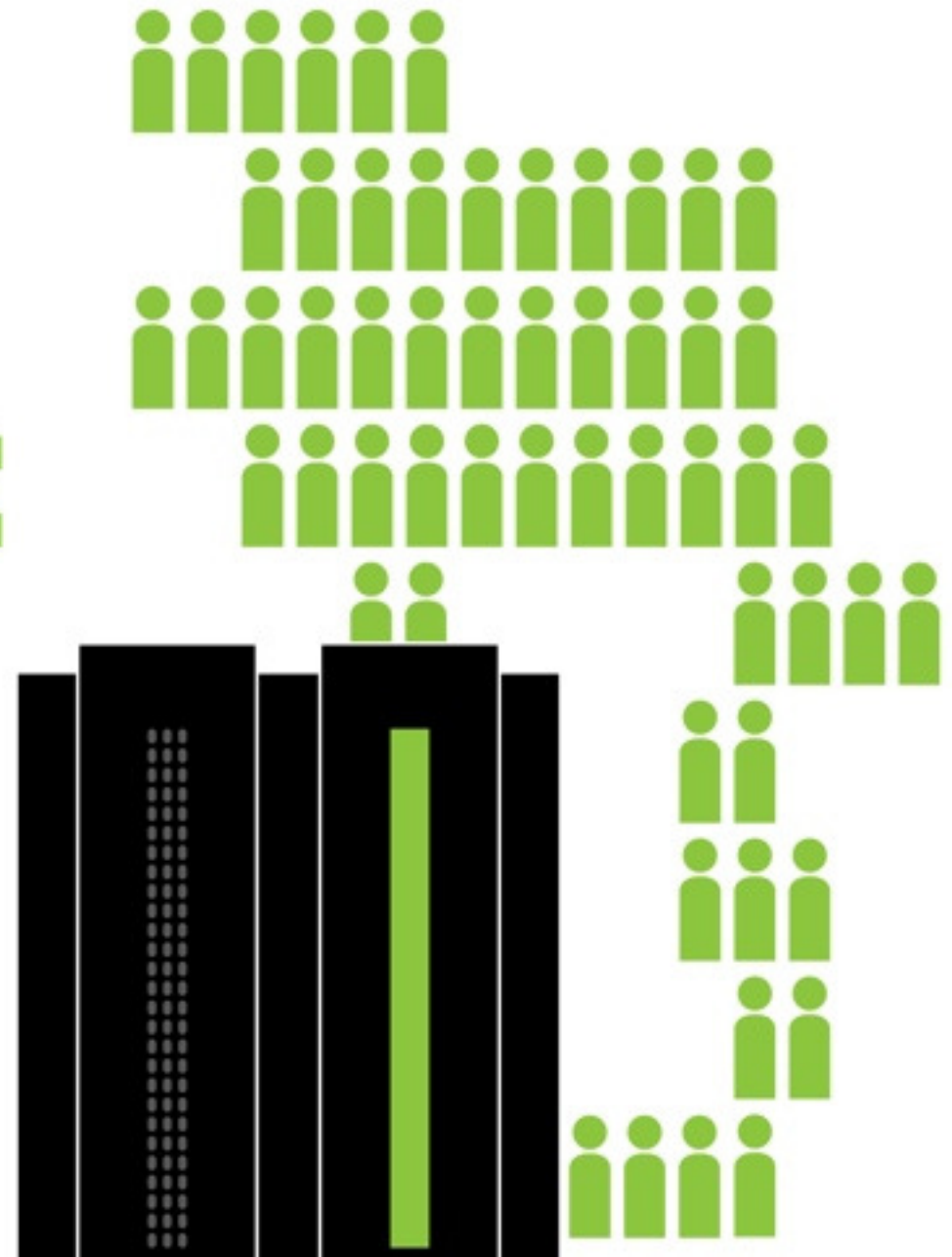


Smarter technology for a smarter planet:

IBM® Enterprise Advance

Towards the Modern Enterprise

WELCOME



Enterprise Modernization

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

Scott Davis
IMT Germany

Enterprise Modernization with Rational Software



When the new workers came from the university they came from the future to the stone age. With WDz it will now be from the future Back to the future. It is un-motivating for a new worker to come here to the stone age.



New hires are easier to recruit and retain, and editing is up to **30** percent faster

“So far, we have focused on developing financial applications with Rational Developer for System Z. Over time we will use it for building web applications and web services for SOA.”

“..... are seeing an estimated 10% increase in development productivity and 15% increase in test productivity. “



**Areal
First Financial**



- Simplify the complex development environment
- Increase the software quality
- Quicken the development process
- Utilize modern, integrated tools

“WDz decreases development time through a better editor, real good error handling by build, excellent debugging. The editing, building, testing environments are all integrated into 1 eclipse based tool. This is much more modern than the previous multiple tools needed.”



“RDz, in conjunction with ClearCase, allowed us to centralize our software change, configuration and release management”



The developers were using parallel different editors and mainframe tools. To standardize, reduce the number of tools, and increase the productivity we were looking for an integrated development platform.

