

Simplifying the Change, Management and Deployment of Cross Platform Software Solutions

An IBM Teleconference
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Drive innovation with technology advancements

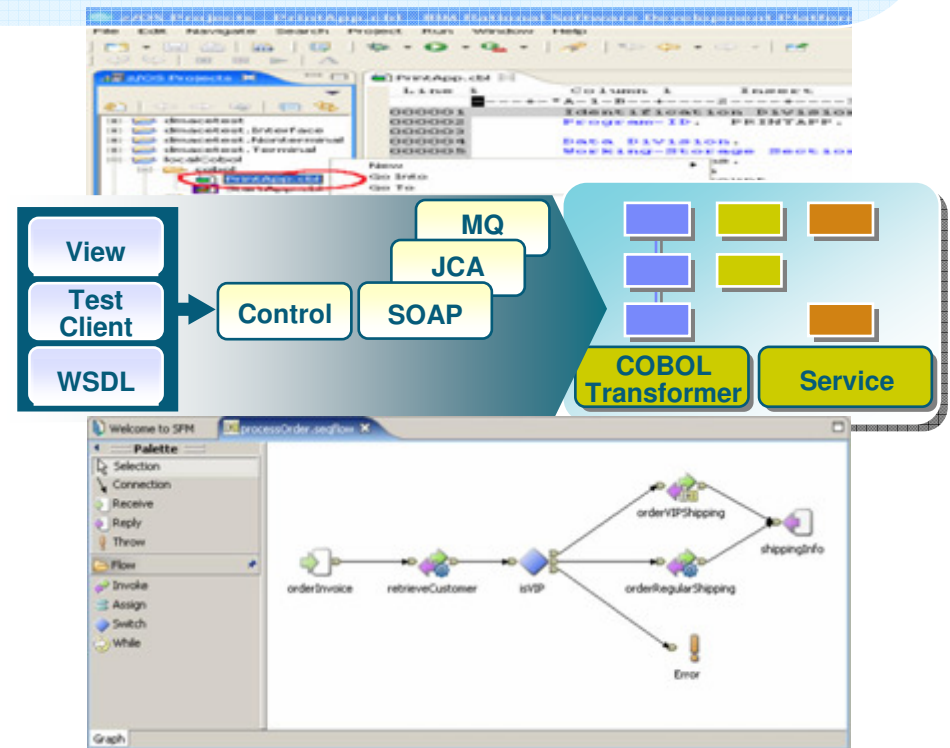
Build traditional and composite applications with Rational Developer for System z

IBM Rational Developer for System (RDz) provides powerful eclipse-based tools for building COBOL, PL/I, C/C++, Java, HLASM CICS, IMS and batch applications. RDz is designed to optimize and simplify application development for traditional processes, and for the SOA you're building to address your needs today and in the future—through best practices, visual tools, templates, code generation and a comprehensive development environment.

RDz 7.5

- ▶ Leverages service flow modeler to automate development of CICS services
- ▶ Develop z/OS applications and CICS and IMS Web services more productively than ever
- ▶ Manage core and composite artifacts from z/OS
- ▶ Speed software delivery with integrated, automated end-to-end processes

- Enables traditional; and modern UI's (via RBD)
- Supports local and remote development
- Creates connectivity via web services, CICS SFM, CTG, IMS Connect
- UML to COBOL speeds Model driven development
- Delivers distributed debugging support for SOA applications via Debug Tool
- Integrates to File Manager, Fault Analyzer

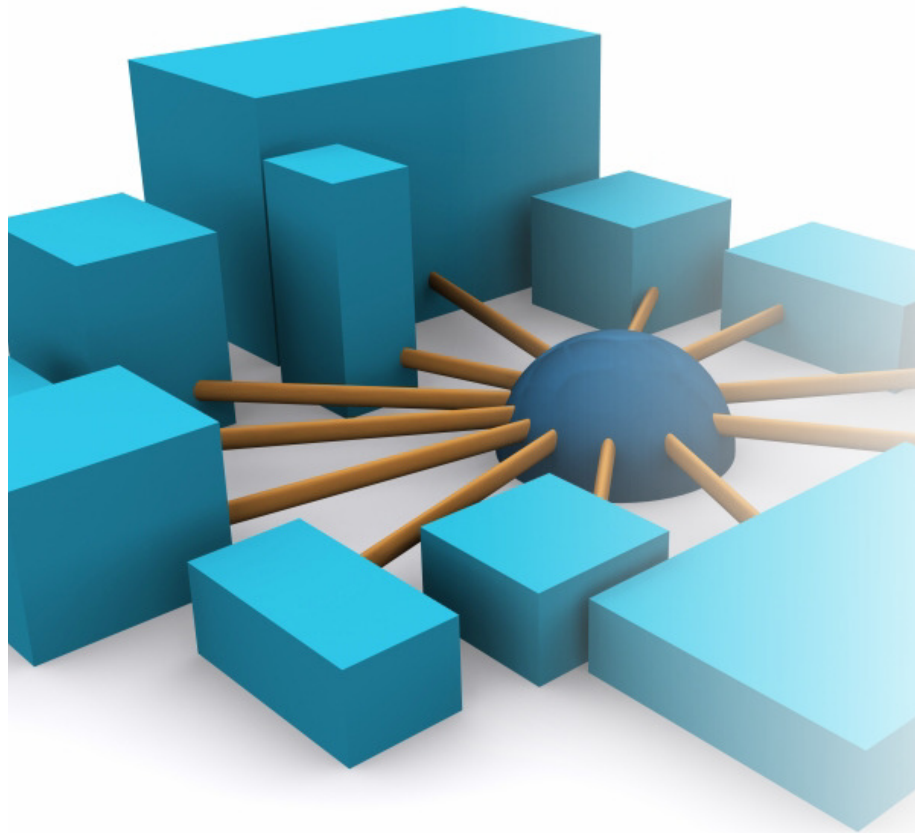


IBM Rational Developer for System z

Agenda

- **Introduction to Problem**

Solution: Simplify your Environment Standardize your cross-platform application development



Rational Developer for System z

Integrated Host/desktop IDE

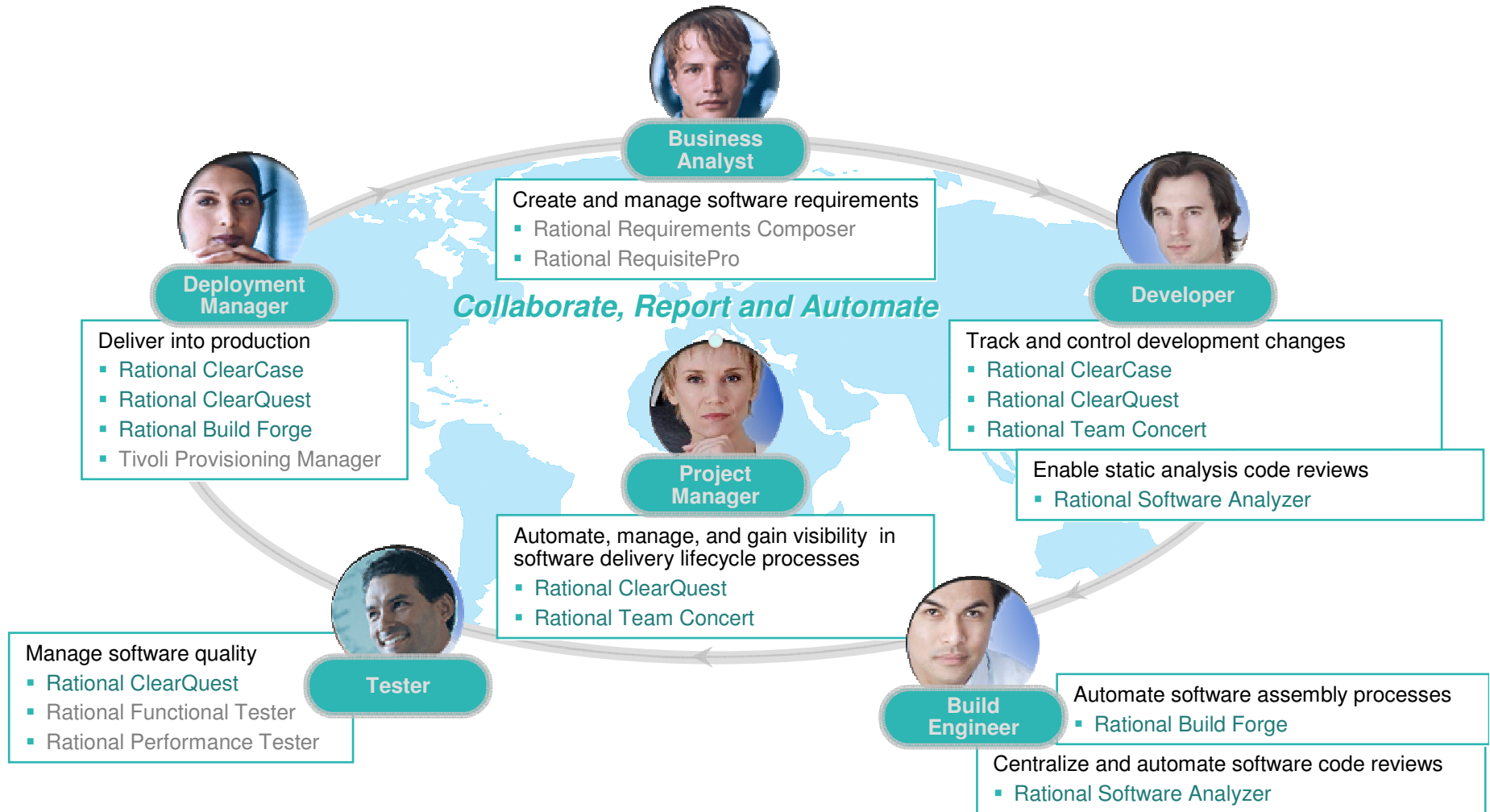
- Local COBOL/PL1 edit, syntax check
- Integrated java, C/C++ development
- Automated host/local filesystem synchronization
- Remote test, debug, job monitoring

Rational Developer for System z

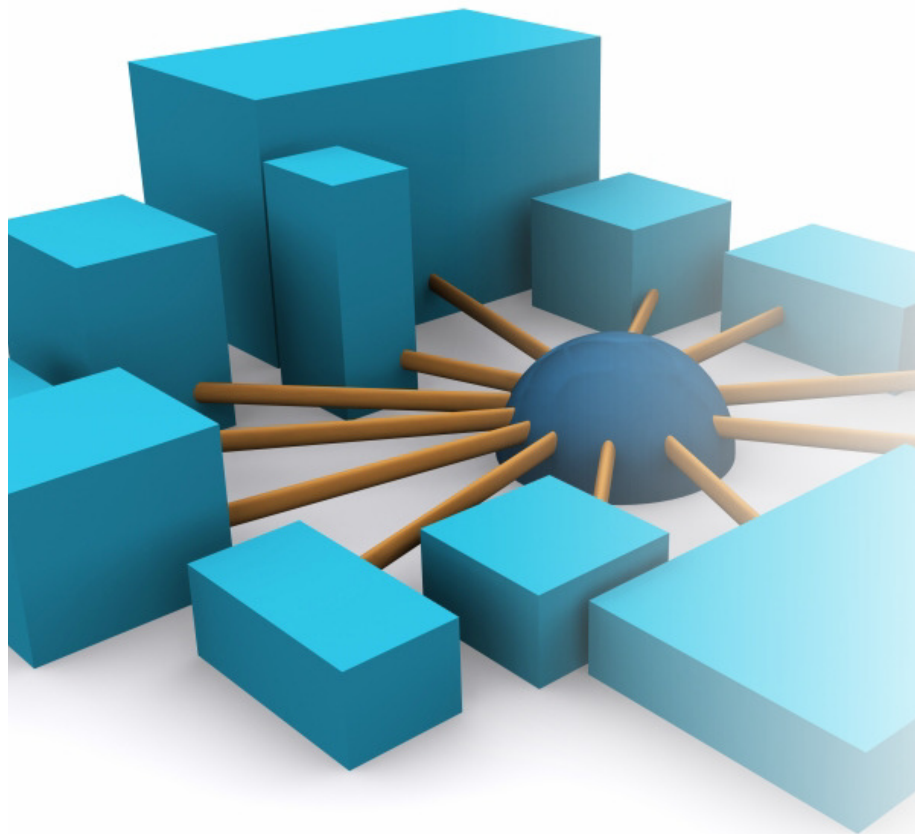
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Change, Configuration and Release Management

Improving effectiveness with code-level analysis, version control, process automation, team collaboration and lifecycle traceability



***Solution: Simplify your Application Lifecycle
Standardize your development process across your enterprise***



IBM Rational ClearQuest

Activity and Deployment Management

- Configurable, enforceable workflows
- Central repository, real-time status
- Graphical and text-based reporting
- RDz (Eclipse), Web, Windows clients

IBM Rational ClearQuest

Rational. software

IBM Rational ClearQuest

Comprehensive Software Change Management

An industry-leading solution that provides flexible defect and change tracking, process automation, reporting and lifecycle traceability for better visibility and control of the software and systems development lifecycle

