



IBM Software Group

Rational/WebSphere Technical Briefing

Development tools and What's Next with SOA!!!

Go to <http://JavaSOA> for presentations, demos, tutorials and other resources

(a.k.a. SAME website as JavaDevTools.com RationalCentral.com & WebSphereCentral.com)




Name

Title

Company

Thinking ahead...Here are some resources!

- <http://ibm.com/developer> 

(IBM developerWorks for technologies and/or products)
 - Java, J2EE, Web Services and other technology zones are on the left hand side
 - WebSphere Zone: <http://ibm.com/developer/websphere>
 - Rational Zone: <http://ibm.com/developer/rational>
 - Free Education Portal: <http://ibm.com/developer/training>
- <http://www.redbooks.ibm.com>

(How-To Step-by-step Practical Implementation Books)
- Sun Java/J2SE/J2EE Tutorials: [Java Tutorial Online](#) , [J2EE Tutorial Online](#) , [J2EE Tutorial BOOK](#)
- <http://JavaDevTools.com> (a.k.a. JavaSOA.com, RationalCentral.com, WebSphereCentral.com)

(Tutorials, Links, Presentations, White Papers, Books, Articles, etc.)

developerWorks
DB2
eServer
Lotus
Rational
Tivoli
WebSphere
Autonomic computing
Grid computing
Java™ technology
Linux
Open source
Power Architecture™
SOA and Web services
Web architecture
Wireless technology
XML
Feedback
Related links
• ISV resources
• alphaWorks (emerging technologies)
• Academic program
• IBM Redbooks
• IBM Press books





IBM Software Group

Application Development Tools

→ Rational Family and Business Driven Development ←



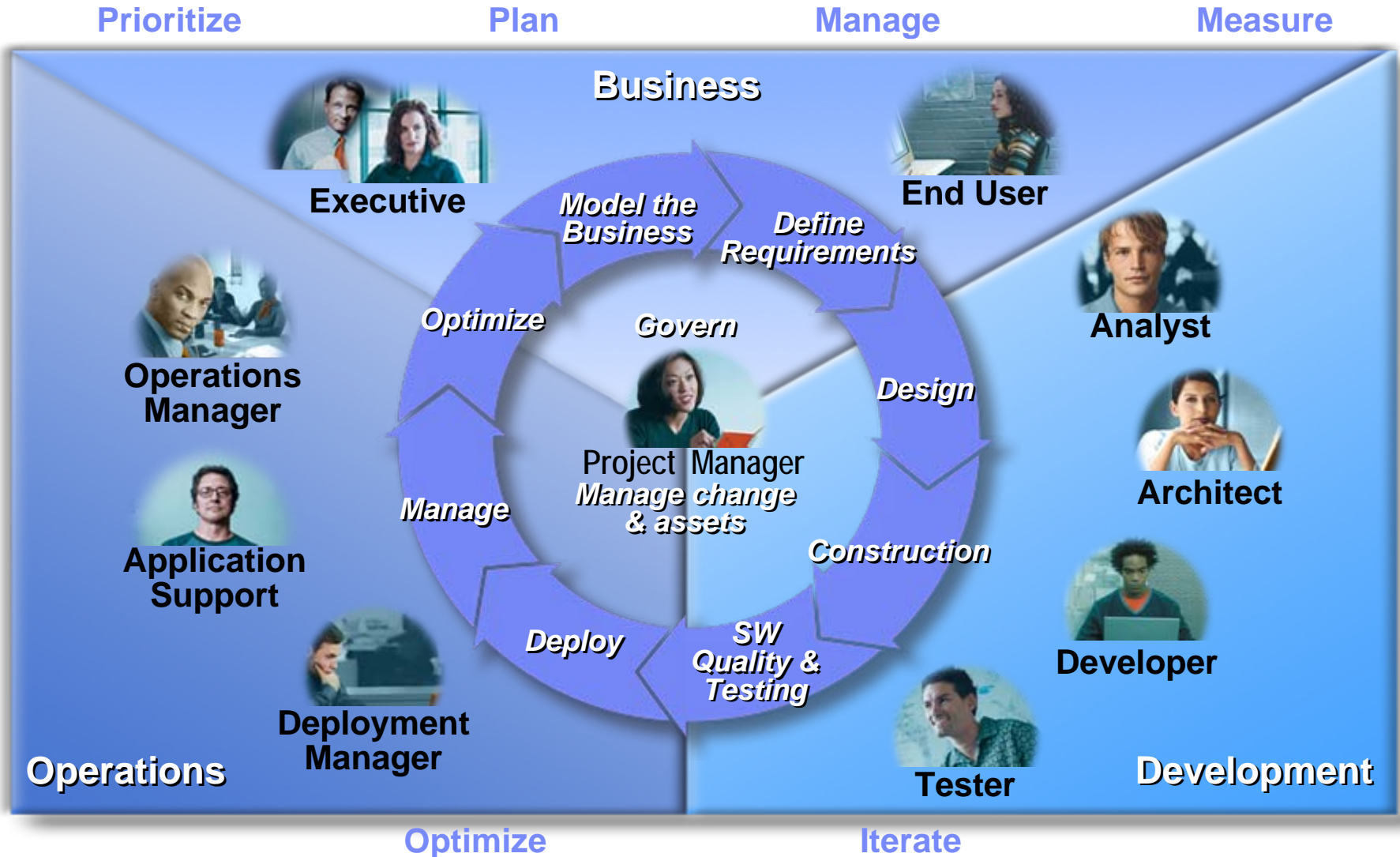
Name

Title

Company

The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Business Driven Development Challenges

Business Drivers that Guide our IBM Software Development Platform

Discover



- Find reusable assets within existing transactions, apps, & systems
- Model & design architectures, applications, services, etc.
- Store and catalog assets for reuse

Develop



- Templates, patterns & asset-based development
- Transform assets into reusable components
- Optimize performance prior to deployment
- Manage teams & the development process
- Optimize interaction & procedures

Deploy



- Quality Assure: conformance testing, bug tracking, release management
- Systems Testing
- Manage runtimes over lifecycle
- Performance monitoring

57% of project failures are due to poorly scoped requirements

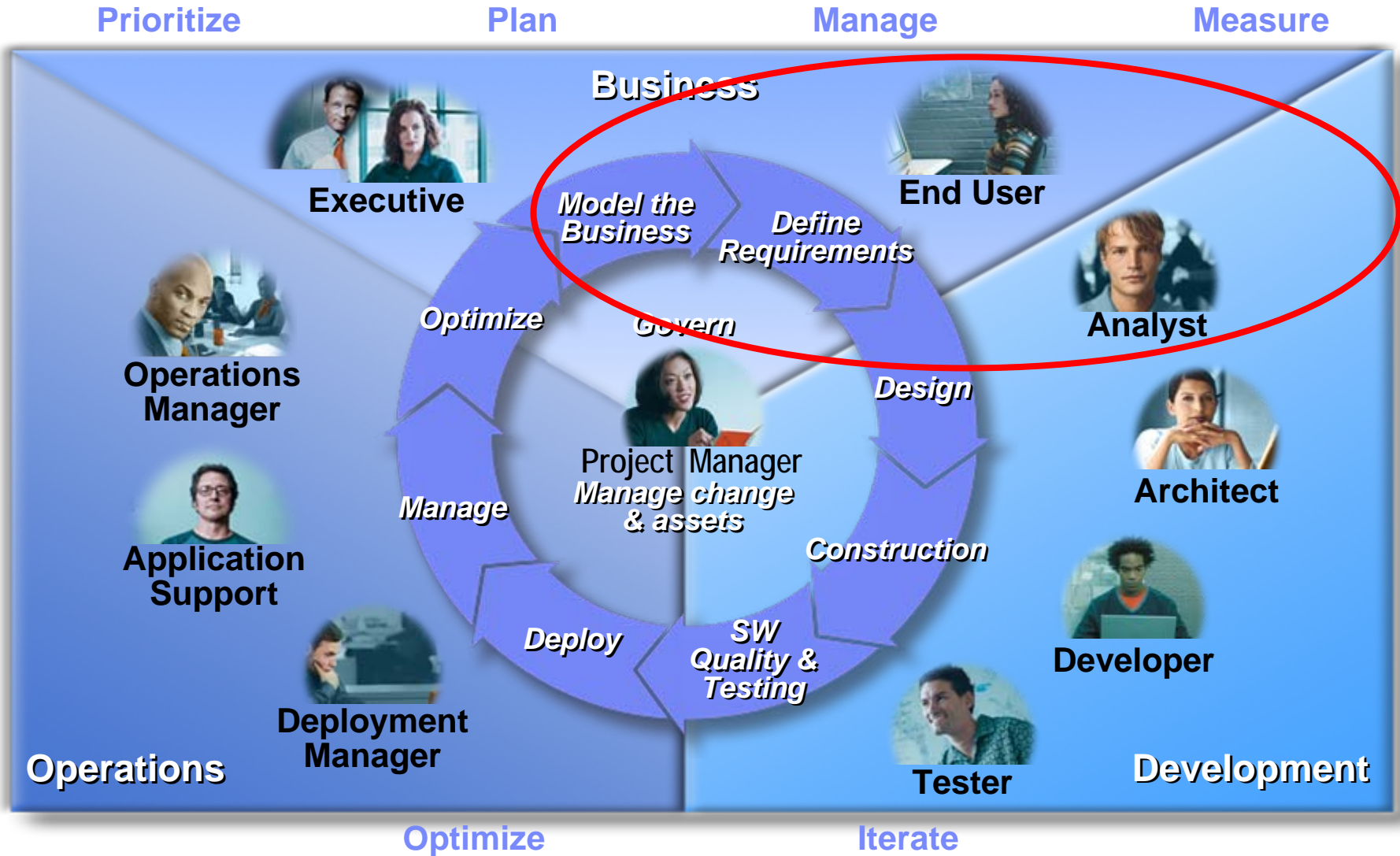
Only 54% of required features and functions make it to the released product

82% of projects run over time, 51% are over budget



The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Requirements



Business Value

- **Customers, Stakeholders and Practitioners**
 - Business Analyst, Systems Analyst
- **Industry Performance**
 - 70 – 80 % of project failures are tied to poor analysis of requirements
- **Business Questions**
 - How are your system requirements effectively defined and communicated?
 - How do you ensure requirements make it into the final application?
 - What happens if your software development efforts don't satisfy the users of the system?

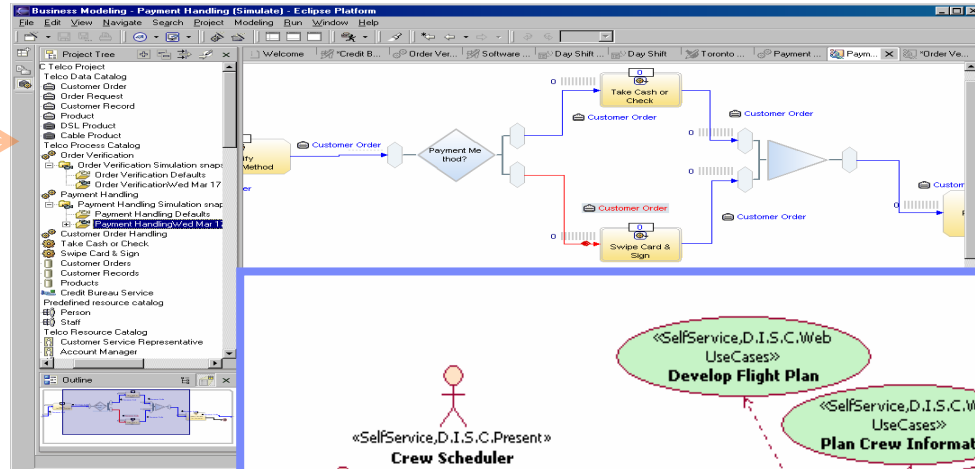


Step one: Model the business

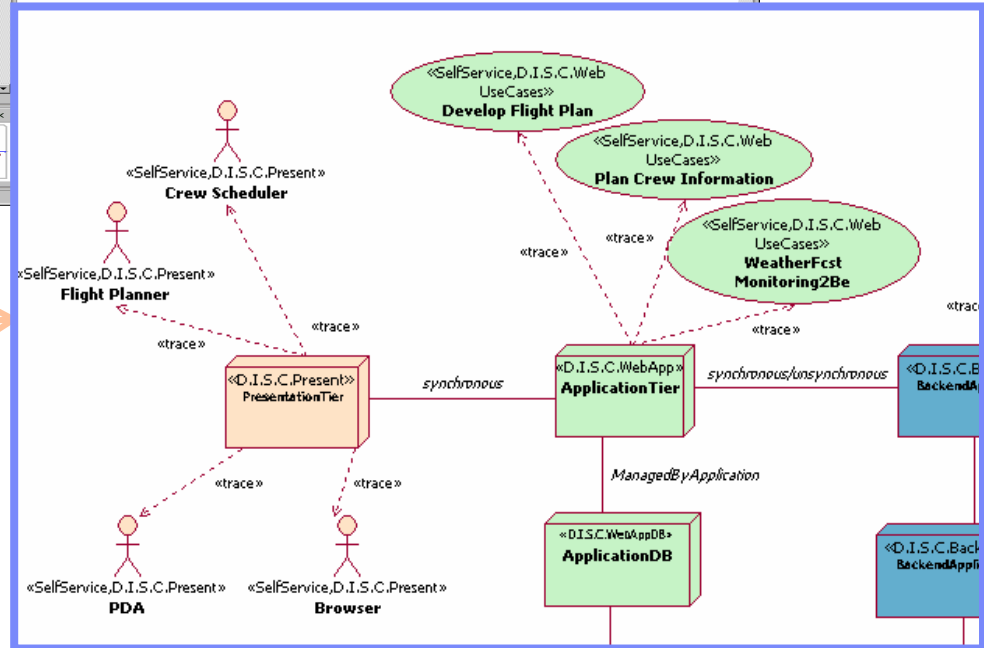
Document business processes and user interactions



Analyst models "as is" business process and explores alternative "to be" business processes



Analyst models "as is" and "to be" user interactions through use cases

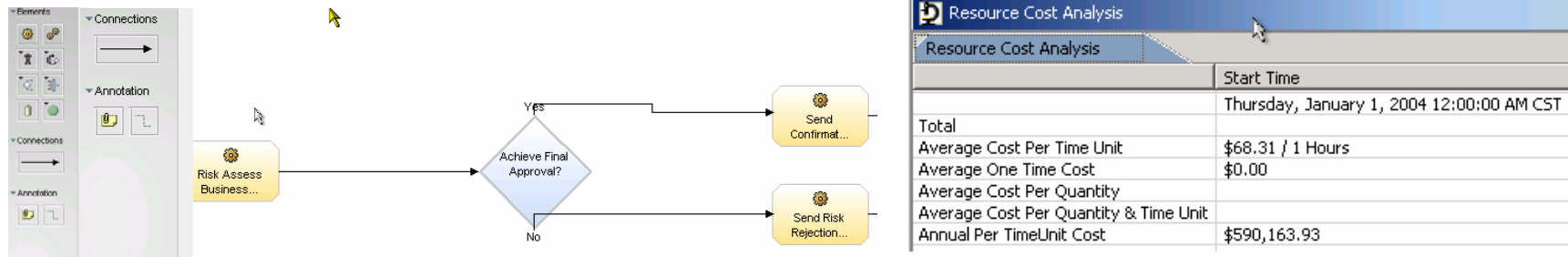


IBM WebSphere Business Integration Modeler
IBM Rational Software Architect

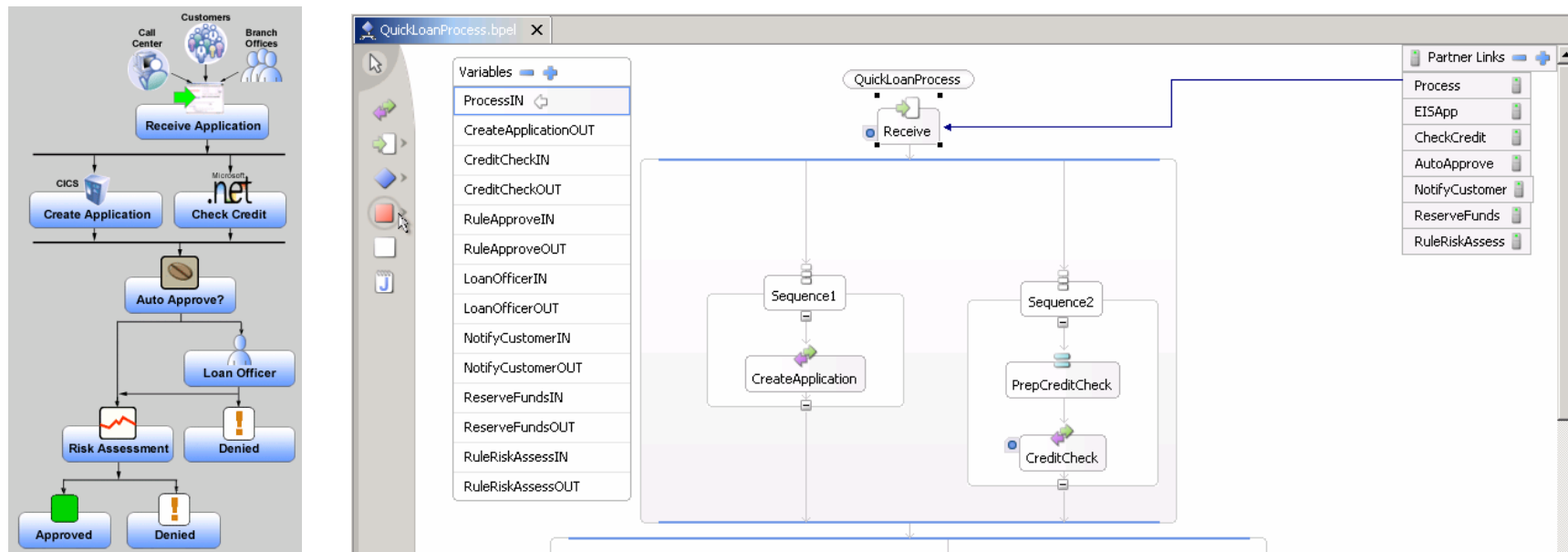


“Process Portal” Tools - Integrating People, Processes and Information

- Use your business model to simulate a process and assess cost savings

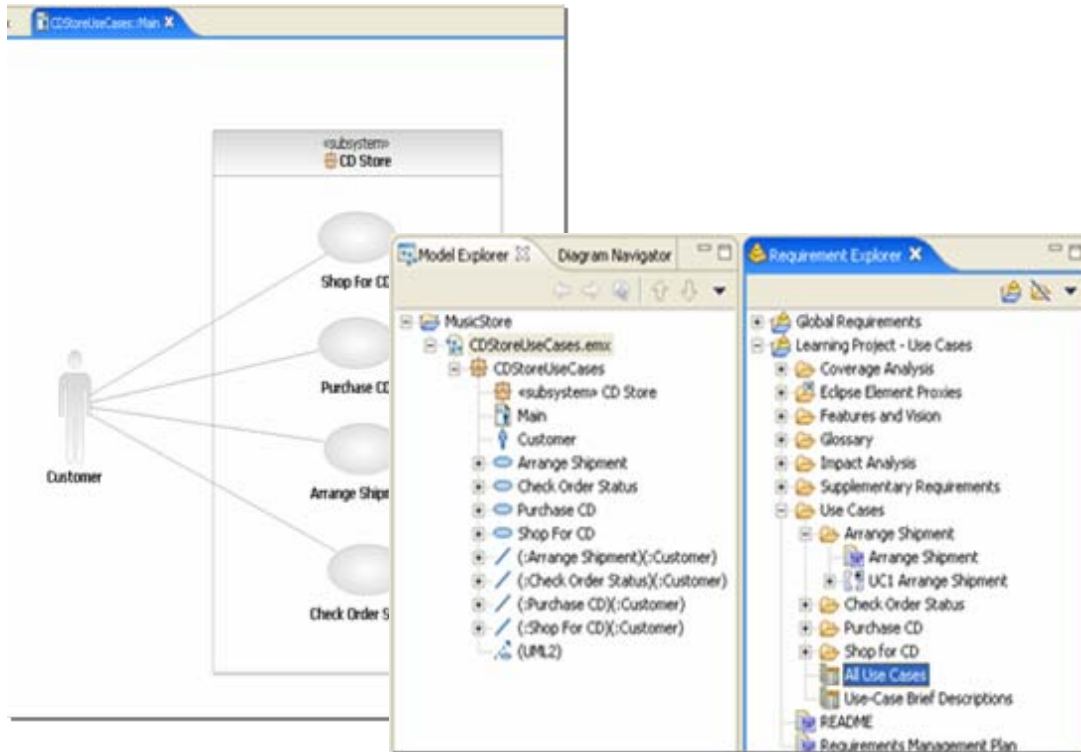


- Re-use business process model in visual J2EE workflow tools to build web services



Step two: Further Define business requirements

Document stakeholders and systems requirements



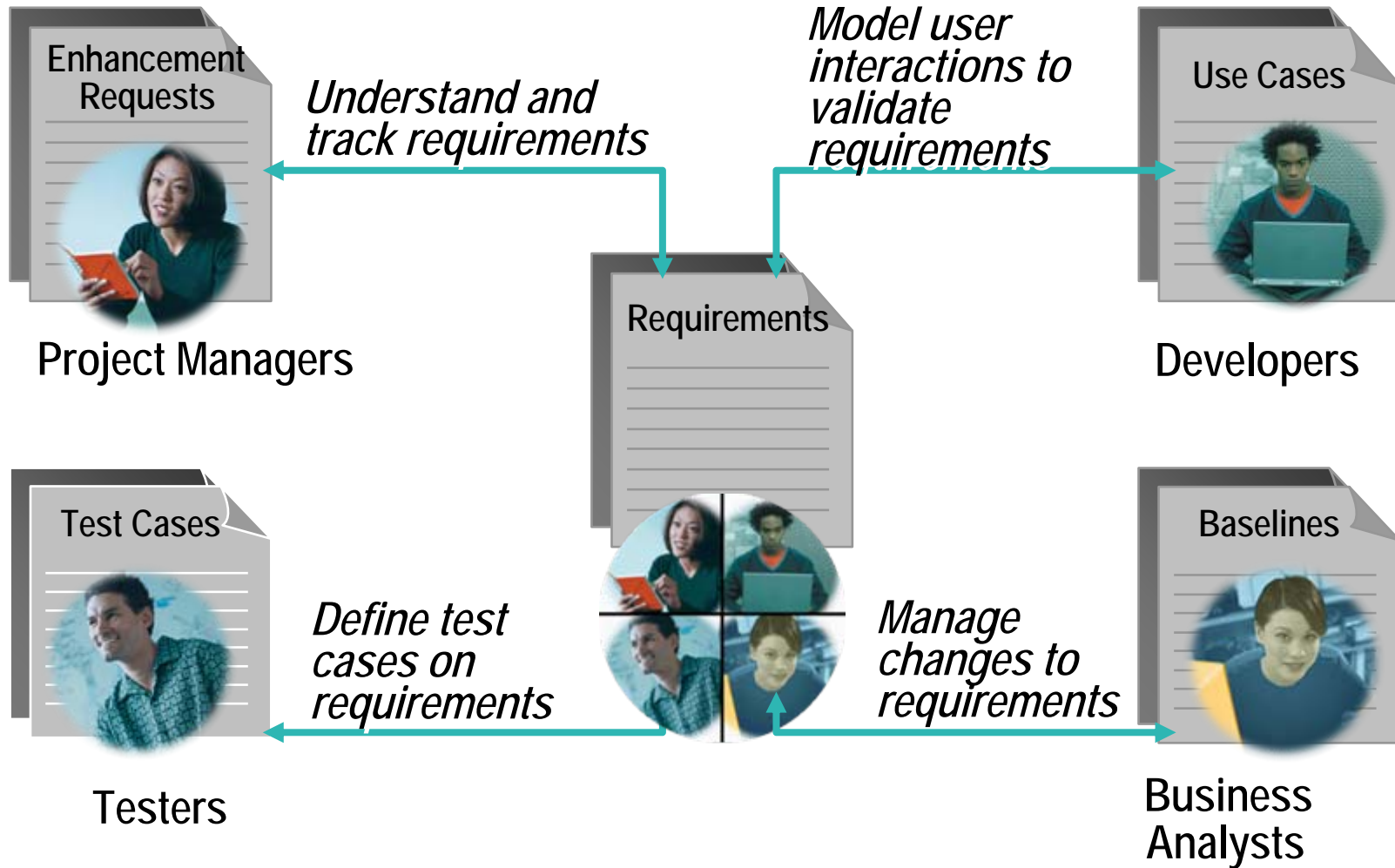
Analyst defines business requirements and refines them into software requirements and use cases

Requirement	Property	Affects Architecture	Priority	Status	Difficulty	Contact	EnhancementR...	Defect	Unique ID	Location
UC1 Arrange Shipment	Name	False	Should	Proposed	Medium				342	Arrange
UC2 Check Order Status	Name	False	Should	Proposed	Medium	Rob Z.			320	Check Or
UC3 Purchase CD	Name	False	Must	Approved	High	Catherine Q.			309	Purchase
UC4 Shop For CD	Name	False	Must	Proposed	Medium	Jim X.			296	Shop For

IBM Rational RequisitePro

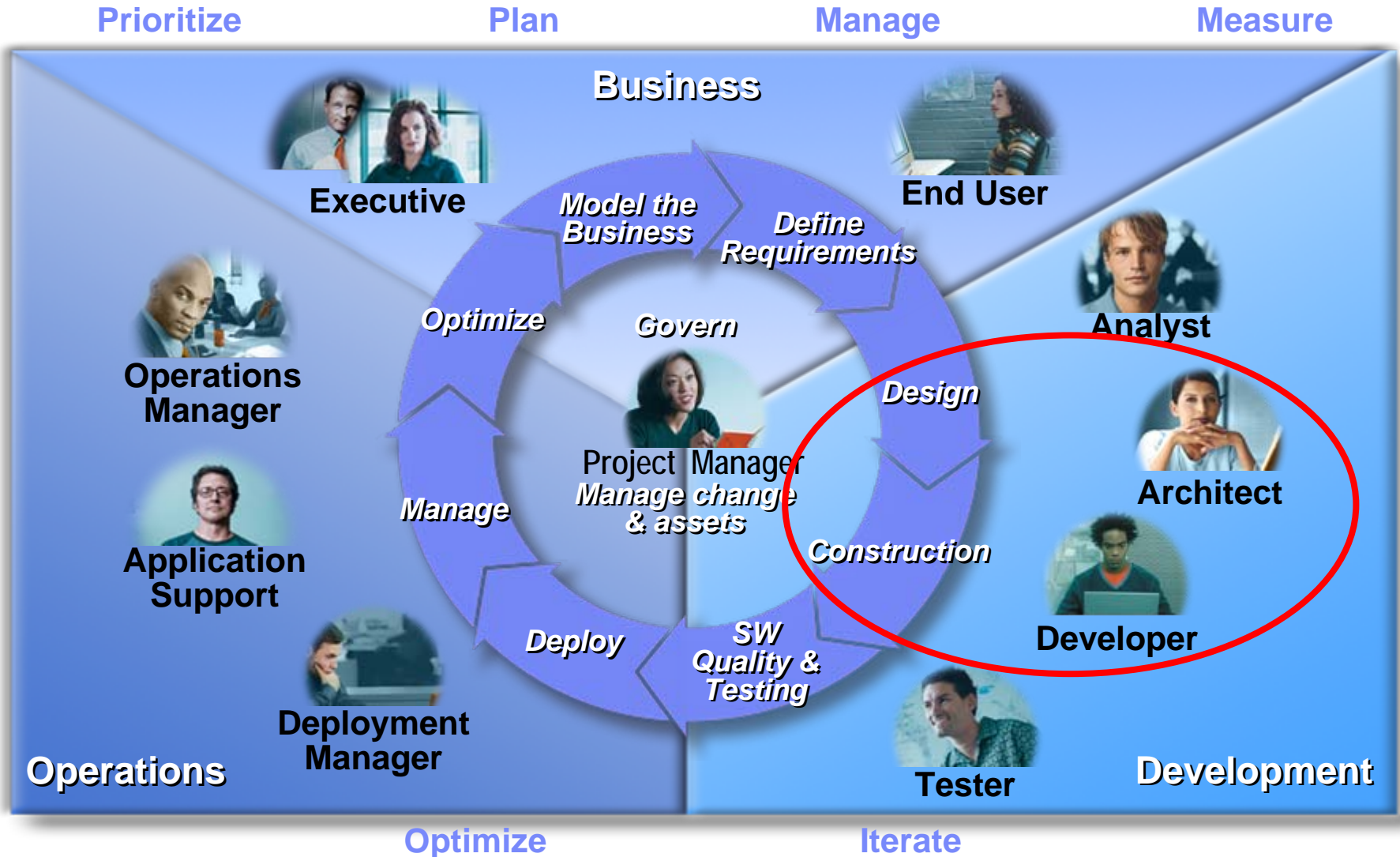


Requirement Management Linkages are Critical



The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Design and Construction



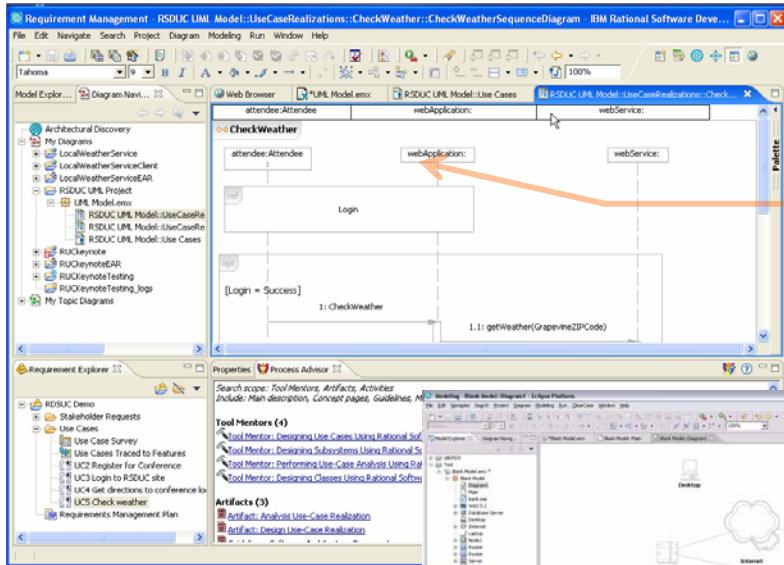
Business Value

- **Customers, Stakeholders and Practitioners**
 - Software Architect, Developer, Engineer
- **Industry Performance**
 - 65% of development projects fail to meet expectations
- **Business Questions**
 - How do you ensure that your teams accurately translate business requirements into functional applications?
 - How hard is it to enhance or modify your applications?
 - How do you model your applications today? (Microsoft Visio, paper, whiteboards, etc.)
 - Are you frustrated with the pace of software development?
 - Would you like to reduce the amount of manual coding?
 - Do you use Rapid Development techniques today?

