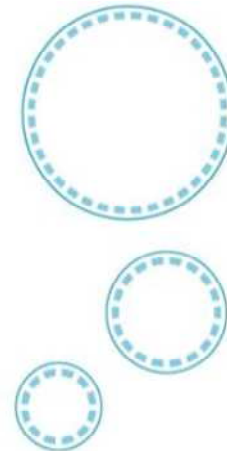# Congreso de Software **IBM** 2010

Construyendo un planeta más inteligente

IBMAGINA

Un planeta más inteligente necesita software más inteligente

Miguel Gómez Bernabéu

Director zSW Sales Manager SPGI

Nuevo Paradigma del Desarrollo de Aplicaciones en zSeries
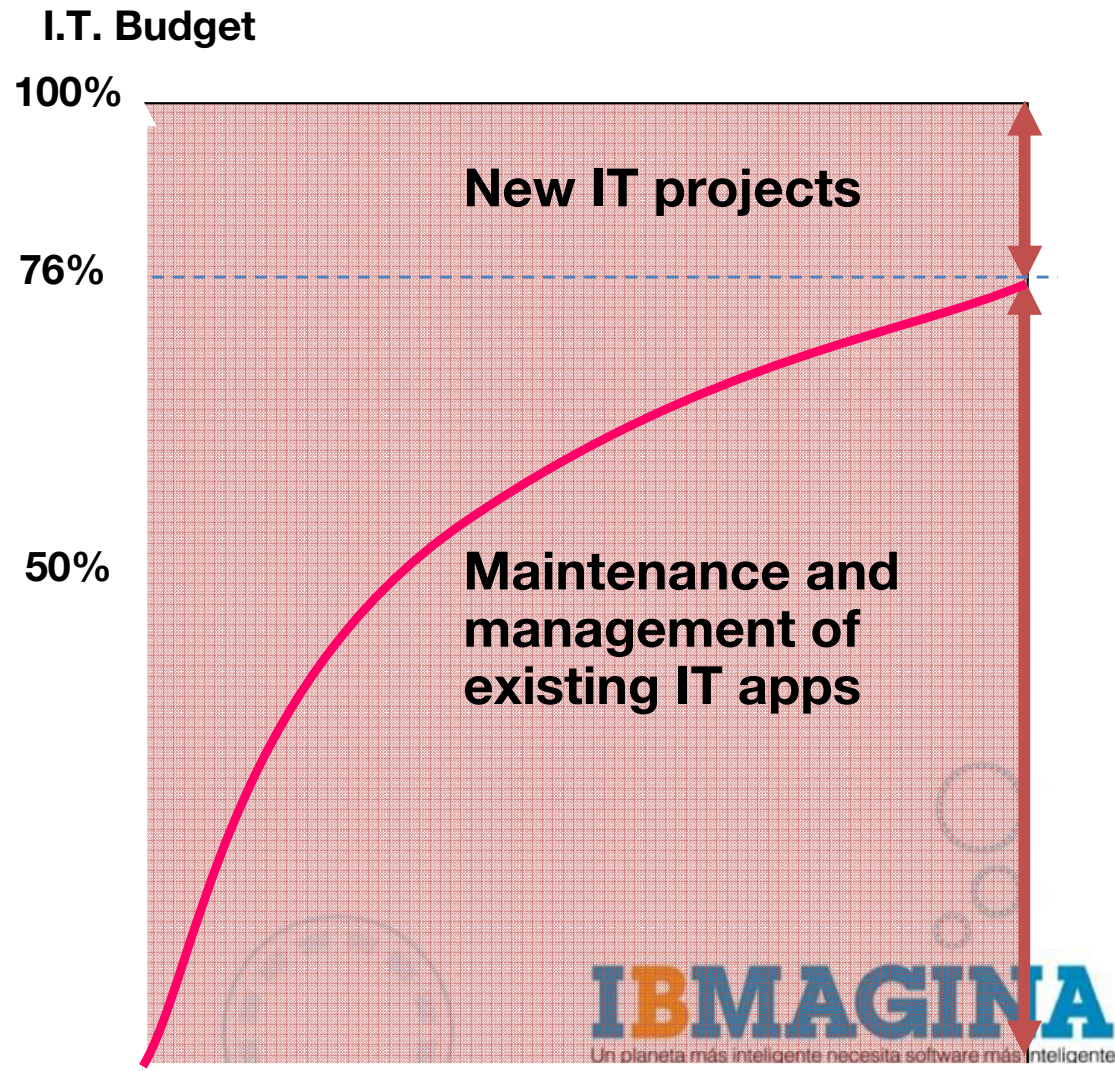
Cómo Desarrollar …
- **Más Rápido**
- **Más Eficiente**
- **Más Barato**

… y en zSeries

Where are you spending your IT Budgets?

"76% of I.T budgets are spent on MAINTENANCE, leaving only 24% for NEW INVESTMENTS."
--- Forrester Research

I.T. Budget

100%

New IT projects

76%

50%

Maintenance and management of existing IT apps

Revolutionize development and maintenance

IBM

Increase flexibility by revitalizing existing application portfolio

Improve application effectiveness through **understanding**, **consolidation**, and

modernization to extend value and reduce maintenance costs

Boost productivity and accelerate innovation with modern skills
Bridge current skills gap and attract new talent by utilizing a modern**,
multiplatform and integrated development environment**

Maximize organizational agility by bridging development silos
Reduce operational costs by deploying a **common team infrastructure**
across both mainframe and distributed environments

Defer capital expense by optimizing application infrastructure
Improve application performance with **latest compilation technology** and
leverage an affordable **solution edition** for System z application development

Rational Software Delivery Platform for System z

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IBM Rational Modernization solutions can help