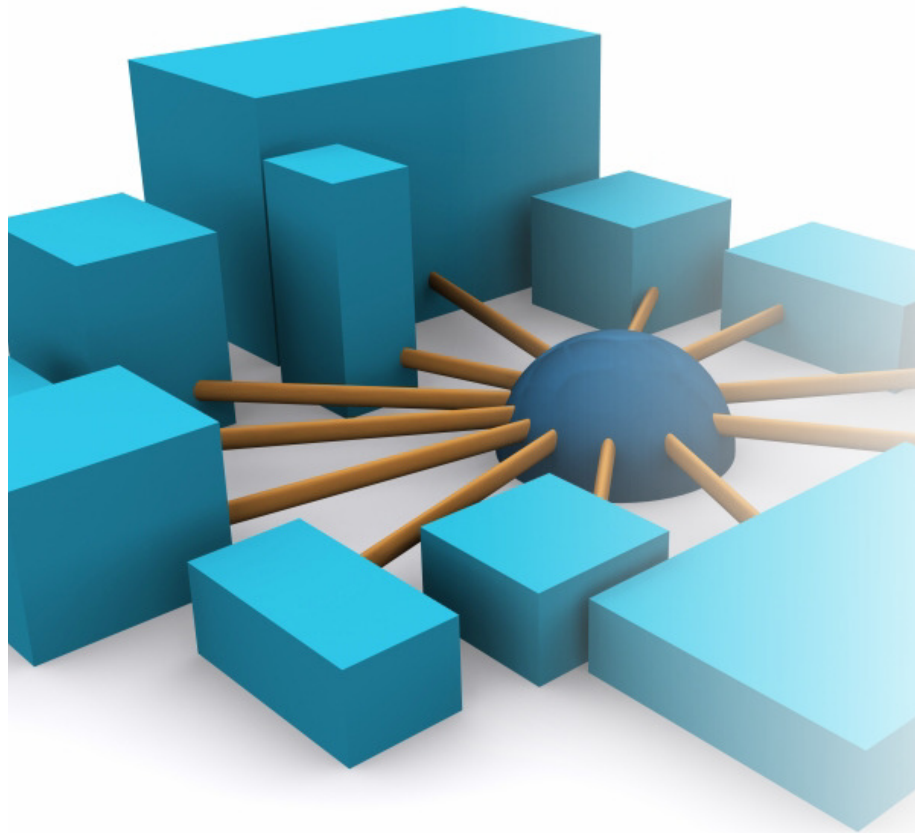
- ✓ Flexible, customizable and automated workflows provide repeatable, enforceable and predictable processes



An out-of-box Application Lifecycle Management (ALM) template provides a solid foundation for ALM best practices

- ✓ Real-time reporting and metrics improves project visibility and decision making
- ✓ Access control, electronic signatures, repeatable processes and audit trails simplify compliance management
- ✓ Scales to any size team from small workgroups to distributed enterprise teams to support evolving organizational needs
- ✓ Integration with requirements, development, build, test, deployment and portfolio management tools facilitates rapid response to change

Solution: Simplify Software Asset Management ***Manage enterprise assets with a single repository solution***



Rational ClearCase

Enterprise-level SCM

- Secure hosting of software assets
- Desktop, RDz, z/OS, web clients
- Distributed and z/OS build capability
- Built-in extensible process model

Rational ClearCase

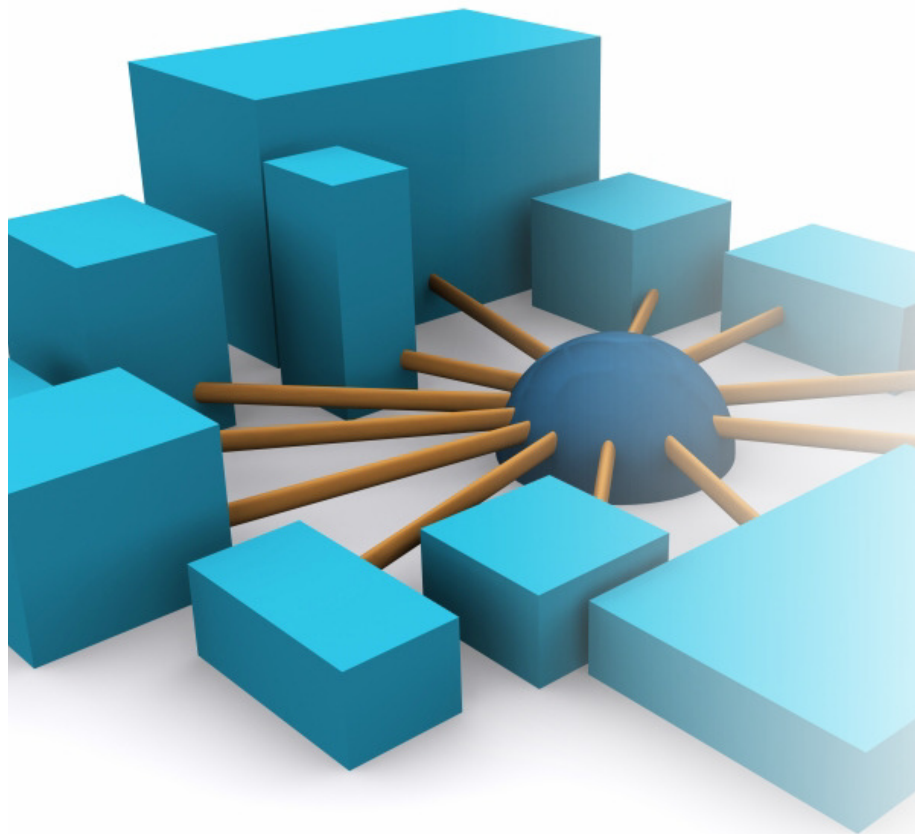
IBM Rational ClearCase

Complete Software Configuration Management

An industry-leading solution that provides sophisticated version control, workspace management and parallel development support to improve productivity

- ✓ Suitable for small teams, yet scales to the enterprise
- ✓ Light-weight clients, full featured Eclipse plugins enable transparent remote and local access
- ✓ Flexible out-of-box usage model based on proven best practices increases team productivity and efficiency
- ✓ Transparent real-time access to files and directories virtually anywhere in your organization, including from z/OS
- ✓ Integration with leading IDEs allows you to work in your preferred environment
- ✓ ISPF client and z/OS build management extend value to mainframe, enables enterprise-wide standardized software configuration management

Solution: Simplify Builds and Deployments cross-platform application builds and deployments



Rational Build Forge

Synchronize enterprise builds

- Centralized build management
- Local (host and distributed) agents
- RDz (Eclipse), Web clients
- Comprehensive audit trails

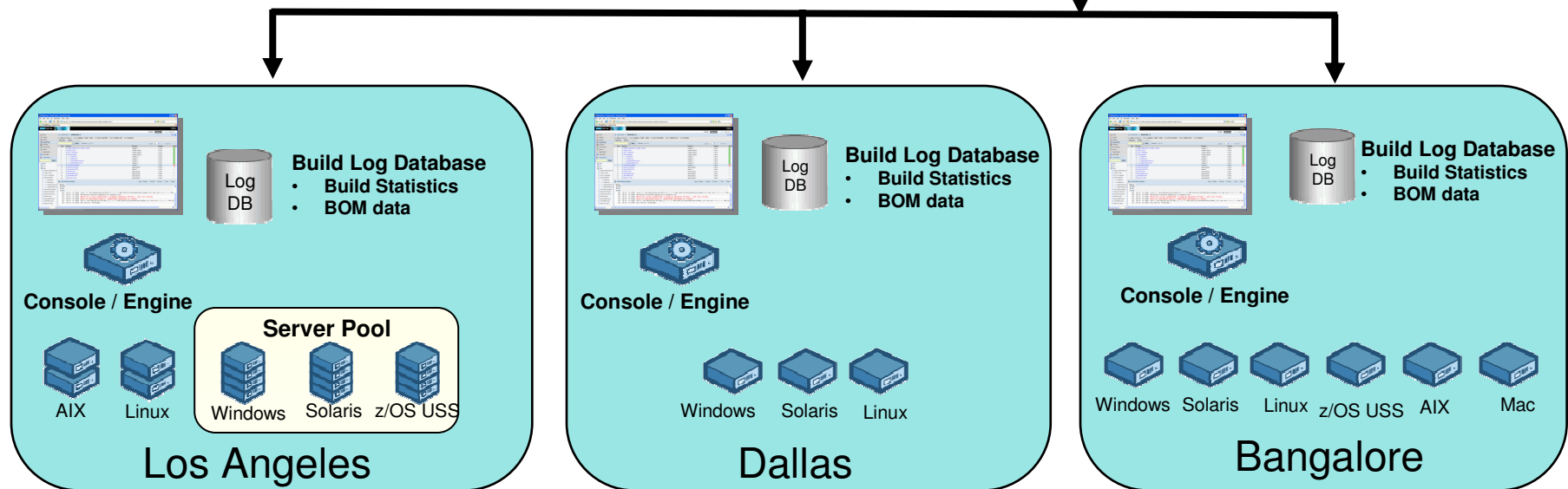
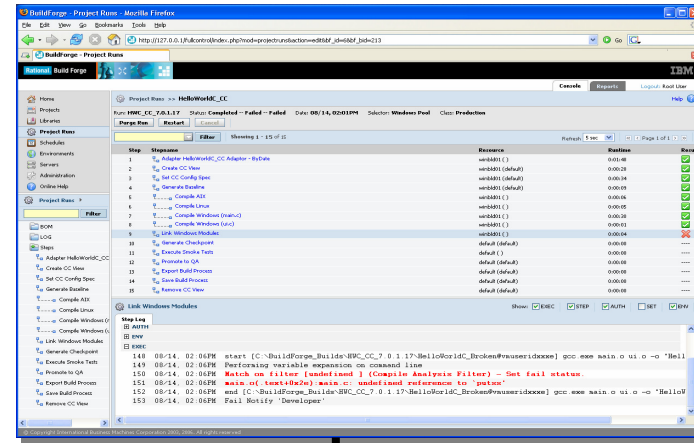
Rational Developer for System z

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IBM Rational Build Forge

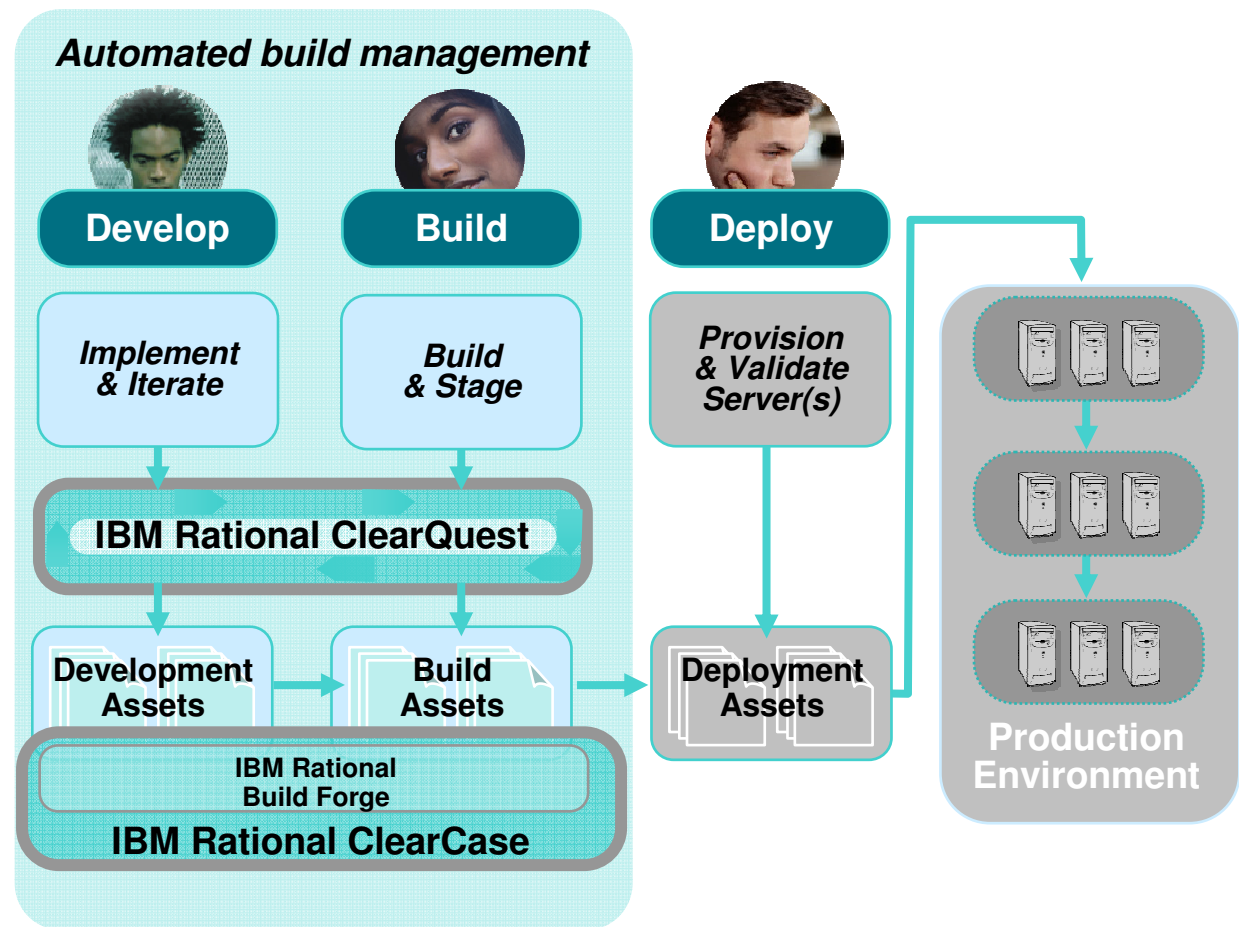
Centralized management across geographically distributed teams

