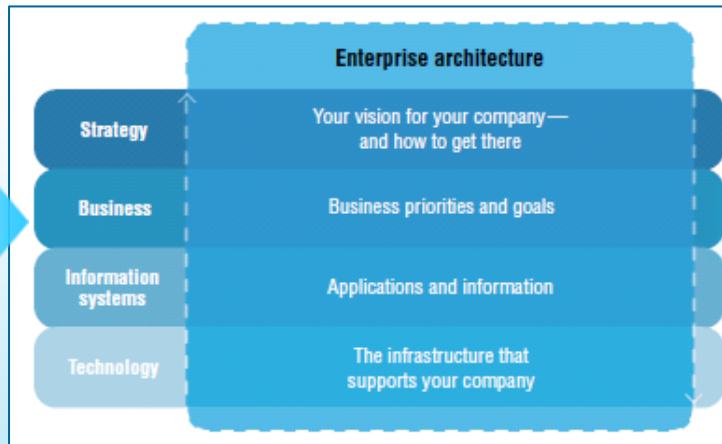
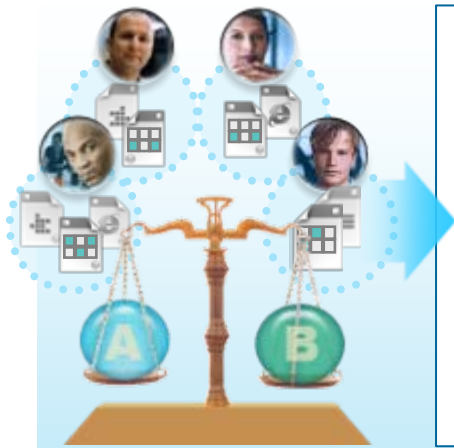


But...

They do not have a tool or process for capturing business goals or prioritizing projects, nor for linking them to the associated IT efforts. They rely instead upon less rigorous verbal discussions and difficult-to-maintain documents.

Solution: Enterprise architecture and portfolio management

Make enterprise IT planning actionable and traceable



Rational System Architect
Rational Focal Point
Rational Project Conductor

Delivering

Understanding of current application infrastructure, prioritization of cost-cutting and consolidation candidates, impact analysis of portfolio decisions, and central oversight of architecture, risks, demands, and investment management