



Smart work on System z Enhance teamwork with multiplatform SCM tool





Agenda

08:40 - 09:40 - Build a smarter foundation for future investments

09:40 - 09:50 - Break (10 min)

09:50 - 10:50 - Smart Reuse- Transform green screens to Web, SOA, mobile, and portal

10:50 - 11:00 - Break (10 Min)

11:00 - 12:00 - Speed the development of multiplatform applications

12:00 - 01:00 - Lunch (1 hour)

1:00 - 2:00 - Developing Web 2.0 applications using Mashup Tools

2:00 - 2:10 - Break (10 Min)

2:10 - 3:10 - Smart Work on System z: Enhance teamwork with Tools that enhance understanding and control

3:10 - 3:20 - Break (10 Min)

3:20 - 4:20 - Let's tie it all together and play in the sandbox

3:20 - 4:30 - Close



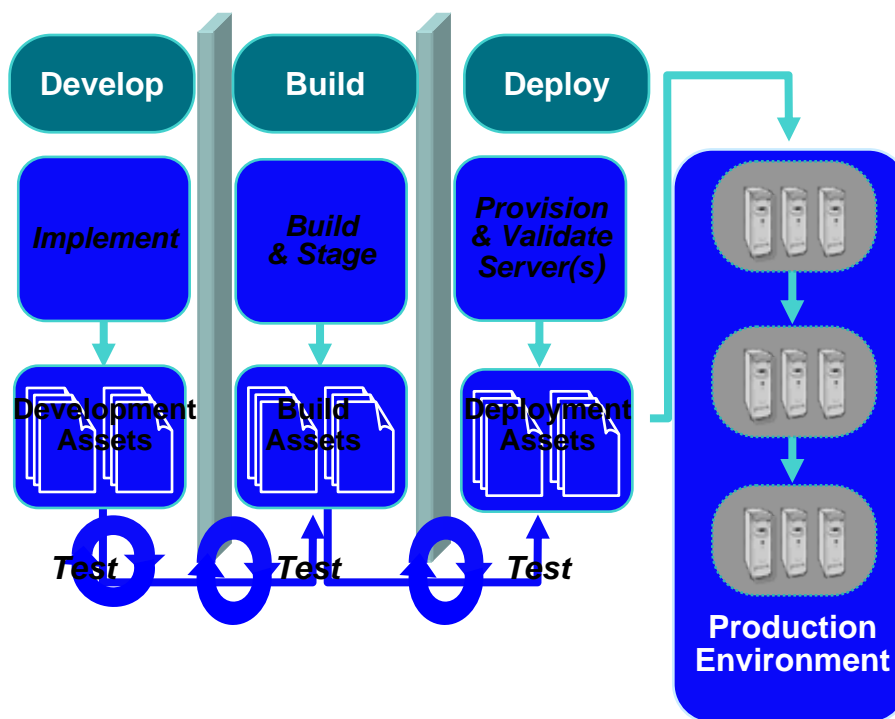
Agenda

- **Customer challenges**
- **Benefits of a systematic approach to Application Understanding**
 - Rational Asset Analyze / WebSphere Studio Asset Analyzer
- **Rational Project Management and Control for System z**
 - Rational Team Concert / Rational Team Concert for System z
- **Workshop / Demonstration**



Challenge: Silos Between z/OS & Distributed

- **Difficulty tracking migrations and builds**
- **No shared processes, artifacts or controls**
- **“Over the wall” communication**



(multiply x # of operating system environments)

=

Labor intensive & Error prone handoffs



While distributed teams were designed to enhance “business agility”, organizational, geographical, and technical silos can make things worse

Only 37% of stakeholders are satisfied with the speed of internal application development...
Only 42% are satisfied with the quality.
50% of outsourced projects are expected to underperform.

***Silos of people,
process, and projects***

Geographic Barriers

- Poor communication
- Language, culture and time differences
- Process gaps resulting in errors and rework
- High degree of friction across teams

Organizational Barriers

- Lack of meaningful stakeholder input
- Poor LOB oversight
- Weak project governance
- Missed opportunities to leverage domain expertise

Infrastructure Barriers

- Incompatible tools and repositories
- Unreliable access to common artifacts
- Lengthy project and team member on-boarding
- Brittle and inflexible tooling integrations



Real Customer Examples

Customer A

- **Looking for a consolidated approach to development. Undertaking a mixed workload application.**
- **Team: 500 developers, 9 locations**
- **SCM:**
 - Endeavor for mainframe SCM
 - CC/CQ for distributed
- **Challenges**
 - Separate tools and processes did not fit with application architecture
 - Plan required 9 parallel releases and 30 test environments

Customer B

- **Looking to improve processes and tools to reduce software costs and errors**
- **Team:**
 - 200 developers
 - Mainframe: COBOL with DB2/CICS
 - AIX: C/C++ programs
 - Windows: Java
- **SCM:**
 - Mainframe: ICM
 - AIX: PVCS and CVS
 - Windows: ClearCase
- **Challenges:**
 - No continuous version control
 - No defect and change request management
 - No security around vendor's source code access

Customer C

- **Looking for costs savings and improved process**
- **Team:**
 - 200 member team
 - 75 in India
- **SCM**
 - Endeavor for mainframe
 - Harvest for distributed
- **Challenges:**
 - Facing \$2M in CA renewals
 - Significant staff turn over had resulted in a "wild west" software delivery mentality
 - Lack of governance and communication with remote team



Given the rise of cross-platform distributed teams and the pace of technology change, managing software development cycles has never been more difficult

What we're hearing...

"2/3 of our projects span multiple business units"

"Our architecture needs to be significantly more scalable and flexible"

"We' have a process but our tools don't enforce it. It's not serving it's purpose."

"On time delivery of software is paramount as it is a risk to our business profitability.?"

"We have to go where the best talent is, but we have IP and compliance realities"

What we're seeing...

- Increasingly diverse and cross organizational project teams with multiple product architectures
- Interest in managing software as an asset using flexible software delivery models
- Software becoming more critical to the operation and on-time delivery of new products
- Open, customizable, framework enabling new business models



Are you agile enough?

