



Workshop: Modern Application development for z/VSE using Rational Developer for System z

WAVV 2013

Wilhelm Mild
IT Architect
IBM Lab Germany
mildw@de.ibm.com

Ingo Franzki
Connectors Specialist
IBM Lab Germany
ifranzki@de.ibm.com

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Application Life-cycle Management Business Problems – In customers own words

- Wir entwickeln mit gleichen Tools wie in den letzten Jahrzehnten. Wir würden die manuellen Entwicklungs-prozeduren automatisieren.
 - “We do progress reporting the same way we've been doing it for 40 years. It's all manual: weekly status meetings, progress reports, demonstrations. We'd love to get test results from nightly builds posted somewhere instead of having to run people down to ask them whether things are working yet.” (Bank)

- Eine Beratungsfirma hat uns eine neue Entwicklungs-Methodologie vorgeschlagen, aber ein methodologie/process sollte in Tools verankert sein.
 - “We had a consulting company define a methodology for us. We still have it on a shelf somewhere. A process needs to live in the tools we use if it's ever going to be followed.” (Transportation Co.)

- Automatisierte ‘built’ prozesse würden pro Entwickler, täglich 1 Std ersparnis sein.
 - “Automating our build-deploy-test processes would probably save each of our developers about an hour a day.” (Financial services company)

Application Life-cycle Management Business Problems – In customers own words

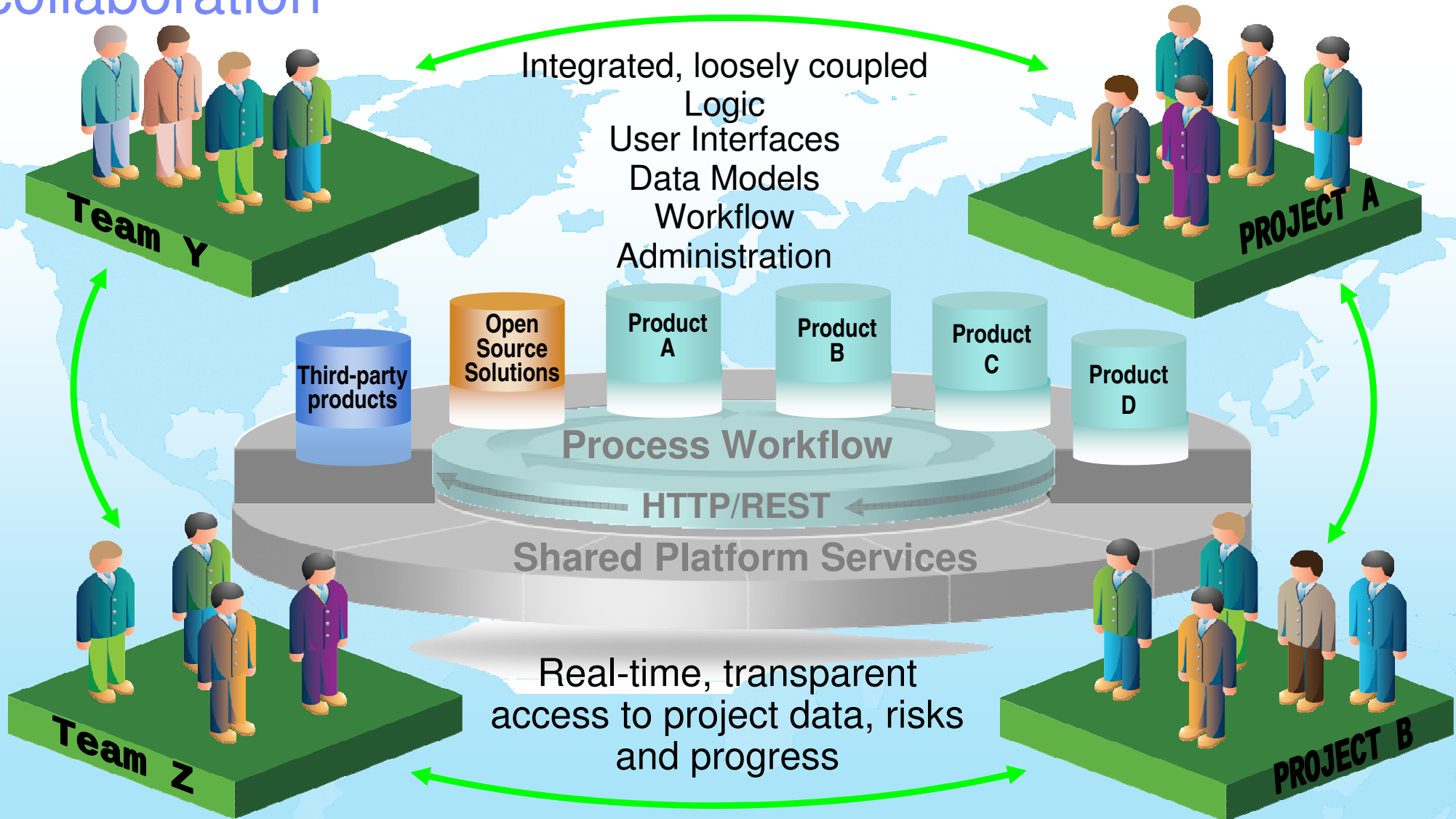
- “We do progress reporting the same way we've been doing it for 40 years. It's all manual: weekly status meetings, progress reports, demonstrations. We'd love to get test results from nightly builds posted somewhere instead of having to run people down to ask them whether things are working yet.” (Bank)
- “We had a consulting company define a methodology for us. We still have it on a shelf somewhere. A process needs to live in the tools we use if it's ever going to be followed.” (Transportation Co.)
- “Automating our build-deploy-test processes would probably save each of our developers about an hour a day.” (Financial services company)

Development objectives !!!

- Tools for managing existing z/VSE source code and changes
 - COBOL, ASM, PL/I, C, 4GL Languages
 - increased productivity for changes and new development
 - flexibility in versioning
 - effective group development control
- Develop for multiple platforms
 - common framework for the enterprise instead of multiple unique platform dependent tools
 - same basic tool set for open systems and mainframe
- Open source based technology
 - tools that students know from school and university communities
 - help new developers adapt to the mainframe

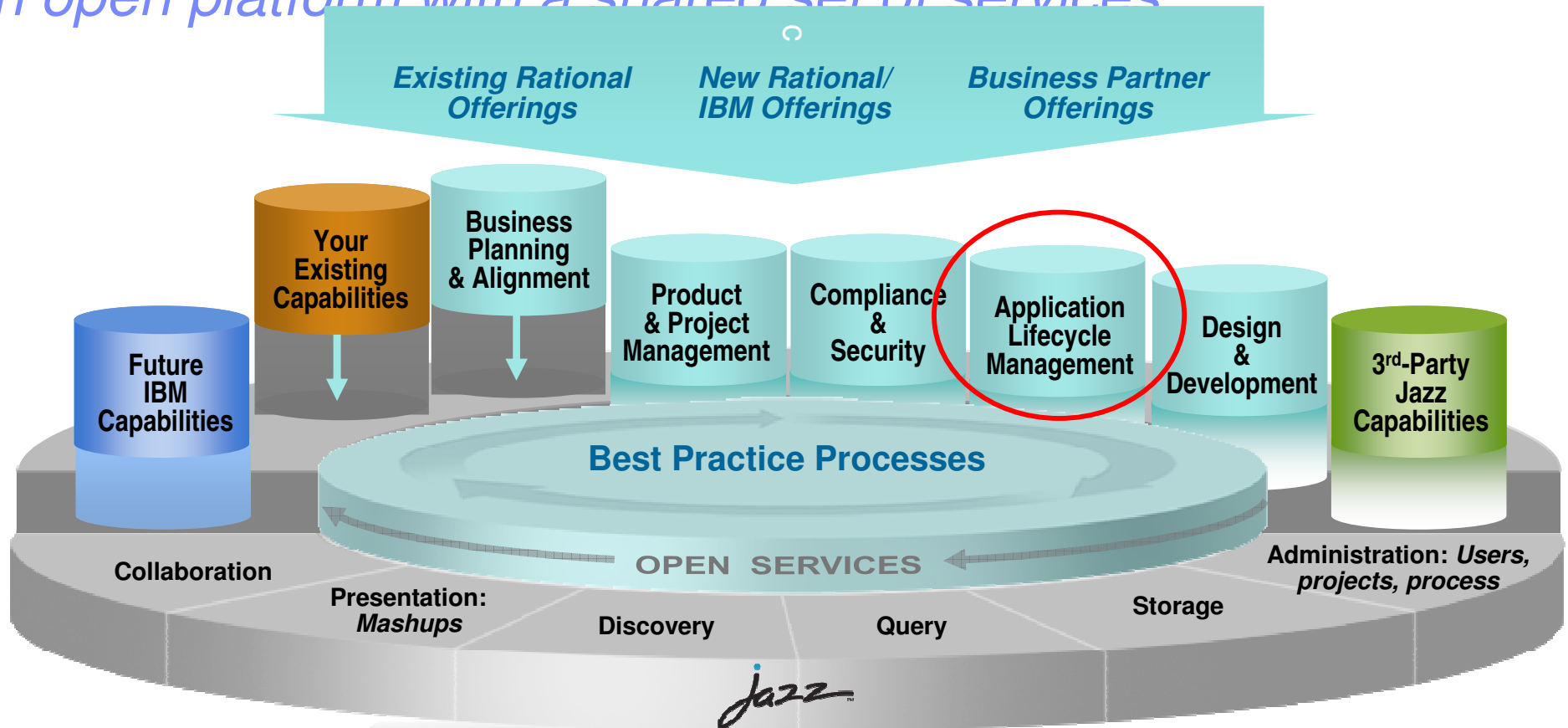
Jazz:

A platform for development integration and collaboration



Rational Team Concert (RTC) is based on Jazz

An open platform with a shared set of services



Jazz is...

- A scalable, extensible team collaboration platform
- A community at Jazz.net, where you can see Jazz-based products built in the open
- An open architecture for lifecycle integration (OSLC - www.open-services.net)



Provide both agile and traditional views on a plan

Gantt charts

Phase Plan [?] [Auto-Save] [Save]

Plan Details [Edit]

Planned Items | Links | Snapshots | Resources | Notes

View As: Work Breakdown and Schedule

Actions	Summary	Owned By	Effective Esti	Predecessor	Id
	Write the rules down	Jean-Miche	1 day	-	28
		Heather	Fr: 1 day	-	22
		Jean-Miche	3 days	-	23
		Heather	Fr: 2 days	Task <03:3f	21
		Heather	Fr: 2 days	-	24
		Heather	Fr: 1 week	24: Prepare	26

Taskboards

Planned Items | Links | Snapshots | Notes

View As: Taskboard

Andrew Hoo
Closed Items: 1 | Open Items: 4 | Load: 6/21 | +15 h | Estimated: 100%

Story	Open	In Progress	Resolved
Implement compact		Expose rendering for registrations 2 hours 2 days	Expose rendering for users 1 day 1 day
Add colors to the page	Pick nice colors 4 hours		

Heather Fraser-Dube
Closed Items: 1 | Open Items: 1 | Load: 1/21 | +20 h | Estimated: 100%

Story	Open	In Progress	Resolved
Implement compact		Expose rendering for donations 1 hour 2 days	Implement the figure colors 1 hour 1 hour

Jean-Michel Lemieux
Closed Items: 1 | Open Items: 1 | Load: 2/16.75 | +14.75 h | Estimated: 100%

Story	Open	In Progress	Resolved
	Jar packaging is falling when		Finish the javadoc in our server APIs 4 hours 4 hours

