



IBM Software Group

Leveraging a Modern Application Development Platform

Using Rational Developer for System z to speed development

David Myers

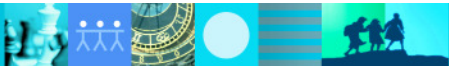
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Rational software



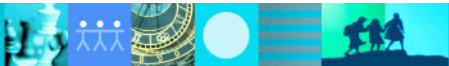
Agenda

- What to look for in a modern development platform
- Rational Developer for System z (RDz) overview
- Capability Drilldown
 - ▶ Complete J2EE development environment
 - ▶ Source control management access
 - ▶ Traditional mainframe development
 - ▶ Enterprise service creation
 - ▶ Host-based tooling integration



Modern development environments should...

- Make development easier and quicker
- Provide assistance for complex operations
- Assist with implementing modern architectures and development paradigms
- Help to enforce best practices and standards
- Be extensible



Make dev quicker and easier

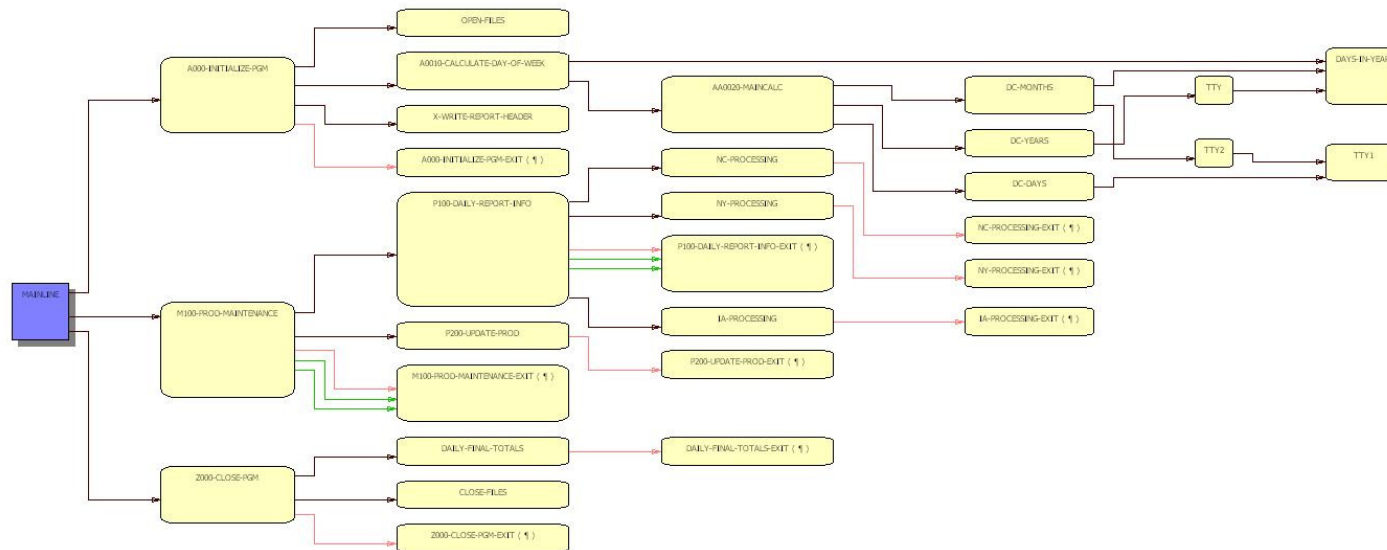
- Gather a variety of information for you that could only be gathered manually previously
 - ▶ List of working storage variables from copybooks
 - ▶ Locations of include files
 - ▶ List of transactions called from programs and subprograms

- Help developers understand program code quickly
 - ▶ Visualize algorithms and business rules
 - ▶ Data flow graphs
 - ▶ Find embedded code dependencies to other programs, transactions, or runtimes



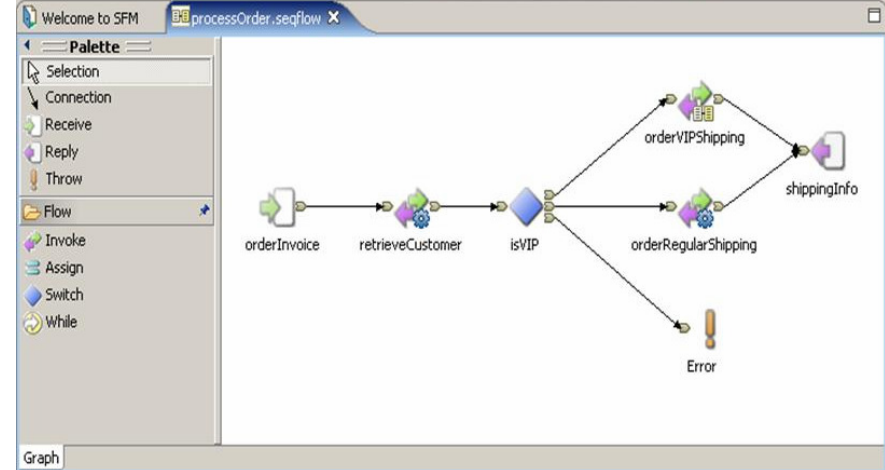
Provide assistance for complex operations

- Provide wizards or other tools to gather information and generate code
 - ▶ Simplify development by walking through steps one-by-one
- Provide visualizations to understand complex code
- Assist in refactoring, or changing, code to meet new requirements



Assist with implementing modern architectures and development paradigms

- Facilitate service creation
 - ▶ Automatically create service artifacts
 - ▶ Service testing tools
 - ▶ Deploy services to runtimes
 - ▶ Publish services to production
- Help connect and glue components together
 - ▶ Model and visualize service flows



Be Extensible

- Be able to embed the environment into your existing environment
 - ▶ Facilitate using the processes and systems you have in place today
- One tool will never do EVERYTHING that is required from a single vendor anymore
- Be able to add new tools to the environment easily to expand the reach of the environment



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Rational Developer for System z (RDz) overview

▶ What is RDz

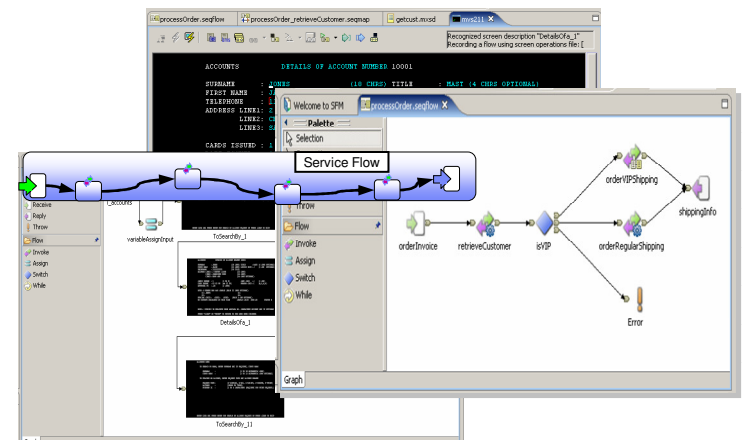
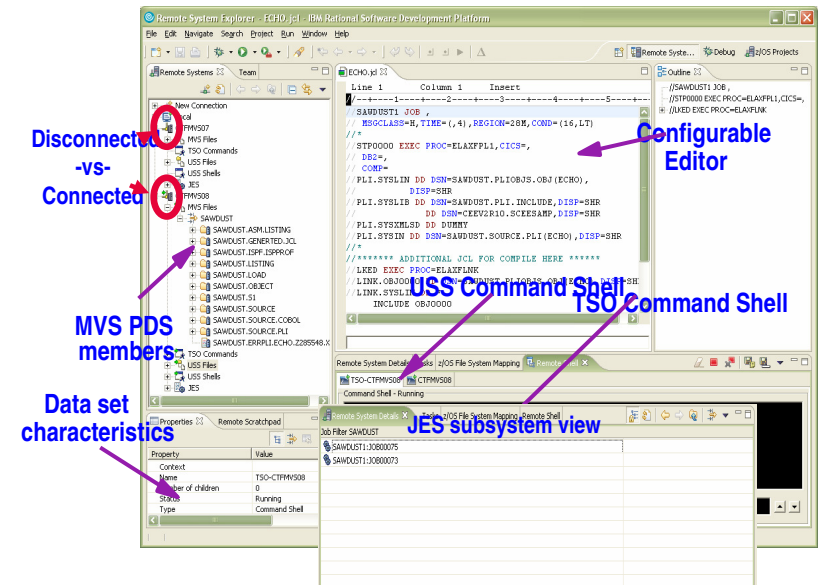
- Eclipse-based IDE speeding modern composite (SOA) application development

▶ RDz supports Enterprise Modernization

- Links WAS and core system z processing
- Supports common IDE for COBOL, PL/I, C, C++, HLASM, Java, and web services
- Transforms UML to COBOL source code
- Provides interactive access to z/OS for development, debug, job generation, submission, monitoring, command execution
- Supports new and existing runtimes (CICS, IMS, Batch, USS, DB2 SP, WAS)