- Web-based management console
- Consolidated, real-time project view
- Safe, secure access via user authentication
- Unicode support for international projects



IBM Rational ClearQuest and IBM Rational ClearCase with IBM Rational Build Forge integration

- Automated build management
- Detailed record of build content
- Support for continuous builds
- New IBM Rational ClearQuest build record for tracking and reporting



Scenario:

- **Help desk retirement application – returning errors!**
 - J2EE light desktop client
 - CICS back end

```
EPS TOOLS BIRTHDAY/RETIREMENT EXAMPLE

PLEASE ENTER BIRTHDATE: 19900101

ENTER A 1 TO SEE YOUR BIRTHDAY
ENTER A 2 TO CALCULATE YOUR RETIREMENT

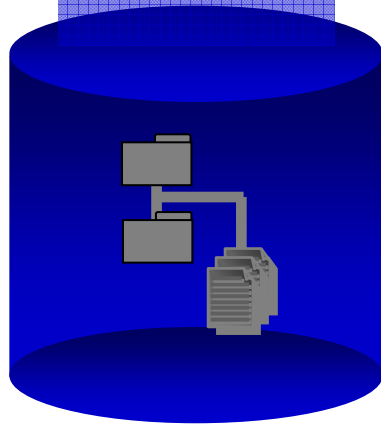
HERE IS YOUR BIRTHDATE AND NO DAYS FROM CURR

YOUR BIRTHDATE AND DAY: Monday 01 January 1990

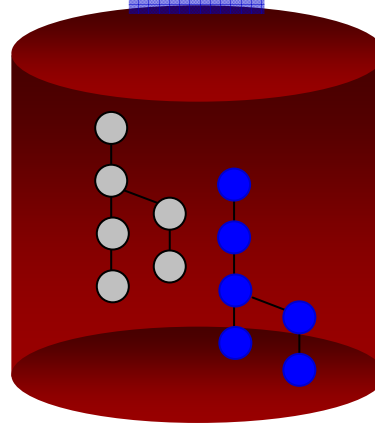
HOW LONG AGO WAS THIS?: 000000888 DAYS

F3/F12 TO TERMINATE, ENTER TO PROCESS, CLEAR TO START OVER
```

Enterprise Application Lifecycle



**COBOL Source,
CICS, DB2 Tables**



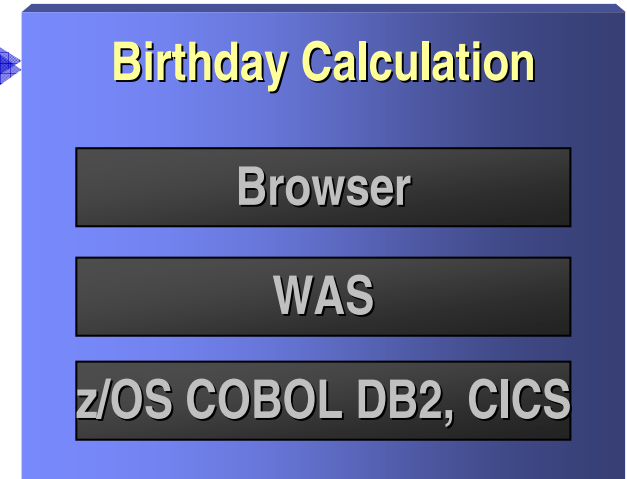
**Desktop
Java, C, C++, Struts**



ISP



**Linux, Windows
Desktop**



**“Mixed Workload”
“Cross Platform”**

Production Help Desk:

- Discovers issue
- Inputs issue with CQ Web client . .

The screenshot displays the Rational ClearQuest web client interface. The top navigation bar includes the Rational logo, the text "Rational ClearQuest", and user information: "Welcome admin | Demo/SAMPL | Log out" and "You have 0 new items". Below this, there are tabs for "New Defect", "Site Administration", "Preferences", and "Help".

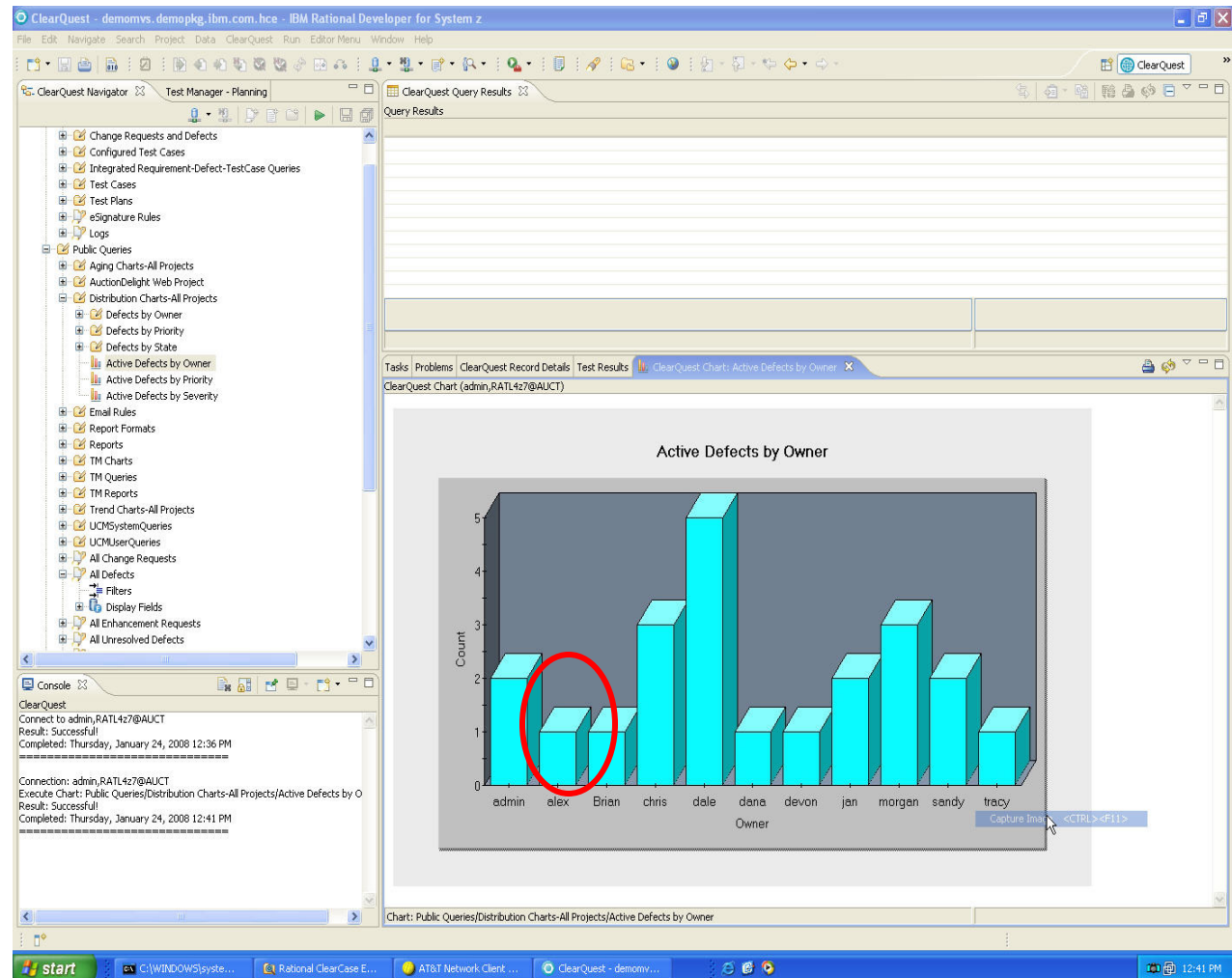
The main content area is divided into several sections:

- Search Section:** A search bar with the value "SAMPL0000079" and a "Search" button. Below it are radio buttons for "Full Text" and "By ID", and a "Search Scope" dropdown.
- ClearQuest Navigator:** A tree view showing a hierarchy of folders: "Personal Queries", "Public Queries", "Aging Charts", "Customers", "Distribution Charts", "Email Rules", "PrintReportFormats", "Report Formats", "Reports", "Trend Charts", "All Defects", "My To Do List", and "Needs Verification".
- ClearQuest Favorites:** A list of favorite items: "All Customers", "Needs Verification", and "Defect/SAMPL00000106".
- Recent Items:** A list of recent items: "Defect/SAMPL00000079", "Defect/SAMPL00000002", "Defect/SAMPL00000001", and "users/admin".
- Defect List:** A table showing a list of defects. The first row is highlighted in green and circled in red. The table has columns for "#", "id", "State", "Headline", and "version".
- Defect Detail View:** A detailed view of the selected defect (ID: SAMPL00000079). It includes tabs for "Main", "Notes", "Resolution", "Attachments", "History", "Customer", and "eSignature". The "Main" tab is active, showing fields for "ID", "State", "Headline", "Project", "Severity", "Priority", "Owner", and "Description". The "ID" field is circled in red.

The bottom of the interface features the IBM logo, "Contact | Terms of Use", and the "Rational software" logo.

Project Lead

- Reviews team workload



Project Lead

- Assigns issue to developers

The screenshot displays the IBM Rational Developer for System z interface. The main window shows the 'ClearQuest Navigator' on the left, listing various project queries. The central pane displays a table of 'All Unresolved Defects - ClearQuest Query Results'. The table includes columns for ID, Headline, Severity, Owner, and State. A red circle highlights the 'alex' owner for defect ID AUCT00000210 in the 'Owner' column of the detailed view below.

Id	Headline	Severity	Owner	State
AUCT00000047	delete item not working correctly	2-Major	sandy	Opened
AUCT00000054	sales tax incorrect for NH	1-Critical	morgan	Assigned
AUCT00000056	inventory report is not running correctly	1-Critical	morgan	Assigned
AUCT00000058	overriding price operation allows negative number	2-Major	devon	Assigned
AUCT00000060	part number column not wide enough	3-Average	jan	Opened
AUCT00000061	add item button is out of line with the other buttons	3-Average	morgan	Assigned
AUCT00000062	context: sensitive help falls from reorder window	2-Major	dana	Assigned
AUCT00000063	formatting does not look right in inventory report	3-Average	dale	Opened
AUCT00000065	shortcut to logout does not work	2-Major	tracy	Assigned
AUCT00000066	cancel sale leaves item in purchase list	3-Average	dale	Opened
AUCT00000068	inventory report is displaying an empty column	2-Major	alex	Opened
AUCT00000072	application crashes with low memory condition	2-Major	chris	Assigned
AUCT00000073	reorder quantity is sometimes incorrect	2-Major	dale	Assigned
AUCT00000075	too many spaces in change due field	4-Minor	dale	Assigned
AUCT00000076	add items fails for large quantities	3-Average	chris	Opened
AUCT00000077	unable to add item already in sale list	2-Major	dale	Assigned
AUCT00000079	application crash if logout before reorder is complete	1-Critical	sandy	Assigned
AUCT00000171	Items listed for sale are not persisted in database.	1-Critical	Brian	Submitted
AUCT00000191	Cancel bid function does not actually cancel build	1-Critical	chris	Submitted
AUCT00000199	System lets you register multiple accounts with same login	1-Critical	jan	Submitted
AUCT00000206	Reword Banner.CBL	1-Critical	admin	Opened
AUCT00000208	Make a change to the Banner Program	2-Major	alex	Opened
AUCT00000210	We need to update the Banner Application.	1-Critical	alex	Opened

The detailed view for defect AUCT00000210 shows the following fields:

- ID: AUCT00000210
- State: Opened
- Headline: We need to update the Banner Application
- Suite Project: [Dropdown]
- UCM Project: Madrid
- Owner: alex (highlighted with a red circle)
- Priority: 2-Give High Attention
- Severity: 1-Critical
- Customer Priority: [Dropdown]
- Description: Fix the wipers

Developers Alex, mchao

- **Notified by:**
 - Email, or
 - ClearQuest to-do
- **Opens issue in RDz**
 - Marks it as “opened”
 - Investigates issue