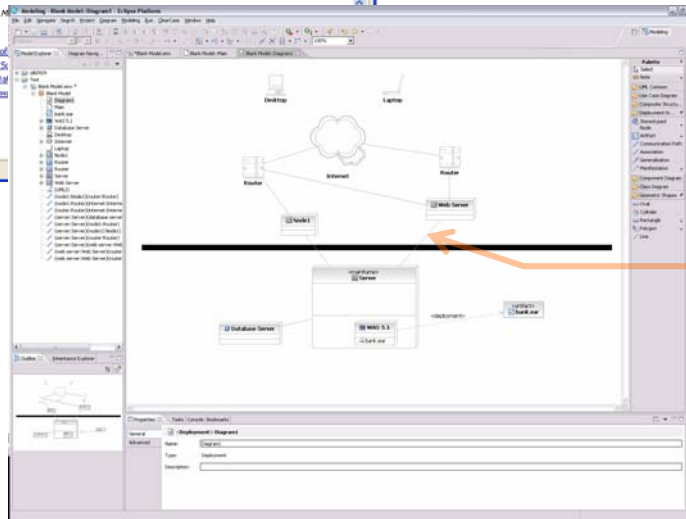


Step three: Analyze and design application

Minimize risks by understanding architectural dependencies



Architect imports business processes and refines application design, based on best practices, and existing assets



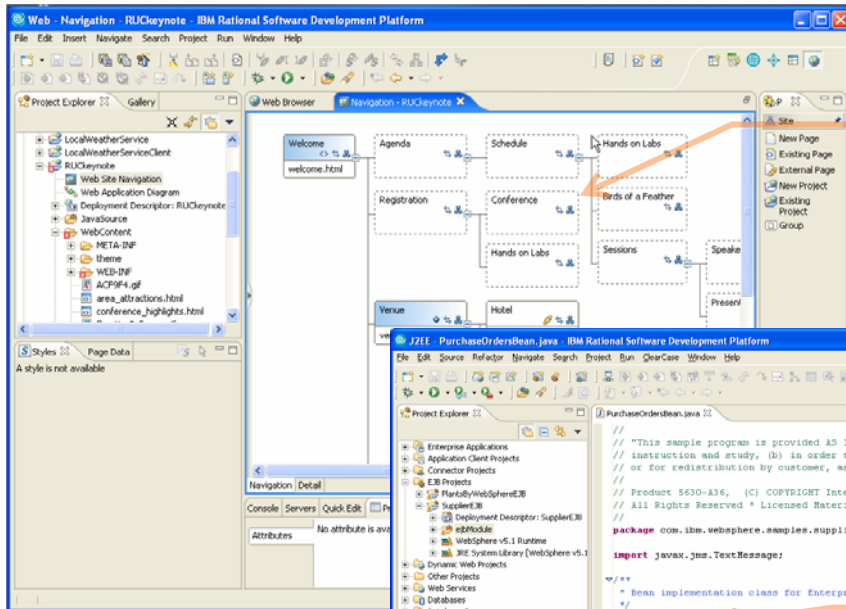
Architect models operational model

IBM Rational Software Architect

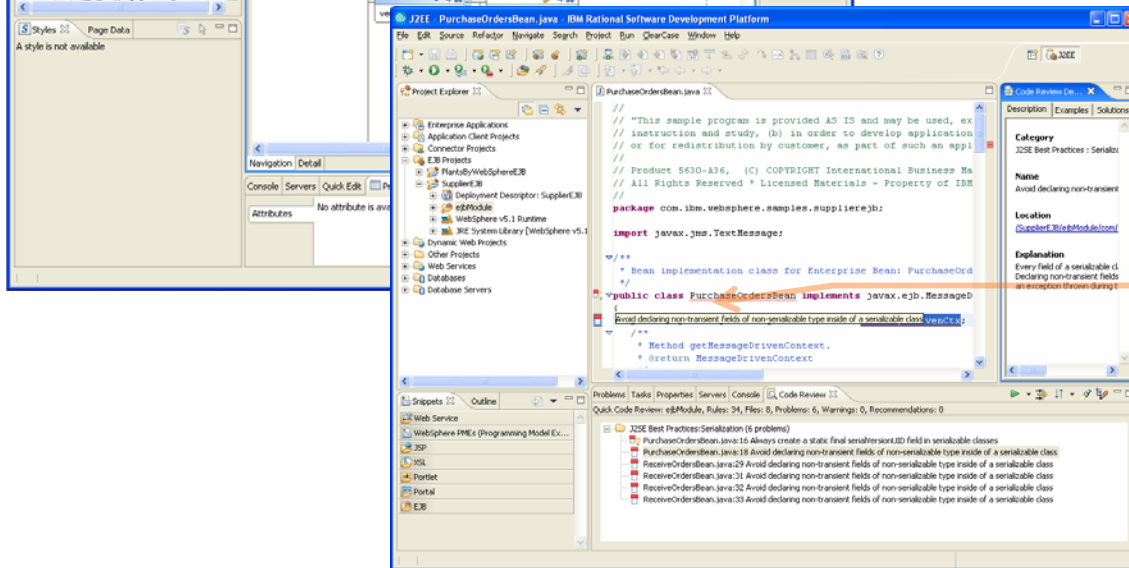


Step four: Construct Application

Build higher quality applications in less time



Developer implements application leveraging highly productive J2EE capabilities (JSF, SDO)



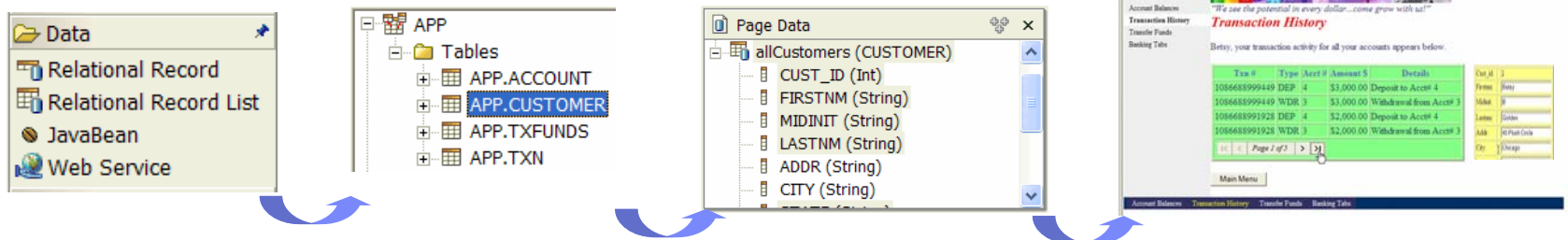
Developer leverages code analysis & unit testing to fix functional, performance, and security problems at the component level

IBM Rational Application Developer

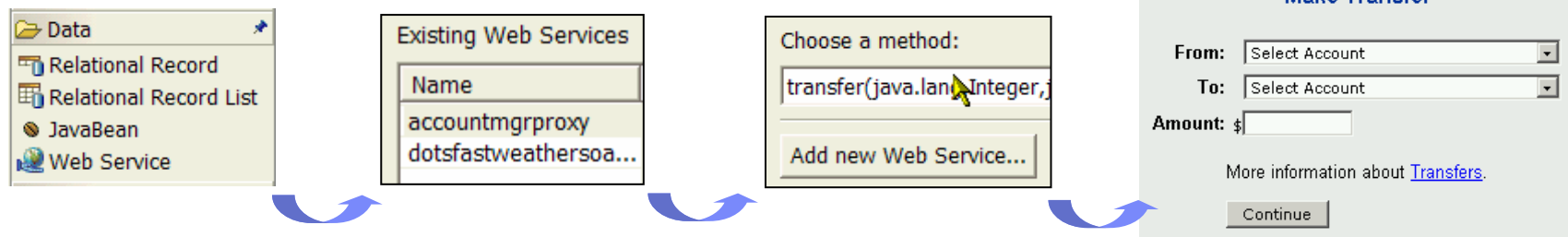


Simplifying J2EE and Portlet/Portal Development

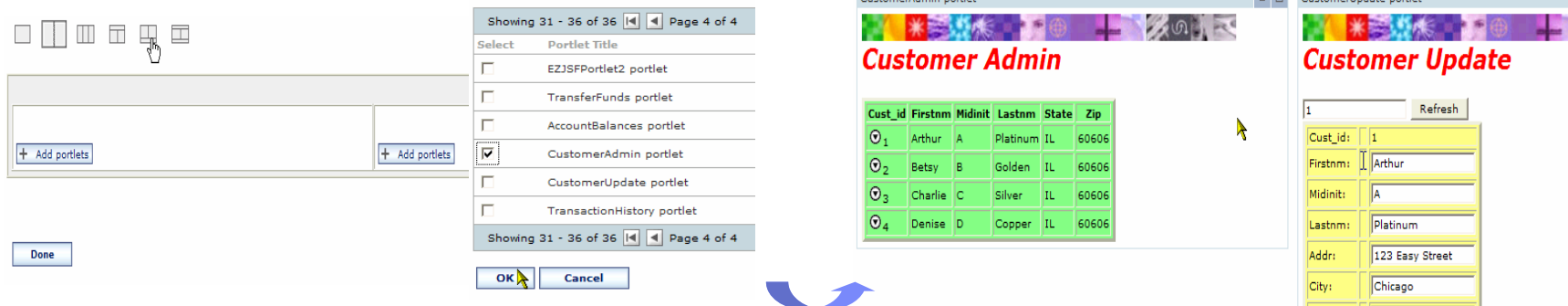
- Database development drag-n-drop ease-of-use ^{1 2}



- Web Services development drag-n-drop ease-of-use ^{1 2}



- Portals drag-n-drop ease-of-use ^{1 2}



Rich Thin Clients (Portal Portlets and/or Web Apps)

- Drag-n-drop development of J2EE/Portal applications (*No Coding Required*)

IBM WebSphere Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Links Customize Links IBM Business Transformation Homepage IBM Business Transformation IBM Home Page IBM Internal Help Homepage

Address http://yclidesktop.raleigh.ibm.com/wps/myportal/.scr/LoggedInIn

Google Search Web Search Site News Page Info Up

Home Banking Account Portfolio Mortgage/Loans Bill Pay ExtremePlace

Accounts

Order Checks

Payment

Help

Bank Accounts

Banking Accounts

Account #	Account Type	Balance
96,666	Credit	2,000.00
74,444	Checking	1,432.44
85,555	Saving	2,567.56

Transfer Funds

Make Transfer

From:

To:

Amount: \$

More information about [Transfers](#).

Account Details

Account Number: 96666

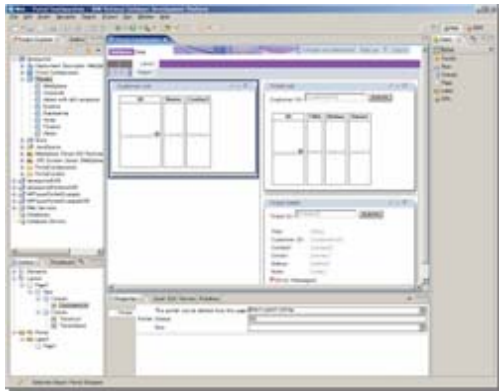
Trans #	Amount	Date	Type	Expense Purpose
355	72.62	2000-11-06	Visa	Taxes
356	31.78	2001-06-16	Visa	Entertainment/Travel
357	61.02	2000-08-25	Visa	Clothing
358	21.75	2000-01-25	Visa	Transportation
359	13.01	2001-03-24	Visa	Telephone
360	24.51	2002-01-20	Visa	Transportation
361	15.87	2001-02-11	Visa	Food
362	13.81	2001-05-23	Visa	Telephone

Expense Allocation

- Mendical/Dental
- Mortgage/Rent
- Food
- Gas/Electric
- Cloth
- Insurance
- Dependent Care
- Taxes
- Entertainment/Travel
- Transportation
- Telephone

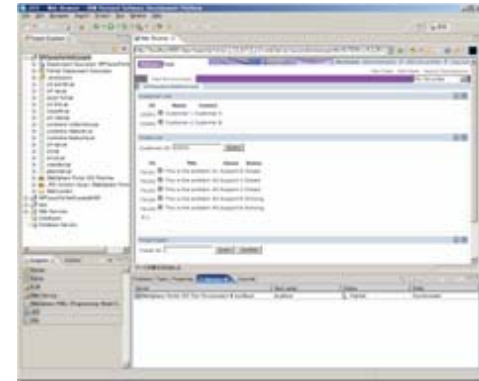
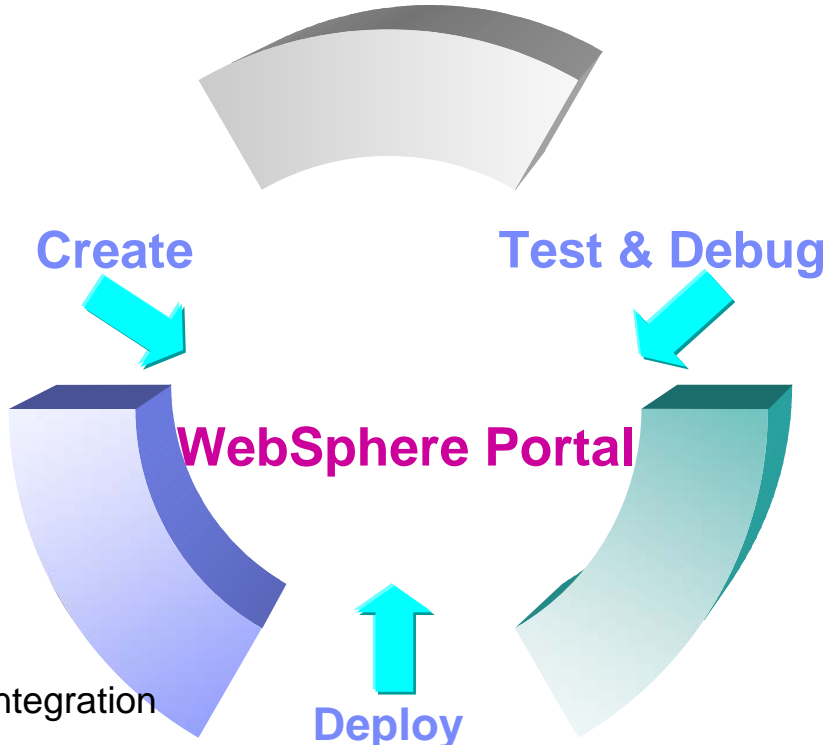
Local intranet

RAD V6 - 1st Class Support for Portal/Portlet Development

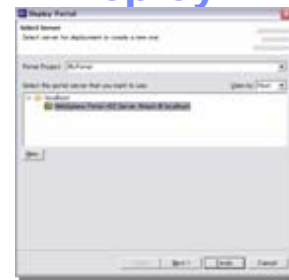


Visual Portlet & Portal Site Development

- ✓ JSF, Struts
- ✓ Enterprise Application Integration
- ✓ Portal page Layout
- ✓ Themes and Skins



Integrated Portal Test Environment for WP 5.0.2.2 and 5.1



Deployment Wizards



Example: Financial Advisor Dashboard – Portlets and Portal Design

[My Portal](#) | [Administration](#) | [Edit my profile](#) | [Log out](#)
[New Page](#) | [Edit Page](#) | [Assign Permissions](#)

Banking Finance

Financial Advisor Dashboard

Loans

BankCustomers portlet
- □

Financial Advisor's Dashboard

Customers
Portfolios Dashboard

Cust #	First Name	Last Name	City	State	Zip	Work Phone	\$ Invested	\$ Projected	% Rate of Return
1	Arthur	Platinum	Long Island	NY	11101	773-123-1111	\$500,000.00	\$527,751.15	5.55%
2	Betsy	Golden	Arlington	VA	22202	773-123-2222	\$500,000.00	\$527,568.75	5.514%
3	Charlie	Silver	Fort Lauderdale	FL	33303	773-123-3333	\$500,000.00	\$526,688.75	5.338%
4	Denise	Copper	Burghill	OH	44404	773-123-4444	\$500,000.00	\$510,625.00	2.125%

Customer Portfolios Performance

BankPortfolios portlet
- □

Banking > Finance > Portfolio Management

Portfolio details for **Arthur Platinum** appear below:

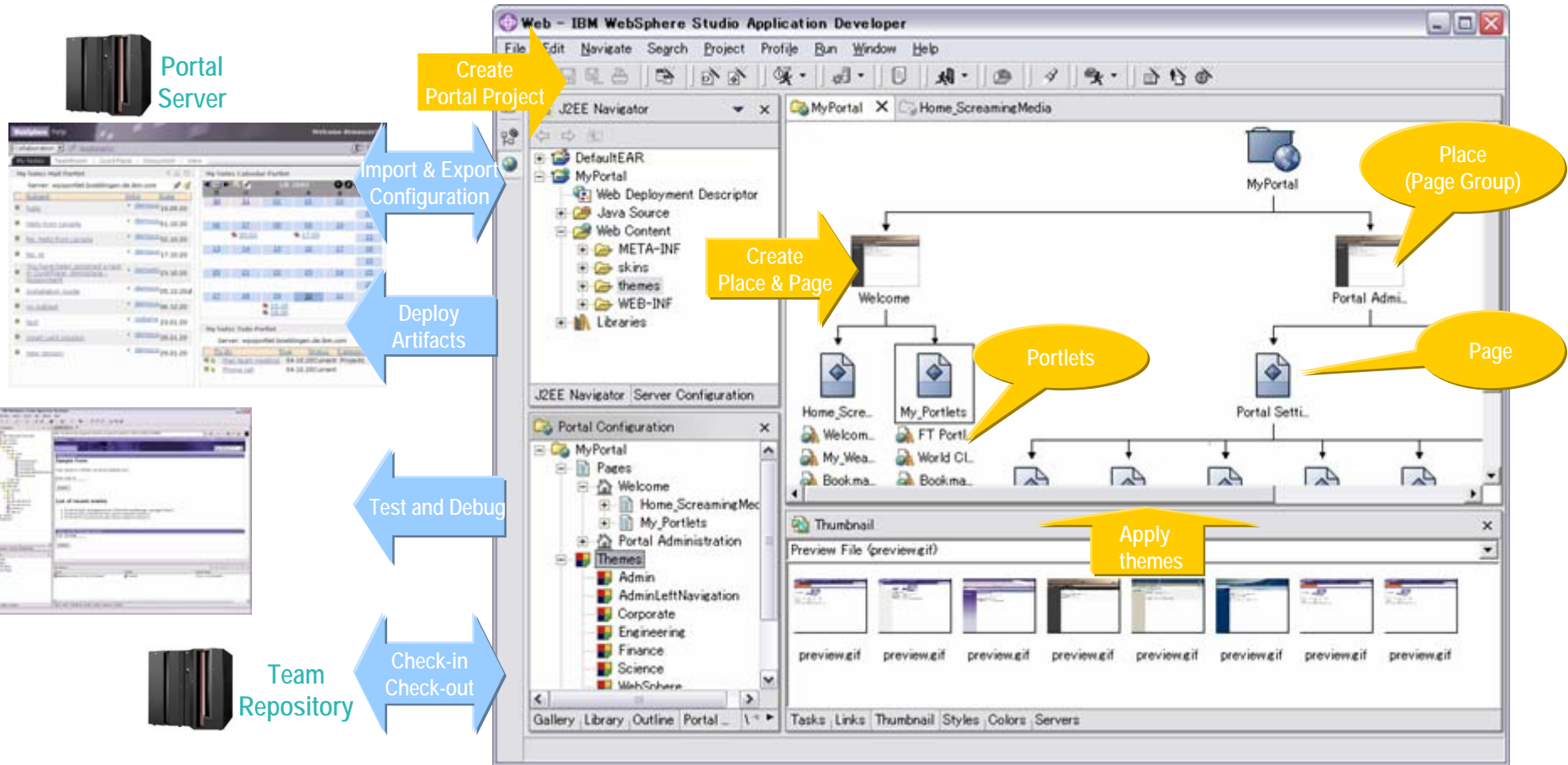
Invested: \$500,000.00	Projected: \$527,751.15	Rate of return: 5.55%
------------------------	-------------------------	-----------------------

Portfolio
Allocation
Graphics
Market Simulation

Fund Acct #	Fund Name	% of Folio	\$ Invested	Risk	% Return	\$ Projected
101	Blended - Income Plus Life Strategy	5%	\$25,000.00	1	2.124%	\$25,531.00
102	Blended - Conservative Life Strategy	4%	\$20,000.00	2	4.249%	\$20,849.80
103	Blended - Moderate Life Strategy	6%	\$30,000.00	3	6.374%	\$31,912.20
104	Blended - Aggressive Life Strategy	7%	\$35,000.00	4	8.424%	\$37,948.40
105	Money Market	5%	\$25,000.00	1	2.124%	\$25,531.00
106	Bond - Stable Value	3%	\$15,000.00	1	2.125%	\$15,318.75
107	Bond - Total Market	5%	\$25,000.00	2	6.375%	\$26,593.75



Portal Designer: Site, Page, Themes, Skins

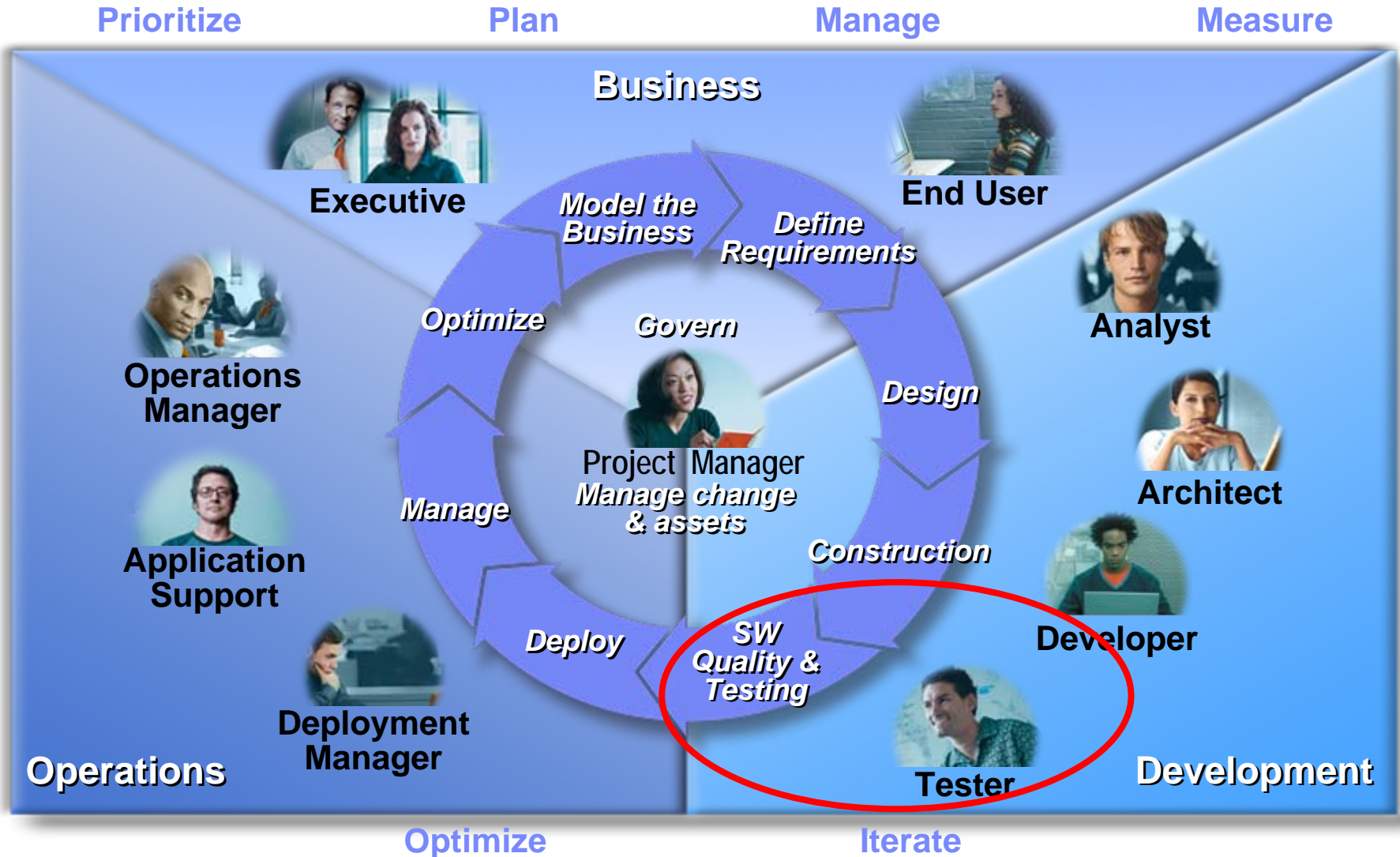


Portal Site Designer



The Business Driven Development Lifecycle

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Software Quality and Testing



- **Customers, Stakeholders and Practitioners**
 - Tester, Quality Control (QC) Analyst, Quality Assurance (QA) Analyst
- **Industry Performance**
 - Developers make up to 150 errors in every thousand lines of code
 - Only 14% of new web applications perform as planned in production
 - The average new web application is down nearly one day per week
- **Business Questions**
 - What would happen if you released a software product or application that you thought was fully tested, but ended up with poor performance or quality?
 - How do your developers test their applications while they code?
 - How do you ensure the application does what it is supposed to do?
 - Do you have to test both, traditional client/server applications as well as mainframe applications?
 - How do you manage your test cases?

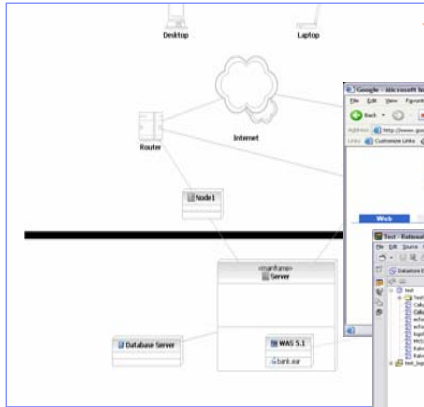


Step five: Test application

Validate functional requirements



Deployment Manager leverages operational model to provision the test lab



Browser UI

Java UI

Host UI



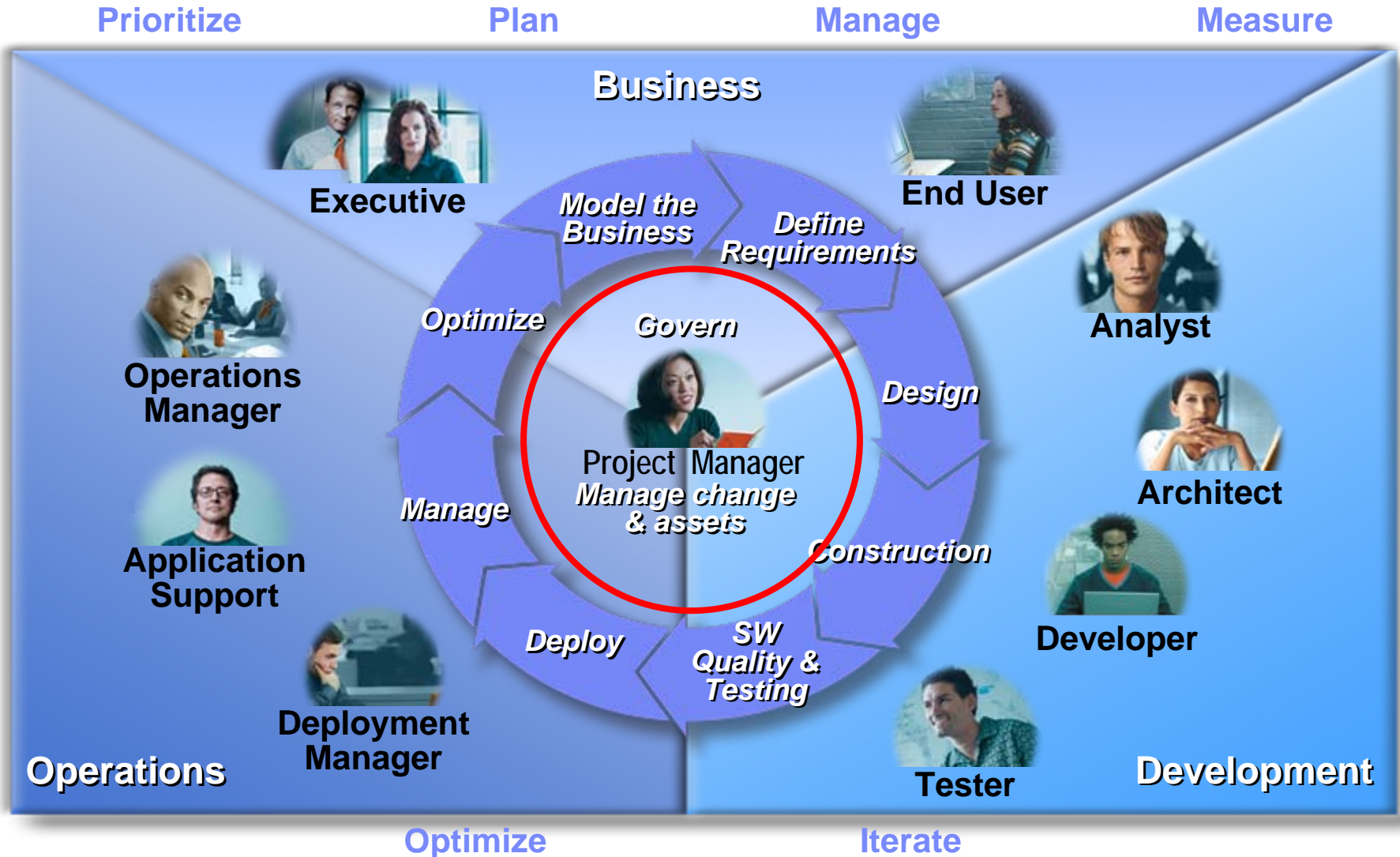
Tester performs automated and manual functional testing based on use cases derived from business requirements

IBM Rational Manual Tester
IBM Rational Functional Tester



The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Change/Configuration Management



- **Customers, Stakeholders and Practitioners**
 - Project Manager, Configuration Manager, Release Manager, Integration Manager
- **Industry Performance**
 - Over 70% of software build errors are attributed to poor software configuration management. With good change management, this can be reduced by a factor of eight.
- **Business Questions**
 - What are you using for managing your software assets and change requests?
 - Do your software development teams need to do offshore, outsourced, or other geographically diverse development?
 - How hard is it for you to incorporate and manage evolving changes, such as defects and new requirements, into your system?

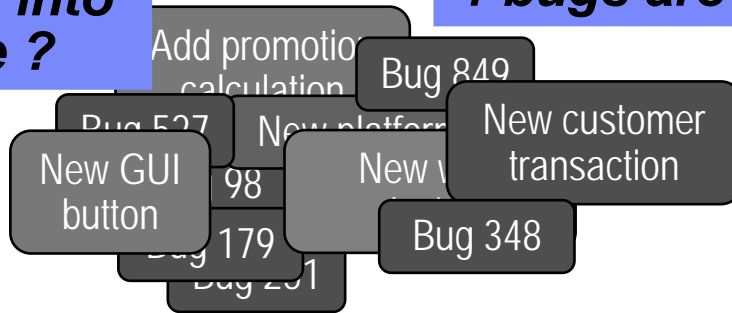


Managing Change: The Challenge



Analyst

Did requirement 462 make it into this release ?



How many severity 1 bugs are left?

