

Innovate2011

The Rational Software Conference

11th and 12th of October

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



Modern Application Development in a New Productive Environment

Russell Bonner

Consulting IT Specialist

russell.bonner@uk.ibm.com





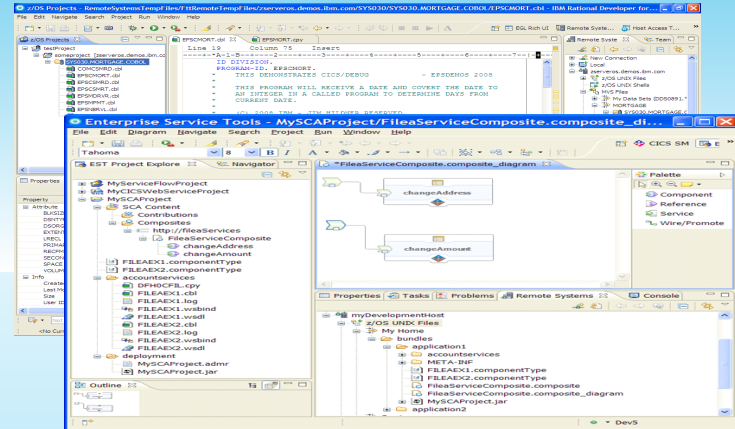
The new Rational Developer for System z Unit Test feature can greatly enhance the way organizations develop, maintain and test mainframe applications. This session will show you how can create and maintain applications utilising **leading-edge z/OS features** in the **unit test** environment prior to release on the mainframe. In providing a a z/OS test environment to a wide range of mainframe developers and testers, you can free up mainframe development resources for production capacity.

Enterprises want to...

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



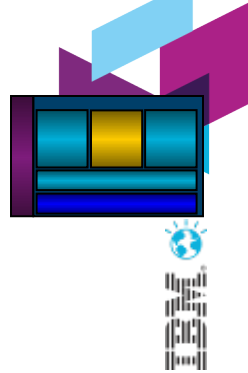
```
Session A - [32 x 80]
File Edit View Communication Actions Window Help
File Edit Edit Settings Menu Utilities Compilers Test Help
EDIT DNET045.STEM.COBOL(IGYIYP) - 01.73 Columns 00001 00072
***** Top of Data *****
000010 IDENTIFICATION DIVISION.
000020 PROGRAM-ID. CALLIYPI.
000030 AUTHOR. IBM PROGRAMMER 33333.
000040 INSTALLATION. STL
000050 DATE-WRITTEN. JAN 25, 199T.
000060 DATE-COMPILED.
000070
000080
*****
Command ==> Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange FT=Up
F0=Down F9=Swap F10=Left F11=Right F12=Cancel
File Edit Edit Settings Menu Utilities Compilers Test Help
EDIT DNET045.STEM.LISTING(IGYIYP) - 01.00 Columns 00001 00072
002769 DSA WILL BE ALLOCATED FOR 00000320 BYTES
002770 @CONSTANT GLOBAL TABLE FOR DYNAMIC STORAGE INITIALIZATION AT LOCATION 00
002771 @INITO CODE FOR DYNAMIC STORAGE INITIALIZATION BEGINS AT LOCATION 005700
002772 + Statistics for COBOL program CALLIYPI:
002773 + Source records = 453
002774 + Data Division statements = 47
002775 + Procedure Division statements = 91
002776 @End of compilation 1, program CALLIYPI, no statements flagged.
002777 @Return code 0
***** Bottom of Data *****
Command ==> Scroll ==> PAGE
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange FT=Up
F0=Down F9=Swap F10=Left F11=Right F12=Cancel
30/015
```



