Innovate2011
The Rational Software Conference
11th and 12th of October
Let's build a smarter planet.

# Accelerate and Modernise Application Development and Reuse on IBM i

**Andrew Ireland**
**Binary Computer Services – Director**
**andrew.ireland@binarycomputer.co.uk**

**01923 816015**

# Agenda for Accelerate and Modernise Application Development and Reuse on IBM i

- Update of iSeries Development Environments (25 mins)
- Development tools in action (25 mins)
- Tea/Coffee
- Development tools in action ..continue (20 mins)
- Overview of Enterprise Modernisation Options (20 mins)
- Enterprise Modernisation in Action (45 mins)
- Question
- 17:00 - finish

# Binary Computer Services

## Focus on Enterprise Modernisation

- Modernising Development Environments
- Application Modernisation
- Development Lifecycle
- Beta Tester for IBM
- 30 Years in IBM Midrange

## Successfully UK Projects Covering

- HATS
- Building RPG Web Services
- Migrating customers from PDM to RDp
- EGL
- RTC for Power Server
- DB2 Web Query

## Strong Partner Network

- Delivering Complete Solutions
- iCommunity co-founder
- Official IBM Trainer

# Update of iSeries Development Environments

# Who are Rational

**Restructure Development Tools 3 years ago**
**- All development tools and compilers for all IBM platforms**
**- Testing and management tools for application developers**

**Compilers**

i: COBOL, RPG, C/C++, AIX: COBOL, C/C++, FORTRAN, PL/1

**Development tools**

i: ADTS (stabilized green screen tools)
i: Desktop tools (RDp, RDi SOA, RAD)
AIX: Vi and emacs (command line tools)

**Application LifeCycle Management Tools (ALM)**

i: Rational Team Concert for IBM Power, AIX: Buildforge, ClearCase, ClearQuest

**Quality Management Tools**

- Manual Tester, Functional Tester, Performance Tester, etc

**Modernization Tools**

- HATS, OA RPG

Rational software

# Yesterdays AS/400 – IT Manager’s Challenge

- Most Common System i Development Tool is PDM
  - Released 22 years ago
  - iSeries customers have investing in new Hardware but not in development tools to take advantage of it.

- ADTS Tools have been Stabilised
  - PDM, SEU, SDA etc
  - Will not support new features is Compilers or OS
  - WDSC is withdrawn at V6.1
  - No Support for Web Development

- New Licensing Model at V6.1
  - User Based
  - Their may be an upgrade cost for ADTS & Compilers

- How can I maximise Today’s System i
  - Attract the next generation of developers
  - Looking to increase development productivity
  - Reuse existing application assets in a SOA world

PowerVM™

AIX®

for Business

Linux®

# New Packaging for WDS – V5R4 vs. 7.1 and 6.1

## WDS V5R4

**Everything is included in V5R4, Unlimited licenses**

- ILE RPG
- S/36 Compatible RPGII
- S/38 Compatible RPGII
- RPG/400
- ILE RPG *PRV Compiler
- ILE COBOL
- S/36 Compatible COBOL
- S/38 Compatible COBOL
- OPM COBOL
- ILE COBOL *PRV Compiler
- ILE C
- ILE C++
- IXLC for C/C++
- ADTS
- **WDSC** (this is removed from the new version of WDS/RDS)

## RDS 7.1, WDS 6.1

**These features are sold separately in 7.1 and 6.1 by named user**

### Feature: ILE Compilers

- ILE RPG
- ILE RPG *PRV Compiler
- ILE COBOL
- ILE COBOL *PRV Compiler
- ILE C
- ILE C++
- IXLC for C/C++

### Feature: Heritage Compilers

- S/36 Compatible RPG II
- S/38 Compatible RPG II
- RPG/400 (RPG III)_
- S/36 Compatible COBOL
- S/38 Compatible COBOL
- OPM COBOL

### Feature: ADTS

- ADTS

**For pc-based tools, customers will need to order RD Power or RDi SOA instead**

# Upgrade Entitlement

## 5722-WDS to 5770-WDS 7.1 or to 5761- WDS 6.1

**Users currently on IBM i Software Subscription (SWMA)**

**Includes ILE Compilers, Heritage Compilers, ADTS**

**Does not include Rational Developer for Power**

**SW Tier level entitled to the number of users specified**

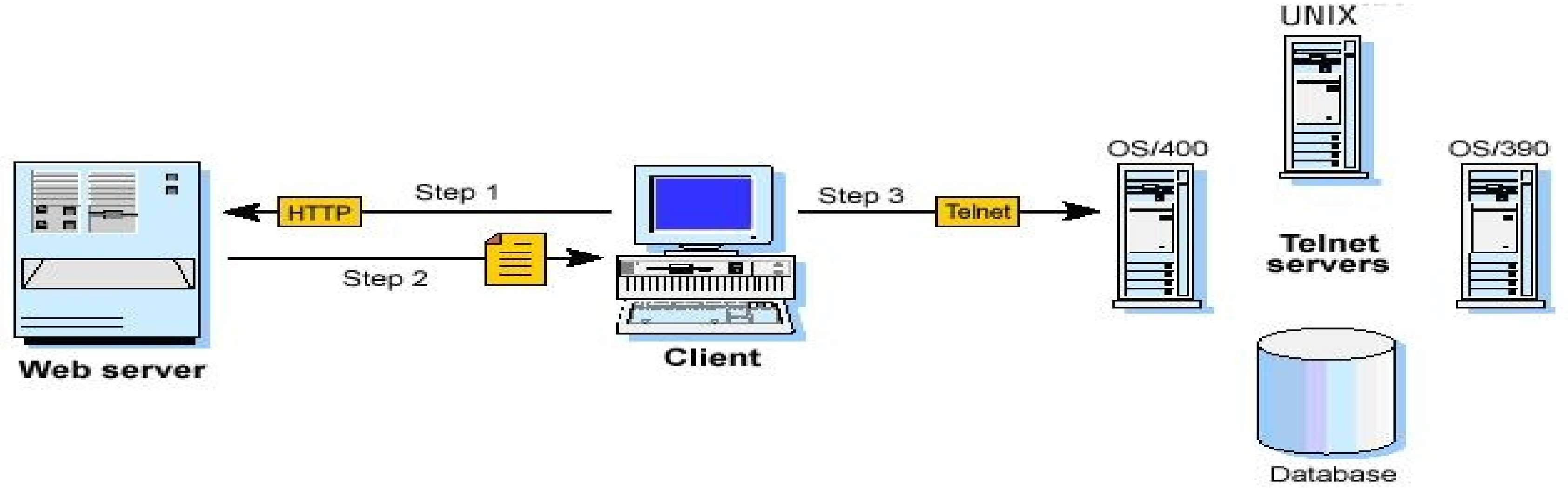
**Additional users are charged per user**

See Product Announcement for detailed ordering information

WDSc 7.x is licensed for unlimited users based on 5722-WDS V5R4 SWMA

| SW Tier | Maximum Entitled Users |
|---|---|
| **P05** | **10** |
| **P10** | **15** |
| **P20** | **25** |
| **P30** | **40** |
| **P40** | **60** |
| **P50** | **80** |
| **P60** | **100** |

# Host On-Demand- Browser-based Terminal Emulation


Web server
HTTP
Step 1
Step 2
Client
Step 3
Telnet
OS/400
UNIX
OS/390
Telnet servers
Database

Extends host application reach to mobile, extranet, and internet

Reduces I/T costs through centralized install, deployment, and administration

Supports client and server platforms of choice

Requires no middle-tier runtime server

Robust security features

# Rational Strategic Platforms

- Eclipse - Development Environment
  - - RAD, RDp, RDi SOA, RBD
  - - RPG Café, EGL Café

- JAZZ Server - Development Life Cycle Management
  - - RTC, Requirements Composer, Rational Insight, Quality Manager
  - - Jazz.net

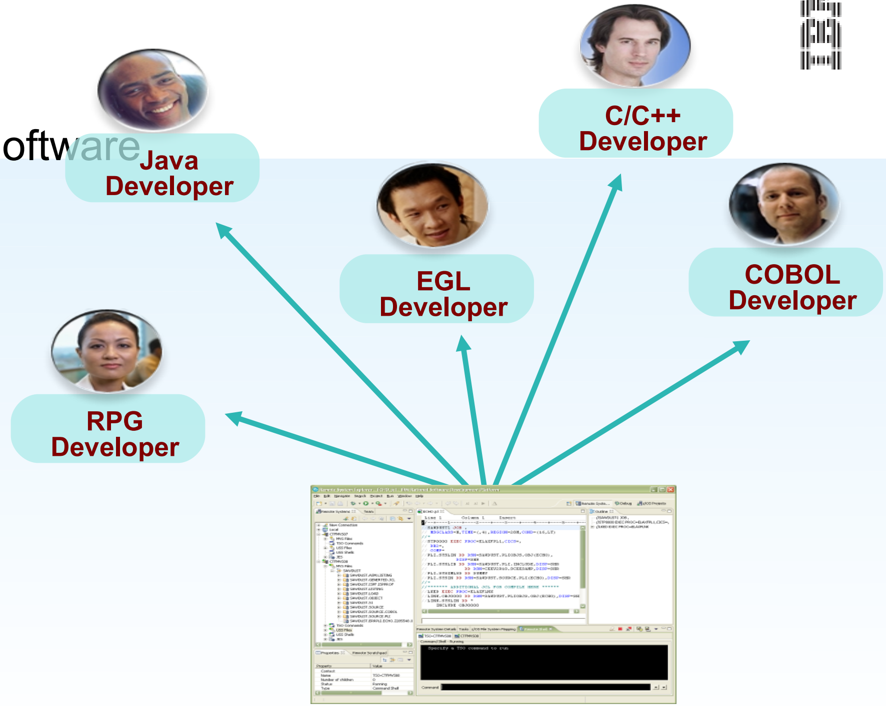
# Rational Developer for Power family - Summary

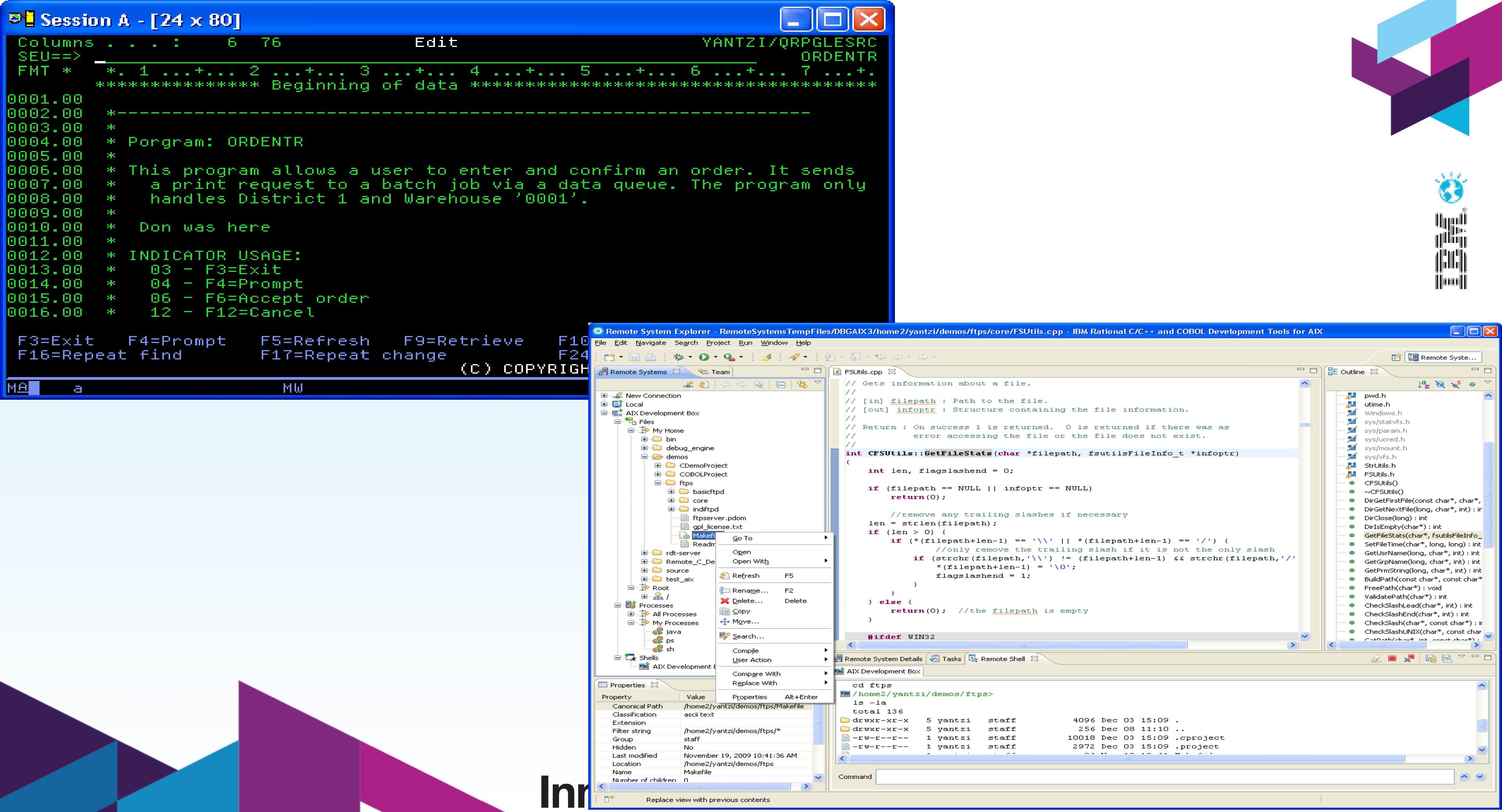
The IBM Rational Developer Family of products includes integrated development environments for the major development workloads on AIX and IBM i.