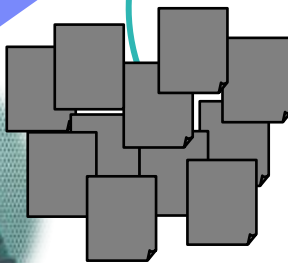


Project Manager

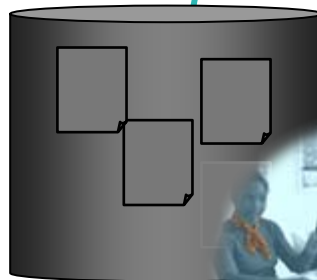
Of course I didn't forget a file...



Developers

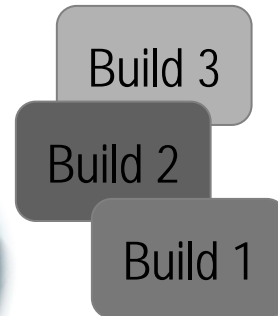


Why did the build break?



Integrator

Is bug 873 fixed in this build?



Testers



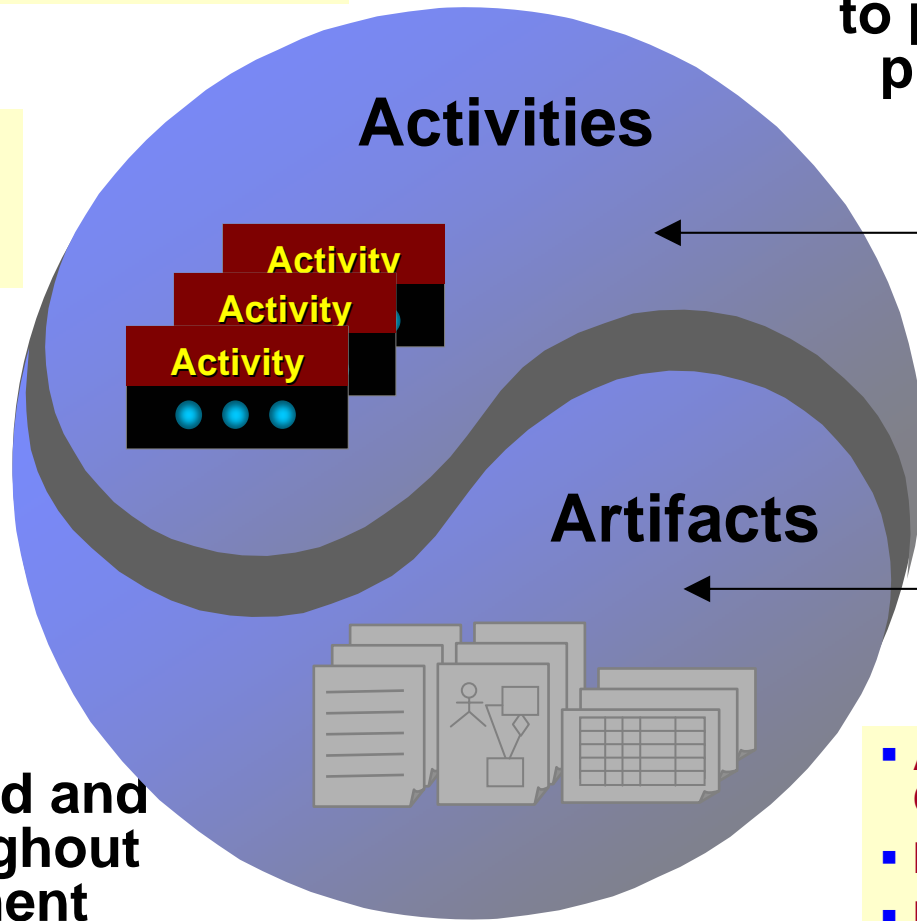
Unified Change Management: The Solution

▪ **Never forget a file again**

- **Organize Projects**
- **Track Project Status**
- **Easy to Adopt**

Activities carried out to plan and track project status

ClearQuest



ClearCase

Assets generated and modified throughout the development lifecycle

- **Assemble Systems Consistently**
- **Manage Baselines**
- **Maintain Build Audit Trail**



ClearCase Integration Inside RAD/RSA

- Provides ClearCase perspective with multiple Eclipse views
- Improved performance in a WAN environment
- Leverages existing CC Web infrastructure
- Better support for disconnected mode and remote users
- Supports ClearCase ↔ ClearQuest interaction (UCM) in a WAN environment

ClearCase
Toolbars

The screenshot displays the Eclipse IDE interface with several ClearCase-specific views:

- ClearCase Navigator view:** Shows a hierarchical project structure. The 'Source' folder is expanded, revealing sub-folders like 'com', 'rational', and 'cdshop'.
- ClearCase Details view:** A table listing files with their sizes and states.

Name	Size	Modified Time	State
AdminFrame.java	3051	Mar 24, 2004 10:33:01 AM	Loaded
CDAdmin.java	2313	Mar 24, 2004 10:33:02 AM	Loaded
CDMainPane.java	17189	Mar 24, 2004 10:33:03 AM	Loaded
CustomerMaintPane.java	17452	Mar 24, 2004 10:33:05 AM	Loaded
Fonts.java	3612	Mar 24, 2004 10:33:06 AM	Loaded
Logon.java	4761	Mar 17, 2004 1:20:46 PM	Checked Out
TaxMaintPane.java	12131	Mar 24, 2004 11:06:15 AM	Loaded
- ClearCase Search & Synchronize views:** Shows search results for 'Logon.java' (Checked Out) and 'TaxMaintPane.java' (Loaded), including their full paths.

ClearCase Details
view

ClearCase
Navigator view

ClearCase Search &
Synchronize views

ClearQuest Integration Inside RAD/RSA

- A new client interface for ClearQuest based on Eclipse 3.0
- Provides complete CQ capabilities for developers and testers in the Eclipse IDE
- Replaces existing ClearQuest Result Set plugin,

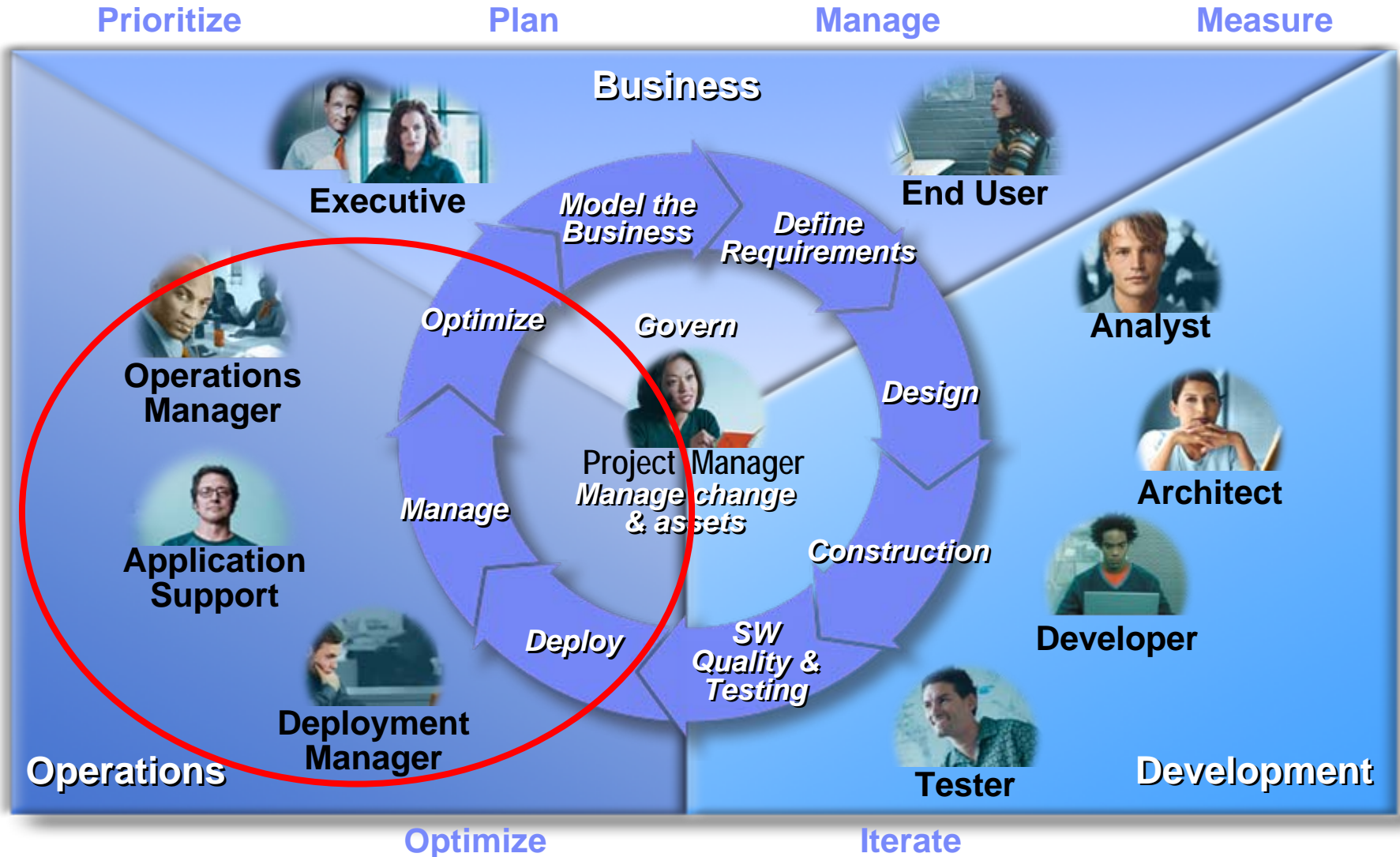
The screenshot displays the Rational Defect and Change Tracking (DCT) application within the Eclipse IDE. The interface is divided into several panes:

- Workspace view:** Shows a tree structure of ClearQuest queries and filters on the left side.
- Result Set view:** A table displaying a list of defects with columns for ID, Headline, Severity, Owner, and State. A context menu is open over one of the rows, showing options like 'Validate', 'Reject', 'Duplicate', 'Modify', 'Delete', 'Add Attachment', 'Details', 'Refresh', and 'Properties'.
- Properties view:** A table showing properties for the selected defect, such as 'Actual_Iteration' (2), 'am_statetype' (Complete), and 'id' (CLSIC00000037).
- Console view:** Shows the output of the application, including a successful login message for 'CLSIC@CLSIC'.
- Record Details form view:** A detailed form for the selected defect (ID: CLSIC00000037), showing fields for Headline, Suite Project, UCM Project, Priority, Severity, Owner, and Description.



The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Deployment Management and Monitoring

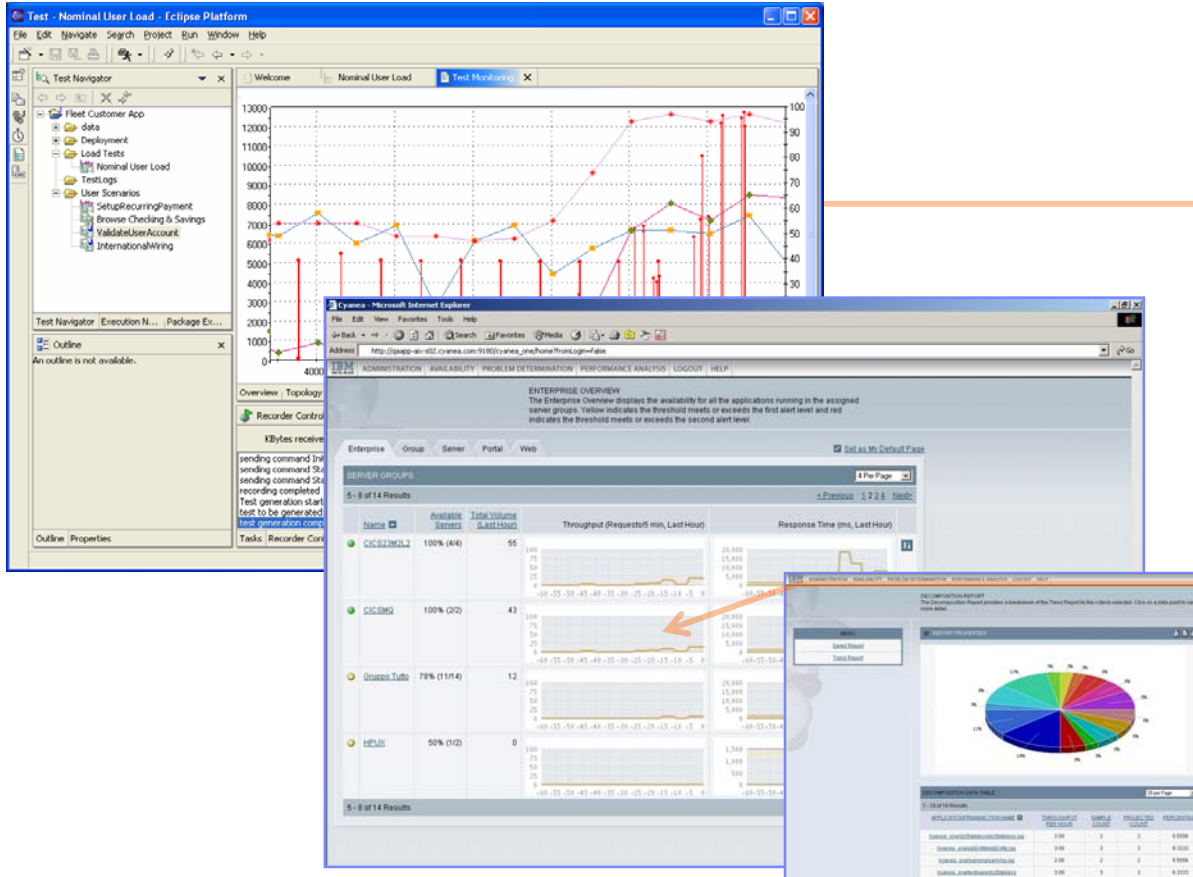


- **Customers, Stakeholders and Practitioners**
 - Production Manager, Operations Manager, Release Manager
- **Industry Performance**
 - Nearly 75% of problems are not identified by traditional system monitors
 - Most problems take over 4 hours just to isolate
 - Many specialists (10+) are assigned to solve an end user problem
 - Most application problems go back to development group, which can't recreate the production problem
- **Business Questions**
 - How do you ensure you release the correct development versions of applications to your production environment?
 - How do you monitor the performance of your complex production applications?
 - How do you establish reliable and automated processes to ensure quick problem reproduction, diagnose and repair?
 - Monitor the end user's experience, proactively?



Step six: Deploy

Plan capacity and ensure compliance with Service Level Agreements



Tester evaluates the scalability of the new application based on Service Level Agreements captured in business model



Deployment team builds capacity plans based on performance tests

*IBM WebSphere Studio Application Monitor
IBM Rational Performance Tester*



Step seven: Manage and Monitor

Monitor service levels with a centralized view into your network, systems, middleware, and application performance



Time Received	Class	Hostname	Severity	Status	Message
October 11, 2004 4:23:33 PM...	TMT-MS-Event	was60-332a	Minor	Open	The ViewAccountHistory transaction of the Home...
October 11, 2004 4:23:01 PM...	TMT-STS-POLICY-VIOLATION	was60-331b	Warning	Open	Policy Name="Search_Books_by_Author"
October 11, 2004 4:22:00 PM...	WebSphereAS_high_Servlet_Respo...	was60-332a	Warning	Open	The servlet response time (17521 ms) of the ins...
October 11, 2004 4:22:00 PM...	WebSphereAS_high_CPU_Utilizati...	was60-332a	Warning	Open	The CPU utilization (91.450000) percent of the pr...
October 11, 2004 4:21:48 PM...	TEC ITS_SUBNET_CONNECTIO...	sw519241-cs	Warning	Open	Subnet unreachable
October 11, 2004 4:20:59 PM...	TMW_LowAvailCausingManyProble...	was60-332a	Critical	Open	The amount of committed memory is approachin...
October 11, 2004 4:18:43 PM...	Domino_Database_Corruptio...	wma-dsvr	Warning	Open	One or more views of a database has corruption...
October 11, 2004 4:17:10 PM...	TMW_ProcessHandleLeak	wma-dsvr	Warning	Open	Process arch.exe (PID 780) leaking handles.
October 11, 2004 4:17:02 PM...	TMW_ProcessHoggingCPU	was60-33...	Warning	Open	

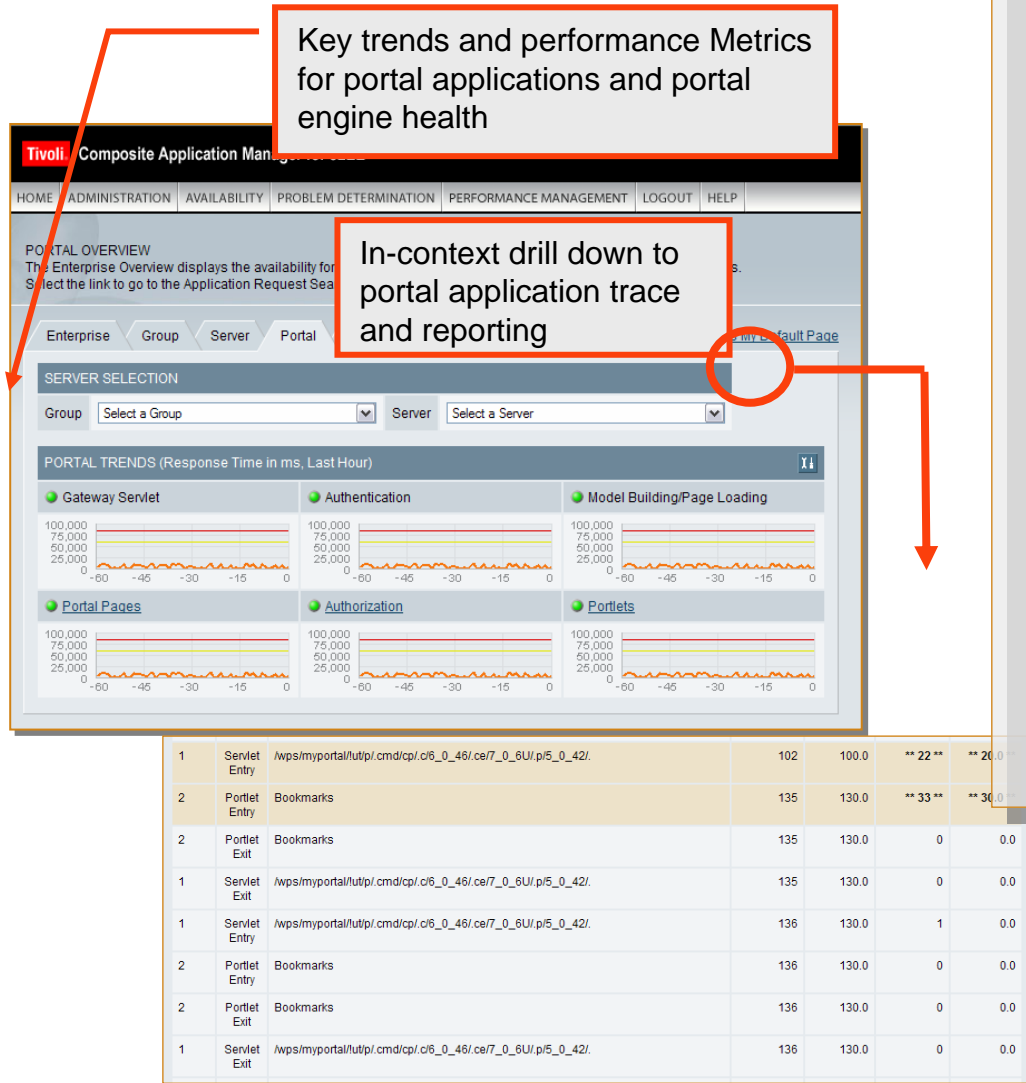


Operations Manager monitors application performance and is automatically notified of problems, enabling fast triage to the right stakeholders (application, DB, network, etc.)

IBM WSAM, Tivoli Enterprise Console, and IBM Tivoli Monitoring for Transaction Performance



Advanced WebSphere Portal Monitoring WSAM 3.2



Key trends and performance Metrics for portal applications and portal engine health

In-context drill down to portal application trace and reporting

New ITCAM for J2EE Portal Monitoring Highlights

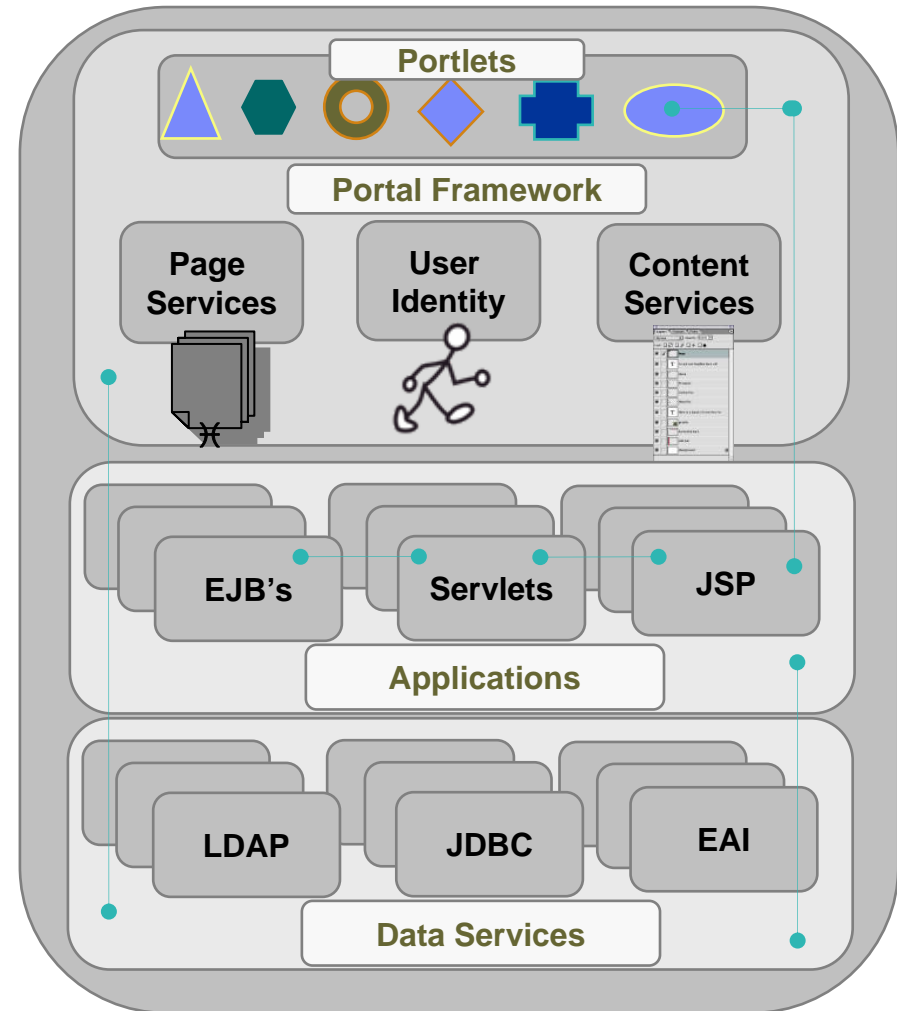
- Portal Overview page/tab
 - Trend views of recent performance of critical metrics
- Links to new trend PAR reports:
 - Gateway Servlet, Building Models, Page Loading, Authentication, Authorization
- Powerful Drill-down for deep portal diagnostics
 - Nested Request support for instance-level tracing on Pages and Portlets



Integrated Portal Transaction Monitoring

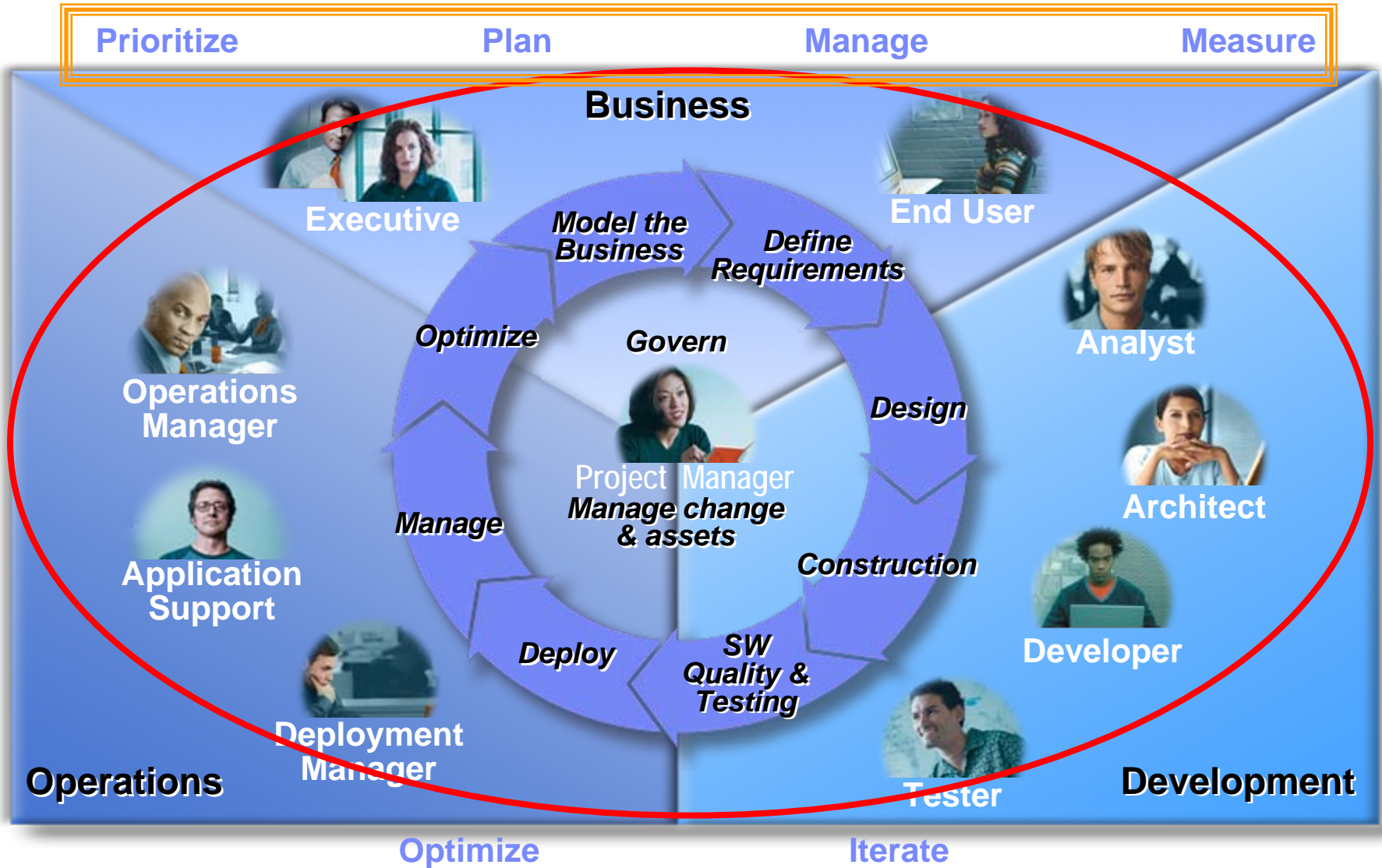
- **Performance Analysis**
 - ▶ Rich historical data
 - ▶ Interactive graphical presentation
 - ▶ Application demand characterization for accurate infrastructure sizing
- **Problem Determination**
 - ▶ Quickly isolate problematic application components
 - ▶ Drill-down from portlets to components to methods with few clicks
- **Transaction Tracing**
 - ▶ Track and correlate portlet-initiated transactions throughout computing infrastructure

● ● << Managed Transaction Pathways



The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Prioritize, Plan, Manage and Measure

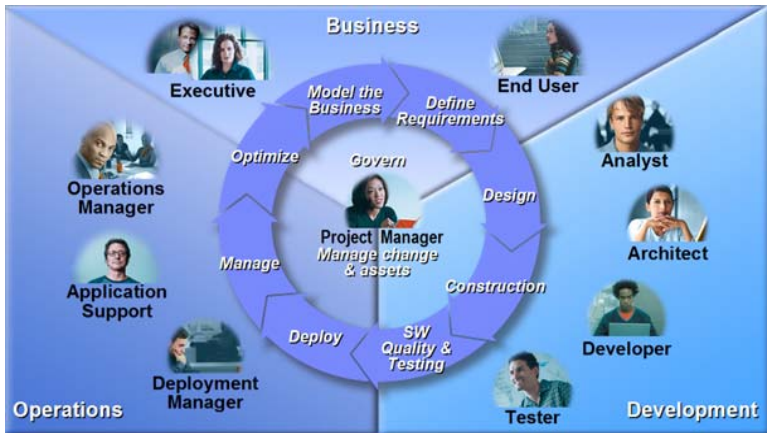
Align priorities, projects and people

- For executives
 - ▶ Visualize and balance portfolios
 - ▶ Make objective “save/kill” decisions
 - ▶ Move smoothly from initiatives to measurable programs and projects
- For project and program managers
 - ▶ Quickly ramp projects with reusable processes based on best practices
 - ▶ Balance workload and manage demand
 - ▶ Manage skills inventory and usage
 - ▶ Actively manage risks and issues
- For team members
 - ▶ Communicate, coordinate and collaborate globally

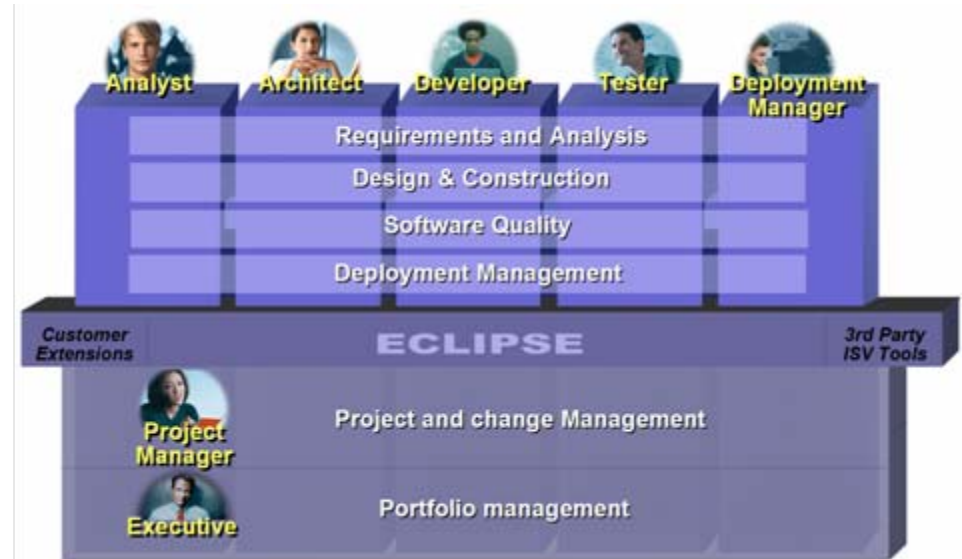


IBM Rational Portfolio Manager

SDP Summary - IBM Rational Software Development Platform



- V6 Lifecycle tools views are integrated into a single RAD IDE
- Industry challenges addressed