Optimize your applications, people, team and infrastructure investments

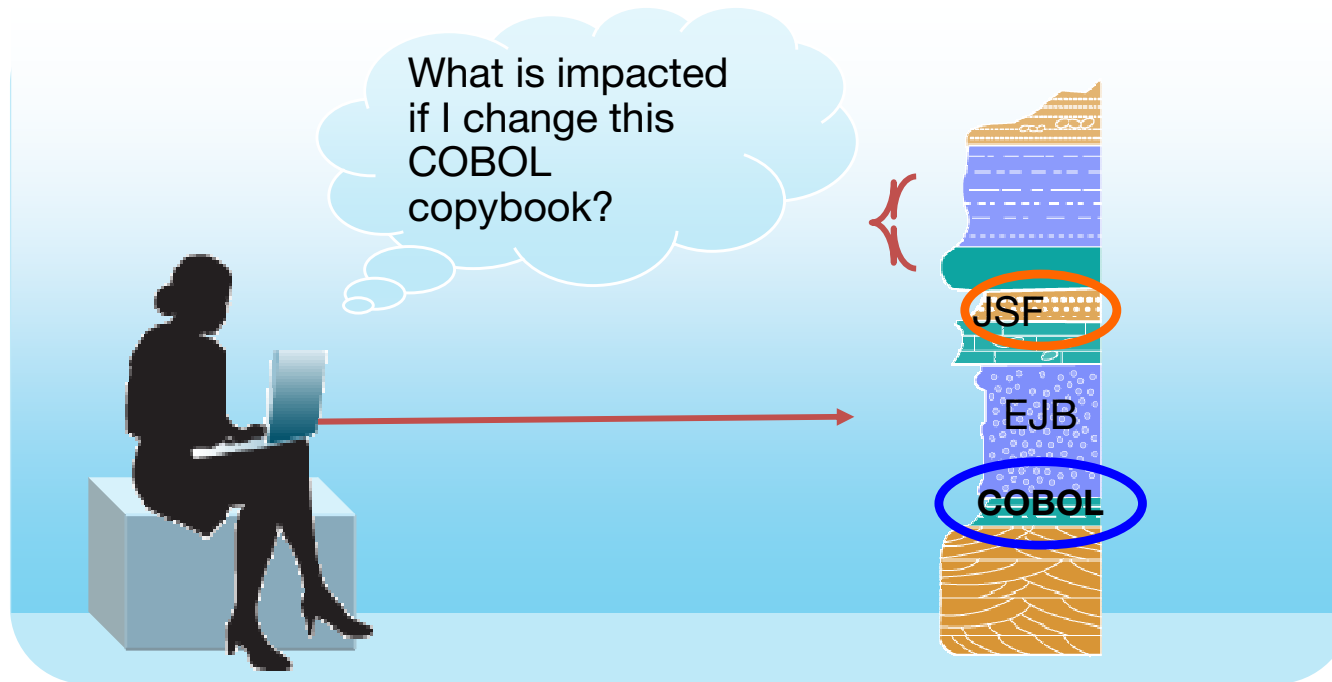| Increase flexibility	Boost productivity	Maximize business agility	Increase system utilization
Revitalize Applications	**Empower People**	**Unify Teams**	**Exploit Infrastructure**

- **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 leveraging hardware capabilities

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Enterprises want to…

Understand the impact and cost of change to their IT systems

Revitalize
Applications

> What is impacted if I change this COBOL copybook?

JSF

EJB

COBOL

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.

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Solution: B. I. for applications

Restore lost application knowledge via technical analysis

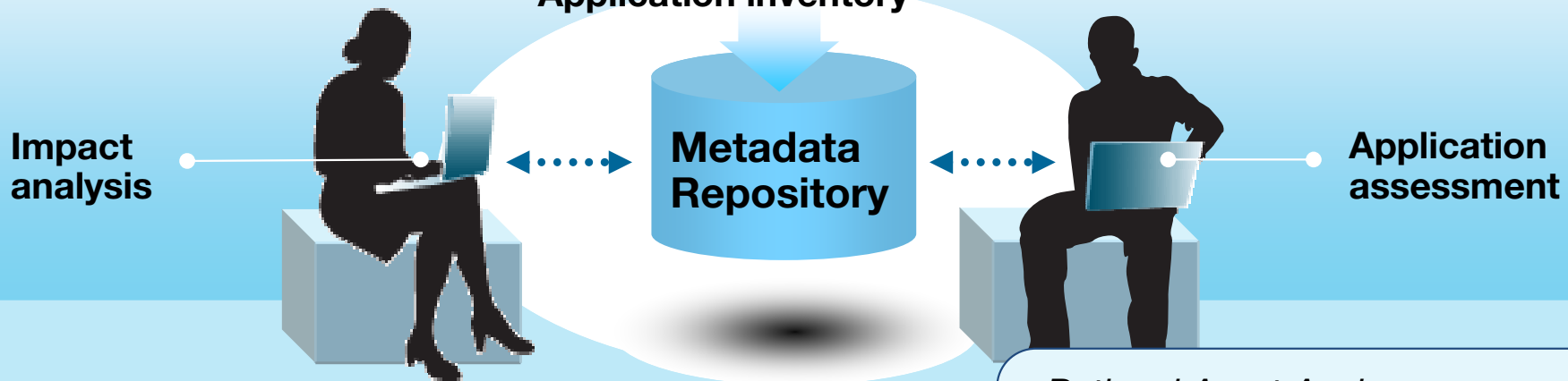**Revitalize Applications**

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

Impact analysis

Metadata Repository

Application assessment

Rational Asset Analyzer
WebSphere Studio Asset Analyzer
Application Health Assessment

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

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Enterprises want to…

Reuse existing assets to reduce duplication and speed time to market
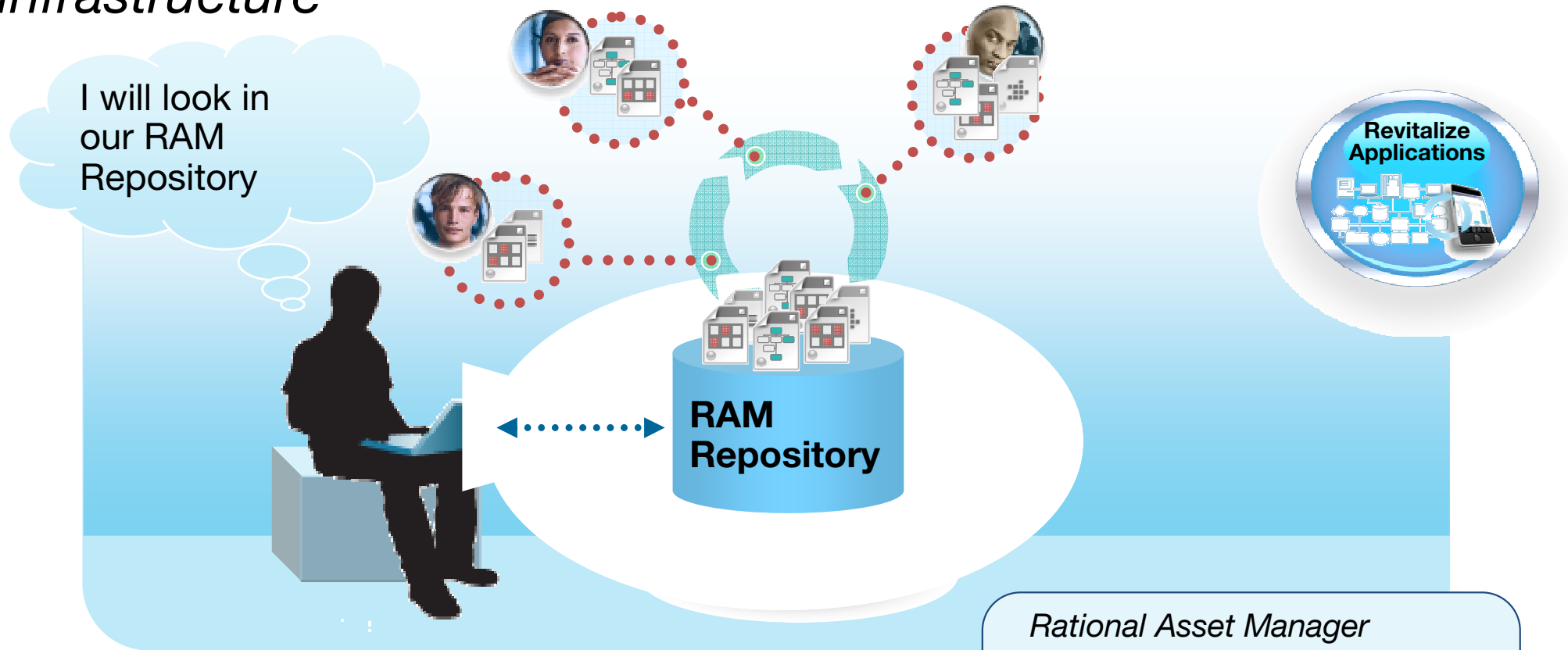
Do we already have code to do this?