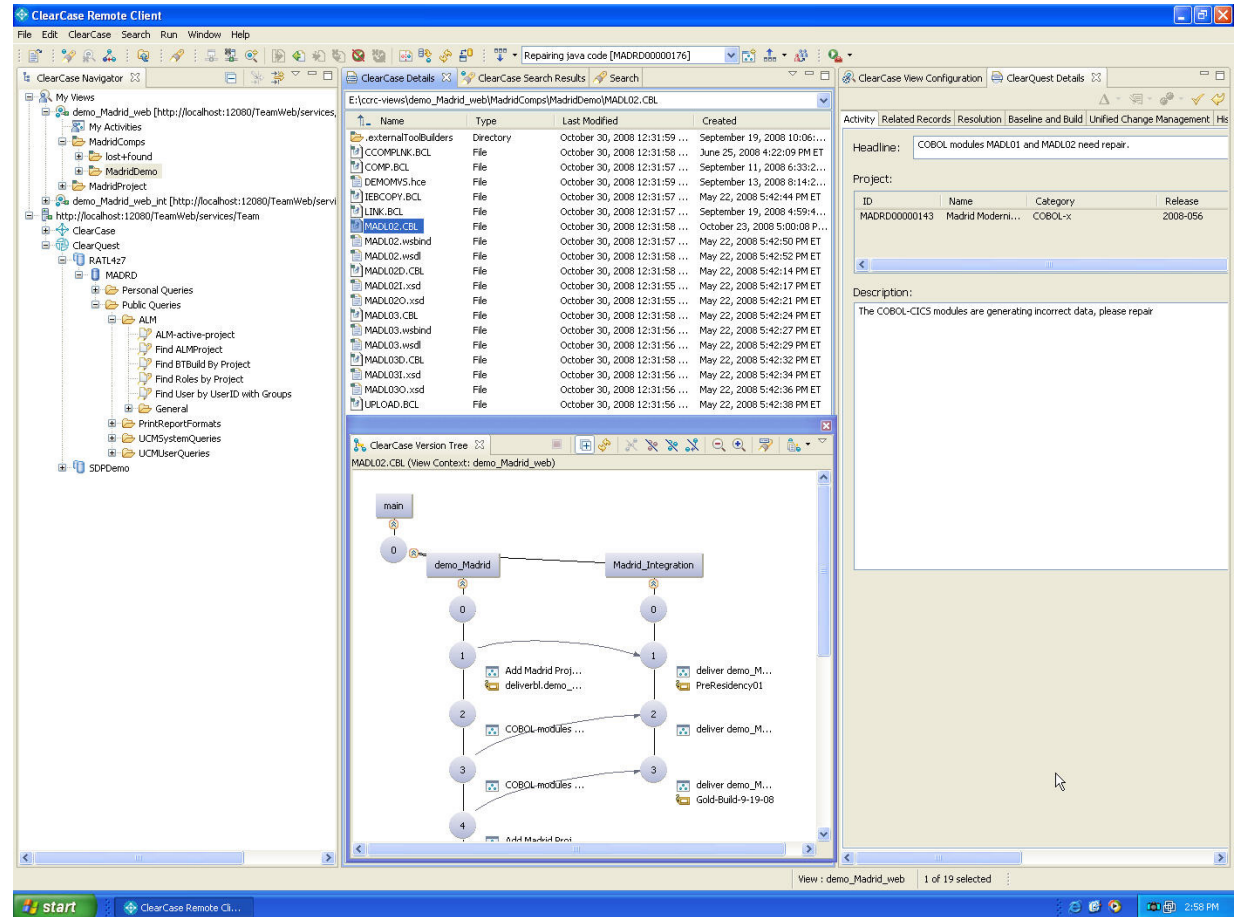
The screenshot shows the IBM Rational Developer for System z (RDz) interface. The main window displays a table of defects with columns for ID, Headline, Severity, Owner, and State. A 'Create (Defect) AUCT00000207' dialog box is open, showing fields for ID, State, Headline, Suite Project, UCM Project, Owner, Priority, Severity, Customer Priority, and Description. The console window at the bottom shows successful execution of a query.

id	Headline	Severity	Owner	State
AUCT00000075	too many spaces in 'change due' field	4-Minor	dale	Assigned
AUCT00000076	add items fails for large quantities	3-Average	chris	Opened
AUCT00000077	unable to add item already in sale list	2-Major	dale	Assigned
AUCT00000078	change due amount is supposed to be red	3-Average	alex	Closed
AUCT00000079	application crash if logout before reorder is complete	1-Critical	sandy	Assigned
AUCT00000171	Items listed for sale are not persisted in database.	1-Critical	brian	Submitted
AUCT00000191	Cancel bid function does not actually cancel build	1-Critical	chris	Submitted
AUCT00000199	System lets you register multiple accounts with same login	1-Critical	jan	Submitted
AUCT00000200	Auction not accepting reserve bids	2-Major	jan	Closed
AUCT00000201	Rearrange directories, add src and JCL for zOSE Remote Build	1-Critical	admin	Opened
AUCT00000206	Reward Banner - CBL	1-Critical	admin	Opened

Development team

Researches problem

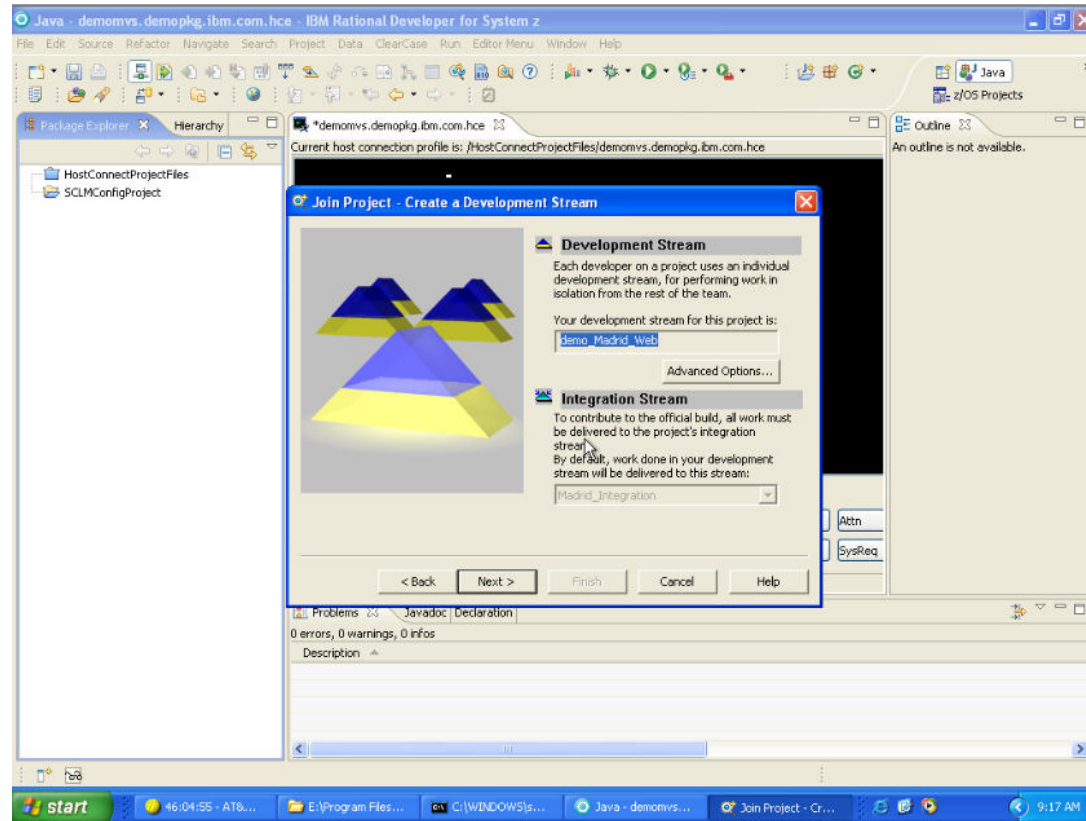
- Locates problem file
- Reviews history
- Identifies 3 changes:
- Java Source (assign to developer alex)
- COBOL Source and Copybook (assign to developer mchao)



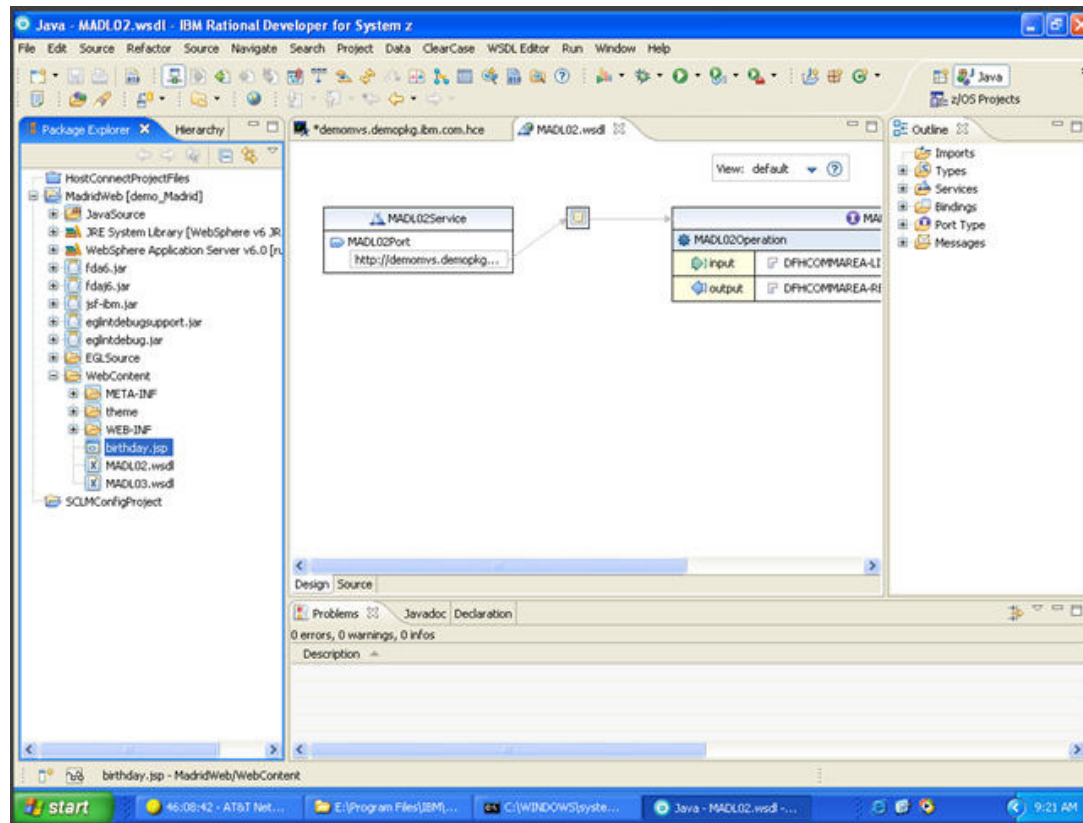
Java Component

- **Java developer Alex Uses RDz to modify Java components**

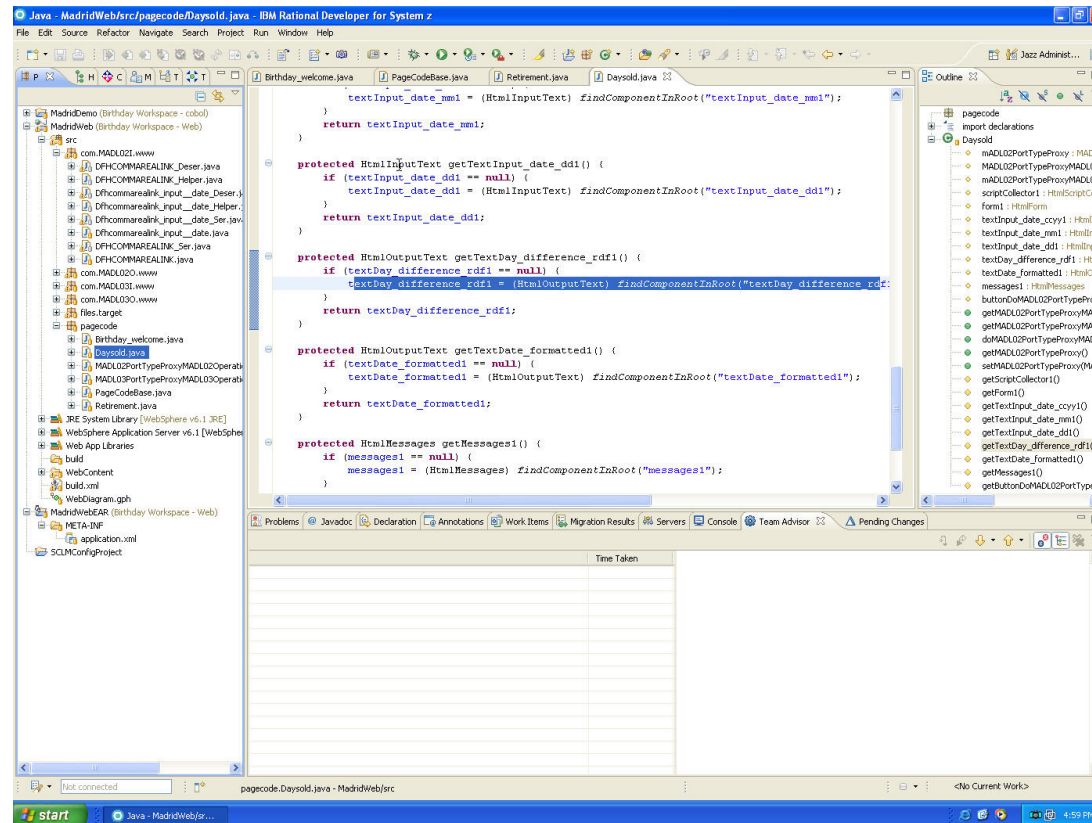
Java Developer Alex joins Project from RDZ



