IBM System z Forum

IBM

Developing tomorrow's applications using the foundations of yesterday's work

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250   **Billion lines of Cobol Code in existence**

1   **Million Cobol Applications currently Active**

5   **Million lines of Cobol Code written every year**

80   **% of all active Code is Cobol**

So what does this mean

The mainframe is alive and well!

The mainframe is not going away anytime soon!

But...

In today's mobile world, applications are becoming disposable. The mainframe needs to be accessible.

In today's economic climate enterprises have to find ways to leverage and reuse the assets they already have!!
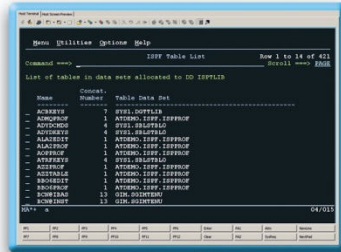
IBM Enterprise Modernization

An incremental and continuous approach to achieving greater value and performance from your IT investments

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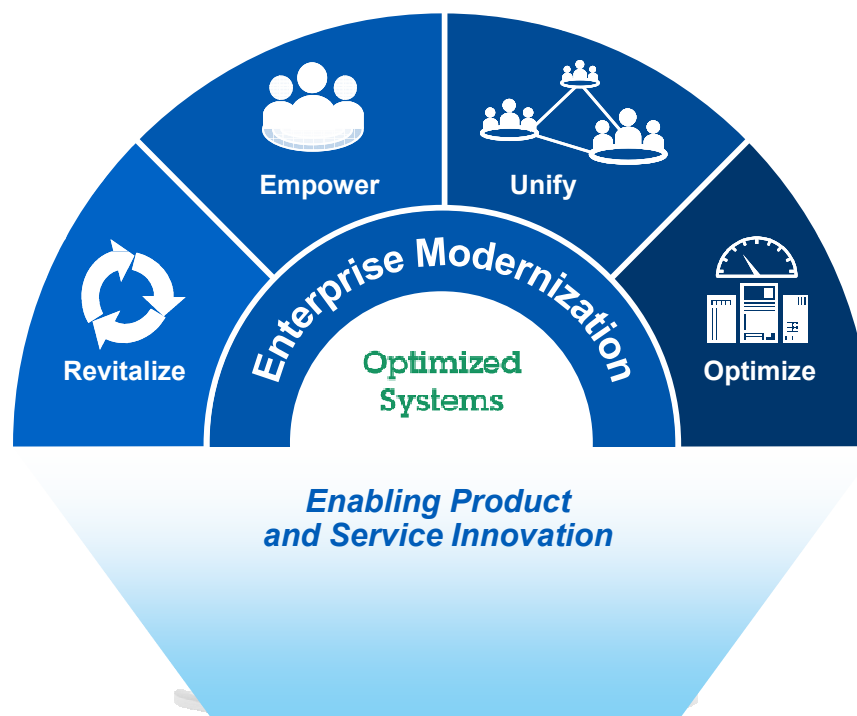
Rational Host Access Transformation Services
## *Achieve fast ROI with low risk*

IBM Host Access Transformation Services

- Quickly and easily transform green screen

- Low cost and low risk

- Increase productivity and reduce training costs

- Integrate host business processes and data

Enterprises want to…

Understand the impact and cost of changes to their IT systems, harvest, minimize rework reduce maintenance costs