IBM Rational helps you make software investments that differentiate your business



Drive business differentiation with agility and confidence

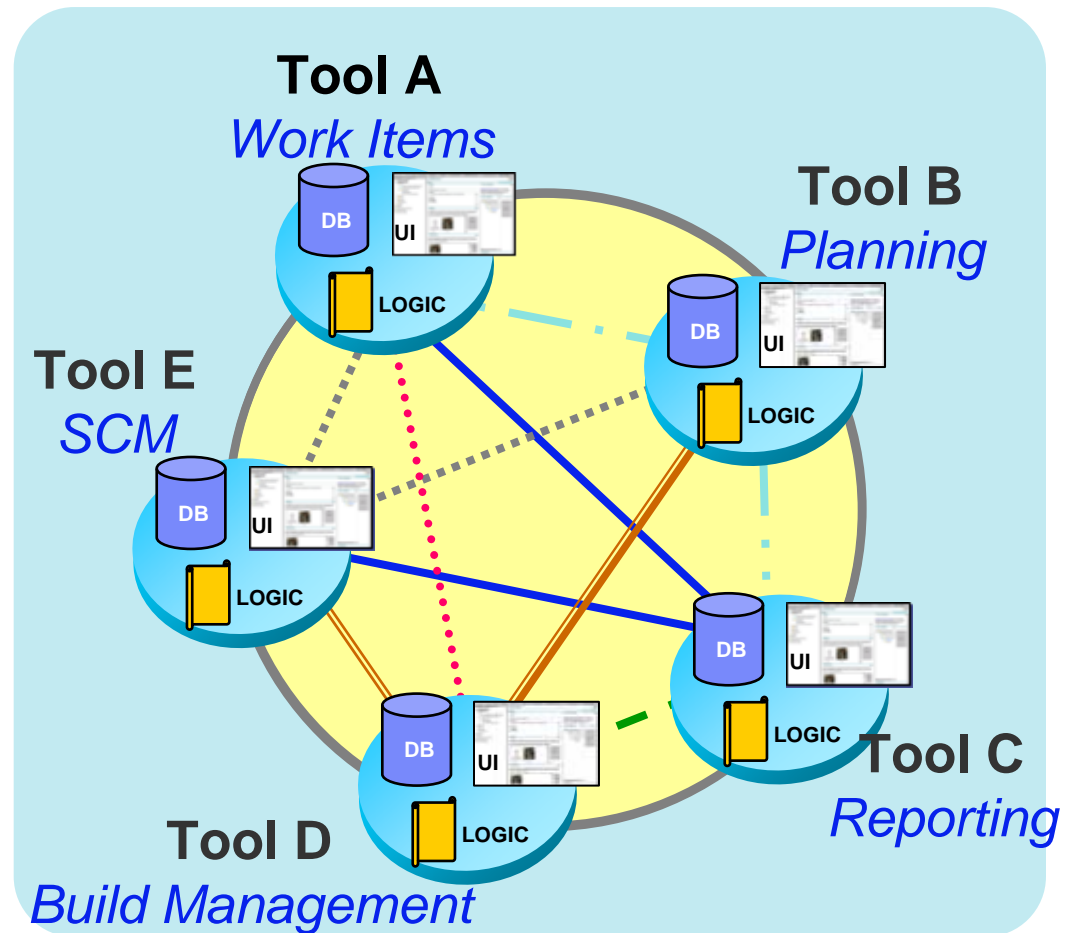
- Make the right decisions, align them with your priorities
- Take into account evolving change and risk
- Execute with the optimal use of resources



- Realize a 32% reduction in IT end-user costs based on implementation of an enterprise architecture
- Achieve an average 3x ROI in three to six months by automating the building and delivery of software
- Realize 60% faster development and test cycles in an automated, collaborative, integrated environment
- Reduce development costs by 25%.

Our customers have invested in a diverse set of ALM tools...

- Traditionally, each tool came with its own
 - UI - green screen, desktop
 - and Web presentations of views and tasks
 - Logic – Workflow, process, search, query, scale, security and collaboration
 - Storage – Availability, traceability
 - Privacy, backup/archive
- Resulting in...
 - Brittle integrations
 - Silos everywhere
 - High cost to maintain and administer
 - Proprietary API's



How do you solve this?

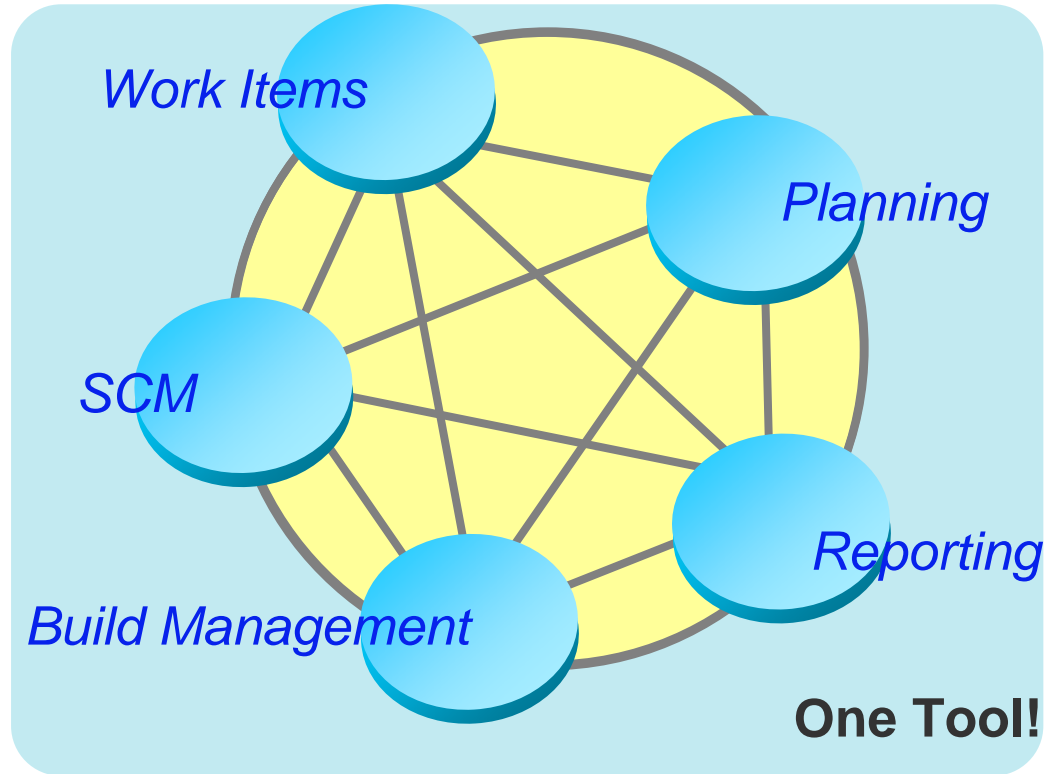


But with Rational Team Concert for System z, you get...