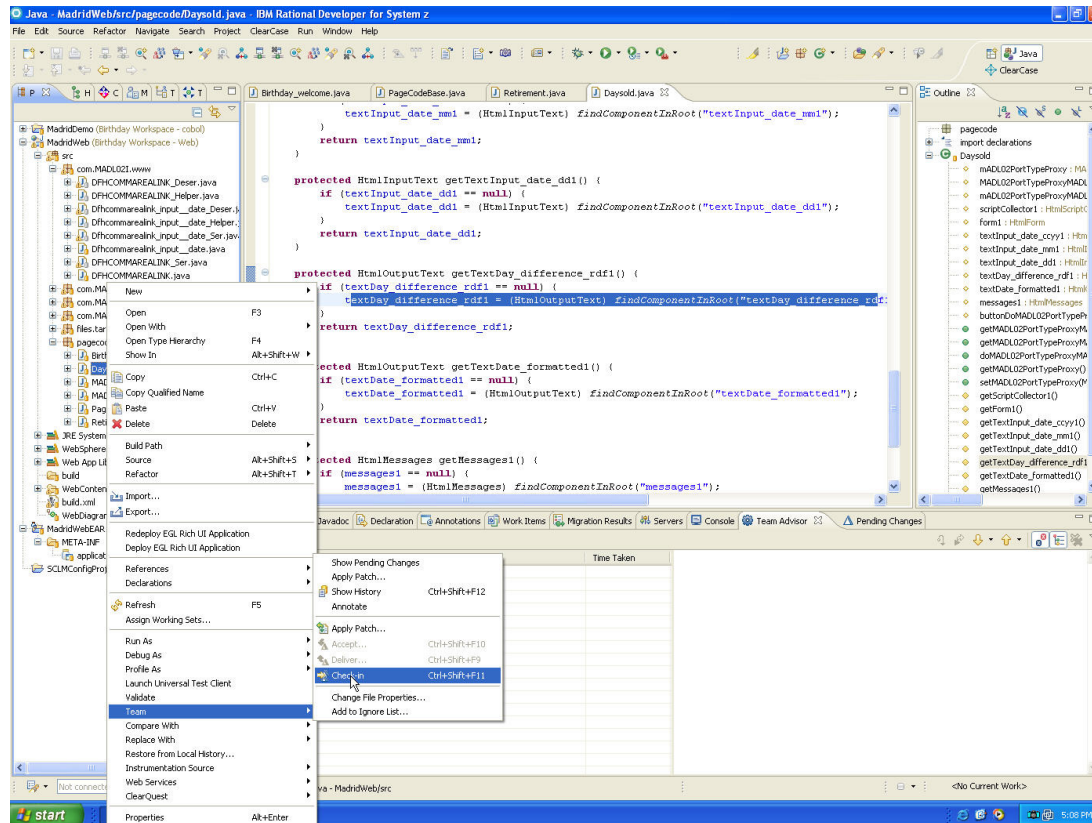
Locates the java source



Checks out and Performs Modifications



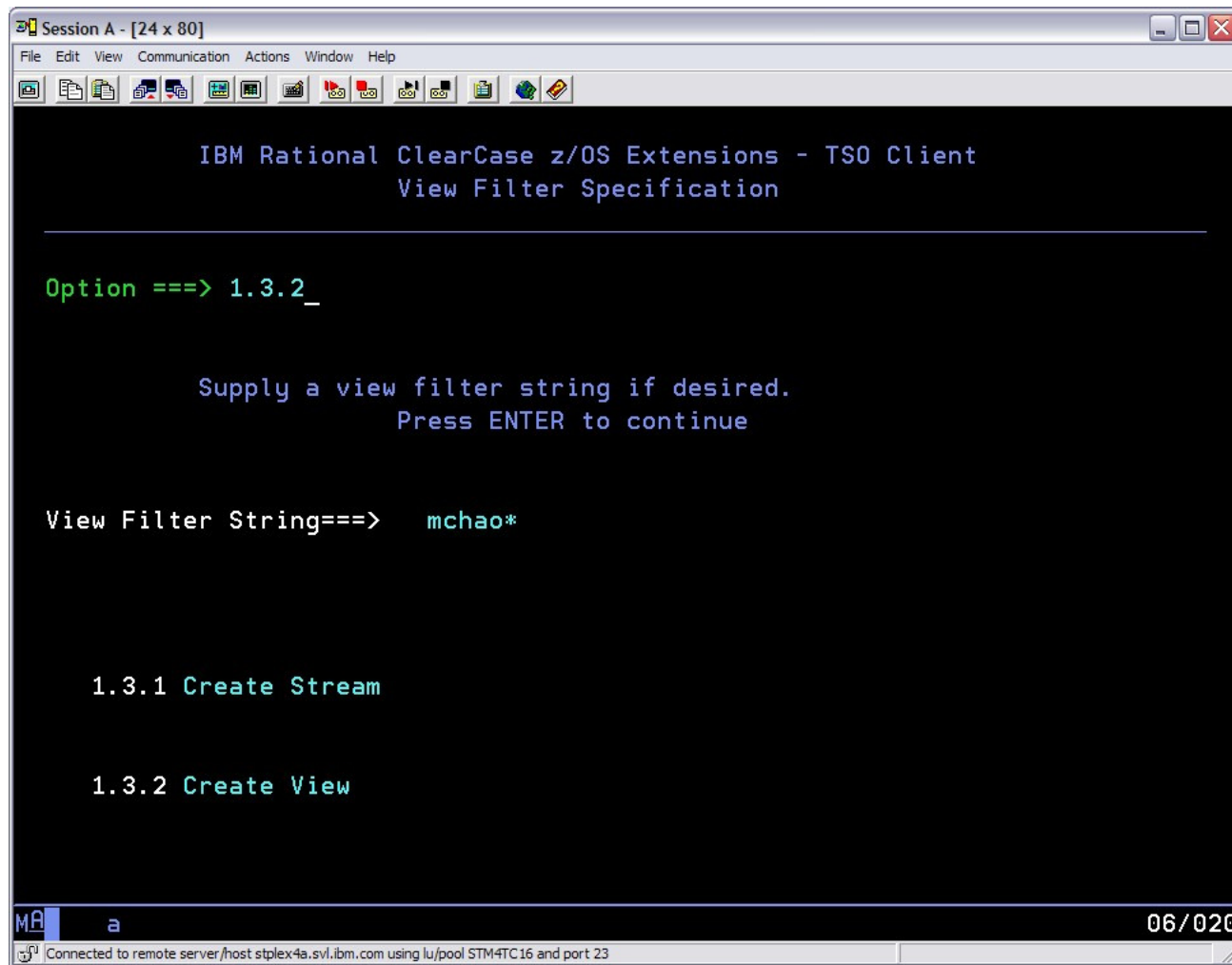
Checks java source back in



z/OS Component

- **z/OS Developer Mike uses TSO Client for COBOL and copybook modification**

Create ClearCase Stream and view from ISPF



```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
IBM Rational ClearCase z/OS Extensions - TSO Client
View Filter Specification

Option ==> 1.3.2_

Supply a view filter string if desired.
Press ENTER to continue

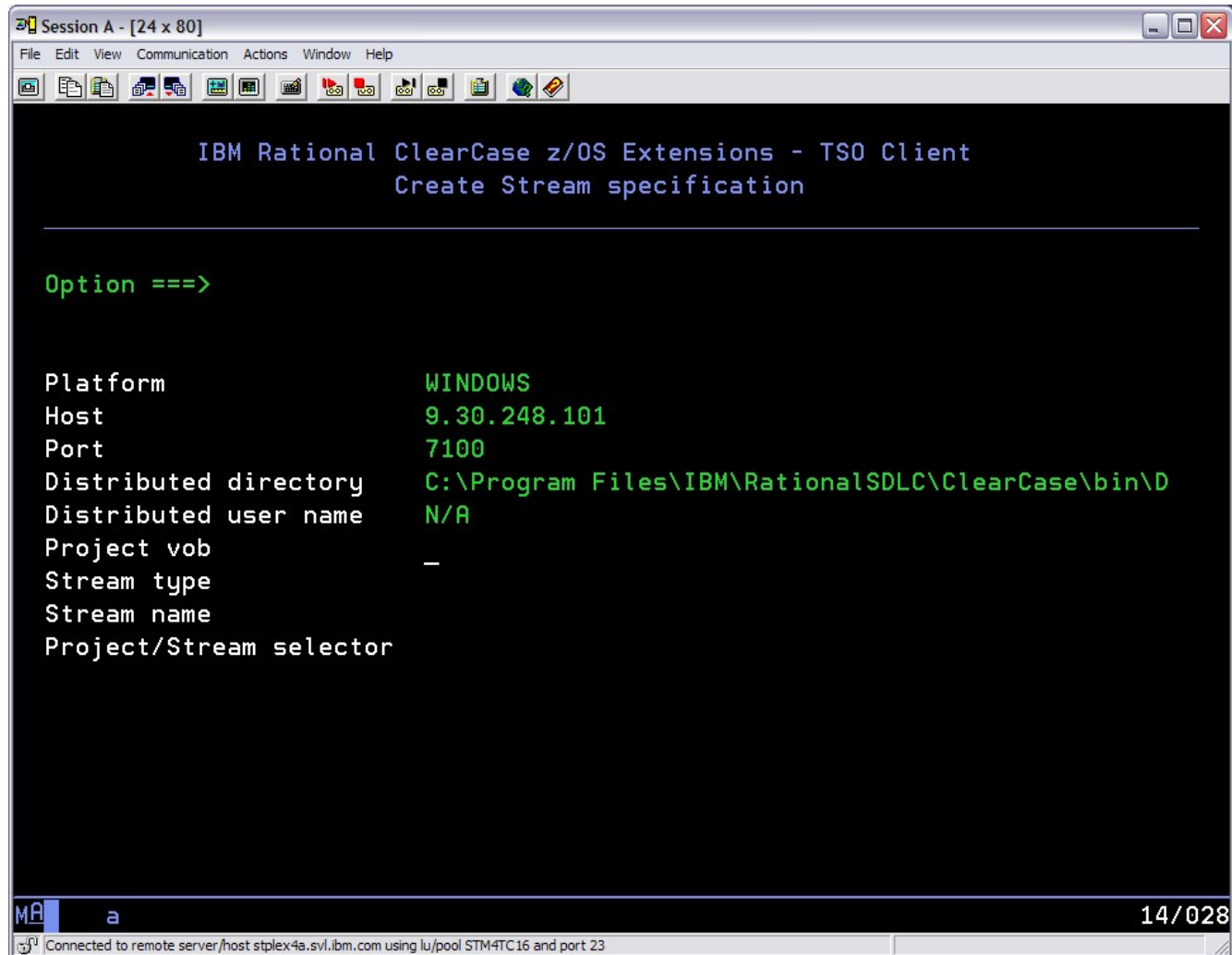
View Filter String==> mchao*

1.3.1 Create Stream

1.3.2 Create View

MA a 06/020
Connected to remote server /host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
```

Creating Steam



The screenshot shows a terminal window titled "Session A - [24 x 80]". The window contains the following text:

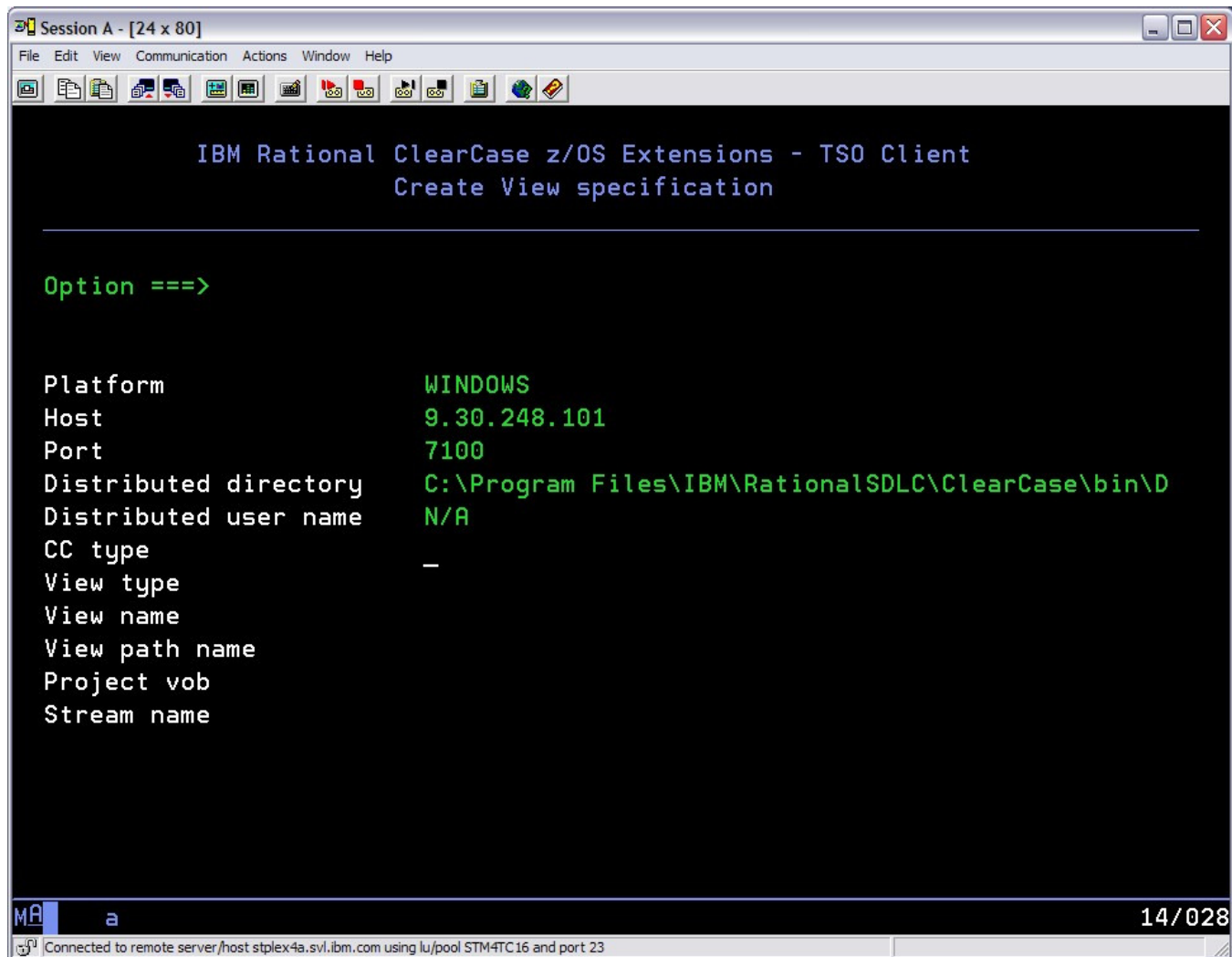
```
IBM Rational ClearCase z/OS Extensions - TSO Client
Create Stream specification

Option ==>

Platform           WINDOWS
Host               9.30.248.101
Port               7100
Distributed directory C:\Program Files\IBM\RationalSDLC\ClearCase\bin\D
Distributed user name N/A
Project vob        -
Stream type
Stream name
Project/Stream selector
```

At the bottom of the terminal, there is a status bar showing "MA a" on the left and "14/028" on the right. Below the terminal window, a small status bar indicates "Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23".