Empower
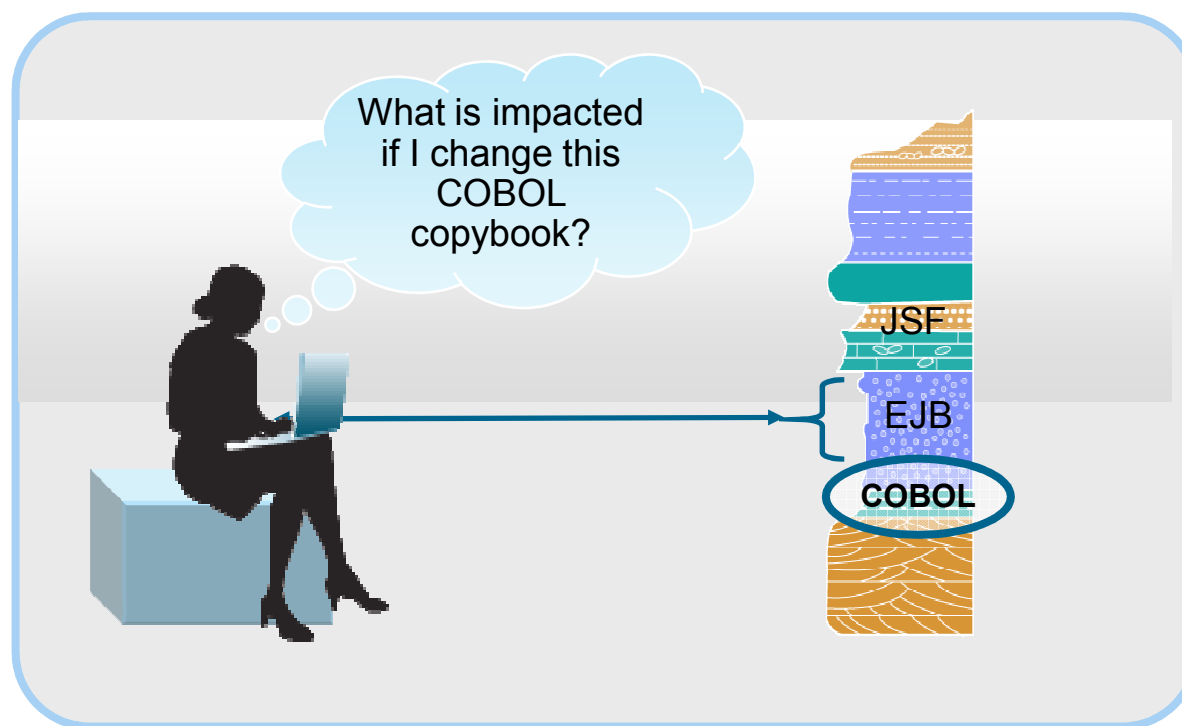
But…

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.

Rational Asset Analyzer

Empower

- **Quickly understand flow and relationships across the enterprise with little or no documentation**

- **Reduce time to market & risk of resource shortage by understanding the impact of change, upfront**

- **Choose from two user interfaces for ease of access and use**

- **Supports enhanced usage Scenarios**

  – COBOL Business Rule identification and capture
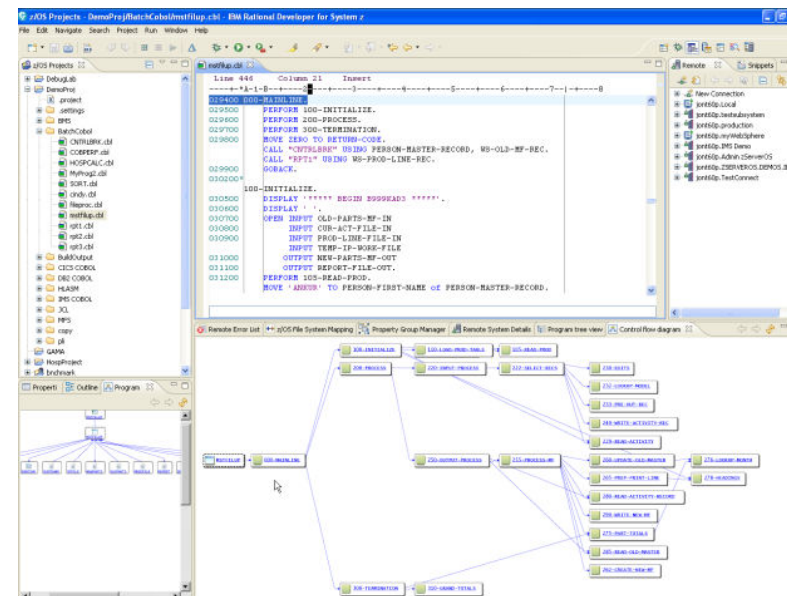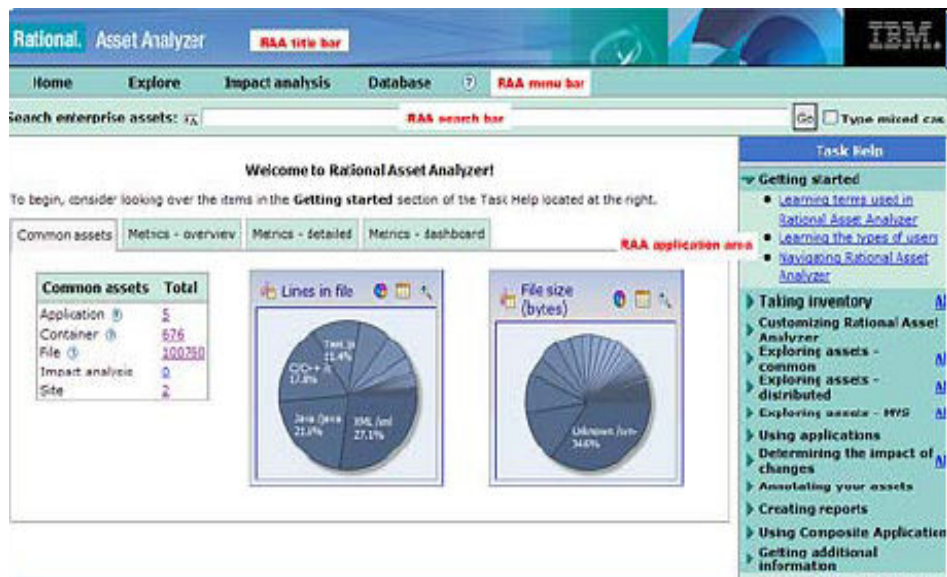
Enterprises want to…