A unified client



- Unified Work Items, Planning, SCM, Build Mgmt, Reporting
- Single UI, storage and process
- Reduces Cost of Ownership
 - Administrative costs
 - Training/Adoption
 - Customizations

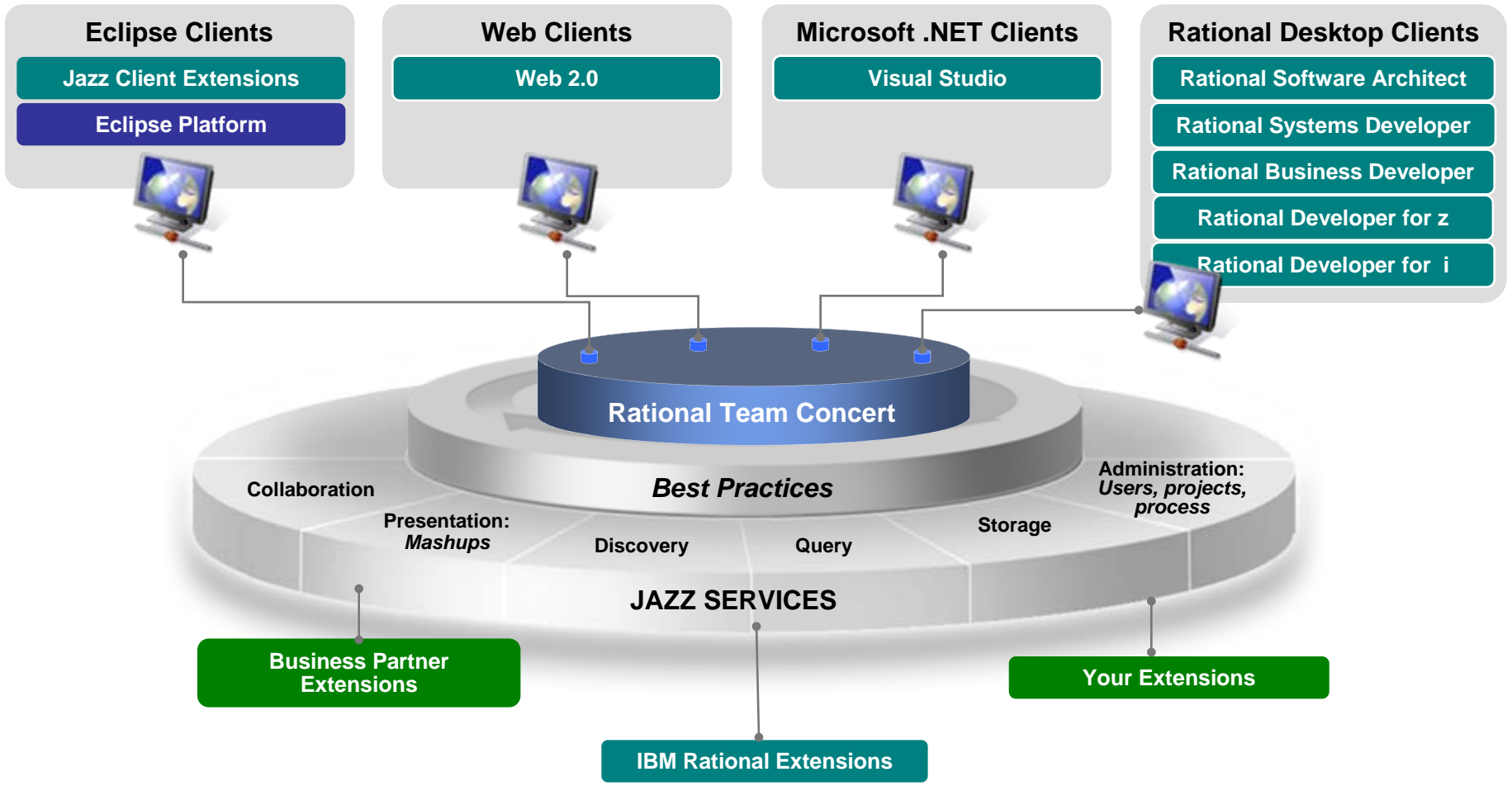


With unified storage





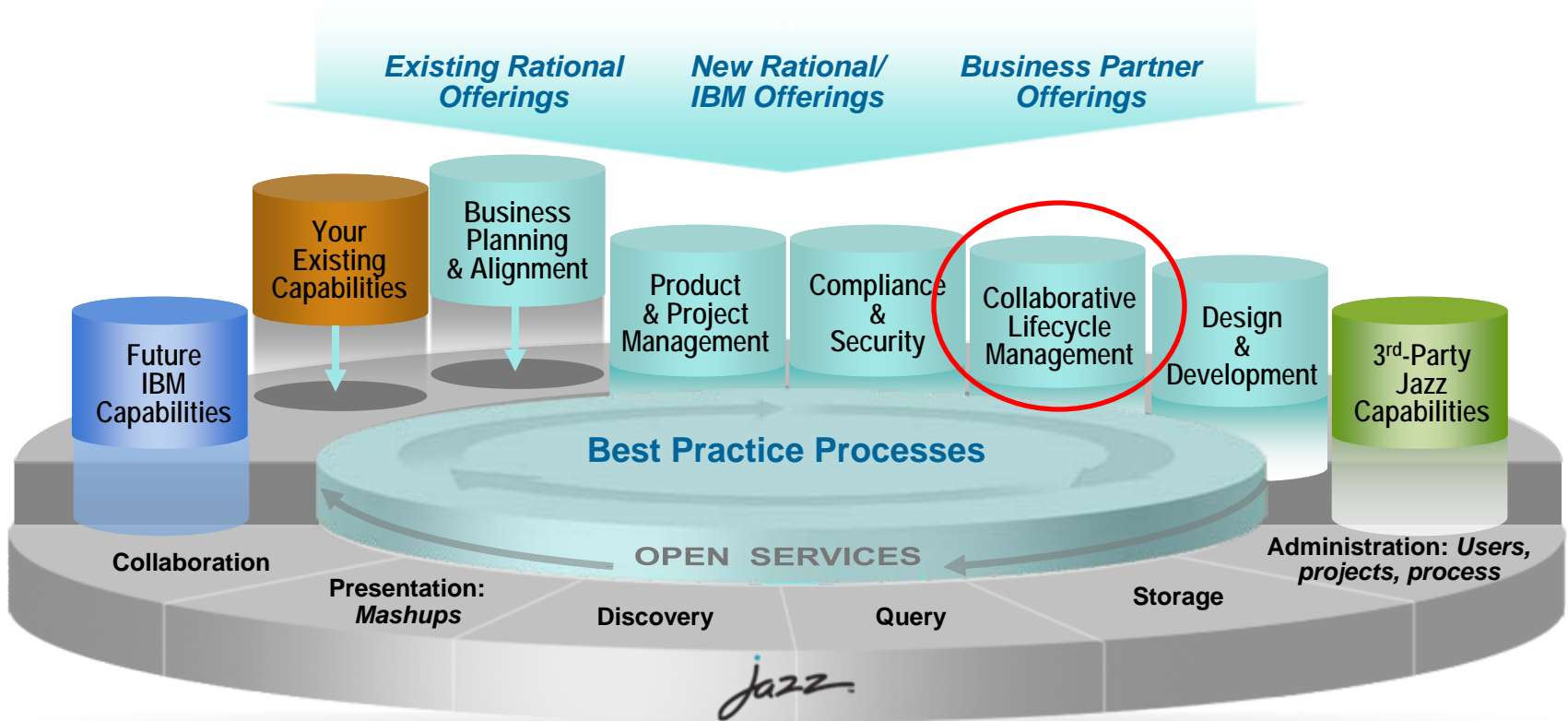
Rational Team Concert for System z: An open, extensible architecture *Supporting a broad range of desktop clients, IDE's and languages*





Rational Team Concert for System z 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 being built
- An integration architecture, enabling mashups and non-Jazz based products to participate