Traditional CICS ISPF-based development

Multiple screens/sessions and multiple disparate tools

20 x 80 characters of content



Innovate2011

RDz-based development

Common development environment for COBOL, PL/I, C/C++, and Java



Syntax Check

Edit Source

Open and edit multiple source and JCL members simultaneously

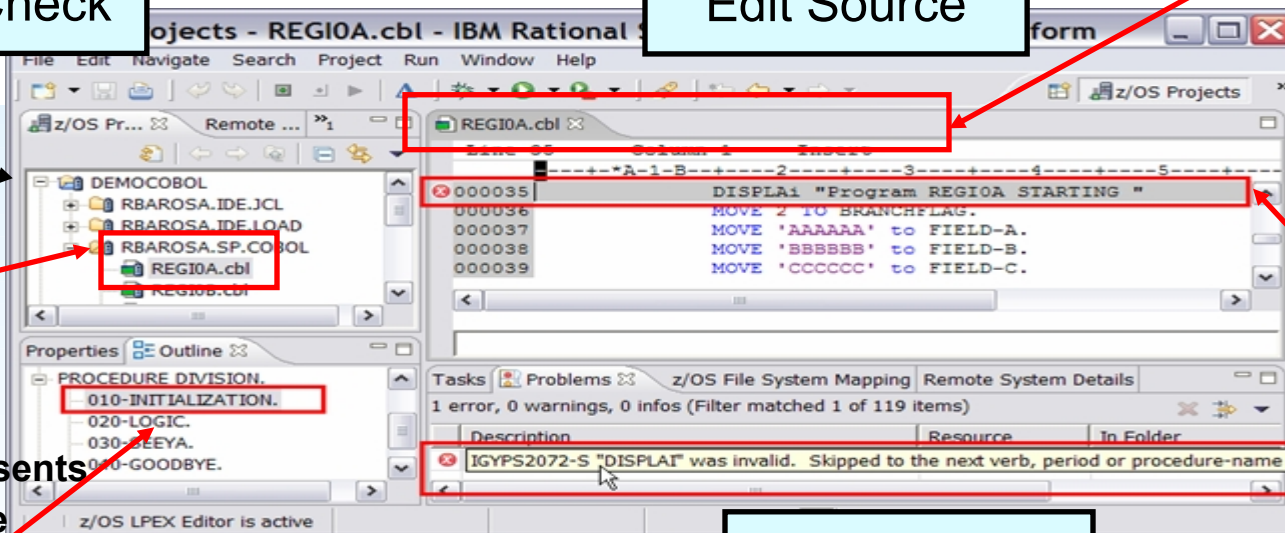
Submit jobs, access job output, or open source members with a single click

Outline view presents COBOL structure

Statement in error indicated in source

Double-Click on the Error

Error list in Problems view



Innovate2011

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



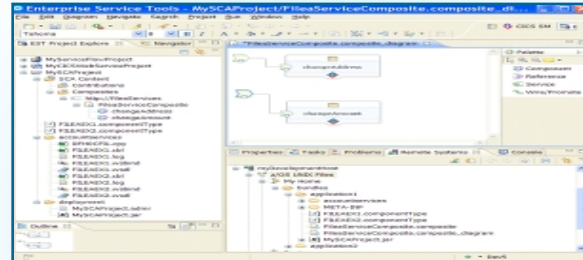
Integration with Team Concert for Lifecycle and Source Management



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



Rational Developer for System z

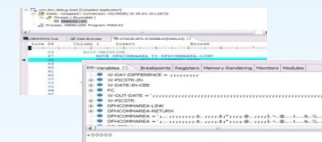


A modern IDE for productive development of cross-platform applications written in COBOL, PL/I, ASM, Java, EGL or C/C++ in System z CICS, IMS, DB2, Batch applications

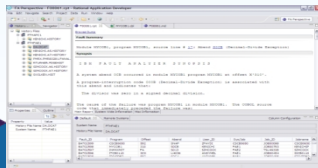
Integration with Asset Analyzer for Application Understanding and Impact Analysis