Businesses are challenged to deliver innovation

80%

CEOs anticipate turbulent change and bold moves.¹



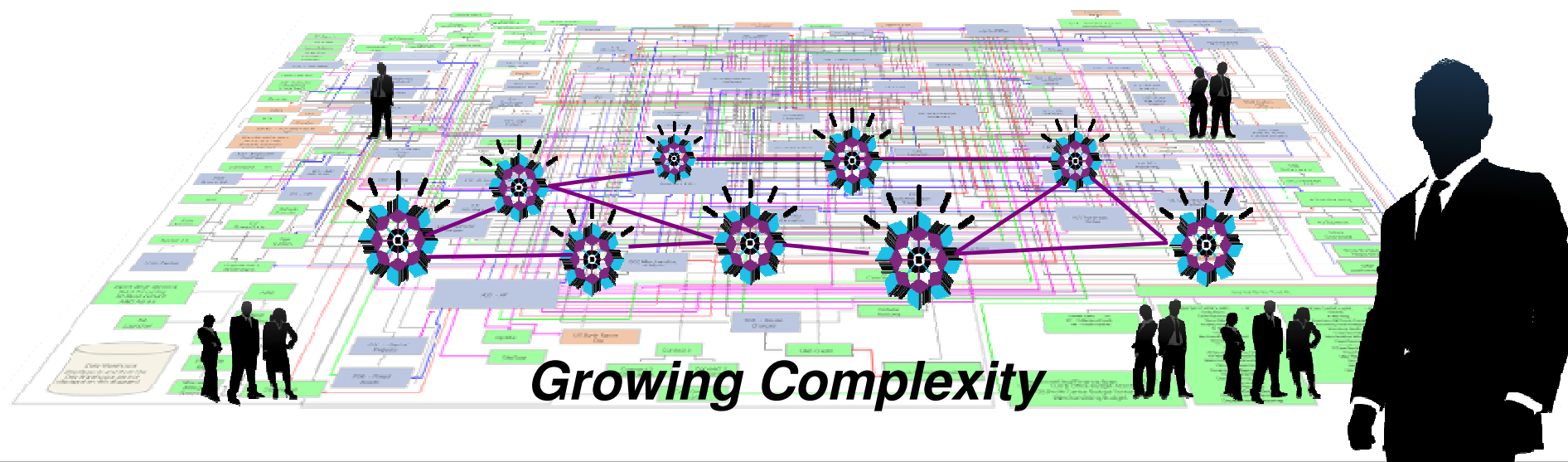
64%

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

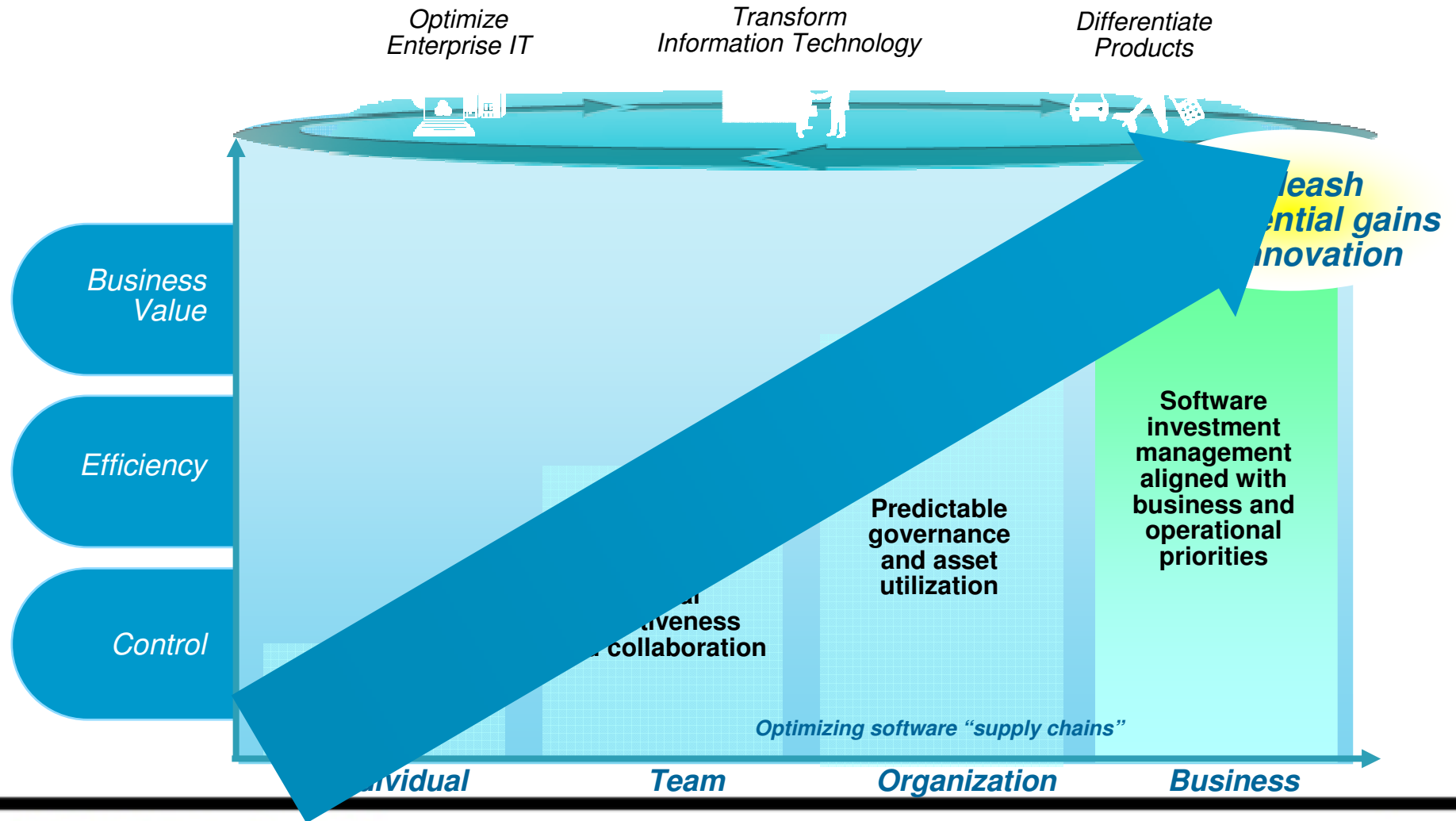


3x

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



Treat software development as a strategic business process

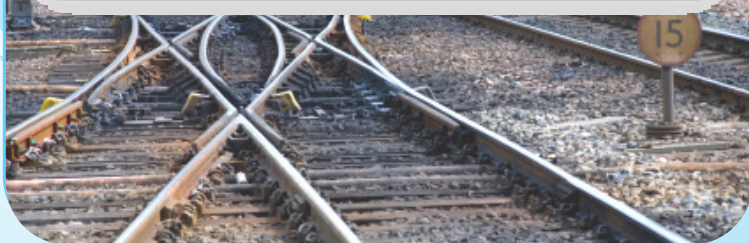


Challenges to achieving greater value from your IT investments

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



Boost productivity



Maximize business agility



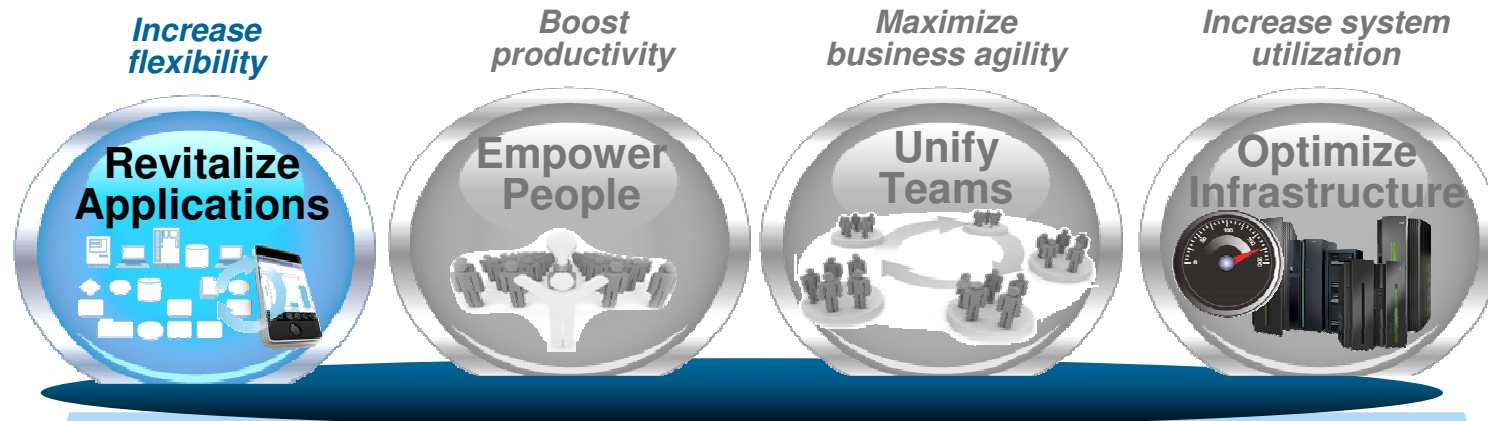
Increase system utilization



- **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



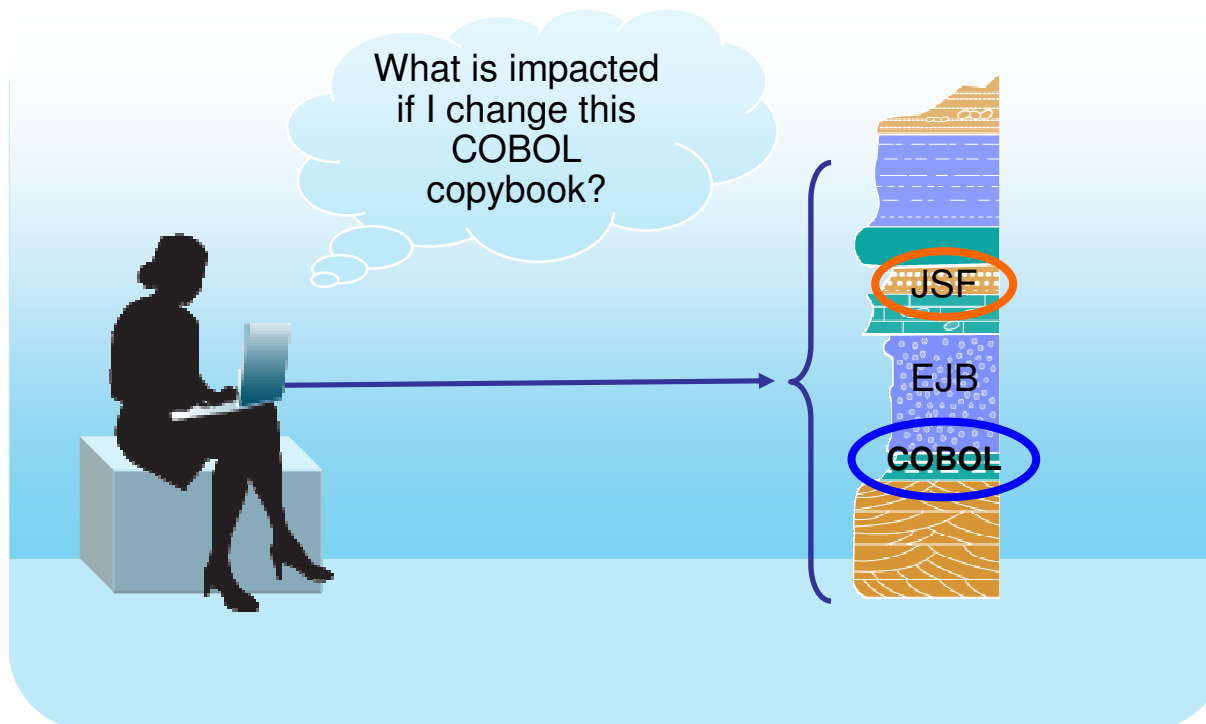
Business intelligence for applications
Enterprise architecture and portfolio management
SOA tools for all platforms and languages **Operational reuse**
User interface modernization

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



Enterprises want to...