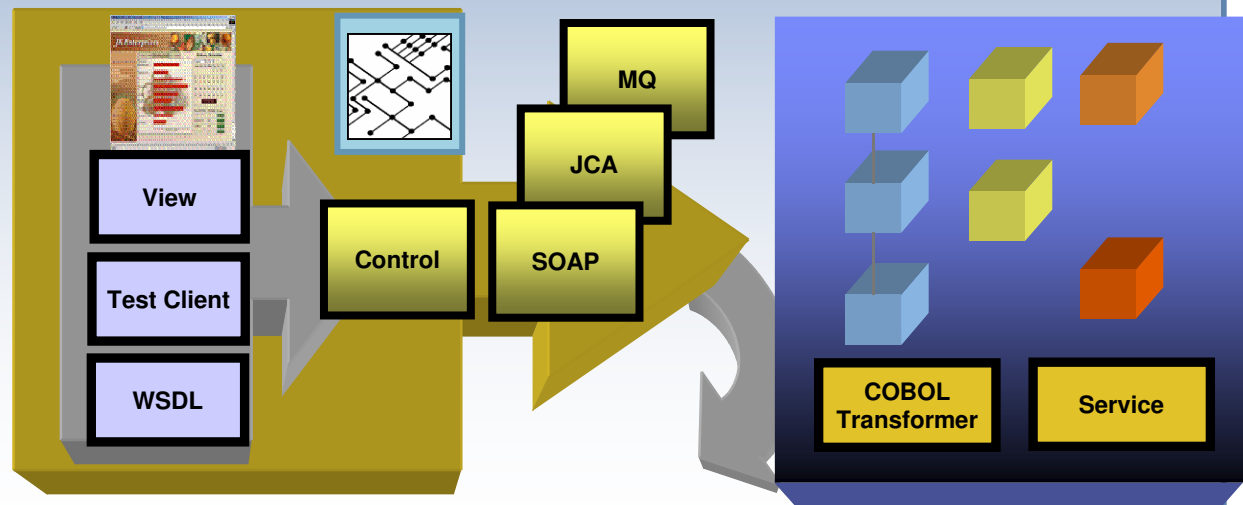
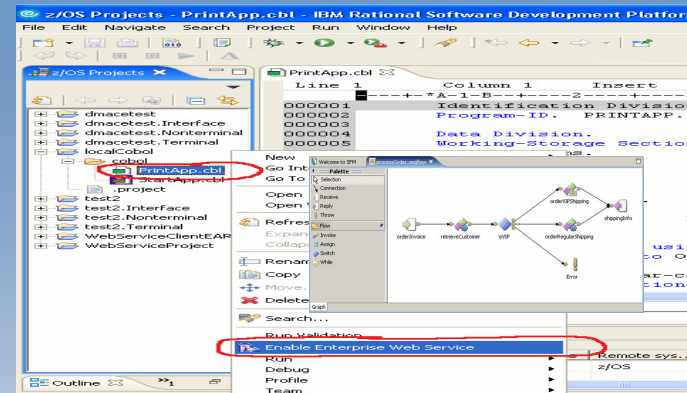
▶ RDz supports SOA

- Enables CICS and IMS applications for web services and SOA
- Supports for J2EE, JCA, XML, web services



Develop and extend z/OS core and SOA processing

- ▶ Remote Development of COBOL, PL/I, C, Java, CICS, IMS, Batch, DB2 SP processing
- ▶ Local Development COBOL, PL/I, and CICS (TX Series subset)
- ▶ Tools for Web Services and XML including CICS Service Flow modeling and deployment
- ▶ JCA Support including CTG
- ▶ HATS
- ▶ Integration with EGL using RBD



IBM Rational Developer for System z



Enabling a robust, flexible SOA runtime environment

While maximizing the value of existing assets

WebSphere Application Server

- ▶ Extend existing Java assets with support for Web Services standards and standards-based messaging
- ▶ Help ensure 24x7 availability of business-critical applications with clustering and high availability
- ▶ Build and deploy Web Services quickly and easily with rapid development and deployment features

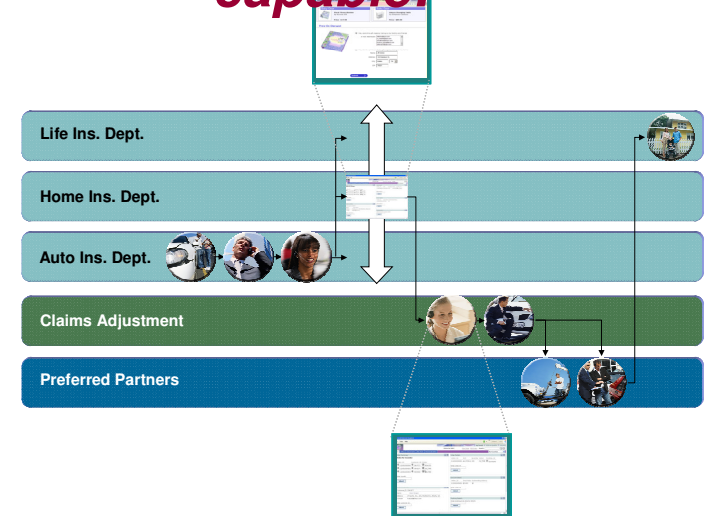
CICS Transaction Server V3

- ▶ Exploit provider/requestor Web service support for CICS assets, based on full Web service standards
- ▶ Extend the value of CICS transactions in a mixed language environment
- ▶ Build Web services from CICS transactions with no change to existing applications.

IMS Transaction and Database V10

- ▶ Exploit Web service support for IMS assets, based on full Web service standards
- ▶ Extend the value of IMS transactions in a mixed language environment
- ▶ Build Web services from IMS transactions with no change to existing applications

Fully SOA capable!



#1 in market share for Application Server software



IBM WebSphere Application Server comes out on top

35+ years of maturity and innovation in transaction and data systems



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IBM Rational Developer for System z V7.1 capability

JES and PD Tools

- Debug z/OS applications from the workstation as they execute live in the remote runtime
- Read/Write/Update VSAM datasets via integration with IBM File Manager
- Access IBM Fault analyzer reports for analyzing ABENDS and associating back to source code
- Interact with the Job Entry Subsystem (JES) to submit jobs, monitor jobs, and review job output

Integration with EGL using RBD

- Quick and easy development of modern enterprise applications for business programmers
- Simplify and speed up creation of Web applications and services without having to learn Java or J2EE

Traditional Development

Development Environment

- Connect to z/OS systems
- Work with z/OS resources like COBOL, PL/I, C, C++, JCL, assembler, etc.
- Perform dataset management actions like allocating datasets and migrating datasets
- Perform typical edit, compile, and debug tasks on remote z/OS resources from the workstation
- Create, build, and catalog DB2 stored procedures on z/OS
- Compile and test programs locally to ensure correctness

Screen design

- Visually create, modify, build, and deploy BMS maps sets or MFS/IMS maps remotely or on the local workstation

Code Generation

- Generate CRUD DB2 program code from UML, which can also be easily integrated into web service applications

IBM Rational Developer for System z

Host Tooling Integration

[JES, FA, FM, Debug Tool]

z/OS Application Development

[COBOL, PL/I, C/C++, JCL, Screens, Stored Procedures, etc]

Enterprise Service Tools

[Web Services For CICS/IMS]

RBD

Host / Distributed SCM Integration

IBM Rational Application Developer

z/OS Web Service and Flow Creation

- Implements SOA and Web Services
- SOA access to CICS V3.2 and IMS V9 COBOL applications
- Bottom-up/Top-down or meet-in-the-middle COBOL to XML mapping support
- Integrated COBOL XML converters, XML schemas, and WSDL generation
- Service Flow Modeler to build/deploy service flows out of your existing Commarea, Channel, MQ, and Terminal CICS applications.

SCM Support

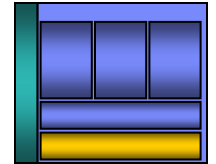
- Access to host SCMs such as SCLM
- Framework for writing/deploying custom SCM integration code
- Support for storing z/OS resources in distributed SCMs such as ClearCase

Web and JEE Development

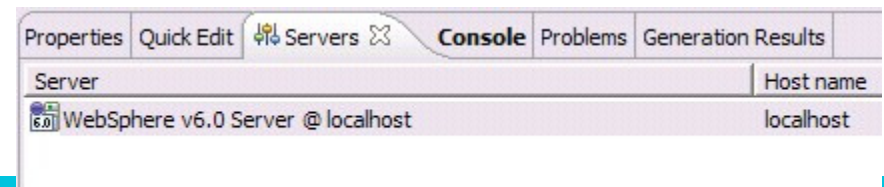
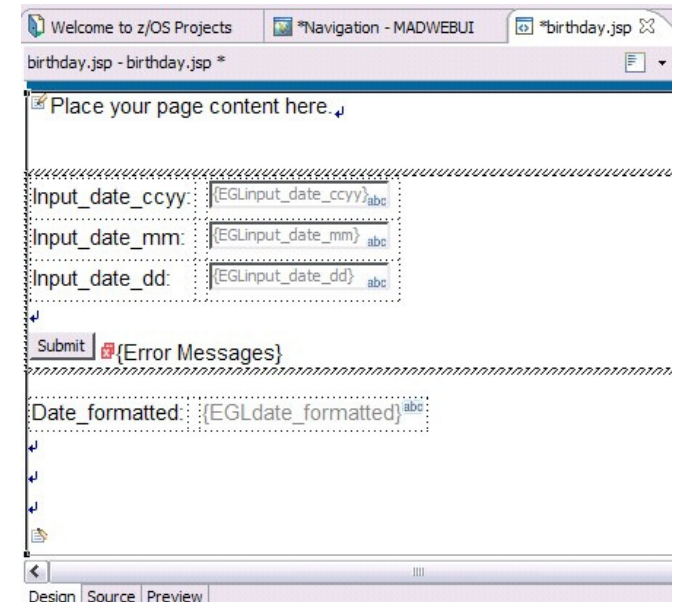
- Create Web Pages / JSF / Struts
- JEE/Java Development
- JCA Connectors
- Distributed debugger
- Web Services and Test environment