Integration with Debug Tool for Development and Test



Integration with Fault Analyzer for Dump Analysis



Integration with File Manager for file and test data handling



Integration with RDz UT for flexible access to System z environment



Analyze applications at the speed of thought

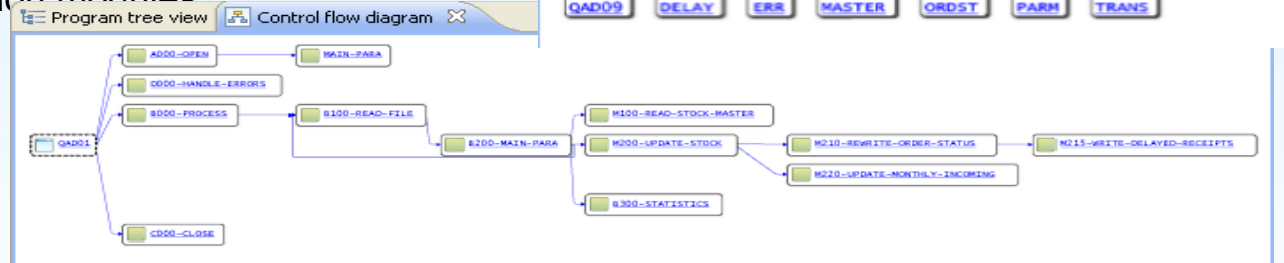
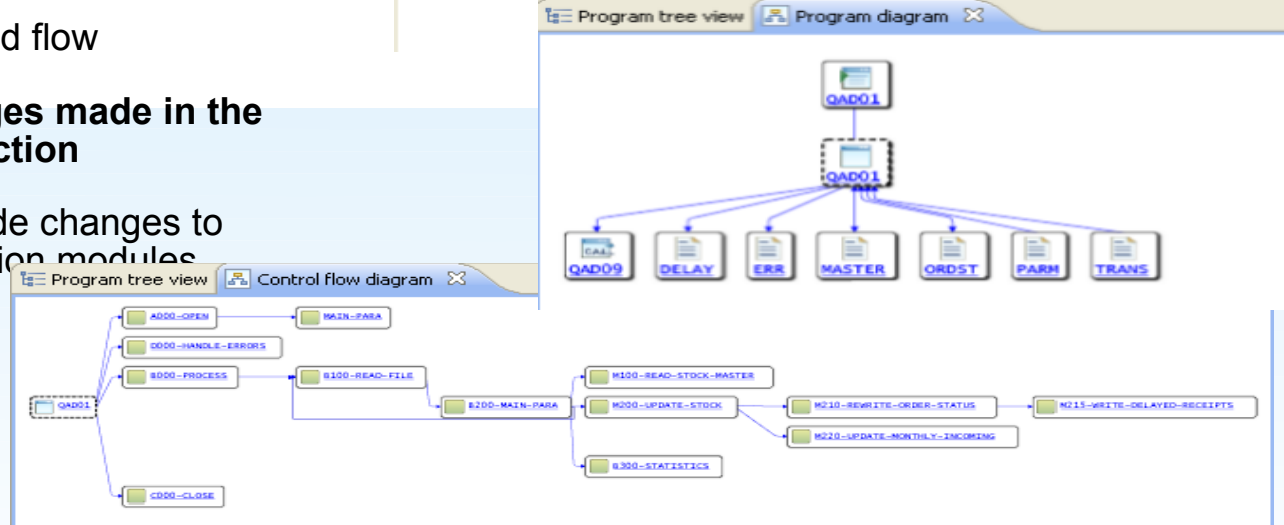
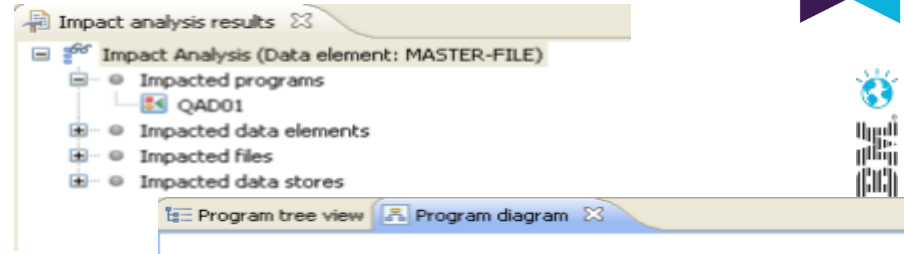


Bring application analysis information into the IDE to aid in program development and understanding

- Link code to data and runtime resources
- Visualize code structure and flow

Understand the effect of changes made in the IDE when deployed into production

- Run impact analysis on code changes to determine effected production modules
- Size testing efforts and create workspaces for changes



ERROR-DA	View source (default)	NUMB	5	5
ERROR-DES	References	CHAR	30	30
ERROR-FIL	Modifications	FD	0	0
ERROR-REC	References and Modifications	GRP	35	0
ERROR-STA	Impact Analysis	UNKN	2	0
FILLER		CHAR	74	74
INP-DELAY-RCP		GRP	21	0
INP-DR-CPT-EX		CHAR	6	6
INP-DR-CPT-EX		CHAR	4	4



Create Enterprise Services

Web services provide standardized access to assets for different software applications residing on disparate platforms

Web service definitions provide abstract interfaces which allow for loose coupling between business components – implementation can vary without affecting consumers

You can reuse applications exposed as Web services in a variety of service-oriented architecture frameworks, such as a process choreographer or an enterprise service bus.