- Rational Developer for Power Systems Software
  - C/C++ development tools for AIX
  - COBOL development tools for AIX
  - RPG and COBOL development tools for IBM i
- Rational Application Developer for WebSphere Software
  - Java & Java Enterprise Edition tools
  - Tools for Web, Web Services, & SOA

Ṕ designers and developers

- Rational Business Developer
  - EGL development tools
  - For Business Developers
  - Tools for Web, Web Services, & SOA designers and developers


C/C++ Developer
Java Developer
EGL Developer
COBOL Developer
RPG Developer


Session A - [24 x 80]

```
 Columns . . . :     6  76           Edit                     YANTZI/QRPGLESRC
 SEU==> _                                                               ORDENTR
 FMT *    *. 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+.
        *************** Beginning of data ************************************
0001.00
0002.00  *--------------------------------------------------------------
0003.00  *
0004.00  * Porgram: ORDENTR
0005.00  *
0006.00  * This program allows a user to enter and confirm an order. It sends
0007.00  *   a print request to a batch job via a data queue. The program only
0008.00  *   handles District 1 and Warehouse '0001'.
0009.00  *
0010.00  *  Don was here
0011.00  *
0012.00  * INDICATOR USAGE:
0013.00  *    03 - F3=Exit
0014.00  *    04 - F4=Prompt
0015.00  *    06 - F6=Accept order
0016.00  *    12 - F12=Cancel

 F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F10
 F16=Repeat find         F17=Repeat change            F24
                                          (C) COPYRIGH
 MA       a                  MW
```

Remote System Explorer - RemoteSystemsTempFiles/DBGAIX3/home2/yantzi/demos/ftps/core/FSUtils.cpp - IBM Rational C/C++ and COBOL Development Tools for AIX
File Edit Navigate Search Project Run Window Help
Remote Syste...
Remote Systems
Team
New Connection
Local
AIX Development Box
Files
My Home
bin
debug_engine
demos
CDemoProject
COBOLProject
ftps
basicftpd
core
indiftpd
ftpserver.pdom
gpl_license.txt
Makefi
Readm
rdt-server
Remote_C_De
source
test_aix
Root
/
Processes
All Processes
My Processes
java
ps
sh
Shells
AIX Development E
Go To
Open
Open With
Refresh F5
Rename... F2
Delete... Delete
Copy
Move...
Search...
Compile
User Action
Compare With
Replace With
Properties Alt+Enter
FSUtils.cpp
Outline
pwd.h
utime.h
Windows.h
sys/statvfs.h
sys/param.h
sys/ucred.h
sys/mount.h
sys/vfs.h
StrUtils.h
FSUtils.h
CFSUtils()
~CFSUtils()
DirGetFirstFile(const char*, char*,
DirGetNextFile(long, char*, int) : ir
DirClose(long) : int
DirIsEmpty(char*) : int
GetFileStats(char*, fsutilsFileInfo_
SetFileTime(char*, long, long) : int
GetUsrName(long, char*, int) : int
GetGrpName(long, char*, int) : int
GetPrmString(long, char*, int) : int
BuildPath(const char*, const char*
FreePath(char*) : void
ValidatePath(char*) : int
CheckSlashLead(char*, int) : int
CheckSlashEnd(char*, int) : int
CheckSlash(char*, const char*) : i
CheckSlashUNIX(char*, const char
Remote System Details
Tasks
Remote Shell
AIX Development Box
Command
Replace view with previous contents

```
// Gets information about a file.
//
// [in] filepath : Path to the file.
// [out] infoptr : Structure containing the file information.
//
// Return : On success 1 is returned.  0 is returned if there was as
//          error accessing the file or the file does not exist.
//
int CFSUtils::GetFileStats(char *filepath, fsutilsFileInfo_t *infoptr)
{
    int len, flagslashend = 0;

    if (filepath == NULL || infoptr == NULL)
        return(0);

        //remove any trailing slashes if necessary
    len = strlen(filepath);
    if (len > 0) {
        if (*(filepath+len-1) == '\\' || *(filepath+len-1) == '/') {
                //only remove the trailing slash if it is not the only slash
            if (strchr(filepath,'\\') != (filepath+len-1) && strchr(filepath,'/'
                *(filepath+len-1) = '\0';
                flagslashend = 1;
            }
        }
    } else {
        return(0);  //the filepath is empty
    }

    #ifdef WIN32
```

```
 cd ftps
/home2/yantzi/demos/ftps>
 ls -la
 total 136
drwxr-xr-x   5 yantzi   staff          4096 Dec 03 15:09 .
drwxr-xr-x   5 yantzi   staff           256 Dec 08 11:10 ..
-rw-r--r--   1 yantzi   staff         10018 Dec 03 15:09 .cproject
-rw-r--r--   1 yantzi   staff          2972 Dec 03 15:09 .project
```

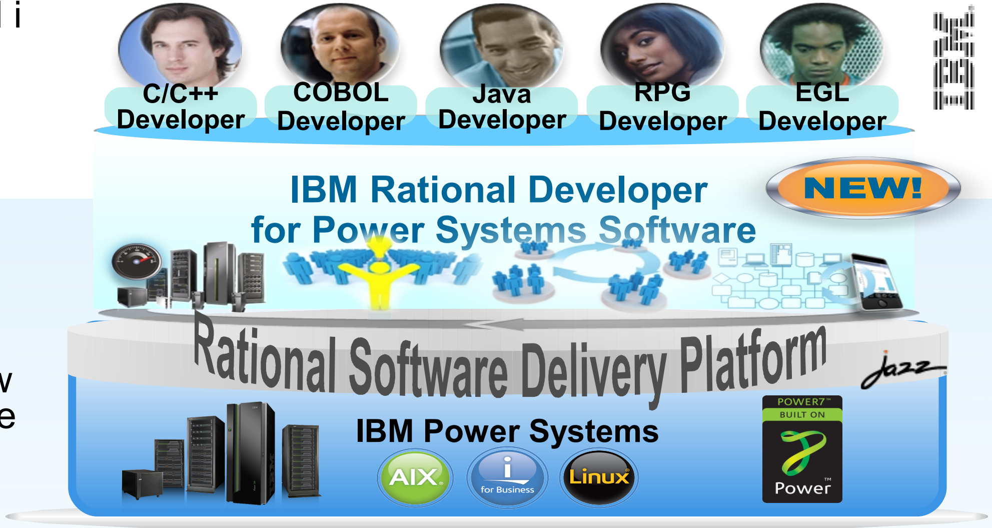
Properties

| Property | Value |
|---|---|
| Canonical Path | /home2/yantzi/demos/ftps/Makefile |
| Classification | ascii text |
| Extension | |
| Filter string | /home2/yantzi/demos/ftps/* |
| Group | staff |
| Hidden | No |
| Last modified | November 19, 2009 10:41:36 AM |
| Location | /home2/yantzi/demos/ftps |
| Name | Makefile |
| Number of children | 0 |

# Rational Developer for Power Systems Software

## *Integrated tools for Power operating systems and programming languages*

- Remote development environment supporting edit, compile, and debug of native AIX, Linux and IBM i applications on Power Systems, from a local Windows or Linux workstation
- One integrated solution – supporting multiple environments *
  - C/C++ and COBOL on AIX
  - RPG, COBOL, CL, C/C++, DDS on IBM I
  - Java on AIX and IBM i
  - C/C++ on Linux
- It also allows organisations to attract and retain new talent, many of whom are already familiar with the Eclipse workbench
- Lower development and application maintenance costs – do more with less!


C/C++ Developer
COBOL Developer
Java Developer
RPG Developer
EGL Developer
IBM Rational Developer for Power Systems Software
NEW!
Rational Software Delivery Platform
Jazz
IBM Power Systems
AIX
i for Business
Linux
POWER7 BUILT ON
Power

*Creating projects and files was easy as I had a prior knowledge on the Eclipse-based tools. COBOL edit features made the application programming easier and reduced the developer's work effort"*

*Major AP IT Development Company*

*Asia*

# Rational Developer for Power Systems Software **(RDp)**

***Modern Developer Tools for the IBM i***

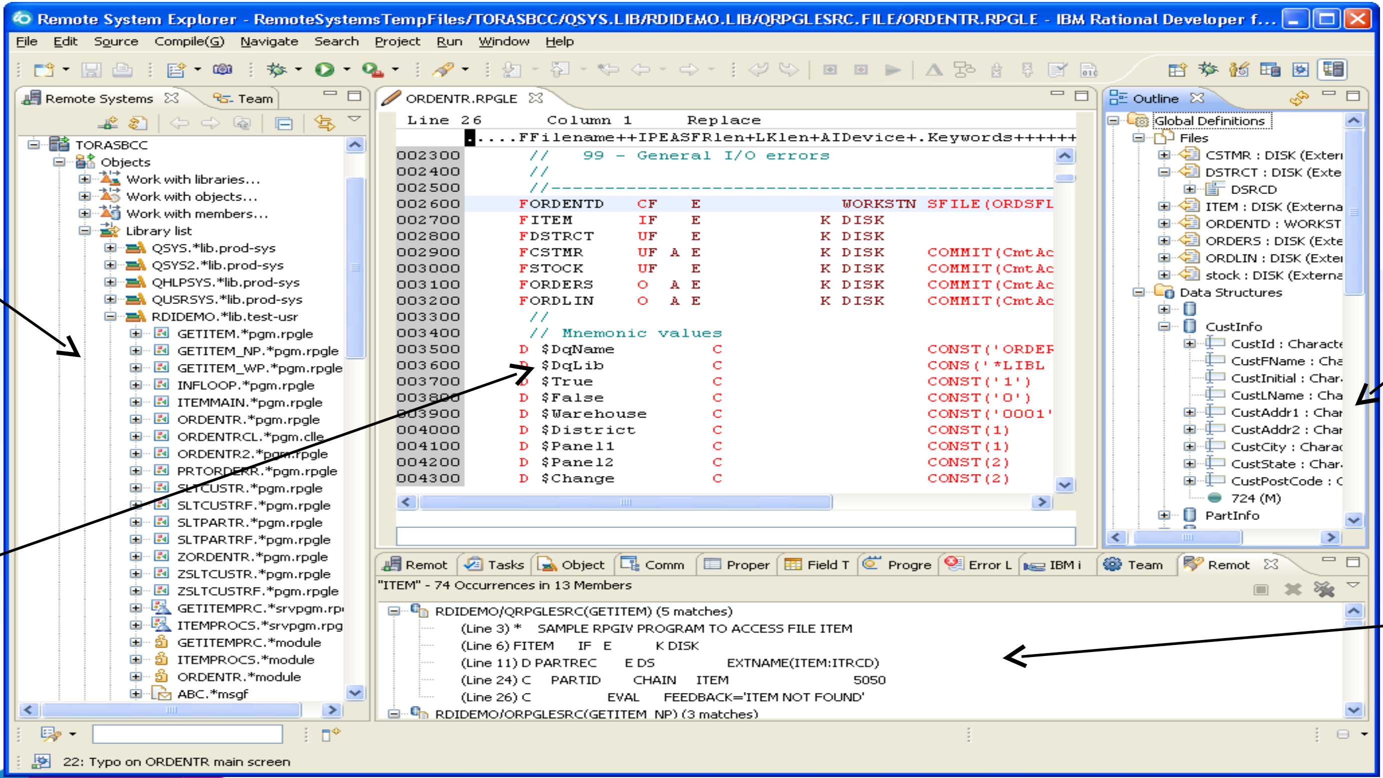
List of programmes and files

Outline view (usage of fields, file indicators, subroutines etc)

RPG Source

Additional Property information

(Debugger, tables compiles etc,)



Remote System Explorer - RemoteSystemsTempFiles/TORASBCC/QSYS.LIB/RDIDEMO.LIB/QRPGLESRC.FILE/ORDENTR.RPGLE - IBM Rational Developer f...
File Edit Source Compile(G) Navigate Search Project Run Window Help
Remote Systems
Team
TORASBCC
Objects
Work with libraries...
Work with objects...
Work with members...
Library list
QSYS.*lib.prod-sys
QSYS2.*lib.prod-sys
QHLPSYS.*lib.prod-sys
QUSRSYS.*lib.prod-sys
RDIDEMO.*lib.test-usr
GETITEM.*pgm.rpgle
GETITEM_NP.*pgm.rpgle
GETITEM_WP.*pgm.rpgle
INFLOOP.*pgm.rpgle
ITEMMAIN.*pgm.rpgle
ORDENTR.*pgm.rpgle
ORDENTRCL.*pgm.clle
ORDENTR2.*pgm.rpgle
PRTORDERR.*pgm.rpgle
SLTCUSTR.*pgm.rpgle
SLTCUSTRF.*pgm.rpgle
SLTPARTR.*pgm.rpgle
SLTPARTRF.*pgm.rpgle
ZORDENTR.*pgm.rpgle
ZSLTCUSTR.*pgm.rpgle
ZSLTCUSTRF.*pgm.rpgle
GETITEMPRC.*srvpgm.rpı
ITEMPROCS.*srvpgm.rpg
GETITEMPRC.*module
ITEMPROCS.*module
ORDENTR.*module
ABC.*msgf
ORDENTR.RPGLE
Outline
Global Definitions
Files
CSTMR : DISK (Exteı
DSTRCT : DISK (Exte
DSRCD
ITEM : DISK (Externa
ORDENTD : WORKST
ORDERS : DISK (Exte
ORDLIN : DISK (Exteı
stock : DISK (Externa
Data Structures
CustInfo
CustId : Characte
CustFName : Cha
CustInitial : Char.
CustLName : Cha
CustAddr1 : Char
CustAddr2 : Char
CustCity : Charac
CustState : Char.
CustPostCode : C
724 (M)
PartInfo
Remot
Tasks
Object
Comm
Proper
Field T
Progre
Error L
IBM i
Team
Remot

```
Line 26       Column 1       Replace
 ....FFilename++IPEASFRlen+LKlen+AIDevice+.Keywords++++++
002300      //    99 - General I/O errors
002400      //
002500      //--------------------------------------------------
002600     FORDENTD   CF   E                 WORKSTN SFILE(ORDSFL
002700     FITEM      IF   E               K DISK
002800     FDSTRCT    UF   E               K DISK
002900     FCSTMR     UF A E               K DISK    COMMIT(CmtAc
003000     FSTOCK     UF   E               K DISK    COMMIT(CmtAc
003100     FORDERS    O  A E               K DISK    COMMIT(CmtAc
003200     FORDLIN    O  A E               K DISK    COMMIT(CmtAc
003300      //
003400      // Mnemonic values
003500     D $DqName          C                      CONST('ORDEF
003600     D $DqLib           C                      CONS('*LIBL
003700     D $True            C                      CONST('1')
003800     D $False           C                      CONST('0')
003900     D $Warehouse       C                      CONST('0001'
004000     D $District        C                      CONST(1)
004100     D $Panel1          C                      CONST(1)
004200     D $Panel2          C                      CONST(2)
004300     D $Change          C                      CONST(2)
```