IBM Rational Team Concert for System z

Software innovation through collaboration

- **Collaborate in-context**
 - ▶ Integrated release planning and reporting, source control, document collaboration, work item, build management, chat and process guidance
- **Streamline development**
 - ▶ Out-of-the-box System z, agile or distributed process configurations
- **Automate governance**
 - ▶ Assess project status and trends in real-time with web-based dashboards, metrics and reporting
- **Scale to the enterprise**
 - ▶ Supports teams ranging from a few to thousands of developers and stakeholders
- **Unify diverse teams**
 - ▶ Supports J2EE, .NET, IBM i, System z, co-existence with popular toolsets



Open and extensible on

- ✓ Collaborate
- ✓ Automate
- ✓ Report



Team Concert for System z: An Overview

Agile Planning

- Integrated release/iteration planning
- Effort estimation & progress tracking taskboards
- Out of the box agile process templates

Project Transparency

- Customizable web based dashboards
- Real time metrics and reports
- Project milestone tracking and status

SCM

- Host SCM Co-existence
- Integrated stream management
- Component level baselines
- Server-based sandboxes
- z/OS File Agent
- ClearCase bridge, connector

Work Items

- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface
- ClearQuest bridge, connector

Build

- Work item and change set traceability
- Build definitions for team and private builds
- Local or remote build servers
- Supports Antz, Ant and command line tools
- Integration with Build Forge

Jazz Team Server

- Single structure for project related artifacts
- World-class team on-boarding / offboarding including team membership, sub-teams and project inheritance
- Role-based operational control for flexible definition of process and capabilities
- System z, agile and distributed processes
- Team advisor for defining / refining “rules” and enabling continuous improvement
- Process enactment and enforcement
- In-context collaboration enables team members to communicate in context of their work



Enables process awareness and guidance

Team Advisor

- Rules can be run when delivering changes to enforce team or organizational standards
- Helps ensure higher quality results through enforcement of agreed-upon standards
- Rules are configurable
- “Quick Fixes” can be specified to simplify corrective action
- Process rules can be defined, refined “on the fly”, enabling continual improvements
- Out of the box processes include OpenUP, Scrum, The Eclipse Way, etc

Team Advisor

Deliver (1 error) [client] 11:38:49 A

- No Unused Imports
- Clean Workspace
- Descriptive Change Sets
 - <No Description>

Change set missing required comment or work item.

Change set missing required comment or work item.

Quick Fix:

- Associate Existing Work Item
- Associate New Work Item
- Associate and Try Again (experimental)



Iteration Planning

Understand how well you are progressing against your targets in real-time

UWS Temperature Conversion M1 Plan [1.0 M1]

UWS Temperature Conversion M1 Plan

Team Area: UWS Temperature Conversion Team | Iteration: 1.0 M1 (12/1/07 - 6/20/08) | 5 Closed | 9 Open

Team Member	Task	Progress	Estimated
April Blues	UWS Create the temperature conversion CLI package	2 days Unassigned 9	100%
	UWS Define permissions	4 hours Unassigned 5	100%
Derek Holt	UWS Define team members	4 hours Unassigned 6	100%
	UWS Define iterations/milestones	4 hours Unassigned 3	100%
Jerry Jazz	UWS Create the core temperature conversion package	1 day Unassigned 7	100%
	UWS Define team members	4 hours Unassigned 6	100%
Zach Builder	UWS Add JavaDoc to core temperature conversion JUnit tests	1 hour Unassigned 11	100%
	UWS Create the core temperature conversion package JUnit tests	2 days Unassigned 8	100%
Zara Intern	UWS Add JavaDoc to core temperature conversion JUnit tests	1 hour High 3	100%
	UWS Create the core temperature conversion package JUnit tests	2 days Unassigned 8	100%
Unassigned	UWS Add JavaDoc to core temperature conversion JUnit tests	1 hour High 3	100%
	UWS Create the core temperature conversion package JUnit tests	2 days Unassigned 8	100%

Overview | Planned Items | Charts

Plan and execute on iterations while managing load

Drag-and-drop work items to change owners/create child parent relationships

In-context collaboration

The screenshot displays the IBM Team Central interface for the 'Jazz Project - Team Concert'. The interface is divided into several sections:

- Team Org:** Shows team members and their online status.
- News:** A list of news items, including 'Gorkem Ercan: Eclipse moment of competition', 'Litrik De Roy: Dark side of the moon', 'Nick Boldt: Managing Plugins and Features', 'Adam Cabler: Anti-Alias bug in 3.3 with GEF', 'Birt World: BIRT Release Candidate 0 New a', and 'Ian Skerrett: Furna is a Global Effort'.
- Team Load:** A section showing work time left for team members, with 'No Work Time Left' and 'Estimated: 0%' for one member and 'Estimated: 100%' for another.
- My Open Work Items:** A bar chart showing work items by priority (Unassigned, Low, Medium, High) with counts: 3963, 282, 531, and 111 respectively.
- New Incoming Work Items:** A bar chart showing work items by severity (Unclassified, Minor, Normal, Major, Critical, Blocker) with counts: 20, 177, 3159, 181, 19, and 4 respectively.
- Event Log:** A list of events, including '[9] Outgoing synchronization error (Workit)', '[4] Improvements to QCert reports (46379)', '[6] Visual Studio .NET integration (26709)', '[8] repotools error - unable to verify or cre', and '[3] Scope and planning for VS client (456)'. It also shows '[3] Obscure error messages when the serv'.
- Discussion:** A discussion thread for 'Story 45274' with a comment from Julian Jones dated Mar 6, 2008, 12:06 PM. The comment discusses the need to consider the story in both client and web client contexts.
- Team Chat:** A chat window showing a conversation between Kevin (K.G.) Housard and other team members regarding the story.