Increase productivity of their mainframe application development staff, as well as attract new employees to this work

Empower


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     File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

EDIT         DDS0001.TEST.COBOL(HOSPEDIT) - 27.26          Columns 00001 00072
****** ***************************** Top of Data *****************************
000001         *****************************************************************
000002         IDENTIFICATION DIVISION.
000003         PROGRAM-ID.  HOSPEDIT.
000004         AUTHOR. JON SAYLES.
Command ===> _____ Scroll ===> PAGE
 F1=Help      F2=Split     F3=Exit      F5=Rfind      F6=Rchange   F7=Up
 F8=Down      F9=Swap      F10=Left     F11=Right     F12=Cancel
     File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

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000002         PROGRAM-ID.  HOSPCALC.
000003         AUTHOR. JON SAYLES.
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000005         ENVIRONMENT DIVISION.
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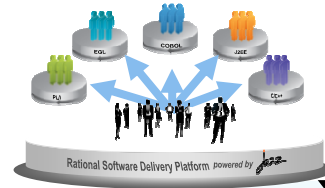
But…

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

Complete set of System z Development and Test capabilities from an integrated development environment
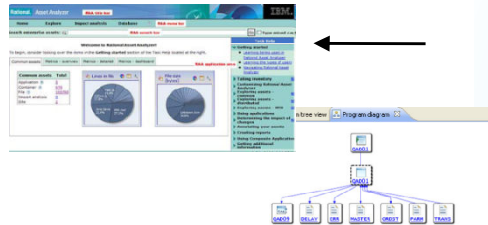
Empower

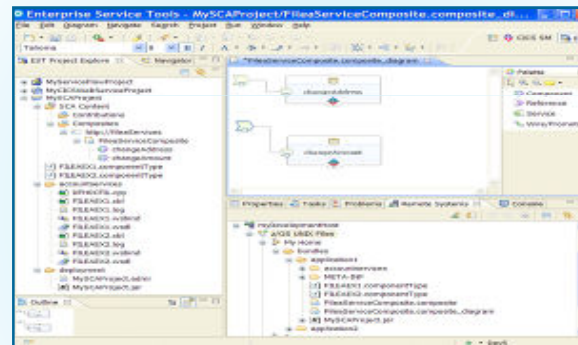Integration with Team Concert for Lifecycle and Source Management

Access to typical System z sub-system functionality in z/OS, CICS, IMS, DB2, WAS

Integration with Asset Analyzer for Application Understanding and Impact Analysis

Rational Developer for System z

Integration with Debug Tool for Development and Test

Integration with Fault Analyzer for Dump Analysis
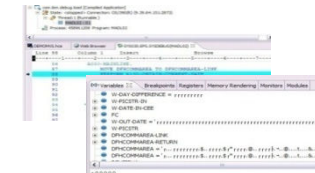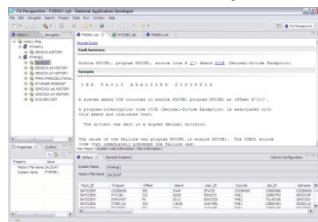
A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, HLASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications
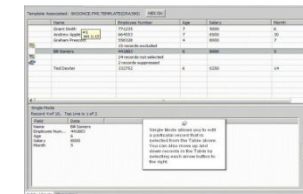
Integration with File Manager for file and test data handling