Revitalize Applications

But…

They do not have the infrastructure to establish a reuse culture

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Solution: Operational reuse

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

I will look in our RAM Repository

RAM Repository

Revitalize Applications

Rational Asset Manager

WebSphere Service Registry and Repository

Delivering…

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

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Enterprises want to…

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

Revitalize Applications
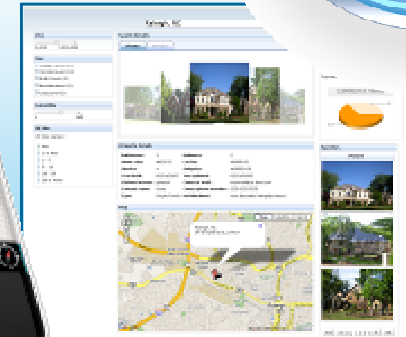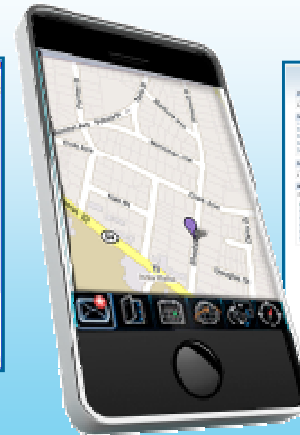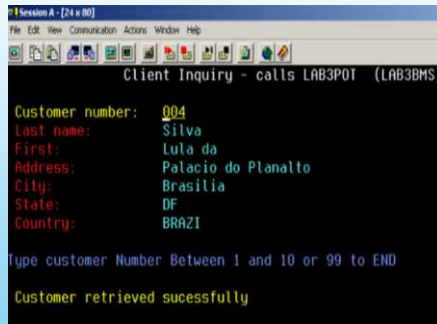
But…

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

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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

Revitalize Applications
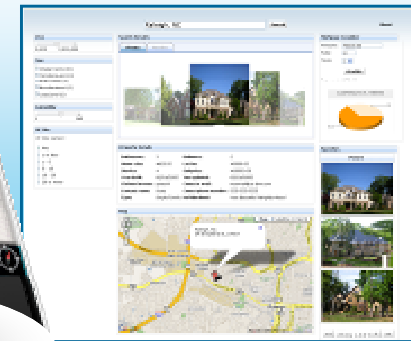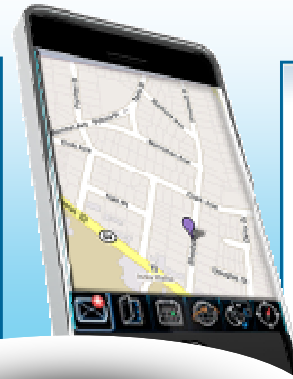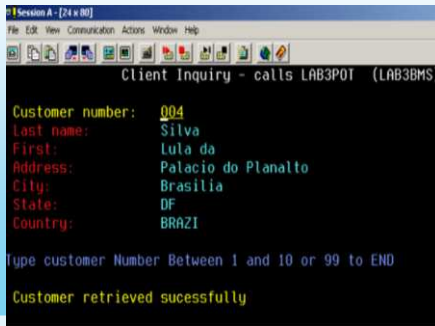
Rational EGL

Host Access Transformation Services

Rational Developer for System z

Rational Developer for Power Systems

Rational Business Developer

Rational Application Developer

Delivering…

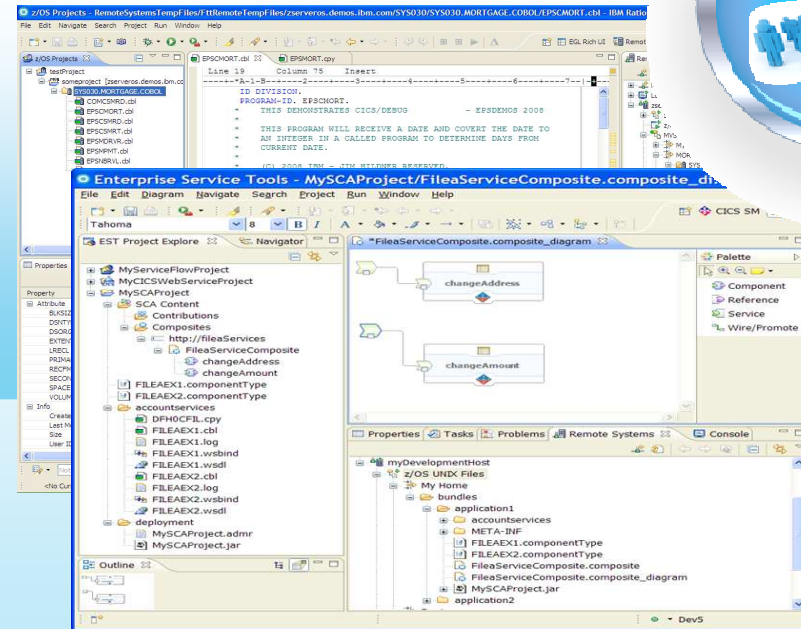*Greater customer satisfaction, lower employee training costs, and fewer errors from more modern and compelling UIs*

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Enterprises want to…

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

Empower People
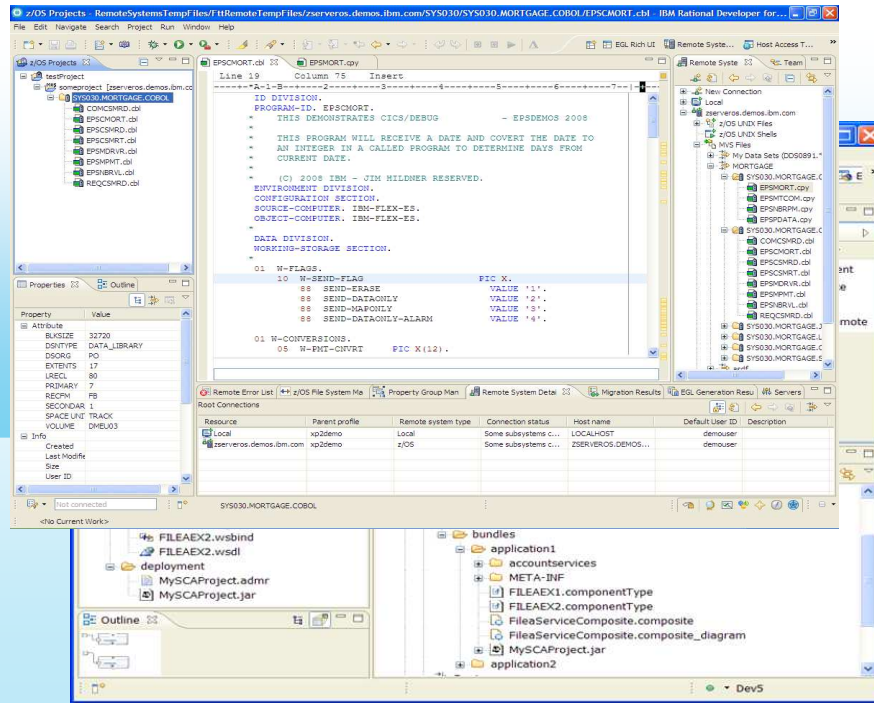
But…

They have antiquated development tools which deliver low productivity and are difficult to accept for 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