Team Central

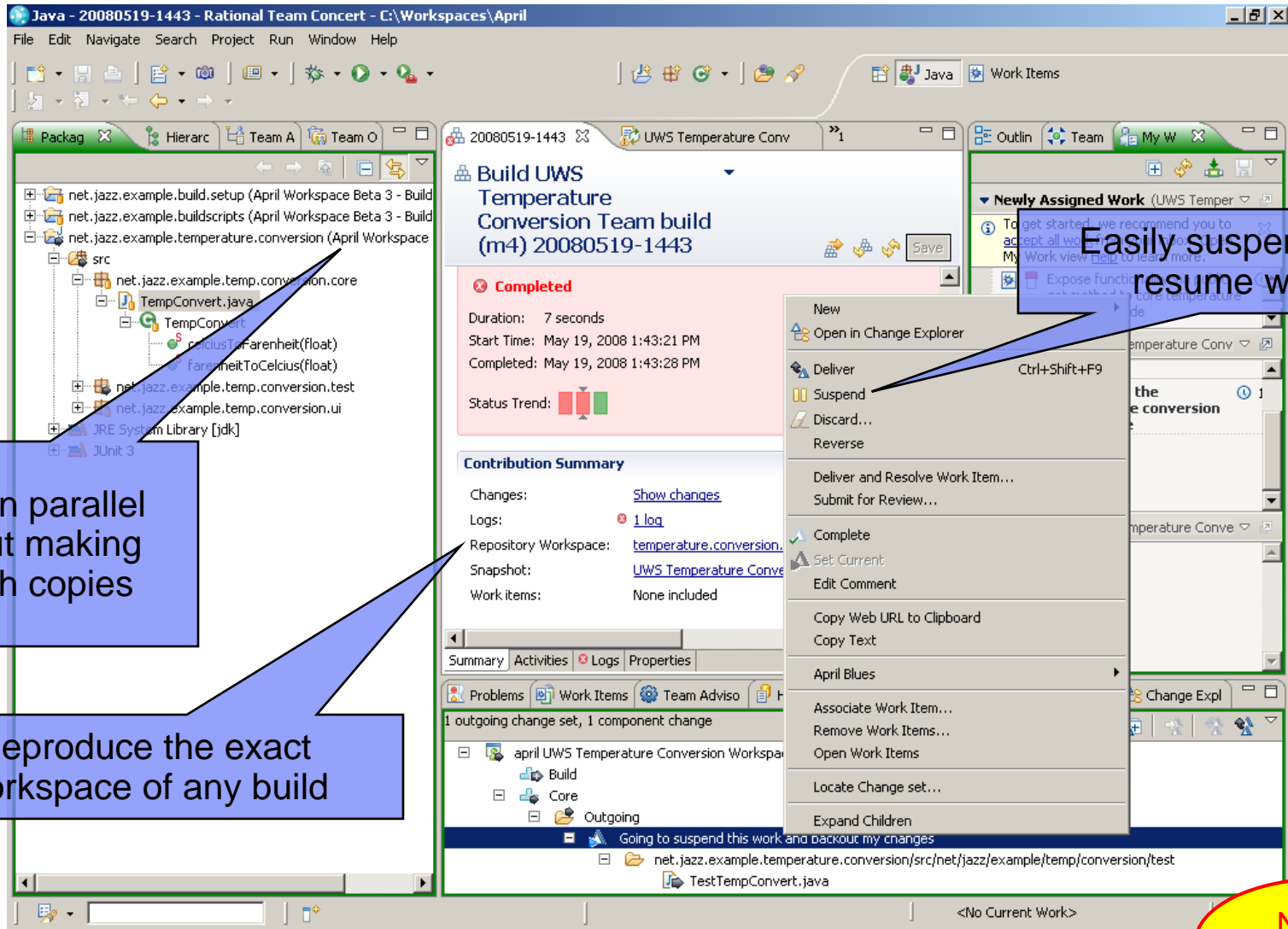
- Shows what is happening on project:
 - News & events
 - Build status
 - What's being worked on
 - Changes
- Configurable (RSS feeds) - New kinds of information easily added
- Personalizable - Each team member can tailor to their needs

Team Awareness

- Shows team members and their online status
- Shows what they are working on



Source Code Management for mainframe and distributed artifacts



Work in parallel without making branch copies

Reproduce the exact workspace of any build

Easily suspend and resume work

New in RTCz 2.0



Builds

Create build definitions for team and private builds

New in RTCz 2.0

Supports ANTz, Ant and command line build tools

The screenshot displays the IBM Rational Team Concert interface. The top-left pane shows a tree view of 'Team Artifacts' with 'Builds' expanded. The main pane shows details for a completed build: 'Build workshop.squawk.core.continuous.build B20080303-1042-workshop.squawk.core.continuous.build'. It indicates the build is 'Completed' with a duration of 27 seconds, starting on March 3, 2008 at 1:41:40 PM. A 'Status Trend' bar shows a sequence of green and red bars. Below this is a 'Contribution Summary' with links for 'Changes', 'Logs', 'Repository Workspace', 'Snapshot', and 'Work Items'. To the right, 'Reported Work Items' shows none reported, and 'General Information' lists the requester as Zach Builder and the build engine as workshop.build.engine. The bottom pane shows a 'Summary' tab with a table of build activities.

Build	Label	Progress	Estimated Completion	Start Time	Duration	Tags
workshop.squawk.core.c...	B20080310-2231...	Completed		March 10, 2008 10:30...	34 seconds	
workshop.squawk.core.c...	B20080305-2325...	Completed		March 5, 2008 11:25...	19 seconds	
workshop.squawk.core.c...	B20080305-2324...	Completed		March 5, 2008 11:24...	33 seconds	
workshop.squawk.core.c...	B20080303-1057...	Completed		March 3, 2008 1:57:0...	24 seconds	
workshop.squawk.core.c...	B20080303-1048...	Completed		March 3, 2008 1:48:1...	28 seconds	
workshop.squawk.core.c...	B20080303-1042...	Completed		March 3, 2008 1:41:4...	27 seconds	
workshop.squawk.core.c...	20080303-1017...	Completed		March 3, 2008 1:17:5...	26 seconds	
workshop.squawk.core.c...	B20080201-1707...	Completed		February 1, 2008 8:06...	30 seconds	v20...
workshop.squawk.core.c...	B20080128-1359...	Completed		January 28, 2008 4:59...	39 seconds	wor...
workshop.squawk.core.c...	B20080123-1623...	Completed		January 23, 2008 7:23...	10 seconds	
workshop.squawk.core.c...	B20080123-1621...	Completed		January 23, 2008 7:21...	18 seconds	