Integration with RD&T for flexible access to System z environment

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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

Unify

.NET   RPG   COBOL/PL/I   Java/JEE   EGL

Project/Planning	**Requirements**	**Development**	**Testing**
• Business Drivers	• Use Cases	• Test Driven Development	• Scenario-Driven Automation
• Iterations	• Contract	• Build Management	• Fill Cracks
• Contract	• Risk Assess	• Static Analysis	• User Involvement
• Risk Assess	• Threat Model	• Source Management	• Contract Validation
• User Involvement	• Test Requirements	• Pair Programming/Code Review	

Application Lifecycle Management

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

A Unified Development Process

Unify

- Rational Team Concert team support includes
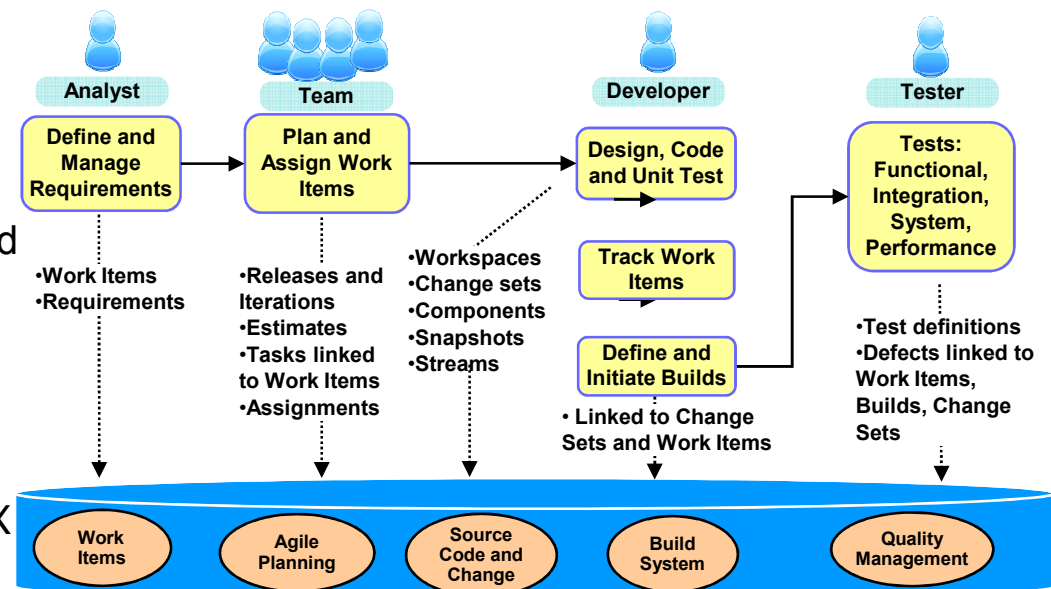 - Cross platform repository
  - Planning & Work item management
  - Team Processes
  - Collaboration
  - SCM support
    - Replace existing mainframe and distributed based SCMs
    - Single, enterprise-wide, cross platform SCM
  - Build and deployment
- Same tool for z/OS, Linux on System z, AIX Linux
- A single User Interface to manage development for all environments
  - Browser or Eclipse client
  - Provide cross platform project status view

Analyst

Define and Manage Requirements

•Work Items
•Requirements

Team

Plan and Assign Work Items

•Releases and Iterations
•Estimates
•Tasks linked to Work Items
•Assignments

Developer

Design, Code and Unit Test

Track Work Items

Define and Initiate Builds

• Linked to Change Sets and Work Items

•Workspaces
•Change sets
•Components
•Snapshots
•Streams

Tester

Tests: Functional, Integration, System, Performance

•Test definitions
•Defects linked to Work Items, Builds, Change Sets

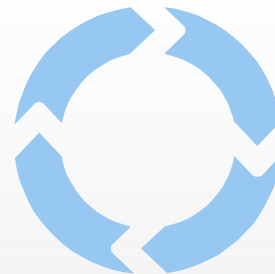Work Items | Agile Planning | Source Code and Change | Build System | Quality Management