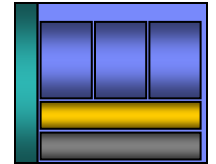
Complete J2EE development environment



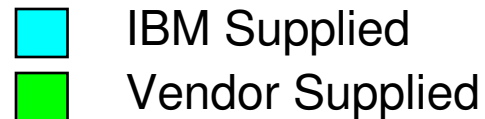
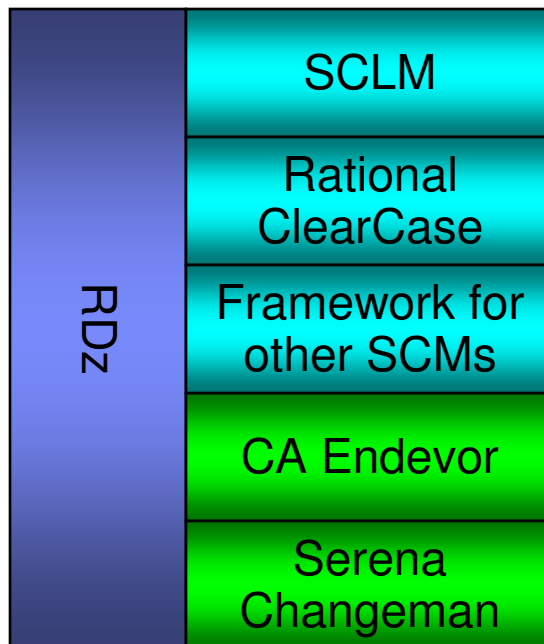
- Helps Java™ developers rapidly design, develop, assemble, test, profile and deploy high quality Java/J2EE™, portal, web, web services and SOA applications.
- Increases productivity and shortens the development and test cycles
- Is integrated and optimized for IBM WebSphere® Application Server and IBM WebSphere Portal Server products and includes test environments for these products.
- Shortens the Java learning curve through visual design, with auto-synchronized code modeling.
- Uses robust capabilities to create SOA applications, including the ability to automatically create necessary SOA components such as WSDL and WSIL files.
- Applies visual portal development techniques to speed development.



Access source code...

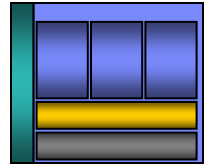
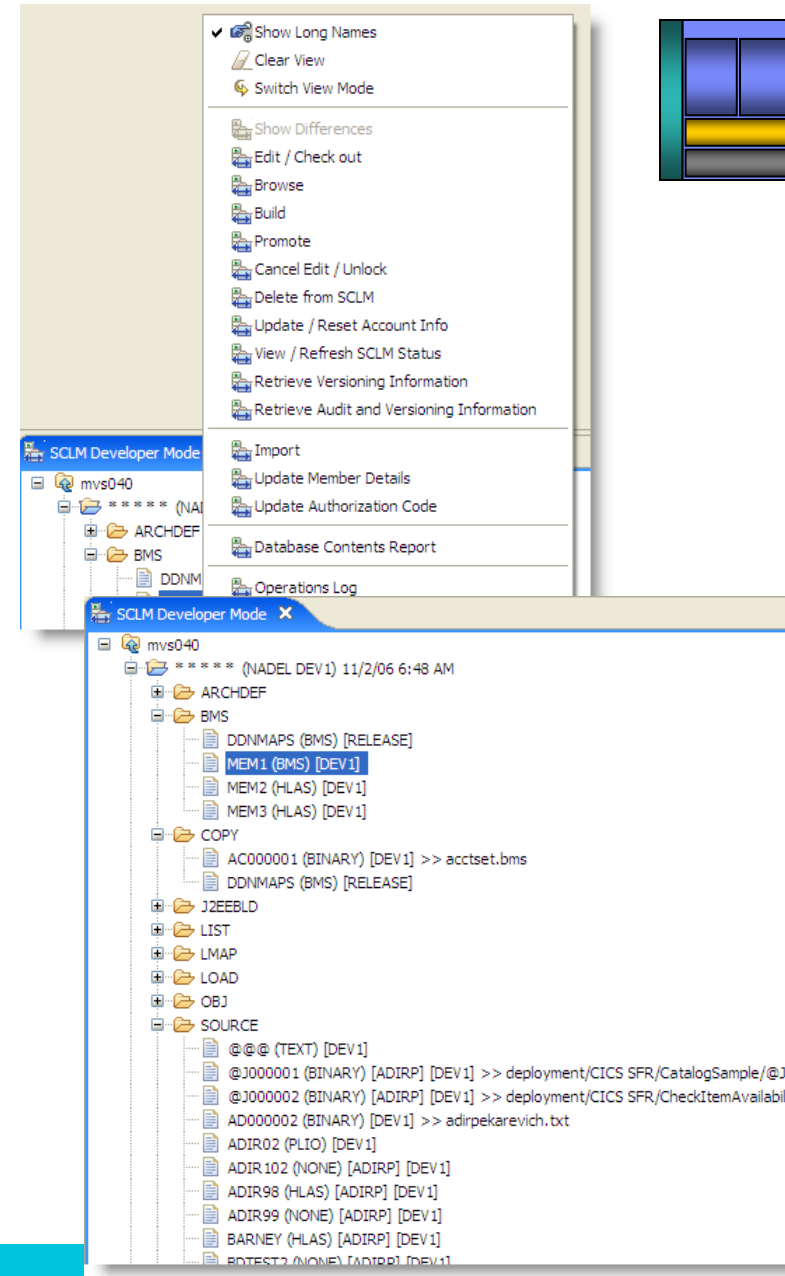


- RDz offers integration into a variety of Source Code Management (SCM) tools as well as a framework for creating SCM integration on your own
- Variety of vendors supply plug-ins to RDz to provide easy access to processes and source code controlled by their products

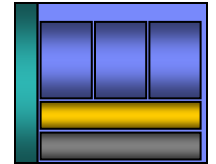


SCLM Developer Toolkit

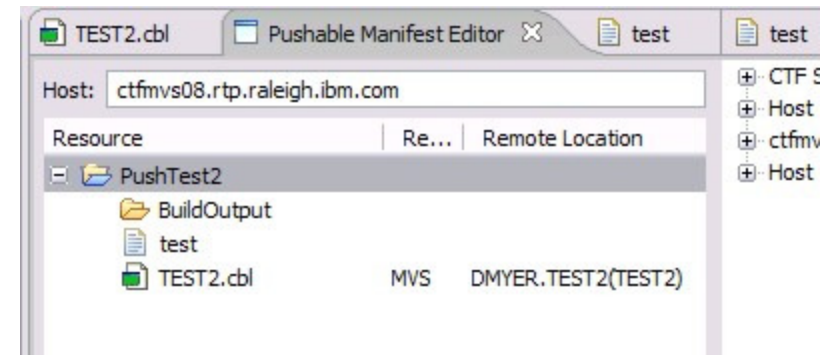
- An Eclipse-based GUI to SCLM including:
 - ▶ A SCLM-specific environment
 - ▶ A SCLM view providing a tree-based list of:
 - groups
 - types
 - members
 - audit/version information
 - ▶ EOU wizards for performing common SCM operations
- Store both Java and COBOL into SCLM
- SCLM managed build and deployment services
- Integration with RDz syntax check and error feedback mechanism
- Support for accessing source from multiple LPARs in single view