Create local or remote build servers

Identify work items and change sets that went into the build

Historical view of the build queue with status



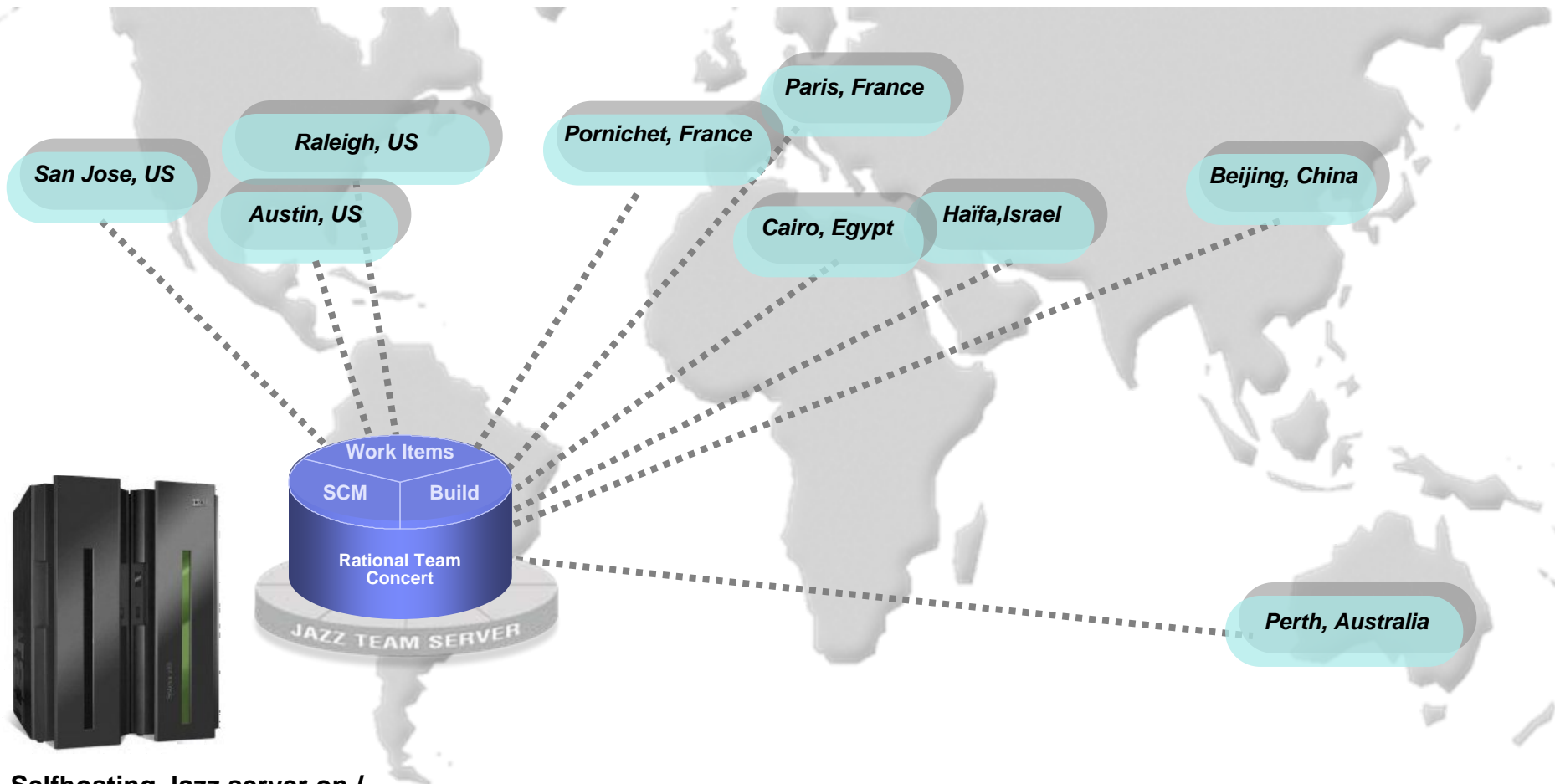
Key Advantages

- **An Open, Extensible Platform**
- **End to End Support for Integrated Processes (Agile or Traditional)**
- **Iteration planning and end to end business visibility**
- **In-context Collaboration services**
- **Powerful source control management & build**
- **Incremental Adoption**
- **On System z - COST**



Drinking our own champagne

How we develop Rational Team Concert for System z



Selfhosting Jazz server on / SVL, US



Questions



Change, Configuration and Release Management

Additional information

For additional information on the IBM Rational Change, Configuration and Release Management solutions please refer to the following websites:

IBM Rational Change, Configuration and Release Management:

<http://www-01.ibm.com/software/rational/offerings/crm/>

IBM Rational ClearQuest:

<http://www-01.ibm.com/software/rational/offerings/crm/change.html>

IBM Rational ClearCase:

<http://www-01.ibm.com/software/rational/offerings/crm/configuration.html>

IBM Rational Team Concert:

<http://www-01.ibm.com/software/awdtools/rtc/>

IBM Rational Build Forge:

<http://www-01.ibm.com/software/rational/offerings/crm/build.html>



Change, Configuration and Release Management *Additional resources*

ESCM Redbook:

- [Enterprise Software Configuration Management Solutions for Distributed and System z](#)

IBM Rational Change, Configuration and Release Management Product Library:

<http://www.ibm.com/software/awdtools/resources/scm.html>

IBM developerWorks for hints, tools, tips and tricks:

<http://www.ibm.com/developerworks/rational>

IBM Rational demos, evaluations, upgrades, patches, hot fixes, add-ins, plug-ins, models, scripts, and documentation:

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

The Jazz community site:

<https://jazz.net/pub/index.jsp>

The Eclipse open development platform:

<http://www.eclipse.org>



Thank You

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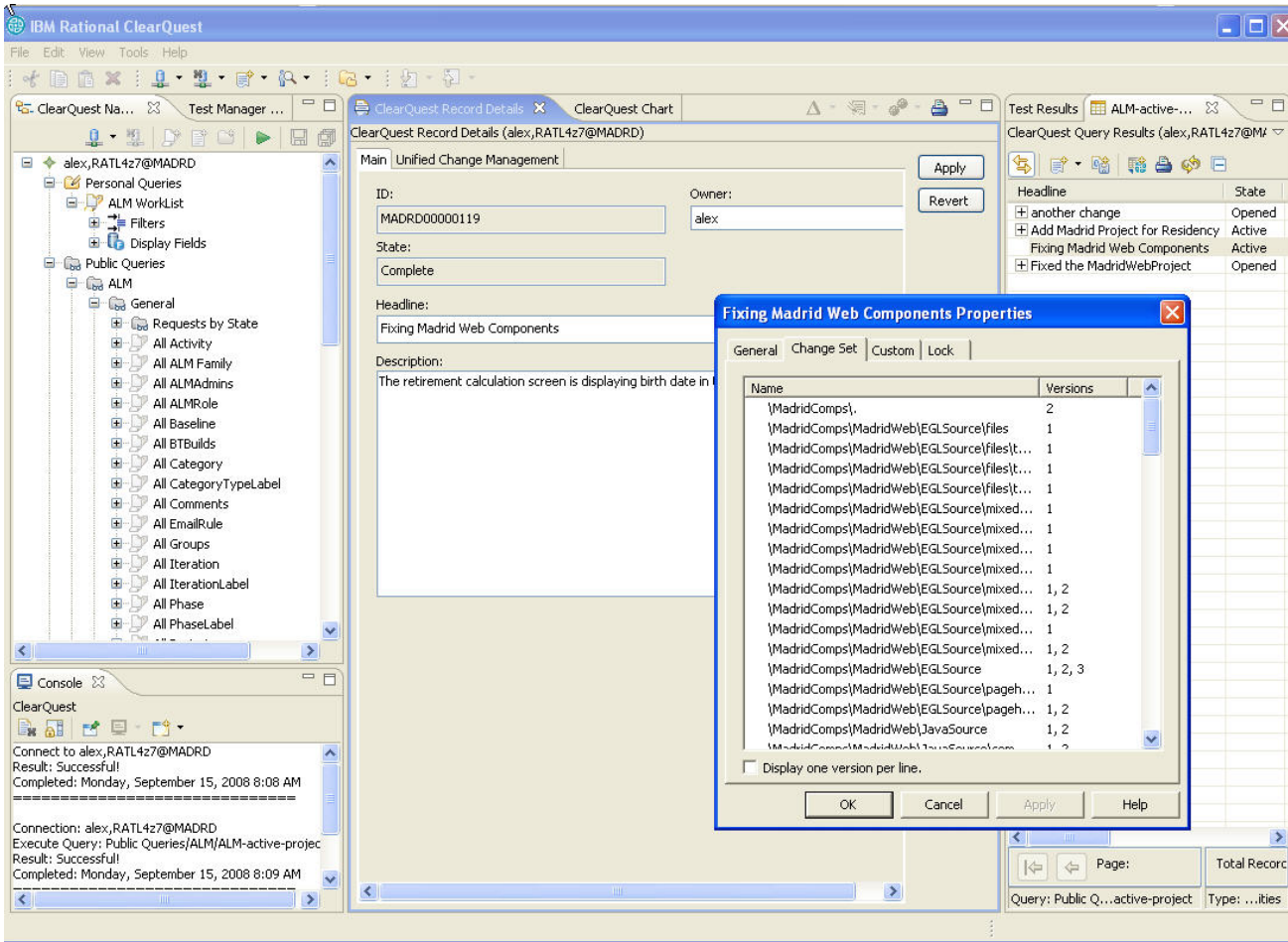
3:20 - 4:30 - Close