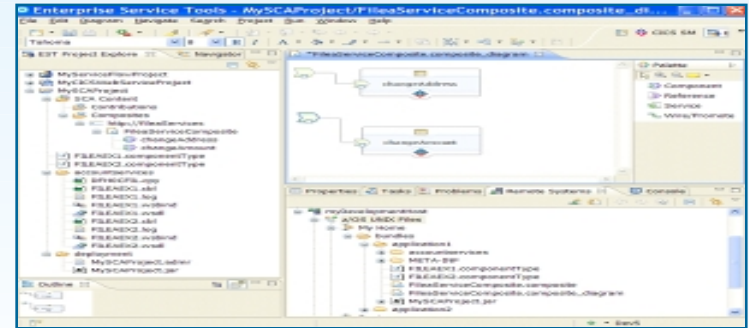
Integrate with Other Tools

Take advantage of the Eclipse environment to gain access to a wider variety of data and functionality

Create or install third-party Eclipse plug-ins to extend and specialize the development experience

Work with the IBM Problem Determination tools from the RDz environment

- Debug Tool
- File Manager
- Fault Analyzer



Today's mainframe development environment with RDz and ISPF

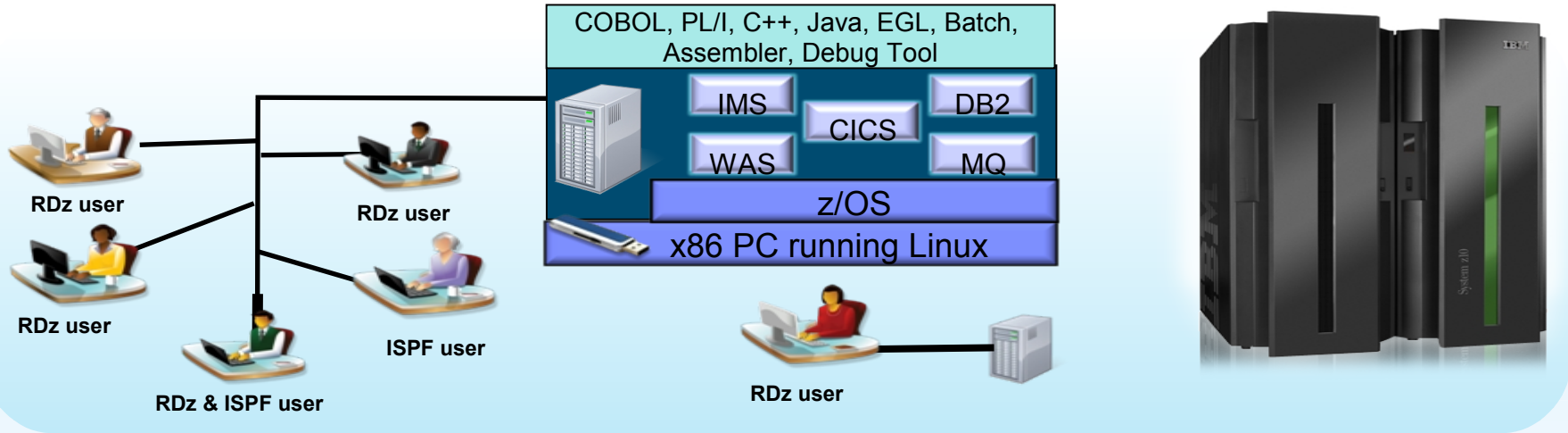
RDz provides relief...but customers want more



- Productivity enhancing tooling; more attractive tooling for new developers
- Ability to offload some development MIPS usage
- Integration with complete application lifecycle tools
- Business pressures to manage mainframe MIPS usage for development