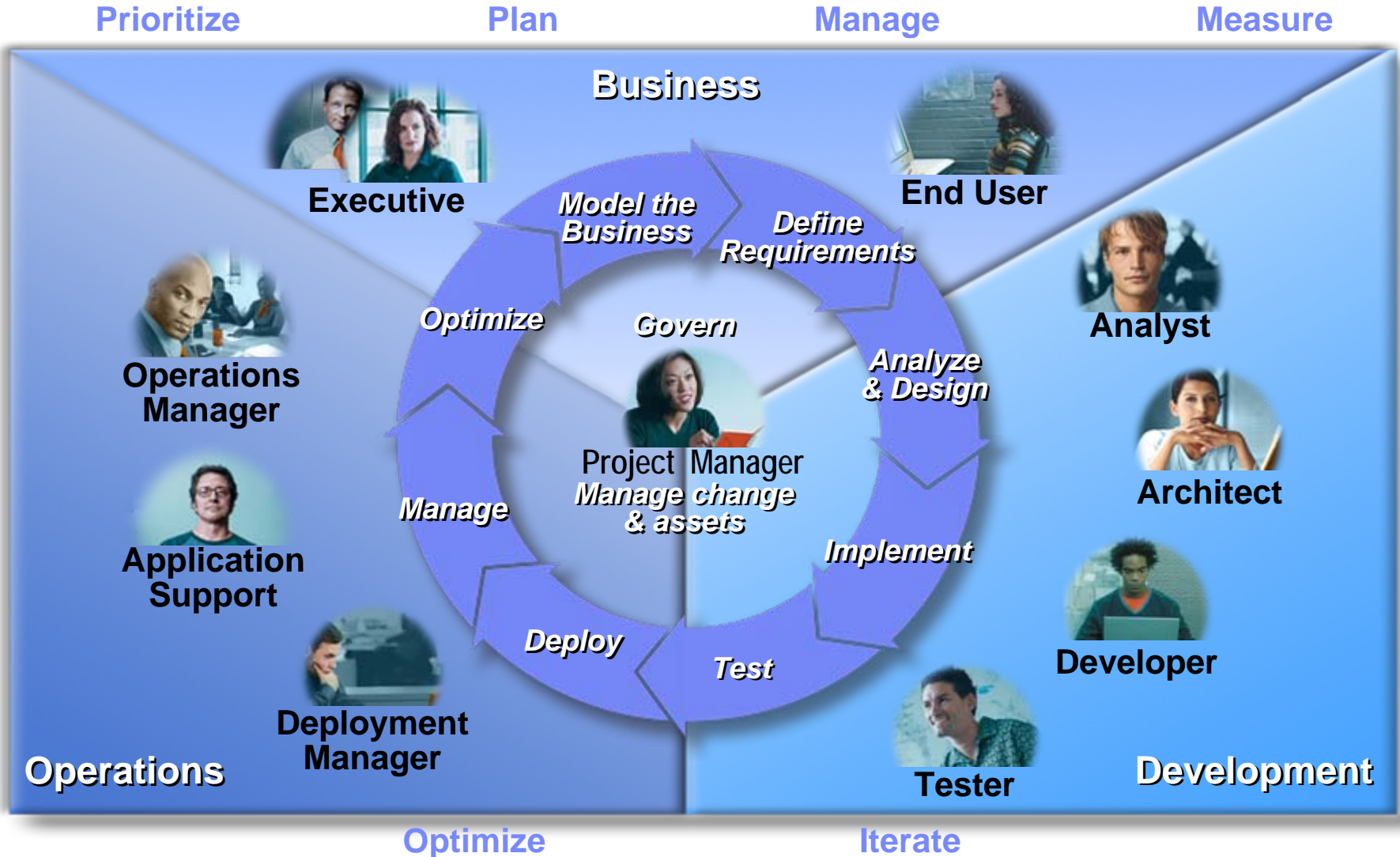


- Requirements: 70 – 80 % of project failures are tied to poor analysis of requirements
- Development: 65% of development projects fail to meet expectations
- SW Quality/Testing: Developers make up to 150 errors in every thousand lines of code
- SW Quality/Testing: Only 14% of new web applications perform as planned in production
- SW Quality/Testing: The average new web application is down nearly one day per week
- Change Mgmt: Over 70% of build errors are because of poor SW Config management.
- Portfolio Mgmt: Nearly 75% of problems are not identified by traditional project mgmt SW



The Business Driven Development Lifecycle

IBM Rational Software Development Platform





IBM Software Group

Application Development Tools

→ *What's Next - New SOA Tools in 3Q'05* ←



Name

Title

Company

Introducing the IBM SOA Foundation

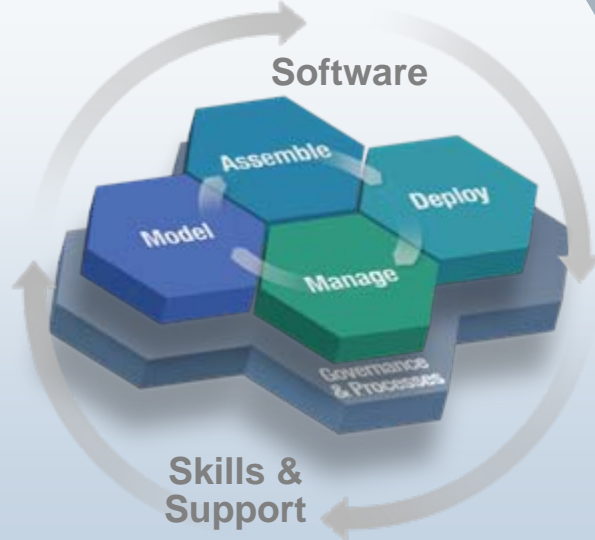
Provides What You Need to Get Started with SOA

IBM SOA Foundation: Integrated, open set of software, best practice, and patterns

Supports complete lifecycle with a **modular** approach

Scalable; start small and grow as fast as the business requires

IBM SOA Foundation



Extends value of your existing investments, regardless of vendor

Extensive business and IT standards support; facilitating greater **interoperability & portability**

Leveraging existing IT Infrastructure



CICS



IMS

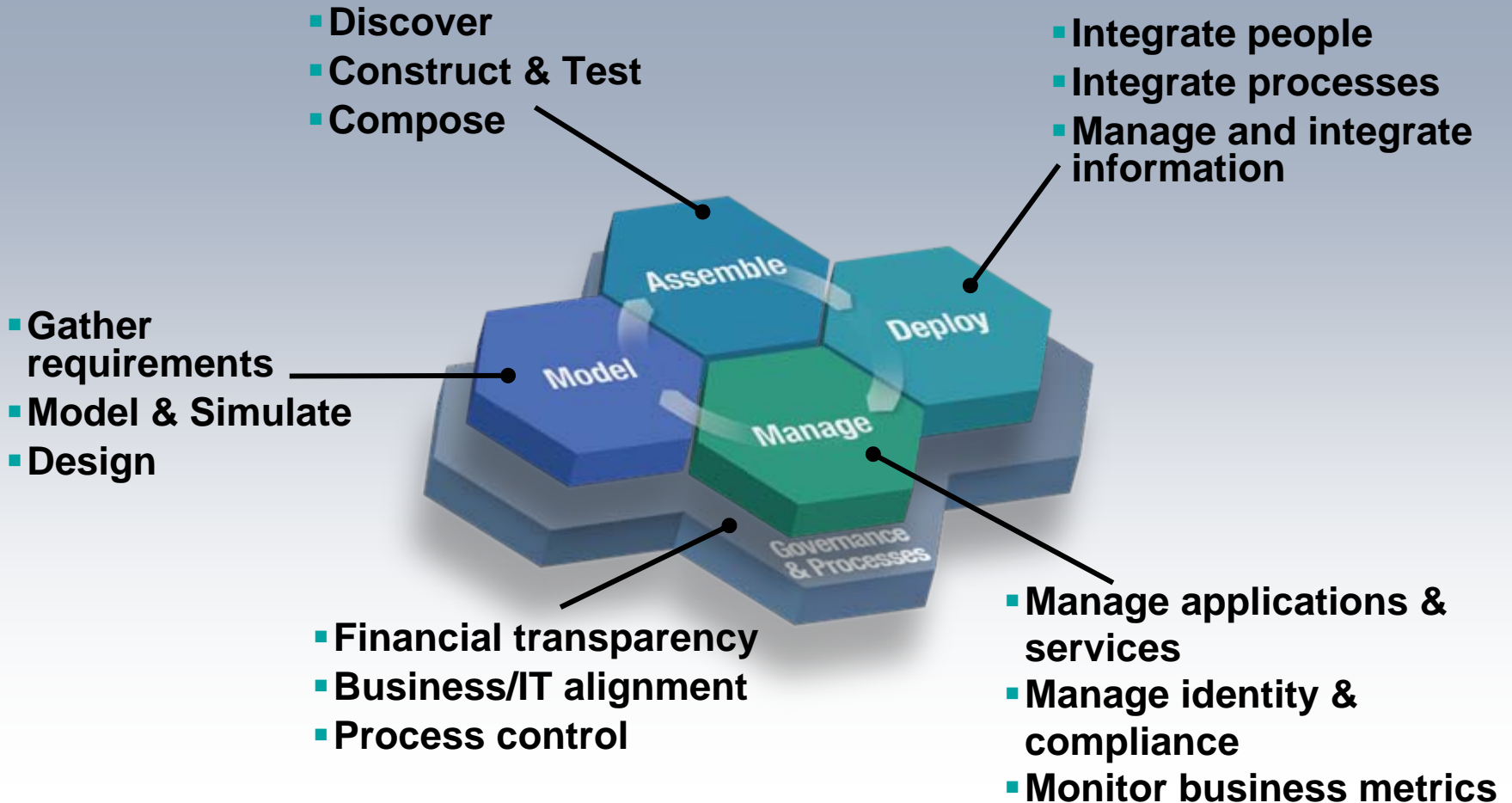


Custom Apps.



SOA Tools - Customer Touch Points

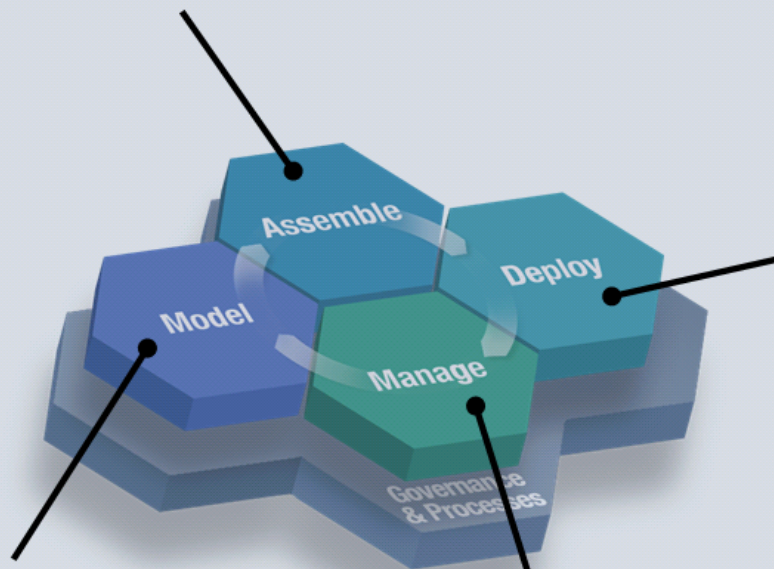
The SOA Lifecycle



SOA Foundation

Part of a broader portfolio to meet your every need

WebSphere Integration Developer*
Rational Application Developer*



WebSphere Business Modeler*
Rational Software Architect*

WebSphere Business Monitor*
Tivoli Composite Application Manager*
Tivoli Identity & Access Manager

Process:

WebSphere Process Server*
WebSphere ESB* & Message Broker*
WebSphere Partner Gateway & Adapters

People:

WebSphere Portal*
WebSphere Everyplace Deployment*
Workplace Collaboration Services*

Information:

WebSphere Information Integrator*

Application Infrastructure:

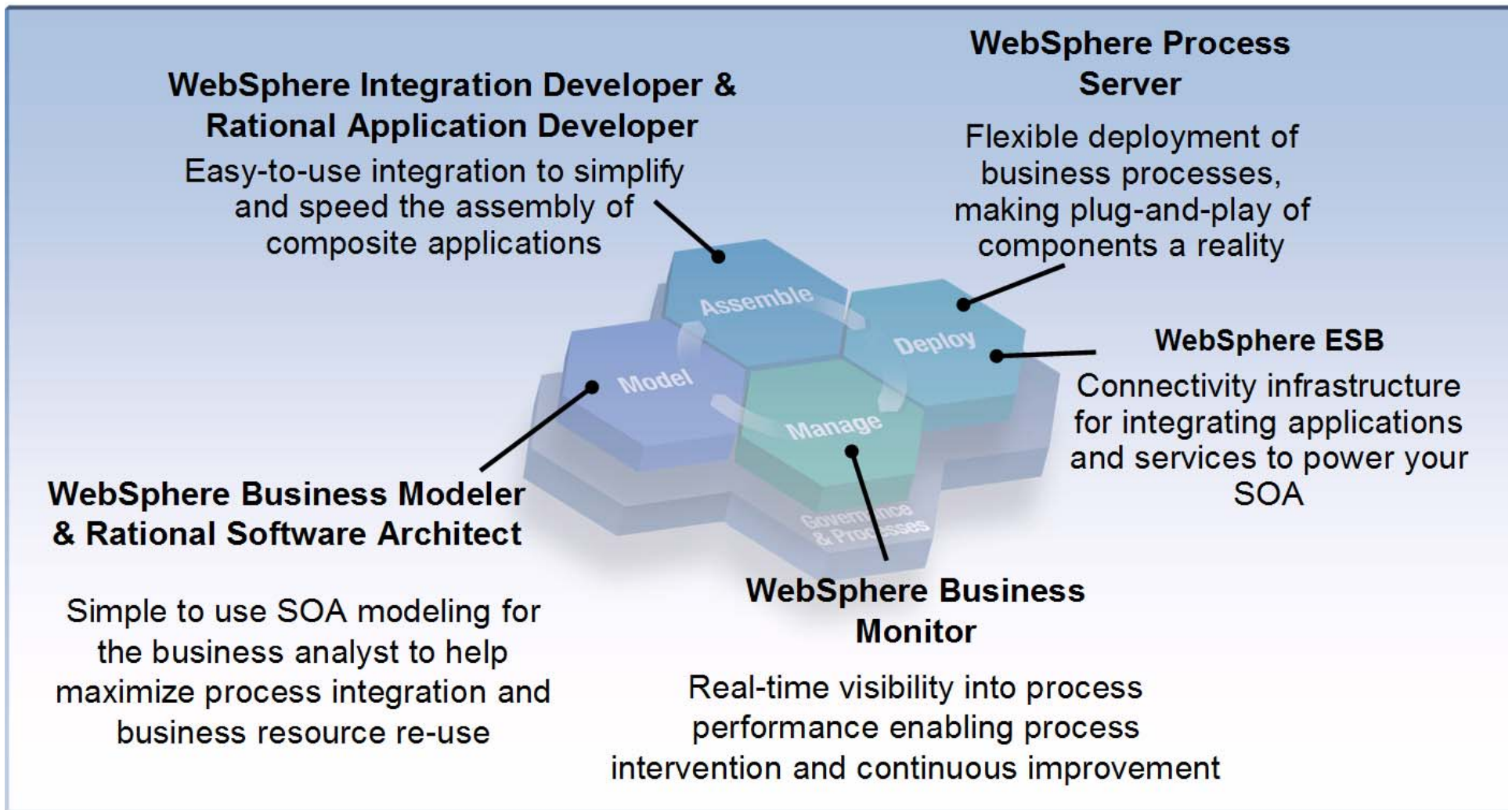
WebSphere Application Server & XD*

*** New or Enhanced**

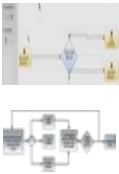





SOA Tools – IBM Offerings

New! From IBM WebSphere/Rational software



SOA Developer Roles – Rational/WebSphere Tools

Role	Description	Benefits & Skill Requirements
 <p>Business Analyst</p>	<p>Models and optimizes business processes to reengineer existing business processes or define new business processes</p>	<ul style="list-style-type: none"> ▪ No programming experience required ▪ Can focus on business performance & process
 <p>Integration Developer /Specialist</p>	<p>Uses visual tools to configure integration logic with existing and new applications and humans in the network</p>	<ul style="list-style-type: none"> ▪ Some basic programming experience ▪ No J2EE skills required ▪ Expects tools to simplify and abstract advanced IT implementation details
 <p>J2EE Application Developer</p>	<p>Creates new applications using Java development tools</p>	<ul style="list-style-type: none"> ▪ Focused specifically on J2EE implementation
 <p>Enterprise Developer</p>	<p>Extend legacy assets to new users and enable those assets to be used in Service Oriented Architectures (SOA) and as Web services</p>	<ul style="list-style-type: none"> ▪ Focused on mixed workload of J2EE and COBOL/PL1/RPG environments



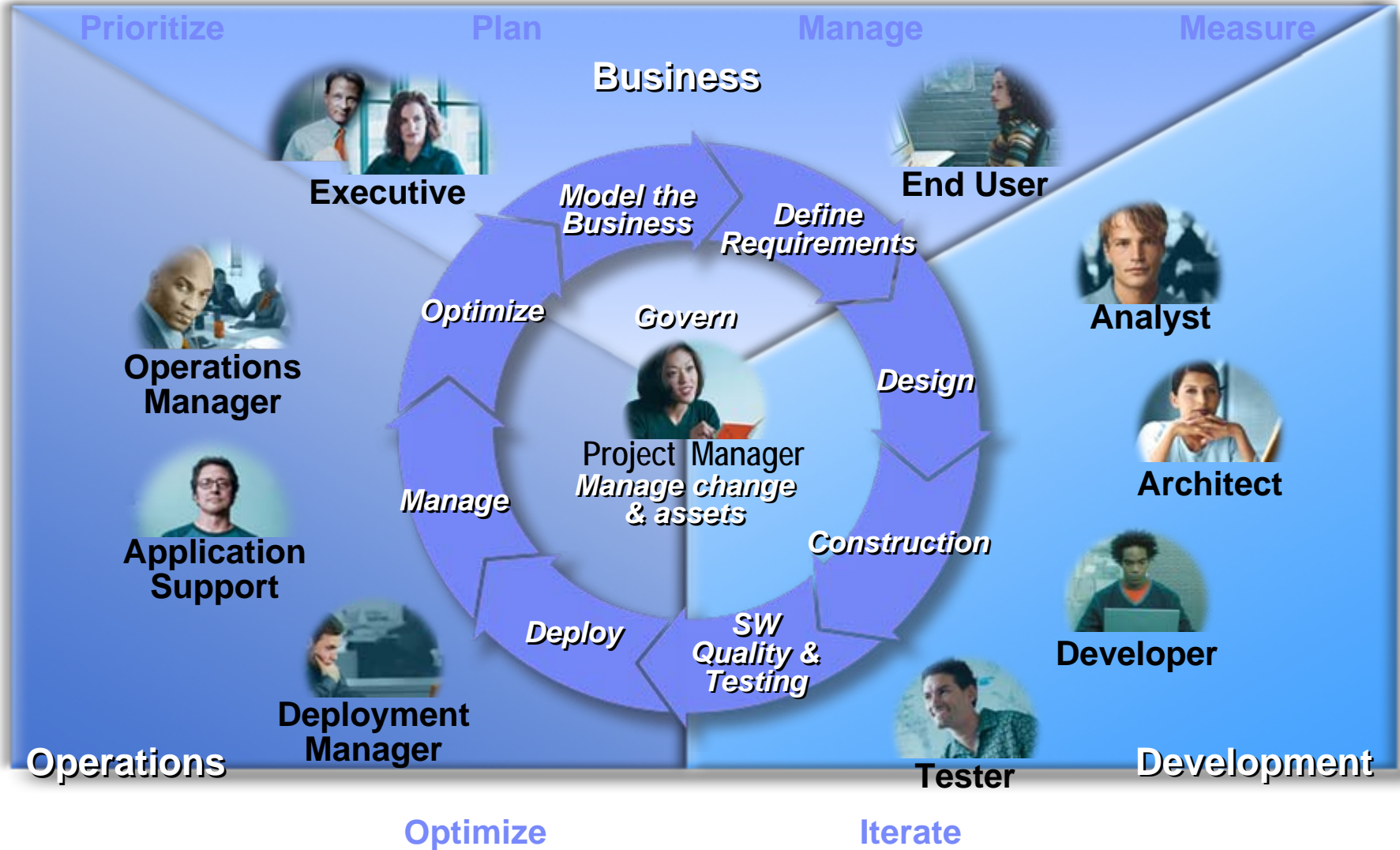
SOA Developer Roles – Rational/WebSphere Tools

Practitioner Role	Previous/Current Product	V6 Offering
Business Analyst	<ul style="list-style-type: none"> • WebSphere BI Modeler v5.1 <ul style="list-style-type: none"> • Entry/Advanced Editions 	<ul style="list-style-type: none"> • WebSphere Business Modeler (3Q'05)
Integration Specialist	<ul style="list-style-type: none"> • <i>WSAD-IE v5.1</i> • WebSphere BI Server Toolset v4.3 	<ul style="list-style-type: none"> • WebSphere Integration Developer (3Q'05)
J2EE Application Developer	<ul style="list-style-type: none"> • WebSphere Studio Application Developer v5.1 (WSAD) • <i>WSAD-IE v5.1 (JCA Tools)</i> 	<ul style="list-style-type: none"> • Rational Application Developer – RAD
	<ul style="list-style-type: none"> • WebSphere Site Developer v5.1 (WSSD) 	<ul style="list-style-type: none"> • Rational Web Developer – RWD
Enterprise Developer	<ul style="list-style-type: none"> • WebSphere Studio Enterprise Developer v5.1 	<ul style="list-style-type: none"> • WebSphere Developer for zSeries
	<ul style="list-style-type: none"> • WebSphere Development Studio v5.1 • WebSphere Development Studio Client • WebSphere Development Studio Client Advanced Edition 	<ul style="list-style-type: none"> • WebSphere Developer for iSeries



Business Driven Development for SOA

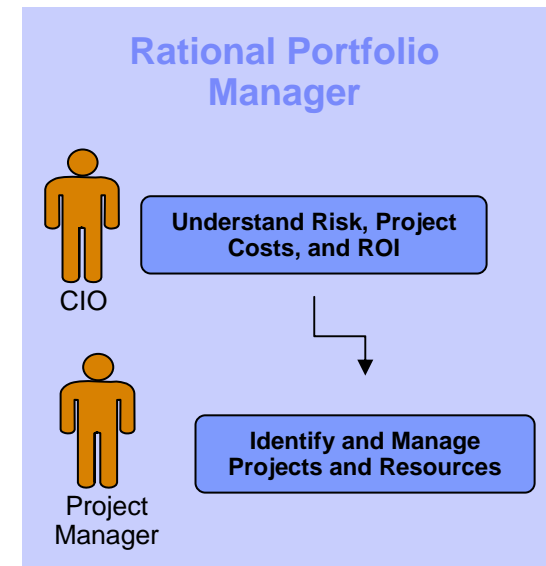
IBM Rational Software Development Platform



Manage Projects and Portfolios

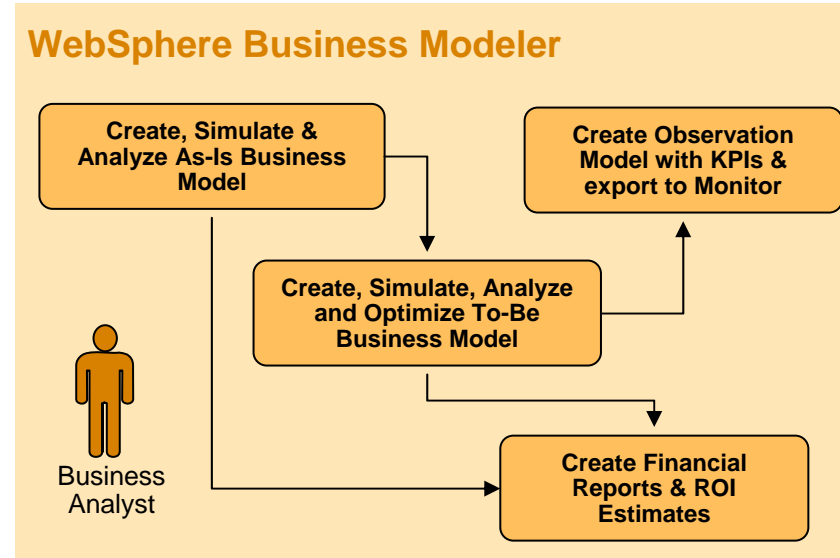
- Prioritize proposed, existing and under-construction services based on business priority, risk and return
- Track service level financials
- Provide deep insight into SOA development
- Manage SOA project-team dependencies
- Forecast demand for service creation and updates
- Understand the cost of SOA creation, and maintenance

operations



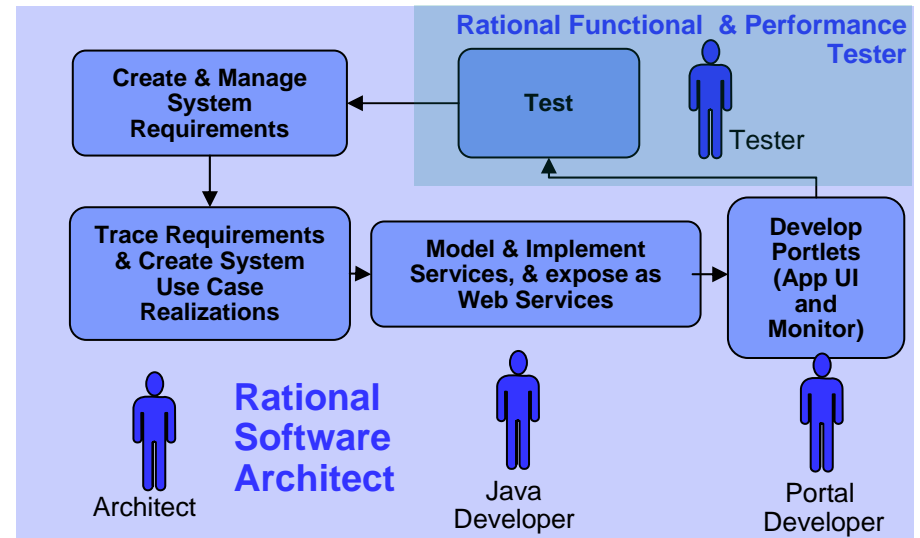
Model the Business

- Discover and design key business processes
- Determine and allocate required resources
- Model the business organization & roles organizational units can play
- Determination of any other process/tasks (services) that must be provided by others



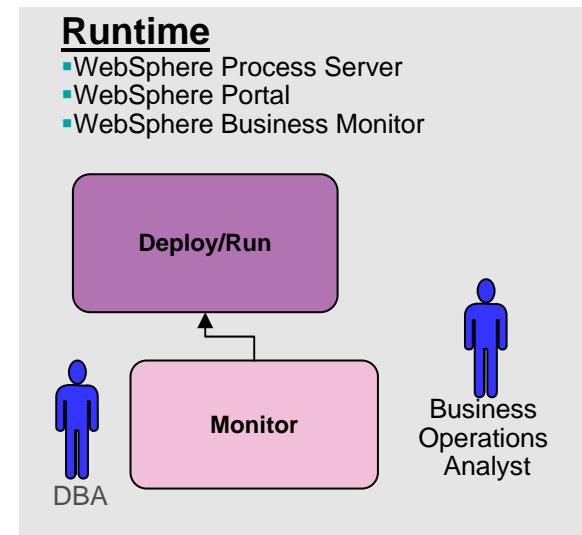
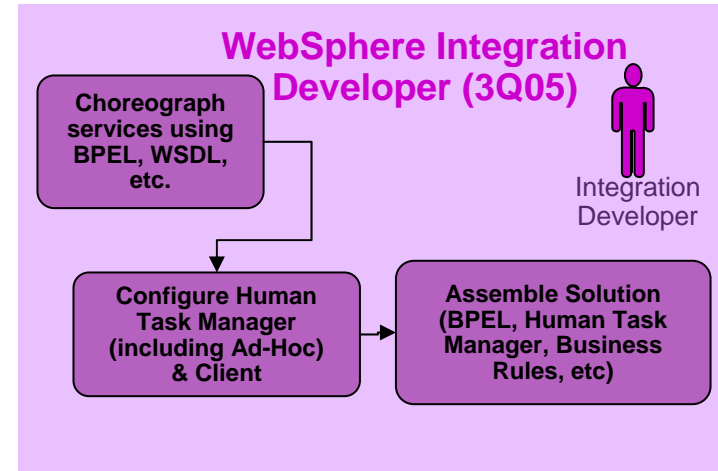
Design, Construct and Test the Services

- Trace enterprise requirements to business processes and service implementations
- Define detailed system requirements and service implementations
- Architect and design the service implementations
- Build new services from scratch or enable existing applications for WS-I compliance
- Discover and consume existing services
- Test functionality
- Test performance



Assemble and deploy composite application

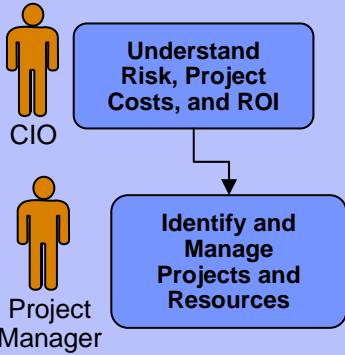
- Implement business processes designed by Business Analysts
 - ▶ Plug in Services
 - ▶ Plug in Human Activities (Staff)
- Test business processes and deploy them to the run-time



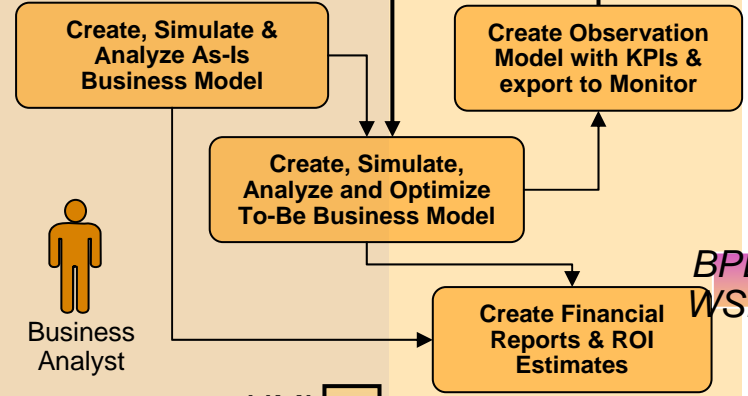
Business Driven Development for SOA in Action