Empower People

Rational Developer for System z

Rational Developer for Power Systems

Rational Application Developer

Rational Business Developer

System z Solution Edition for Application Development

Delivering…

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

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The original System z development environment

*ISPF has provided consistent tooling for decades…but it is limiting*

Challenges…

- Constant connection to mainframe is required
- Development shares processor with production use; gets lower priority
- Inability to create cross platform components
- ISPF green screen UI is unappealing to new hires
- MIPS used for development vs. production

Today's mainframe development environment with a modern IDE (and still some ISPF)

Empower People

RDz user

RDz user

ISPF user

RDz user

ISPF user

ISPF user
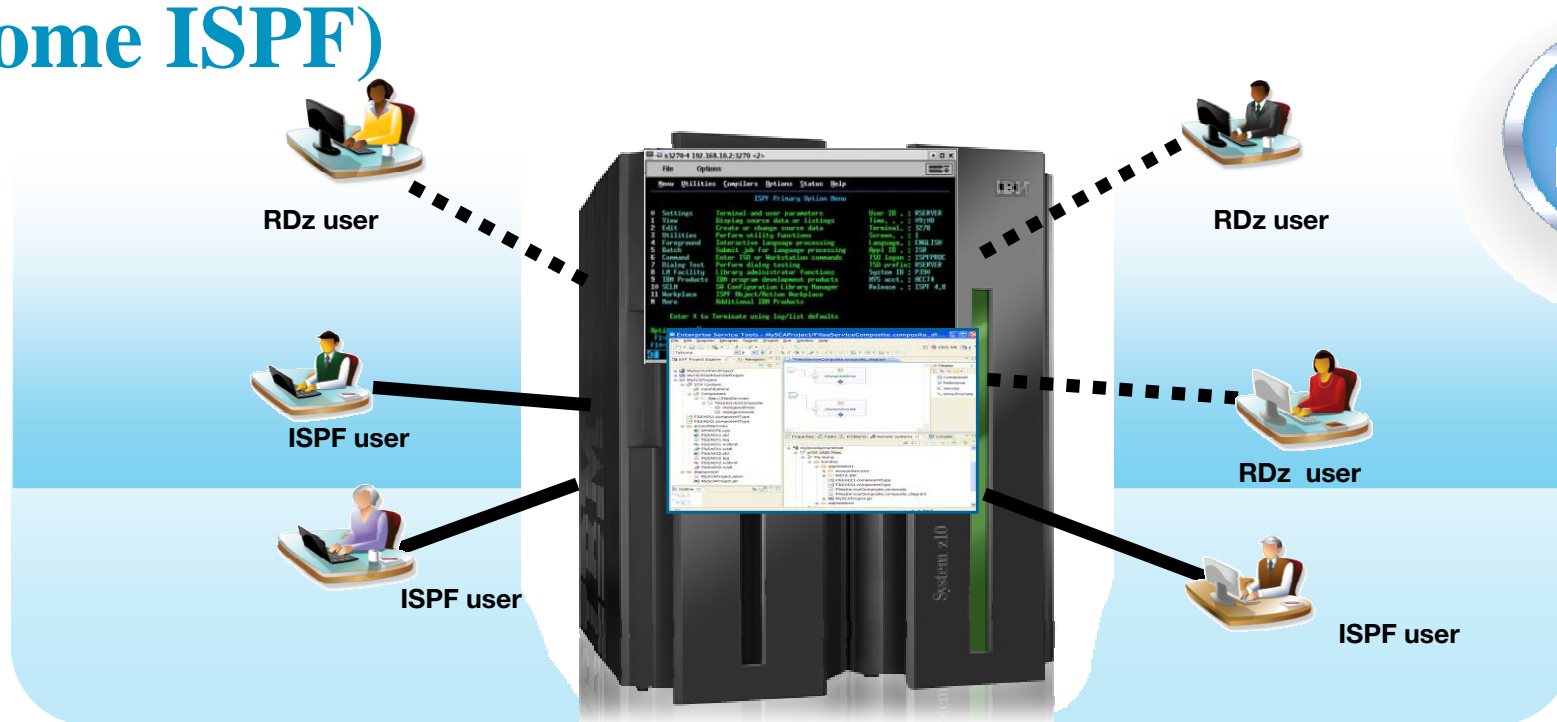
Modern IDEs add value
- Higher productivity; more attractive for new developers
- Ability to offload some development MIPS
- Integration with complete application lifecycle tools

But challenges remain:
- Business pressures to reduce development MIPS further
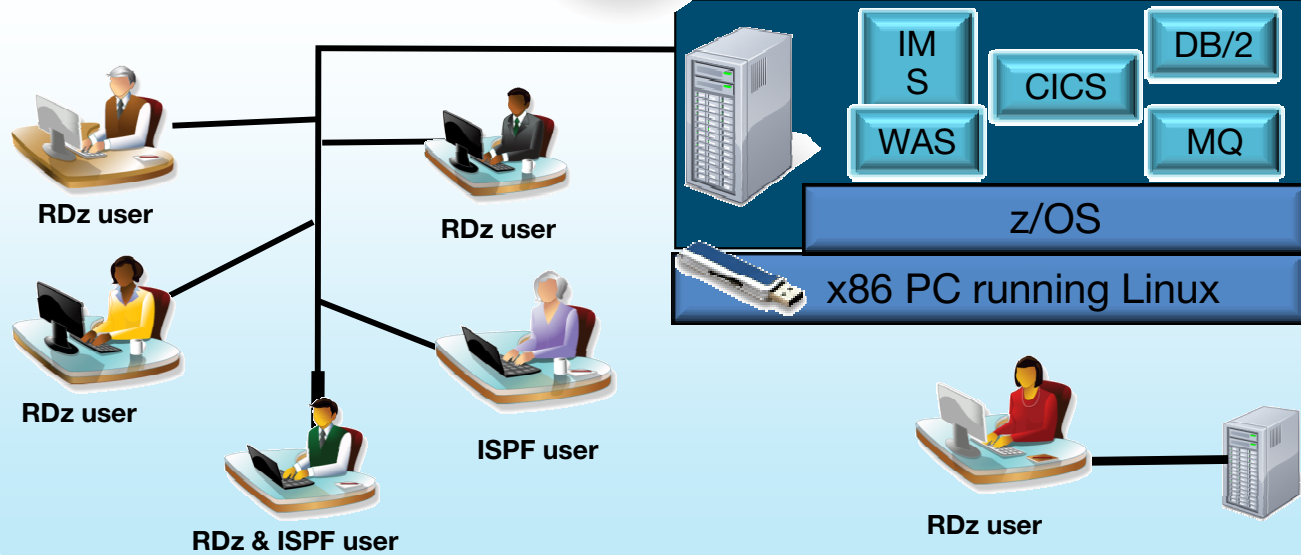- Test delays caused by dependencies on operations team, thus hurting productivity

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Announcing the RDz Unit Test Feature

System z environment for testing on x86 Linux systems

NEW!