The RDz Unit Test Feature

The ultimate in modern application development for System z

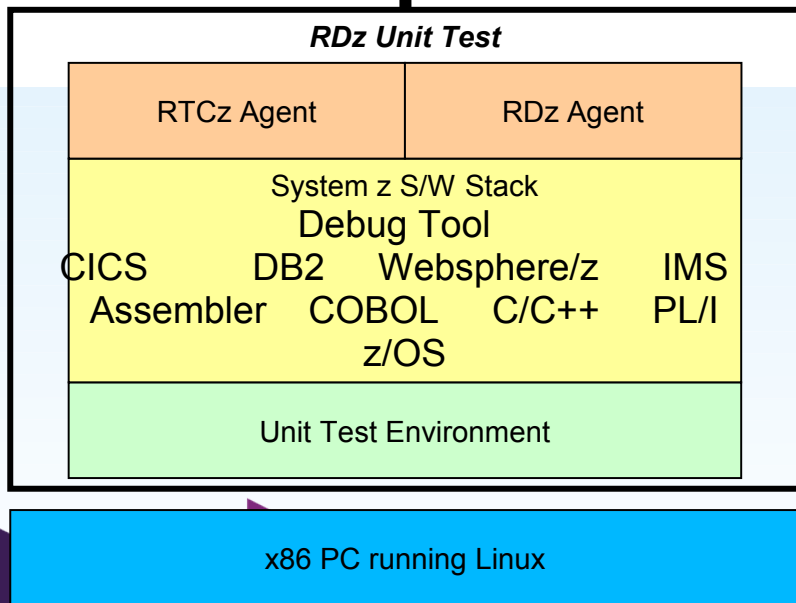


- Enable developers to rapidly prototype new applications
- Develop and test System z applications anywhere, anytime
- Free up mainframe development MIPS for production capacity

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.

Innovate2011

RDz Unit Test Offering – Required Hardware



The RDz Unit Test Feature consists of:

▪ USB License Key

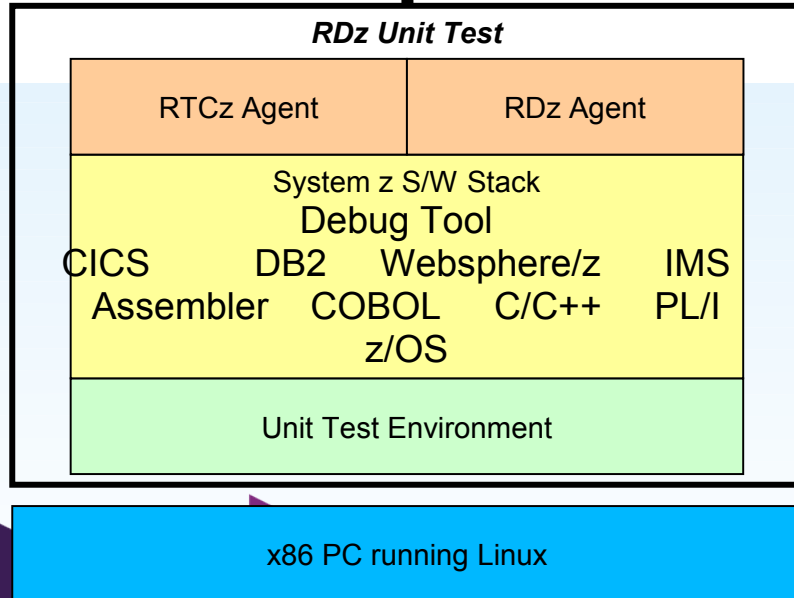
- ▶ Base machine requires the Rational Developer for z Unit Test 1091 USB hardware key (1091 token) in order to operate.
- ▶ A USB port must be available for the 1091 token whenever Rational Developer for System z Unit Test environment is operating.
- ▶ The 1091 token can be moved between different machines to support different hardware and/ or software configurations, but only the Rational Developer for System z Unit Test software in the machine with the 1091 USB hardware key will operate.