Rational RequisitePro

Rational Portfolio Manager



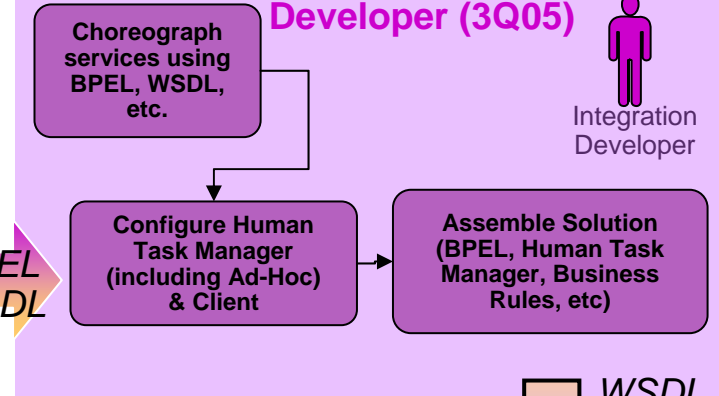
WebSphere Business Modeler



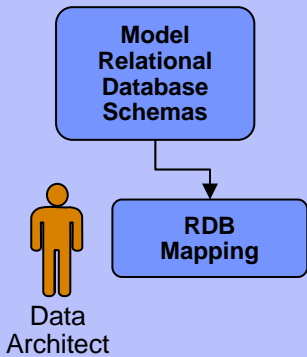
Run-time Statistics

Observation Model

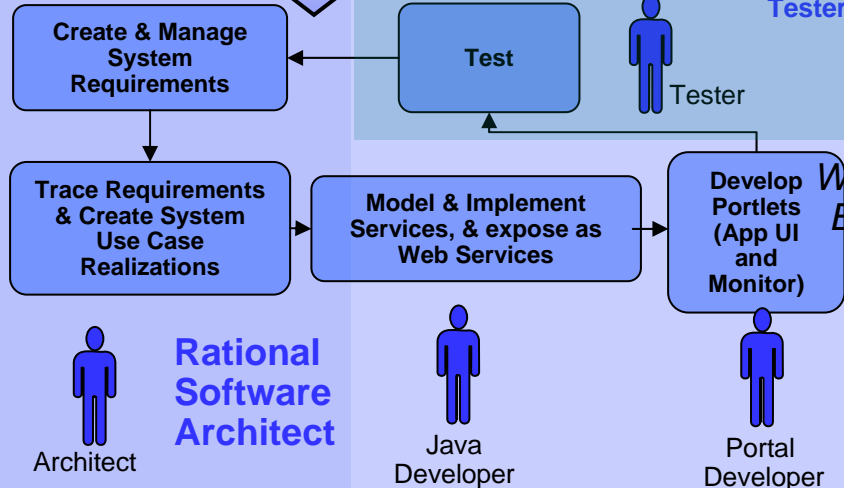
WebSphere Integration Developer (3Q05)



Rational Data Architect (4Q05)

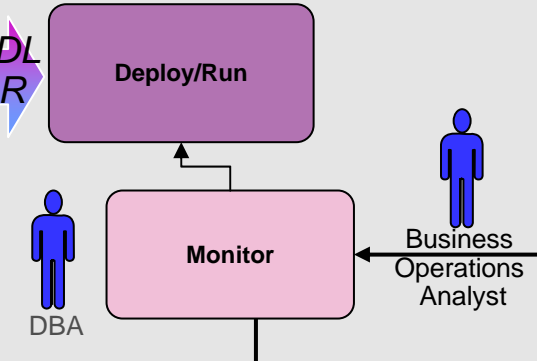


Rational Functional & Performance Tester



Runtime

- WebSphere Process Server
- WebSphere Portal
- WebSphere Business Monitor

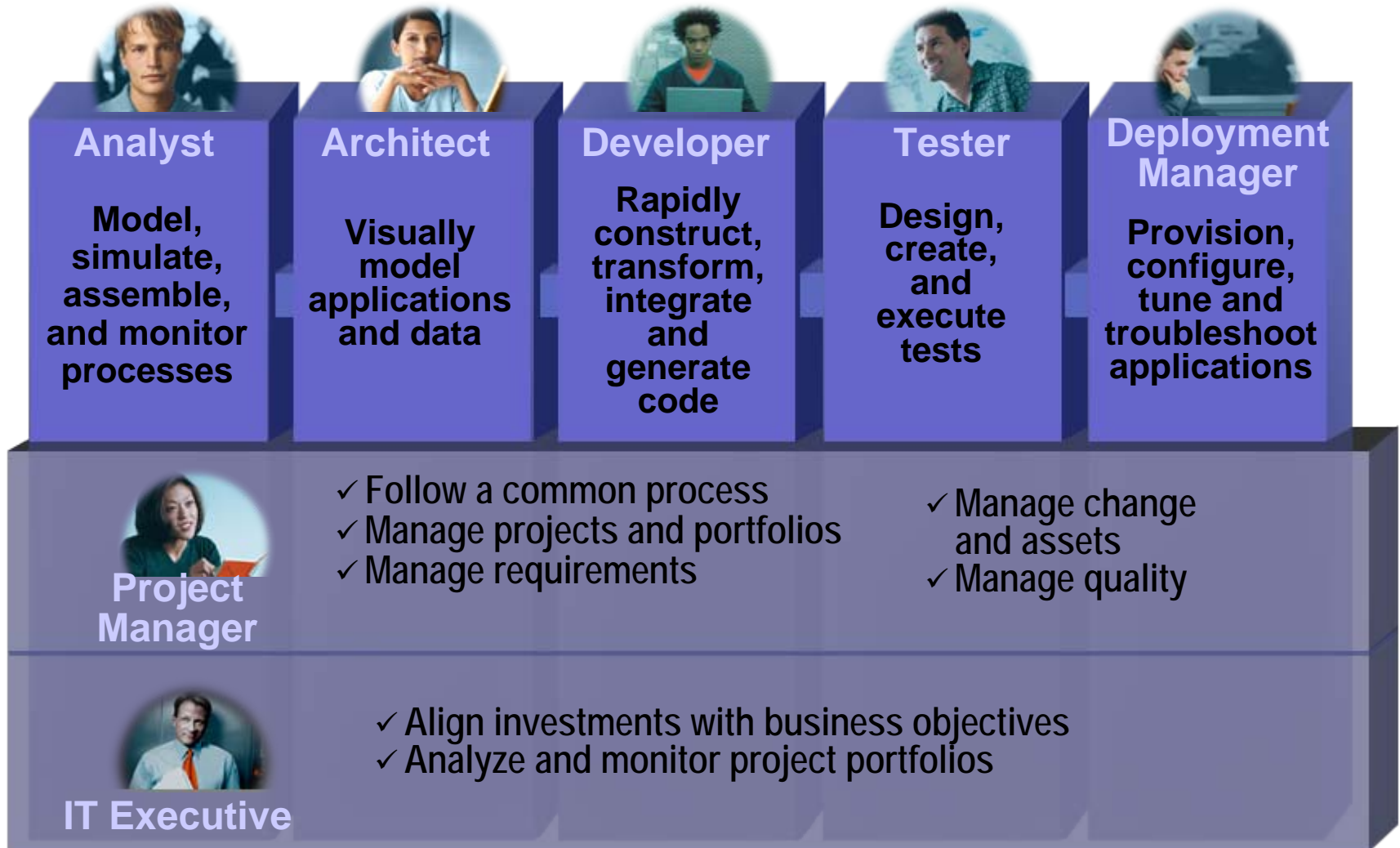


IBM Rational Team Unifying Platform



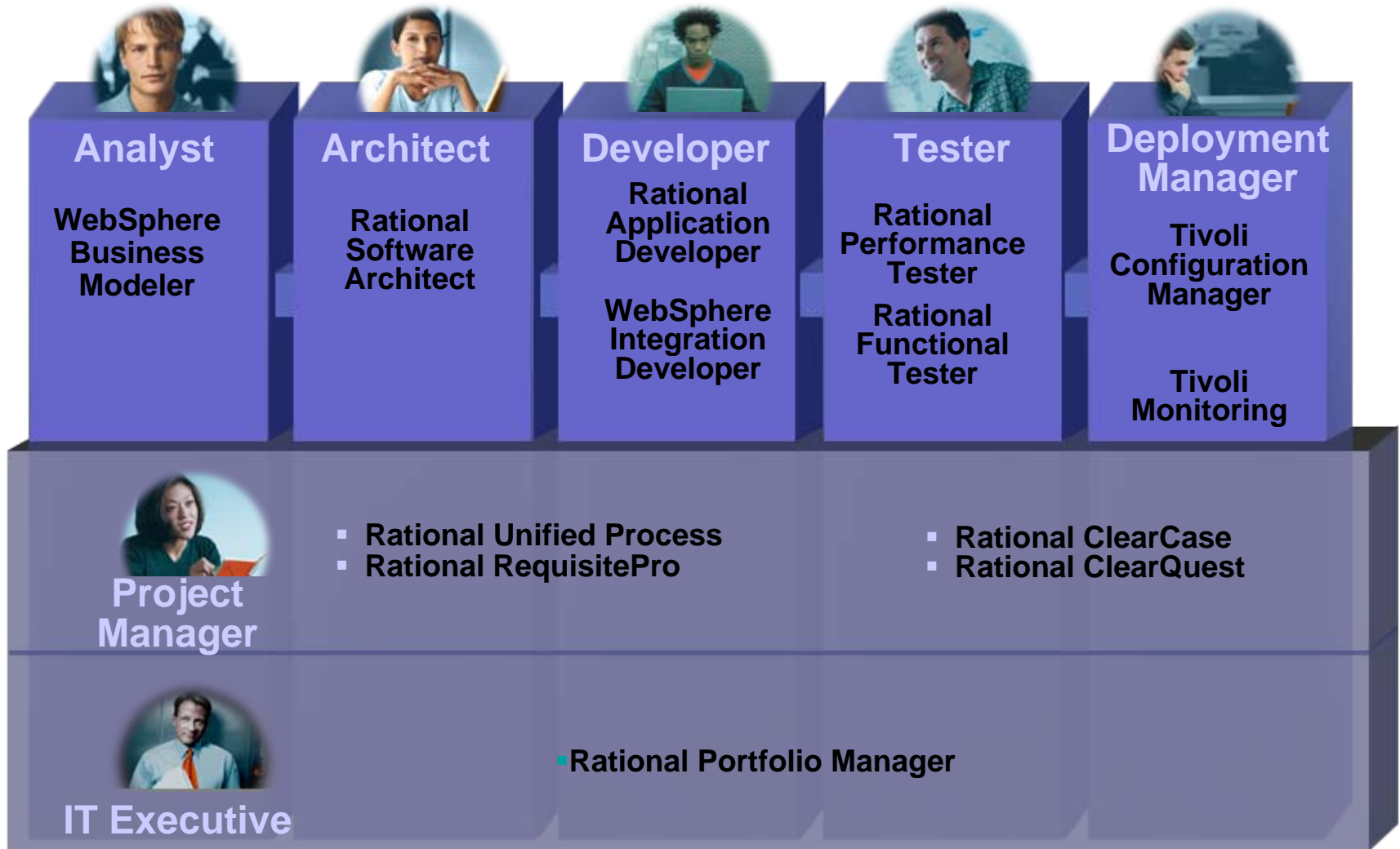
The IBM Rational Software Development Platform

Team Unifying Platform - Roles

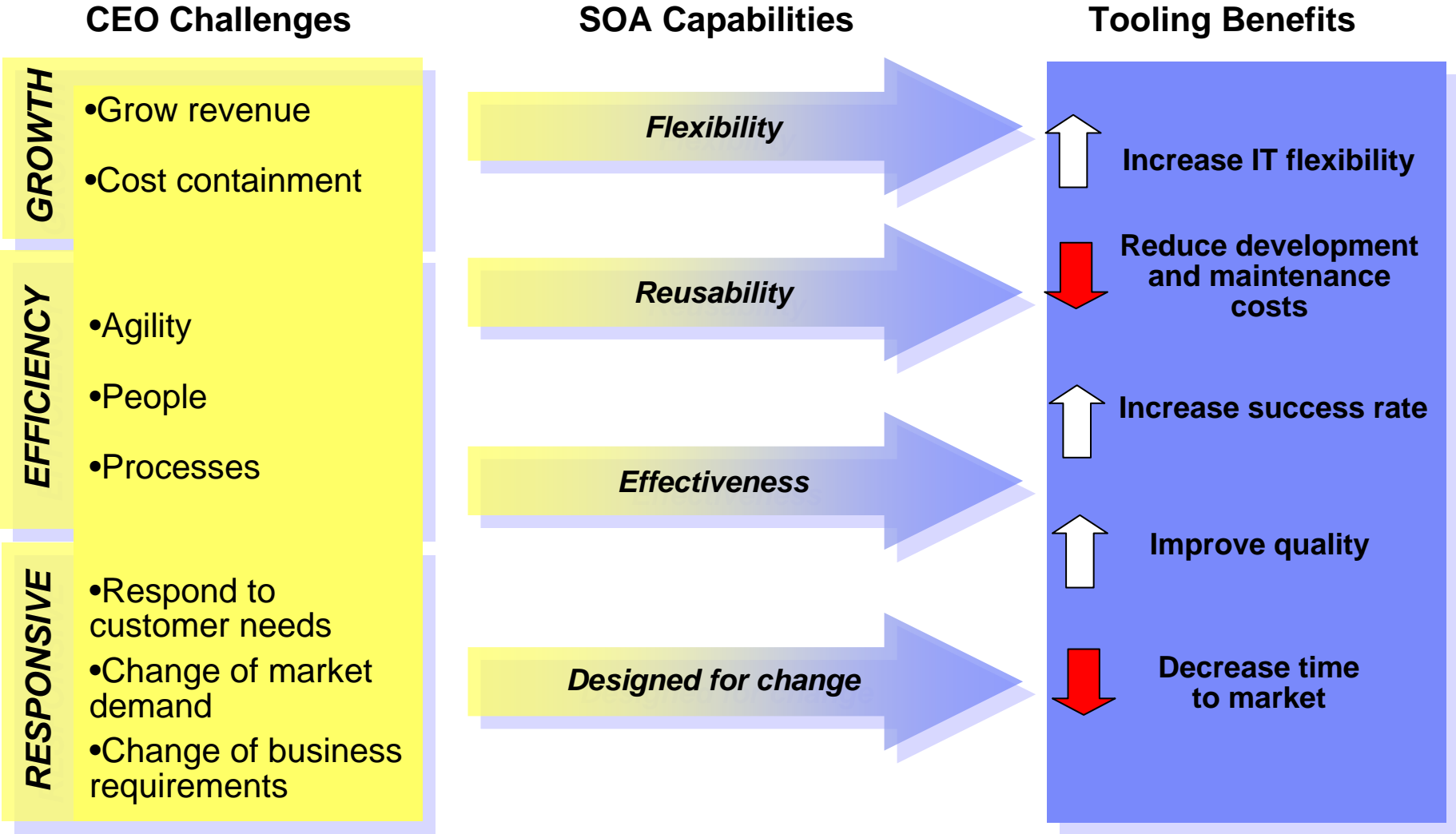


The IBM Rational Software Development Platform

Team Unifying Platform - Products



Summary





IBM Software Group

Application Development Tools

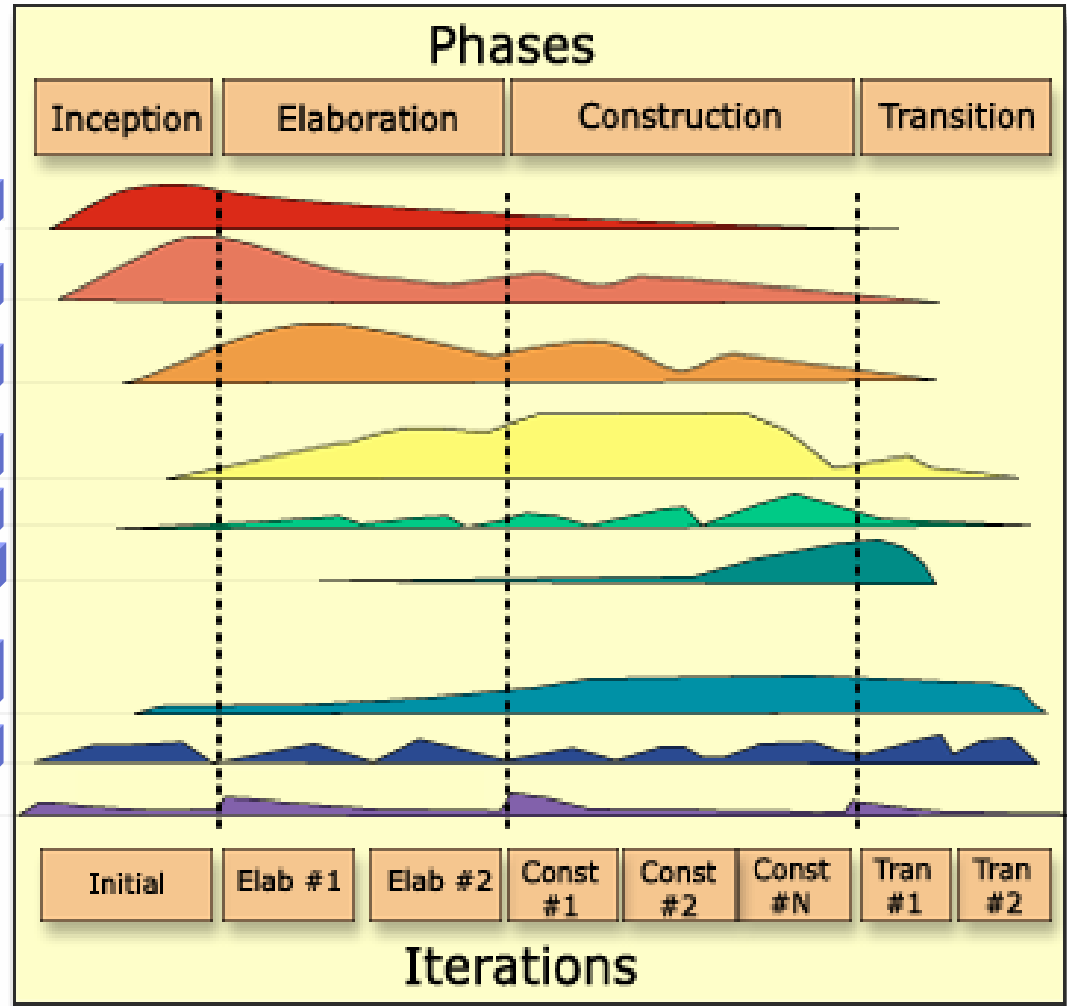
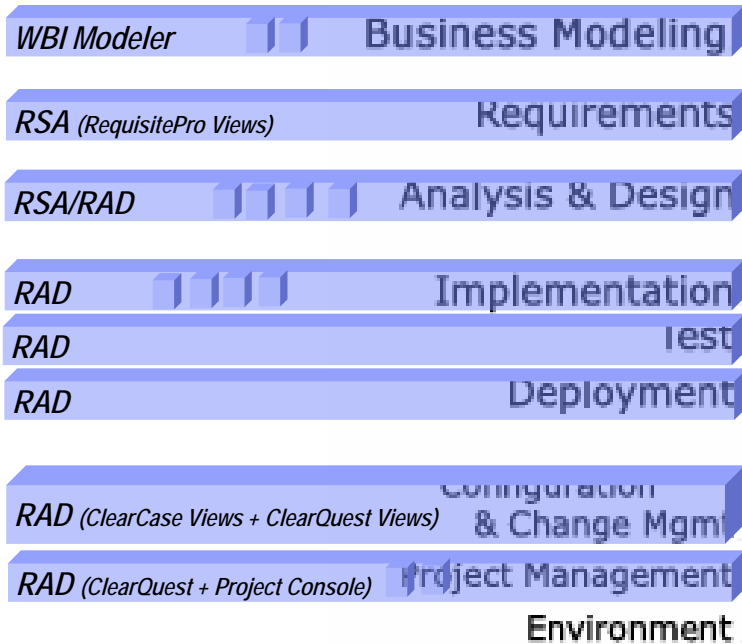
→ Build Tools and Lifecycle Tools ←



Name
Title
Company

Lifecycle Tools – Across The Development Disciplines

Disciplines

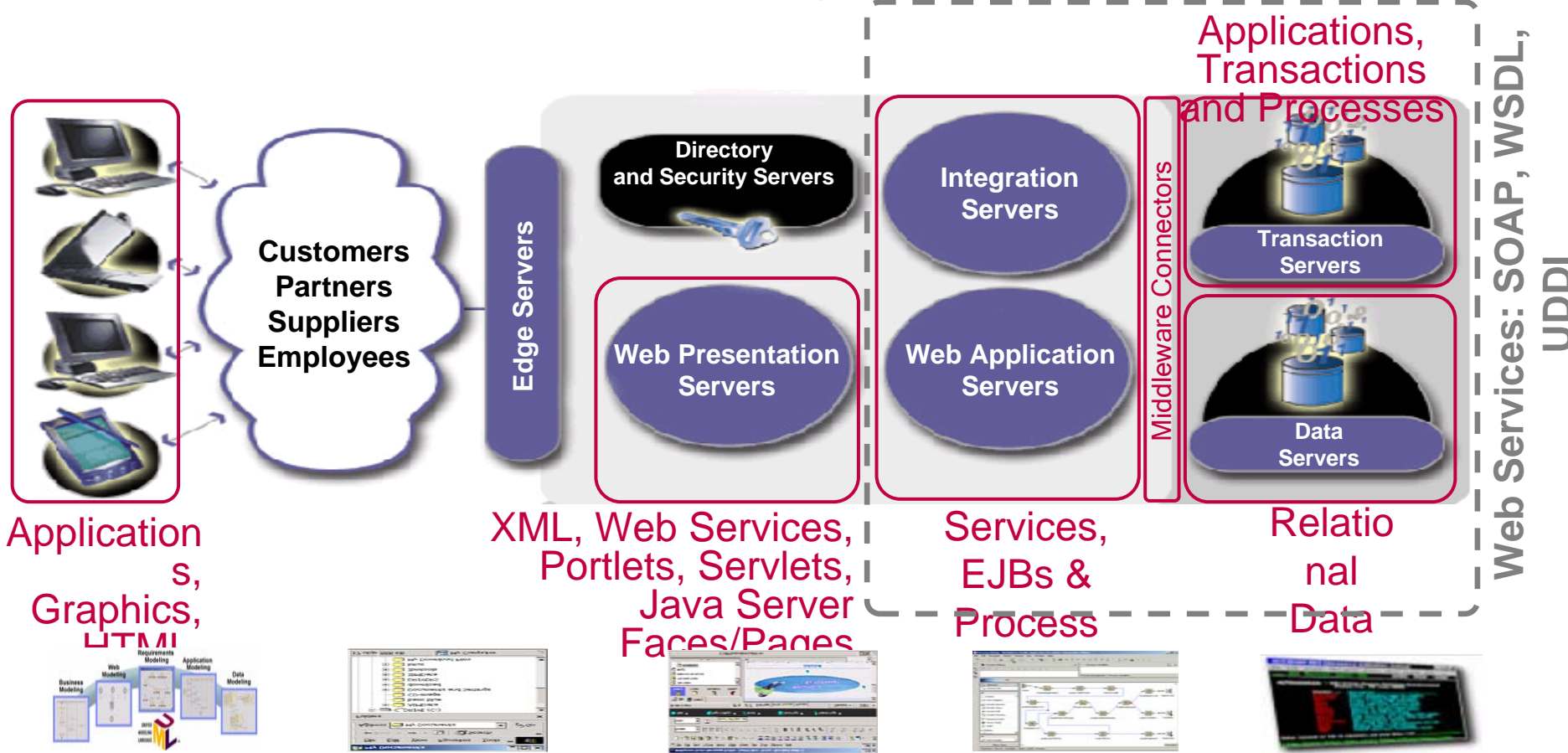


Simplified Packaging and Names

V4 & V5	V6
WSAD	RAD (Rational App Developer)
Rose XDE	RSM (Rational SW Modeler)
WSAD + XDE	RSA (Rational SW Architect)



Build Tools - End-2-End Design & Construction



Development Roles

Application Modeling	Web/Portal Development	Java/J2EE Development	XML Web Services Development	Database App Development	Business Process SOA Integration	Cobol, CICS/IMS, 4GL Development



RAD Top 10 of IBM AD Tools (Adaptable, Automated, Accelerated)

Adaptable - Eclipse-based Workbench

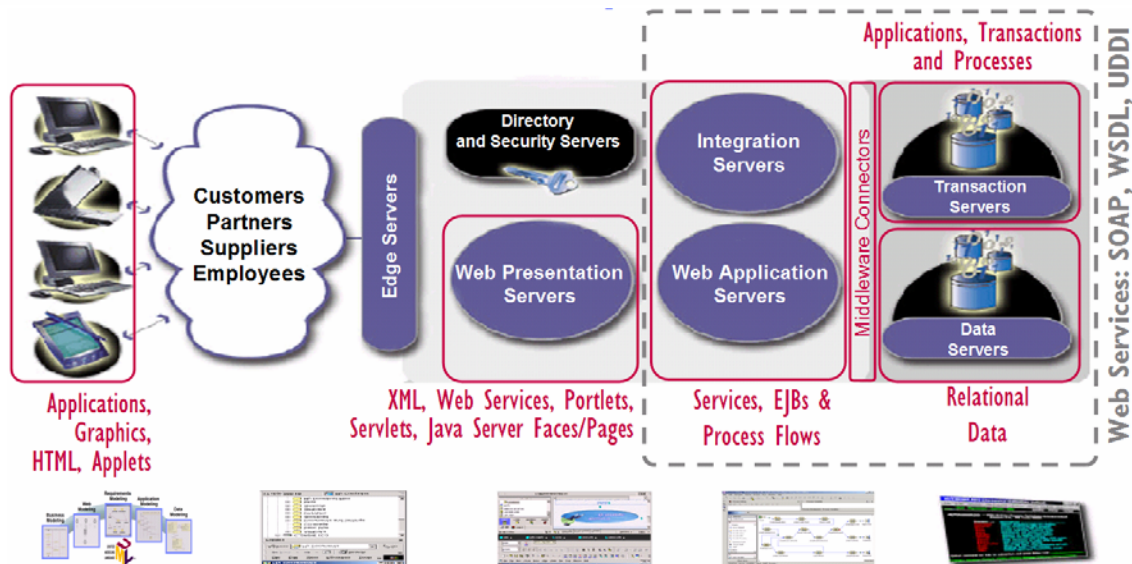
#1 Customizable **Perspectives** and **Views** support **roles-based** tools

Automated - IDE Infrastructure (Code, Build, Test, Debug, Deploy)

#2 **Dynamic build engine** incrementally updates and hot-deploys (on-the-fly, while you type)

#3 **Testing and Debugging** for Java, Web Services, XML, database and EJB

Accelerated - End-2-End Builders



V6 – Every Top 10 Category Is Enhanced

Adaptable - Eclipse-based Workbench

#1 Customizable Perspectives and Views support roles-based tools

Automated - IDE Infrastructure (Code, Build, Test, Debug, Deploy)

#2 Dynamic build engine incrementally updates and hot-deploys (on-the-fly, while you type)

#3 Testing and Debugging for Java, Web Services, XML, database and EJB

Accelerated - End-2-End Builders

#4 Java language coding tools □□□□

#5 Web App Builders: Pages, Sites, Portals, Portlets, Struts, JavaServer Faces □□□□□