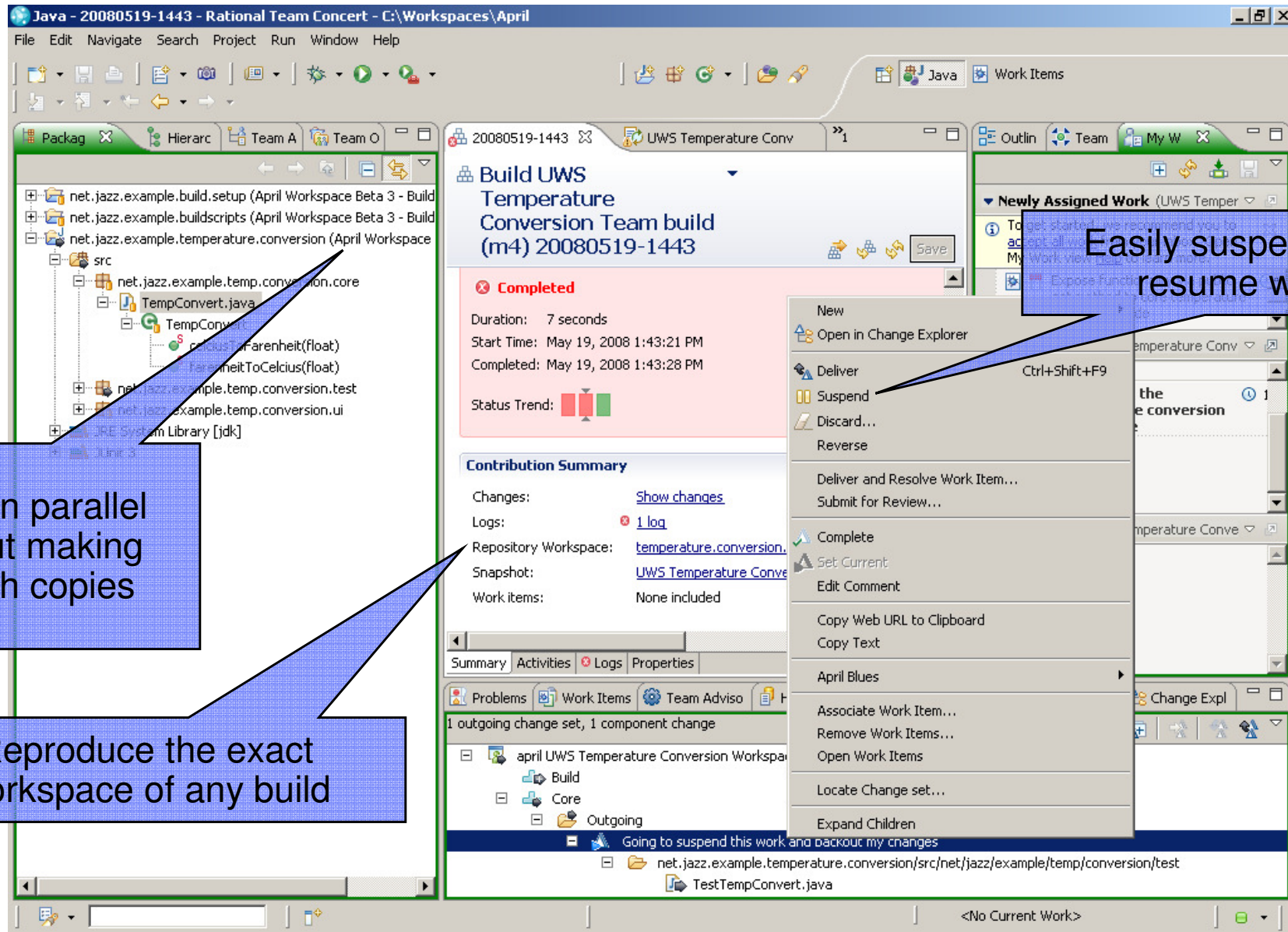
Markus Kent
Closed Items: 4 | Open Items: 21

Actions	Summary	Estimate	S	M	T	W	T	F	S	M
	A Story	--								
	2	2 days								
	Task #1	4 hours								
	Task #2	2 hours								
	Task #3	4 hours								
	Task #4	1 day								
	Task #5	2 hours								
	Task #6	30 minutes								
	Defect #1	4 hours								
	Defect #2	2 hours								

Roadmap charts

Support any planning method
Enable success w/ transparency

Advanced source code management



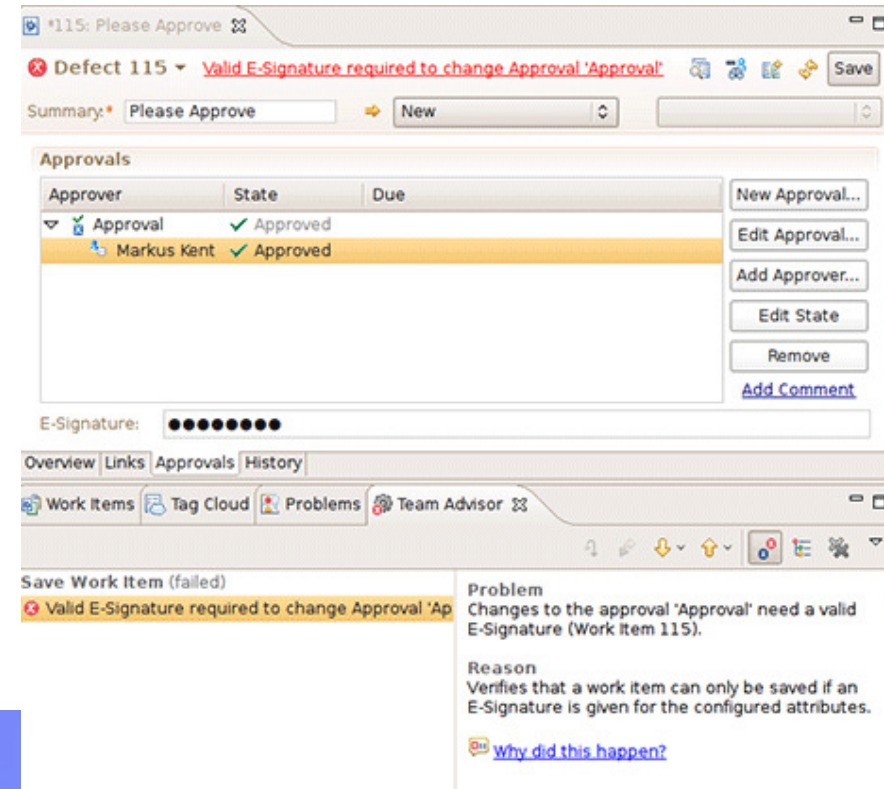
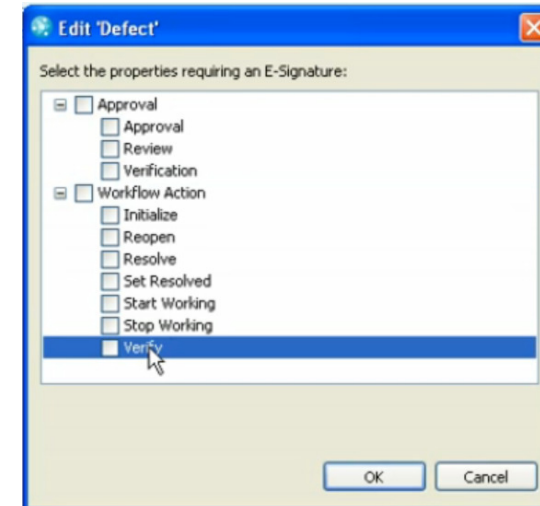
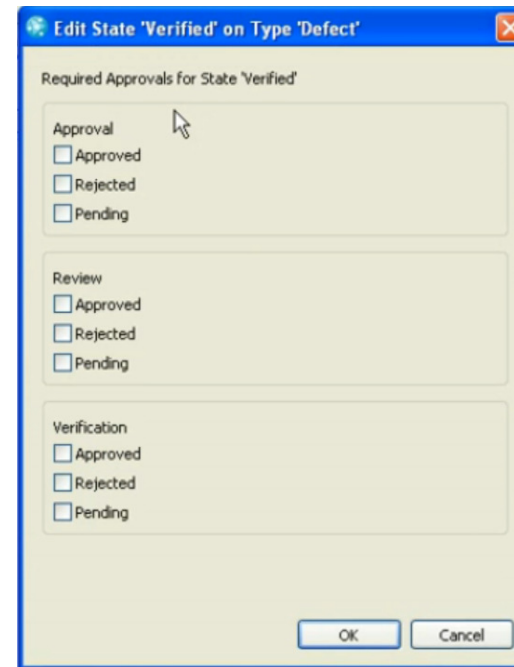
Work in parallel without making branch copies

Reproduce the exact workspace of any build

Easily suspend and resume work

Govern change-mgmt

- Establish and enforce approval and review checkpoints in your change workflow
- Require approvals and reviews before a workflow state change
 - Example: Rejecting a submitted workitem, moving a defect from submitted to planned, moving an enhancement from resolved to implemented
- Establish multiple approvals and reviews integrating comments and discussion
 - Example: As part of an approval, when moving an enhancement or defect from submitted to rejected or accepted.



Transparency and Status for Everyone

Every stakeholder knows project status without having to ask

Jazz Project Description

Process enabled team collaboration platform

The goal of the Jazz project is to build a scalable, extensible team collaboration platform for seamlessly integrating tasks across the software lifecycle. The new technology is called the Jazz Platform. The Jazz project is defining the overall architecture of the Jazz Platform, and building an initial set of Jazz components that plug in to the Jazz Platform.

The work in the Jazz project is divided into development work and maintenance work. Development work produces a consecutive line of releases. Maintenance work produces bug fix releases of the released produced by the development work.

Development as well as maintenance work is overseen by the PMC. The team members listed in this project area constitute the PMC.

Jazz Project Members (11)

- CQ Connector Account connector
- Dejan Glazic dashboardadmin
- Erich Gamma dashboardadmin, projectadmin, PMC, contributor
- Jean-Michel Lemieux dashboardadmin, projectadmin, PMC, contributor
- John Vasta connectoradmin
- Kai-Uwe Maetzel PMC, contributor
- Kevin Haaland PMC, contributor
- Kim Moir projectadmin
- Peter Klenk PMC, contributor
- Scott Rich PMC, contributor

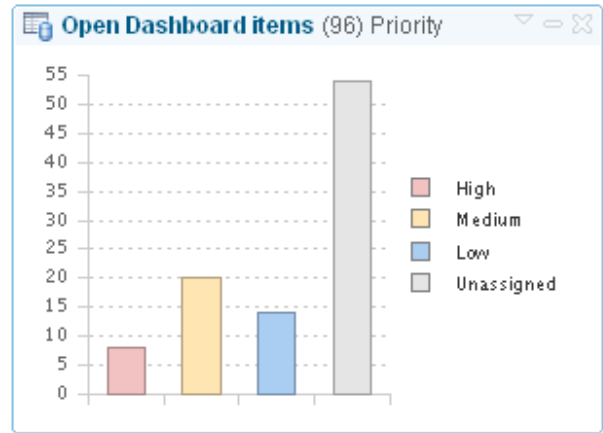
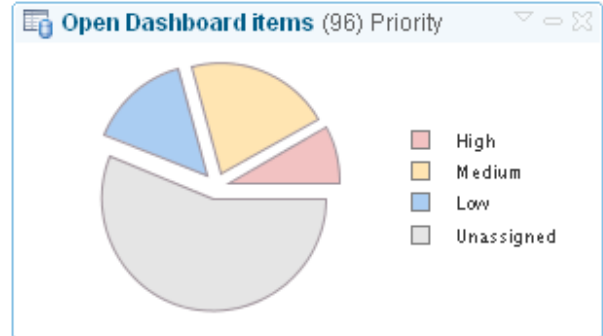
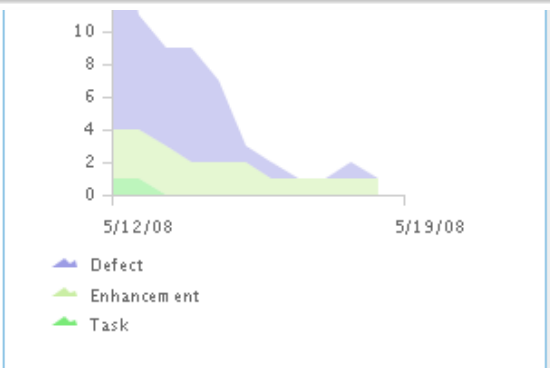
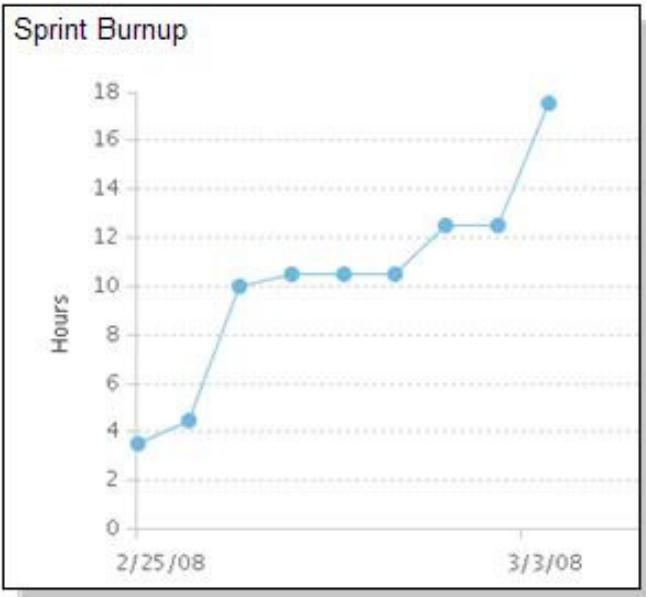
Page 1 of 2

Jazz Proj

- Jazz Devel
- Agile P
- Build
- ClearC
- ClearQ
- Comm
- Dashb
- Develo
- Improv
- Incubat
- Install
- Jumps
- Proces
- Releas
- Report
- Reposi
- Source
- System
- UI Des
- User A
- Web UI
- Work It
- X-Team
- Jazz Maint