Empower People

COBOL, PL/I, C++, Java, EGL, Batch, Assembler, Debug Tool

| IMS | CICS | DB/2 |
| WAS | | MQ |

z/OS

x86 PC running Linux

RDz user

RDz user

RDz user

ISPF user

RDz & ISPF user

RDz user

- Liberate developers to rapidly prototype new applications Develop and test System z applications anywhere, anytime

- Free up mainframe development MIPS for production capacity

- Eliminate costly delays by reducing dependencies on operations staff

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Enterprises want to…

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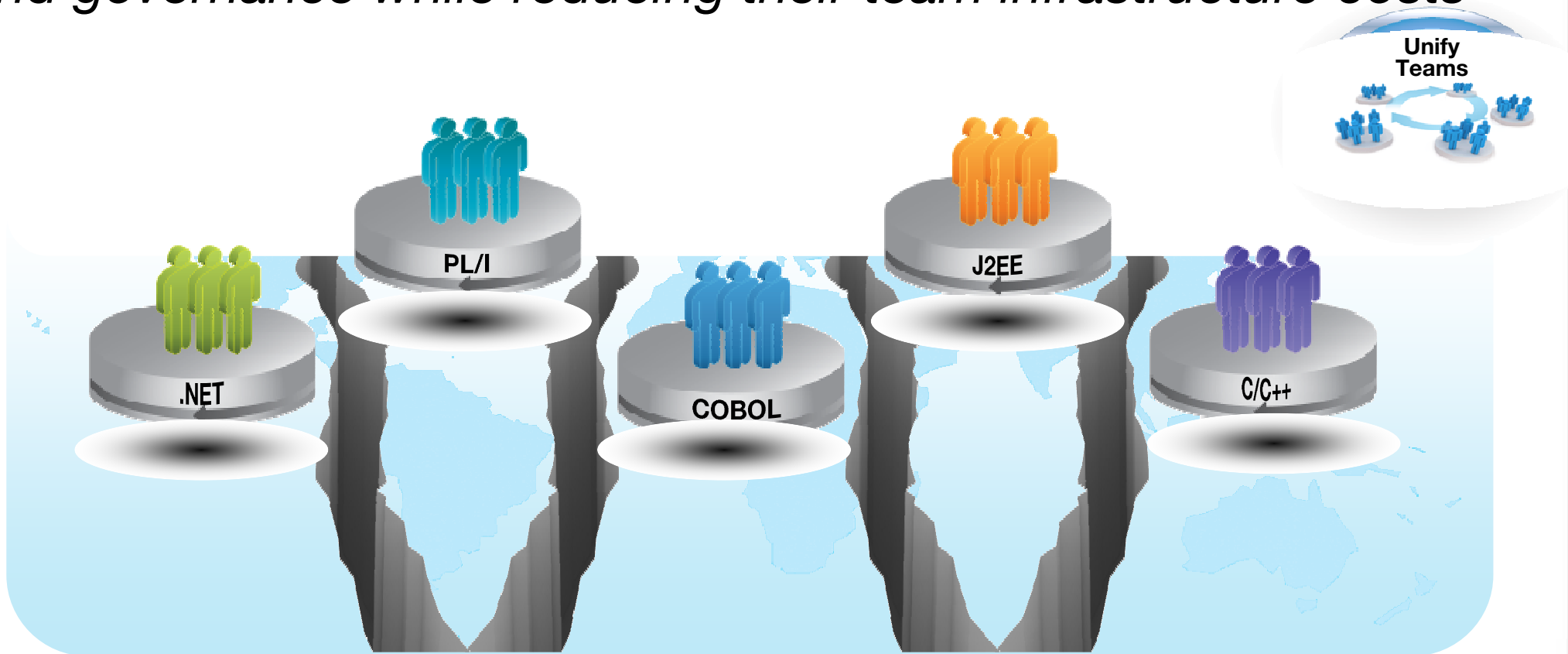
But…

They have "islands" of development, each with different tools, processes and team infrastructure, and do not support real-time collaboration or integrated, comprehensive oversight
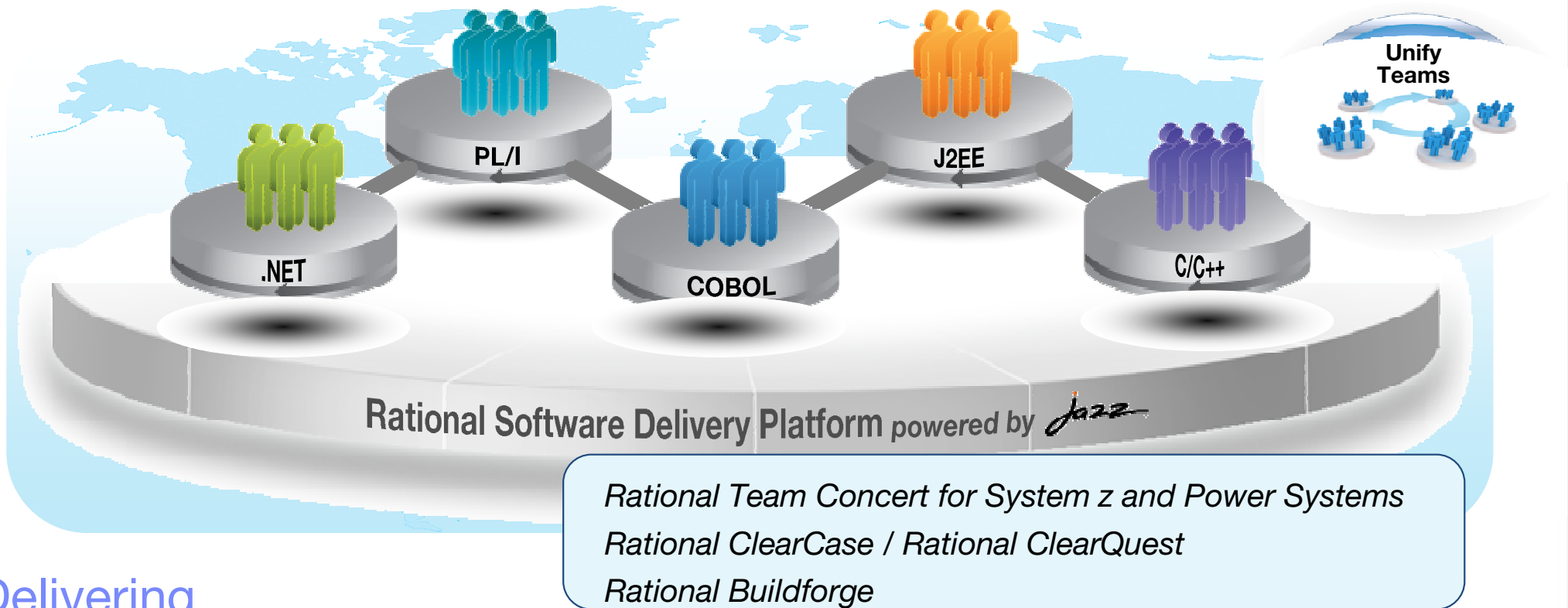
Solution: Collaborative app. lifecycle management