#6 Web Services and XML Builders □□□

#7 Database Builders □

#8 J2EE and EJB Builders □

#9 SOA workflow builders (Service Oriented Architecture) □□

#10 Legacy/Enterprise development, integration and Web Services tools □□□





IBM Software Group

Application Development Tools

→ *What's New in V6* ←



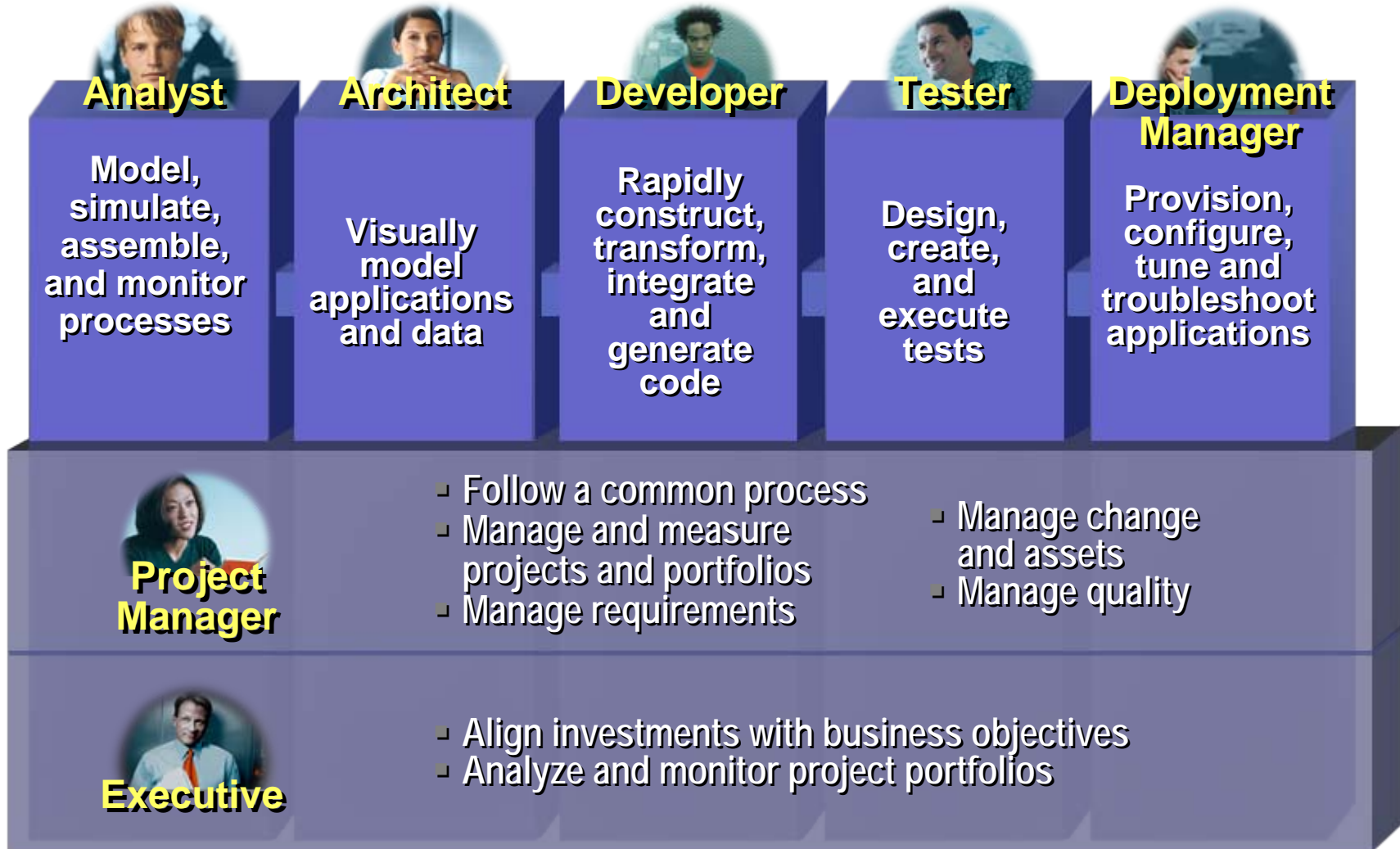
Name

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Company

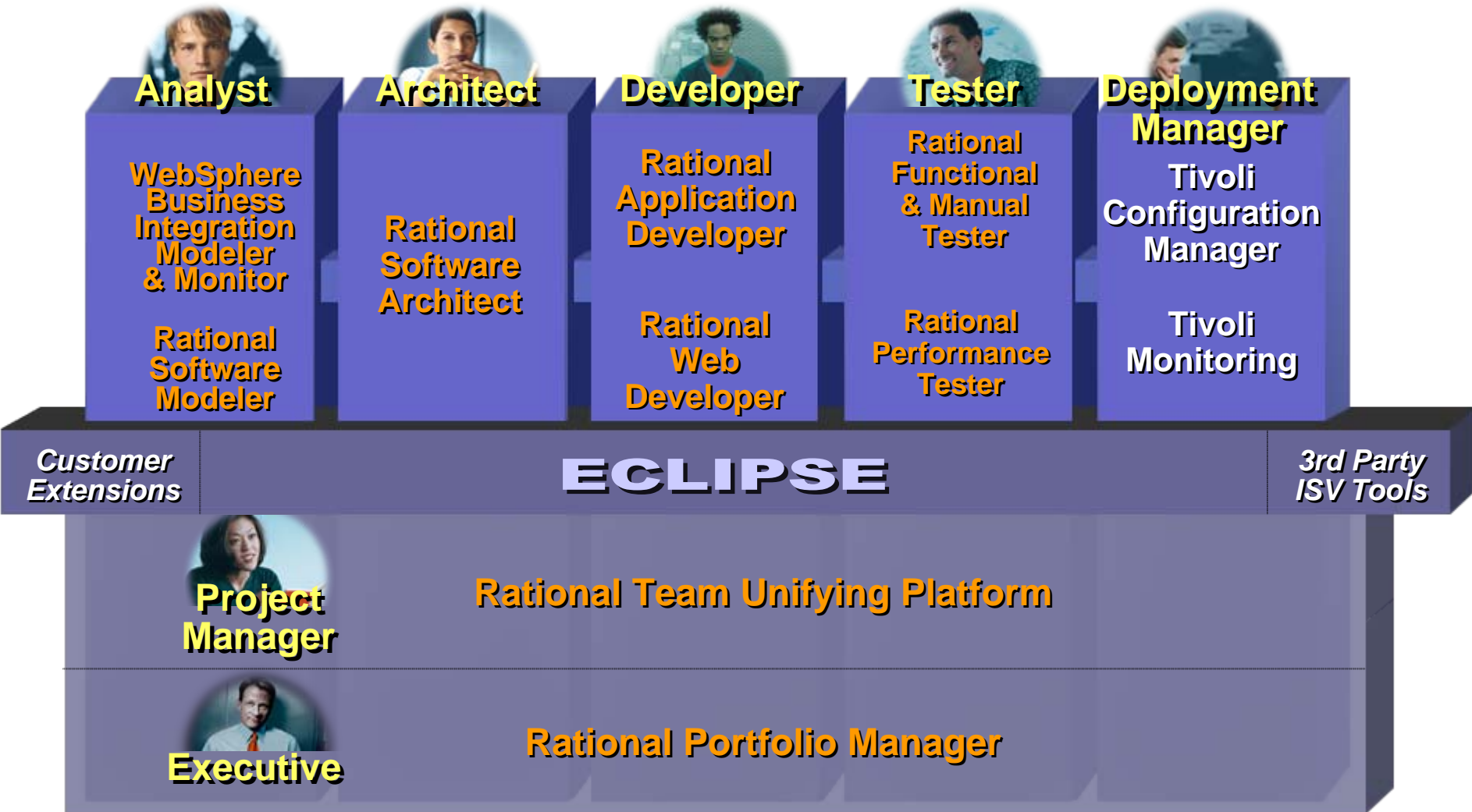
IBM Software Development Platform

Full Lifecycle Development



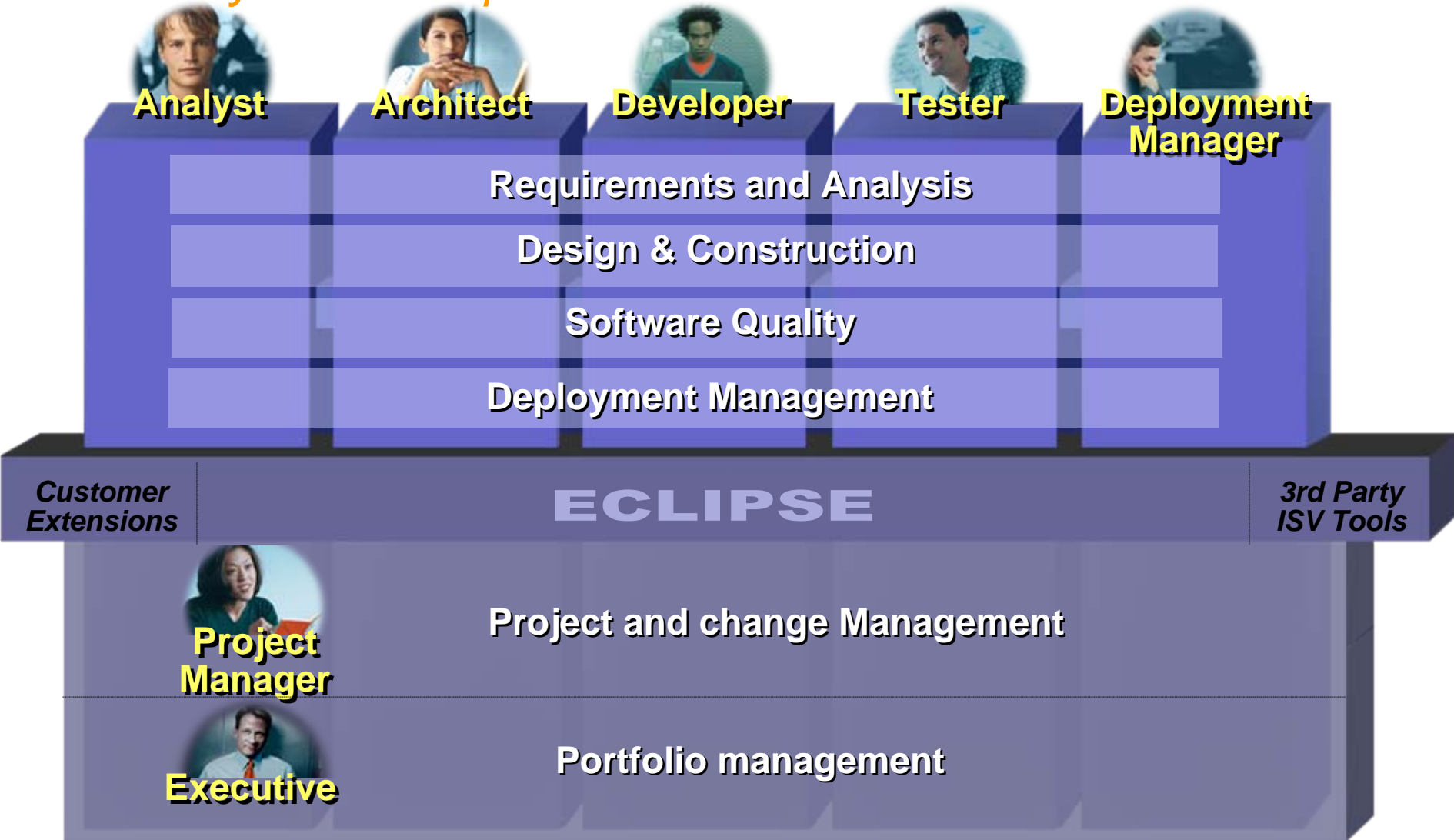
The IBM Software Development Platform

What's New and Enhanced

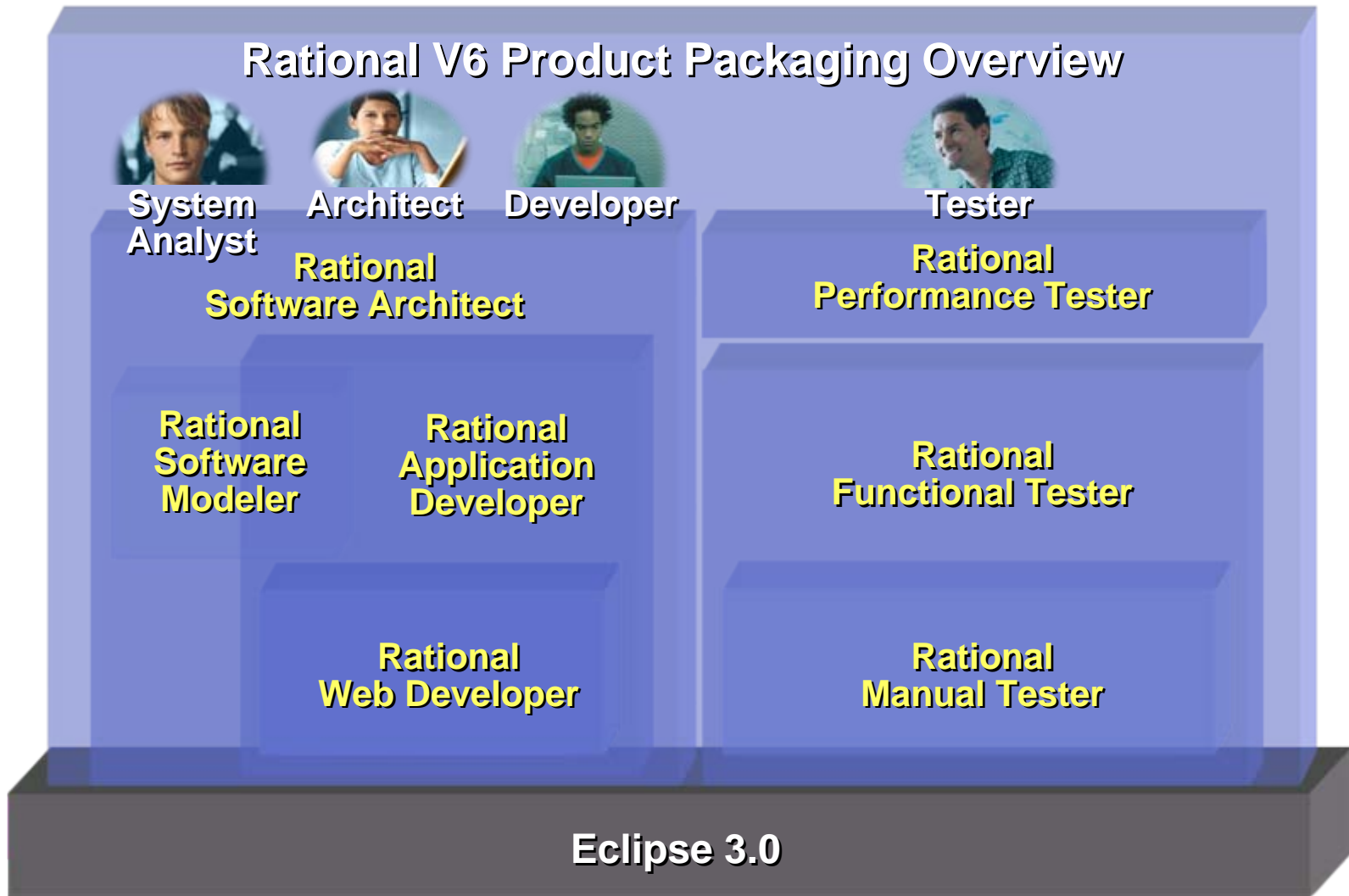


IBM Software Development Platform

Full Lifecycle Development



V6 Packaging Overview – Design, Construction and Software Quality Testing



V6 Design and construction tools

- UML 2.0
- Pattern/ Transform Authoring
- Reusable Asset Browser

- UML Language Transforms
- Structural Review & Control
- C/C++ Development Tools

IBM Rational
Software
Modeler

IBM Rational
Application Developer

IBM Rational
Web Developer

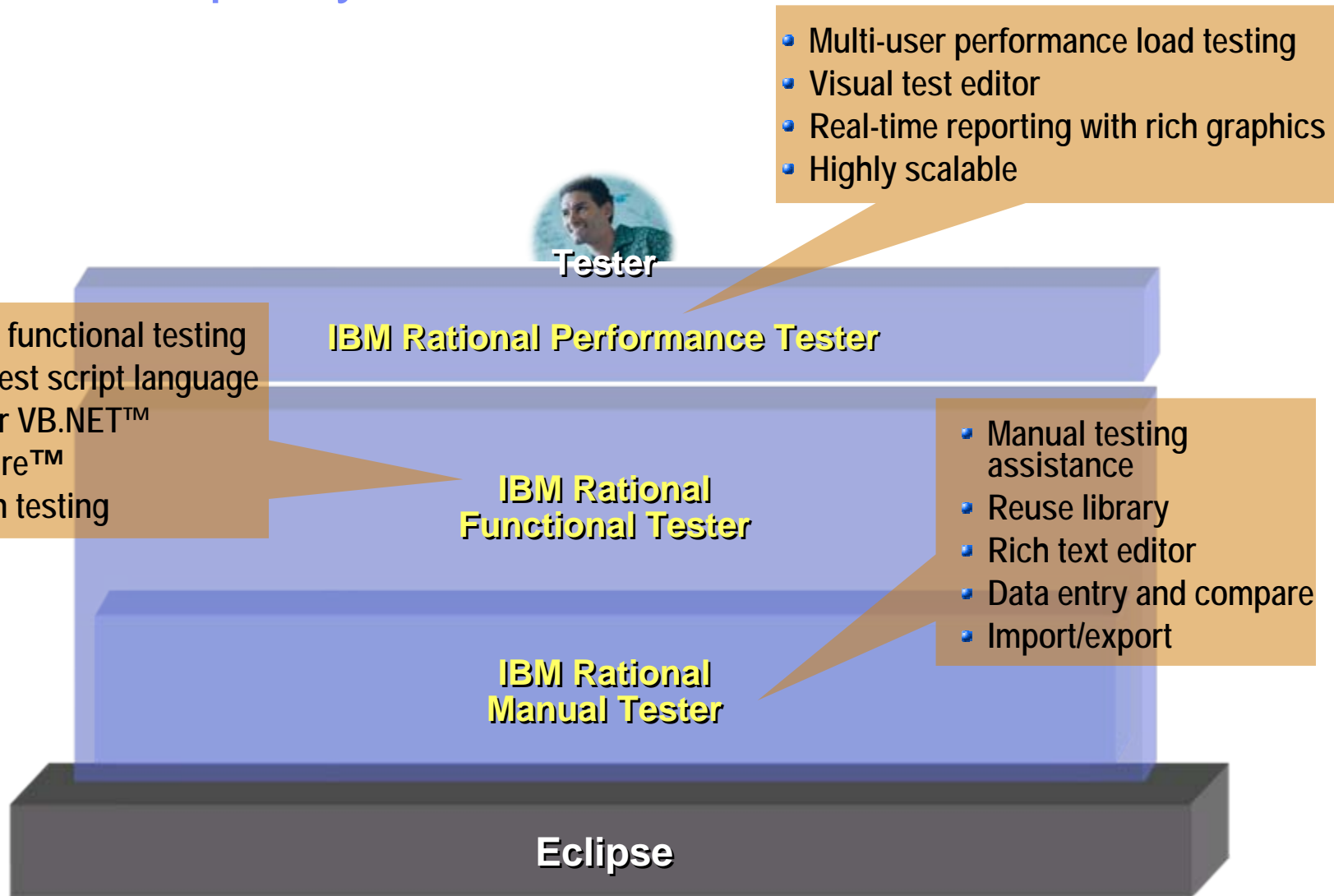
Eclipse

- Web Development
- Web Services Development
- Rich Client Development
- XML & Database Tools
- Java Generation Tools
- Unit Test

- J2EE/EJB & Portal Development
- Component Testing
- Code Review & Runtime Analysis
- UML Visual Editors
- Configuration Management



V6 Software quality tools

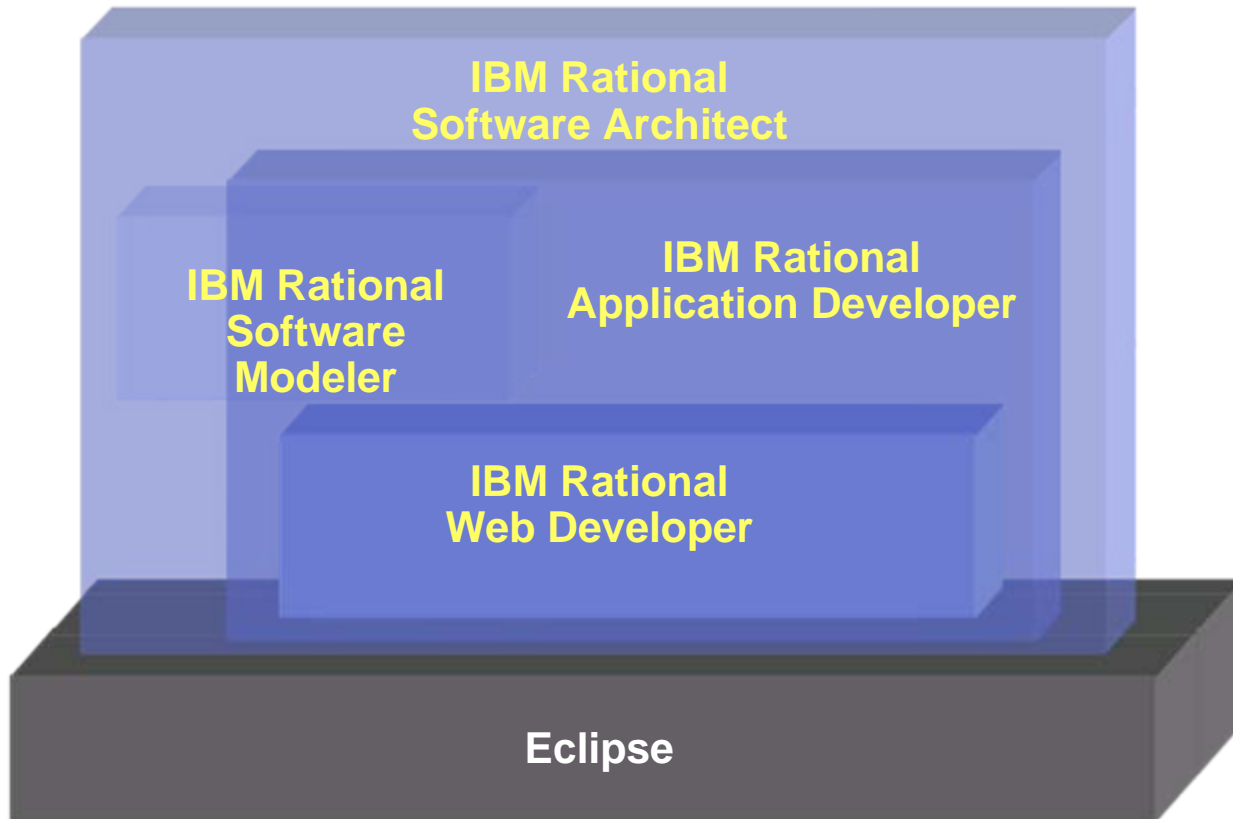


Application Development Tools

→ V6 Product Features Stack Charts ←



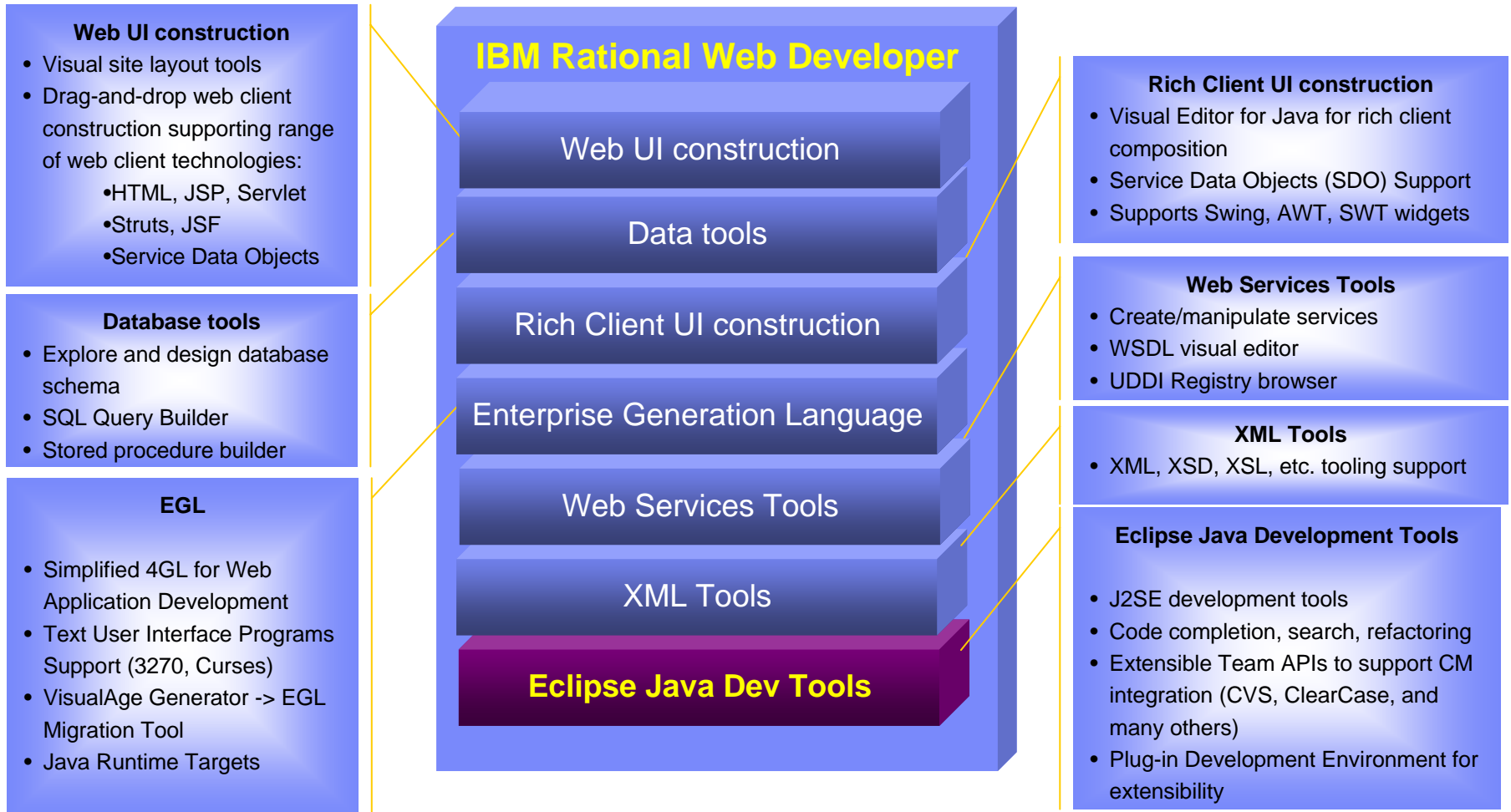
Design and construction tools



IBM Rational Web Developer

Follow on to WebSphere Studio Site Developer

New Rapid Application Development capabilities focused on ease of use



IBM Rational Application Developer

Follow on to WebSphere Studio Application Developer

J2EE/EJB Tooling

- J2EE construction tools
- Supports WebSphere and WebLogic
- Supports J2EE 1.3 and 1.4
- Rapid Deployment for WAS v6
- Integrated WAS test environments
- O/R mapping

Code Analysis Tools

- Both static source code analysis and dynamic runtime analysis
- Source code analysis for rule violation detection: Globalization, J2EE/J2SE Best Practices, Private API Usage, Performance
- Sequence diagram runtime trace with performance, thread and code coverage annotation
- Advanced memory leak detection
- Remote data collection across multiple servers
- User-defined run-time probes
- Interactive reports and metrics

IBM Rational Application Developer

Component/Unit Test

J2EE/EJB Tooling

Portal/Portlet Design Tools

Code Analysis Tools

UML Visual Editors

Rational Web Developer

RUP Configuration for J2EE

ClearCase LT

Component/Unit Test

- JUnit-based testing of Java components, EJBs and Web Services
- Test prioritization recommendation based on code analysis
- Automated test case generation through usage of test patterns
- Datapool editor for data-driven testing
- Optimized unit testing through a set of metrics in the test creation wizard
- Test creation wizard offers a set of test patterns to automatically generate test

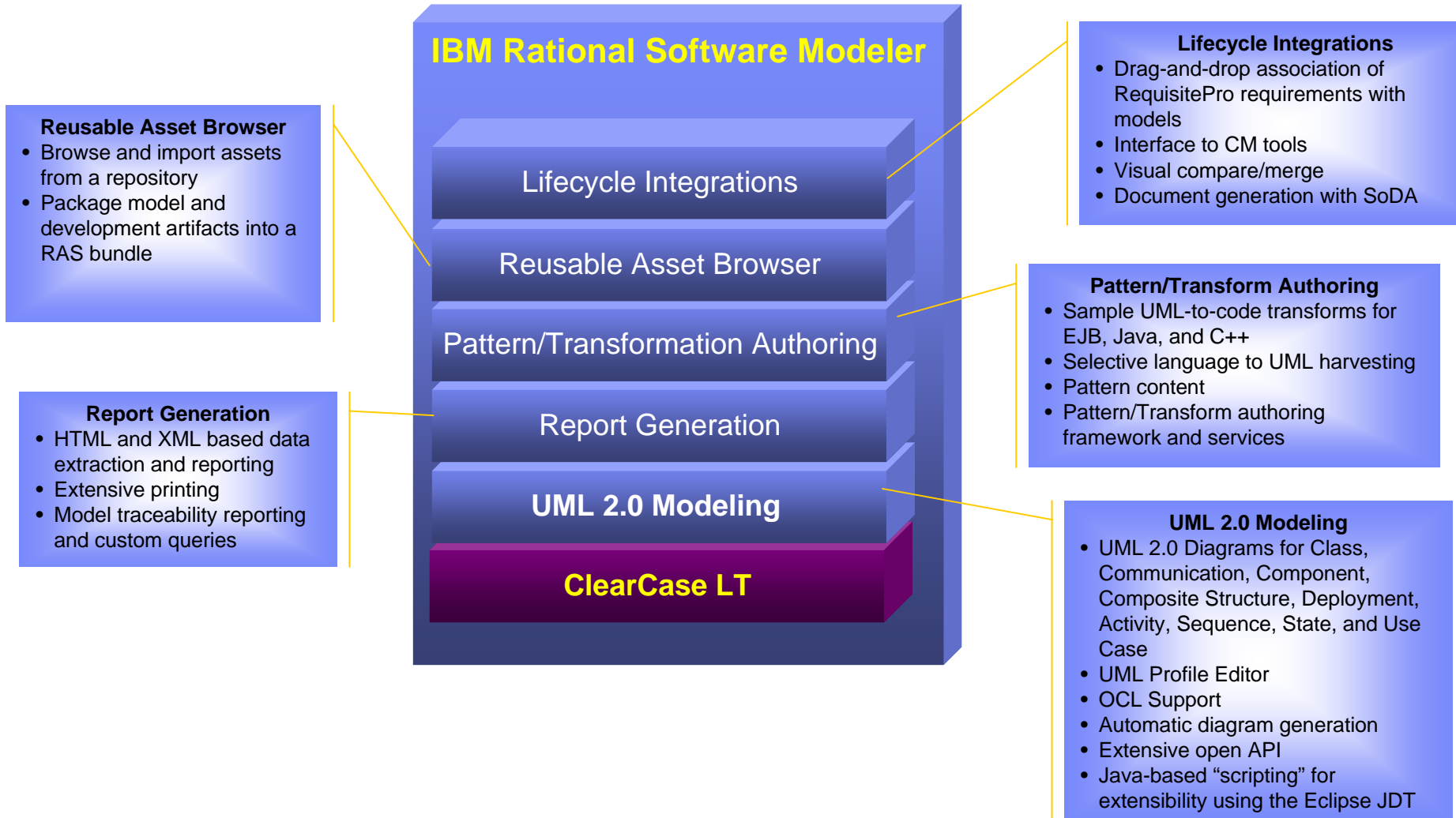
Portal/Portlet Design Tools

- Visual Portal site and page layout tools
- Visual Portlet layout and preview
- Integrated Portal test environment

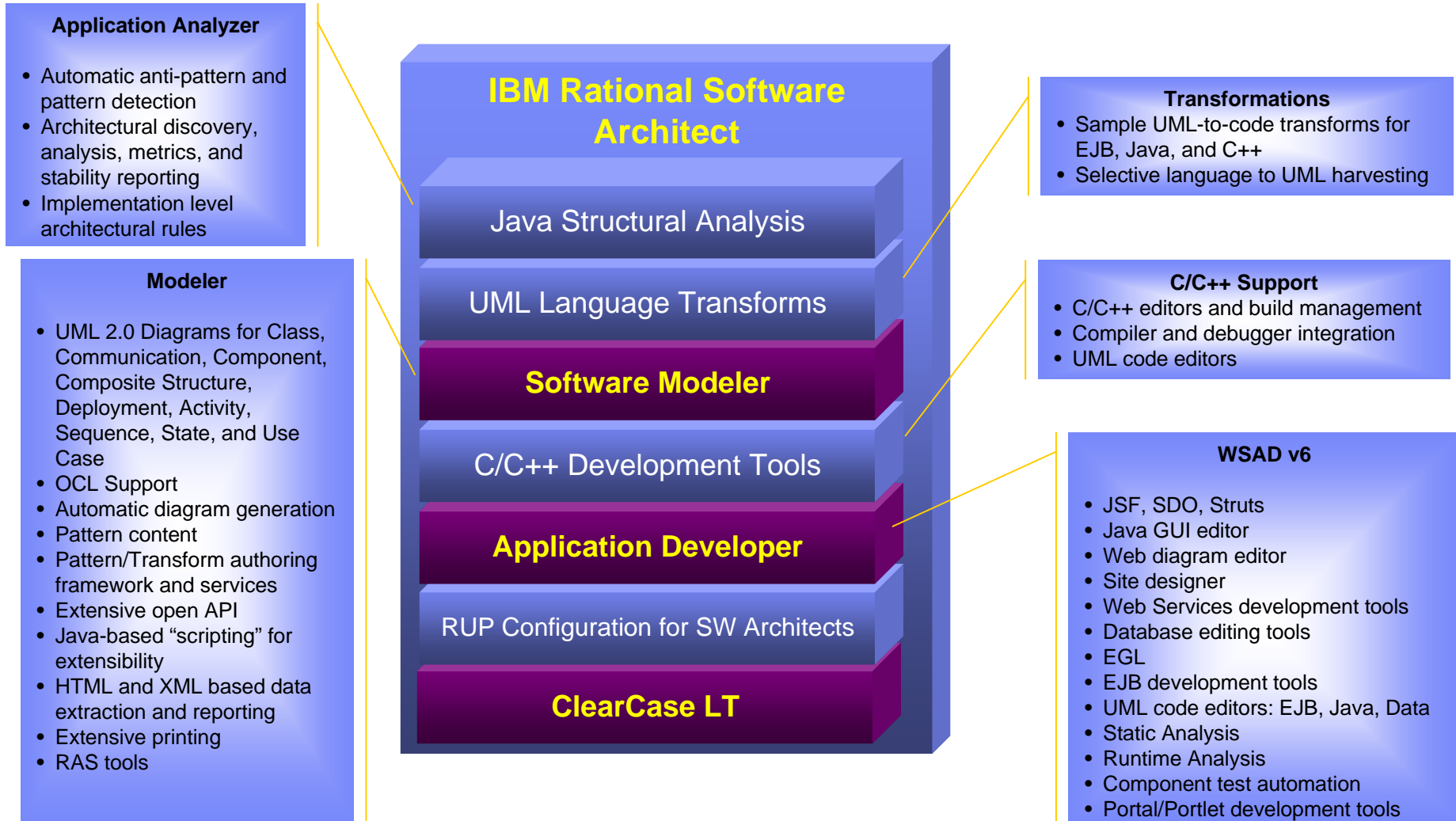
UML Visual Editors

- Class diagrams for Java/EJB structure
- Sequence diagrams for method body visualization
- IDEF1X/IE diagrams for Database and XML schema
- Dynamic topic diagrams
- Javadoc integration
- Visual refactoring