Understand the impact and cost of change to their IT systems

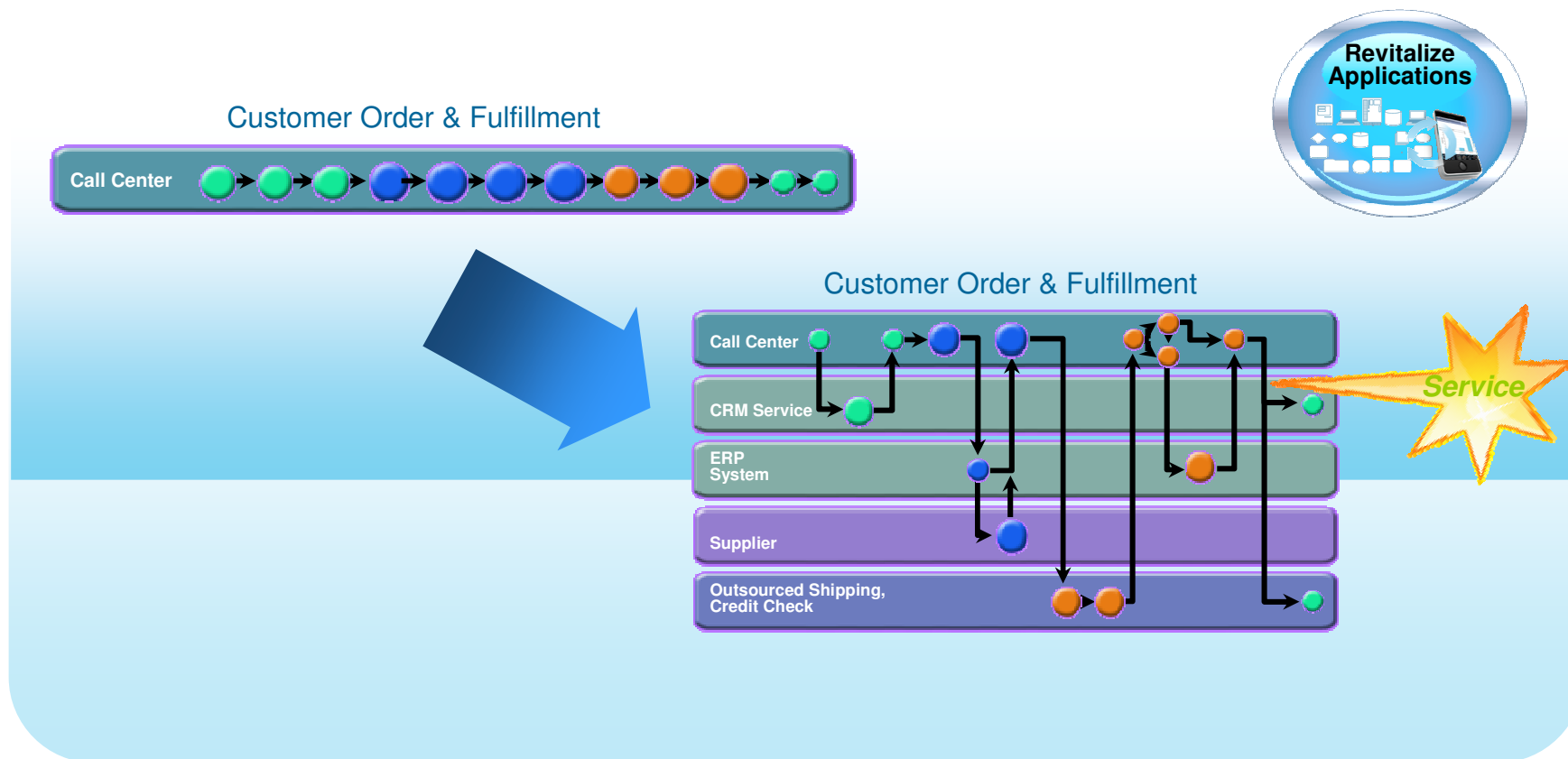


But...

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.

Enterprises want to...

Have nimble IT organizations that leverages SOA to respond more quickly to business needs

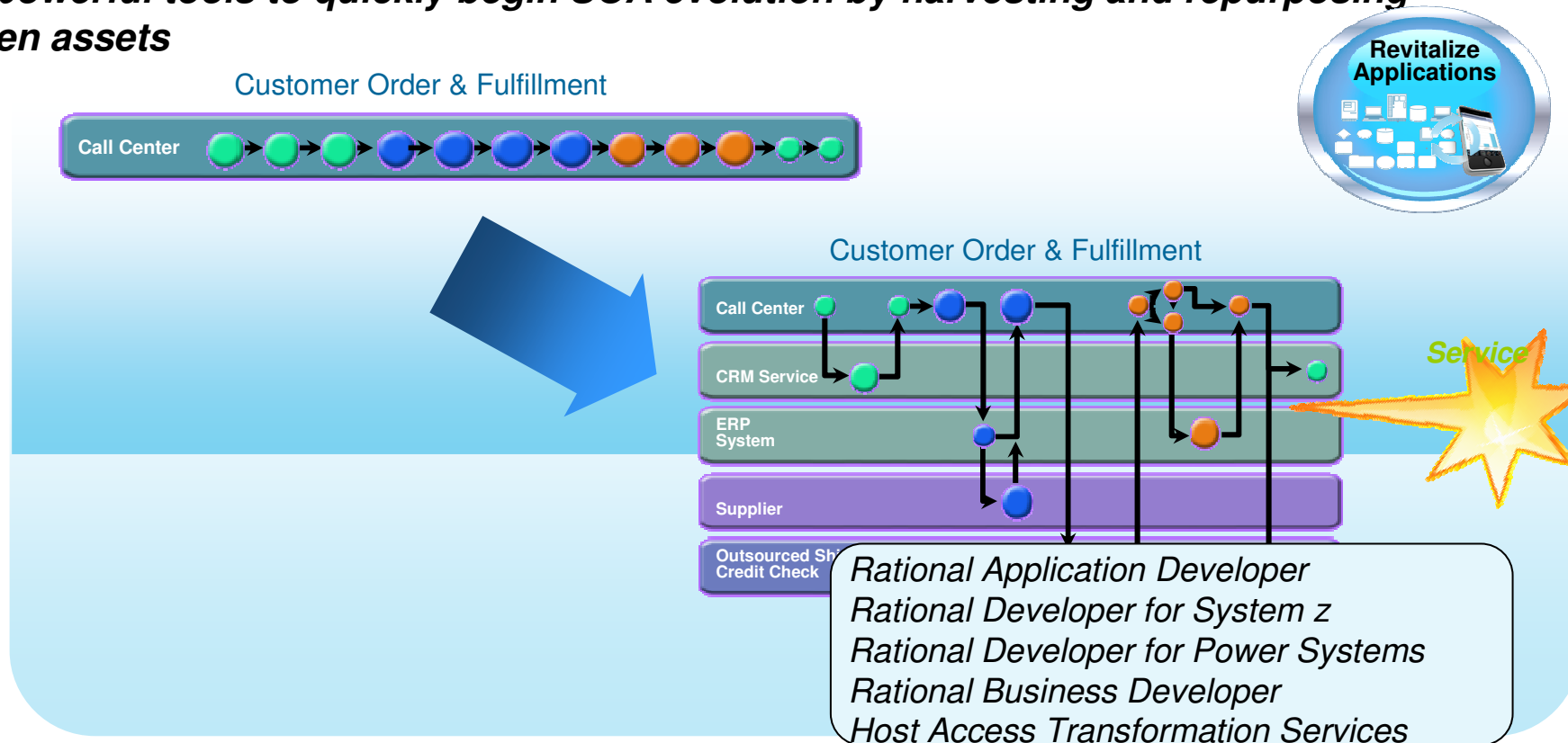


But...

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



Delivering

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

Enterprises want to...

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

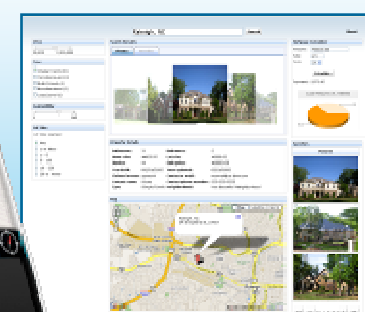
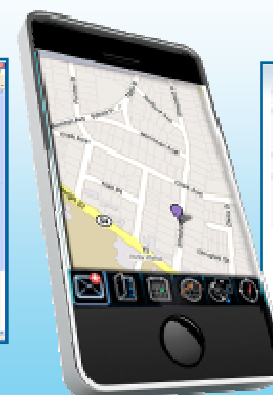
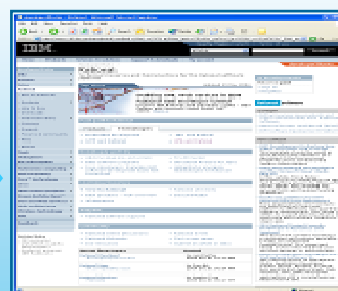


```
Session A - (24 x 80)
File Edit View Communication Actions Window Help
Client Inquiry - calls LAB3POT (LAB3BMS)

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
```



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

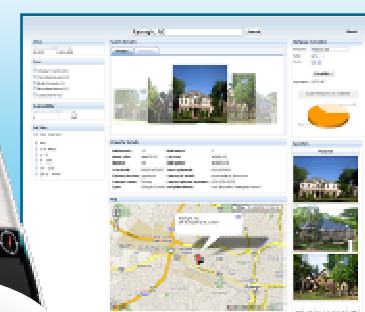
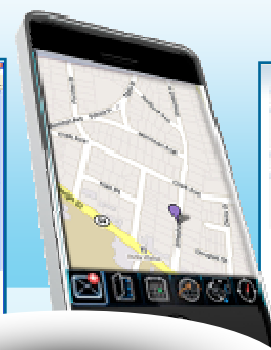
```

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 successfully
    
```

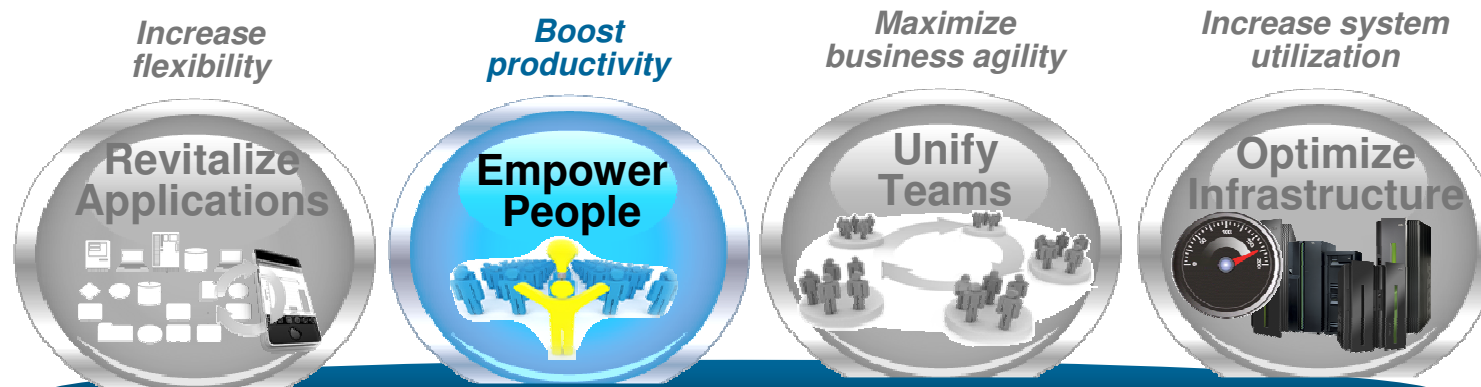


- Rational EGL Community Edition*
- Host Access Transformation Services*
- Rational Developer for System z*
- Rational Developer for Power Systems*
- Rational Business Developer*