Common repository and data schemas for all environments

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Enterprises want to…

Reduce application development MIPs usage and increase development autonomy
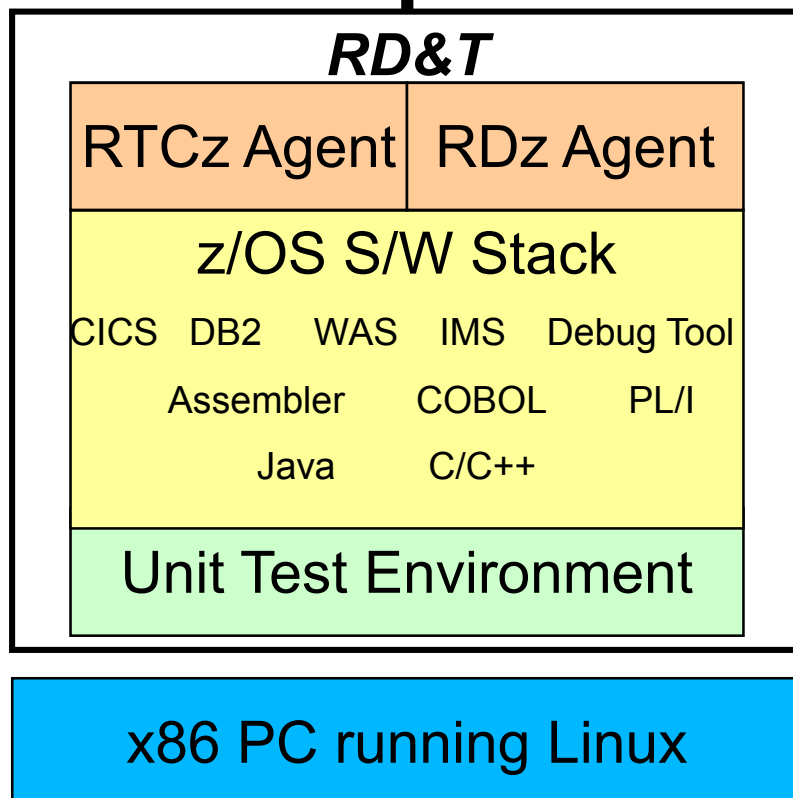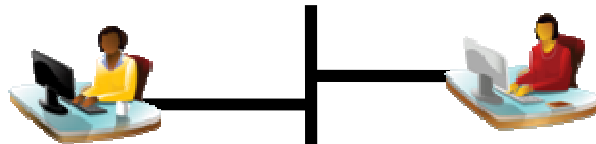