Open vs Closed Work Items

Team Area: /Jazz Development/Dashboard
 Category: Dashboards
 Interval: 0.6 RC3



Open Dashboard items (96) Priority

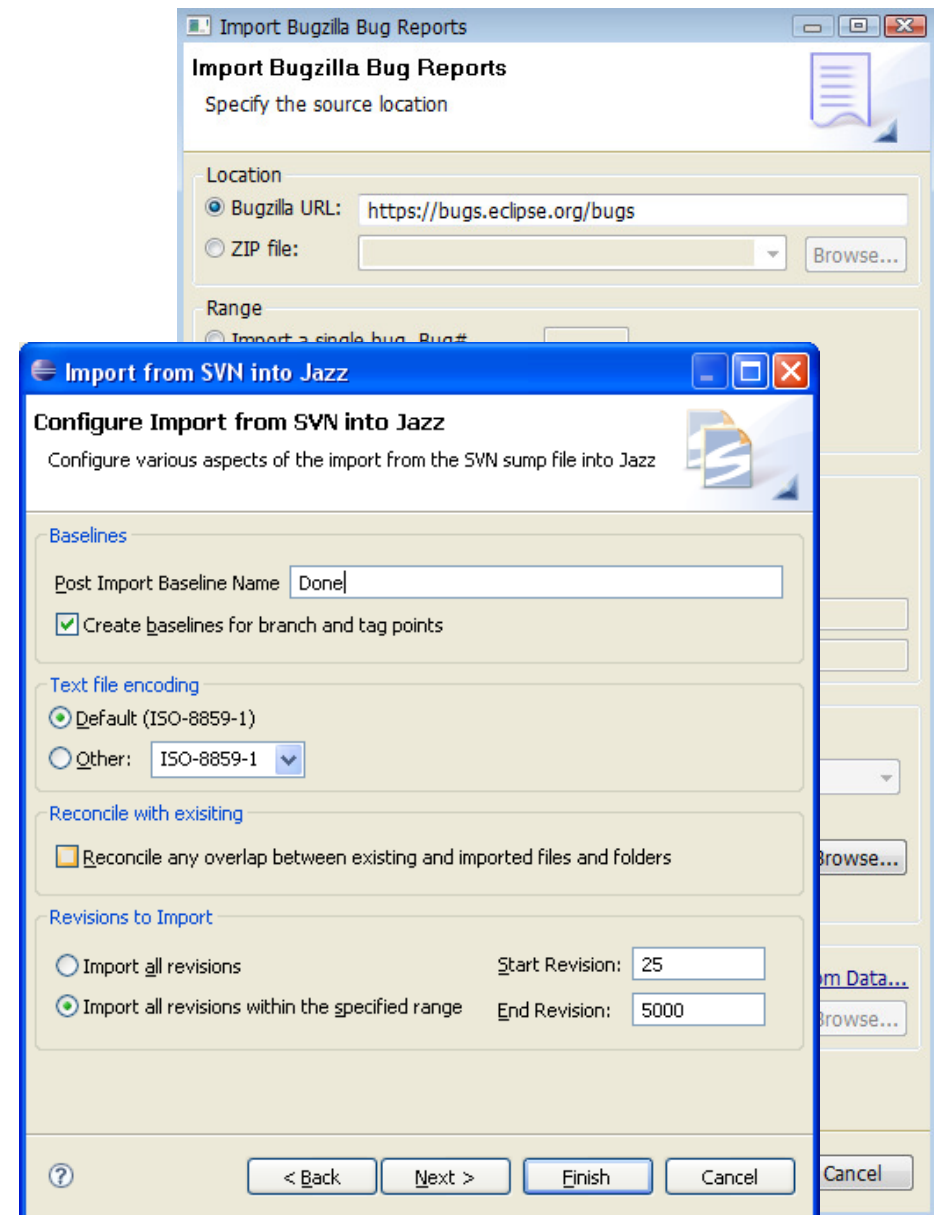
High(8) Medium(20) Low(14)
Unassigned(54)

Open Dashboard items (96) Priority

Priority	Count
High	8
Medium	20
Low	14
Unassigned	54

RTC works with your existing tools

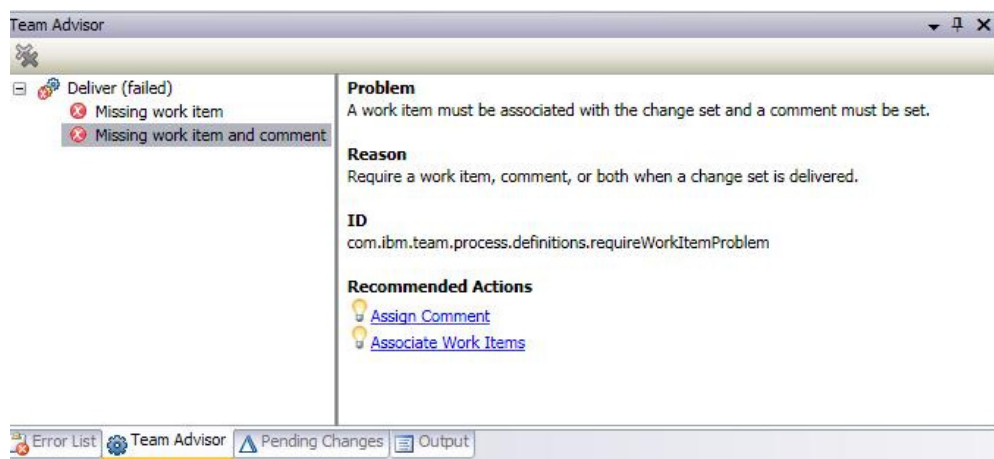
- Easily import Bugzilla, Jira*, or any other change tracking system with CSV file support into RTC Work Items
- Easily import Subversion and CVS repositories into RTC SCM
- Importers also available for ClearCase / ClearQuest for those moving to RTC
- Connectors available to provide dynamic integrations with Subversion, ClearCase, ClearQuest, Synergy, Change



Enhanced RTC Client for Microsoft Visual Studio IDE



- Team Advisor Support
 - Pre-built rules – Static Analysis FxCop
- Rich History with Visual Merge



Team Advisor Support – with Guidance

History - 'SccProvider.cs' in workspace 'Rupa's RTC.NET Client 3.0 Workspace' (46 entries)

Merges	Comment	Creator	Date Created
	92411: CFA (sandbox, copy file area) explorer/browser	Sreerupa Sen	31/05/2010 6:23 PM
	92256: Annotate missing in the RTC Client for Visual St	Prabodh Mairh	26/05/2010 8:29 AM
	92256: Annotate missing in the RTC Client for Visual St	Prabodh Mairh	21/05/2010 6:22 PM
	92256: Annotate missing in the RTC Client for Visual St	Prabodh Mairh	20/05/2010 11:46 PM
	92411: CFA (sandbox, copy file area) explorer/browser	Sreerupa Sen	20/05/2010 11:33 PM
	114291: Repository workspaces that are not loaded anc	Sreerupa Sen	16/05/2010 10:41 PM
	94396: Integrate source code delivery with external toc	Krishna Kishore	15/05/2010 7:04 PM
	94396: Integrate source code delivery with external toc	Krishna Kishore	14/05/2010 3:50 PM
	112633: RTC VS Net Client: Notification pop-up window	Prabodh Mairh	11/05/2010 6:14 PM
	112633: RTC VS Net Client: Notification pop-up window	Prabodh Mairh	10/05/2010 7:53 PM
	94563: Ability to set current sandbox without having to	Sreerupa Sen	07/05/2010 5:08 PM
	94563: Ability to set current sandbox without having to	Sreerupa Sen	07/05/2010 4:46 PM
	94563: Ability to set current sandbox without having to	Sreerupa Sen	28/04/2010 11:09 PM
	94396: Integrate source code delivery with external toc	Krishna Kishore	17/04/2010 11:37 PM
	111472: Add Actions group in Team Advisor	Krishna Kishore	08/04/2010 5:09 PM
	92256: Annotate missing in the RTC Client for Visual St	Prabodh Mairh	01/04/2010 7:14 PM
	94401: Specify Jazz specific properties for a file/folder i	Priyadarshini Gorur	26/03/2010 2:35 PM
	91013: Search for locks in the Visual Studio Client	Krishna Kishore	23/03/2010 2:14 PM
	92264: Use ContributeMenuItem for Context menus - r	Krishna Kishore	15/03/2010 5:04 PM
	108811: Problem with build I30M5_20100312-0539 - M	Priyadarshini Gorur	12/03/2010 12:26 PM
	94689: Toast popups for the RTC for Visual Studio Clier	Prabodh Mairh	08/03/2010 3:10 PM
	106913: Enable 'Add to Ignore List' context menu on a	Priyadarshini Gorur	02/03/2010 7:59 PM
	95127: Displaying My Team Areas in the TAN - adding :	Krishna Kishore	23/02/2010 12:40 AM
	95127: Displaying My Team Areas in the TAN - work in	Krishna Kishore	21/02/2010 4:51 PM
	106420: Move Check-in Options to a new page.	Priyadarshini Gorur	19/02/2010 6:38 PM
	106118: Refresh at the folder level in the solution expl	Priyadarshini Gorur	16/02/2010 4:30 PM

Rich history view in VS client (Merge info displayed)

Visual Studio: Agile Planning from inside the IDE!

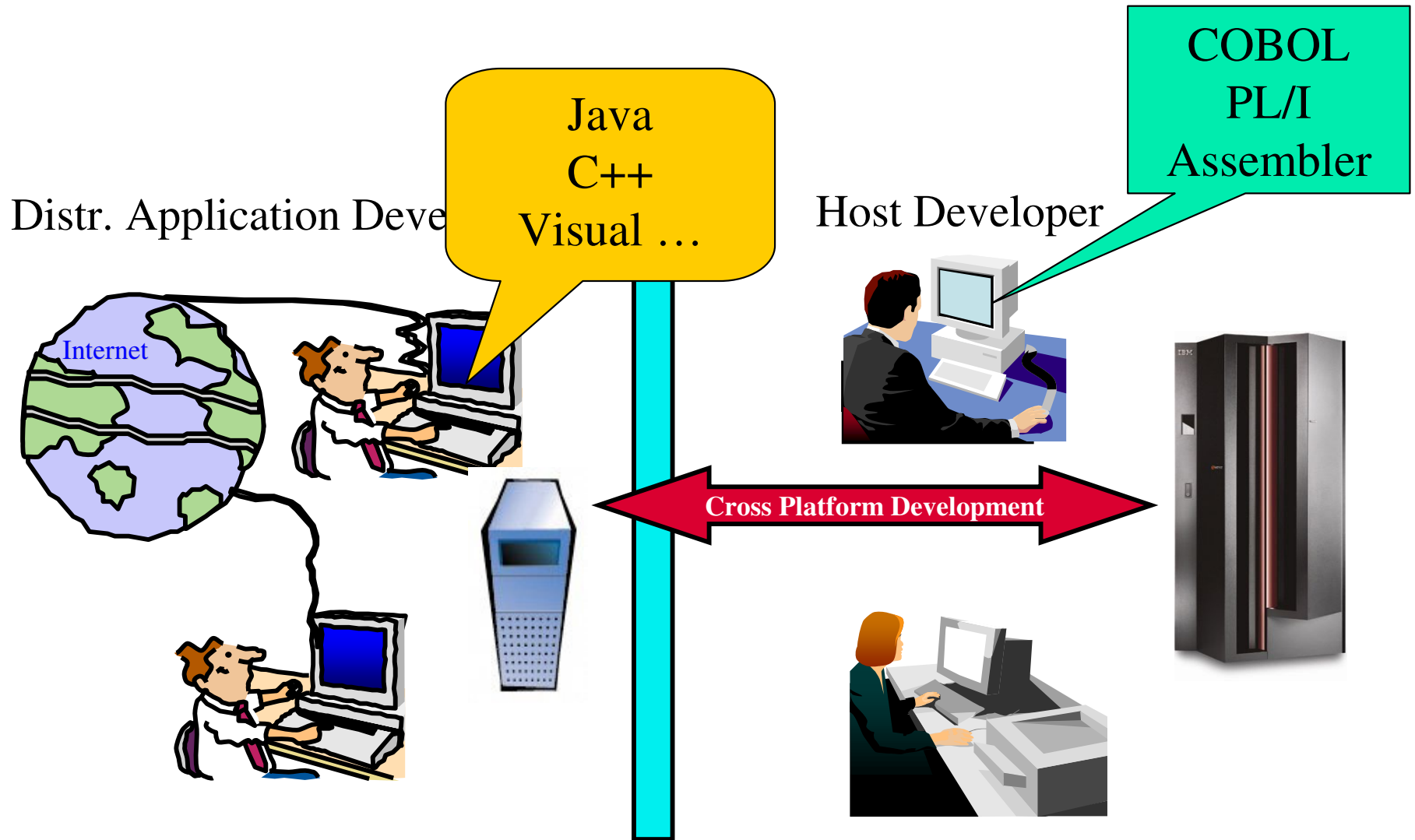
- Visual Studio users
 - Access project plans from within the IDE
 - Create/update plans

The screenshot shows the IBM Rational Team Concert (RTC) client running within the Microsoft Visual Studio IDE. The main window displays a list of work items, organized by team member. The work items include details such as priority, status, and estimated effort.