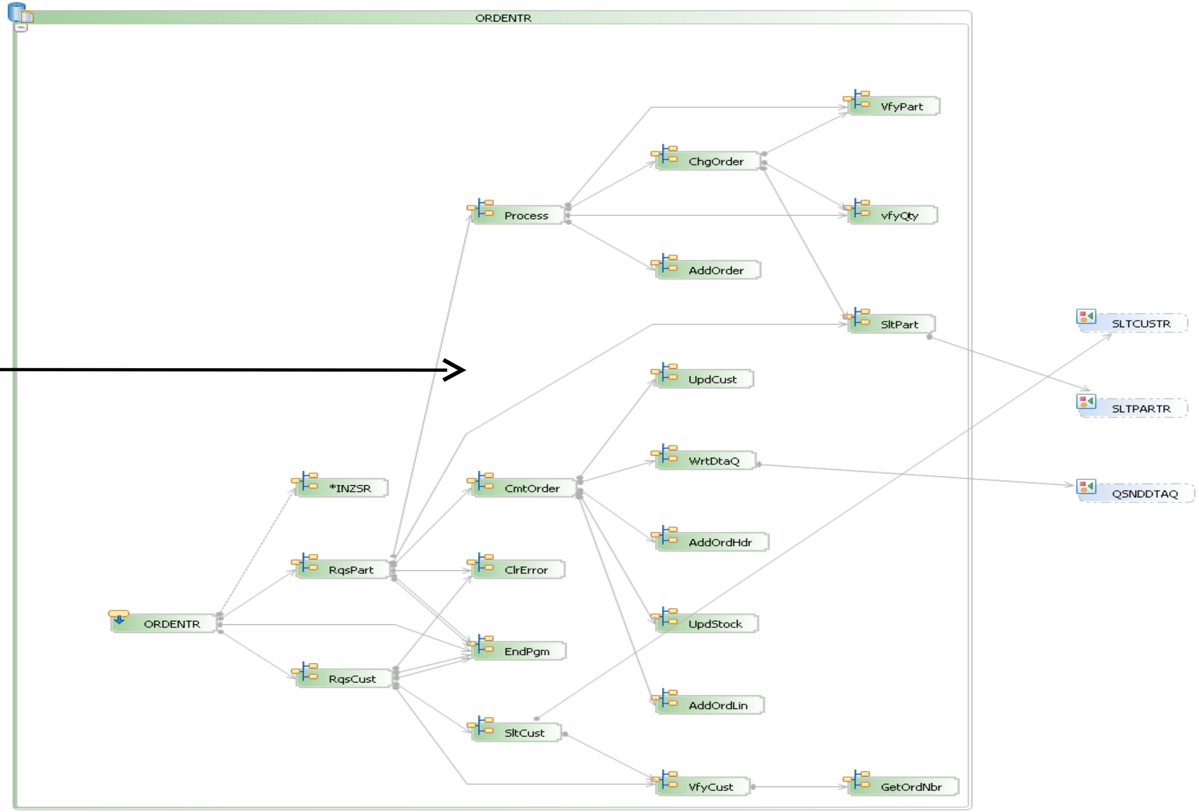
```
"ITEM" - 74 Occurrences in 13 Members
RDIDEMO/QRPGLESRC(GETITEM) (5 matches)
    (Line 3) *    SAMPLE RPGIV PROGRAM TO ACCESS FILE ITEM
    (Line 6) FITEM      IF   E          K DISK
    (Line 11) D PARTREC       E DS                 EXTNAME(ITEM:ITRCD)
    (Line 24) C     PARTID        CHAIN     ITEM                       5050
    (Line 26) C                   EVAL      FEEDBACK='ITEM NOT FOUND'
RDIDEMO/QRPGLESRC(GETITEM_NP) (3 matches)
```

22: Typo on ORDENTR main screen

Innovate2011

# Rational Developer for Power Systems Software **(RDp)**

***Modern Developer Tools for the IBM i***


ORDENTR
VfyPart
ChgOrder
vfyQty
Process
AddOrder
SltPart
SLTCUSTR
UpdCust
SLTPARTR
WrtDtaQ
QSNDDTAQ
*INZSR
CmtOrder
AddOrdHdr
RqsPart
ClrError
ORDENTR
UpdStock
EndPgm
RqsCust
AddOrdLin
SltCust
VfyCust
GetOrdNbr

External call programmes

Internal Subroutines

# Rational Developer for i for SOA Construction

## For customers who need to…

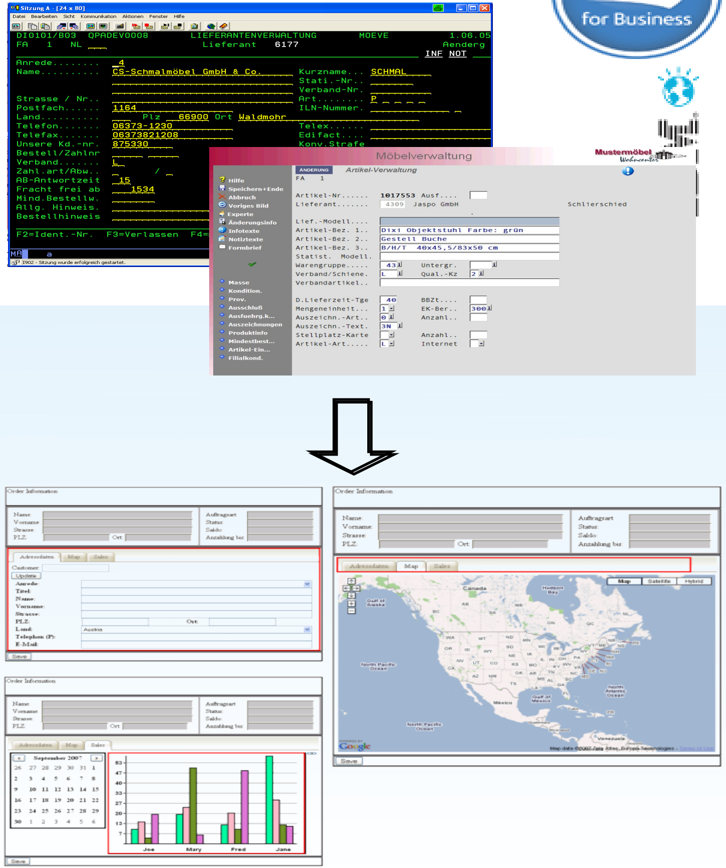
- Create rich Web 2.0 applications
- Provide Web and Web service interfaces to their native applications
- Write new business applications
- Who need to target multiple platforms

## Business Value

- Reduce development costs
- Simplify and accelerate deployment of SOA applications
- Reuse existing IT assets such as RPG and COBOL programs

## Key Capabilities

- Create rich Web 2.0 applications and Web services
- Leverage DB2 for i and existing RPG and COBOL programs
- **All the capabilities of Rational Developer for Power and Rational Business Developer**



```
DI0101/B03  QPADEV0008        LIEFERANTENVERWALTUNG        MOEVE          1.06.05
FA    1    NL ___               Lieferant    6177                          Aenderg
                                                                          INF NOT
Anrede........   _4
Name..........   CS-Schmalmöbel GmbH & Co.          Kurzname...  SCHMAL
                                                    Stati.-Nr..
                                                    Verband-Nr.
Strasse / Nr..                                      Art........  P
Postfach......   1164                               ILN-Nummer.
Land..........        Plz   66900 Ort Waldmohr
Telefon.......   06373-1230                         Telex......
Telefax.......   06373821208                        Edifact....
Unsere Kd.-nr.   875330                             Konv.Strafe
Bestell/Zahlnr
Verband.......   L
Zahl.art/Abw..   _      / _
AB-Antwortzeit   15
Fracht frei ab     1534
Mind.Bestellw.
Allg. Hinweis.
Bestellhinweis

F2=Ident.-Nr.   F3=Verlassen   F4=
```

I902 - Sitzung wurde erfolgreich gestartet.

Möbelverwaltung

ÄNDERUNG Artikel-Verwaltung

FA 1

Artikel-Nr...... 1017553 Ausf....

Lieferant....... 4309 Jaspo GmbH Schlierschied

Lief.-Modell....

Artikel-Bez. 1.. Dixi Objektstuhl Farbe: grün

Artikel-Bez. 2.. Gestell Buche

Artikel-Bez. 3.. B/H/T 40x45,5/83x50 cm

Statist. Modell.

Warengruppe..... 43 Untergr.

Verband/Schiene. L Qual.-Kz 2

Verbandartikel..

D.Lieferzeit-Tge 40 BBZt....

Mengeneinheit... 1 EK-Ber.. 300

Auszeichn.-Art.. 0 Anzahl..

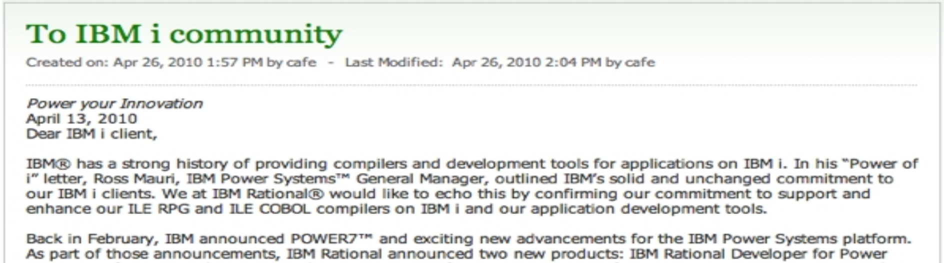
Auszeichn.-Text. 3N

Stellplatz-Karte Anzahl..

Artikel-Art..... L Internet

Sitzung A - [24 x 80]
Datei
Bearbeiten
Sicht
Kommunikation
Aktionen
Fenster
Hilfe
Mustermöbel Wohncenter
Hilfe
Speichern+Ende
Abbruch
Voriges Bild
Experte
Änderungsinfo
Infotexte
Notiztexte
Formbrief
Masse
Kondition.
Prov.
Ausschluß
Ausfuehrg.k...
Auszeichnungen
Produktinfo
Mindestbest...
Artikel-Ein...
Filialkond.
Order Information
Adressdaten
Map
Sales
Save
Canada
Google
Joe
Mary
Fred
Jane

# Commitment to RPG



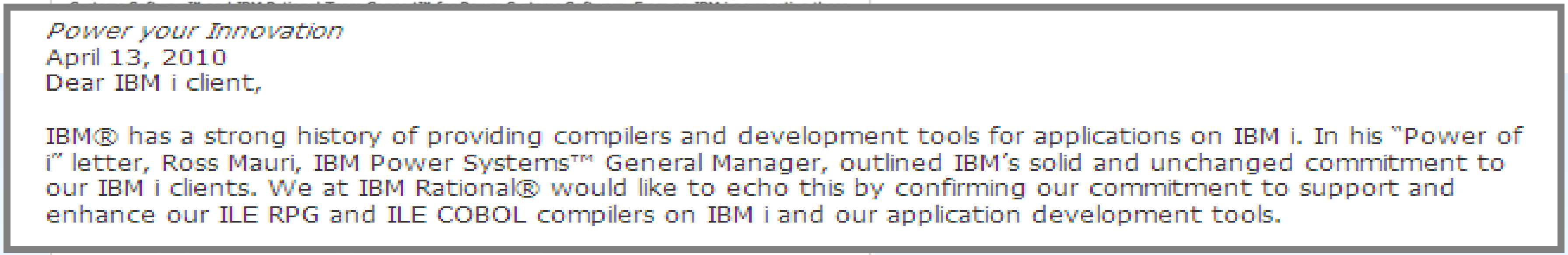
## To IBM i community

Created on: Apr 26, 2010 1:57 PM by cafe - Last Modified: Apr 26, 2010 2:04 PM by cafe

*Power your Innovation*
April 13, 2010
Dear IBM i client,

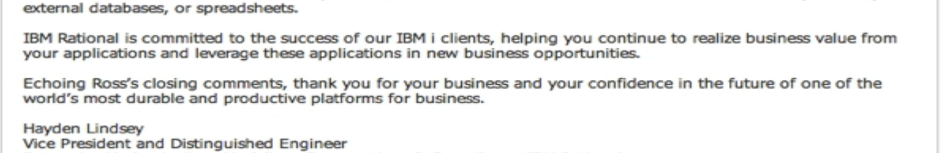
IBM® has a strong history of providing compilers and development tools for applications on IBM i. In his "Power of i" letter, Ross Mauri, IBM Power Systems™ General Manager, outlined IBM's solid and unchanged commitment to our IBM i clients. We at IBM Rational® would like to echo this by confirming our commitment to support and enhance our ILE RPG and ILE COBOL compilers on IBM i and our application development tools.