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



Modern IDEs for all platforms and languages

Modern business language

Application transformation tools and services

Enterprise training programs, communities and resources

Rational Software Delivery Platform *powered by jazz*

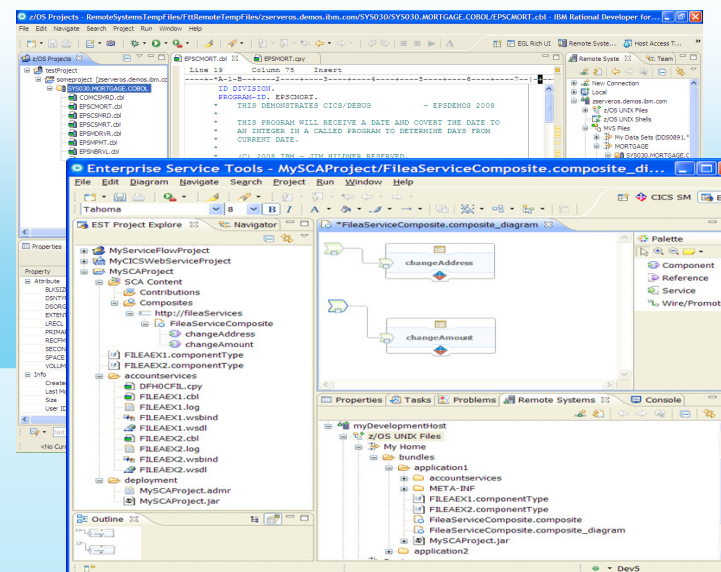
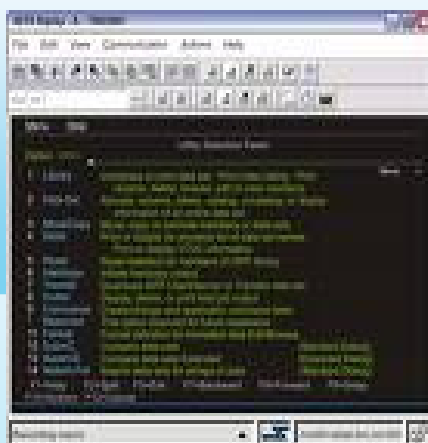
IBM® Enterprise Advance

Towards the Modern Enterprise



Enterprises want to...

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

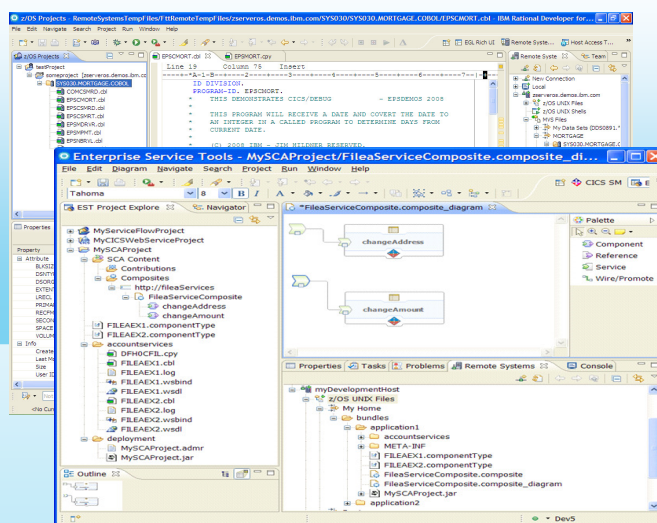


But...

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*

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



Improves developer productivity and testing efficiency for mainframe development

The challenge

- Modernize its development platform for core financial business software
- Development and testing efficiency for new and existing applications
- Make COBOL development more attractive to younger programmers

Business value

- Similar development environment for COBOL and Web applications — attractive to younger developers
- Estimated 15% increase in development and 10% increase in testing productivity

Solution

- More than 200 developers began using IBM Rational Developer for System z software to develop applications for IBM System z servers with IBM DB2 and IBM Information Management Systems software

Think Rational

One of many ways Rational enables a smarter planet.

UniCredit HVB Group

- One of Europe's largest financial services organizations
- 9,000 branch locations
- 40 million customers
- Employing over 170,000 people

"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, HVB

RDz@BMW Advanced Features: Dependency Analysis

Remote Error List SCMS component list z/OS File System Mapping

Dependent components of component: P9LTMM4

Component	Type	Client	Status
[-] P9LTMM4	PGM	DE1	P
[-] P9LTMMW	PGM	DE1	P
P1LT021	PGM	DE1	P
P1LT010	PGM	DE1	P
P1LT060	PGM	DE1	P
P1LT020	PGM	DE1	P
[-] P5LMM10	PGM	DE1	P
[-] PRLMMT52	JOB	DE1	P
LM1M11T1	JAPP	DE1	P
LM1M89T1	JAPP	DE1	P
LM1M24T1	JAPP	DE1	P
LM1M61T1	JAPP	DE1	P
LM1M50T1	JAPP	DE1	P
[-] P5LTMMV	PGM	DE1	P
[+] PRLMMT12	JOB	DE1	P
[-] PRLMMT02	JOB	DE1	P
LM8M61T1	JAPP	DE1	P
LM8M50T1	JAPP	DE1	P
LM8M11T1	JAPP	DE1	P
LM8M89T1	JAPP	DE1	P
LM8M24T1	JAPP	DE1	P
P1LTMM2	PGM	DE1	P
[-] P5LTMMO	PGM	DE1	P
[-] PRLMMT41	JOB	DE1	P
LM8M61T1	JAPP	DE1	P
LM8M50T1	JAPP	DE1	P
LM8M11T1	JAPP	DE1	P
LM8M89T1	JAPP	DE1	P
LM8M24T1	JAPP	DE1	P

Remote Error List SCMS component list Component Documentation z/OS File System Mapping Remote S

Dependent components of component: P9LTMM4, level depth: 3

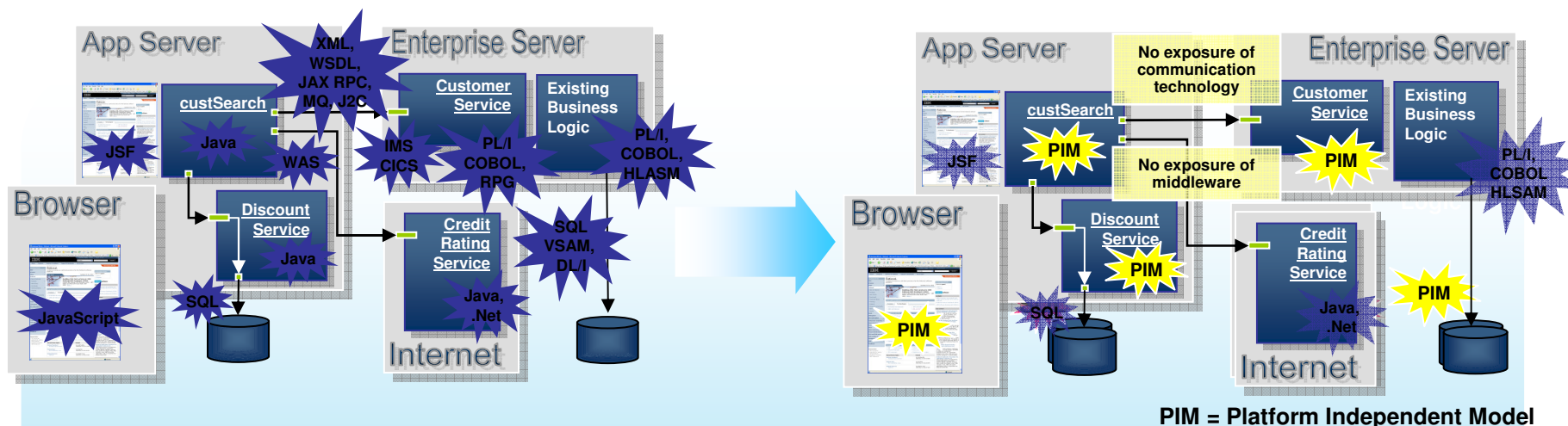
Component	Type	Client	Status
[-] P9LTMM4	PGM	DE1	P
P1LTMM2	PGM	DE1	P
[-] P5LMM10	PGM	DE1	P
[-] PRLMMT52	JOB	DE1	P
LM1M11T1	JAPP	DE1	P
LM1M24T1	JAPP	DE1	P
LM1M50T1	JAPP	DE1	P
LM1M61T1	JAPP	DE1	P
LM1M89T1	JAPP	DE1	P
[-] P5LTMMO	PGM	DE1	P
[+] PRLMMT41	JOB	DE1	P
[-] P5LTMMV	PGM	DE1	P
[+] PRLMMT02	JOB	DE1	P
[+] PRLMMT12	JOB	DE1	P
[+] P9LTMMW	PGM	DE1	P

Analysis menu options:

- List dependent components in status P
- List included components in status P
- List referenced subprograms in status P

Enterprises want to...