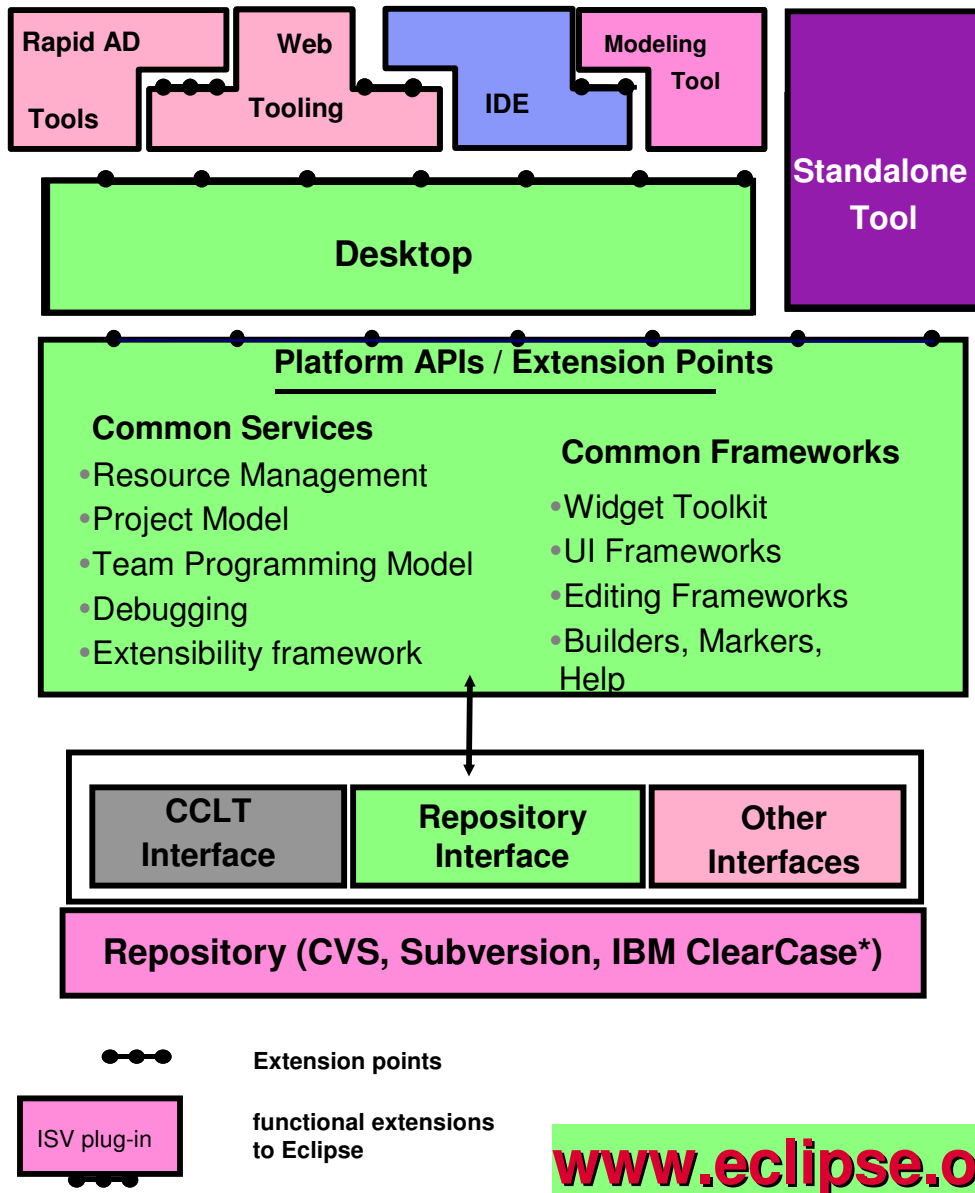
Team Member	Work Item Description	Priority	Status	Effort
PRABODH MAIRH	Story item to track Feed support related enhancements	High	Open	4246
	Unable to Items under My Teams from Feeds	Medium	Open	4147
Priyadarshini Gorur	[RFT] Share menu is enabled on previously shared RFT projects after reopening the solution	Medium	Open	3282
	[Intel] Sharing the solution does not share nested projects	Medium	Open	3276
	Unloading / Reloading projects should be covered by progress monitor	Medium	Open	2752
	Add to ignore can make project inconsistent	Low	Open	3395
	Add a new folder into a project, project file modification doesn't show up in PC	Low	Open	3280
	Possible bug in ResilientPath.cs IsPathContained ?	Unassigned	Open	2034
RAJIV VERMA	Need test coverage for progress/sync view notification	High	Open	1467
	Dilemma handling not proper for project file reload	Medium	Open	2500
	Missing icon of the change set in the Check-in to change set context menu	Medium	Open	1765
	Pressing Refresh on PC after logout - does not attempt to login the user	Medium	Open	1525
	Add preference support for to show workspaces previously tracked only (not loaded) in next session	Low	Open	4381
Sandeep Kohli	Implement backup support introduced in 2.0	Low	Open	3796
	FilesystemRestClient API never throw AuthenticationRequiredException	Low	Open	3869
	Logged-Off Repo connection shows connected project areas	Low	Open	3383
SREERUPA SEN	Web UI window is blank when I select Team Concert > Windows > Web UI	Unassigned	Open	4318
	Web UI window is blank when I select Team Concert > Windows > Web UI	Unassigned	Open	4318

The right-hand pane shows the Team Artifacts view, displaying repository connections and a hierarchical structure of work items, including builds, plans, and source control information.

'Distributed' Development Landscape...



Eclipse – the open Standard for application development

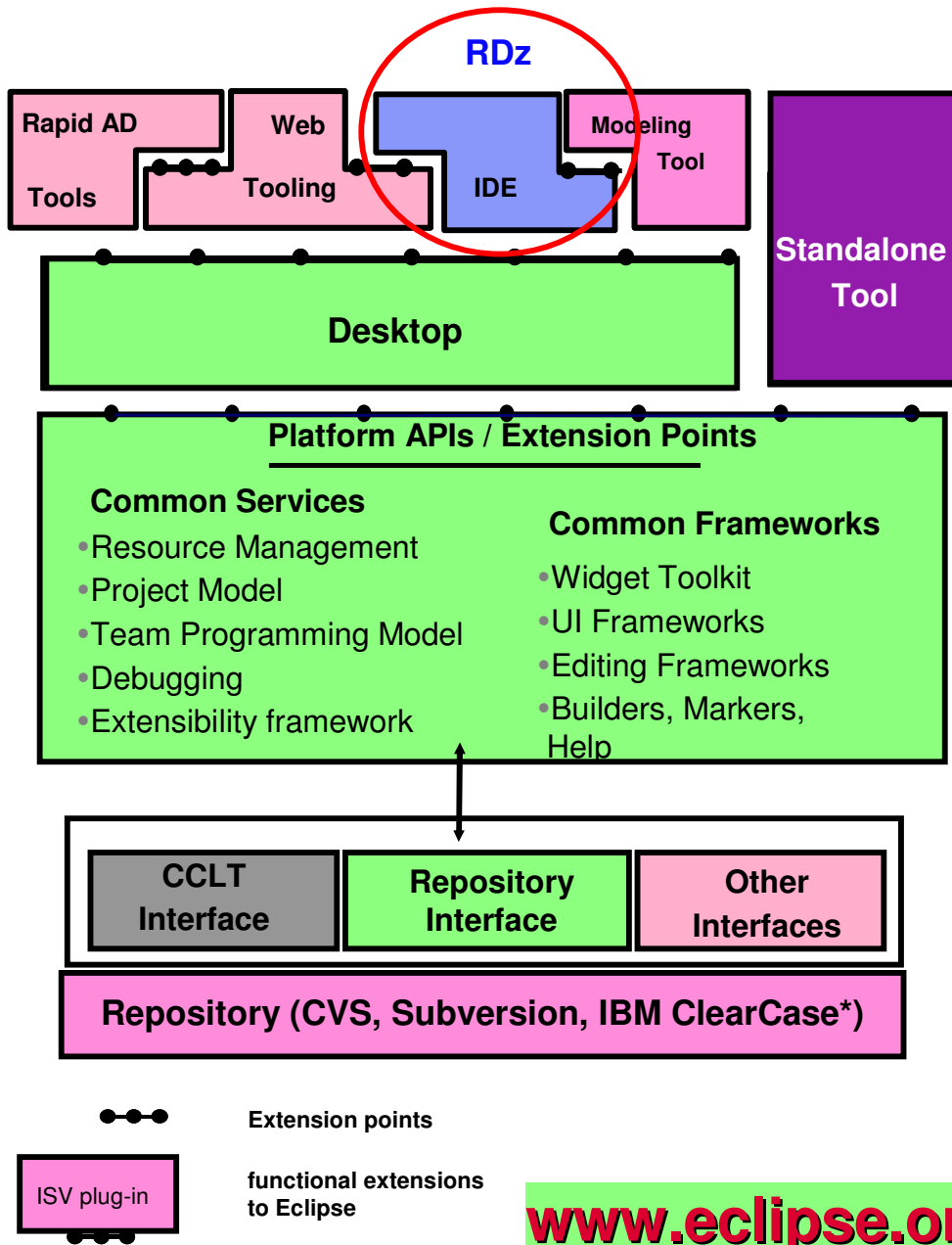


www.eclipse.org

What is Eclipse about:

- Open source development framework
 - with modern Editors
 - syntax help & check
 - semantic check
- Centralized source code maintenance
 - entire source code in central Repository
 - cross platform project administration
- Versioning software interface
 - CVS, Subversion, or IBM ClearCase
 - automatic Workgroup-control
 - i.e. development groups, system group
- Open for ISVs development Plug-Ins
 - **Integrated Development Environments (IDE)**
 - for System z (RDz)
 - for Java, COBOL, PL/I, ASM,C
 - **Application analysis and optimization**
 - Analyze the applications and workflows with graphical correlations
 - **IBM HATS Development Plug-In**
 - develop new front-ends to 3270 applications
 - **IBM EGL development for z/VSE (RBD)**
 - follow-on to Visual Age Generator

Eclipse – the open Standard for application development



www.eclipse.org

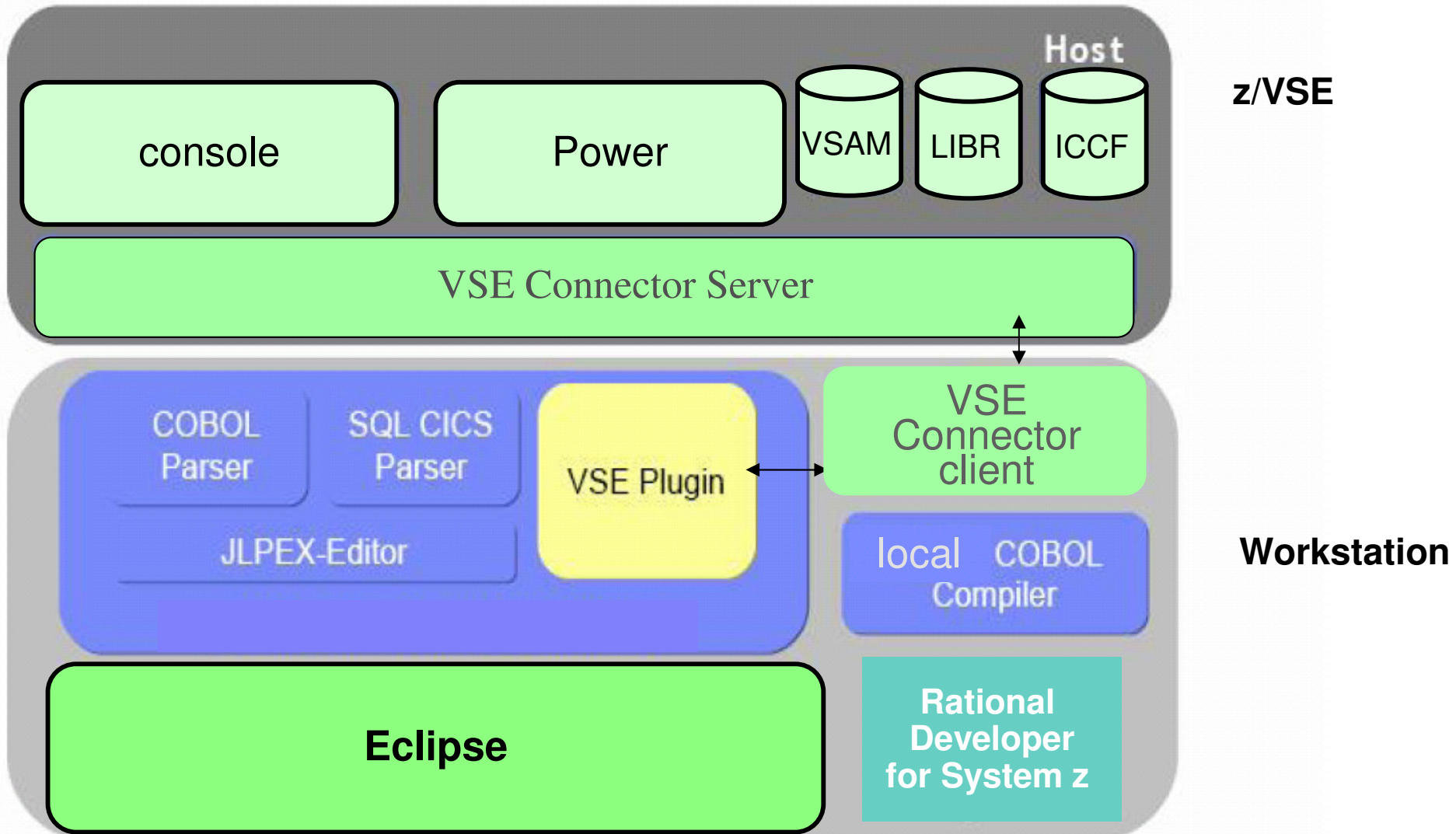
What is Eclipse about:

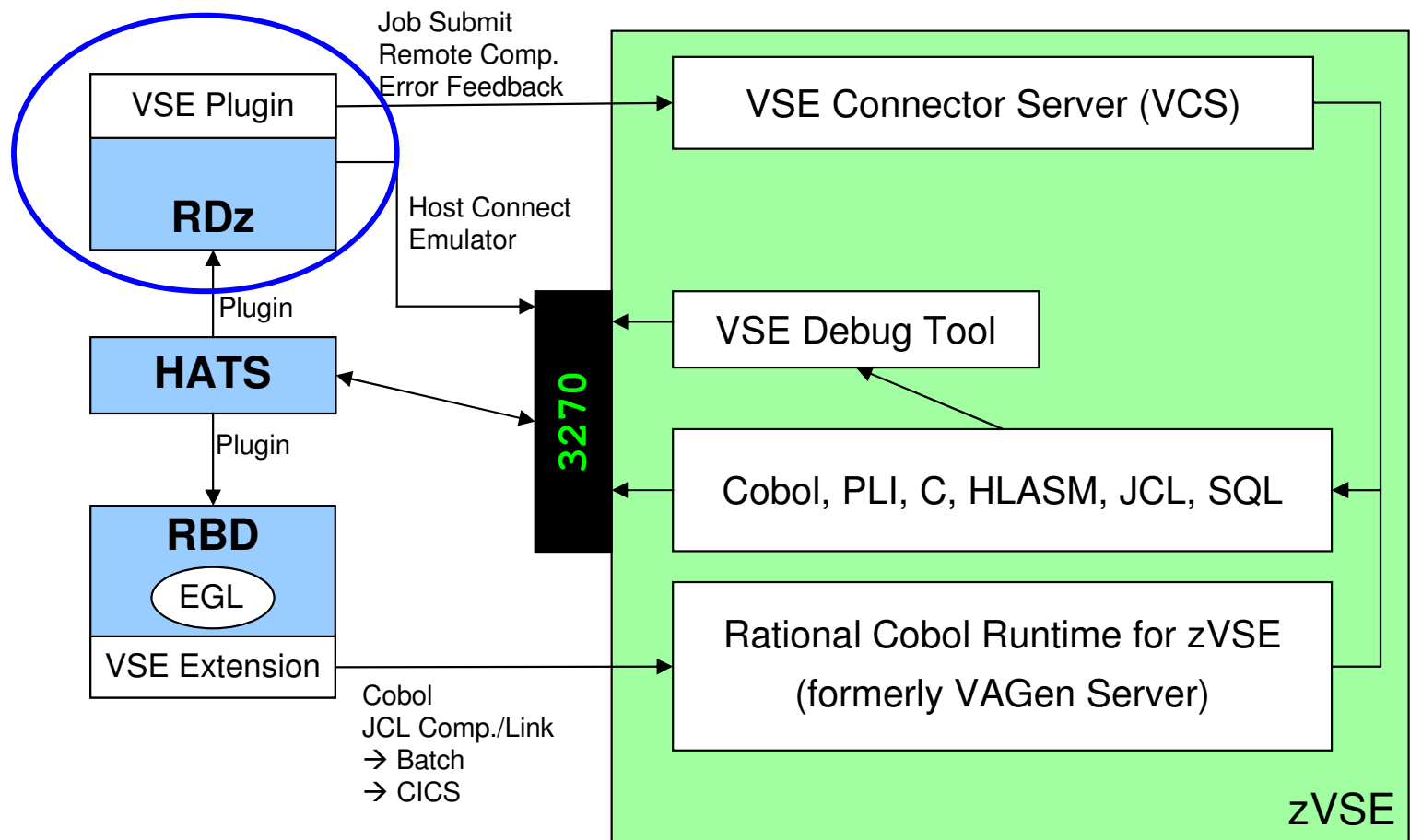
- Open source development framework
 - with modern Editors
 - syntax help & check
 - semantic check
- Centralized source code maintenance
 - entire source code in central Repository
 - cross platform project administration
- Versioning software interface
 - CVS, Subversion, or IBM ClearCase
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 - Analyze applications with graphical correlations
 - IBM HATS Development Plug-In
 - develop new front-ends to 3270 appls.
 - **IBM EGL development for z/VSE (RBD)**
 - follow-on to Visual Age Generator

The IBM Development environment for the enterprise

Rational Developer for System z

with z/VSE Development Plug-in for RDz





RDz functions for z/VSE and z/OS development

- Enhanced Eclipse tools with mainframe development functions
 - special editor functions for mainframe languages
 - local COBOL compiler
 - support for COBOL, ASM, PL/I, C
 - editor for CICS BMS maps
 - support for SQL generation
 - functions for remote processing and mainframe deployment

- Integrated test environment
 - full functional test within the development environment
 - debug possibility via z/VSE emulation window

- Supported on Linux, Red Hat and SUSE, and Windows

Rational Developer (RDz) in z/VSE perspective

1.Perspective

2.View

4.Editor

3.Projects

5.Outline View

6.VSE Console

The screenshot displays the IBM Rational Developer (RDz) interface in z/VSE perspective. The main editor window shows a COBOL program named PRINTAPP.cbl with the following code:

```

Line 7      Column 1      Insert
-----*A-1-B-----2-----3-----4-----5-----6-----7-|-8
000001      Identification Division.
000002      Program-ID. PRINTAPP.
000003
000004      Data Division.
000005      Working-Storage Section.
000006      01 Work-Parms.
000007          05 In-Len          PIC S9(4) BINARY.
000008          05 Char-count      Pic 99 Value ZEROS.
000009          05 Out-Name       PIC X(100) .
000010
000011      Linkage Section.
000012      01 Recvd-Parms .
000013          05 In-name         Pic x(30) .
000014
000015
000016      Procedure Division using Recvd-Parms.
000017      Move spaces to Out-Name.
000018
000019      Move 0 to Char-count
000020      Inspect Function Reverse(In-Name)
000021          Tallying Char-count For Leading Spaces
000022      Compute In-Len = 30 - Char-count
000023
000024      Move 'Thanks to ' to Out-Name (1:10) .
000025      Move In-name(1:In-Len) to Out-Name(11:In-Len)
000026      Move ' for succeeding!' to Out-Name ((11 + In-Len):16) .
000027      Display Out-name.
000028      Goback.
000029
The quick mark was set at the cursor location.
    
```

The interface includes several key components:

- 3.Projects:** A tree view on the left showing project files like .link, .project, link.book, PRINTAPP.cbl, STARTAPP.cbl, and TIMEZONE.cbl.
- 4.Editor:** The central window for editing COBOL source code.
- 5.Outline View:** A view at the bottom left showing a hierarchical structure of the program's sections: PROGRAM: PRINTAPP, Identification Division, Data Division, Working-Storage Section, 01 Work-Parms, 05 In-Len, 05 Char-count, 05 Out-Name, Linkage Section, and Procedure Division using Recvd-Parms.
- 6.VSE Console:** A window at the bottom right displaying system output, including a memory map (MAP) with columns for ADDRESS (AR), SPACE, AREA, V-SIZE, GETVIS, V-ADDR, UNUSED, and NAME.
- 2.View:** A VSE System View on the right showing a tree of system components like VSE SYSTEM, VSE Lab, VSE Workshop, VSE Mainframe, Librarian, PRD1, PRD2, PRIMARY, IJ5YSRS, CRYPTO, SYSDUMP, Power, Reader, List, Punch, Transmit, VSAM, V\$AM.MASTER.CATALOG, V\$ES.P.USER.CATALOG, #V\$AM.#CICS.DBDCCICS, and ICF.

■ Develop a z/VSE project

The screenshot displays the IBM VSE development environment. The main window shows a terminal session with the following text:

```

IESAIMS01          VSE/ESA ONLINE
5609-2VS and Other Materials (C) Copyright IBM Corp. 2004 and other dates

          ++
          ++  VV  VV  SSSSS  EEEEEEE
          ++  VV  VV  SSSSSS  EEEEEEE
          ++  VV  VV  SS      EE
##### ++  VV  VV  SSSSSS  EEEEEEE
##### ++  VV  VV  SSSSSS  EEEEEEE
##### ++  VV  VV  SS      EE
##### ++  VVVV  SSSSSSS  EEEEEEE
##### ++  VV  SSSSS  EEEEEEE

Your terminal is A001 and its name in the network is D1080001
Today is 01/26/2007 To sign on to DBDCCICS -- enter your:

USER-ID..... The name by which the system knows you.
PASSWORD..... Your personal access code.

PF1=HELP      2=TUTORIAL          4=REMOTE APPLICATIONS
                                     10=NEW PASSWORD
USE ONLY THE ENTER KEY OR ONE OF THE KEYS LISTED ABOVE.
  
```

A context menu is open over the terminal window, showing options:

- New
 - MVS Project...
 - VSE Project

The interface also includes a 'z/OS Projects' pane on the left, a 'VSE System View' tree on the right, and a 'Remote Error List' at the bottom. The Windows taskbar at the bottom shows the system time as 4:29 PM on Friday, 1/26/2007, and the battery level at 98%.

COBOL Syntax checking and highlighting

The screenshot shows the VSE editor interface with the following components:

- Editor Window:** Displays COBOL code for 'IGZTMATH.cbl'. Line 40, Column 81 is highlighted with an 'Insert' cursor. The code includes:


```

02 Condition-Token-Value.          00027000
COPY CEEIGZCT.                    00028000
03 Case-1-Condition-ID.           00029000
04 Severity PIC S9(4) BINARY.     00030000
04 Msg-No PIC S9(4) BINARY.       00031000
03 Case-2-Condition-ID           00032000
    REDEFINES Case-1-Condition-ID. 00033000
04 Class-Code PIC S9(4) BINARY.   00034000
04 Cause-Code PIC S9(4) BINARY.   00035000
03 Case-Sev-Ctl PIC X.            00036000
03 Facility-ID PIC XXX.           00037000
02 I-S-Info PIC S9(9) BINARY.     00038000
                                     00039000
PROCEDURE DIVISION.              00040000
                                     00041000
PARA-MTHSLOG.                    00042000
                                     00043000
MOVE 5.65 TO ARG1RS.              00044000
CALL 'CEEISSLOG' USING ARG1RS, FC, 00045000
RESLTRS.                          00046000
      
```
- Remote Error List:** Shows three messages:

ID	Message	Se...	Line	Location	Host Name	Date
IGYPS2106	IGYPS2106-S "DIVI" was found in the "VALUE" stat...	2	40	/DEMOVSE/IGZTMATH...	Local	Jan 26, 2007 4:39:27 PM
IGYOS4027	THE SYSTEM OPTION "SYM" IS INTERPRETED AS "...	0	-1	IGZTMATH.C	DEMOVSE	Jan 26, 2007 4:41:09 PM
IGYPS2106	"DIVI" WAS FOUND IN THE "VALUE" STATEMENT. ...	2	40	IGZTMATH.C	DEMOVSE	Jan 26, 2007 4:41:09 PM
- System View:** Lists various system components like CEEIGZCT.C, EDCCCB.C, etc.
- Taskbar:** Shows the Windows taskbar with the Start button, system tray (98% battery, 4:44 PM, Friday, 1/26/2007), and active applications (Command Prompt, VSE - IGZTMATH.cbl, Paint).

z/VSE local and remote Compile

The screenshot shows the VSE IDE interface with the following components:

- File Explorer:** Shows a project structure with folders like .TmpVseRemote, DEMOVSE, BuildOutput, .project, and files like CEEIGZCT.cbl and IGZT.
- Main Editor:** Displays COBOL code for IGZTMATH.cbl. A context menu is open over the code, showing options like New, Go Into, Go To, Open, Open With, Refresh, Expand, Collapse, Rename..., Copy, Move..., Delete..., Search..., Run, Debug, Team, Compare With, Replace With, VSE, Host Connection Emulator Support, Local Syntax Check, and Nominate as Entry Point(B). The 'VSE' option is expanded, showing 'RemoteCompile', 'Info', and 'Upload'.
- Code Snippet:**