Back in February, IBM announced POWER7™ and exciting new advancements for the IBM Power Systems platform. As part of those announcements, IBM Rational announced two new products: IBM Rational Developer for Power



*Power your Innovation*
April 13, 2010
Dear IBM i client,

IBM® has a strong history of providing compilers and development tools for applications on IBM i. In his "Power of i" letter, Ross Mauri, IBM Power Systems™ General Manager, outlined IBM's solid and unchanged commitment to our IBM i clients. We at IBM Rational® would like to echo this by confirming our commitment to support and enhance our ILE RPG and ILE COBOL compilers on IBM i and our application development tools.



We are also excited about the release of Rational Open Access: RPG Edition, a new product that has the potential to transform the landscape of RPG development. Rational Open Access enables partners, ISVs, and clients to write handlers that extend ILE RPG's native I/O to access new devices and resources such as Web browsers, services, external databases, or spreadsheets.

IBM Rational is committed to the success of our IBM i clients, helping you continue to realize business value from your applications and leverage these applications in new business opportunities.

Echoing Ross's closing comments, thank you for your business and your confidence in the future of one of the world's most durable and productive platforms for business.

Hayden Lindsey
Vice President and Distinguished Engineer
Enterprise Modernization, Modeling, Construction, & Compilers – IBM Rational

**Hayden Lindsey**
Vice President and Distriguished Engineer
Enterprise Modernization, Modeling,
Construction and Compilers
IBM Rational

https://www.ibm.com/developerworks/mydeveloperworks/wikis/home?lang=en#/wiki/We13116a562db_467e_bcd4_882013aec57a/page/To%20IBM%20i%20community

# AAA Cooper Transportation

***Improves developer productivity and time to market***

Empower People

## The challenge

- Development efficiency for 12 green-screen programmers
- Company wanted to improve the time to market
- They wanted a “source control" solution that integrated IBM i and PHP platforms

## Business value

- Within a month they were seeing between 10 - 20% productivity improvements

## Solution

- Rational Developer for i
- Rational Team Concert for i

ACT AAA COOPER TRANSPORTATION

- Family owned trucking firm
- 78 terminals
- 4,000 employees

*“Within a month the use of the green screen development was almost completely gone, and our team was excited about working entirely on the new IDE.*
***…My advice, try it.  You will never go back.***”

- Bruce Collins
Manager of Systems Administration

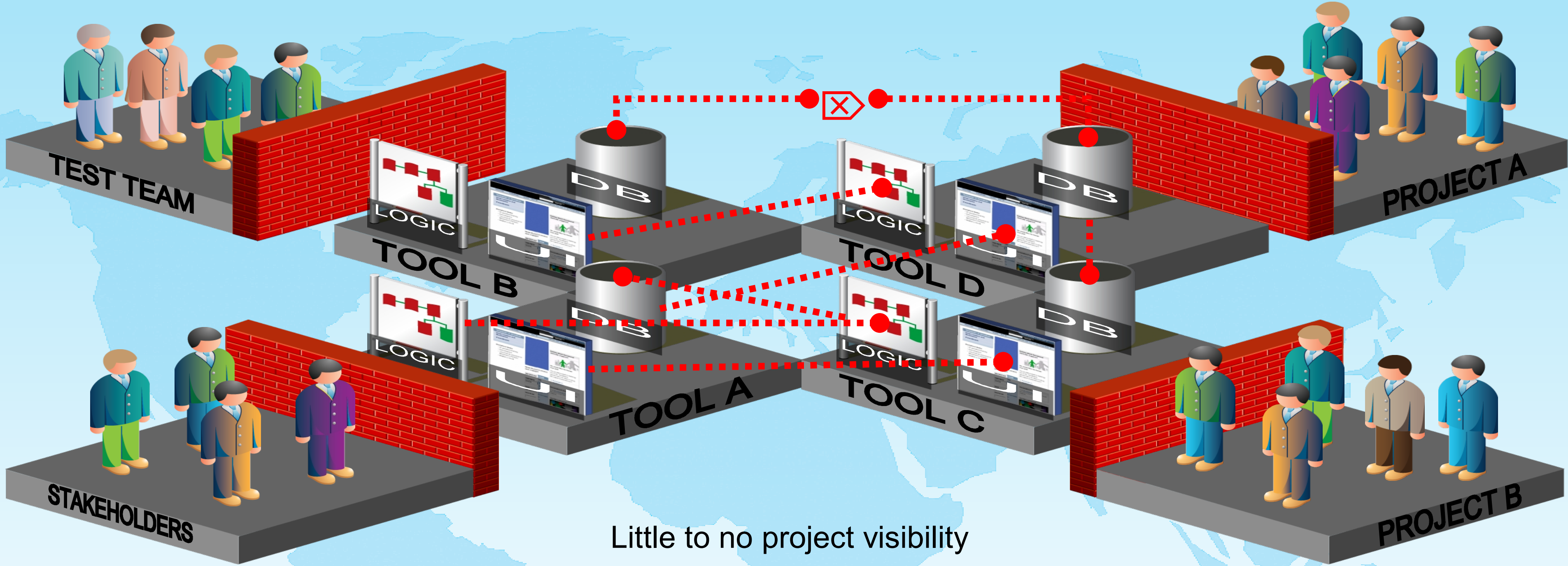
ACT AAA COOPER TRANSPORTATION

# Update of iSeries Development Environments

## - Managing Development lifecycle

# Traditional software delivery environments reinforce the problem

***Heterogeneous environments, distributed teams, multiple systems***


TEST TEAM
STAKEHOLDERS
PROJECT A
PROJECT B
TOOL A
TOOL B
TOOL C
TOOL D
LOGIC
LOGIC
LOGIC
LOGIC
DB
DB
DB
DB
UI
UI
UI
UI

Little to no project visibility

Data locked in proprietary APIs

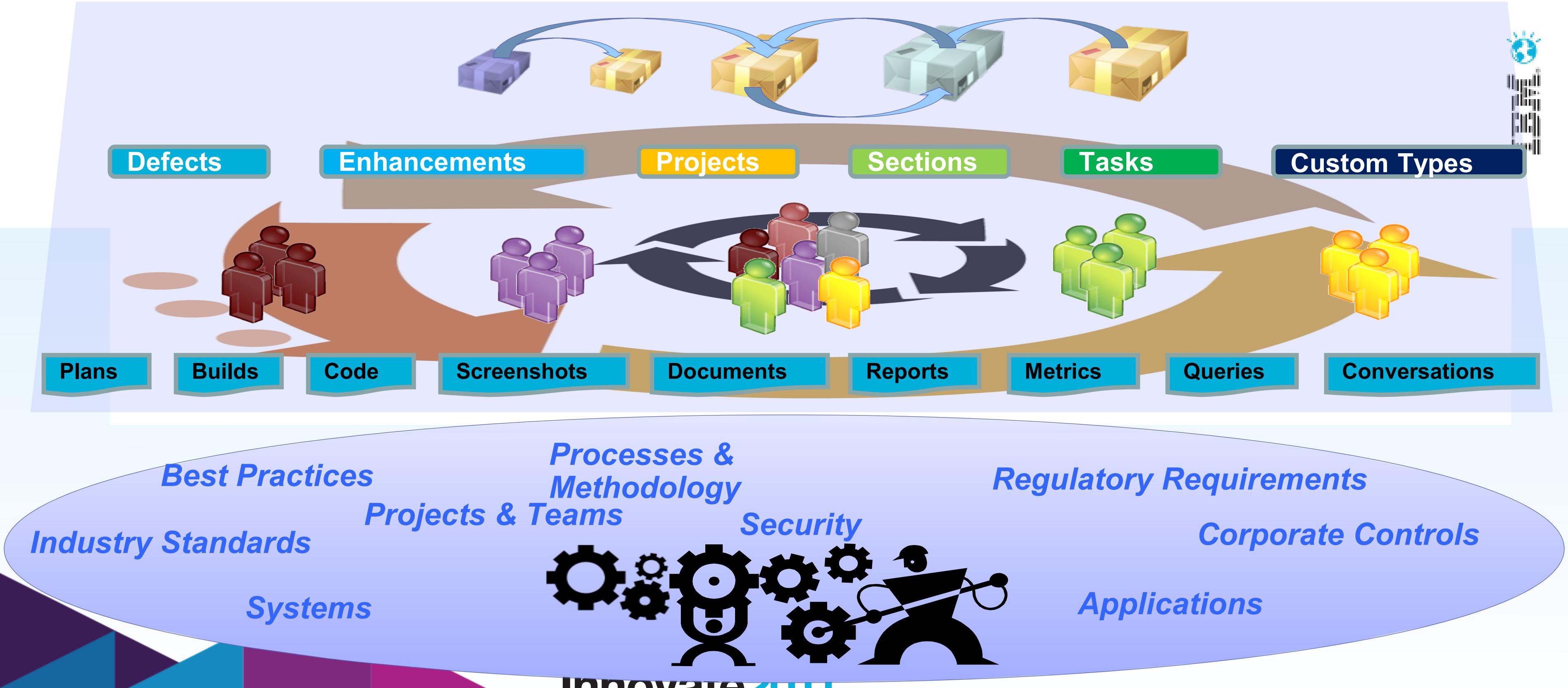
Poor process and workflow integration

High maintenance and administration costs

Inconsistency among products (UI, logic, storage)

# Application Development is Complex

*Collaborative Change Management is Fundamental for Effective Software Delivery*



**Defects**
**Enhancements**
**Projects**
**Sections**
**Tasks**
**Custom Types**

**Plans**
**Builds**
**Code**
**Screenshots**
**Documents**
**Reports**
**Metrics**
**Queries**
**Conversations**

***Best Practices***
***Processes & Methodology***
***Regulatory Requirements***
***Projects & Teams***
***Industry Standards***
***Security***
***Corporate Controls***
***Systems***
***Applications***

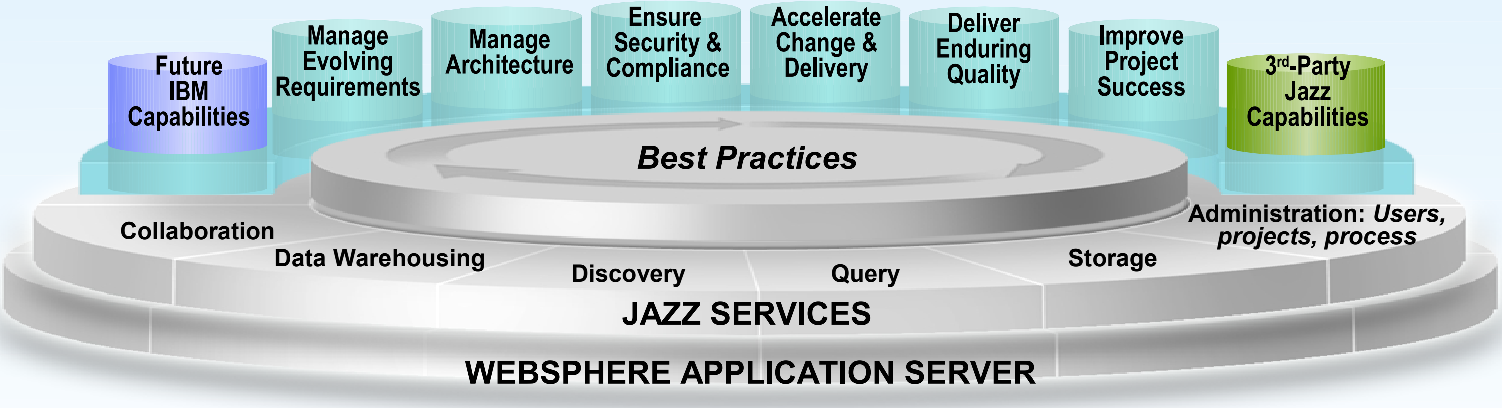
# A unified platform for complete Application Lifecycle Management