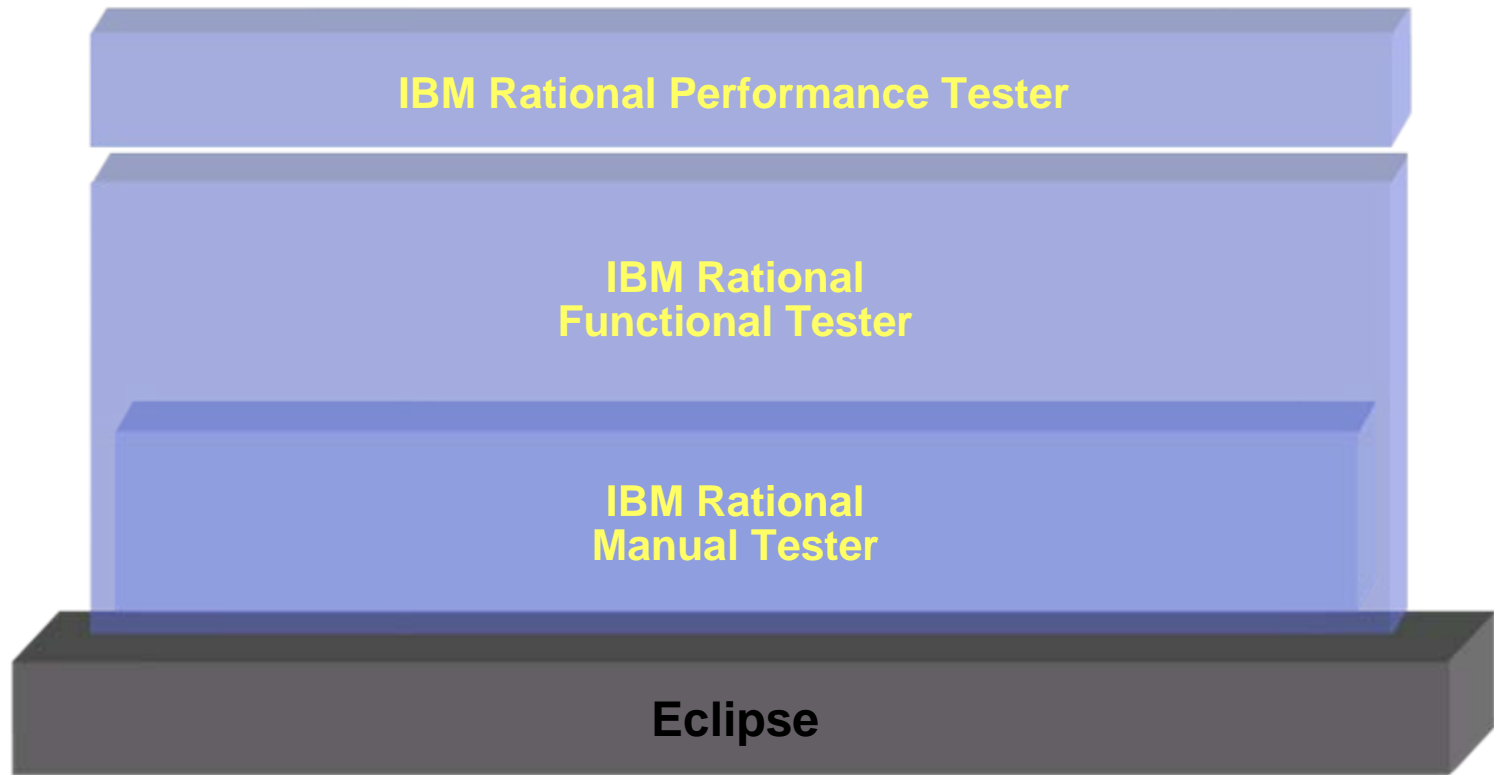
IBM Rational Software Modeler



IBM Rational Software Architect



Software quality tools



IBM Rational Manual Tester

Manual test authoring and execution



- Rich Text Editor**
- Modify test font, size, color; attach images and files
 - Supports creation of both test steps and verification points
 - Ensures clarity of test step direction and consistency of test execution

- Tool Assistance**
- Automated data entry
 - Automated data comparison and results storage
 - Reduces opportunity for manual error during test execution

- Customizable**
- Add new data fields to individual test steps
 - Apply internally-defined naming conventions

- Reuse Library**
- Library for common test procedures
 - Drag-and-drop construction of new tests
 - Automatic global update when modifying any one instance of linked content

- Import/Export**
- Imports manual test source files from Microsoft Word, Microsoft Excel and Rational TestManager
 - Exports test results to CSV format for additional analysis

- ClearCaseLT "in the box"**
- Supports parallel development of manual tests
 - Enables remote test access for distributed teams



IBM Rational Functional Tester

Automated functional regression testing

GUI Technologies

- Automates regression testing of Java, .NET, Web and terminal emulator-based applications

Data-driven Testing

- Simplified data-driven testing enabled by wizards and Excel-like data tables

Eclipse availability

- When using Java scripting, runs inside Eclipse/RSA/RAD shell
- Full Eclipse JDT features are accessible
- Accessible to developers from within their IDE

ClearCaseLT "in the box"

- Supports parallel development of manual tests
- Enables remote test access for distributed teams



Test Script Language

- User has choice of two test script languages – Java and VB.NET
- Use of Java implies editing and debugging in Eclipse/RAD/RSA-based editor
- Use of VB.NET implies usage of Microsoft VS.NET-based editor/debugger
- Identical capabilities in both editors

Improved Linux support

- Users can author and modify test scripts on Linux (no script recorder)
- Scripts can also be executed on Linux

Manual Tester in the box

- Customers receive one Manual Tester license per Functional Tester license
- Improve return on manual testing efforts while adopting automated test methods



IBM Rational Performance Tester

Load and performance testing

Load testing technology

- New load test recorder and execution engine
- Supports HTTP/S; additional protocol support

High scalability

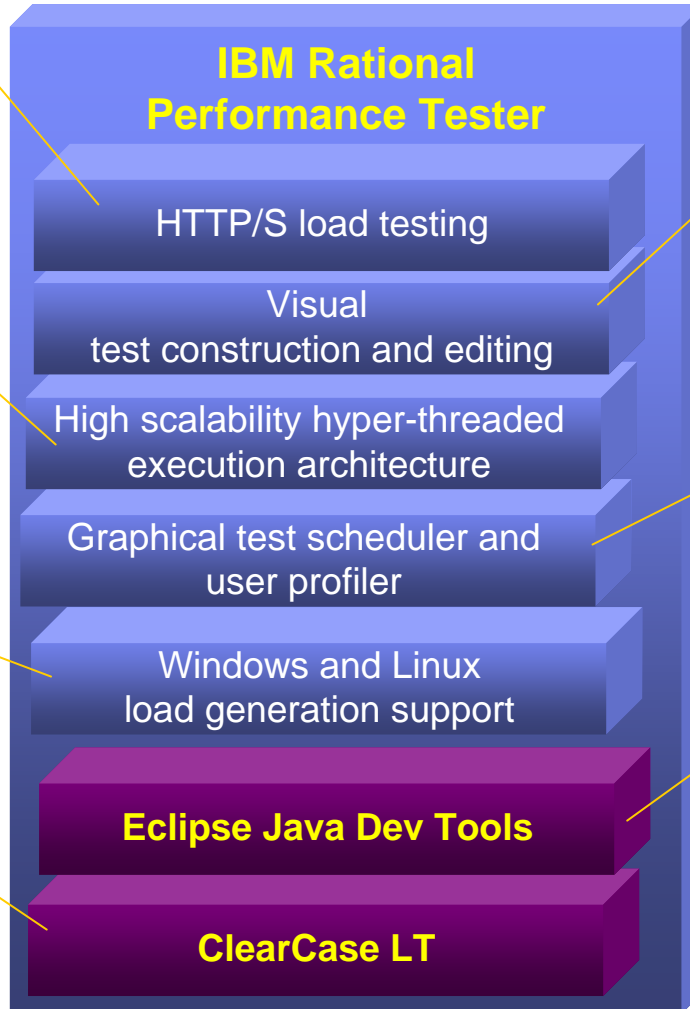
- High scalability, low footprint due to hyper-threaded architecture
- Significant improvement over Robot technology

Platform Support

- Multiple platform support for load generation

ClearCaseLT “in the box”

- Supports parallel development of manual tests
- Enables remote test access for distributed teams



Visual Test Editor

- Test viewer requires no coding for test modification and execution
- Automated identification and variation of dynamic data
- Insertion of Java code is supported for advanced customization needs

Test scheduler

- Graphical user profiling and transaction modeling
- Eases modeling of user populations

Eclipse-based

- Runs inside Eclipse/RSA/RAD shell
- Accessible to developers from within their IDE





IBM Software Group

Application Development Tools

➔ V6 Highlights ➔



Name
Title
Company

V6 Highlights - Areas of Innovation - Enhancements and New Capabilities

• Lifecycle Integrations (Enhanced Rational/WebSphere Eclipse based Integrations)

- Requirements Explorer View
- Model Explorer View
- ClearCase Views for managing changing artifacts
- ClearQuest Views for managing collaborative activities
- Testing Tools Views

• RAD/RSA Design & Construction Tooling Enhancements

- JSF, SDO, Web Services, etc.
- J2EE 1.4/1.3/1.2 and WAS V6.x/V5.x
- Portal/Portlet Integration
- Enhanced Unit/Component Testing
- Code Review and Runtime Analysis for Profiling
- Built-in Coder-friendly UML Visualizations for Class/Sequence diagrams
- Crystal Reports
- And much more...

• New UML2 Engine

- New code base
- End-2-End UML2 modeling
- Easier GUI development
- Transformations between models and generating Java/C/C++ code

• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)



V6 Highlights - Areas of Innovation - Enhancements and New Capabilities

• Lifecycle Integrations (Enhanced Rational/WebSphere Eclipse based Integrations)

- Requirements Explorer View
- Model Explorer View
- ClearCase Views for managing changing artifacts
- ClearQuest Views for managing collaborative activities
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• RAD/RSA Design & Construction Tooling Enhancements

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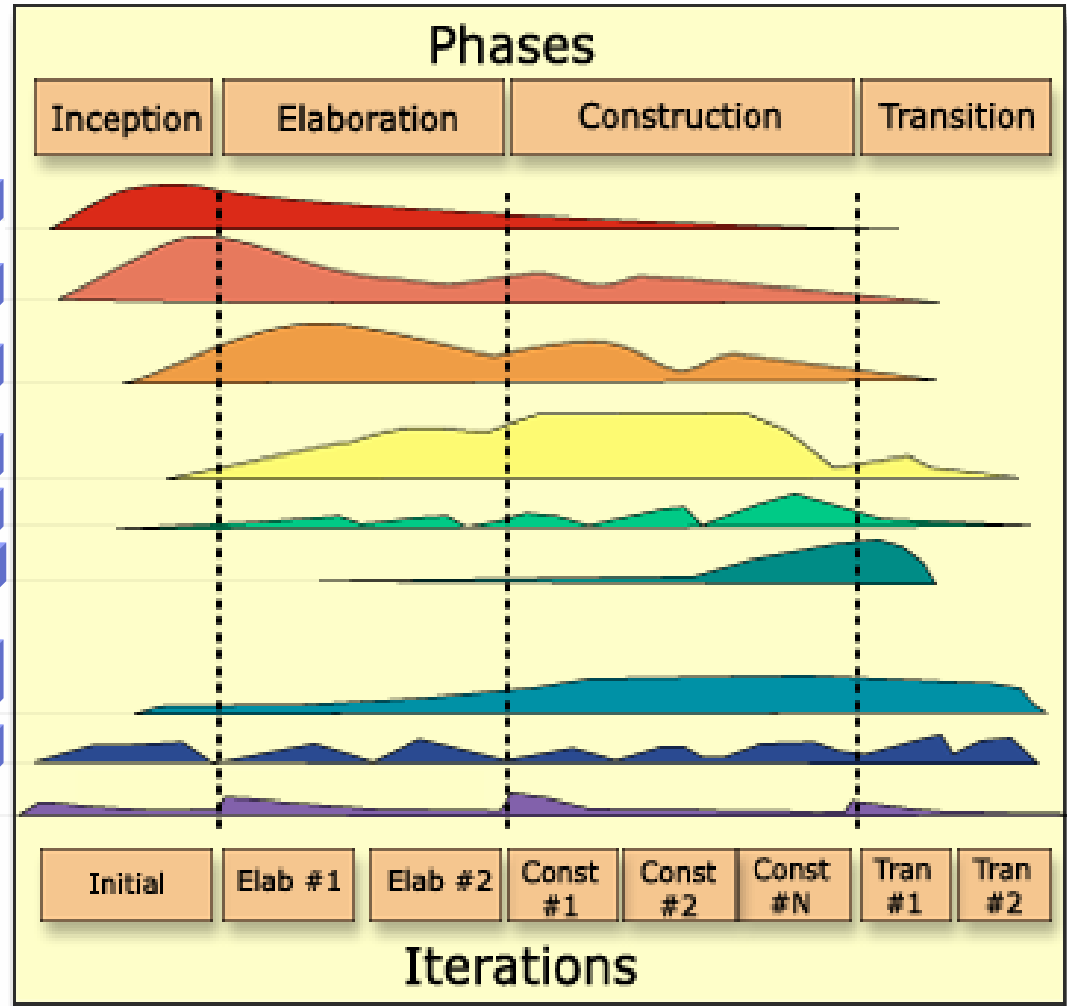
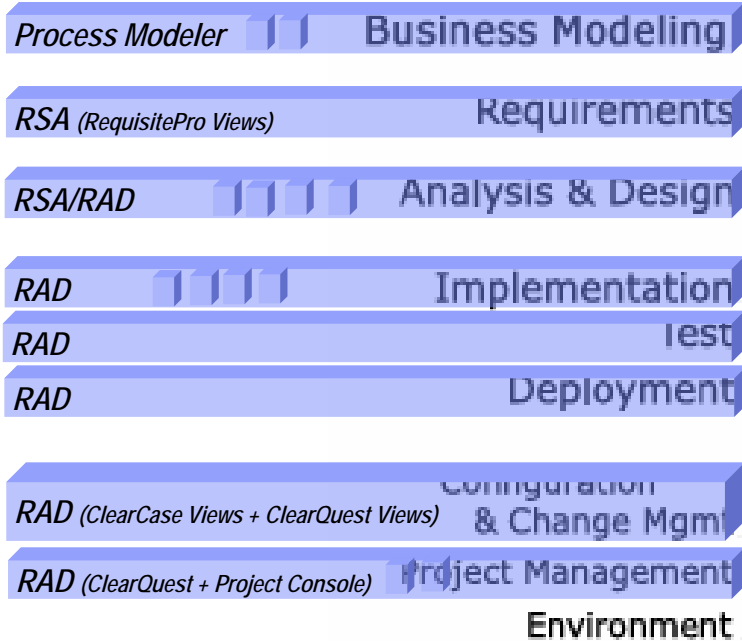
- New code base
- End-2-End UML2 modeling
- Easier GUI development
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• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)



Lifecycle Tools – Across The Development Disciplines

Disciplines



Simplified Packaging and Names	
V4 & V5	V6
WSAD	RAD (Rational App Developer)
Rose XDE	RSM (Rational SW Modeler)
WSAD + XDE	RSA (Rational SW Architect)



Existing Tools In WSAD V5.x and RAD V6

Disciplines

Business Modeling

Requirements

UML 2-way Modeling Analysis & Design

J2EE, Web Services, JSF, SDO... Implementation

Unit Testing, etc. Test

Automated J2EE Packaging Deployment

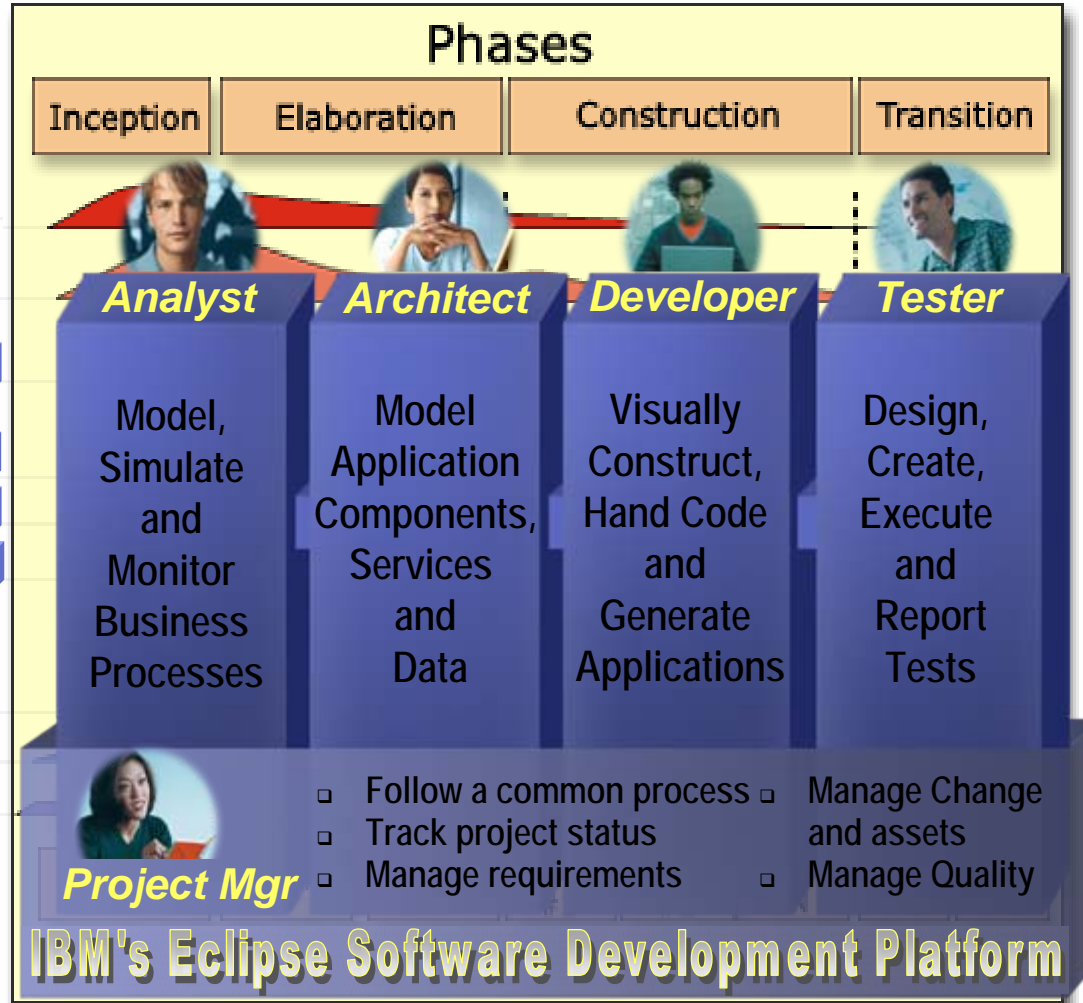
Configuration & Change Mgmt

Project Management

Environment

Simplified Packaging and Names

V4 & V5	V6
WSAD	RAD (Rational App Developer)
Rose XDE	RSM (Rational SW Modeler)
WSAD + XDE	RSA (Rational SW Architect)



New V6 Integrated Views/Perspectives

Disciplines

Process Modeler Business Modeling

RequisitePro Explorer Views Requirements

Analysis & Design

Implementation

Functional, Manual, Performance Test

Deployment

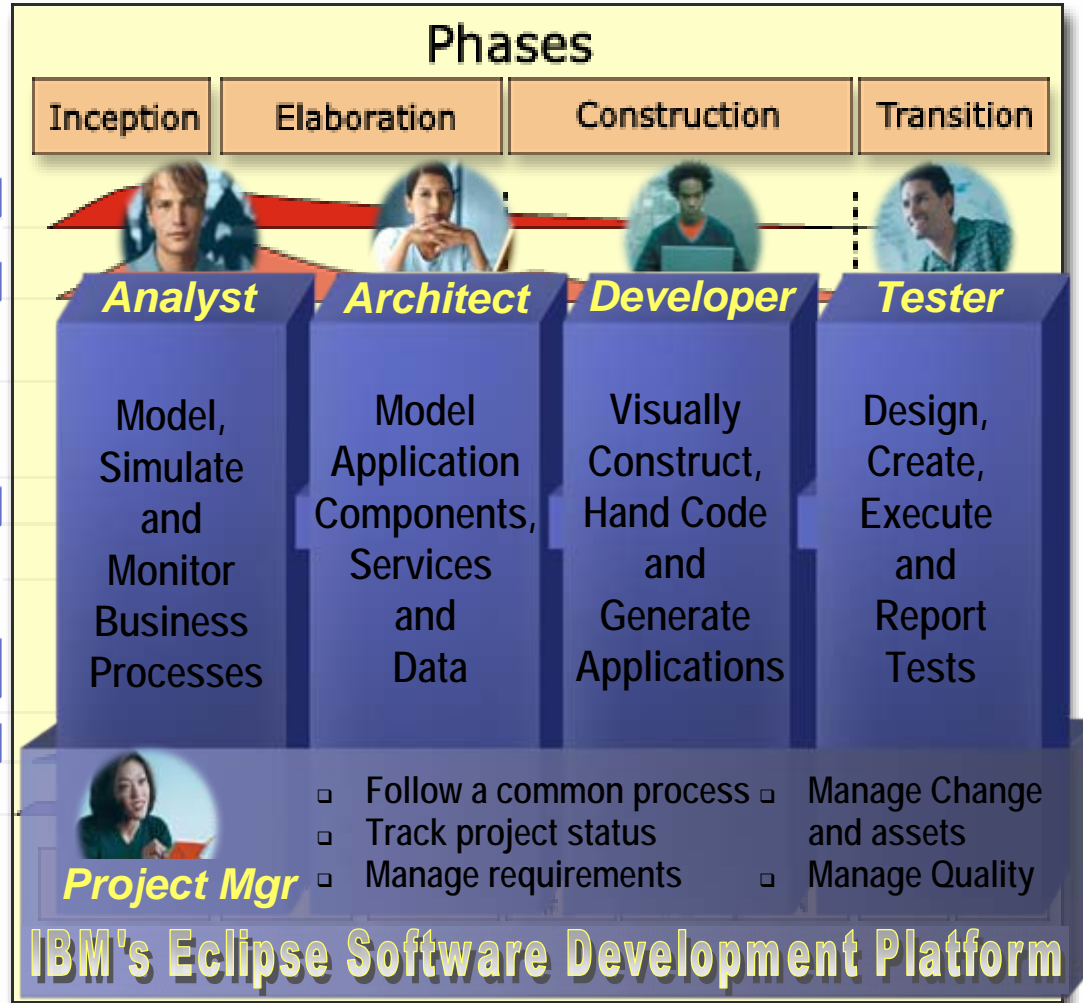
ClearCase Explorer Views Configuration & Change Mgmt

ClearQuest Explorer Views Project Management

Environment

Simplified Packaging and Names

V4 & V5	V6
WSAD	RAD (Rational App Developer)
Rose XDE	RSM (Rational SW Modeler)
WSAD + XDE	RSA (Rational SW Architect)



Lifecycle Tools are Integrated as Views in V6 ¹

- Requirement Management perspective
- ClearCase perspective
- ClearQuest perspective
- Functional Test perspective

Disciplines

- Business Modeling
- Requirements
- Analysis & Design
- Implementation
- Test
- Deployment
- Configuration & Change Mgmt
- Project Management
- Environment

The screenshot displays the IBM Rational Software Development Platform interface. The main window shows a UML Use Case Diagram with an actor named 'Attendee' connected to five use cases: 'Register for Conference', 'Login to RSDUC site', 'Check weather', and 'Get directions to conference location'. The 'Requirement Explorer' on the left shows a project structure for 'RSDUC UML Model' with a tree view of use cases. The 'Properties' window at the bottom right shows details for a selected use case, including its name, type, and description. A 'Palette' on the right side of the diagram window contains various UML elements, with 'Association' selected. A tooltip 'Create an Association Relationship' is visible over the 'Association' element.



V6 Highlights - Areas of Innovation - Enhancements and New Capabilities

• Lifecycle Integrations (Enhanced Rational/WebSphere Eclipse based Integrations)

- Requirements Explorer View
- Model Explorer View
- ClearCase Views for managing changing artifacts
- ClearQuest Views for managing collaborative activities
- Testing Tools Views

• RAD/RSA Design & Construction Tooling Enhancements

- JSF, SDO, Web Services, etc.
- J2EE 1.4/1.3/1.2 and WAS V6.x/V5.x
- Portal/Portlet Integration
- Enhanced Unit/Component Testing
- Code Review and Runtime Analysis for Profiling
- Built-in Coder-friendly UML Visualizations for Class/Sequence diagrams
- Crystal Reports
- And much more...

• New UML2 Engine

- New code base
- End-2-End UML2 modeling
- Easier GUI development
- Transformations between models and generating Java/C/C++ code

• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)



V6 – Every Top 10 Category Is Enhanced

Adaptable - Eclipse-based Workbench

#1 Customizable Perspectives and Views support roles-based tools

Automated - IDE Infrastructure (Code, Build, Test, Debug, Deploy)

#2 Dynamic build engine incrementally updates and hot-deploys (on-the-fly, while you type)

#3 Testing and Debugging for Java, Web Services, XML, database and EJB

Accelerated - End-2-End Builders

#4 Java language coding tools □□□□

#5 Web App Builders: Pages, Sites, Portals, Portlets, Struts, JavaServer Faces □□□□□

#6 Web Services and XML Builders □□□

#7 Database Builders □

#8 J2EE and EJB Builders □

#9 SOA workflow builders (Service Oriented Architecture) □□

#10 Legacy/Enterprise development, integration and Web Services tools □□□



Focusing on Ease of Learning

- **Learning Guide**

- Provides an introduction
- Discusses the value and benefits
- Describes the tools available with suggestions for using them
- Links to other education sources for prerequisite skills

WEB RESOURCES

In addition to information in the Welcome and the Help, the Web provides you with tips, articles, updates, and references to industry standards.



Rational Application Developer

Technical resources and best practices for Rational Application Developer



IBM Publications

Links to IBM Redbooks and other IBM publications



UML 2.0

OMG's home for Unified Modeling Language for architecting software



JavaServer Faces

Sun Microsystem's home for advancements in JSF Technology



Struts

Apache Software Foundation's open-source Java Web application framework



XML

OASIS's Web portal for XML developers and technologists

Focusing on Ease of Learning

- **Tutorial Gallery**
 - Easy way to access all tutorials
- **Sample Gallery**
 - Easy one-stop shopping for samples and their documentation
 - Descriptions and purpose identified
 - Setup requirements reduced or eliminated
 - One click – make this a project

Studio Categories

Showcase
Samples
Sample
Applications
Technology
Samples

sub categories
too...

Samples Gallery

Contents

- [-] Showcase samples
 - [+] Auction Application
 - [+] Construction
 - Portal Application
 - Web Application
- [+] Application samples
 - [+] EJB
 - [+] Portal
 - [+] Web
 - [+] EGL
 - Web Exercises
 - Pizza On The Web
 - Text User Interface
- [+] Technology samples
 - [+] Java
 - [+] Portlet

Samples Gallery

The Samples Gallery provides practical samples for application developers.

Showcase samples are the most extensive, robust provided. They consist of end-to-end applications that are best practices for application development. They are applications that are developed using a combination for design, development, and testing. These sample need some configuration in order to run on your system. Setup instructions can be accessed from the sample.

Application samples are working applications created more than one tool or API. They illustrate how different technologies can be combined to create a single application.