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

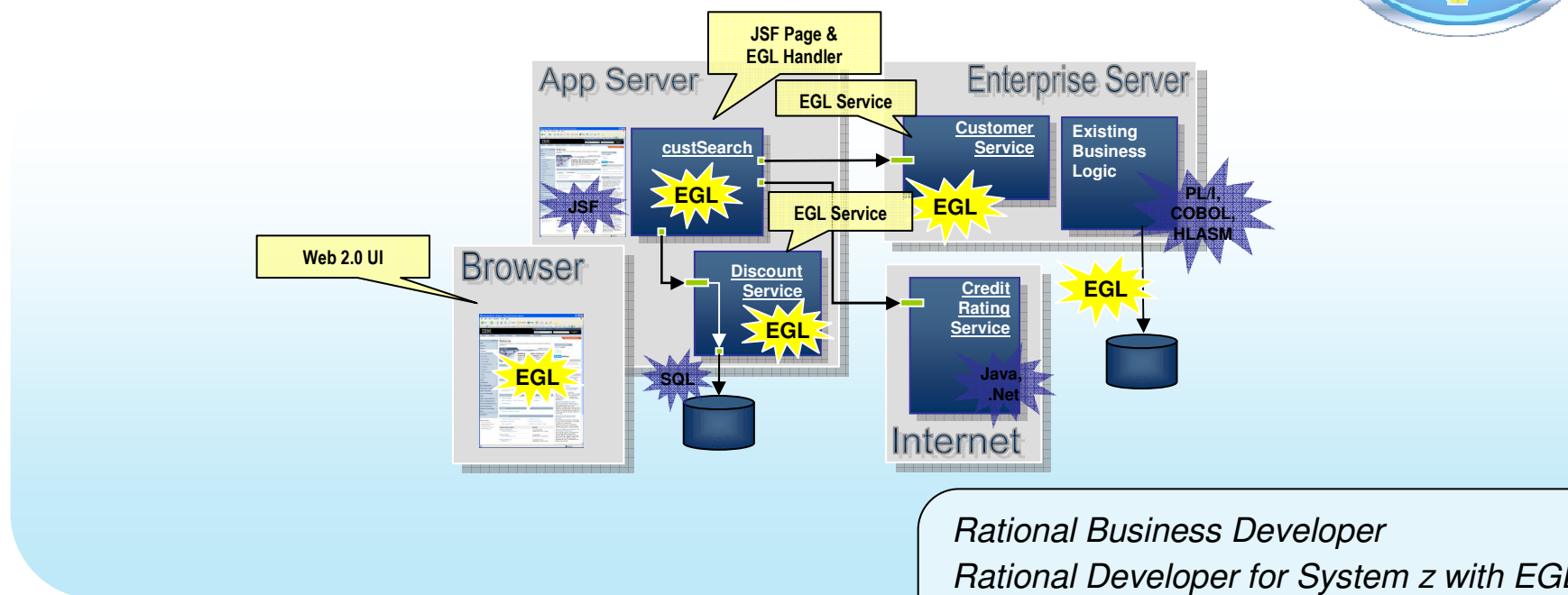


But...

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



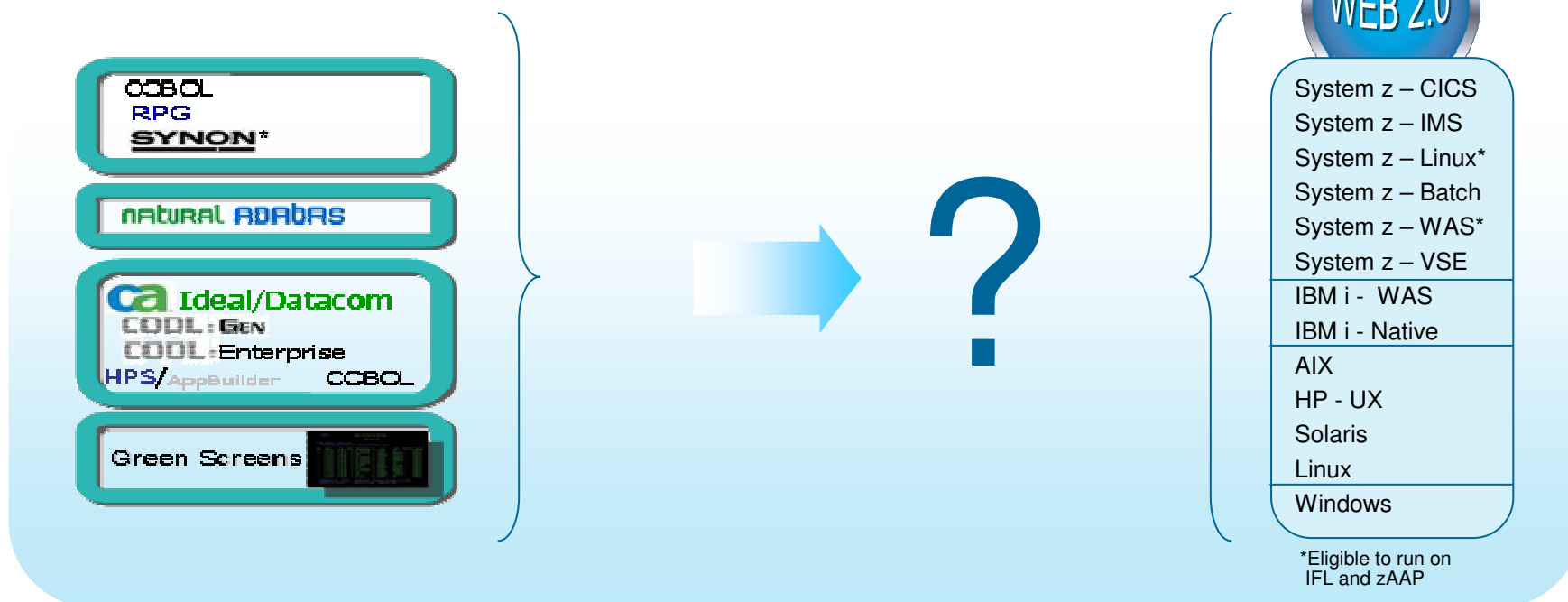
*Rational Business Developer
 Rational Developer for System z with EGL
 Rational Developer for Power Systems*

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

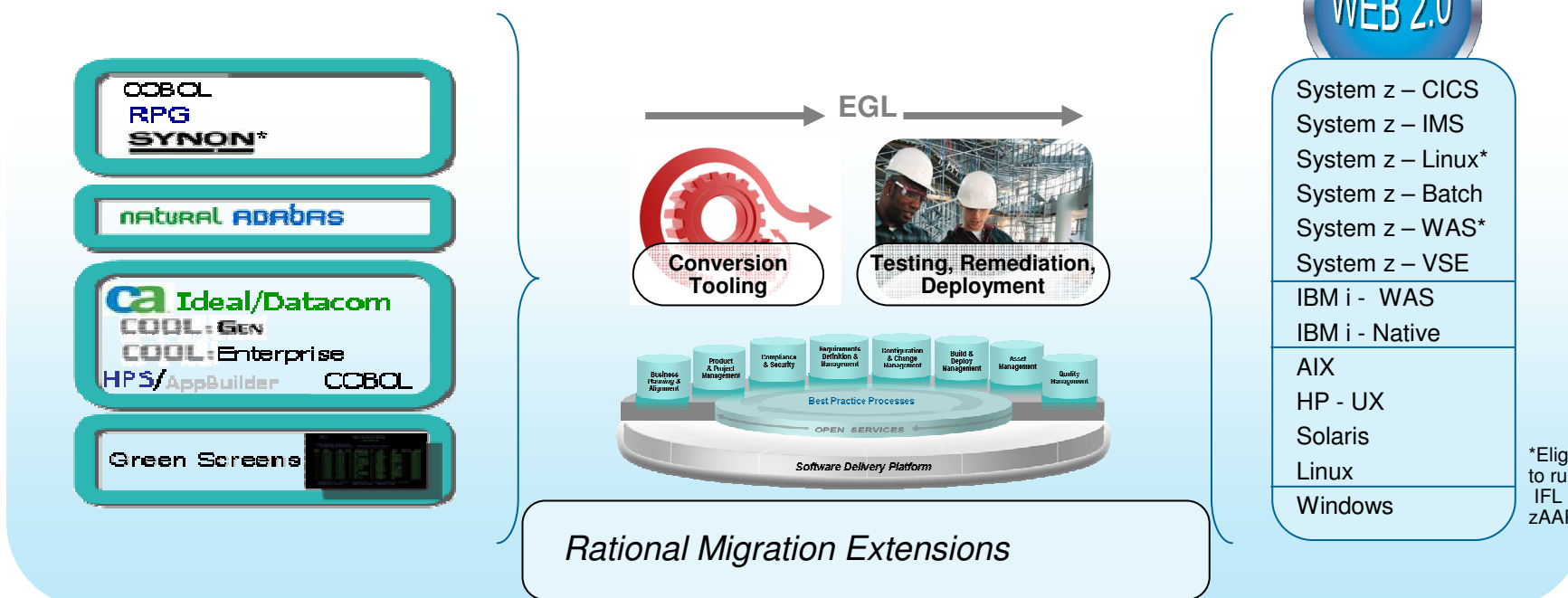


But...