**Rational Insight**
Executive Reporting and Intelligence

**Rational Requirements Composer**
Business Expert Collaboration

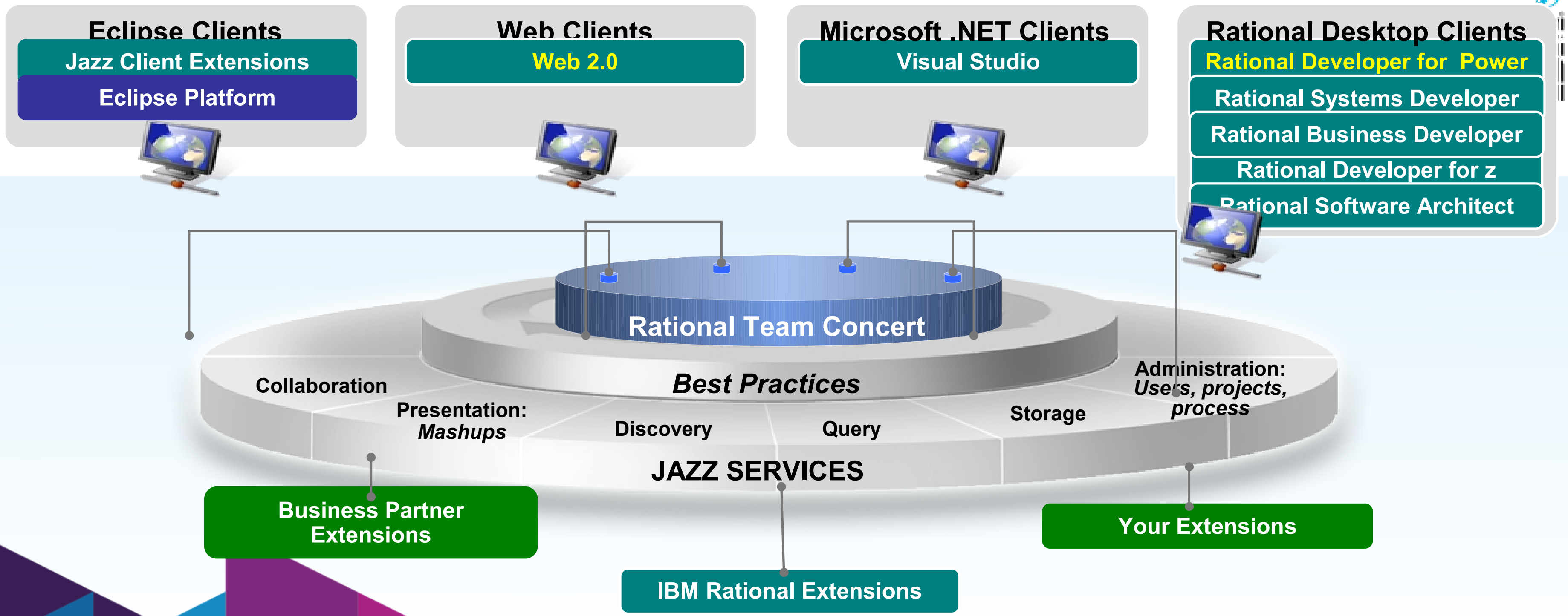
**Rational Team Concert**
Collaborative Application Lifecycle Management

**Rational Quality Manager**
Collaborative Business Driven Quality Management


Future IBM Capabilities
Manage Evolving Requirements
Manage Architecture
Ensure Security & Compliance
Accelerate Change & Delivery
Deliver Enduring Quality
Improve Project Success
3rd-Party Jazz Capabilities
Best Practices
Collaboration
Data Warehousing
Discovery
Query
Storage
Administration: Users, projects, process
JAZZ SERVICES
WEBSPHERE APPLICATION SERVER

# Rational Team Concert: An open, extensible architecture

*Supporting a broad range of desktop clients, IDE's and languages*



**Eclipse Clients**

- Jazz Client Extensions
- Eclipse Platform

**Web Clients**

- Web 2.0

**Microsoft .NET Clients**

- Visual Studio

**Rational Desktop Clients**

- Rational Developer for Power
- Rational Systems Developer
- Rational Business Developer
- Rational Developer for z
- Rational Software Architect

Rational Team Concert

*Best Practices*

Collaboration

Presentation: *Mashups*

Discovery

Query

Storage

Administration: *Users, projects, process*

JAZZ SERVICES

Business Partner Extensions

IBM Rational Extensions

Your Extensions

# Team Concert: An Overview

## 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

- Integrated stream management
- Component level baselines
- Server-based sandboxes
- Identifies component in streams and available baselines
- SVN, Git, CC bridge, connector

## Work Items

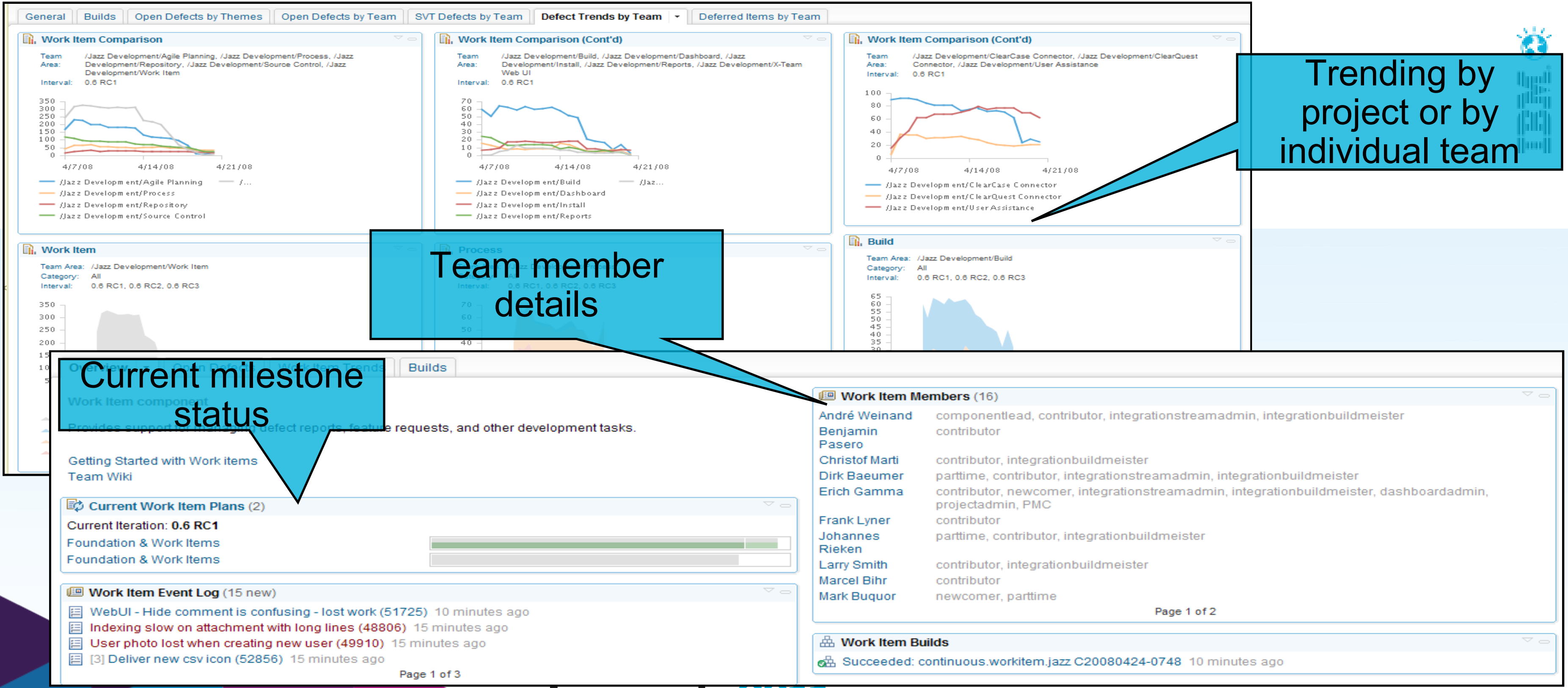
- Defects, enhancements and conversations
- View and share query results
- Support for approvals and discussions
- Query editor interface

## Build

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

- 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
- 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

# Dashboards and reporting


General
Builds
Open Defects by Themes
Open Defects by Team
SVT Defects by Team
Defect Trends by Team
Deferred Items by Team

**Work Item Comparison**

Team Area: /Jazz Development/Agile Planning, /Jazz Development/Process, /Jazz Development/Repository, /Jazz Development/Source Control, /Jazz Development/Work Item
Interval: 0.6 RC1

350
300
250
200
150
100
50
0
4/7/08
4/14/08
4/21/08
/Jazz Development/Agile Planning
/...
/Jazz Development/Process
/Jazz Development/Repository
/Jazz Development/Source Control

**Work Item Comparison (Cont'd)**

Team Area: /Jazz Development/Build, /Jazz Development/Dashboard, /Jazz Development/Install, /Jazz Development/Reports, /Jazz Development/X-Team Web UI
Interval: 0.6 RC1

70
60
50
40
30
20
10
0
4/7/08
4/14/08
4/21/08
/Jazz Development/Build
/Jaz...
/Jazz Development/Dashboard
/Jazz Development/Install
/Jazz Development/Reports

**Work Item Comparison (Cont'd)**

Team Area: /Jazz Development/ClearCase Connector, /Jazz Development/ClearQuest Connector, /Jazz Development/User Assistance
Interval: 0.6 RC1

100
80
60
40
20
0
4/7/08
4/14/08
4/21/08
/Jazz Development/ClearCase Connector
/Jazz Development/ClearQuest Connector
/Jazz Development/User Assistance

**Work Item**

Team Area: /Jazz Development/Work Item
Category: All
Interval: 0.6 RC1, 0.6 RC2, 0.6 RC3

350
300
250
200

**Process**

**Build**

Team Area: /Jazz Development/Build
Category: All
Interval: 0.6 RC1, 0.6 RC2, 0.6 RC3

65
60
55
50
45
40
35
Overview
Open Defects
Work Item Trends
Builds

Work Item component

Provides support for managing defect reports, feature requests, and other development tasks.

Getting Started with Work items
Team Wiki

**Current Work Item Plans** (2)

Current Iteration: **0.6 RC1**
Foundation & Work Items
Foundation & Work Items

**Work Item Event Log** (15 new)

WebUI - Hide comment is confusing - lost work (51725) 10 minutes ago
Indexing slow on attachment with long lines (48806) 15 minutes ago
User photo lost when creating new user (49910) 15 minutes ago
[3] Deliver new csv icon (52856) 15 minutes ago

Page 1 of 3

**Work Item Members** (16)

| | |
|---|---|
| André Weinand | componentlead, contributor, integrationstreamadmin, integrationbuildmeister |
| Benjamin Pasero | contributor |
| Christof Marti | contributor, integrationbuildmeister |
| Dirk Baeumer | parttime, contributor, integrationstreamadmin, integrationbuildmeister |
| Erich Gamma | contributor, newcomer, integrationstreamadmin, integrationbuildmeister, dashboardadmin, projectadmin, PMC |
| Frank Lyner | contributor |
| Johannes Rieken | parttime, contributor, integrationbuildmeister |
| Larry Smith | contributor, integrationbuildmeister |
| Marcel Bihr | contributor |
| Mark Buquor | newcomer, parttime |

Page 1 of 2

**Work Item Builds**

Succeeded: continuous.workitem.jazz C20080424-0748 10 minutes ago

Trending by project or by individual team

Team member details

Current milestone status

# UniCredit Example

***Improves developer productivity and testing efficiency for IBM i development***

Empower
People

## The challenge

- Modernize its development platform for core financial business software
- Development and testing efficiency for new and existing applications
- Make traditional development more attractive to younger programmers

UniCredit HVB Group

- One of Europe's largest financial services organizations
- 9,000 branch locations
- 40 million customers
- Employing over 170,000 people

## Business value

- Similar development environment for traditional and Web applications — attractive to younger developers
- Estimated **15%** increase in development and 10% increase in testing productivity

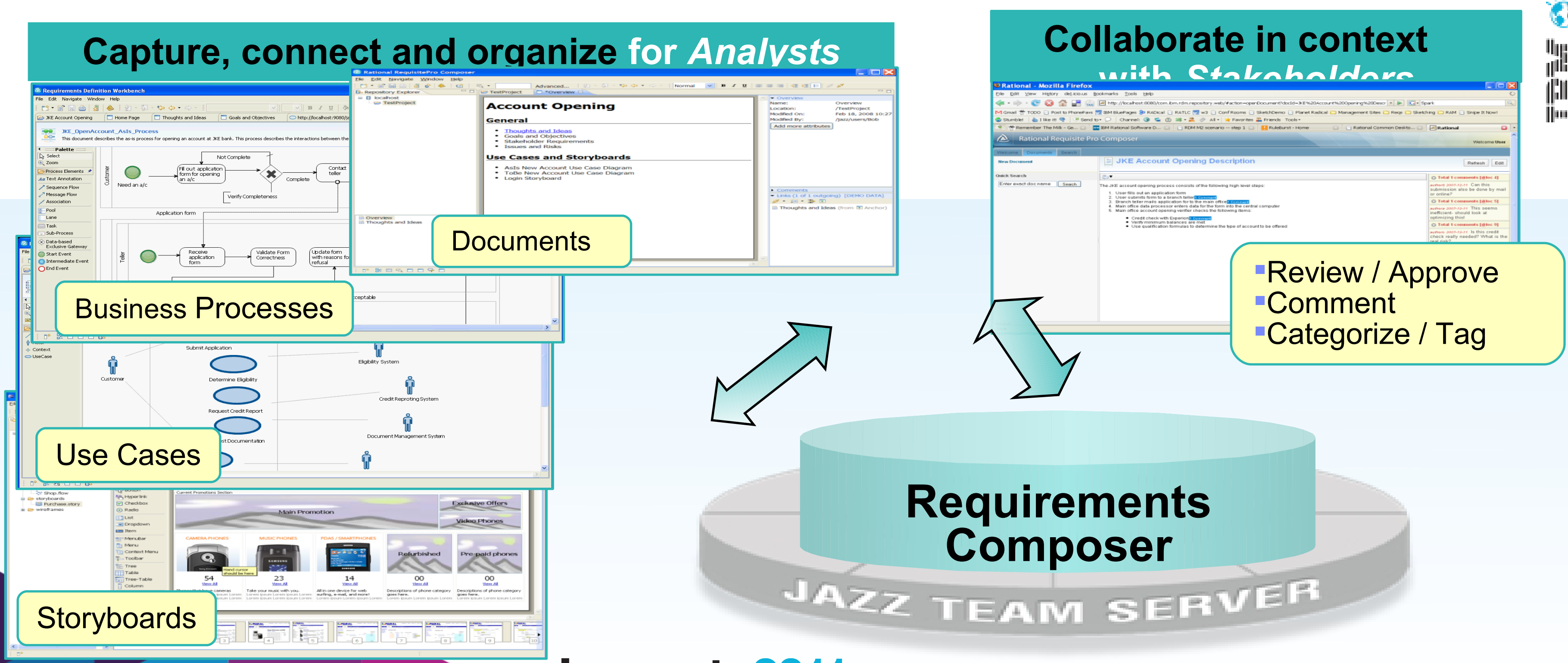
## The Solution

"Our approaches are consistent throughout the entire software development life cycle, from planning, definition and implementation to test and configuration"