Support for ClearCase with zOS resources

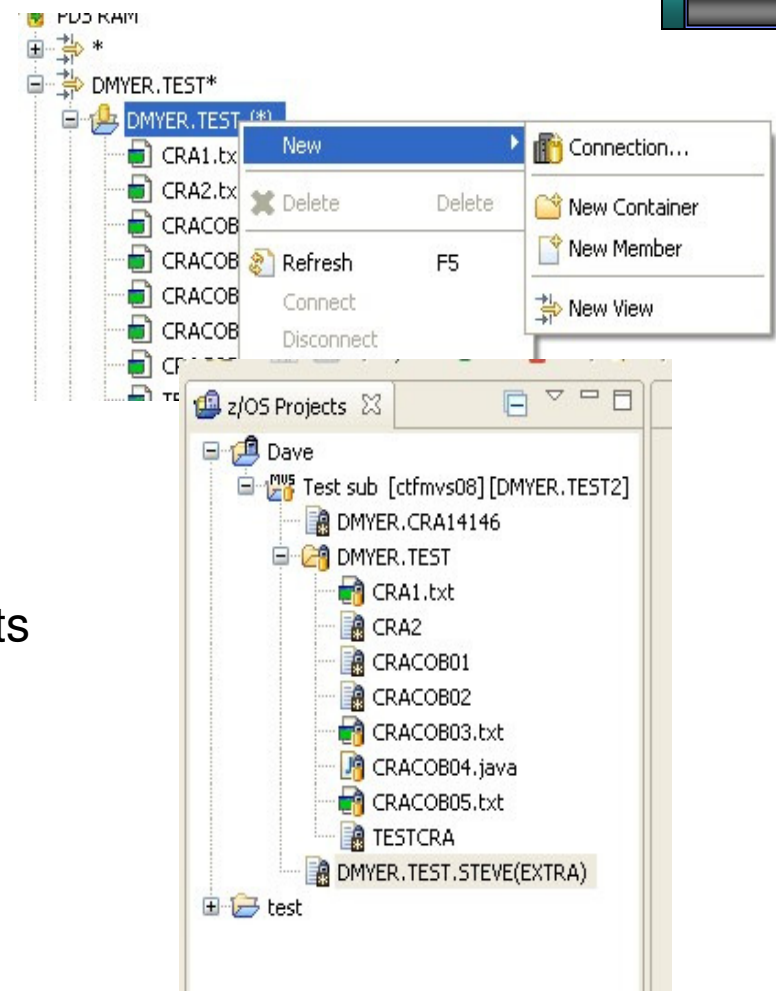
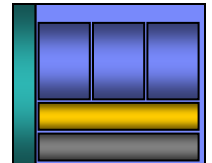


- Manage zOS assets with ClearCase and setup RDz projects
 - ▶ Synchronize manually or let RDz handle it automatically
 - ▶ Compare and merge workspace changes with remote copy
- Syntax check (local or remote) from a single local project
- Remote syntax check errors mark/point to local project location

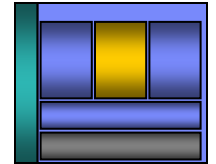


Integrate other SCMs using CARMA

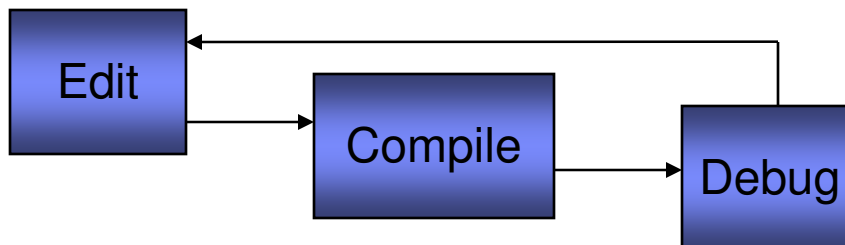
- Code the “last mile” of access on the host and the framework takes care of the rest
- Create navigation views of source code
 - ▶ Browse/Filter existing members
 - ▶ Create/Delete members
 - ▶ View metadata on members
 - ▶ Work with different member versions
 - ▶ Display both metadata and project members using the CARMA fields view
- Extract source code to local/remote projects for editing, build, debug
 - ▶ Project resources maintain linkage back to SCM location for checkin/checkout, compare, replace, synchronization, etc
 - ▶ Extract properties from the SCM to setup builds in zOS remote projects



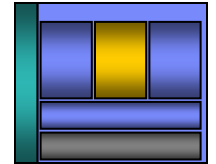
Develop applications more productively...



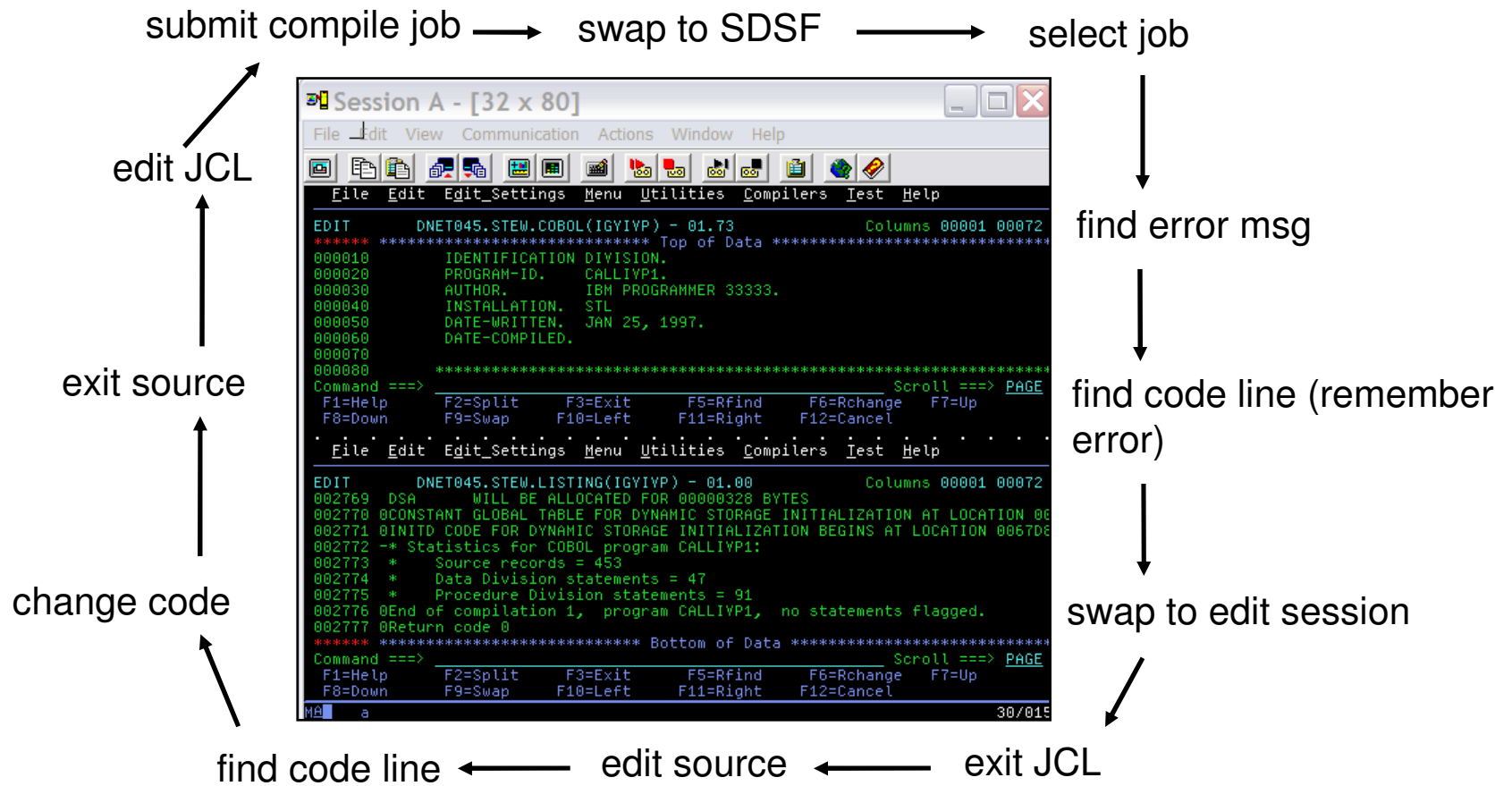
- Work with existing host resources in a workstation environment
- Integrate development with change management
- Experience productivity gains with modern development tools
 - ▶ Quickly perform mundane tasks
 - ▶ Generate code
 - ▶ Code assistance and templates
- Ensure proper governance of application development



ISPF-based development



- Multiple screens/sessions and multiple disparate tools
- 20 x 80 characters of content

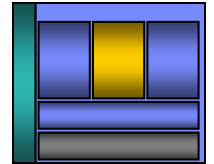


```

Session A - [32 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT DNET045.STEW.COBOL(IGYIYP) - 01.73 Columns 00001 00072
***** Top of Data *****
000010 IDENTIFICATION DIVISION.
000020 PROGRAM-ID. CALLIYP1.
000030 AUTHOR. IBM PROGRAMMER 33333.
000040 INSTALLATION. STL
000050 DATE-WRITTEN. JAN 25, 1997.
000060 DATE-COMPILED.
000070
000080
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
EDIT DNET045.STEW.LISTING(IGYIYP) - 01.00 Columns 00001 00072
002769 DSA WILL BE ALLOCATED FOR 0000328 BYTES
002770 @CONSTANT GLOBAL TABLE FOR DYNAMIC STORAGE INITIALIZATION AT LOCATION 00
002771 @INITD CODE FOR DYNAMIC STORAGE INITIALIZATION BEGINS AT LOCATION 006700
002772 -* Statistics for COBOL program CALLIYP1:
002773 * Source records = 453
002774 * Data Division statements = 47
002775 * Procedure Division statements = 91
002776 @End of compilation 1, program CALLIYP1, no statements flagged.
002777 @Return code 0
***** Bottom of Data *****
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
MA a 30/015
    
```

RDz-based development

- Common development environment for COBOL, PL/I, C/C++, and Java
- Simplified development with more information at your fingertips