Create View



The screenshot shows a terminal window titled "Session A - [24 x 80]" with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The main content is a text-based interface for "Create View specification". It displays a list of configuration options with their current values. The options are: Platform (WINDOWS), Host (9.30.248.101), Port (7100), Distributed directory (C:\Program Files\IBM\RationalSDLC\ClearCase\bin\D), Distributed user name (N/A), CC type (—), View type, View name, View path name, Project vob, and Stream name. The prompt "Option ==>" is shown in green. At the bottom, there is a status bar with "MR a" on the left, "14/028" on the right, and a connection message: "Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23".

```
IBM Rational ClearCase z/OS Extensions - TSO Client
Create View specification

Option ==>

Platform           WINDOWS
Host               9.30.248.101
Port               7100
Distributed directory C:\Program Files\IBM\RationalSDLC\ClearCase\bin\D
Distributed user name N/A
CC type            —
View type
View name
View path name
Project vob
Stream name
```

MR a 14/028
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23

Select the Copybook Dataset

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 5 of 5
IBM Rational ClearCase 4.0.0 Extensions 100 Client
Action dataset select

Profile: ADEMO
ClearCase view: mchao_pb_test_int

Option ==> _____

3.1.1 View Log

'S' to select a dataset to act on

Datasets
MCHAO.TSC.CBL
s MCHAO.TSC.CPY
MCHAO.TSC.JCL1
MCHAO.TSC.LIST
MCHAO.TSC.LNK

***** Bottom of data *****

F1=PF01 F2=SPLIT F3=END F4=RETURN F5=RFIND F6=RCHANGE
F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=

MA a 17/004
Connected to remote server /host stplex4a.svl.ibm.com using lu/pool STM4TC94 and port 23
    
```

Check out the Copybook

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 1 of 1
IBM Rational ClearCase z/OS Extensions - TSO Client
View File List

Option ==> _____
File name filter =====> *

ClearCase file name      In PDS  State
co_ copyone              In

***** Bottom of data *****

MA a 11/004
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
```


Modify the Copybook

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT          DGUPTON.TSC.CPY (COPYONE) - 01.00          Columns 00001 00072
***** ***** Top of Data *****
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>          this member, but will be generated if data is saved.
000001      * COPYONE.CPY
000002      * -----*
000003      * test copybook
000004      01 TESTCPY          PIC X(12) VALUE 'COPYONE  **'.
000005      01 DATE-DATE      PIC X(14).
000006      01 FILLERD REDEFINES DATE-DATE.
000007          02 DATE-11.
000008          03 YY          PIC XXXX.
000009          03 MM          PIC XX.
000010          03 DD          PIC XX.
000011          02 TIME-11.

Truncation warning. The data you are editing is variable length data with at
least one record that ends with a blank. Saving the data will result in
removal of any trailing blanks from all records. You can issue the PRESERVE
ON command if you don't want the blanks removed.

Command ==> _____ Scroll ==> PAGE
MA a 24/015
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
```

Perform Impact Analysis

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
IBM Rational ClearCase z/OS Extensions - TSO Client
Main Menu

Option ==> 3.2_

1.1 Select Environment Definition      2.2 View File List
1.2 Select a Distributed User          3.1 TSOC Log Management
1.3 Select/Create View, Create Stream 3.1.1 View Log
2.1 Upload Files                      3.2 Query, Recompile Requirements
                                      3.3 Query, Compile Dependents

Profile: ADEMO
ClearCase view: mchao_pb_test_int

Local PDS Prefix: MCHAO

IA Prototype Version 081108-1

F1=PF01   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP   F10=LEFT   F11=RIGHT  F12=

MA a 06/019
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TD85 and port 23
    
```

Select the Copybook

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 1 of 1
IBM Rational ClearCase z/OS Extensions - TSO Client
Query for Recompile Requirements

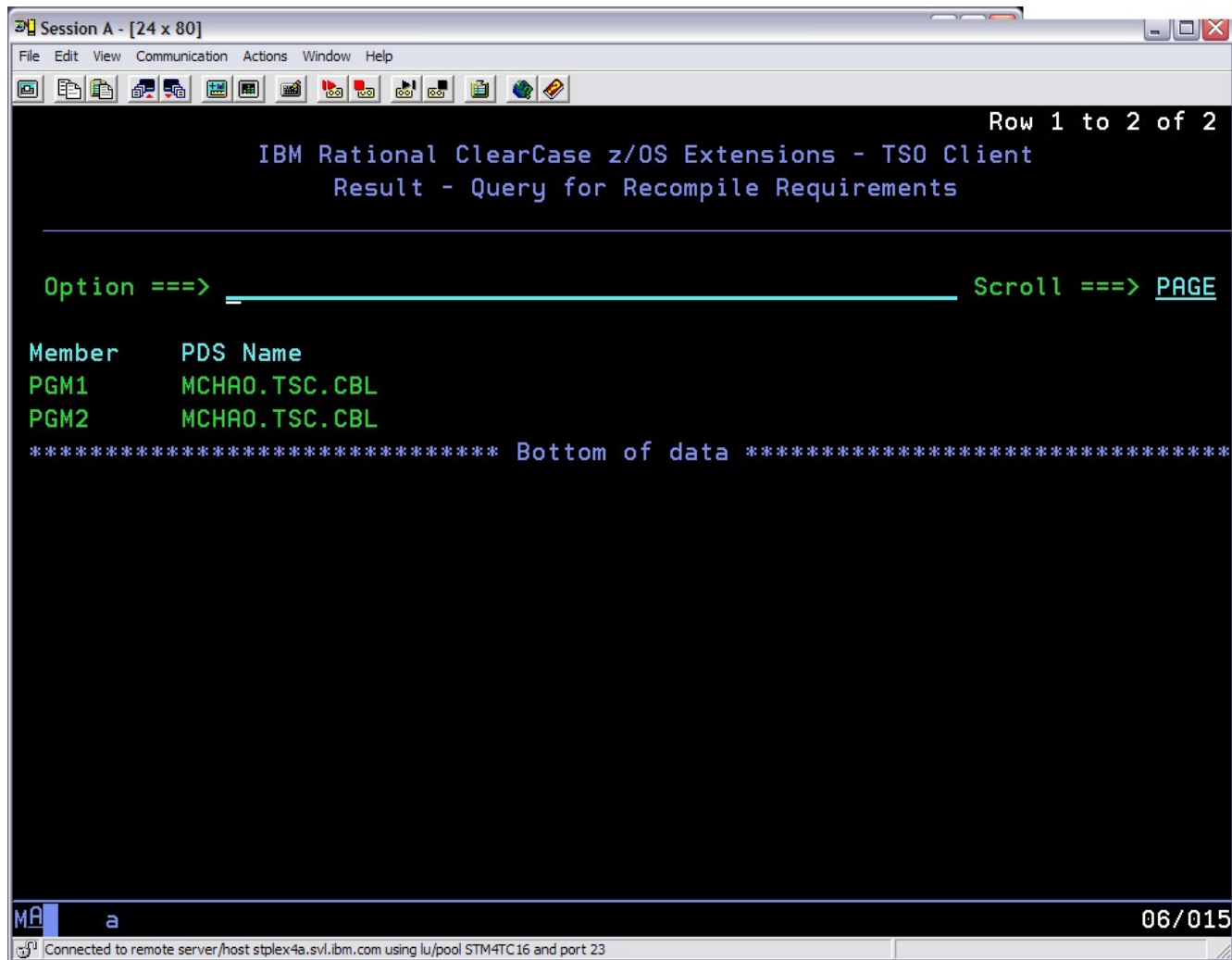
Option ==> _____ Scroll ==> PAGE

Primary Index ==> MCHAO.VSAM1.BASE
Alternate Index ==> MCHAO.VSAM1.NUPATH
Default PDS Name ==> MCHAO.PROJ1.COBOL.CPY

Member PDS Name
____ COPYONE MCHAO.PROJ1.COBOL.CPY
***** Bottom of data *****

MA a 13/015
Connected to remote server /host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
    
```

ClearCase identifies PGM1 and PGM2 as dependents



Session A - [24 x 80]

File Edit View Communication Actions Window Help

Row 1 to 2 of 2

IBM Rational ClearCase z/OS Extensions - TSO Client
Result - Query for Recompile Requirements

Option ==> _____ Scroll ==> PAGE

Member	PDS Name
PGM1	MCHAO.TSC.CBL
PGM2	MCHAO.TSC.CBL

***** Bottom of data *****

MA a 06/015

Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23

Using ClearCase to manage build of affected members

The screenshot shows a terminal window titled "Session A - [24 x 80]" with a menu bar (File, Edit, View, Communication, Actions, Window, Help) and a toolbar. The main display area contains the following text:

```

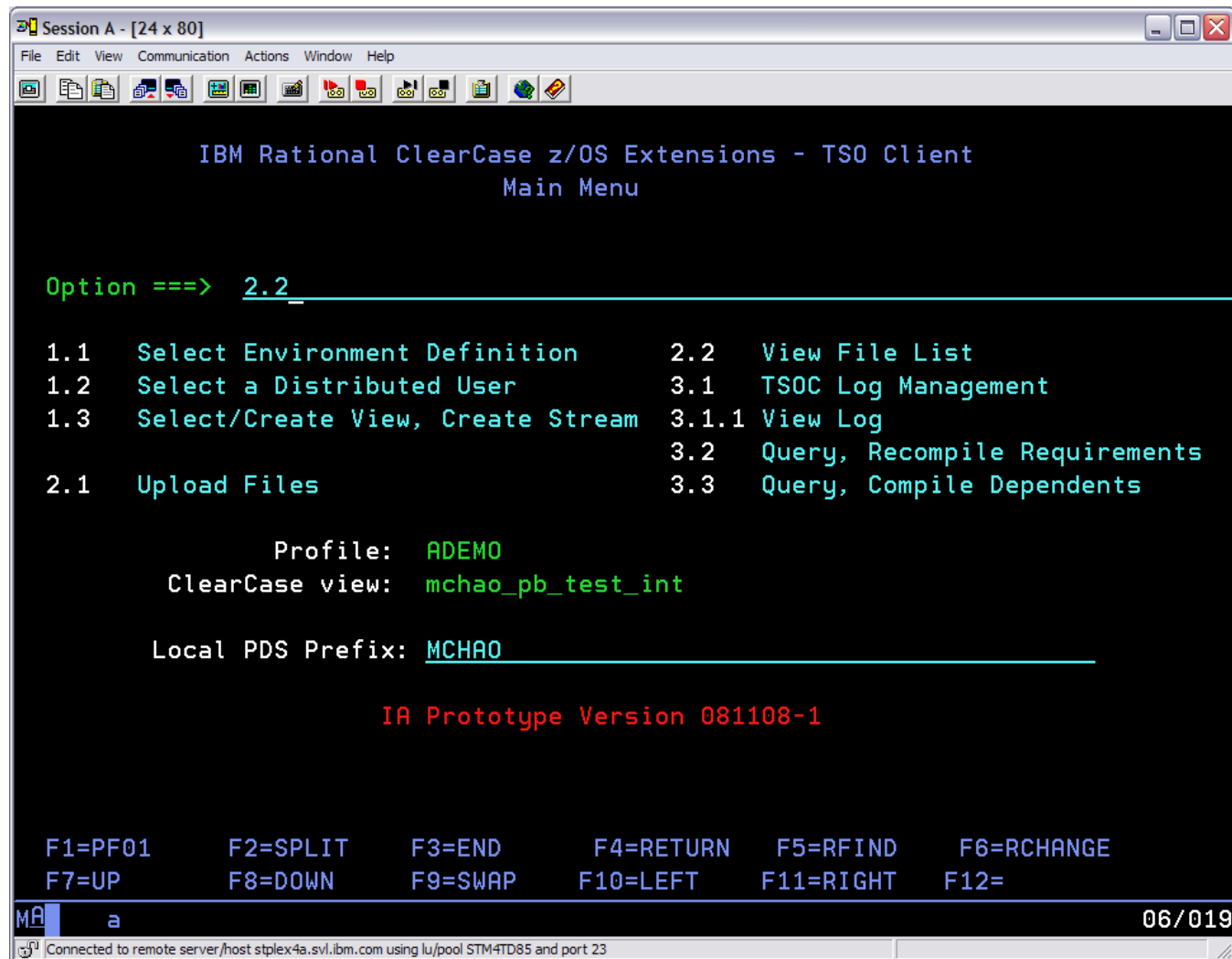
Row 1 to 2 of 2
IBM Rational ClearCase z/OS Extensions - TSO Client
Result - Query for Recompile Requirements