> ***"We at UniCredit Leasing Austria have opted for the combined toolset of Rational Team Concert for IBM i and Rational Developer for IBM i because they provide us with the best support for modern approaches to software engineering for the IBM i platform."***
>
> \- Mircea-Dan Antonescu
> IT Leader, UniCredit Leasing Austria

# Rational Requirements Composer

*Collaborative requirements lifecycle management for agile processes*



**Capture, connect and organize** for *Analysts*

**Collaborate in context with *Stakeholders***

Documents

Business Processes

Use Cases

Storyboards

- Review / Approve
- Comment
- Categorize / Tag

**Requirements Composer**

JAZZ TEAM SERVER

**Account Opening**

**General**

- Thoughts and Ideas
- Goals and Objectives
- Stakeholder Requirements
- Issues and Risks

**Use Cases and Storyboards**

- AsIs New Account Use Case Diagram
- ToBe New Account Use Case Diagram
- Login Storyboard

JKE Account Opening Description

Requirements Definition Workbench
Rational RequisitePro Composer
Rational - Mozilla Firefox
JKE_OpenAccount_AsIs_Process
Palette
Need an a/c
Fill out application form for opening an a/c
Not Complete
Complete
Contact teller
Verify Completeness
Application form
Receive application form
Validate Form Correctness
Update form with reasons for refusal
Customer
Teller
Submit Application
Determine Eligibility
Request Credit Report
Eligibility System
Credit Reproting System
Document Management System
Main Promotion
Exclusive Offers
Video Phones
Refurbished
Pre-paid phones

# Summary

- Terminal Emulation
  - HOD – reduced deployment cost

- Development Tools
  - RDp – Increase RPG/Cobol productivity
  - RBD – Allows iSeries developers to start building web apps quickly
  - RDi SOA – cost effective bundle of RDp & RBD
  - RAD – Primary Java development platform

- Managing Development Lifecycle
  - JAZZ based – common platform across entire lifecycle
  - RTC – control and visibility of development cycle
  - RRC – Managing business requirements
  - RQM – Effective test management

# Development tools in action

# Overview of Enterprise Modernisation Options

# Rational Host Access Transformation Services

## *Achieve fast ROI with low risk*

Revitalize Applications

**Quickly and easily transform green screen applications to Web services, Web, Mobile, Portal and rich client interfaces**

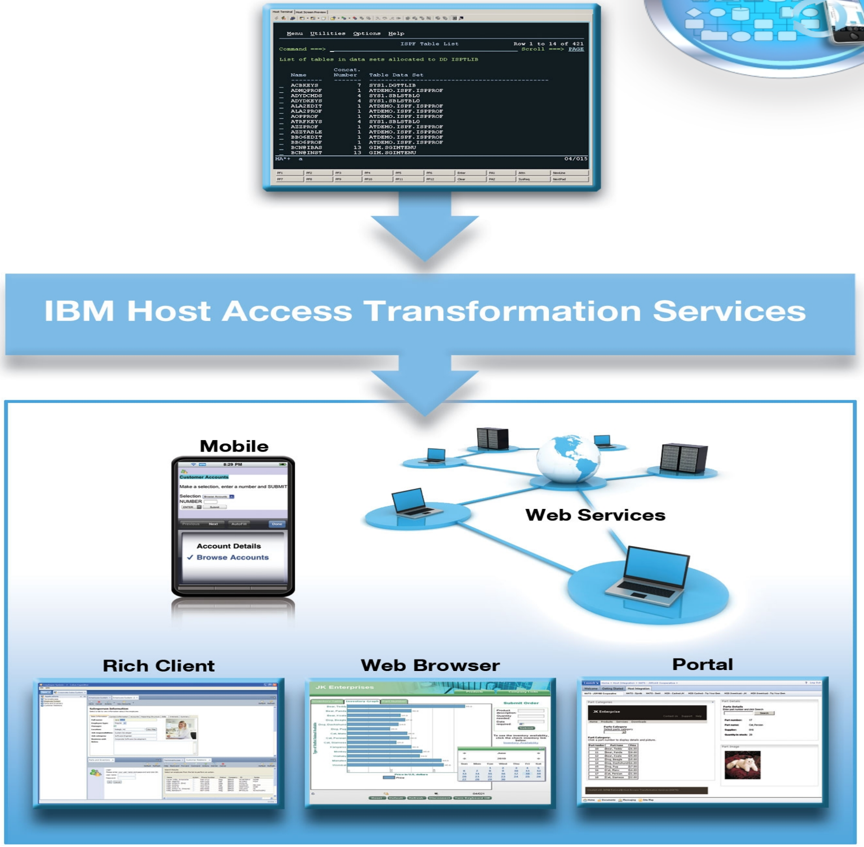
**Low cost and low risk: No need to rewrite or refactor existing applications and built on open, proven platforms and technologies**

**Increase productivity and reduce training costs and data entry errors with workflow and navigation improvements**

**Integrate host business processes and data with other web, portal, mobile, and rich client applications**

**Packaging:**

- **HATS for 5250 Applications on Multiplatforms**
- **HATS for 5250 Applications on IBM i**
- **HATS is also included as a component of Rational Host Integration Solution (HIS)**



```
  Menu  Utilities  Options  Help
 ------------------------------------------------------------------------------
                           ISPF Table List                   Row 1 to 14 of 421
 Command ===> ________________________________________________ Scroll ===> PAGE

 List of tables in data sets allocated to DD ISPTLIB

              Concat.
   Name       Number   Table Data Set
   --------   -------  --------------------------------------------
 _ ACBKEYS          7  SYS1.DGTTLIB
 _ ADMQPROF         1  ATDEMO.ISPF.ISPPROF
 _ ADYDCMDS         4  SYS1.SBLSTBL0
 _ ADYDKEYS         4  SYS1.SBLSTBL0
 _ ALA2EDIT         1  ATDEMO.ISPF.ISPPROF
 _ ALA2PROF         1  ATDEMO.ISPF.ISPPROF
 _ AOPPROF          1  ATDEMO.ISPF.ISPPROF
 _ ATRFKEYS         4  SYS1.SBLSTBL0
 _ AZZPROF          1  ATDEMO.ISPF.ISPPROF
 _ AZZTABLE         1  ATDEMO.ISPF.ISPPROF
 _ BBO6EDIT         1  ATDEMO.ISPF.ISPPROF
 _ BBO6PROF         1  ATDEMO.ISPF.ISPPROF
 _ BCN@IBAS        13  GIM.SGIMTENU
 _ BCN@INST        13  GIM.SGIMTENU
MA*+  a                                                                  04/015
```

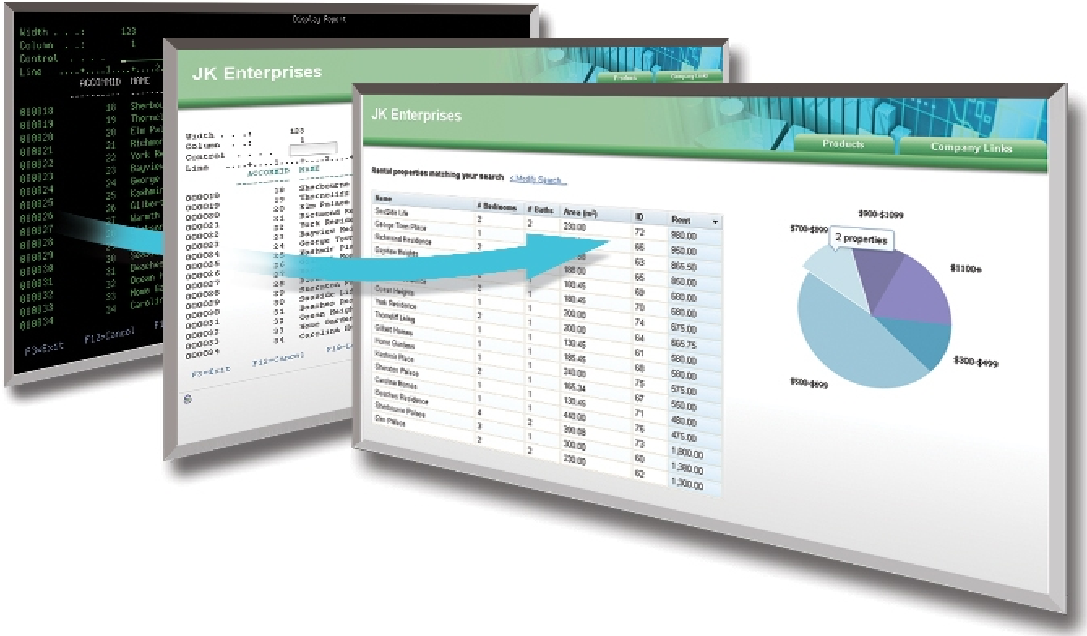
Host Terminal
Host Screen Preview
PF1
PF2
PF3
PF4
PF5
PF6
Enter
PA1
Attn
NewLine
PF7
PF8
PF9
PF10
PF11
PF12
Clear
PA2
SysReq
NextPad
IBM Host Access Transformation Services
Mobile
8:29 PM
Customer Accounts
Make a selection, enter a number and SUBMIT
Selection
Browse Accounts
NUMBER
ENTER
Submit
Previous
Next
AutoFill
Done
Account Details
✓ Browse Accounts
Web Services
Rich Client
Web Browser
JK Enterprises
Portal

# What’s new in HATS V8.0

## Web 2.0

- Dojo
- HATS Dojo widgets
- Transform for Dojo editing
- Dojo for IOs
- New templates
- RESTful web services
- JSR286 Portlet support
- iPad support
- Support for the latest runtimes
- Support for the latest development tools

And more….


JK Enterprises
JK Enterprises
Products
Company Links
Rental properties matching your search
2 properties
$900-$1099
$700-$899
$1100+
$300-$499
$500-$699

# Web 2.0: HATS Dojo widgets

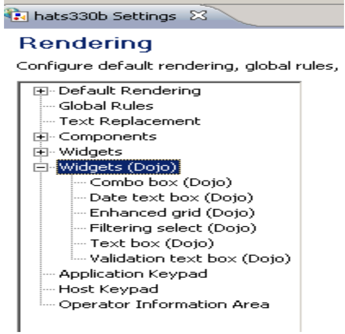
## New HATS Dojo widgets:

- Combo box
- Date Text box
- Enhanced Grid
- Sorting
- Drag and drop columns
- Filtering select
- Text box
- Validation text box

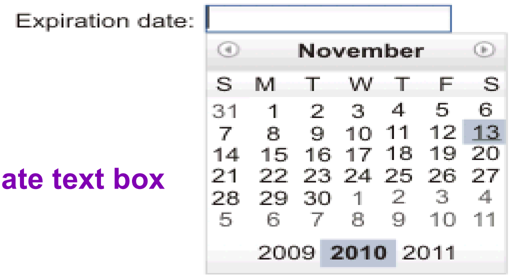
## Benefits:

- New, built-in UI transformation options
- No programming skills required
- Enhanced usability

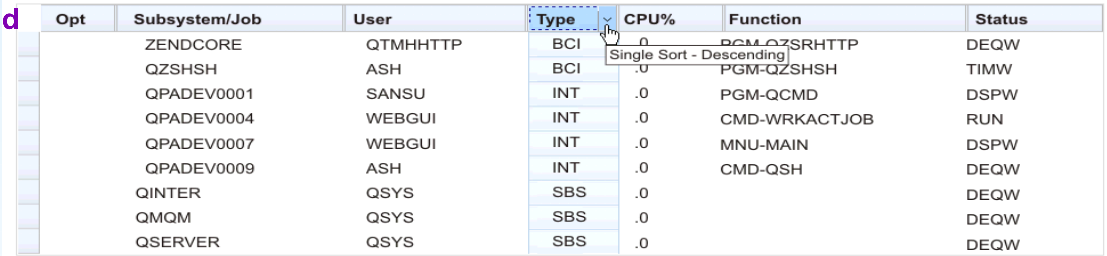
**New widgets**


hats330b Settings
Rendering
Configure default rendering, global rules,
Default Rendering
Global Rules
Text Replacement
Components
Widgets
Widgets (Dojo)
Combo box (Dojo)
Date text box (Dojo)
Enhanced grid (Dojo)
Filtering select (Dojo)
Text box (Dojo)
Validation text box (Dojo)
Application Keypad
Host Keypad
Operator Information Area

**Date text box**

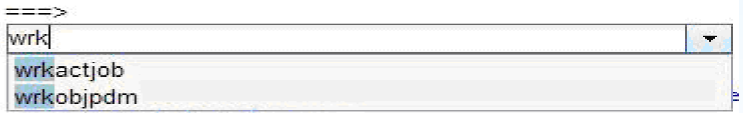

Expiration date:
November
S M T W T F S
31 1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 1 2 3 4
5 6 7 8 9 10 11
2009 2010 2011

**Enhanced Grid**


Single Sort - Descending

| Opt | Subsystem/Job | User | Type | CPU% | Function | Status |
|---|---|---|---|---|---|---|
| | ZENDCORE | QTMHHTTP | BCI | .0 | PGM-QZSRHTTP | DEQW |
| | QZSHSH | ASH | BCI | .0 | PGM-QZSHSH | TIMW |
| | QPADEV0001 | SANSU | INT | .0 | PGM-QCMD | DSPW |
| | QPADEV0004 | WEBGUI | INT | .0 | CMD-WRKACTJOB | RUN |
| | QPADEV0007 | WEBGUI | INT | .0 | MNU-MAIN | DSPW |
| | QPADEV0009 | ASH | INT | .0 | CMD-QSH | DEQW |
| | QINTER | QSYS | SBS | .0 | | DEQW |
| | QMQM | QSYS | SBS | .0 | | DEQW |
| | QSERVER | QSYS | SBS | .0 | | DEQW |

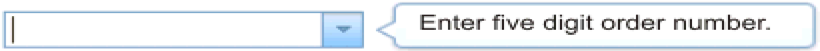
**Filtering select**



wrk

wrkactjob

wrkobjpdm



Enter five digit order number.