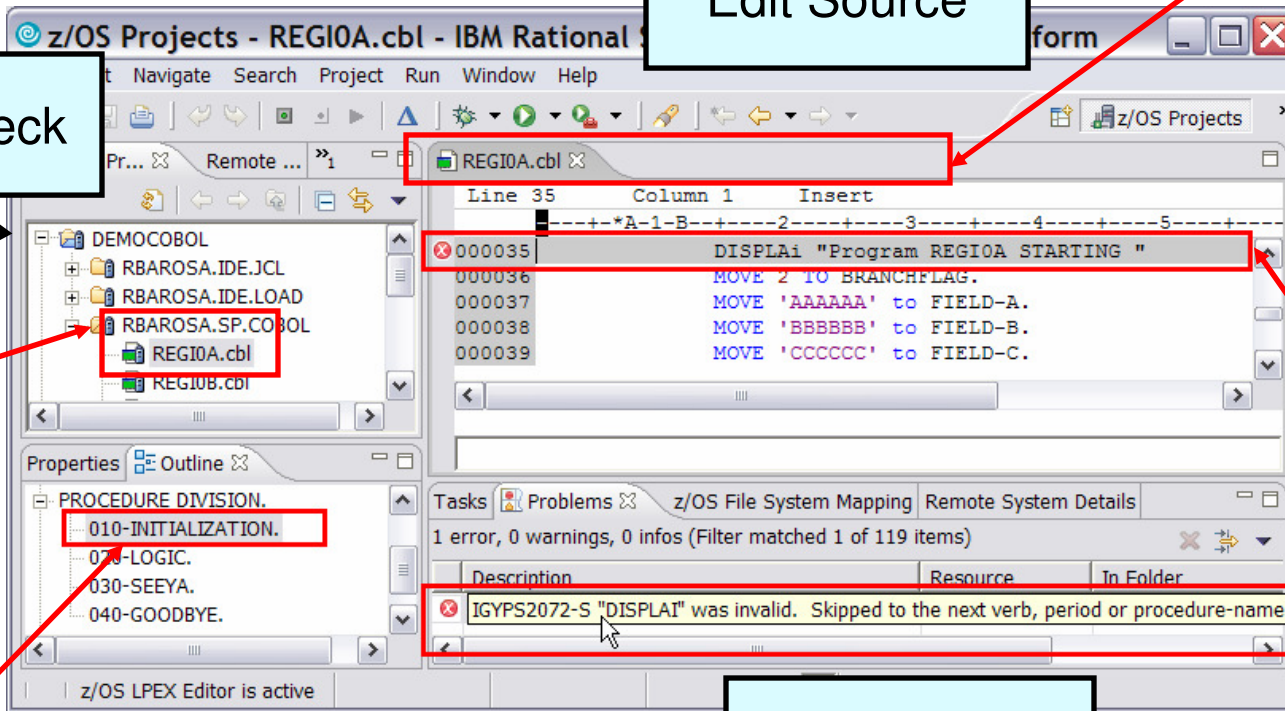
Open and edit multiple source and JCL members simultaneously

Edit Source

Syntax Check

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

Outline view presents COBOL structure



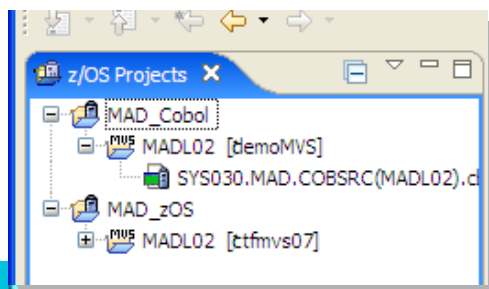
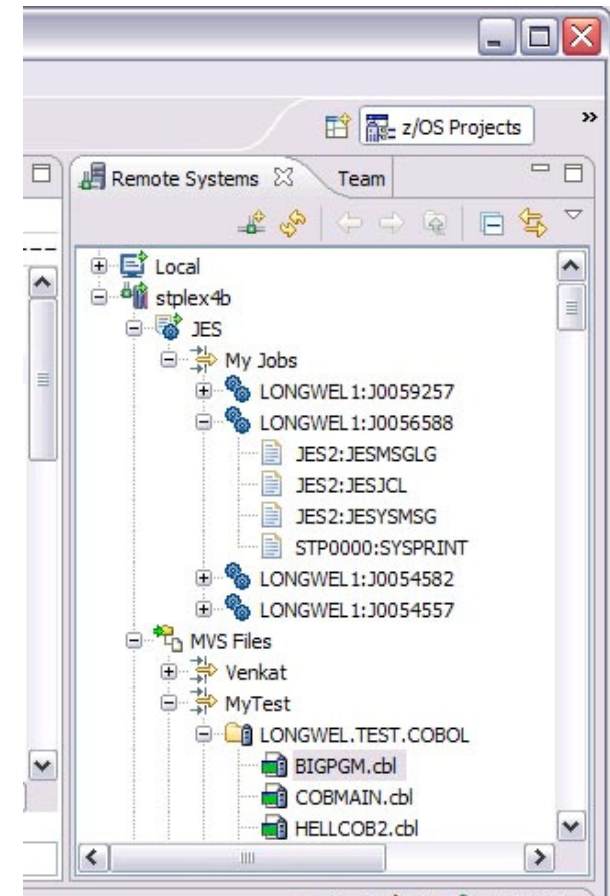
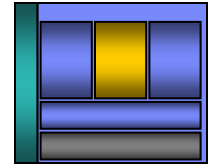
Statement in error indicated in source

Double-Click on the Error

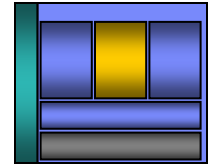
Error list in Problems view

Navigate datasets or jobs live on zOS

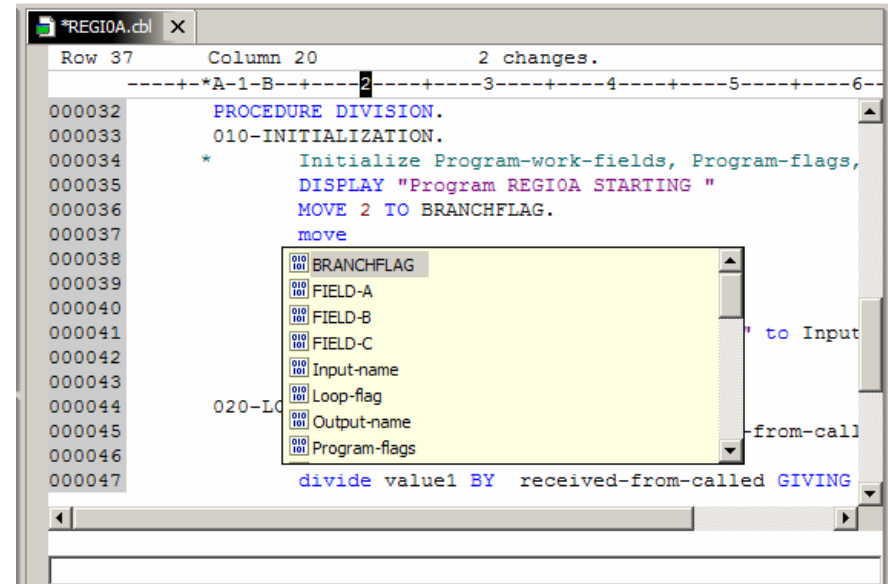
- Connect to multiple hosts concurrently
- Respects existing security configurations and user IDs
- Search, filter, browse, edit, compare, migrate, and allocate new MVS datasets and USS files
- Copy source code, members, or datasets between systems with a few mouse clicks.
- Access JES queues submit jobs, view job state, and open output spools
- Submit TSO or USS commands
- Add datasets and members into projects to group applications and work items together logically
- Open an emulator in the IDE to configured hosts



Edit and syntax check source code

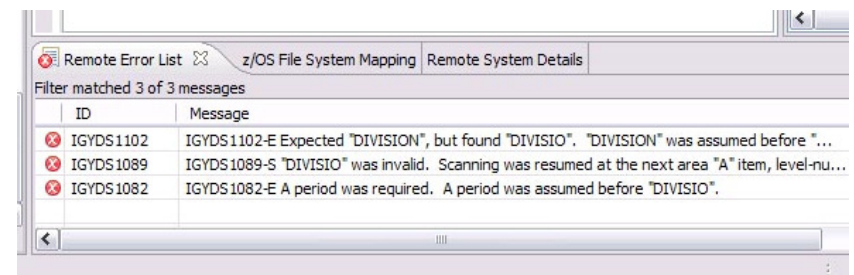


- Use advanced editing technology to:
 - ▶ Work with multiple source and JCL members concurrently from different systems
 - ▶ Execute ISPF commands in the workstation editor (e.g, FIND, CHANGE, INSERT LINE, etc)
 - ▶ Use syntax highlighting and code-completion to gain insight into available variables, verbs, and keywords
 - ▶ Quickly create programs from code templates, pattern definitions, or UML
- Issue syntax check commands against project source code
 - ▶ Syntax check remotely to ensure proper code structure before compilation
 - ▶ Syntax check locally ensure proper code structure and save MIPS. RDz will download code and dependencies (e.g., copybooks) to the workstation and compile using local compilers
 - ▶ Syntax Errors are listed in the Remote error list. Double-click on the error to open the dataset and focus on the line where the error occurs



```

Row 37      Column 20      2 changes.
-----+*A-1-B-----+2-----+3-----+4-----+5-----+6-----
000032      PROCEDURE DIVISION.
000033      010-INITIALIZATION.
000034      * Initialize Program-work-fields, Program-flags,
000035      DISPLAY "Program REGIOA STARTING "
000036      MOVE 2 TO BRANCHFLAG.
000037      move
000038
000039
000040
000041
000042
000043      020-LOOP
000044
000045
000046
000047      divide value1 BY received-from-called GIVING
  
```

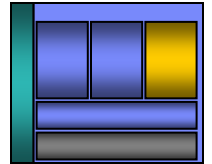


ID	Message
IGYDS1102	IGYDS1102-E Expected "DIVISION", but found "DIVISIO". "DIVISION" was assumed before "...
IGYDS1089	IGYDS1089-S "DIVISIO" was invalid. Scanning was resumed at the next area "A" item, level-nu...
IGYDS1082	IGYDS1082-E A period was required. A period was assumed before "DIVISIO".