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, more flexible, integrated dev. environment for making future application enhancements (e.g. SOA and web 2.0)

Maximize organizational agility by bridging organizational silos



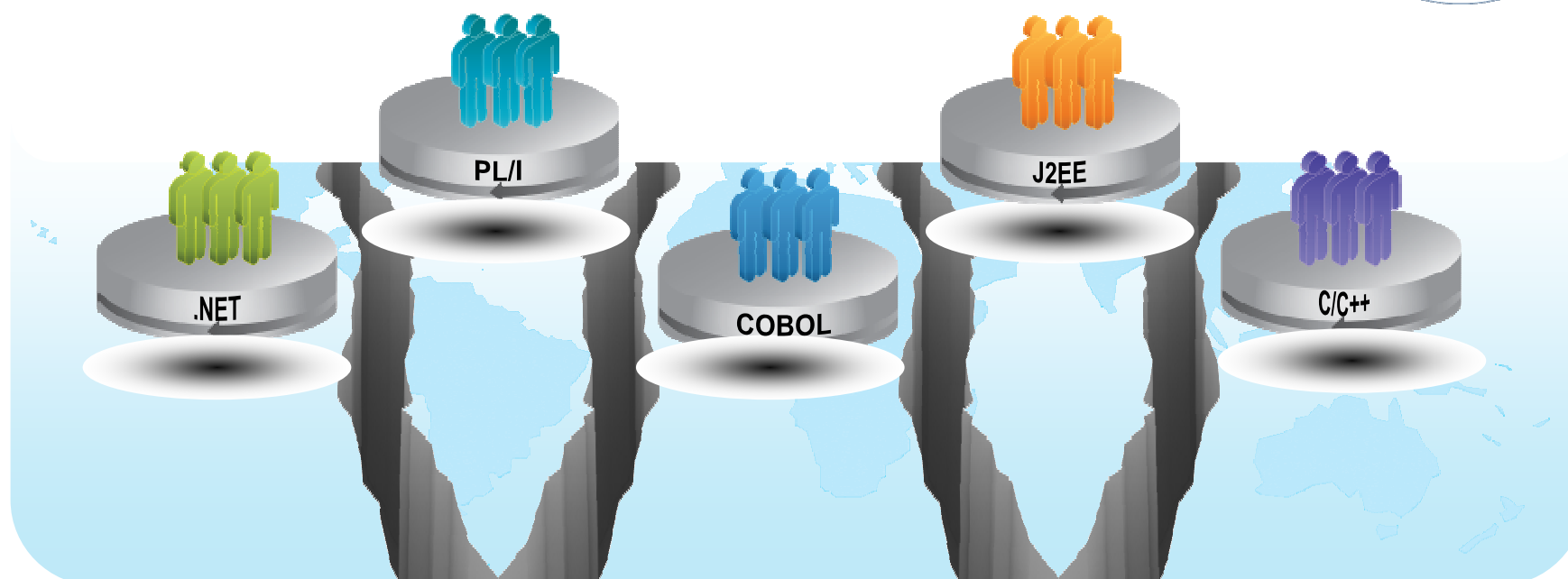
Consolidated team infrastructure

Agile team infrastructure

Rational Software Delivery Platform *powered by jazz*

Enterprises want to...

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

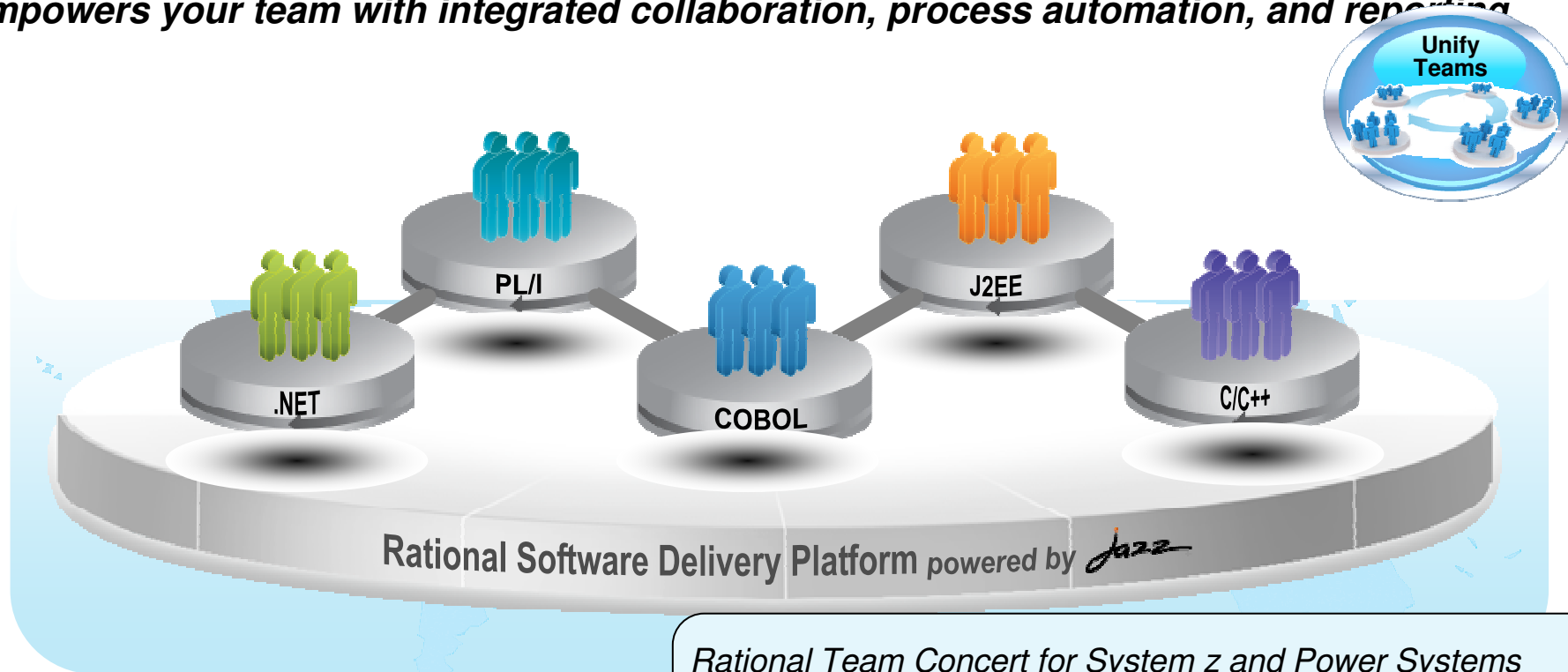


But...

“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

Sodifrance SA, an IT services company

Boosts development team productivity, minimizes errors and rework

• The challenge

- For Sodifrance's many complex mainframe modernization projects, the company's staff often required disparate tools for each phase, including requirements, change management, agile development process management, builds which increased their development costs and time

• Business value

- Decreases development time by 15-20%
- Improves development quality and minimizes errors and rework

• Solution

- Sodifrance selected IBM Rational Team Concert for System z and Rational Developer for System z software on an IBM System z9 Enterprise Class server running IBM z/OS® 1.10 at IBM's Montpellier zTech center



Think Rational

One of many ways Rational enables a smarter planet.

 SODIFRANCE

- Sodifrance SA is an IT services company
- Provides IT modernization services principally in France and Benelux

“Building an agile development team requires a multiplatform approach. 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

Increase system utilization by optimizing application infrastructure



Increase flexibility



Boost productivity



Maximize business agility



Increase system utilization



Advanced compiler technology

Rational Software Delivery Platform *powered by jazz*

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Enterprises want to...

Maximize application performance on existing hardware to reduce capital expenses

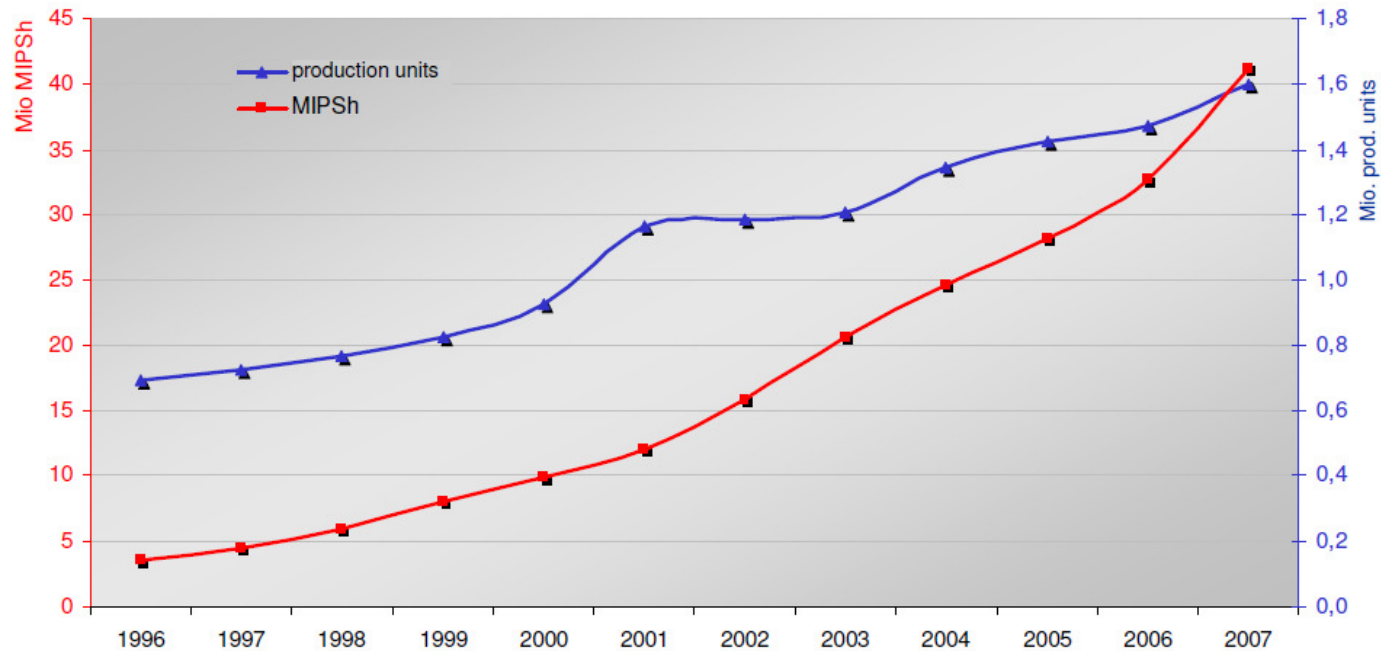


But...