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

Rational Software Delivery Platform powered by *Jazz*

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

Enterprises want to…

Maximize application performance on existing hardware to reduce capital expenses

Exploit Infrastructure

But…
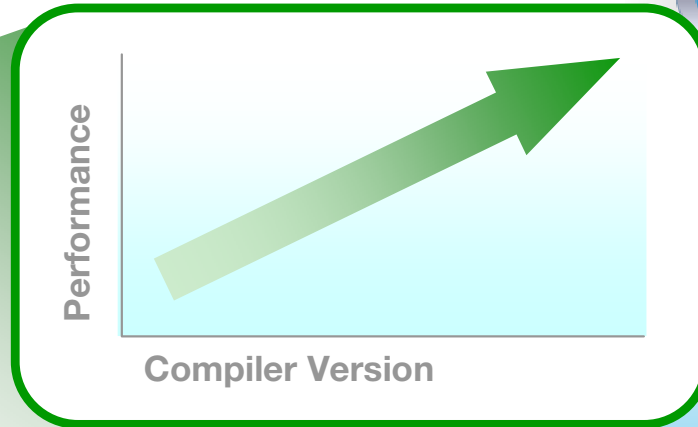*They have back-level compilers or are not fully using optimization*

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Solution:Advanced compiler technology

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

Exploit Infrastructure

Performance

Compiler Version

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

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

- 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

Achieving business agility now with WebSphere on System z

Discover Insights that enable innovation

Enhance awareness and understanding across processes and ecosystems

Maximize the value of business **interactions**

Access rich information and applications at the right time and in the right context

Optimize productivity and resources

Broadly flexibly and continuously automate and govern processes

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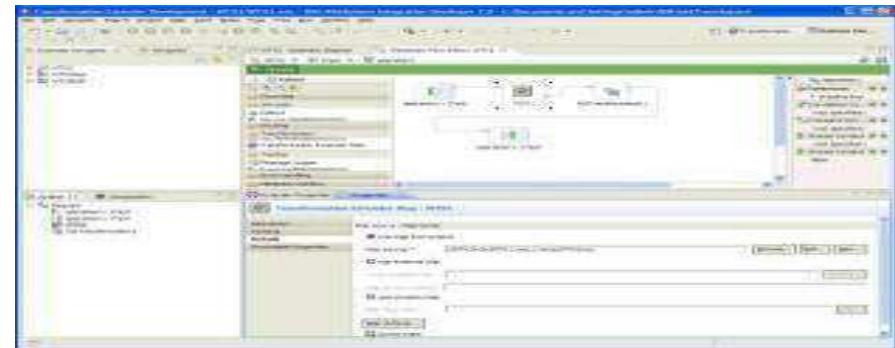
Discover insights that enable innovation

Enhance awareness and understanding across processes and ecosystems

WebSphere Industry Content Packs – Available on z/OS

- **Reduce costs and deploy faster** with more Industry Assets across more processes
- **Start proofs of concepts quicker** with NEW out-of-the-box Industry Solution Templates

WebSphere Transformation Extender for z/OS

- **Rapidly Deploy industry transformation** with new bundled Healthcare and EDI packs
- **Expanded ease-of-use and portfolio integration** with WebSphere ESB & Process Server

Banking

Healthcare

Telecom

Insurance

Industrial Product Lifecycle Management

Business Process Management

Predefined industry packs for Healthcare, Financial Services, Insurance and EDI

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Now Supports Entire WebSphere BPM Lifecycle!

Maximize the value of business interactions

Access rich information and applications at the right time and in the right context

### WebSphere Business Events for z/OS V7

- Manage events from a wide variety of sources
- Detect, evaluate, and respond to real time events and patterns
- Provide business user authoring tools

WebSphere Message Broker for z/OS V7.0

- Easier to install and configure
- Universal connectivity for SOA
- Dynamic operational management

WebSphere MQ for z/OS V7.0.1

- Increase availability
- Increased ROI of z/OS with 64-bit storage and increased performance
- Reduced TCO and accelerate ROI with new options for high availability messaging
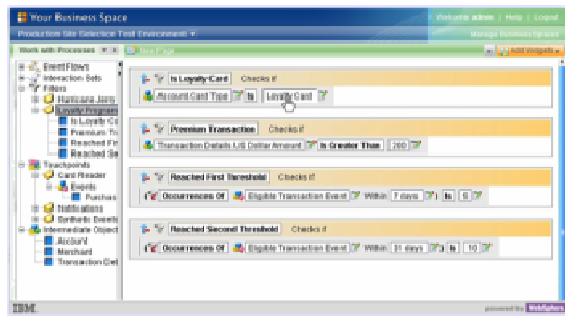
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Optimize productivity and resources

Broadly flexibly and continuously automate and govern processes

IBM

WebSphere Process Server for z/OS V7.0

- Empowers users and accelerates productivity
- Accelerate Time to Value
- Enhanced capabilities for creating, working with and administering human workflow

WebSphere ILOG Business Rule Management Systems*

- Rapidly deploy changes and extend rule authoring
- Improved integration with System z applications supporting CICS
- Provides Rule management and governance