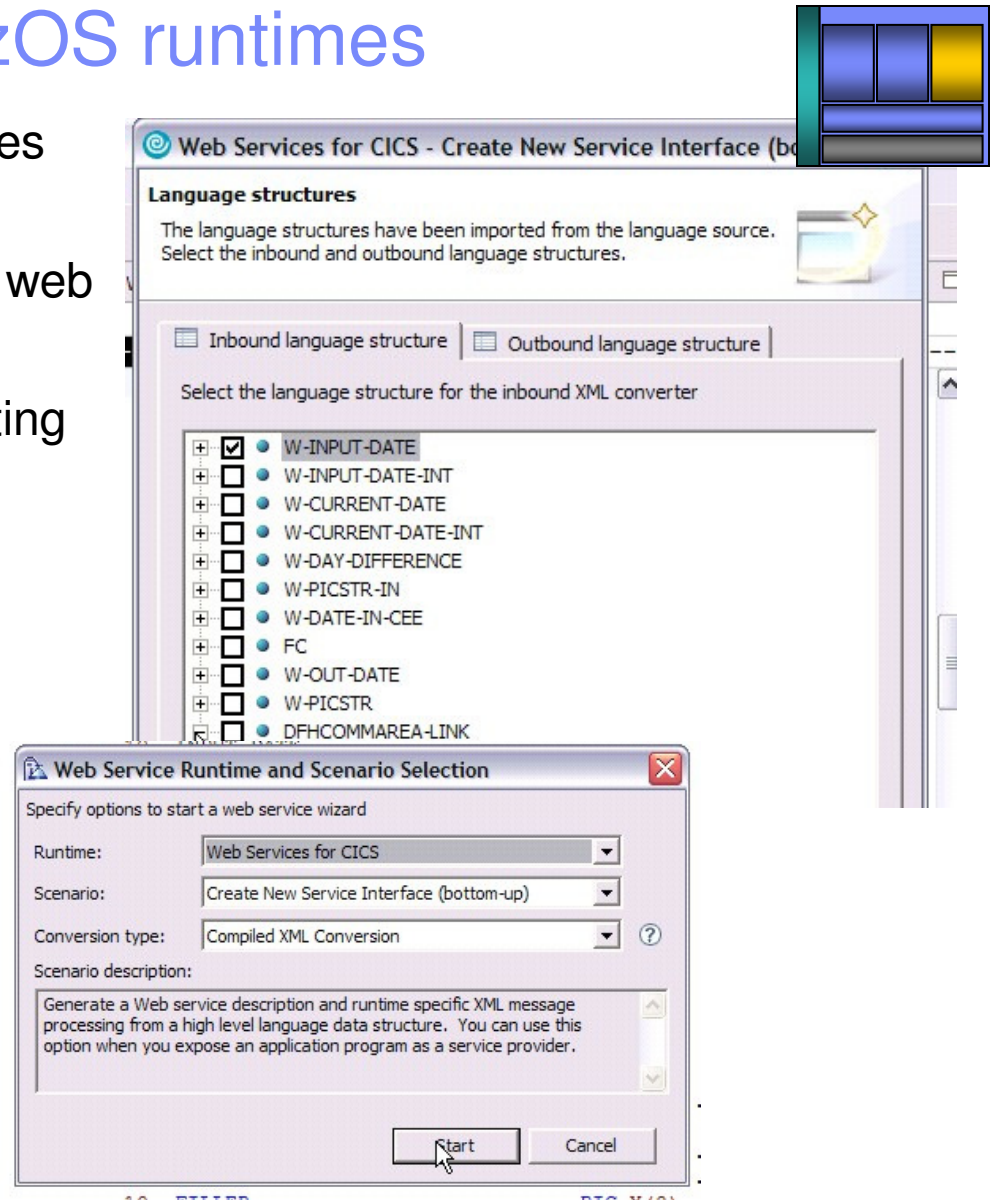
Create enterprise services...

- 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.

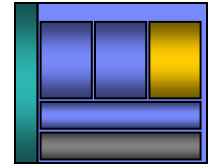


Create web services for zOS runtimes

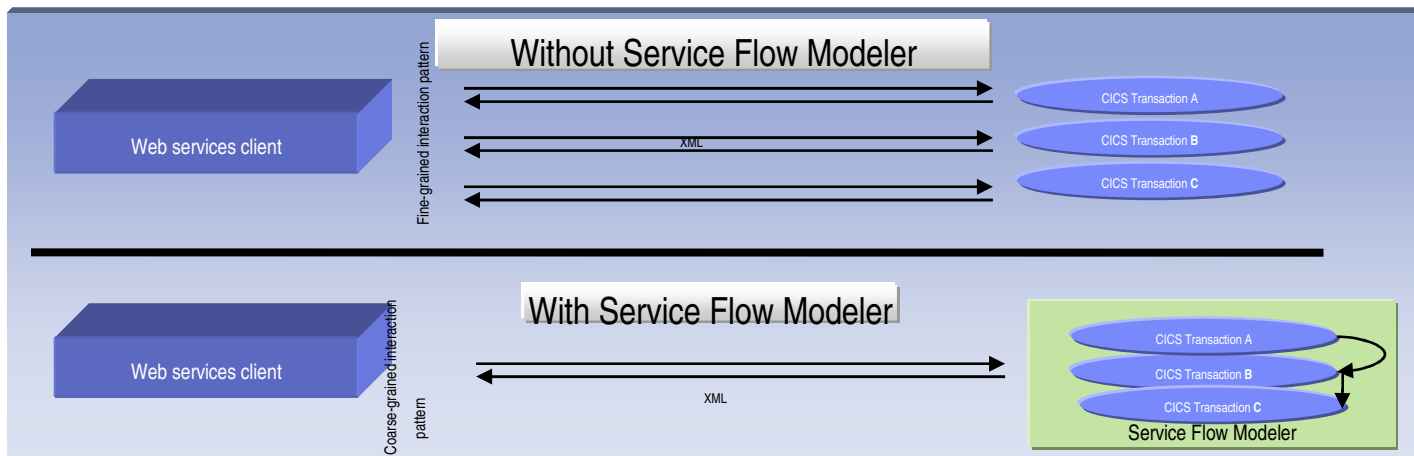
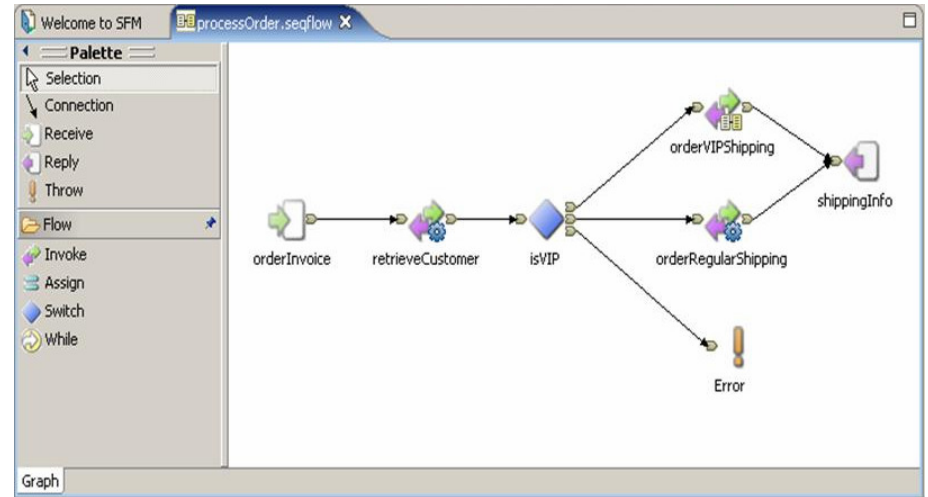
- Build, Deploy, and Test Web services from existing applications
- Create source code skeletons from web service definitions
- Map web service definitions to existing application modules
- Supports traditional languages
 - ▶ COBOL
 - ▶ PL/I
- Supports zOS specific runtimes
 - ▶ CICS
 - ▶ IMS
 - ▶ Batch



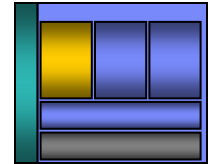
Orchestrate CICS services and screens



- Model, Deploy, and Test Service Flows using Service Flow Modeler
 - ▶ Aggregates multiple CICS transactions into high-level business processes through visual modeling
 - ▶ Supports CICS BMS (terminal-based) applications & CICS commarea/container/channel applications
 - ▶ Highly optimized CICS runtime supporting Web services and XML interfaces



Integrate with other tools ...