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

RDz@BMW

More Cars, more computational power, the MF grows



1) mainframe Munich, only

BMW Group



IBM® Enterprise Advance

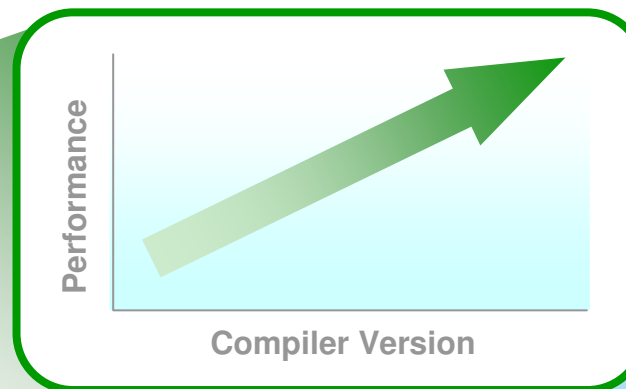
Towards the Modern Enterprise



Solution: Advanced compiler technology



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



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

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

Delivering

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

- 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)



Industry Pains

- Need to access more functionality and spread out its data processing load
- Reduce CPU usage to cut operating costs

Smarter Business Outcomes:

- Reduces CPU usage for CICS technology by 400 million instructions per second (MIPS), for savings of \$320,000
- Cuts CPU usage in the internal coupling facility by 40%
- Achieve CPU savings through threadsafe functionality



Why Dynamic Application Infrastructure?

Deliver on business objectives and reduce operating costs

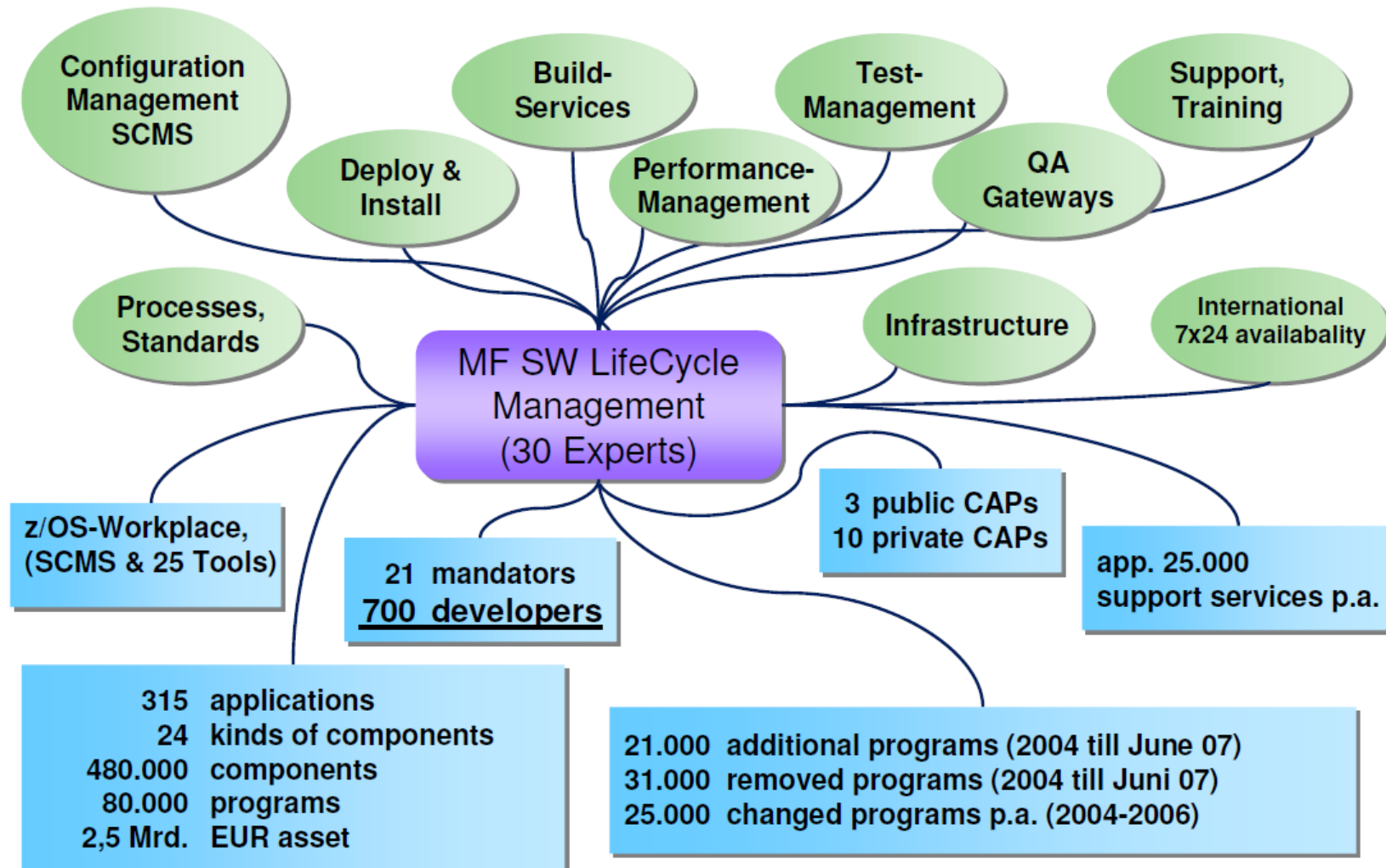
IBM Rational Enterprise Modernization solutions

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



RDz@BMW Mainframe Software LifeCycle Components



Leverage IBM Services to get started today

- **Executive Services**

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

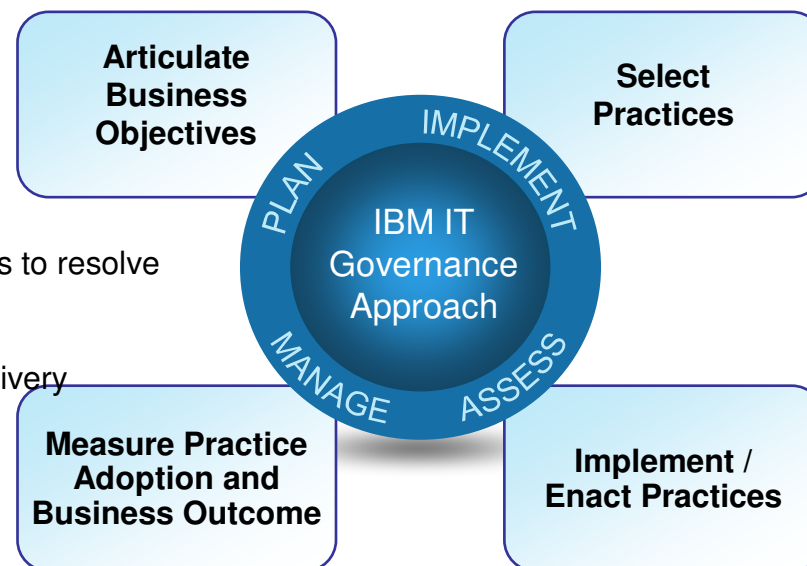
- **Application Modernization Services**

- **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

Rational Professional Services



To learn more visit:

ibm.com/software/rational/modernization/

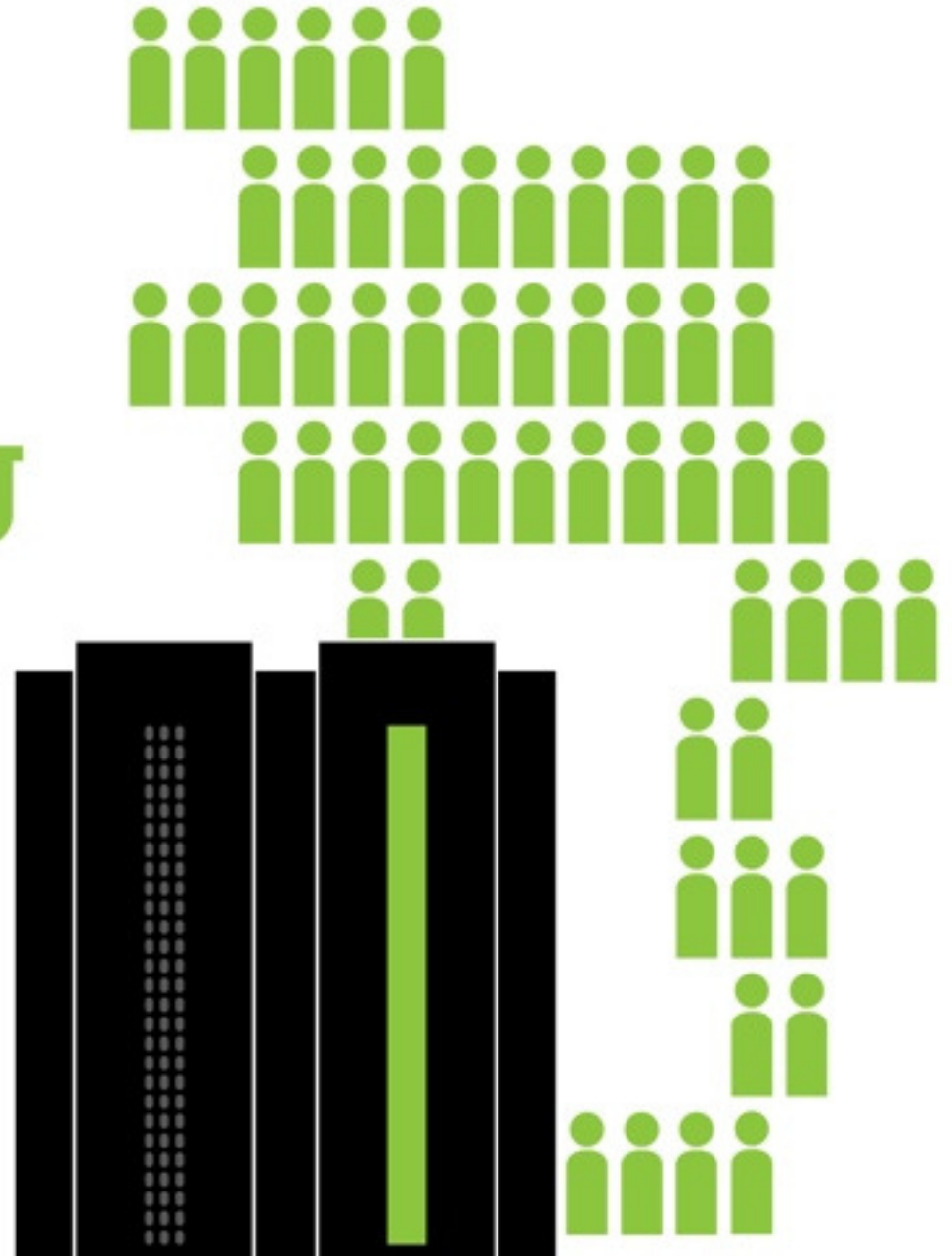
The screenshot shows the IBM Rational Enterprise Modernization website. The main heading is "Enterprise modernization" with the subtext "Lower total cost of multiplatform application development". Below this are two featured articles: "Power your innovation" and "Revolutionize the economics of application maintenance". The page is structured with a left sidebar for navigation, a central content area, and a right sidebar with additional resources and news. The footer area contains "System z Sandbox", "IBM I Sandbox", and "Rational Cafes" sections.