▶ Tested Hardware

- ▶ Lenovo ThinkPad W Series
- ▶ IBM System x 3500 M1, 3500 M2, 3650 M1, or 3650 M2
- ▶ Various other IBM and non-IBM platforms with Pentium and Core2Duo processors



RDz Unit Test Offering – Hosting Machine Configuration

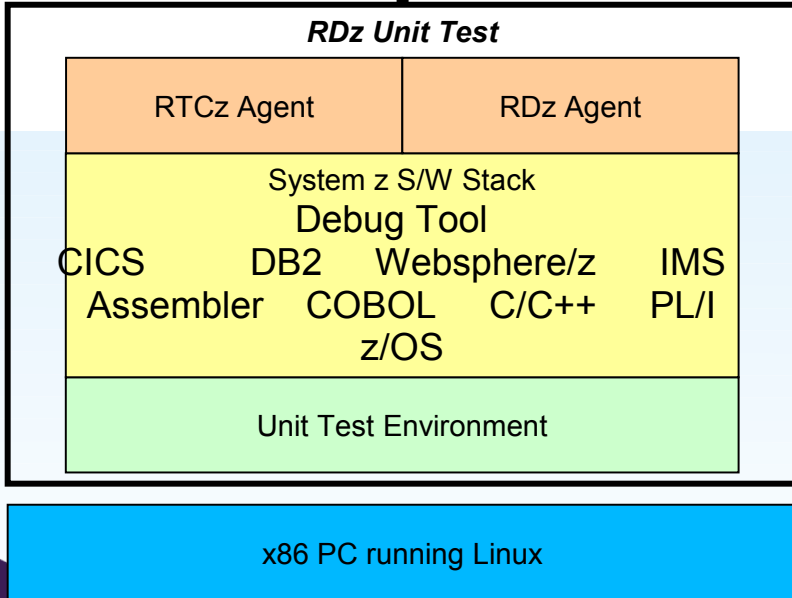


The RDz Unit Test Feature host machine:

- **Operating System**
 - 64 bit distribution required
 - Red Hat Enterprise Linux 5.3 (RHEL 5.3)
 - Open SuSE 10.3, 11.0, and 11.1.
- **Processor**
 - Unit Test Standard (one virtual engine) is best used with a machine that has at least two processors (cores).
 - Unit Test Specialty (three virtual engines) is best used with a machine that has at least four processors (cores).
- **Memory**
 - Minimum 3 GB
- **Disk Space**
 - Minimum 80GB free disk space



RDz Unit Test Offering – Included Software



The RDz Unit Test Feature 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), delivered via IBM ADCD distribution
 - ▶ actual enterprise compilers
 - ▶ no API simulation
- **RDz and RTCz agents**
 - ▶ packaged for simplification
 - ▶ still need RTC and RDz client license(s) to activate



Customers are adopting Rational solutions for Enterprise Modernization



Improved productivity
by 15%

Increased
developer productivity
by 15%

Reduced
development time by
15-20%



UniCredit modernizes mainframe development and testing with IBM Rational Developer for System z software

More than 200 developers at HVB IS began using IBM Rational Developer for System z software to develop mainframe applications for IBM System z servers.

Wipro and its customer chose IBM Rational Business Developer and EGL technology to transform the application

The new system accesses the customer's existing IBM DB2 information management system running on an IBM System i platform, and now includes IBM WebSphere Application Server software to support a modern, three-tier architecture.

SoforTe improves productivity for developers and customers with IBM Rational software on System z and Rational Team Concert for System z

SoforTe chose to implement RDz and RTCz on an IBM System z10 Business Class server running z/OS and clients running Microsoft® Windows® clients to provide a modern powerful development environment for its customers.

IBM Enterprise Modernization Sandbox for System z

Try latest System z software for free

- ✓ Learn how to revitalize applications, empower people, unify teams and exploit infrastructure based on your knowledge and experiences
- ✓ New extended trials offering for customers and partners who need more time to explore product features in a controlled environment
- ✓ Get fast start with scripted scenarios and best practice education materials at no cost available 24x7
- ✓ A low risk way to try out several new offerings and integrated solutions without disturbing your existing environment



Since the System z Sandbox is deployed in IBM's own data centers and available through a browser with a minimal footprint (i.e., a Citrix plug-in install) you can now realize the value of IBM's software products firsthand within minutes.

<http://www.ibm.com/developerworks/downloads/emsandbox/>

Innovate2011



www.ibm/software/rational

© Copyright IBM Corporation 2011. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, Rational, the Rational logo, Telelogic, the Telelogic logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.



Innovate**2011**