Backup



Rational ClearQuest: Automating Activity Management



Windows



UNIX/Linux



Eclipse



e-mail



IBM Rational ClearQuest

Improve individual and team effectiveness

Know what to work on and when...

- **To-do list**

- “What Change Requests have been assigned to me?”
- “What should I work on first”



The screenshot displays the Rational ClearQuest web application. At the top, it says 'Welcome admin | Demo/SAMPL | Log out'. Below that, there's a navigation bar with 'Site Administration', 'Preferences', and 'Help'. The main content area is divided into several sections:

- Search:** A search bar containing 'my query 112' 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 various categories like '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 including 'All Customers', 'Needs Verification', and a specific defect 'Defect/SAMPL00000106'.
- Recent Items:** A list of recently viewed items, including '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.
- Defect Detail:** A detailed view of a defect with ID 'SAMPL00000079'. It shows fields for 'ID', 'State' (Opened), 'Headline' (theadfsdfafd), 'Project' (Classics), 'Severity' (1-Critical), 'Priority' (1-Resolve Immediately), 'Owner' (QE), and 'Description'.

At the bottom of the interface, there's a footer with 'Rational software' and 'Contact | Terms of Use'.



Rational ClearCase: Automating SCM

Workspace management

- Work in isolated workspaces
- Work in parallel with other developers
- Manage multiple releases

Stability

Version control

- Version all types of files and directories in secure repositories
- Merge versions of elements

Safety

Build management

- Ensure the integrity of builds
- Accurately reproduce every release
- Trace and reproduce builds

*Reproducibility
Traceability*

Process control

- Record and report actions, history, and milestones
- Customize process
- Automate defect and change tracking

*Auditability
Control*





IBM Rational ClearCase

Work simultaneously on multiple releases

Accelerate your productivity with parallel development



Customer Special



Release 1 Bug fix



Release 1.5

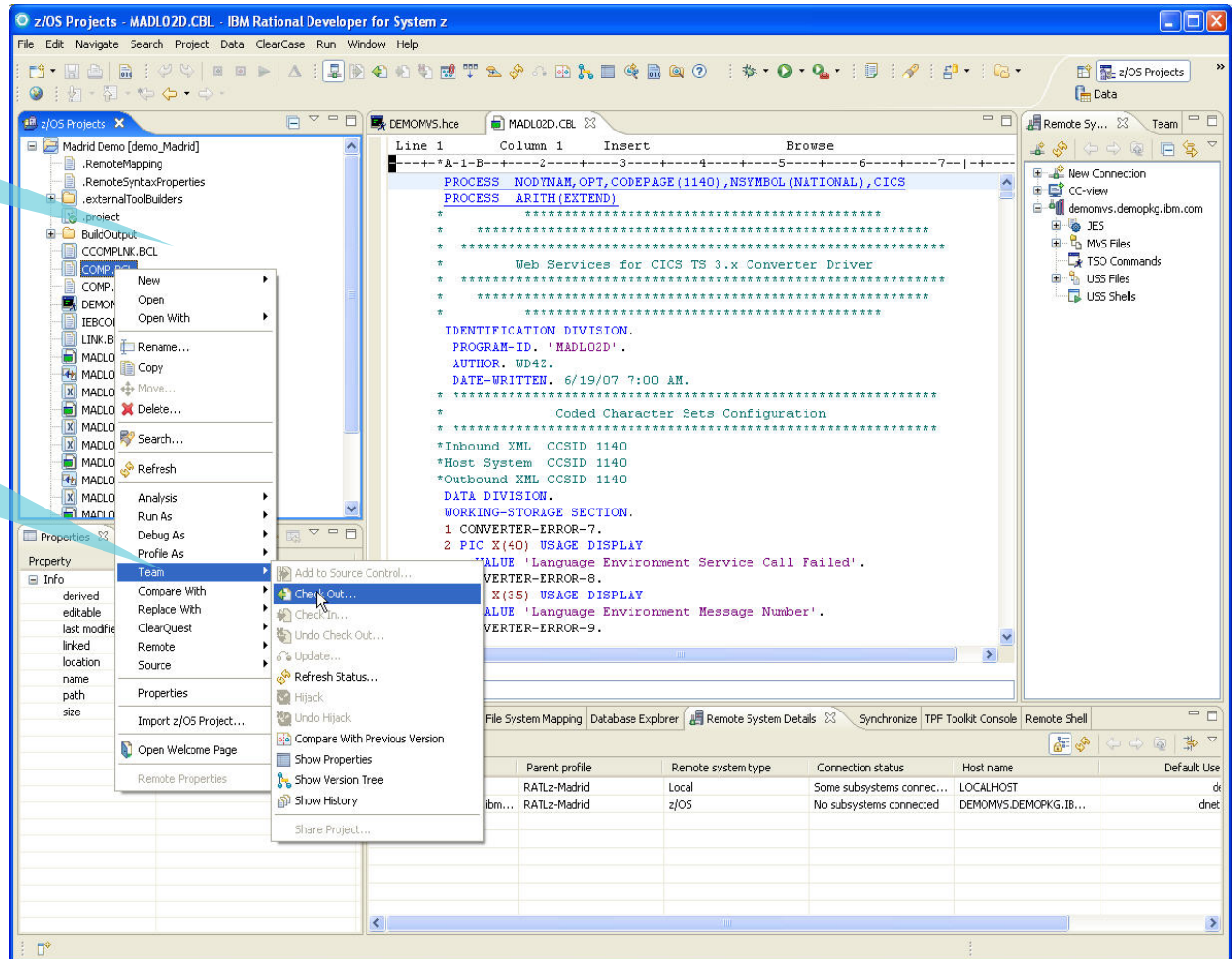


- Isolate unstable work and various activities with private developer workspaces
- Automate team coordination
 - Branch as needed
 - Easily integrate changes using graphical merge tools