Application Development

Operations

Cost

But…

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

Rational Development and Test Environment for System z frees up Mainframe MIPS and improves testing processes
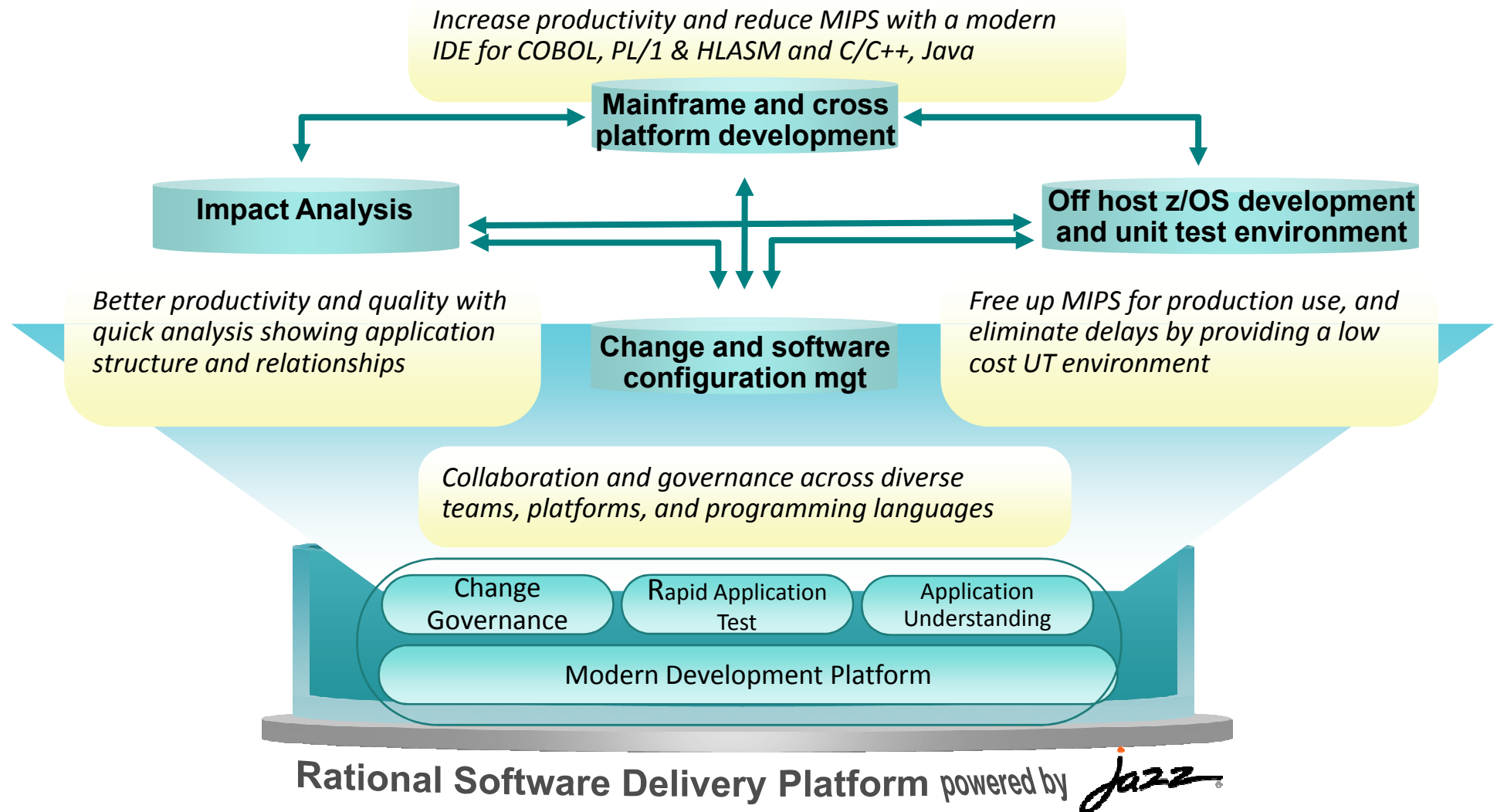
Optimize

RD&T consists of:

- **Unit Test Environment**
  - Unit Test Environment can provide a System z development platform on a PC
  - capable of running z/OS
  - provides great flexibility to run a customized environment

- **Software stack** provides a choice of IBM middleware test environments
  - actual middleware software (including z/OS)
  - actual enterprise compilers
  - no API simulation

- **RDz and RTCz agents**
  - packaged for simplification
  - still need RTC and RDz client license(s) to activate

Benefits

- Liberate developers to rapidly prototype new applications
- Imroved application quality using actual IBM runtimes
- Free up mainframe development MIPS for production capacity
- Eliminate costly delays by reducing dependencies on operations staff

RD&T

RTCz Agent	RDz Agent

z/OS S/W Stack

CICS DB2   WAS   IMS   Debug Tool

Assembler   COBOL   PL/I

Java   C/C++

Unit Test Environment

x86 PC running Linux

Note: This Program is licensed only for development and test of applications that run on IBM z/OS. The Program may not be used to run production workloads of
any kind, nor more robust development workloads including without limitation production module builds, pre-production testing, stress testing, or performance testing.

The IBM Integrated Solution for System z Development

Increase productivity and reduce MIPS with a modern IDE for COBOL, PL/1 & HLASM and C/C++, Java

Mainframe and cross platform development

Impact Analysis

Off host z/OS development and unit test environment

Better productivity and quality with quick analysis showing application structure and relationships

Change and software configuration mgt

Free up MIPS for production use, and eliminate delays by providing a low cost UT environment

Collaboration and governance across diverse teams, platforms, and programming languages

Change Governance	Rapid Application Test	Application Understanding

Modern Development Platform

Rational Software Delivery Platform powered by *Jazz*

250 Billion

1 Million

5 Million

80%

Mainframes Run the World!

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