**Validation text box**

# iPad Support

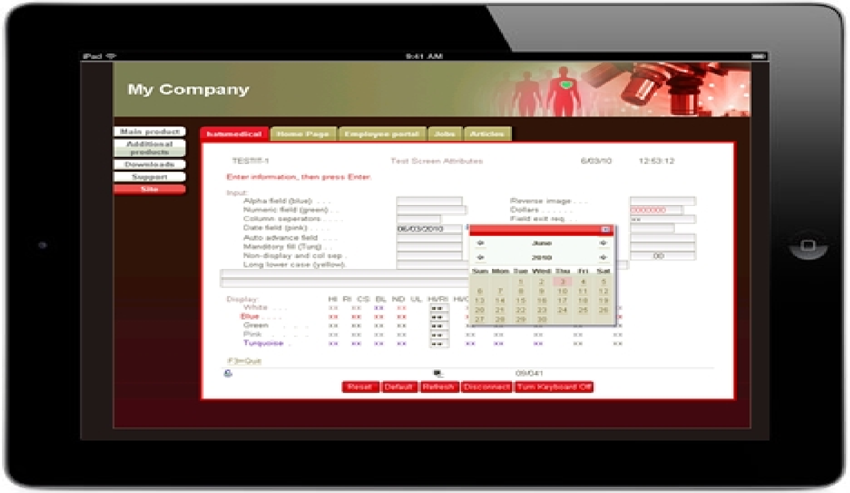
## iPad has been added to the growing line up of mobile devices that HATS supports

- Windows Mobile devices
- iPod Touch
- iPhone
- iPad

## The larger display size of iPad works especially well for customer facing roles

## Mobile devices open up possibilities:

- An employee on the department store floor needs to check stock in the warehouse and make an order
- A distributor of products to car dealers needs to track product availability and order products while at the dealer


iPad
9:41 AM
My Company
Main product
Additional products
Downloads
Support
Site
Home Page
Employee portal
Jobs
Articles
Reset
Default
Refresh
Disconnect
Turn Keyboard Off

TESTIT-1 Test Screen Attributes 6/03/10 12:53:12

Enter information, then press Enter.

Input:
Alpha field (blue) . . . .
Numeric field (green) . .
Column seperators . . . . .
Date field (pink) . . . . . 06/03/2010
Auto advance field . . . .
Manditory fill (Tung) . .
Non-display and col sep .
Long lower case (yellow).
Reverse image . . . .
Dollars . . . . . .
Field exit req. . .

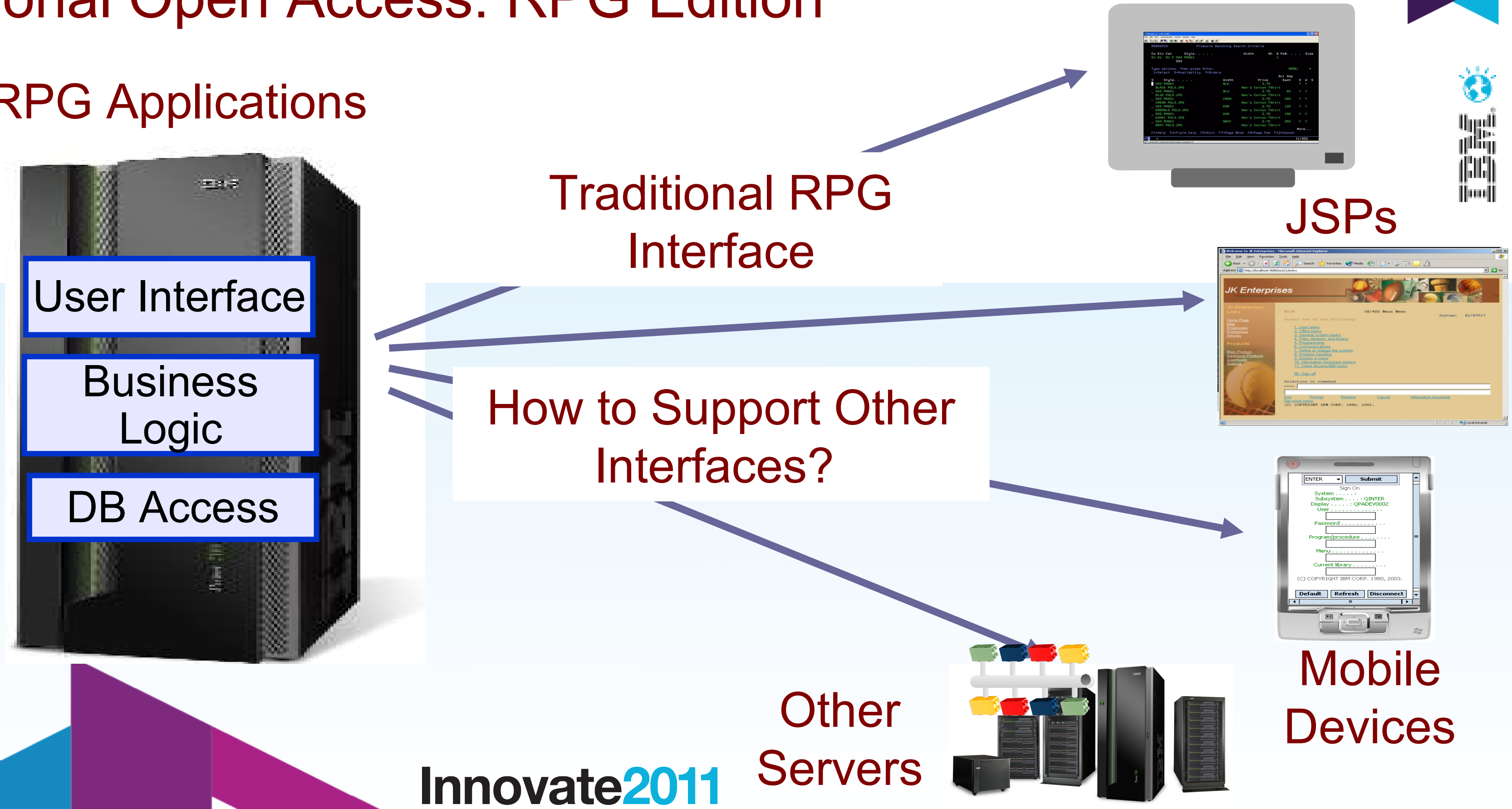
June 2010

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
|  |  | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 |  |  |  |

Display: HI RI CS BL ND UL HI/RI
White
Blue
Green
Pink
Turquoise

F3=Quit

# Rational Open Access: RPG Edition



RPG Applications

User Interface

Business Logic

DB Access

Traditional RPG Interface

How to Support Other Interfaces?

5250 Screens

JSPs

Mobile Devices

Other Servers

ENTER ▾ Submit

Sign On

System . . . . . :

Subsystem . . . . : QINTER

Display . . . . . : QPADEV0002

User . . . . . . . . . . . . . .

Password . . . . . . . . . . . .

Program/procedure . . . . . . . .

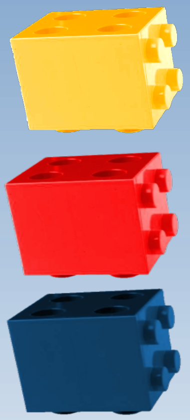
Menu . . . . . . . . . . . . . .

Current library . . . . . . . . .

(C) COPYRIGHT IBM CORP. 1980, 2003.

Default Refresh Disconnect

# Evolving into a Web Services Environment …

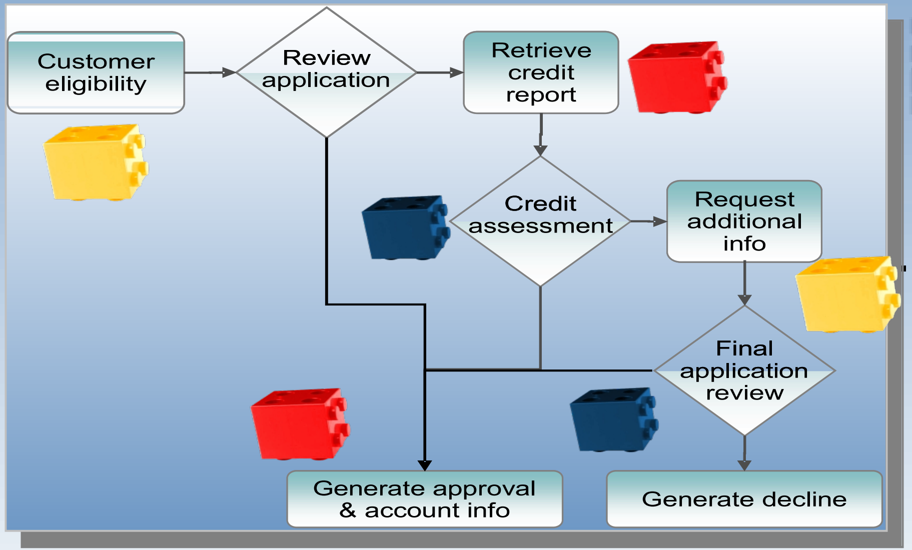


**SQL Stored Procedures**

**RPG/HATS – Web Service**

**New EGL Web Services**

**it can be used as building blocks in an Web Services world….**


Customer eligibility
Review application
Retrieve credit report
Credit assessment
Request additional info
Final application review
Generate approval & account info
Generate decline

Business Process is implemented by integrating services

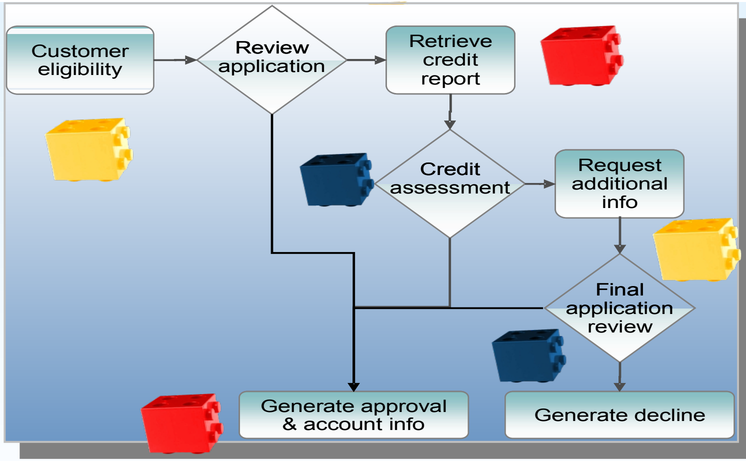
# Building Web Services on i

- Increase in options for Creating Web Services

- Wrap existing RPG/Cobol
  - Reuse of business logic
  - RDi SOA
  - RBD & RDp
  - HATS

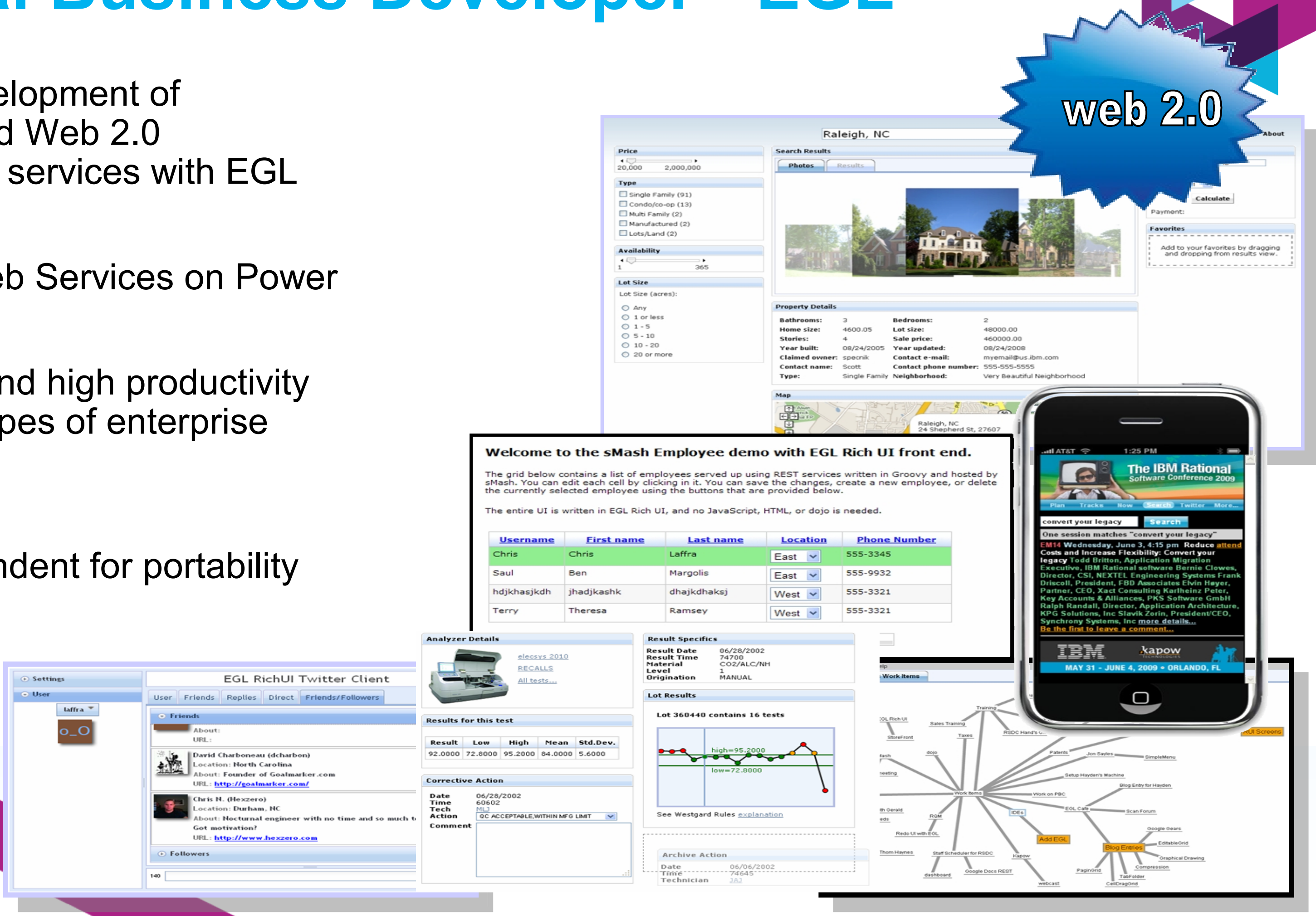
- Invoking Store Procedures
  - RDi SOA/RDB
  - Data Studio
  - Ops Navigator