ClearCase integration with Rational Developer for z

- SCM Adaptor for Local CC install
- Eclipse plug-in for remote access



CC-managed workspace

ClearCase commands from "Team" Menu



ClearCase ISPF Client

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

Option ==> _____

1.1 Select Environment Definition          2.1 Upload Files
1.2 Select a Distributed User             2.2 View File List
1.3 Select View                           2.3 Build
1.4 Select/Create UCM Activity            3.1 TSO Client Log

      Profile: DNET471
ClearCase view: MADRDZ
      UCM activity: AUCT00000212
Local PDS Prefix: DNET471.MADRDZ

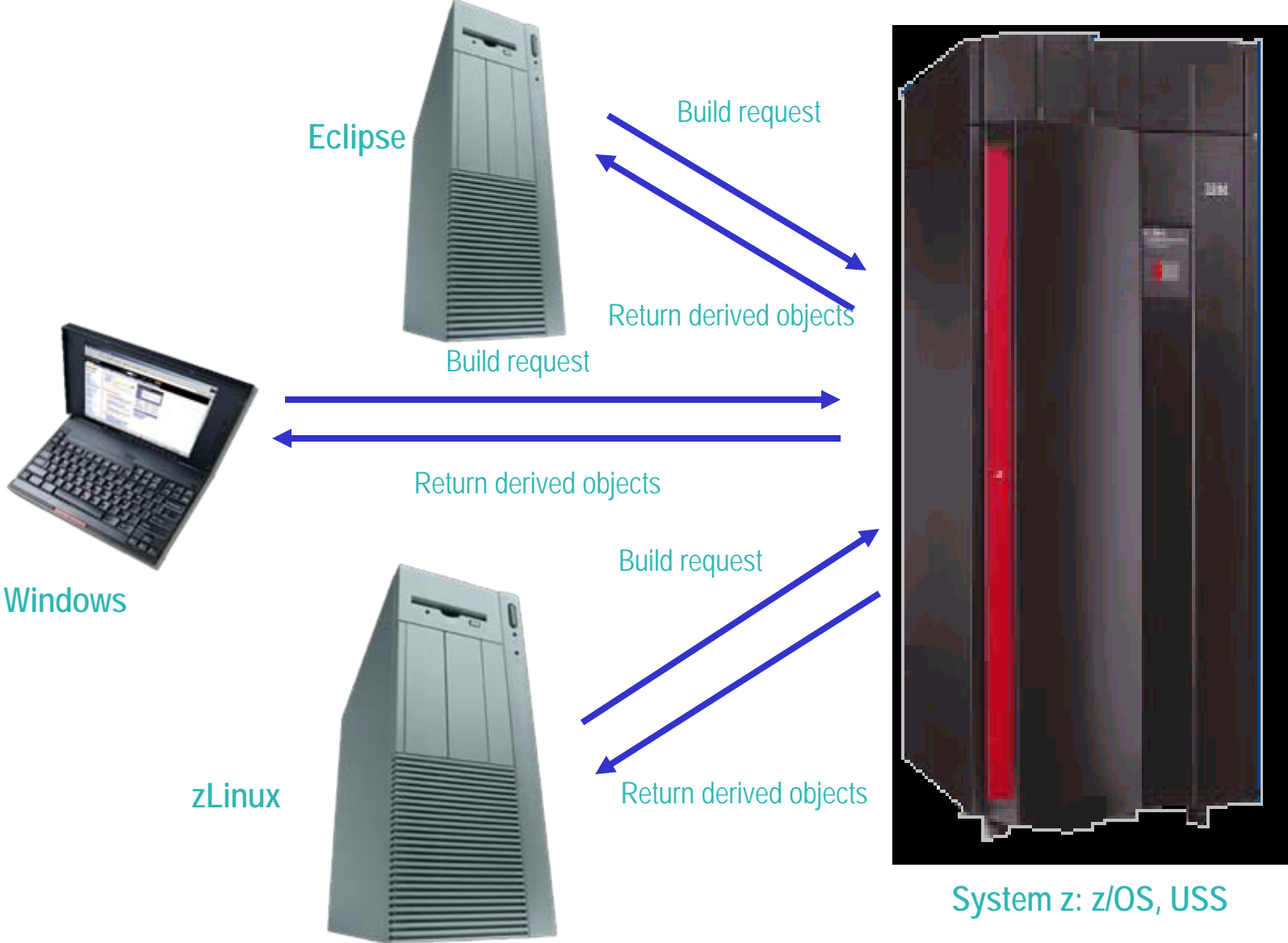
F1=PF01   F2=SPLIT   F3=END     F4=RETURN   F5=RFIND   F6=RCHANGE
F7=UP     F8=DOWN    F9=SWAP   F10=LEFT   F11=RIGHT  F12=RETRIEVE

MA a                                           06/016
```

- Access and manage ClearCase elements in distributed repositories from ISPF
- TSO users can use ClearCase from a familiar environment
- Work locally from ISPF with ClearCase and UCM commands



ClearCase z/OS Remote Build



z/OS builds with RDz and ClearCase Remote Build

The screenshot displays the IBM Rational Developer for System z interface. The main editor window shows the source code for 'MADLO2D.CBL' with the following content:

```

PROCESS NODINAM,OPT,CODEPAGE(1140),NSYMBOL(NATIONAL),CICS
PROCESS ARITH(EXTEND)
*****
*****
*****
Web Services for CICS TS 3.x Converter Driver
*****
*****
IDENTIFICATION DIVISION.
PROGRAM-ID. 'MADLO2D'.
AUTHOR. WD42.
DATE-WRITTEN. 6/19/07 7:00 AM.
    
```

The 'Properties for CC-Remote-Build' dialog box is open, showing the following configuration:

- Name: CC-Remote-Build
- Connection: CC-view
- Build Invocation (e.g. 'gmake'): "C:\Program Files\Rational\ClearCase\bin\rcbuild.exe"
- Working Directory: Y:\MadridComps\MadridDemo
- Arguments: -h demomvs.demopkg.ibm.com@3606 -b COMP-ft COMP.BCL -> USR=DNET471 -> MBR=MADLO2
- Project: Madrid Demo

The Command Shell - Running window shows the following output:

```

Y:\MadridComps\MadridDemo>
cd Y:\MadridComps\MadridDemo

08/09/15 09:38:53 (c) Copyright, IBM Corp. 2001
Copyright (c) 2002 Rational Software Corporation
08/09/15 09:39:00 *** Success ***
08/09/15 09:39:01
RCCI-003
Program Name : 'IGYCRCTL'.
PARM       : 'EXIT(ADEXIT(ELAXNGUX)),&DATA,LIB,TEST(NONE,SYM,SEP),LIST,FLAG(I,
RCCI-004
The MVS step 'COMP' return code is '000000'.
08/09/15 09:39:01 Message files from build:
08/09/15 09:39:01 1:COMP.SYSPRINT
08/09/15 09:39:02 *-----
    
```

The Command Shell - Command window shows the following command:

```

Command "C:\Program Files\Rational\ClearCase\bin\rcbuild.exe" -h demomvs.demopkg.ibm.com@3606 -b
    
```