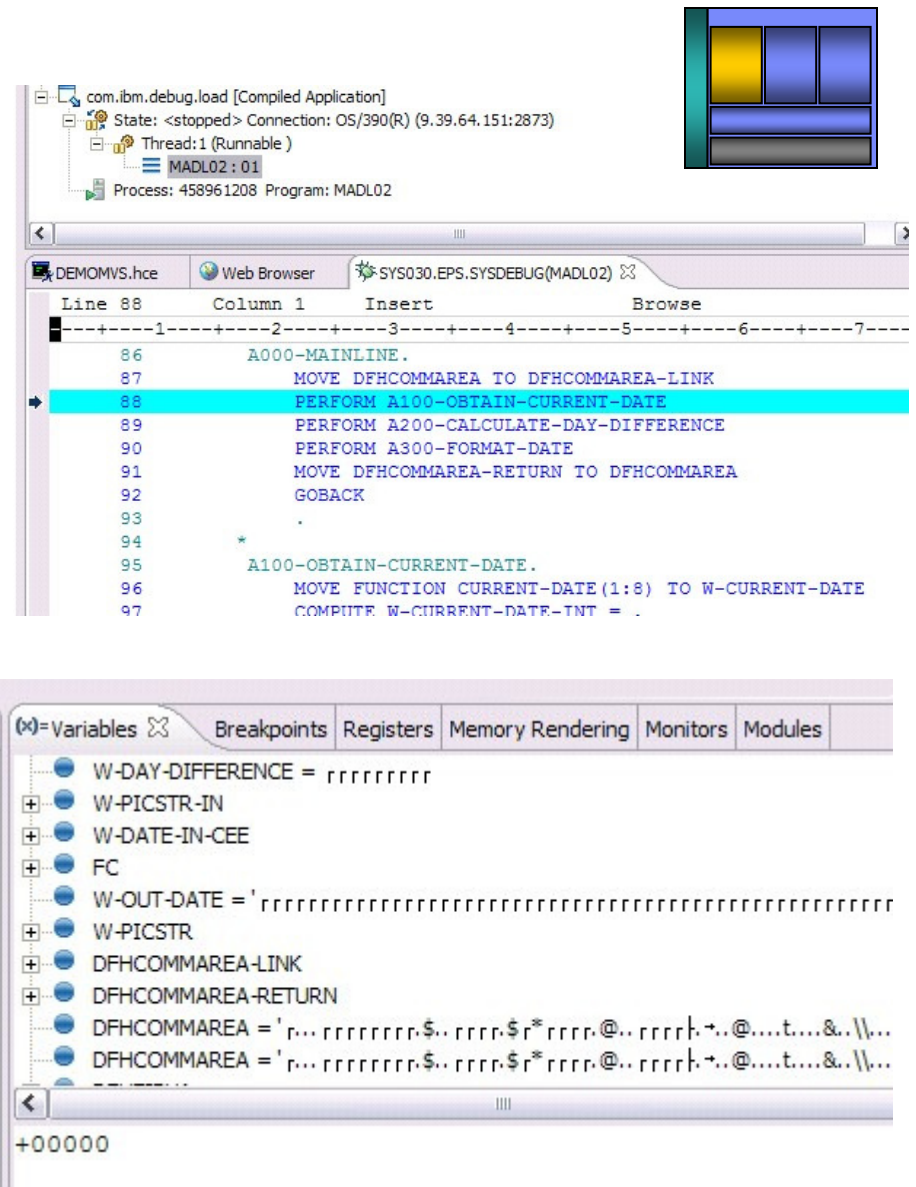


- Take advantage of the Eclipse environment to gain access to a wider variety of data and functionality
- Create or install third-party Eclipse plug-ins to extend and specialize the development experience
- Work with the IBM Problem Determination tools from the RDz environment
 - ▶ Debug Tool
 - ▶ File Manager
 - ▶ Fault Analyzer



Debug Multiple Runtimes

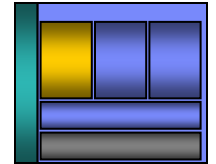
- Use the cross-platform debugger to debug end-to-end systems as they execute in the runtime
 - ▶ CICS
 - ▶ IMS
 - ▶ DB2
 - ▶ Batch
 - ▶ WAS
 - ▶ Native LUW
- From the workstation:
 - ▶ View executing source code
 - ▶ Step through host code line-by-line
 - ▶ Set breakpoints
 - ▶ Alter working storage values
 - ▶ Alter register values
 - ▶ Etc...
- Debug zOS and distributed code in the same interface even stepping between runtimes and platforms!
- Requires on IBM Debug Tool



The screenshot displays the IBM Debug Tool interface. The top panel shows the project structure for 'com.ibm.debug.load [Compiled Application]' with details like 'State: <stopped> Connection: OS/390(R) (9.39.64.151:2873)' and 'Thread: 1 (Runnable)'. Below this, the source code for 'DEMOMVS.hce' is shown, with line 88 highlighted: 'PERFORM A100-OBTAIN-CURRENT-DATE'. The code includes various CICS macros like 'MOVE DFHCOMMAREA TO DFHCOMMAREA-LINK', 'PERFORM A200-CALCULATE-DAY-DIFFERENCE', and 'PERFORM A300-FORMAT-DATE'. The bottom panel shows the 'Variables' window with a list of variables such as 'W-DAY-DIFFERENCE', 'W-PICSTR-IN', 'W-DATE-IN-CEE', 'FC', 'W-OUT-DATE', 'W-PICSTR', 'DFHCOMMAREA-LINK', 'DFHCOMMAREA-RETURN', and 'DFHCOMMAREA'. The 'DFHCOMMAREA' variable is expanded to show its contents.

Access host-resident data

- Allows for a formatted edit session of many dataset types. Among the options are:
 - ▶ VSAM - KSDS, ESDS, RRDS, VRRDS
 - ▶ QSAM – PDS, SDS
- Multiple views of the data within the formatted edit session:
 - ▶ Table
 - ▶ Single Character
- Browse and alter VSAM data easily without having to leave your development environment
- Requires on IBM File Manager



Process Options Help

Edit SKOONCE.FMI.DATA (DATA) Rec 0 of 46

Command ==> Col 1 Insert length 80 Scroll PAGE Format CHAR

```

000000 **** Top of data ****
=LGTH 1Grant Smith 771235 75000 6
=LGTH 1Andrew Apple 664553 78500 30
=LGTH 1Graham Prescott558328 48000 7
-----1-----2-----3-----4-----5-----6-----7-----
=LGTH 1Bill Somers 441833 68000 5 - - - - - 15 Line(s) excluded
- - - - - SUPRECORD - - - - - 24 Line(s) not selected
- - - - - 2 Line(s) suppressed
=LGTH 1Ted Dexter 332752 60250 14
000047 **** End of data ****
  
```

Template Associated: SKOONCE.FMI.TEMPLATE(CRA390) HEX On

Name	Employee Number	Age	Salary	Month
Grant Smith	771235	7	5000	6
Andrew Apple	664553	7	8500	30
Graham Prescott	558328	4	8000	7
15 records excluded				
Bill Somers	441833	6	8000	5
24 records not selected				
2 records suppressed				
Ted Dexter	332752	6	0250	14

Single Mode
Record 4 of 10, Top Line is 1 of 2

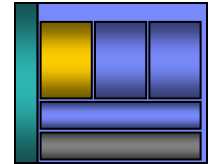
Field	Data
Name	Bill Somers
Employee Num...	441833
Age	6
Salary	8000
Month	5

Single Mode allows you to edit a particular record that is selected from the Table above. You can also move up and down records in the Table by selecting each arrow button to the right.

Table / Single Character

Analyse production problems

- Provides an interface to browse a real-time ABEND analysis reports
- Supported environments: COBOL, PL/I, Assembler, C/C++, Java, CICS, MQ, IMS and DB2.
- COBOL working storage display using mini-dump and sidefiles.
- Requires on IBM Fault Analyzer for z/OS.