Option ==> pbb_____ Scroll ==> PAGE

Member      PDS Name
PGM1        MCHAO.TSC.CBL
PGM2        MCHAO.TSC.CBL
***** Bottom of data *****
  
```

At the bottom of the terminal, there is a status bar showing "MR a" on the left, "06/018" on the right, and a connection message: "Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23".

Making a Change to a Cobol Program



The screenshot shows a terminal window titled "Session A - [24 x 80]" with a menu for "IBM Rational ClearCase z/OS Extensions - TSO Client". The menu lists options 1.1 through 3.3. Option 2.2, "View File List", is selected. Below the menu, the current profile is "ADEMO", the ClearCase view is "mchao_pb_test_int", and the local PDS prefix is "MCHAO". At the bottom, there are function key definitions (F1=PF01, etc.) and a status bar showing "06/019" and a connection message.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help

IBM Rational ClearCase z/OS Extensions - TSO Client
Main Menu

Option ==> 2.2_

1.1 Select Environment Definition      2.2 View File List
1.2 Select a Distributed User          3.1 TSOC Log Management
1.3 Select/Create View, Create Stream 3.1.1 View Log
2.1 Upload Files                      3.2 Query, Recompile Requirements
                                    3.3 Query, Compile Dependents

      Profile: ADEMO
ClearCase view: mchao_pb_test_int

Local PDS Prefix: MCHAO

IA Prototype Version 081108-1

F1=PF01   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN     F9=SWAP   F10=LEFT   F11=RIGHT  F12=

MA a 06/019
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TD85 and port 23
```

Viewing Cobol Member List

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 5 of 5
IBM Rational ClearCase z/OS Extensions - TSO Client
Action dataset select

Profile:          ADEMO
ClearCase view:  mchao_pb_test_int

Option ==> _____

3.1.1 View Log

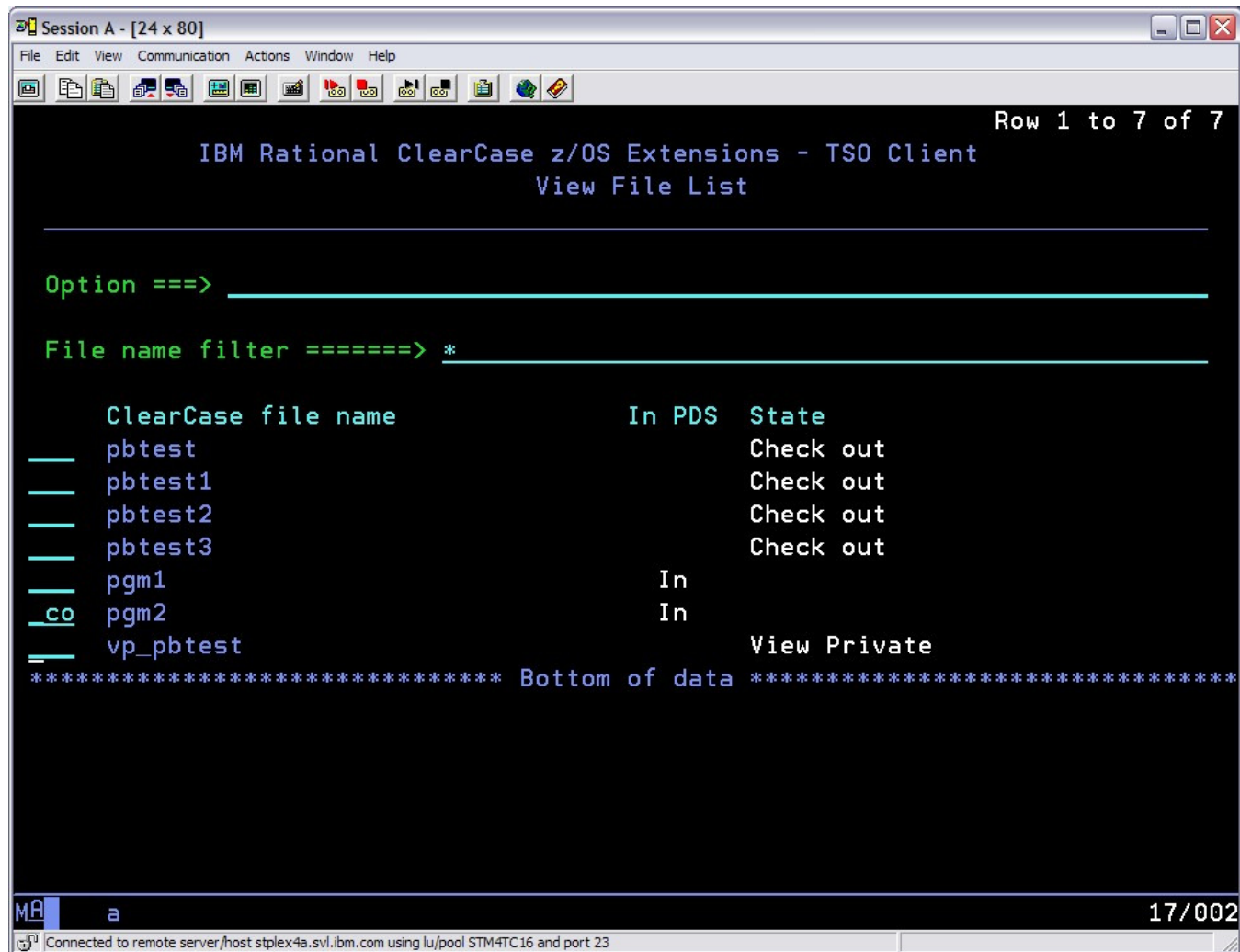
'S' to select a dataset to act on

Datasets
s MCHAO.TSC.CBL
  MCHAO.TSC.CPY
  MCHAO.TSC.JCL1
  MCHAO.TSC.LIST
  MCHAO.TSC.LNK
***** Bottom of data *****

F1=PF01   F2=SPLIT   F3=END     F4=RETURN  F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP    F10=LEFT   F11=RIGHT  F12=

MA a 16/004
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```

Checking out a Cobol Program



Session A - [24 x 80]

File Edit View Communication Actions Window Help

Row 1 to 7 of 7

IBM Rational ClearCase z/OS Extensions - TSO Client
View File List

Option ==> _____

File name filter =====> *

ClearCase file name	In PDS	State
pbtest		Check out
pbtest1		Check out
pbtest2		Check out
pbtest3		Check out
pgm1	In	
co pgm2	In	
vp_pbtest		View Private

***** Bottom of data *****

MA a 17/002

Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC 16 and port 23

Editing a Cobol Program

Session A - [24 x 80]

File Edit View Communication Actions Window Help

Row 1 to 7 of 7

IBM Rational ClearCase z/OS Extensions - TSO Client
View File List

Option ==> _____

File name filter =====> *

ClearCase file name	In PDS	State
pbtest		Check out
pbtest1		Check out
pbtest2		Check out
pbtest3		Check out
pgm1	In	
pgm2	In	
vp_pbtest		View Private

***** Bottom of data *****

MR a 15/004

Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23

Editing a Cobol Program Cont.

```
Session A - [24 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT      MCHAO.TSC.CBL (PGM2) - 01.05          Columns 00001 00072
*****  ***** Top of Data *****
==MSG> -CAUTION- Data contains invalid (non-display) characters. Use command
==MSG>      ===> FIND P\'' to position cursor to these
000001      IDENTIFICATION DIVISION.
000002      PROGRAM-ID.          PBTEST2.
000003      AUTHOR.
000004      INSTALLATION.        NONE
000005      DATE COMPILED.
000006      ENVIRONMENT DIVISION.
000007      CONFIGURATION SECTION.
000008      *SOURCE-COMPUTER. RM-COBOL.
000009      *OBJECT-COMPUTER. RM-COBOL.
000010
000011      DATA DIVISION.
000012      FILE SECTION.
000013
000014      WORKING-STORAGE SECTION.
000015      COPY COPYONE.
Command ===> _____ Scroll ===> CSR
F1=Help    F2=Split    F3=Exit    F5=Rfind   F6=Rchange F7=Up
F8=Down    F9=Swap     F10=Left  F11=Right  F12=Cancel
MA a                                             22/015
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TD85 and port 23
```


Determining Impact of Change

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
IBM Rational ClearCase z/OS Extensions - TSO Client
Main Menu

Option ==> 3.3_

1.1 Select Environment Definition      2.2 View File List
1.2 Select a Distributed User          3.1 TSOC Log Management
1.3 Select/Create View, Create Stream 3.1.1 View Log
2.1 Upload Files                      3.2 Query, Recompile Requirements
                                    3.3 Query, Compile Dependents

Profile: ADEMO
ClearCase view: mchao_pb_test_int

Local PDS Prefix: MCHAO

IA Prototype Version 081108-1

F1=PF01  F2=SPLIT  F3=END    F4=RETURN  F5=RFIND  F6=RCHANGE
F7=UP    F8=DOWN    F9=SWAP   F10=LEFT  F11=RIGHT F12=

MA a 06/019
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TD85 and port 23
    
```

Specifying Modified Cobol Program

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 1 of 1
IBM Rational ClearCase z/OS Extensions - TSO Client
Query for Compile Dependents

Option ==> _____ Scroll ==> PAGE

Primary Index ==> MCHAO.VSAM1.BASE
Alternate Index ==> MCHAO.VSAM1.NUPATH
Default PDS Name ==> MCHAO.TSC.CBL

Member      PDS Name
____ PGM2_   MCHAO.TSC.CBL
***** Bottom of data *****

MA a 13/012
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
    
```

Copy Books Dependant on Program

```

Session A - [24 x 80]
File Edit View Communication Actions Window Help
Row 1 to 13 of 13
IBM Rational ClearCase z/OS Extensions - TSO Client
Result - Query for Compile Dependents

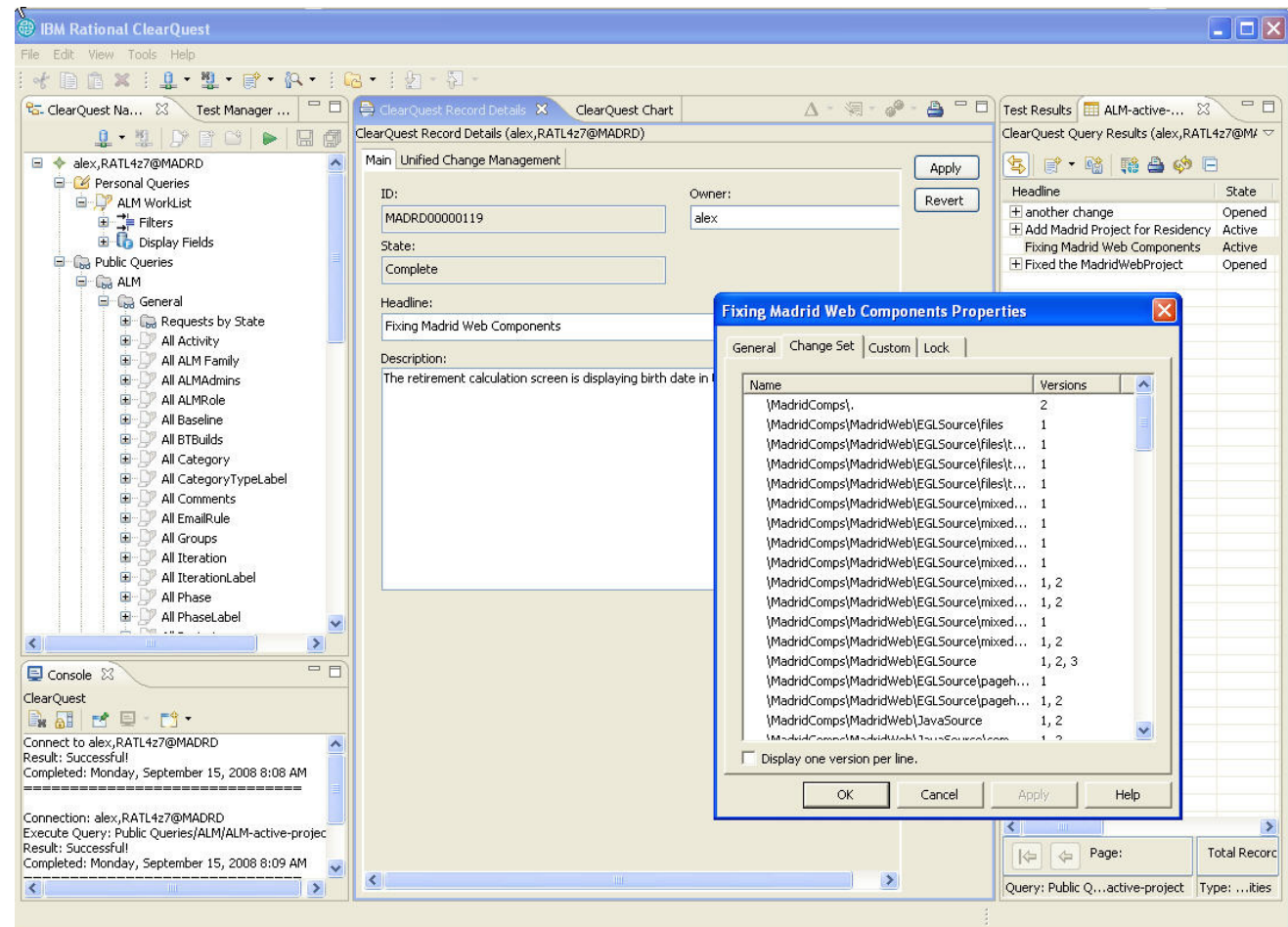
Option ==> _____ Scroll ==> PAGE

Member      PDS Name
COPYONE     MCHAO.PROJ1.COBO.L.CPY
COPY10      MCHAO.PROJ2.COBO.L.CPY
COPY11      MCHAO.PROJ2.COBO.L.CPY
COPY12      MCHAO.PROJ2.COBO.L.CPY
COPY2       MCHAO.PROJ1.COBO.L.CPY
COPY3       MCHAO.PROJ1.COBO.L.CPY
COPY4       MCHAO.PROJ2.COBO.L.CPY
COPY5       MCHAO.PROJ2.COBO.L.CPY
COPY6       MCHAO.PROJ1.COBO.L.CPY
COPY7       MCHAO.PROJ1.COBO.L.CPY
COPY8       MCHAO.PROJ1.COBO.L.CPY
COPY9       MCHAO.PROJ1.COBO.L.CPY
PGM2        MCHAO.TSC.CBL
***** Bottom of data *****

MR a 06/015
Connected to remote server/host stplex4a.svl.ibm.com using lu/pool STM4TC16 and port 23
  