Smarter technology for a smarter planet:

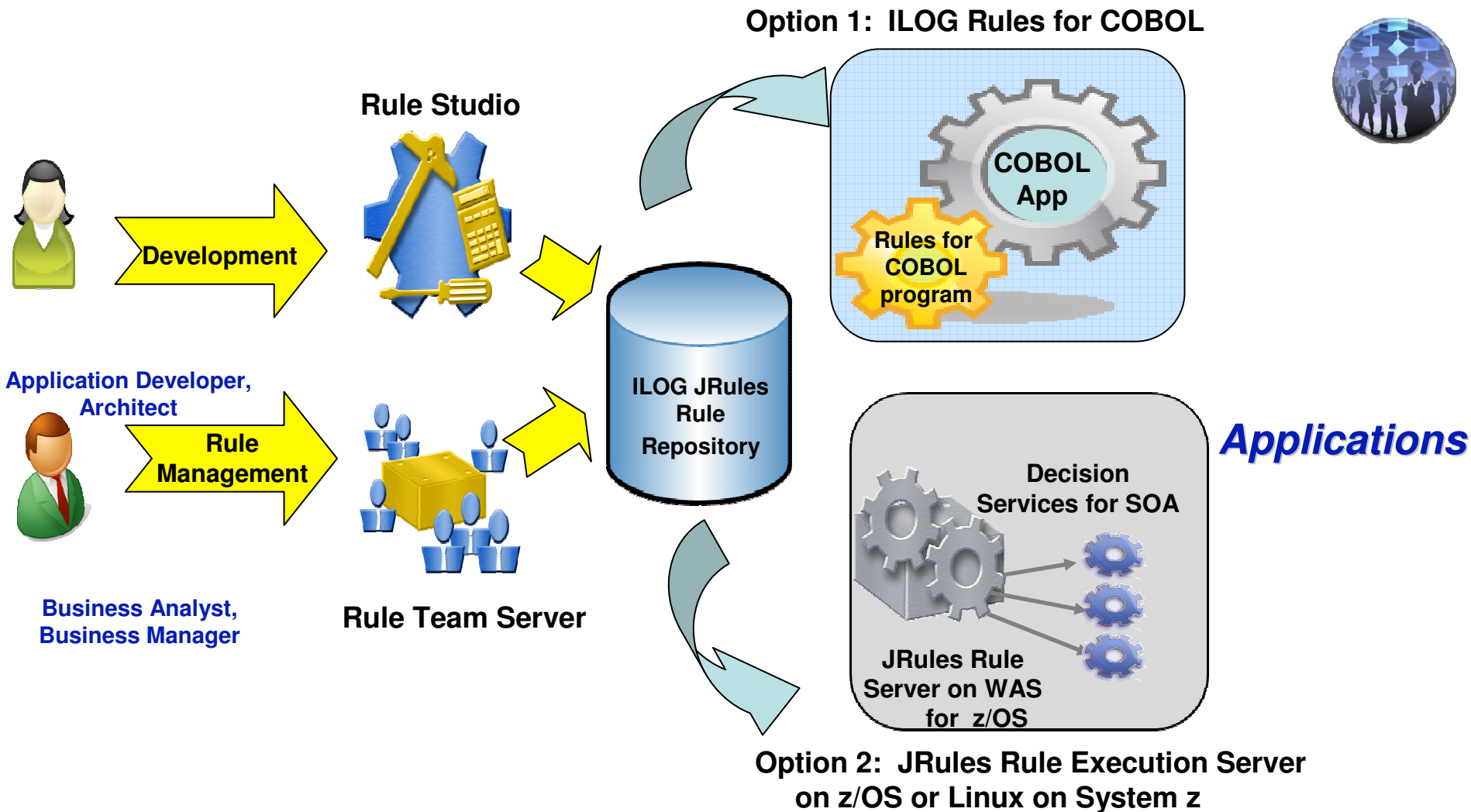
IBM® Enterprise Advance

Towards the Modern Enterprise

THANK YOU



ILOG Business Rule Management Solutions on System z



RDz Prototype combining SCLM and MPR Repository

The screenshot displays the IBM Rational Developer for System z interface. The main editor shows COBOL code for 'SOURCE.PMCE7686.cbl'. The left-hand side contains several panels:

- TestJCL-Member**: A table with columns 'Memberrname', 'E.', and 'Beschreibung'.
- Arbeitsauftrag**: A table for 'CE2300: A0000026 - T11CE96 Testprogramme COBOL' with columns 'Memberrname', 'St', 'ALIAS', and 'Note'. It lists various program members like PG-CE6794, PG-CE6796, etc.
- Properties**: A table of properties for the current member, such as 'ALIAS_KURZ: PMCE6796', 'COMPILER-OPT: COBFLAG=COBLIST', and 'LANGUAGE: COBOL'.
- Metadaten Browser**: A search interface for 'MMR-Alias' with a search button and a results table.
- Metadaten Fa...**: A table showing member names and their start groups, such as 'AA-A0000026 CE2300'.

The central editor shows COBOL code with comments and a 'PROGRAM-IDENTIFICATION' section:

```

Line 6191 Column 1 Insert
-----A-1-B-----2-----3-----4-----
U0299Z.
  exit
  .
  .....
  *** Internes Upro zur Datum-Ermittlung
  .....
  Identification Division.
  Program-ID. 91-Datum common.
  Procedure Division
  .
  S91-Datum Section.
  S91A.
  * accept nDatum from date
  move nDatum-6 in DGKN3671 to nDatum
  .
  The quick mark was set at the cursor location.
  
```



Live Demonstration of an RDz Prototype combining SCLM and MPR Repository-Functionality
 Markus Holzem (AMB Generali Information Services GmbH SW-t), Ulf Caspers (DV-Beratung Ulf Caspers)

Default Perspective

CS Menu

CS Icons

Current work objects (automatically created and removed by plugin functions)

Package Content
with list of all files changes for one product in one release (increment). All needed ChangeMan functions are possible like Check-out/-in, Build, Deploy, Publish

Infos from ChangeMan and other integrations

Provided by SyntaxCheck (IBM/ChangeMan), Compile/Build (ChangeMan), Code Review (CS) and Link-Messages (ChangeMan)

The screenshot shows the IBM Rational Developer for System z interface. The main editor displays COBOL code for a program named H014680. The interface includes a project browser on the left, a package content table on the right, and a remote error list at the bottom. The package content table lists various components and their types:

Name	CMN...	Type
H328227	ACTIVE	TJC
MOLUJ	ACTIVE	TJC
H014621	ACTIVE	TJC
H014656	ACTIVE	PLB
H174363	ACTIVE	PLB
H014702	ACTIVE	PLB
U014656	ACTIVE	PLU
H014621	ACTIVE	PLB
U014702	ACTIVE	PLU
U014621	ACTIVE	PLU
H014656	ACTIVE	TJC
H014702	ACTIVE	TJC
U701065	ACTIVE	PLU
A174610M	ACTIVE	TJC
H701065	ACTIVE	TJC
H014680	ACTIVE	TJC
U174363	ACTIVE	PLU

The Remote Error List at the bottom shows the following messages:

ID	Message	S...	Line	Location	Host N...	Date
JOBINFO I	BUILD was OK for H014680.PLB (A4702641)JOB25056(RZ1)	0	0	RDZ.P0.A470264...	RZ1-RDZ	Sep 29, 2009 12:...
ACRS070 I	Length of variable name must be at least 2 digits;Ignore this for CORBA progr...	0	28	RDZ.P0.A470264...	RZ1-RDZ	Sep 29, 2009 12:...
IBM1195I W	Argument to MAIN procedure is not CHARACTER VARYING.	1	7	RDZ.P0.A470264...	RZ1-RDZ	Sep 29, 2009 12:...
IBM1214I W	A dummy argument will be created for argument number 2 in entry reference ...	1	44	RDZ.P0.A470264...	RZ1-RDZ	Sep 29, 2009 12:...
IBM1195I W	MAIN procedure is not CHARACTER VARYING.	1	3	/local_pli_playsta...	Local	Sep 28, 2009 3:2...

A collaborative environment