Analysis report containing probable cause, source listing, and dump information

List of history files

The screenshot shows the 'FA Perspective' window in Rational Application Developer. The 'History Files' tree on the left lists various files, with 'DA.DCAT' selected. The main pane displays the 'Fault Summary' for 'Module MYCOB1, program MYCOB1, source line # 17: Abend 30CB (Decimal-Divide Exception)'. Below this is a 'Synopsis' section with the following text:

```

IBM FAULT ANALYZER SYNOPSIS

A system abend 0CB occurred in module MYCOB1 program MYCOB1 at offset X'310'.

A program-interruption code 000B (Decimal-Divide Exception) is associated with this abend and indicates that:

    The divisor was zero in a signed decimal division.

The cause of the failure was program MYCOB1 in module MYCOB1. The COBOL source code that immediately preceded the failure was:
    
```

At the bottom, a table lists fault details:

Fault_ID	Program	Offset	Abend	User_ID	Sys/Job	Job_ID	Jobname
BAT02599	CSCB0650	592	SNAP	ZFAYDI	CSCB0650	JOB00088	CSCB0650
BAT02598	MYCOB1	310	30CB	KENICHI	FAE1	JOB00793	KENICHIP
BAT02597	INMXXMIT	FA	S013	SIMCOCK	FAE2	TSU49338	SIMCOCK
BAT02596	ITCB0110	3C0	U4036	ANDYMEL	FAE1	JOB00454	SICB0110
BAT02595	ITCB0110	687	U4036	ANDYMEL	FAE1	JOB00454	SICB0110

History file summaries

Summary

- RDz is an Eclipse-based IDE speeding mainframe program maintenance and modern composite (SOA) application development
- A complete J2EE development environment allows development of complete composite applications from a single development environment
- RDz offers Source Code Management integration tools to access both mainframe and distributed code repositories
- Traditional mainframe programs can be developed or maintained using productivity increasing tools
- zOS runtime web services can be easily developed, tested, and deployed from the workstation
- Integration with other IBM and third-party tools offers a more complete development experience



EM Sandbox

Tinker and Play with the products

System z Sandbox

*** New!**

Launched February 26th

Examples and best practices provide low-risk, practical, hands-on path to understanding

- Rational Developer for System z
- Rational Business Developer
- Rational Transformation Workbench
- Rational Host Access Transformation Services

System i Sandbox

*** New!**

Scheduled for May 1st

Examples and best practices provide low-risk, practical, hands-on path to understanding

- Rational Developer for System i
- Rational Application Developer
- Rational Developer for System i for SOA Construction
- Rational Host Access Transformation Services

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How do I access the Sandbox?

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

1

Select the Sandbox z or i

The IBM Enterprise Modernization Sandboxes let you evaluate the IBM Enterprise Modernization solutions for System z™ and System i™ through practical, hands-on experience. These solutions focus on five key modernization areas: Assets, Architectures, Skills, Processes, and Investment. Each solution is based upon real customer experiences and offers a proven path to get you started with your modernization projects.

These sandboxes make it easy and fun to quickly try practical scenarios guided by self-paced exercises. Leverage existing assets, architectures, and skills to quickly develop modern applications for System z, System i, and distributed platforms. You can also integrate, test, and deploy applications in a live test environment.

Visit the Enterprise Modernization Sandbox for System z to explore our latest products for modernizing and deploying core System z applications in a "thinker, test, and try" environment without downloading and installing them.

Some examples of what you can do online:

- Discover, analyze, and document business rules from existing applications
- Transform 3270 or 3230 screens to modern Web, script, or mobile interfaces
- Create components or service-enable existing COBOL, PL/I, or RPG programs
- Rapidly develop multipatform applications with EGL, IBM's newest business language
- Deploy distributed workloads to host-based virtual servers to reduce total cost-of-ownership (TCO)
- Leverage common infrastructure to manage and share host and distributed assets
- Automate build and release management for host-based applications
- Automate functional and performance testing of host-based applications and much more.

The Enterprise Modernization sandboxes are specially designed for enterprise architects, application developers, Web developers, test engineers, and deployment architects, but are available to everyone.

Through these online trial sandboxes, IBM provides a mix of full version software and hosted environments, where you can explore tutorials and get process guidance. You will also find links to online demos, best practice documentation, and accelerate learning.

2

Pick your entry point... (Assets, Architecture, Skills, Processes, or Investments)

Many large companies have millions of dollars worth of mainframe assets and core business applications that support the heart of the business. In fact, it's estimated that some US\$3 trillion worth of applications -- critical business assets -- reside on today's IBM mainframe systems.

The convergence of SOA and mainframe technologies can liberate these core business assets by making it easier to enrich, modernize, extend, and reuse them well beyond their original scope of design. As a result, you can deliver new value more rapidly, affordably, and at lower risk than by rebuilding and replacing what already works well for the business. That lets you streamline business processes and increase overall business flexibility.

The IBM Enterprise Modernization Sandbox for System z™ is designed to help you quickly evaluate our latest products for modernizing and deploying core System z applications in a "thinker, test, and try" environment without downloading and installing them.

The five modernization focus areas you can explore through this sandbox are:

- Assets:** Save time and money by reusing proven application assets. Discover, transform, reuse, and manage application assets from mainframe and distributed systems across the enterprise.
- Architectures:** Avoid costly and high risk rip-and-replace approaches. Accelerate the adoption of SOA by rendering existing IT assets as services or components -- encouraging reuse and efficiency.
- Skills:** Increase productivity and break skill silos by simplifying your development. Leverage IBM's newest business language, EGL, to achieve new levels of business value and innovation.
- Processes and infrastructures:** Improve efficiency and lower costs by consolidating processes, tools, and infrastructures. Automate application quality, change, and release processes to help manage and enforce consistent development lifecycle across your enterprise.

4

Review Sandbox trial requirement, how to start the trial, how to use this sandbox, where to go for support etc... Start your engine!!!

Enterprise Modernization Sandbox for System z: Assets online trial

Explore the Enterprise Modernization Sandbox for System z: Assets online trial

When you register for this entry point, you can access IBM® Rational® Developer for System z™, IBM Rational Business Developer, IBM Rational Transformation Workbench, and IBM Host Access Transformation Services for Multipatforms (HATS), all installed into an online trial program. You also have access to a test mainframe environment that lets you quickly deploy and test the scenarios.

Start your trial now.

Sandbox trial requirements

- Once you start the trial, you will have three hours to explore this Sandbox.
- The online trial program uses the Citrix Access Platform to provide you a connection from your workstation to a remote server running the IBM product. You will need to download Citrix client software before using the online trial program. You can download the Citrix client software from the Citrix website. Many versions are available, including versions for Windows® and various Linux® based platforms. After you install the client, you will be asked to restart your browser. If you do not have the Citrix client installed when you attempt to access the trial, you will be prompted to install the client.

How to start your trial

Follow the **Start your trial now** link above. If you have not yet installed the Citrix client, you will be prompted to do so.

How to use this Sandbox

The Enterprise Modernization Sandbox trial environment for the Assets entry point includes IBM Rational Developer for System z, IBM Rational Business Developer, IBM Rational Transformation Workbench, and IBM Host Access Transformation Services for Multipatforms (HATS). The tutorial and articles below provide short exercises you can walk through to try out these products.

- Wrap existing COBOL programs as Web services with IBM Rational Developer for System z: Learn how to wrap existing OS/390 CICS/IMS programs and transactions into business components and Web services. Then, deploy and test your Web service on System z.
- Accelerate Web and SOA development with IBM Rational Business Developer: Learn how to create, deploy, and test Web services using a simple and platform-neutral business language, EGL, that hides all the underlying technical complexity and lets you focus on the business problem at hand. (PDF)

3

Register

Learn, Try, Buy and Support pages... Entry point overview, scenarios documentation, products covered, links to key content supporting entry point

IBM Enterprise Modernization Sandbox for System z: Assets

Learn Try Buy Support

You can try this entry point online.

Hands-on exercises available online in this sandbox include:

- Wrap existing COBOL programs as Web services with IBM Rational Developer for System z
- Accelerate Web and SOA development with IBM Rational Business Developer (PDF)
- Analyze your applications at a technical and business level with Rational Transformation Workbench (PDF)

Register for your trial now.

Evaluate this entry point online, without installing or configuring it on your own system. You can access IBM Rational Developer for System z, IBM Rational Business Developer, IBM Rational Transformation Workbench, IBM Rational Business Developer, and IBM Host Access Transformation Services for Multipatforms (HATS), all installed into an online trial program. You also have access to a test mainframe environment that lets you quickly deploy and test the scenarios.

When you register for this entry point, you can access IBM Rational Developer for System z™, IBM Rational Business Developer, IBM Rational Transformation Workbench, IBM Rational Business Developer, and IBM Host Access Transformation Services for Multipatforms (HATS), all installed into an online trial program. You also have access to a test mainframe environment that lets you quickly deploy and test the scenarios.

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Preparing for your online trial

- Step 1: Review the online trial prerequisites
- Step 2: Review these helpful evaluation resources

Online tri

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Scenario: support for mixed workload in SOA

RDz:

Brings the power of J2EE, rapid Application Development, and robust team support to diverse enterprise IT organizations

Consists of:

- ▶ An intuitive, visual construction based on open standards (Java Server Faces)
- ▶ Broad SOA support through Web Services and JCA with specialized zSeries capabilities
- ▶ An easy to learn, language neutral environment for rapid application development
- ▶ Comprehensive state-of-the-art facilities for developing, debugging and deploying Java, COBOL, PL/I and C/C++ applications and services
- ▶ Extensible, integrates with existing tools

Benefits:

- ▶ Increase developer productivity
- ▶ Leverage existing processing
- ▶ Integrate with lifecycle
- ▶ Attracts new talent into the organization
- ▶ Amplifies existing skill sets