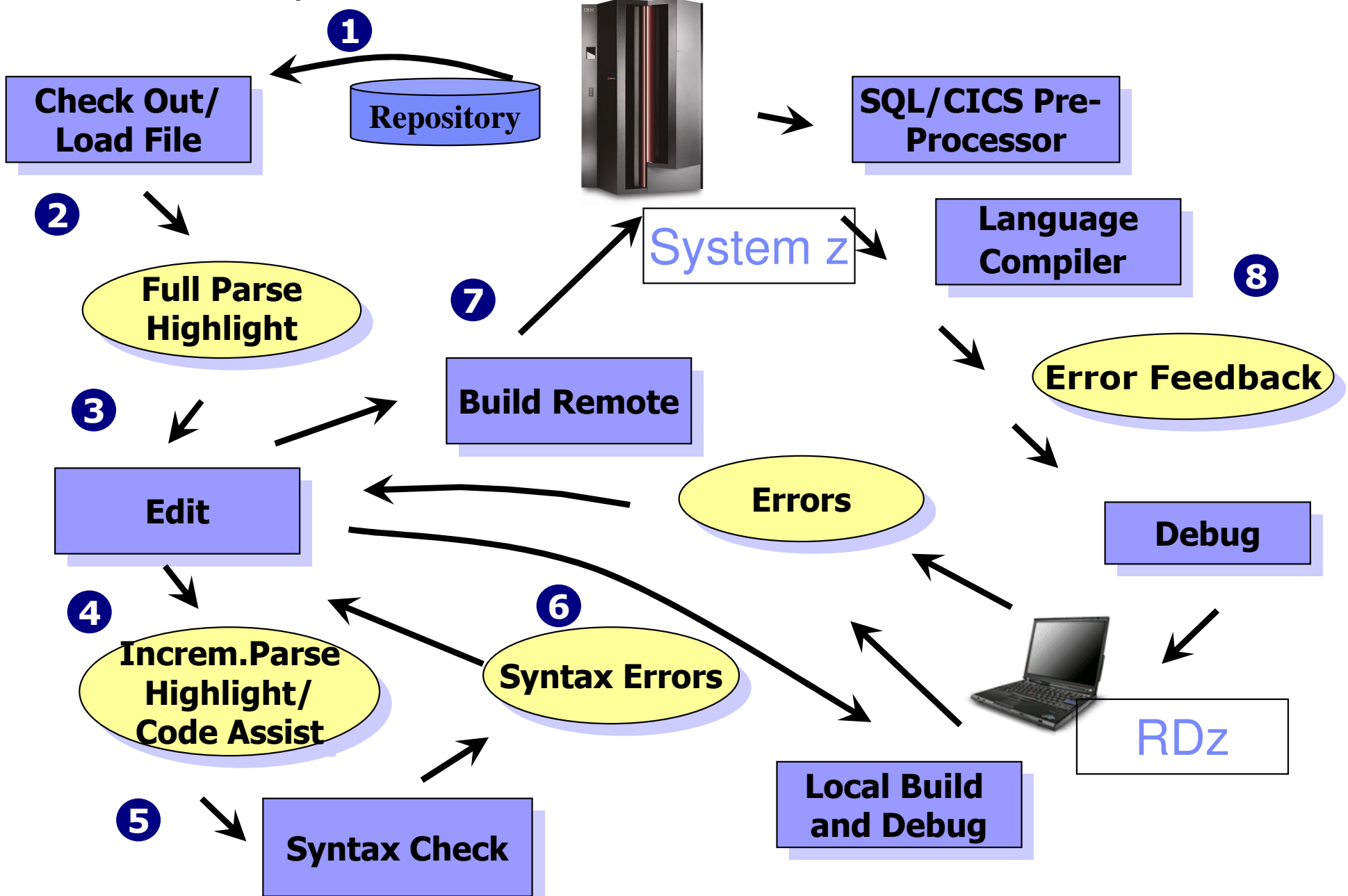
```

Line 40      Column 81      Insert
--*A-1-B-+---2---+---3---+---4---+---5---+---6---+---7---+---8
02 Condition-Token-Value.          00027000
COPY CEEIGZCT.                    00028000
03 Case-1-Condition-ID.           00029000
04 Severity      PIC S9(4) BINARY. 00030000
04 Msg-No       PIC S9(4) BINARY. 00031000
03 Case-2-Condition-ID           00032000
   REDEFINES Case-1-Condition-ID. 00033000
04 Class-Code   PIC S9(4) BINARY. 00034000
04 Cause-Code  PIC S9(4) BINARY. 00035000
Case-Sev-Ctl   PIC X.             00036000
Facility-ID    PIC XXX.           00037000
Info           PIC S9(9) BINARY.  00038000
                                00039000
VI SION.          00040000
                                00041000
                                00042000
                                00043000
05 TO ARG1RS.    00044000
MESSLOG' USING ARG1RS, FC, RESLTRS. 00045000
*****          00046000

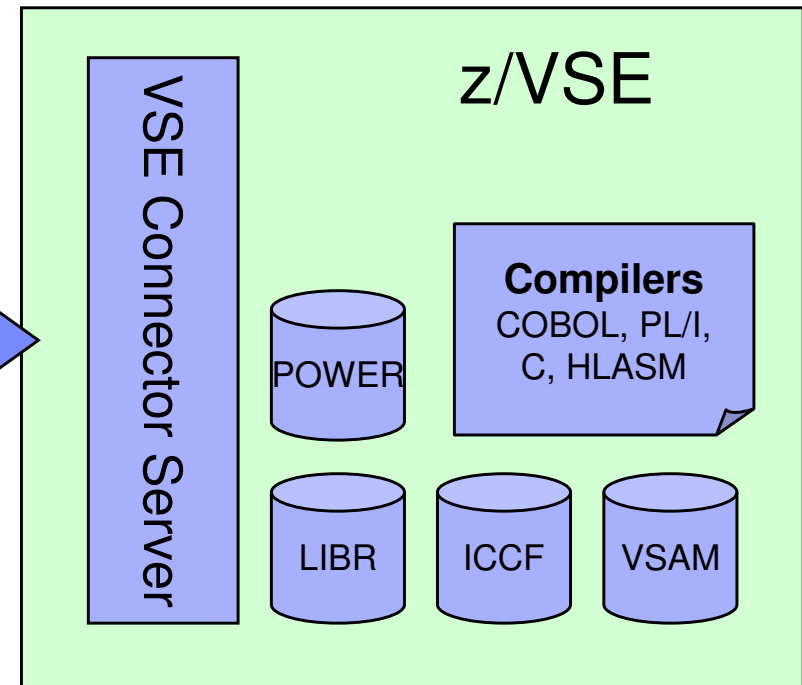
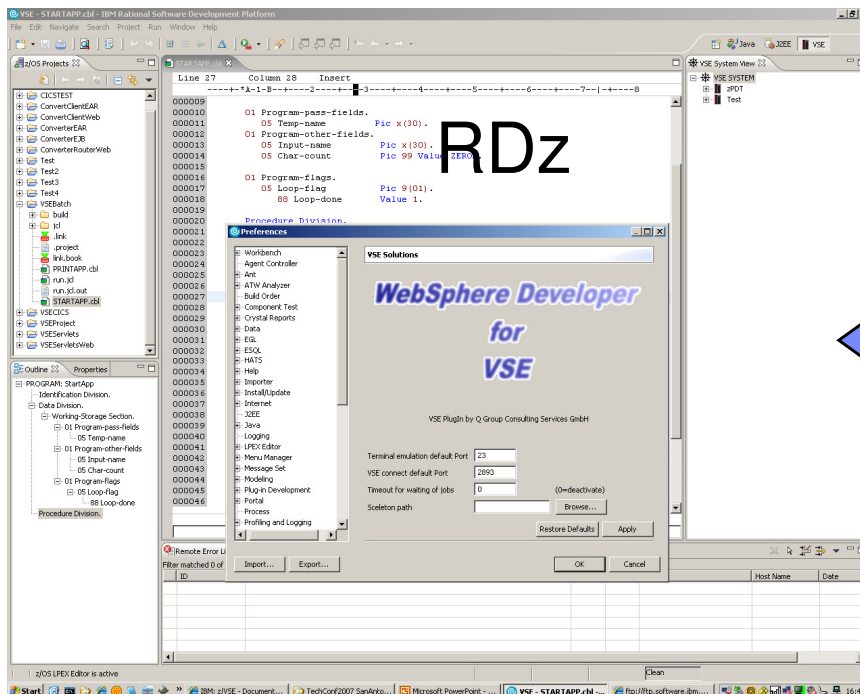
```
- Problems View:** Shows a table of errors:

Page	Se...	Line	Location	Host Name	Date		
S2106-S	"DIVI"	was found in the "VALUE" stat...	2	40	/DEMOVSE/IGZTMATH...	Local	Jan 26, 2007 4:39:27 PM
- System View:** Lists various system components like CEEIGZCT.C, CEEIGZDT.C, etc.
- Taskbar:** Shows the Windows taskbar with the Start button, application icons, and system tray (98% battery, 4:40 PM, Friday, 1/26/2007).

RDz Development Process

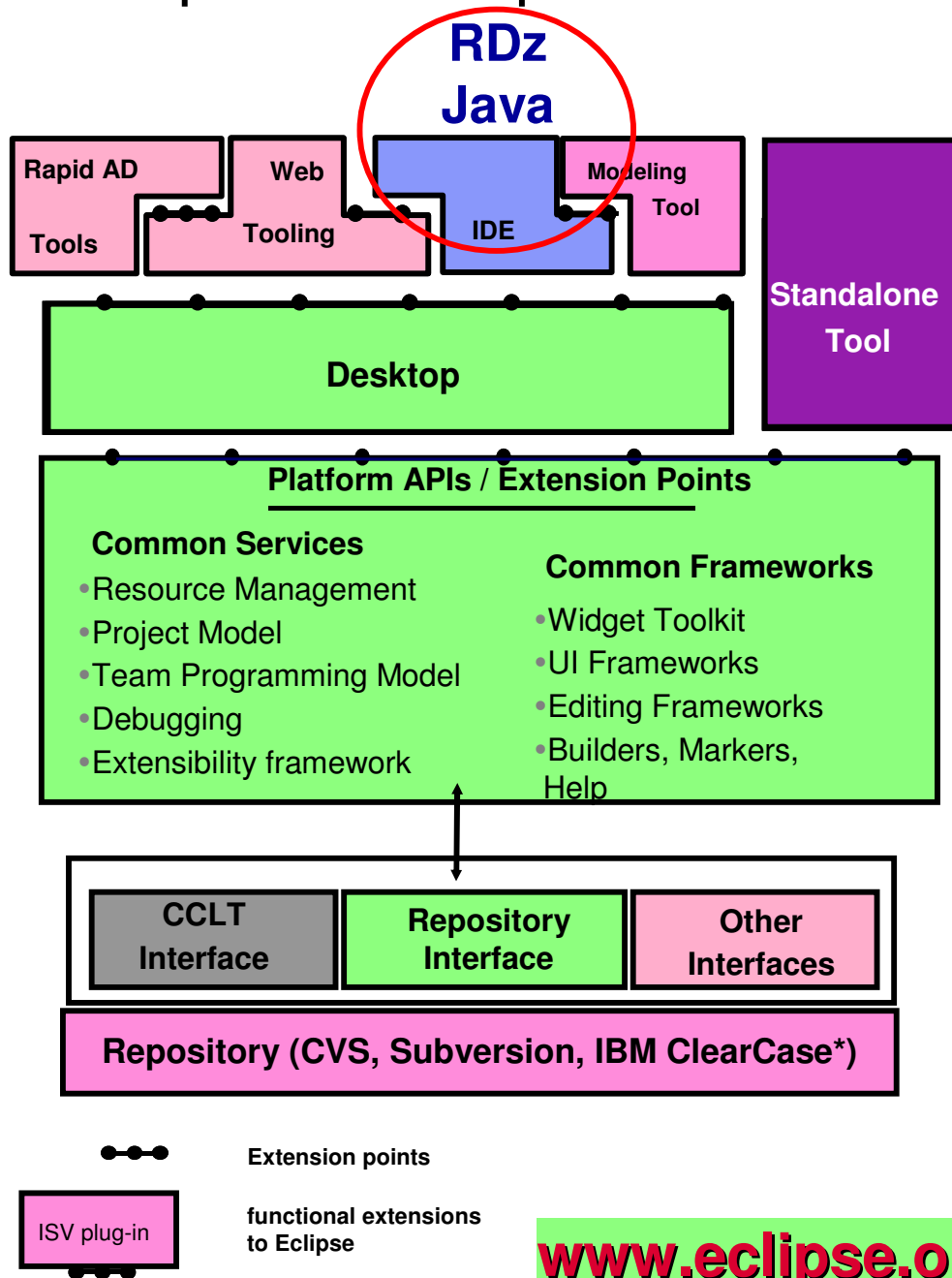


(1) Development of COBOL applications in RDz



- Development of COBOL
 - batch and CICS application
 - Source code editing/checking
 - Access to z/VSE within the tool (console and 3270 access)
 - Compile, Link and error feedback from z/VSE
- Additional supported languages: PL/I, ASM, C, BSM Maps

Eclipse – the open Standard for application development



What is Eclipse about:

- **Open source development framework**
 - with modern Editors
 - syntax help & check
 - semantic check
- **Centralized source code maintenance**
 - entire source code in central Repository
 - cross platform project administration
- **Versioning software interface**
 - CVS, Subversion, or IBM ClearCase
 - automatic Workgroup-control
 - i.e. development groups, system group
- **Open for ISVs development Plug-Ins**
 - Integrated Development Environments (IDE)
 - for System z (WDz, RDz)
 - for Java, COBOL, PL/I, ASM,C
 - Application analysis and optimization
 - Analyze the applications and workflows with graphical correlations
 - **IBM HATS Development Plug-In**
 - develop new front-ends to 3270 appls.
 - **IBM EGL development Plug-In for z/VSE**
 - follow-on to Visual Age Generator

www.eclipse.org

(3) Development of Java applications in RDz

The screenshot shows the IBM Rational Software Development Platform (RDz) interface. The main window displays a Java source file named `LibApplExample.java`. The code is a Java application that demonstrates connecting to z/VSSE resources. It includes comments and code for setting login mode, creating a VSE system instance, and listening for VSE resource events. The console window at the bottom shows the output of the application, including the number of libraries on the host and the names of the libraries.

```

/* Stay login with this user for lifetime of this connection */
spec.setLoginMode(true);

/* Create VSE system instance with this connection */
system = new VSESystem(spec);

/* Keep the connection for lifetime of this program */
system.setConnectionMode(true);

/* Get file systems from host */
libr = system.getVSELibrarian();

/* Create a listener that gets notified when objects are */
/* retrieved from the host */
ll = new LibListener();
libr.addVSEResourceListener(ll);

/* Get a list of VSE libraries from this host. This method will */
/* give control back when all resources are received, i.e. the */
/* listEnded() method of the listener has been called. */
libr.getLibList();

/* Now remove the resource listener from the libr object */
libr.removeVSEResourceListener(ll);

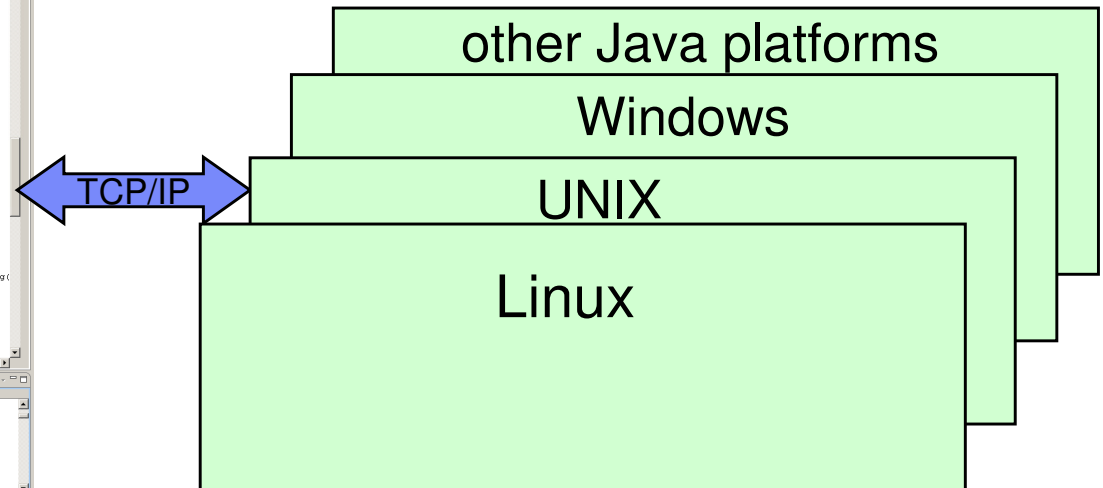
/* Now get the list of libraries from the listener and get the */
/* number of sublibraries in PDS. */
vLibs = ll.getLibVector();
numLibs = vLibs.size();
System.out.println("Number of libs on host " + system.toString() + " : " + new Integer(numLibs).toString());
for (int i=0; i<vLibs.size(); i++)
{
    myLib = (VSELib) vLibs.elementAt(i);
    if (myLib.getName().equals("PDS2"))
        break;
}
if (myLib == null)

```

```

Command: LibApplExample [Java Application] [D:\2007\conf\rdz\lib\java.exe (Nov 9, 2007 4:54:08 PM)]
LibListener: listAdded(), lib = JSYSERS
LibListener: listAdded(), lib = CRVTO
LibListener: listAdded(), lib = SYSDUMP
LibListener: listEnded()
Number of libs on host: VSESystem (9.152.85.26) : 6
LibListener: listStarted()
LibListener: listAdded(), subLib = CONFIO
LibListener: listAdded(), subLib = DFWD0C

```



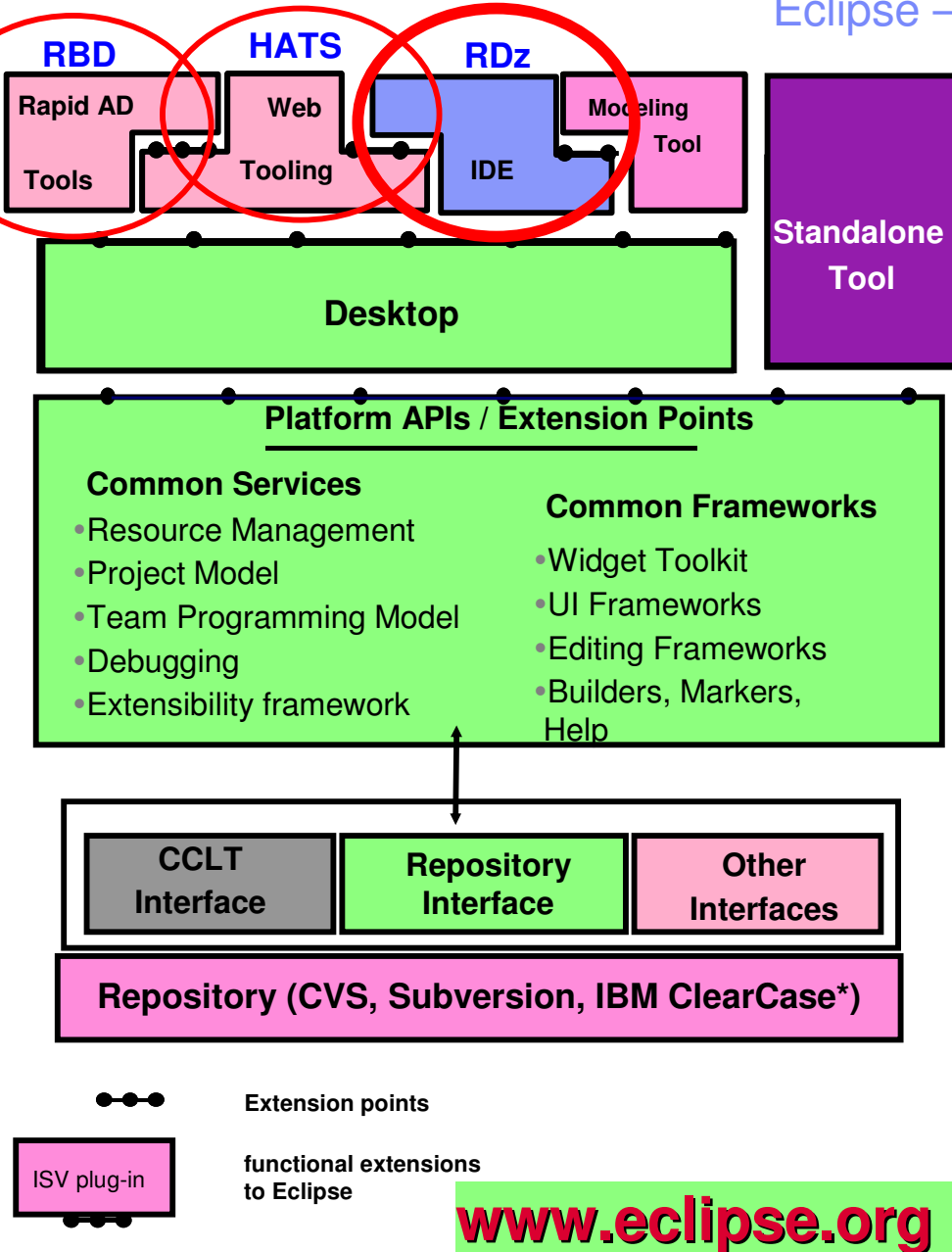
- Development of native Java applications
 - for systems like UNIX, Linux, Windows or other Java platforms
 - Edit, compile and Build
 - Test the Java application in the integrated WebSphere test environment and access z/VSE resources
 - **additional supported languages are C, C++, REXX**
- Development of Java applications to access z/VSE resources
 - use of z/VSE Java-Based Connectors
 - develop SOA components to access z/VSE services

Conclusion: Development for all platforms with one **tool set**

- A modern tool set to support z/VSE development and maintenance
 - modern editor for enhanced productivity
 - tools to analyse and optimize existent applications and workflow
- Common framework for enterprise development
 - standard for all developers
 - example: z/VSE with COBOL, Linux on System z with Java
 - easy skill transfer
- Open source framework
 - commonly thought in schools and universities
 - smooth introduction of new developers to the mainframe

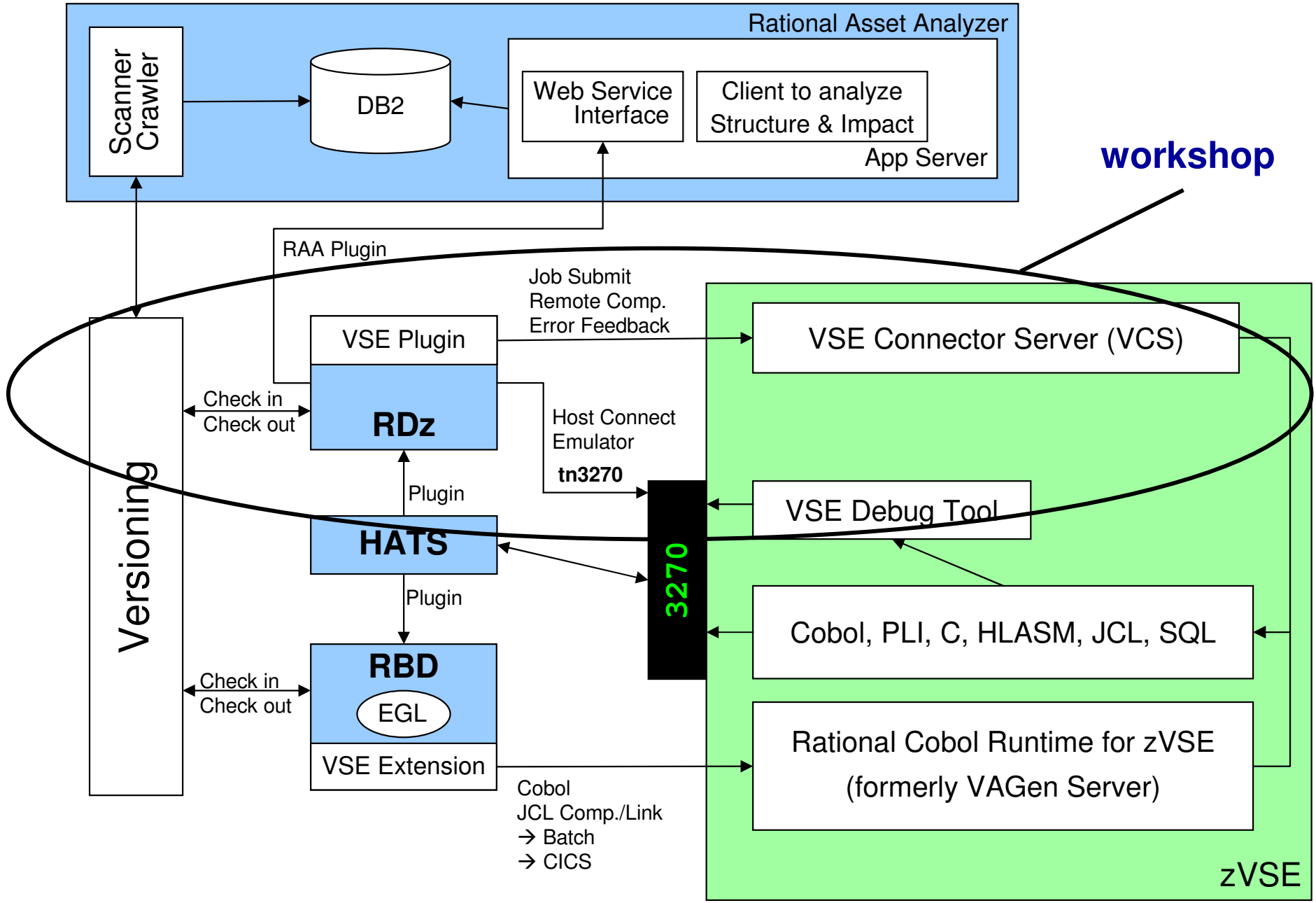
Eclipse based Development Environments for z/VSE

Eclipse – the open Standard for application development



What is Eclipse about:

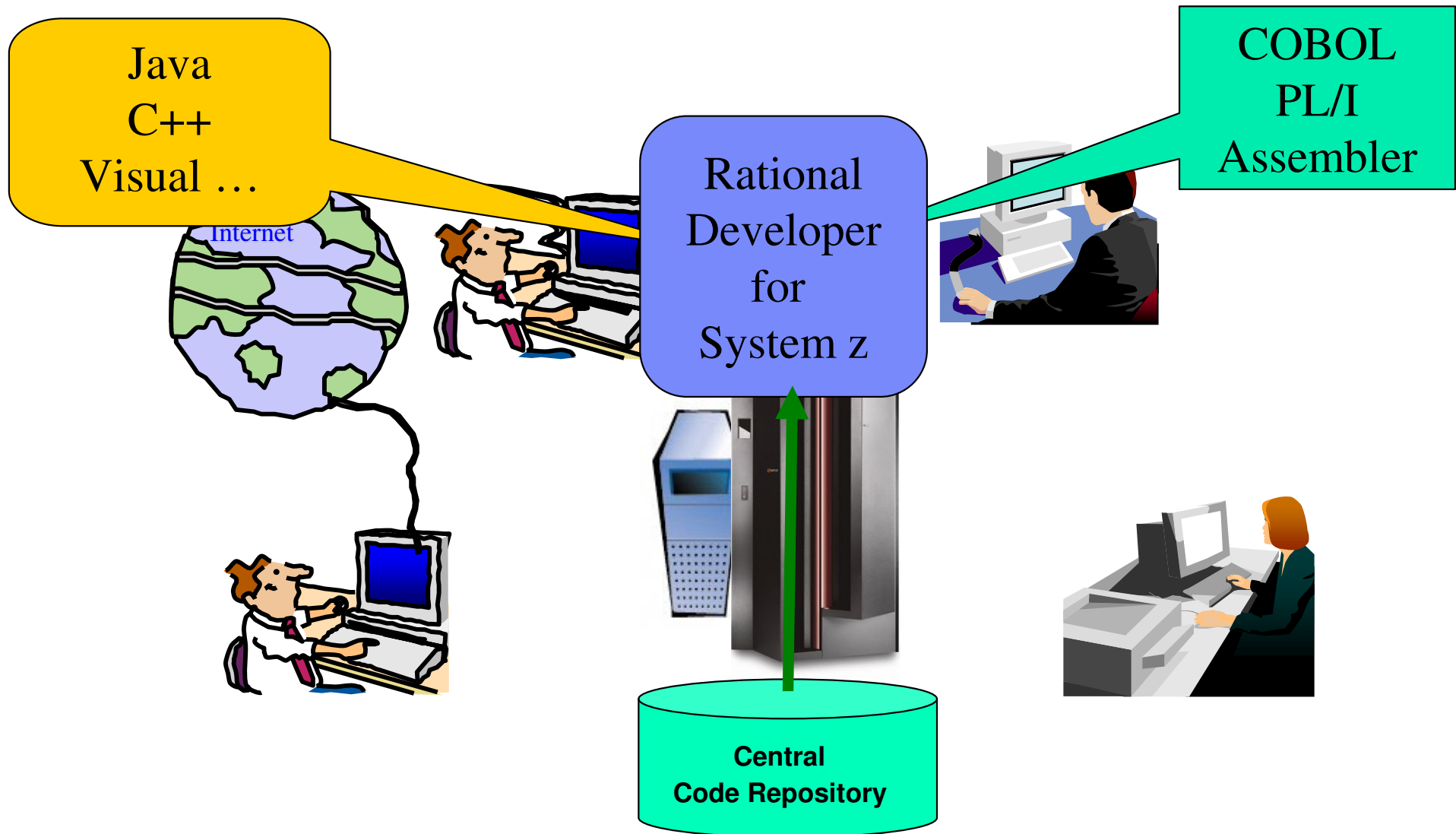
- Open source development framework
 - with modern Editors
 - syntax help & check
 - semantic check
- Centralized source code maintenance
 - entire source code in central Repository
 - cross platform project administration
- Versioning software interface
 - CVS, Subversion, or IBM ClearCase
 - automatic Workgroup-control
- Open for ISVs development Plug-Ins
 - 1) Integrated Development Environment (IDE)
 - Rational Developer for System z (RDz)
 - for Java, COBOL, PL/I, ASM,C
 - 2) IBM HATS Development Plug-In
 - develop new front-ends to 3270 applications
 - 3) IBM EGL development for z/VSE
 - Rational Business Developer (RBD)
 - EGL Plug-In for z/VSE
 - follow-on to Visual Age Generator



workshop

Summary

Eclipse – an open Integrated Development Environment for the enterprise



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Enterprise Modernization Sandbox for System z

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Manage the CICS ecosystem with CICS Explorer
Analyst report: IBM problem

NEW

Learn how to manage transaction Explorer, a new graphical tool you to create customizable environment. [More >](#)

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Try out IBM mainframe and enterprise modernization environment. Hands-on exercises step you through installation required! Here for the first time? [Set up](#) help information to get the most out of your experience.

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If you're here for the first time, follow these steps to get up and running:

1. Download and install the Citrix client. (Click the Back this page.)
2. Select a product or an exercise from the table below

Scripted, hands-on exercises you can try in the Sandbox

Exercise instructions (in pdf)

Manage application portfolio and business rules

- [Analyze mainframe applications](#)

IBM products available in this sandbox

Business planning and alignment

- Rational System Architect

Project and portfolio management

- Rational Focal Point
- Rational Asset Analyzer

Design and development

- Rational Developer for System z
- Rational Developer for zEnterprise
- Rational Host Access Transformation Services
- Rational Business Developer
- Rational Application Developer for WebSphere Software
- Rational Software Architect for WebSphere Software
- WebSphere ILOG Rules for COBOL
- Optim Development Studio
- z/ OS Problem Determination Tools
- CICS Explorer

Collaborative application lifecycle management

- Rational Team Concert
- Rational Requirements Composer
- Rational Quality Manager

Middleware

- CICS
- CICS Transaction Gateway
- DB2
- DB2 Enterprise Server Edition
- IMS
- IMS Enterprise Suite SOAP Gateway
- IMS Message Format Service (MFS) Web Solutions
- IMS TM Resource Adapter
- IMS Web 2.0 solutions
- TXSeries for Multplatforms
- WebSphere Application Server
- WebSphere MQ

Connectivity

- IBM System z

How to buy

- Rational Developer for System z
- Rational Business Developer
- Rational Team Concert

Open Services for Lifecycle Collaboration (OSLC)



Open Services for Lifecycle Collaboration

Open interfaces. Open possibilities.

*An industry initiative
for making it easier to use
software delivery tools in
combination.*

Barriers to sharing resources across the software lifecycle

- ▶ Multiple vendors, open source projects, and in-house tools
- ▶ Private vocabularies, formats and stores
- ▶ Entanglement of tools and data

▶ The Open Services initiative is

- **Building** a community of vendors, open source projects, integrators and IT teams, at **open-services.net**
- **Creating** public specifications of resources and services, like change requests, test cases, defects, requirements and user stories
- **Delivering** loosely coupled resource formats and services with “just enough” standardization

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BSD GROUP
Better Software Development

Tasktop

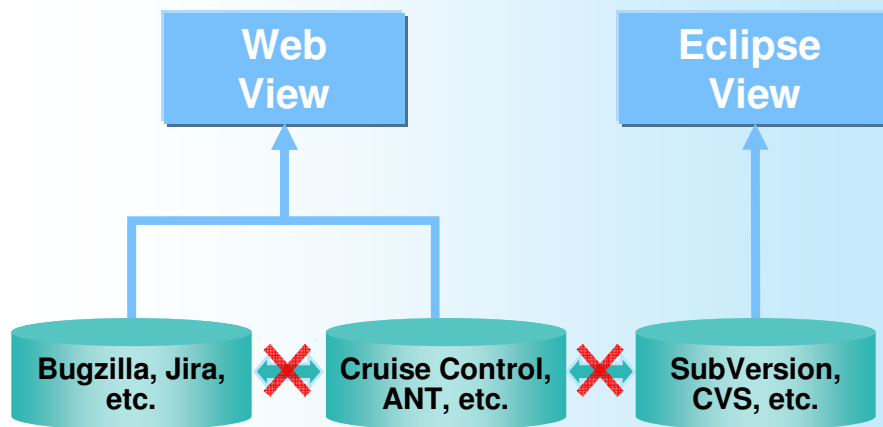


ORACLE®

Open Source vs. Team Concert

Cut administration costs and increase productivity with Team Concert

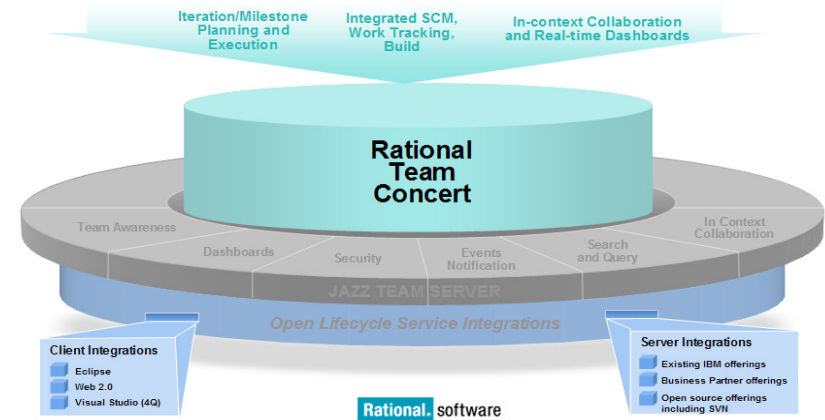
Open Source



Point Solutions for individual productivity

- Significant costs to maintain and administer federated databases
- No concept of project, teams or schedules
- No single, consolidated view into project status and health
- SCM, work items, build functionality unaware of each other providing little to no insight into relationships between artifacts

Increased productivity with Rational Team Concert



Fully integrated collaborative application lifecycle management solution

- ✓ Designed for agile and distributed teams
- ✓ Fully aware of projects, team process, team composition, who's doing what and by when, in-context collaboration with instant messaging discussions, discussion threads kept with work items
- ✓ All-in-one ALM solution for the core development team with planning, SCM, work items, workflow, build management, dashboards and reporting fully integrated
- ✓ Single download package, easy to install and get started, minimal administration, easy startup of projects, onboarding and offboarding of team members quickly

Jazz momentum continues ...

300,000+ Jazz seats in the market place

Over **50,000** members active on Jazz.net

- Almost **2,000** new members a month
- Averaging **30,000+** unique visitors per month
- Since last year's Rational conference:
 - Averaging over **400,000** page views per month more, than a 2X increase over the same period 08/09
 - Monthly downloads average over **9,000**, up 3X over the same period 08/09
 - Forum postings have averaged over **1,500** per month and forum searches are averaging over **6,000/month**

Community Feedback and Testimonials

"Rational Team Concert has **excellent team collaboration** with automated project management dashboards that are transparent to everyone — not just managers. This immediate and automated feedback helps **keep teams on track and motivated** to achieve project goals."
 — Han Jie, Siemens

<http://jazz.net/community/feedback/>

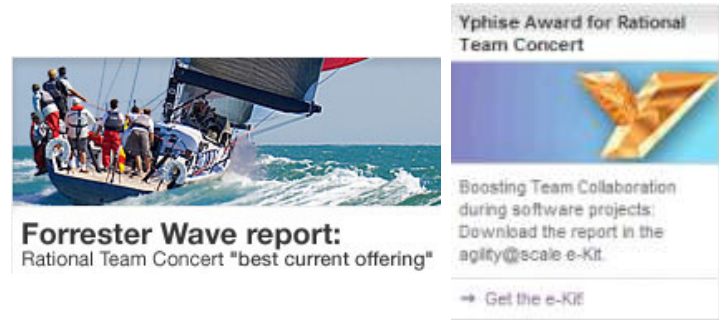


What Analysts are saying:

Liz Barnett, Ez-Insight: "With the Jazz project, Rational has developed **breakthrough technology** and is **poised to set the standard for collaborative ALM...**

Paul Herzlich, Ovum: "IBM has taken the opportunity to exploit the Jazz platform's power inventively. Its 'living' test plan is a **masterpiece of applying new technology to a familiar problem...** What is being delivered will demonstrate convincingly that IBM is raising the standard for a test management product."

Julie Craig, EMA: "Rational's differentiators are **difficult for competitors to equal**, and the new Jazz platform foundation may well turn out to be one of the best investments the Rational team has made."



Customer feedback



"By helping us to make project deliveries more repeatable and predictable, we anticipate that Rational Team Concert will **reduce project overrun costs by 20%.**"

--Matt Pomroy - Executive, Software Engineering, Ascendant Technology



"Its automated project management dashboards are transparent to everyone – not just managers. This immediate and **automated feedback helps keeps teams on track and motivated** to achieve project goals."

--Han Jie - Senior Consultant, Siemens



"Where we previously used separate systems, with Rational Team Concert we now have well integrated functionality. **Our developers are more efficient because they are better able to focus on important issues.** Our project managers greatly value the ability to customize these dashboards and **instantly provide status** on their milestones!"

--Mika Koivuluoma - Production Manager, TietoEnator



"Having a **unified and extensible environment is very compelling for us.** Rational Team Concert provides **the team transparency and visibility needed to keep work progressing** so everyone knows what's going on without finger-pointing."

--Carson Holmes - Unified ALM Services Manager, Noblestar



"With IBM Rational Team Concert we've seen a **30% productivity gain** on our global projects. The ability to **easily suspend and resume work, along with advanced SCM features**, helps team members juggle multiple tasks and priorities without missing a beat."

--Alain Bergeron - VP Consulting Services, CGI

For more information, please see the z/VSE web site:
<http://www.ibm.com/zvse/>