WebSphere MQ File Transfer Edition for z/OS V7.0.2

- Reliable, managed file transfer solution for moving files - regardless of size
- Enhanced security features
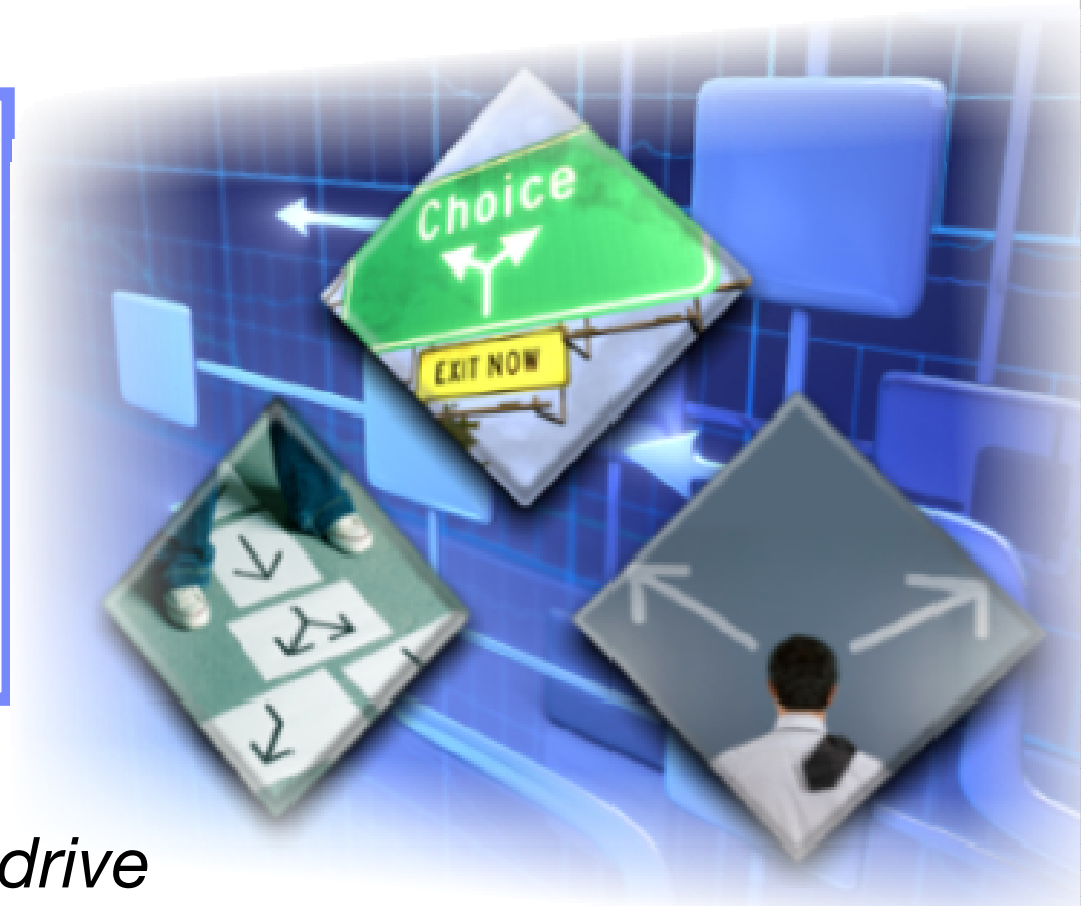- Able to take control of managed file transfers with SOA

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Flexible decision automation increases agility and enables rapid change thru ILOG

- Improve agility and time to market

- Manage rule based decisions
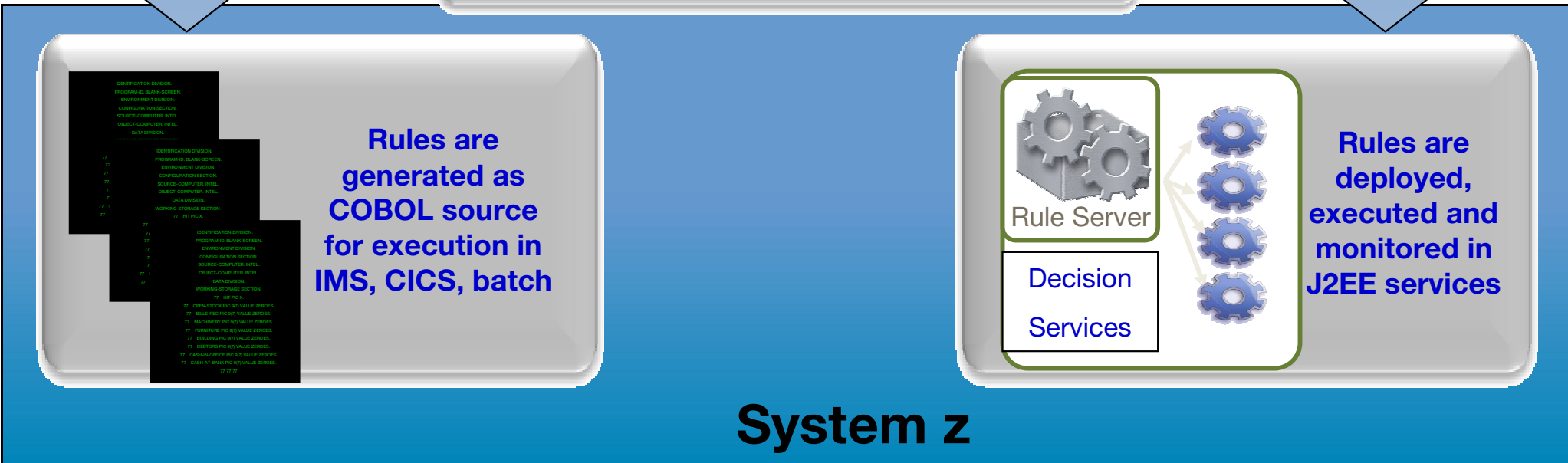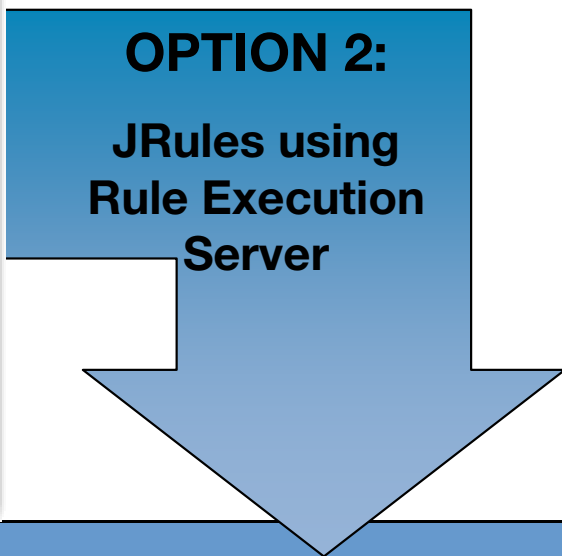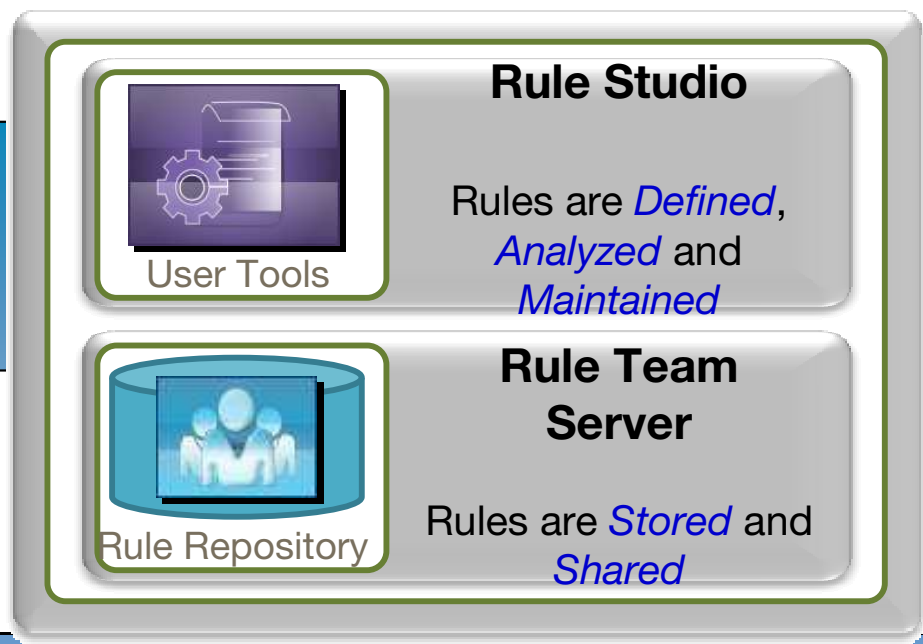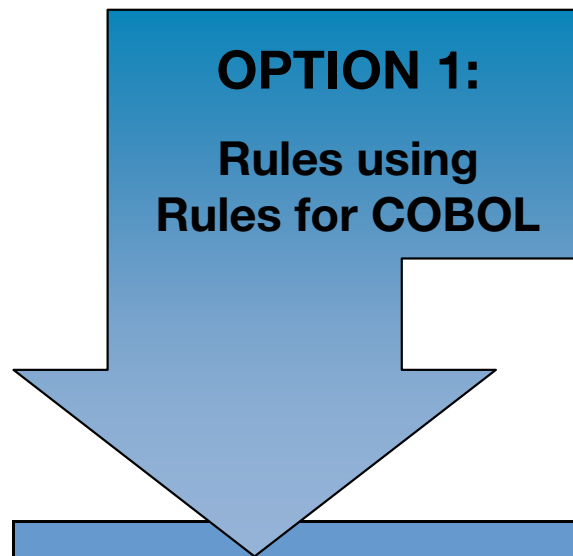
- Incremental application modernization