```

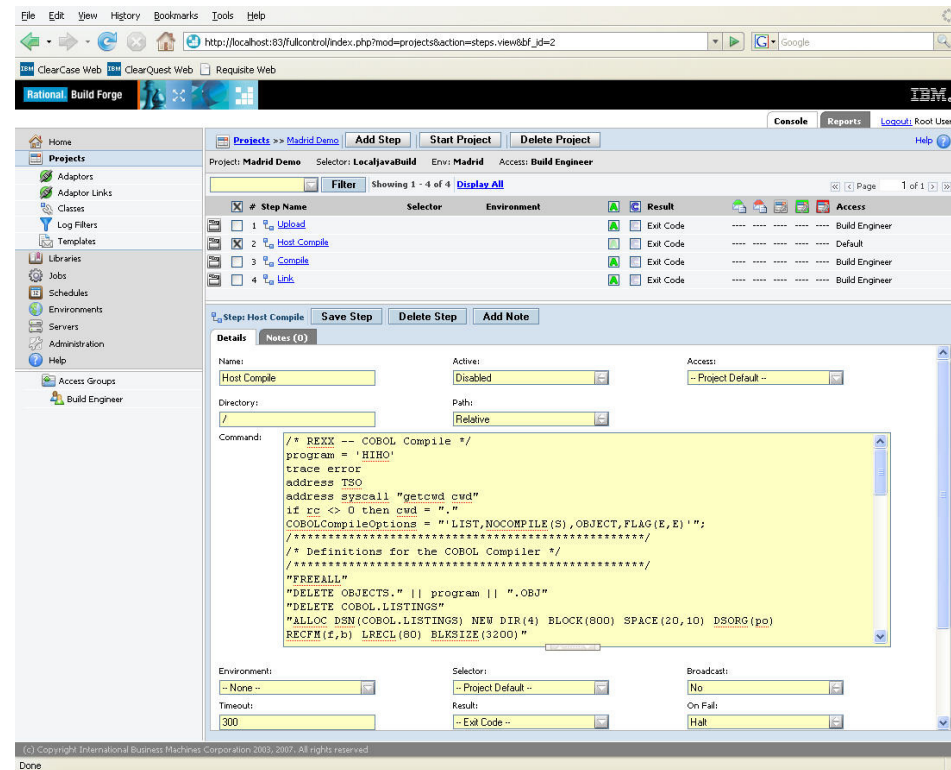
Build/Release Engineer

- Verifies change set is in order
- Promotes issue to QA for verification

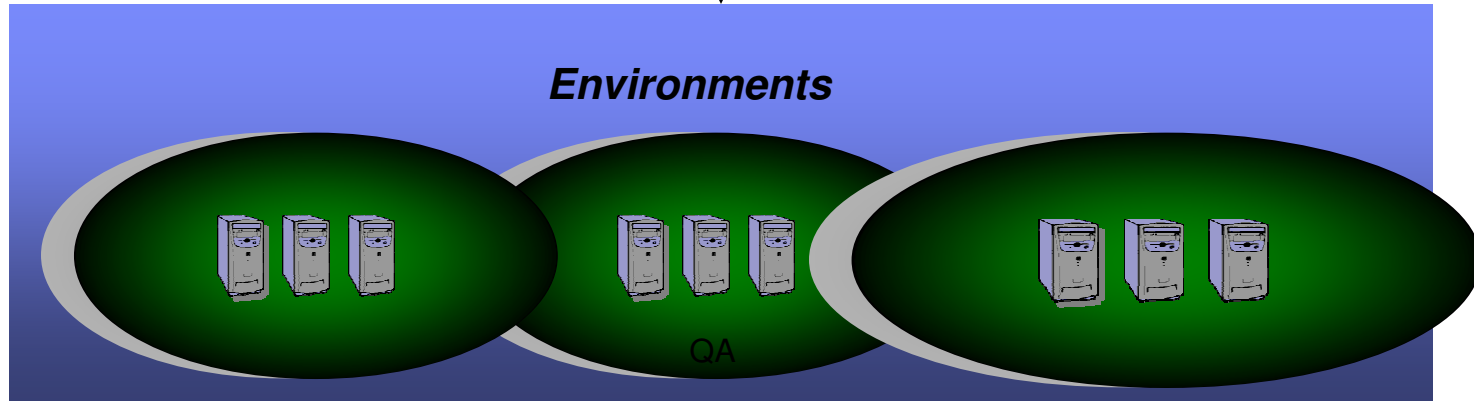
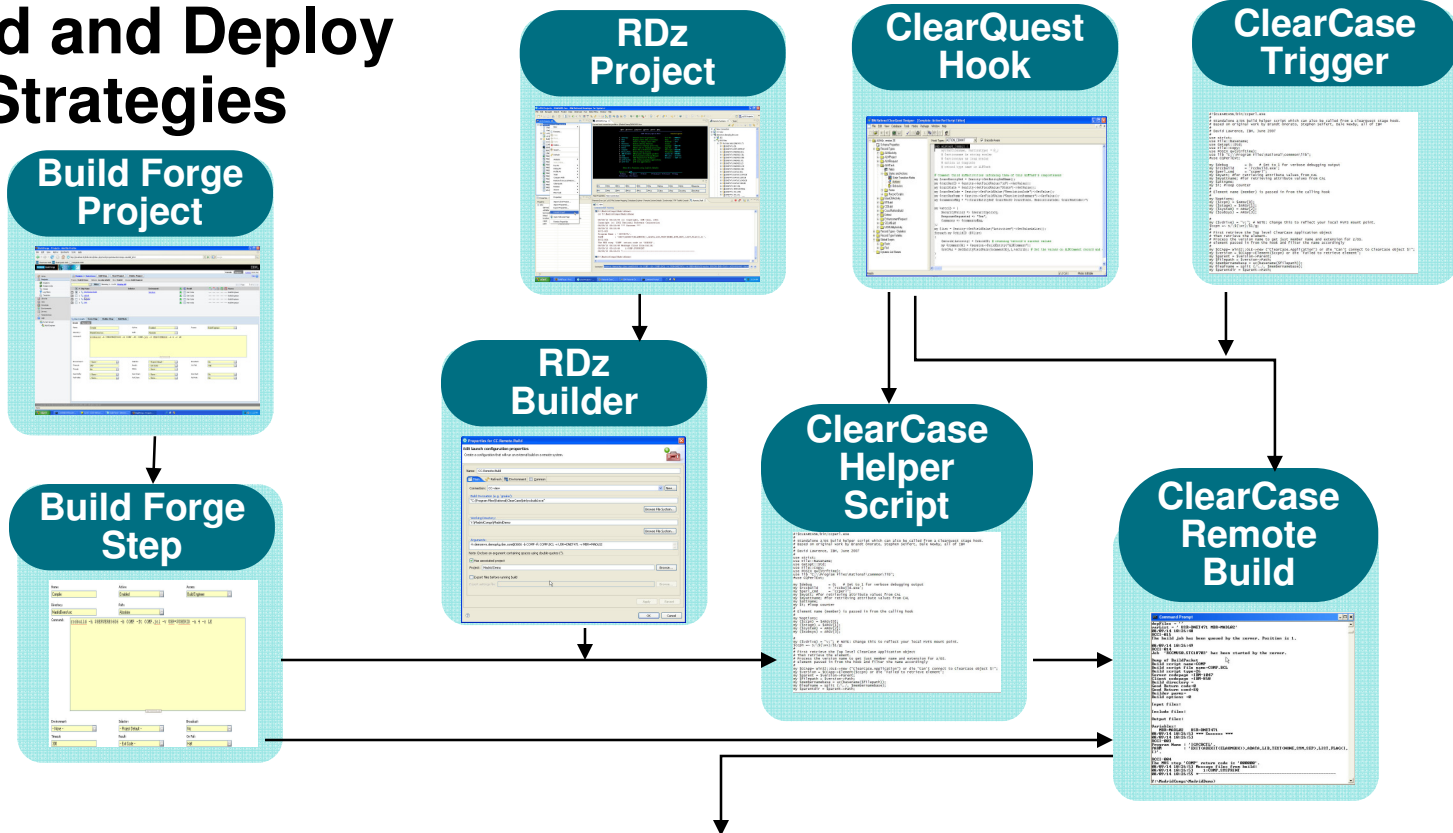


Build/Release Engineer

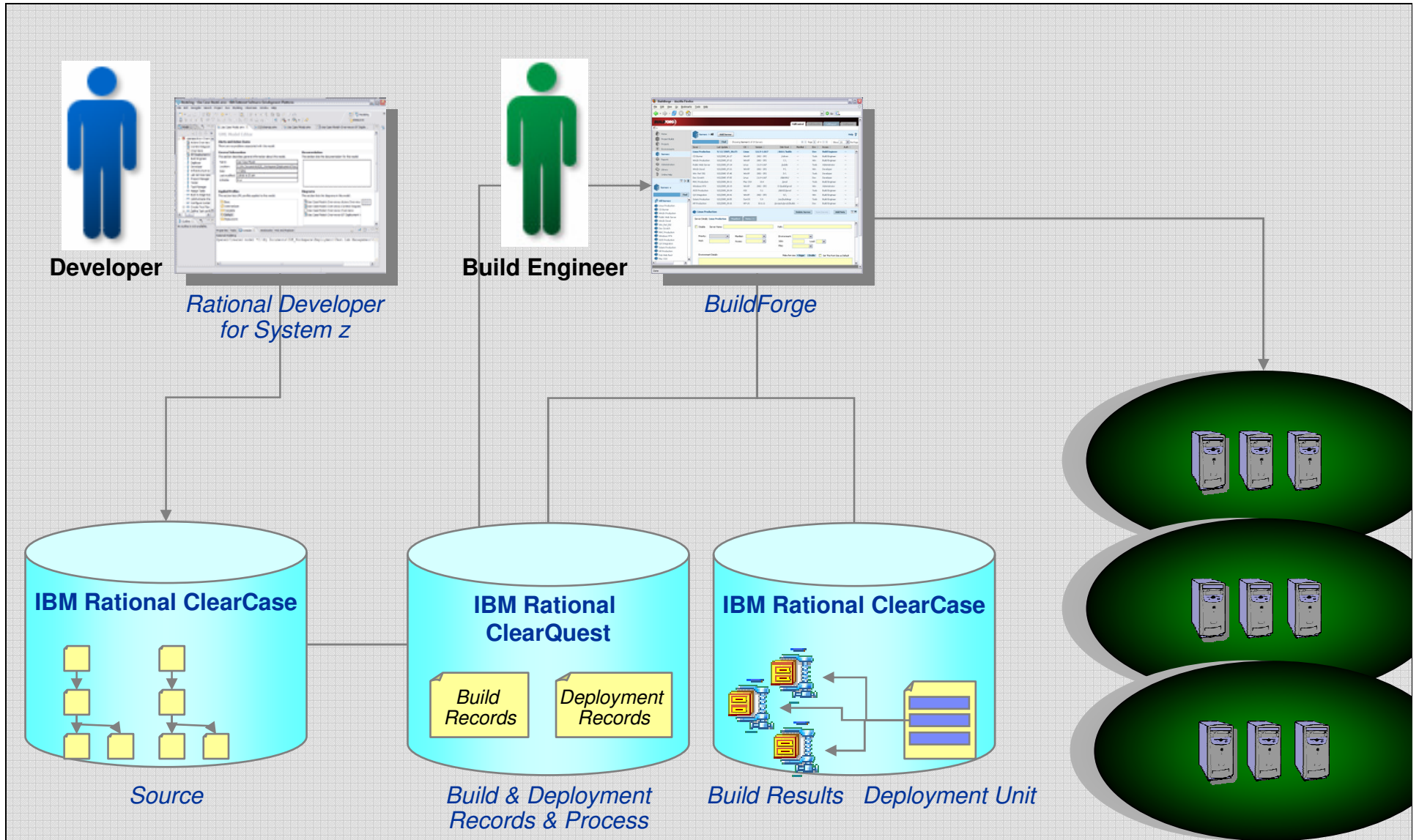
- **Initiates formal build**
 - Uses Rational Build Forge project console
 - Launches java and native COBOL build, CICS binds
 - Promotes ClearQuest issue to “Production Ready”



Build and Deploy Strategies



Bringing it all together . . .



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