- Building New Web Services
  - RPG/Cobol
  - EGL/RBD
  - Java


Customer eligibility
Review application
Retrieve credit report
Credit assessment
Request additional info
Final application review
Generate approval & account info
Generate decline

# IBM Rational Business Developer - EGL

- Simplify the development of JavaScript-based Web 2.0 applications and services with EGL
- Building new Web Services on Power
- Skills flexibility and high productivity for building all types of enterprise applications
- Platform independent for portability



☐ Single Family (91)
☐ Condo/co-op (13)
☐ Multi Family (2)
☐ Manufactured (2)
☐ Lots/Land (2)

Lot Size (acres):
○ Any
○ 1 or less
○ 1 - 5
○ 5 - 10
○ 10 - 20
○ 20 or more

Add to your favorites by dragging and dropping from results view.

Property Details

| | | | |
|---|---|---|---|
| Bathrooms: | 3 | Bedrooms: | 2 |
| Home size: | 4600.05 | Lot size: | 48000.00 |
| Stories: | 4 | Sale price: | 460000.00 |
| Year built: | 08/24/2005 | Year updated: | 08/24/2008 |
| Claimed owner: | specnik | Contact e-mail: | myemail@us.ibm.com |
| Contact name: | Scott | Contact phone number: | 555-555-5555 |
| Type: | Single Family | Neighborhood: | Very Beautiful Neighborhood |

Raleigh, NC
24 Shepherd St, 27607

**Welcome to the sMash Employee demo with EGL Rich UI front end.**

The grid below contains a list of employees served up using REST services written in Groovy and hosted by sMash. You can edit each cell by clicking in it. You can save the changes, create a new employee, or delete the currently selected employee using the buttons that are provided below.

The entire UI is written in EGL Rich UI, and no JavaScript, HTML, or dojo is needed.

| Username | First name | Last name | Location | Phone Number |
|---|---|---|---|---|
| Chris | Chris | Laffra | East | 555-3345 |
| Saul | Ben | Margolis | East | 555-9932 |
| hdjkhasjkdh | jhadjkashk | dhajkdhaksj | West | 555-3321 |
| Terry | Theresa | Ramsey | West | 555-3321 |

AT&T 1:25 PM

The IBM Rational Software Conference 2009

Plan Tracks Now Search Twitter More...

convert your legacy | Search

One session matches "convert your legacy"

EM14 Wednesday, June 3, 4:15 pm Reduce Costs and Increase Flexibility: Convert your legacy Todd Britton, Application Migration Executive, IBM Rational software Bernie Clowes, Director, CSI, NEXTEL Engineering Systems Frank Driscoll, President, FBD Associates Elvin Høyer, Partner, CEO, Xact Consulting Karlheinz Peter, Key Accounts & Alliances, PKS Software GmbH Ralph Randall, Director, Application Architecture, KPG Solutions, Inc Slavik Zorin, President/CEO, Synchrony Systems, Inc more details... attend

Be the first to leave a comment...

MAY 31 - JUNE 4, 2009 • ORLANDO, FL

Result Date 06/28/2002
Result Time 74700
Material CO2/ALC/NH
Level 1
Origination MANUAL

Results for this test

| Result | Low | High | Mean | Std.Dev. |
|---|---|---|---|---|
| 92.0000 | 72.8000 | 95.2000 | 84.0000 | 5.6000 |

Lot 360440 contains 16 tests

high=95.2000
low=72.8000

See Westgard Rules explanation

Date 06/28/2002
Time 60602
Tech MLJ
Action QC ACCEPTABLE,WITHIN MFG LIMIT
Comment

Date 06/06/2002
Time 74645
Technician JAJ

David Charboneau (dcharbon)
Location: North Carolina
About: Founder of Goalmarker.com
URL: http://goalmarker.com/

Chris N. (Hexzero)
Location: Durham, NC
About: Nocturnal engineer with no time and so much t
Got motivation?
URL: http://www.hexzero.com

# IBM DB2 Web Query for System i Powered By Information Builders

## Base Program Product Includes:

i5/OS Web Reporting Server
Several Web Based authoring tools
RA, GA, Power Painter, InfoAssist

Query/400 (5722-QU1) Upgrade
Web Enable Query/400 Reports
Additional Software Maintenance

## Additional Features

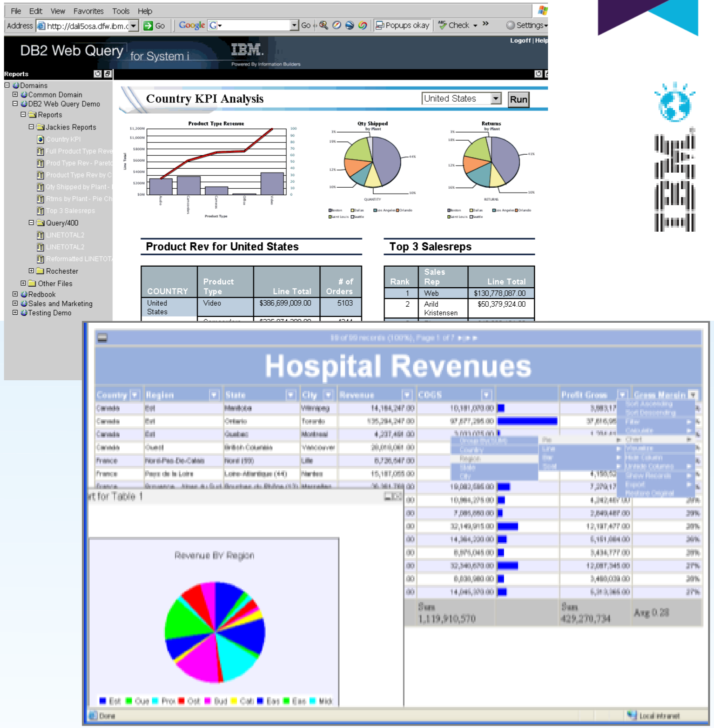
Run Time User Enablement
Active Reports (Disconnected Analysis)
On Line Analytical Processing
Requires Meta Data provided with Developer Workbench
Developer Workbench - IT Tool for meta data

DB2 Web Query Report Broker

Automated Report Execution and Distribution

DB2 Web Query SDK

Web Services to integrate reporting functions into applications/portals


File Edit View Favorites Tools Help
Address http://dali5osa.dfw.ibm.c
Go
Popups okay
Check
Settings
DB2 Web Query for System i
IBM.
Powered By Information Builders
Logoff | Help
Reports
Domains
Common Domain
DB2 Web Query Demo
Reports
Jackies Reports
Country KPI
Full Product Type Reve
Prod Type Rev - Pareto
Product Type Rev by C
Qty Shipped by Plant -
Rtrns by Plant - Pie Ch
Top 3 Salesreps
Query/400
LINETOTAL2
LINETOTAL2
Reformatted LINETOT
Rochester
Other Files
Redbook
Sales and Marketing
Testing Demo
Country KPI Analysis
United States
Run
Product Type Revenue
Qty Shipped by Plant
Returns by Plant
Hospital Revenues
Revenue BY Region
Done
Local intranet

Product Rev for United States

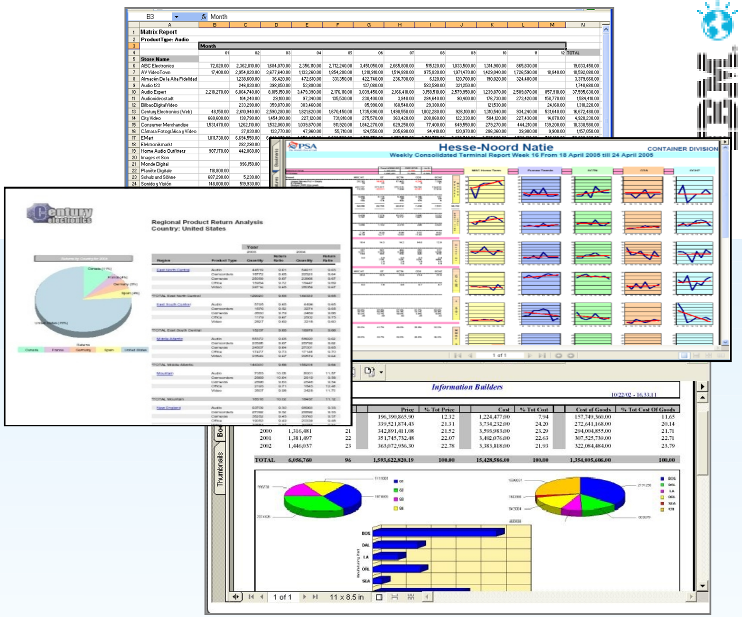
| COUNTRY | Product Type | Line Total | # of Orders |
|---|---|---|---|
| United States | Video | $386,699,009.00 | 5103 |

Top 3 Salesreps

| Rank | Sales Rep | Line Total |
|---|---|---|
| 1 | Web | $130,778,087.00 |
| 2 | Arild Kristensen | $50,379,924.00 |

# Output Reports and Graphs to:

- **HTML**
- **PDF**
- **Excel 97/2k/2k w formula's**
- **Postscript**
- **DB2 for i table**
- **Excel 95**
- **Doc with and without page breaks**
- **WK1**
- **DIF**
- **Lotus**
- **Tab Delimited**
- **XML**



Matrix Report

ProductType: Audio

Hesse-Noord Natie

Weekly Consolidated Terminal Report Week 16 From 18 April 2005 till 24 April 2005

Regional Product Return Analysis

Country: United States

Information Builders

# DB2 Web Query Pricing

Developer Workbench £659.56 per user

| Tier | Base Server License | Included Users | Additional Named User | Active Reports* | OLAP Module* | Run Time Enablement |
|---|---|---|---|---|---|---|
| **P05** | **£1,060** | **2** | **£265.15** | **£265.15** | **£265.15** | £2,121.20 |
| **P10** | **£2,121** | **4** | **£265.15** | **£530.30** | **£530.30** | £4,242.40 |
| **P20** | **£6,363** | **6** | **£265.15** | **£1,590** | **£1,590** | £6,363.60 |
| **P30** | **£12,727** | **8** | **£265.15** | **£3,181** | **£3,181** | £12,727.20 |
| **P40** | **£19,090** | **10** | **£265.15** | **£4,772** | **£4,772** | £19,090.80 |
| **P50** | **£25,454** | **15** | **£265.15** | **£6,363** | **£6,363** | £25,454.40 |
| **P60** | **£31,818** | **20** | **£265.15** | **£7,954** | **£7,954** | |

*Enables all named users to use this feature
UK List Prices, subject to change without notice

# Questions

**www.ibm/software/rational**

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

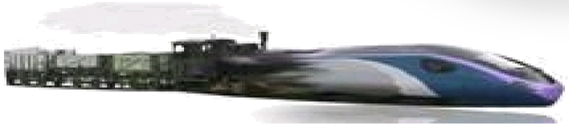
# Oxford International, Inc.

***Improves distributed team productivity and time to market***

Unify
Teams

## The challenge

- Cross-platform distributed development teams needed better communications, project visibility
- Looking for a single enterprise-wide solution to improve software development, management and control.
- Needed to improve governance and traceability for multi-tier and distributed development teams.



*Oxford International Inc.*
*An IBM Certified Software Business Partner*

- IBM Business Partner for Rational Software for Power and System z
- Oxford has been deploying application modernization solutions since 2004

## Business value

- Realized 20-30% improvements in team productivity and quality
- Realized accelerated time to market

## Solution

- Rational Developer for Power (formerly RDi)
- Rational Team Concert for Power (formerly RTCi)

*"We estimate between 20-30% improvements in team productivity and quality across the development process. Rational Team Concert for i and Power solutions truly hits the mark of the most demanding business and IT department."*

- Steve Norton, President

Innovate2011