Business rules to drive flexible process automation

ILOG BRMS System z Options

Rule Studio

Rules are *Defined*, *Analyzed* and *Maintained*

OPTION 1:

Rules using Rules for COBOL

User Tools

Rule Team Server

Rule Repository

Rules are *Stored* and *Shared*

OPTION 2:

JRules using Rule Execution Server

Rules are generated as COBOL source for execution in IMS, CICS, batch

Rule Server

Decision Services

Rules are deployed, executed and monitored in J2EE services

System z

Overview of Rules for COBOL

IBM

User Tools

Rule Repository

- Create BOM
- Create Business vocabulary
- Write Rules
- Create ruleflows
- Generate the COBOL source

BRMS

Rules for COBOL

COBOL copybook

COBOL Rule generation

- Create Copybook
- Include COBOL generated as a subprogram
- Compile main program
- Call generated subprogram

Mainframe Application
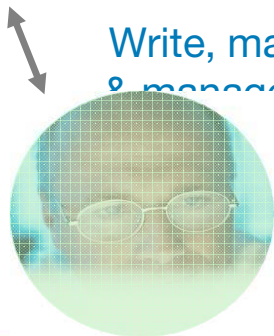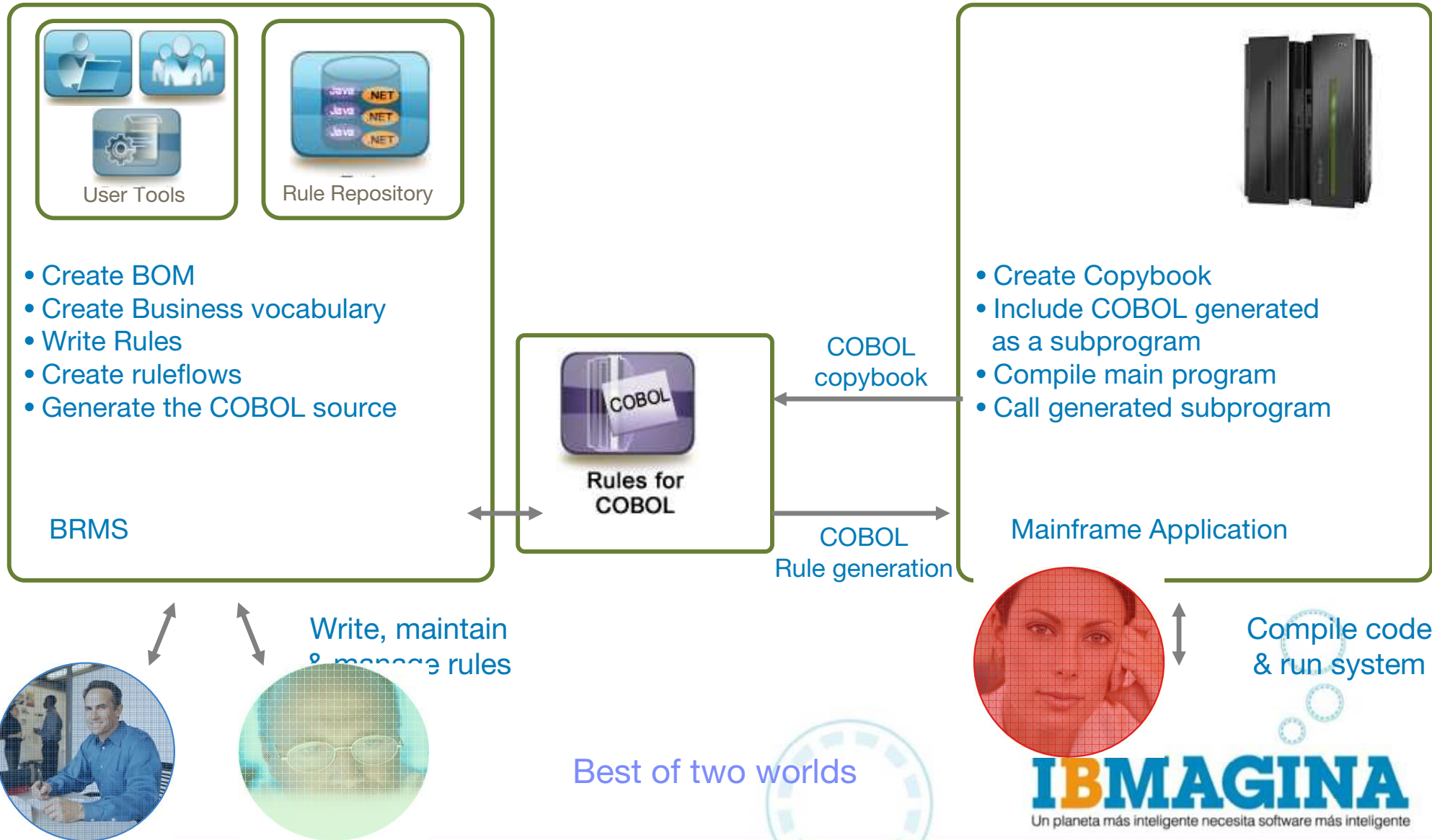
Write, maintain & manage rules

Compile code & run system

Best of two worlds

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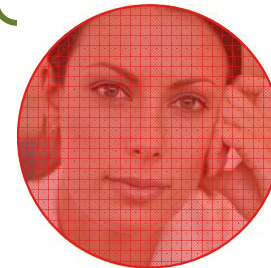
R4C Improving Changes with CICS Channels & Containers

- Compile the generated rules program independently

- No need to re-link the many programs calling the rules

- Rules program can run in a different CICS region

- CICSPlex Workload Manager can be used to achieve the best throughput of the rules

Program A

Program B

Program C

EXEC CICS Link with Channel and Containers

Wrapper Program

Rules for COBOL Program

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