Eclipse V3 enhancements

- **More responsive User Interface**
 - From enhanced concurrency support and asynchronous task management
- **New look and feel**
 - Based on user feedback
- **Reduced User Interface complexity through progressive disclosure**
 - Capabilities support enables a tool to filter the views, wizards, actions, etc available initially available to use
 - At trigger points more advanced function is revealed
 - Users can adjust the amount of initial function
Teams can share preference settings
 - Expanded user settings/preferences support with multiple scopes
- **Most existing V2.x Eclipse tools work with Eclipse 3.x and RAD V6**
 - High degree of binary compatibility between V2.x Eclipse plug-ins and Eclipse V3-based products
 - Please consult your vendor to determine the status of the tools you use



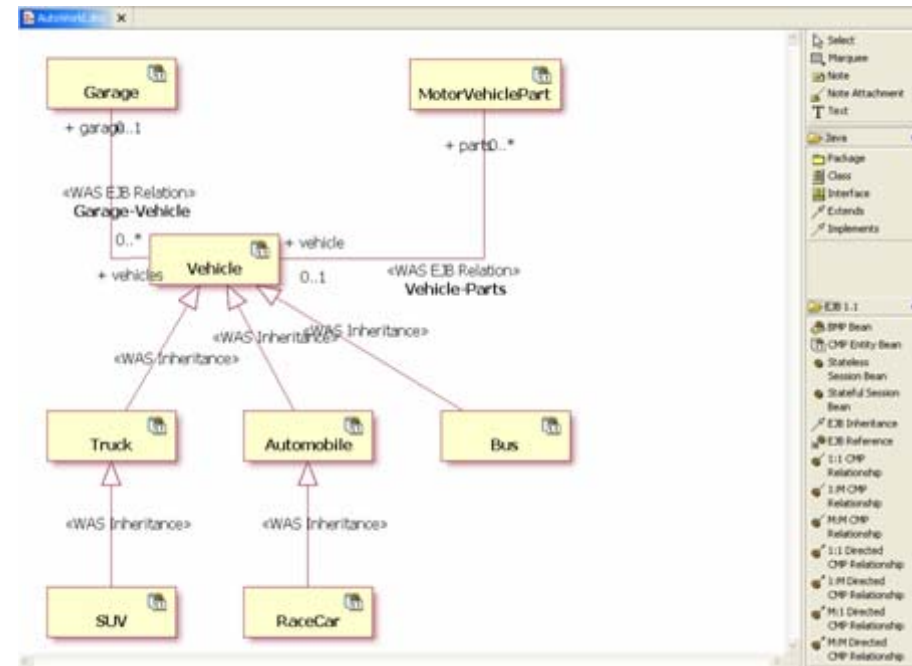
J2EE 1.4/1.3/1.2

- **Web Services and XML support**
 - Standards / Portability - XML Schema definitions for all deployment descriptors
 - JAX-P 1.2 - New properties for XML parsers
 - JAX-R - XML registry API
 - JAX-RPC - APIs for representing WSDL-based services as RPCs in Java (&vice-versa)
 - JSR 109 - Web services programming and deployment model
 - SAAJ 1.1 - SOAP Attachments API for Java
- **Other**
 - Servlet 2.4
 - JSP 2.0
 - Extensible deployment descriptors
 - Request/response listeners
 - Expression Language
 - Simple Tag Extension
- **JDBC 3.0**
 - Meta data and cursor support
- **Messaging**
 - EJB 2.1
 - Typed message beans (used for any inbound JCA including pluggable JMS provider)
 - Timer service Web service end-point support



UML 2 Diagram Editing – Visually Browse/Edit

- **Expanded UML editing**
 - UML class diagrams for Java, EJB
 - IDEF1X, and IE editing for data objects
 - Edit/refactor through diagrams
- **Browse, Navigate and Query through diagrams**
 - Topic diagrams for automatic diagram creation
 - UML 2.0 interaction diagrams for visualizing method bodies
- **Javadoc integration for diagrams**
 - Improved printing support
- **Usability and workflow improvements**
 - Assisted diagramming
 - Browse diagrams
 - In-diagram editing
 - Diagram Explorer
- **Low overhead way of adopting UML and visual development**



J2EE Development *Automated by JSF*

Input → Process → Output

• Input

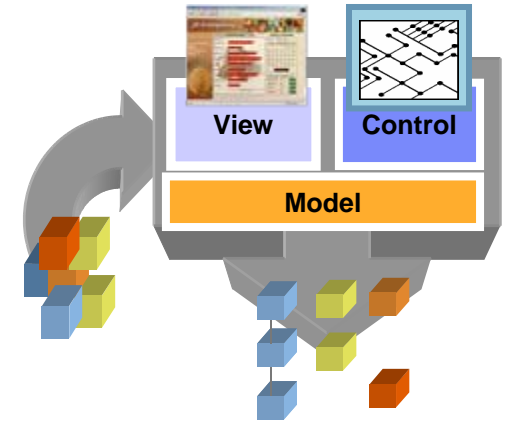
- Constructing web page forms, formatting, validation, etc.
- GUI widget richness
- Calling appropriate "Action" when button pressed, etc.
- Passing data to business logic

• Processing

- Integrating to web services, databases, backends, biz logic, etc.
- Maintaining user session and application state information
- MVC layering, page flow and business logic modularity

• Output

- Forwarding control to results screen/page
- Displaying data, GUI controls, formatting, etc.



Developing Richer Thin Client Applications, More Quickly

- Drag-n-drop development of J2EE applications (*No Coding Required*)

IBM WebSphere Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Links Customize Links IBM Business Transformation Homepage IBM Business Transformation IBM Home Page IBM Internal Help Homepage

Address http://yclidesktop.raleigh.ibm.com/wps/myportal/.scr/LoggedIn

Google Search Web Search Site News Page Info Up

Home Banking Account Portfolio Mortgage/Loans Bill Pay ExtremePlace

Accounts

Order Checks

Payment

Help

Banking Accounts

Account #	Account Type	Balance
96,666	Credit	2,000.00
74,444	Checking	1,432.44
85,555	Saving	2,567.56

Transfer Funds

Make Transfer

From:

To:

Amount: \$

More information about [Transfers](#).

Account Details

Account Number: 96666

Trans #	Amount	Date	Type	Expense Purpose
355	72.62	2000-11-06	Visa	Taxes
356	31.78	2001-06-16	Visa	Entertainment/Travel
357	61.02	2000-08-25	Visa	Clothing
358	21.75	2000-01-25	Visa	Transportation
359	13.01	2001-03-24	Visa	Telephone
360	24.51	2002-01-20	Visa	Transportation
361	15.87	2001-02-11	Visa	Food
362	13.81	2001-05-23	Visa	Telephone

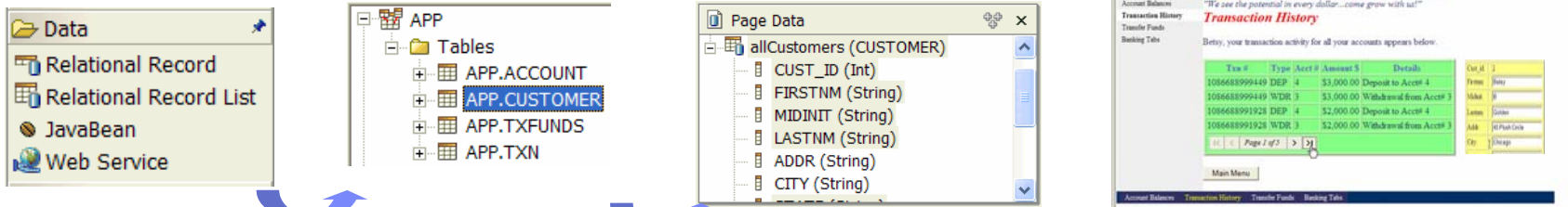
Expense Allocation

- Mendical/Dental
- Mortgage/Rent
- Food
- Gas/Electric
- Cloth
- Insurance
- Dependent Care
- Taxes
- Entertainment/Travel
- Transportation
- Telephone

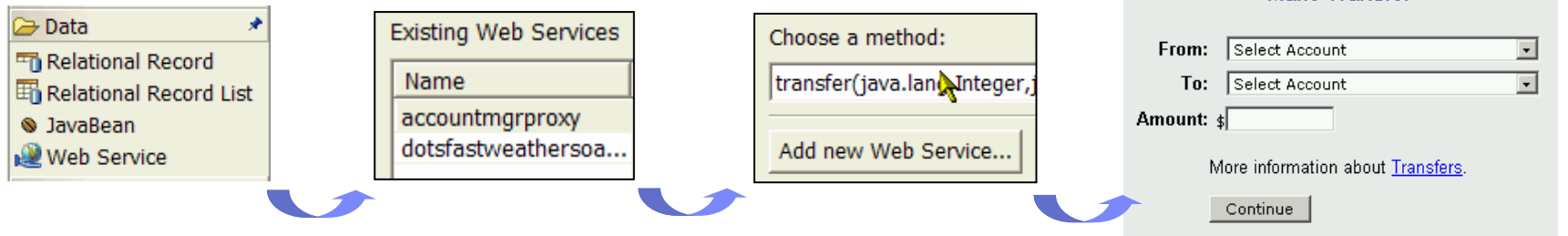
Local intranet

Simplifying J2EE & Portal Development – JSF, SDO and Web Services

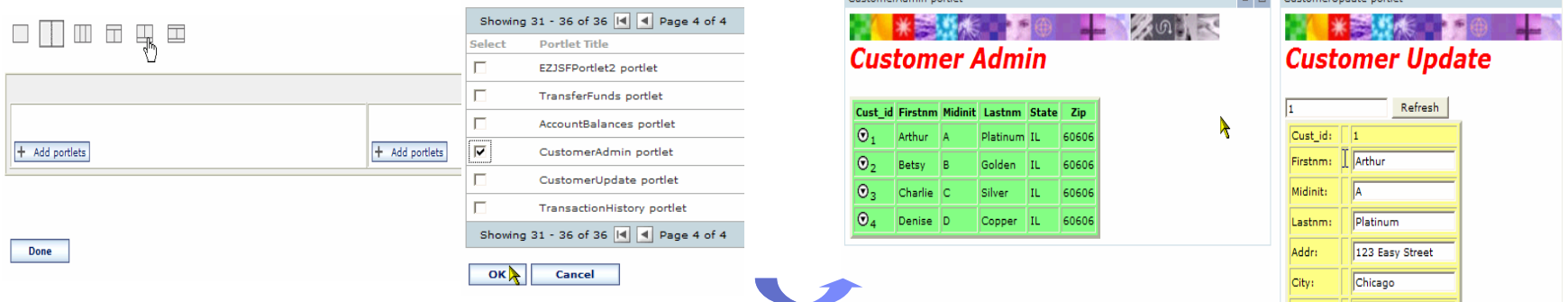
- Database development drag-n-drop ease-of-use ^{1 2}



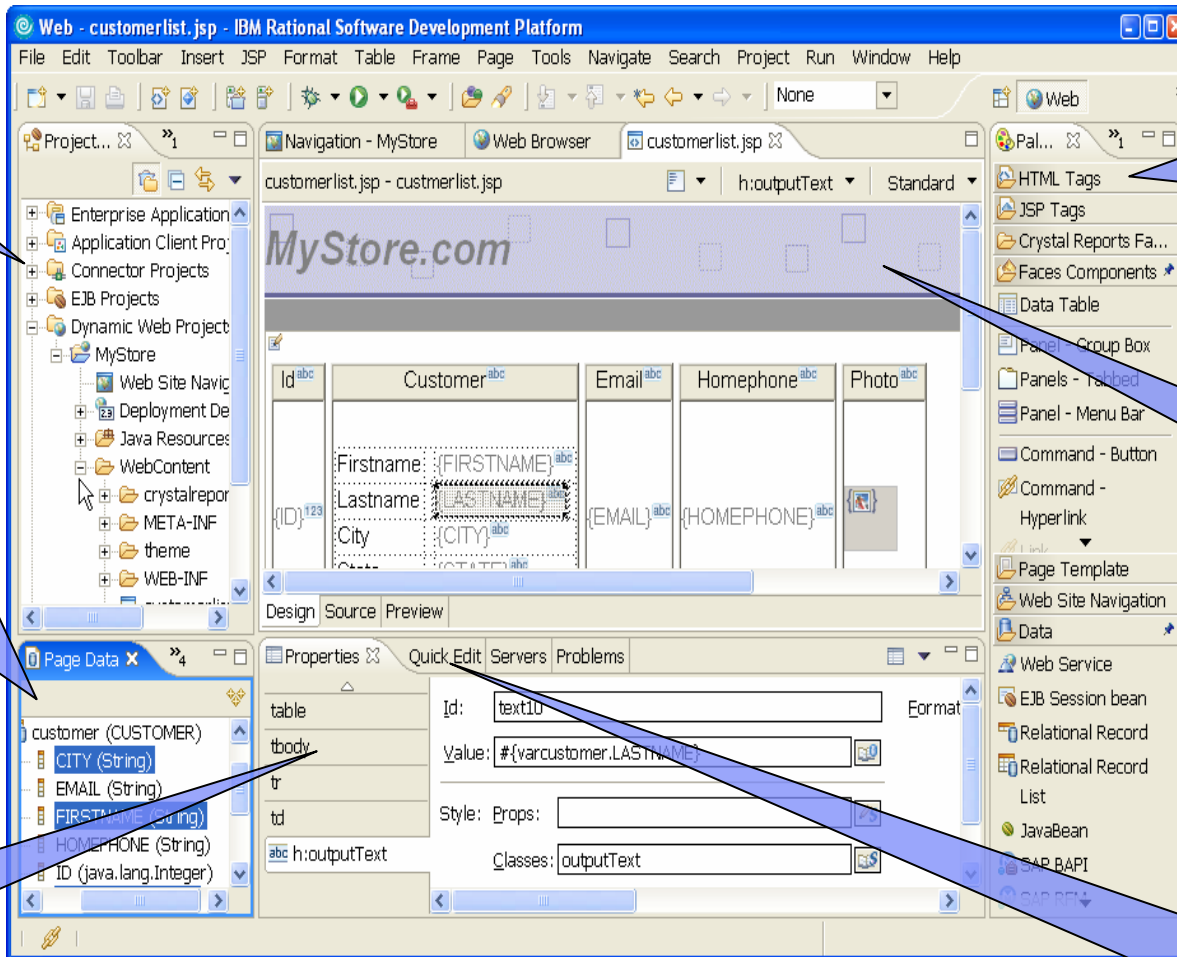
- Web Services development drag-n-drop ease-of-use ^{1 2}



- Portals drag-n-drop ease-of-use ^{1 2}



JSF Tool Views in RAD



Simplified "Project Explorer" hides the complexity of J2EE

The Data View lets you configure and drag and drop data to automatically create a data bound UI

SDO, Web Services, JavaBeans and EJBs access and update data without writing any code!

Property views allow easy customization of the selected component

Construct pages by dragging and dropping rich web components from a customizable Palette

Page templates separate out common page elements in a single template file

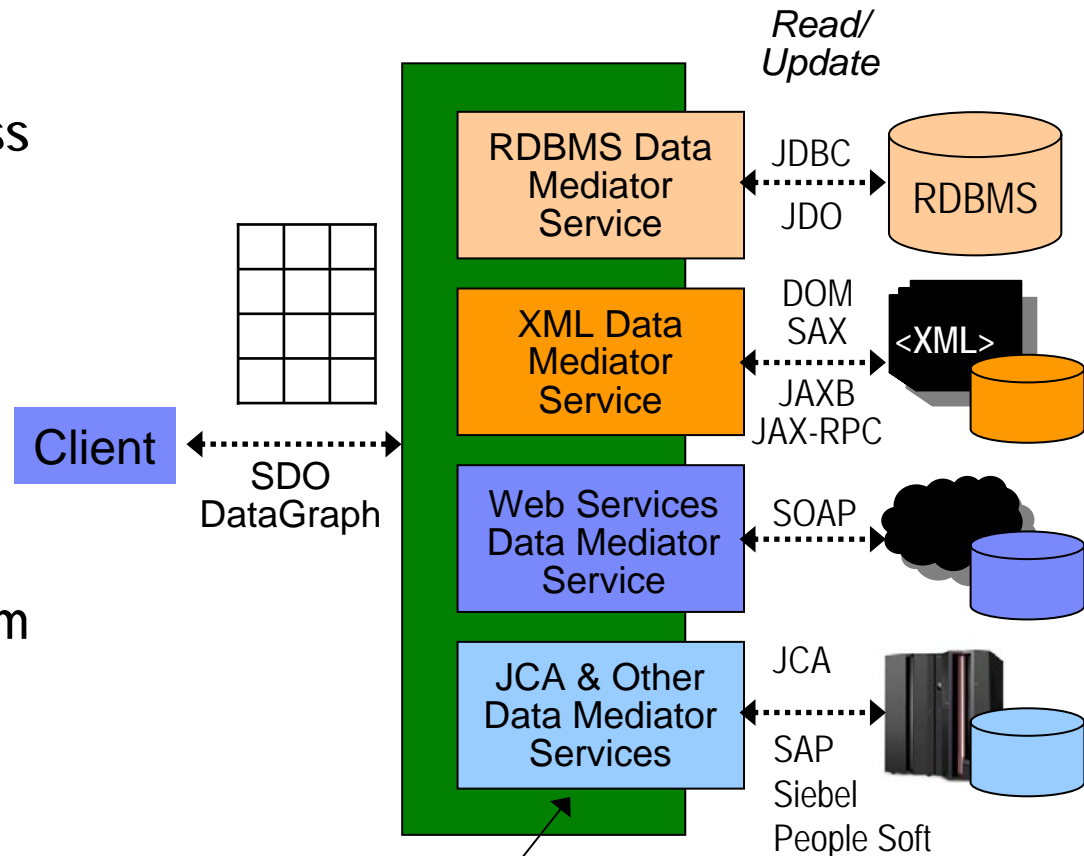
The Quick Edit View allows scripting of client or server side events in Java or Java Script.

Code assist writes the code for you!

- Accelerate GUI, Web Services, Database, Portlet and MVC development
- Visual drag-n-drop development of UI, events, actions, page navigation, etc.
- Simplify J2EE development for non-Java programmers and VB/MS.NET developers
- Enhance Web Application Development for J2EE experts

Service Data Objects (SDO): Unified Access to Heterogeneous Data Sources

- Provides a common programming interface to access data from multiple heterogeneous sources
- Supports both static and dynamic data APIs
- Supports connected and disconnected operation
- Decouples application code from data access code
- Designed for use with tools to increase programmer productivity

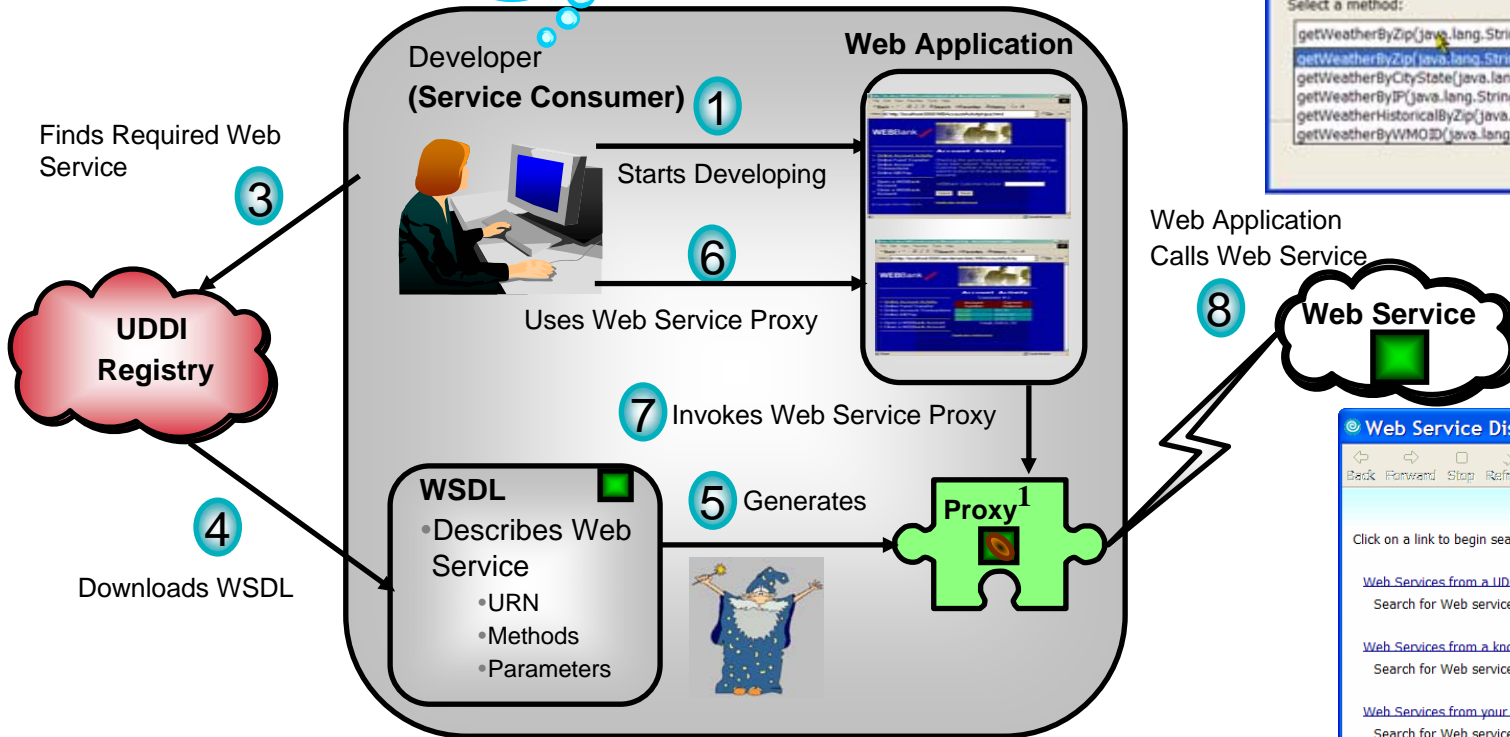
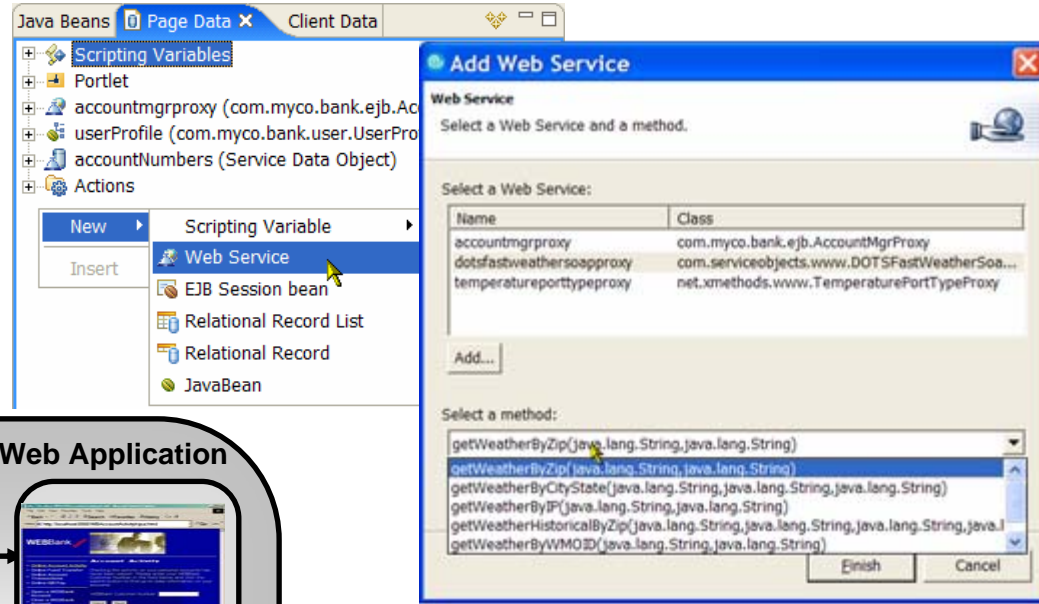


Query data sources, create data graphs containing data objects, apply changes back to the data source

Service Data Objects (SDO) is a specification created by IBM & BEA, submitted to JCP as JSR 235 in December 2003. Expert Group Formation Stage, not part of J2EE yet

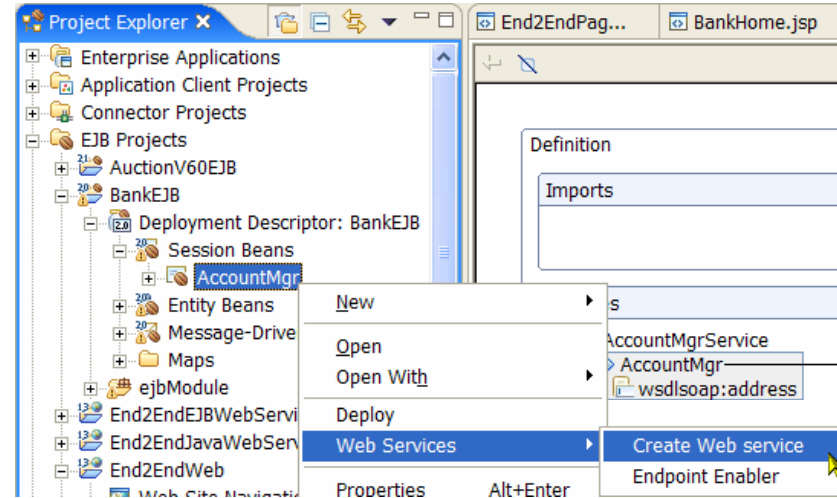
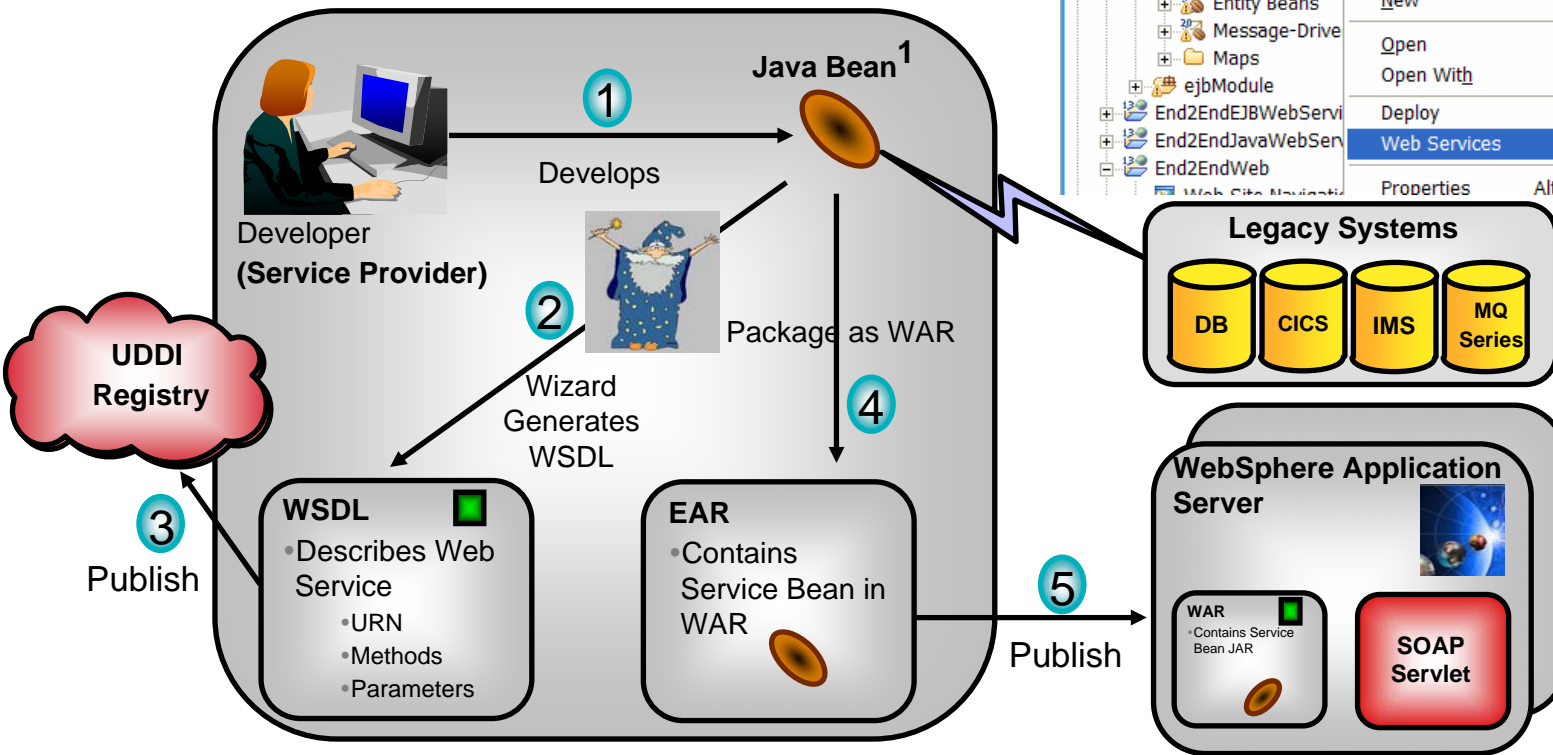
Consuming a Web Service (No Coding Required!)

I need 2



1 Good Note: A Java app/component can be generated (a.k.a Web Service **Proxy Bean**) that can call existing Web Services, including: web services accessible JavaBeans, EJBs, database queries, URLs, Microsoft .NET web services, any web service on the internet, etc.

Building a Web Service (No Coding Required!)



¹ Good Note, a Web Service can be built from a variety of artifacts such as JavaBeans, EJBs, database queries, etc.



V6 “WebSphere Rapid Deploy” (WRD)

- To simplify the development experience for WebSphere applications by:
 - Increase the seamlessness of the iterative Build/Test cycle
 - Reduce or eliminate server restarts
 - During initial artifact creation (i.e. create Java, EJBs, Web Services, etc.)
 - During iterative build scenarios (i.e. coding the logic in Java, etc.)
- To simplify the deployment experience for WebSphere applications by:
 - Automating the process of installing an application on WebSphere
 - Reducing the amount of information that must be configured manually on WAS (i.e. Datasources, etc.)
 - Automating the process of activating incremental changes to an application on a running server (i.e. Add/Change code/configuration of an application)



Dynamic Development (Avoiding the “RESTART” Situations)

- Two main stages in RAD V6 dynamic development
 - Creating New Artifacts
 - Changing Existing Artifacts




- AUTOMATIC hot re-deployment of changes
- Manual quick APPLICATION level restart
- Manual SERVER restart

WS Rapid Deploy (WRD) Dynamic Development Scenarios		
Development Activity	WAS5.1	WAS6.0
Create EAR Project	Plan to Restart Server	Dynamic (WRD)
Create Web Project	Plan to Restart Server	Dynamic (WRD)
Create EJB Project	Plan to Restart Server	Dynamic (WRD)
Create EJB with Logic	Restart Server (Manually)	Dynamic (WRD)
Change EJB	Restart Project EAR (Manually)	Dynamic (WRD)
Create JSP	Dynamic (Web Container)	Dynamic (Web Container)
Change JSP	Dynamic (Web Container)	Dynamic (Web Container)
Create JavaBean in Web Project	Dynamic (Web Container)	Dynamic (Web Container)
Change JavaBean in Web Project	Dynamic (Web Container)	Dynamic (Web Container)
Create JavaBean in regular Java Project and Reference from EJB or Web project artifacts	Restart Project EAR (Manually)	Dynamic (WRD)
Change JavaBean in regular Java Project	Restart Project EAR (Manually)	Dynamic (WRD)
Create Web Service (Exposing a JavaBean or EJB)	Restart Server	Dynamic (WRD)
Change a Web Service	Restart Server	Dynamic (WRD)



Component Test Automation

- Enable easy creation, execution, and maintenance of dynamic unit tests of J2EE components including:

-  • Java classes (J2SE 1.4)
-  • EJBs (1.1, 2.0 and 2.1, supporting both remote and local interfaces)
-  • Web Services (J2EE based, and .Net Web Services)

- Based on the JUnit framework
- Provide testing guidance
 - What to test first based on static metrics
- Automated test case generation
 - Based on test patterns
- Data driven testing
- Automated regression testing
- Integrated with Code Coverage
- Implementation of the OMG Testing Profile



Code Reviews

- Analyze Project/Workspace to find problems of various types:
 - Globalization
 - J2EE Best Practices
 - J2SE Best Practices
 - Private API Usage
 - Performance
 - Naming Conventions
- Produce interactive reports with violations and metrics
- Provides explanations, examples, and quick fixes for problems
- Allow users to create, enable and disable validation rules
- Allow users to create their own rules based on rule templates
 - Complete Code Review (200+ rules)
 - Quick Code Review (34 rules)

The screenshot displays the IBM Code Review tool interface. At the top right, there are buttons for 'New...', 'Remove', 'Move...', 'Expand All', and 'Collapse All'. A search bar is located at the top left of the main panel.

The main panel shows a tree view of rule categories:

- [-] Coding Style (14 rules)
- [-] Design Principles (5 rules)
- [-] Globalization (47 rules)
- [-] J2SE Best Practices (65 rules)
- [-] Naming Conventions (2 rules)
- [-] Performance (26 rules)
- [-] Private API (4 rules)
- [-] Structural Analysis (6 rules)
 - [-] Breakable (2 rules)
 - [-] Avoid components that depend on > 10 other components
 - [-] Avoid packages that depend on > 10 other packages
 - [-] Cyclic Dependency (2 rules)
 - [-] Hub (2 rules)

Below the tree view, there are tabs for 'Problem', 'Examples', 'Solutions', 'Properties', and 'Resource Filters'. The 'Problem' tab is active, showing details for a selected rule:

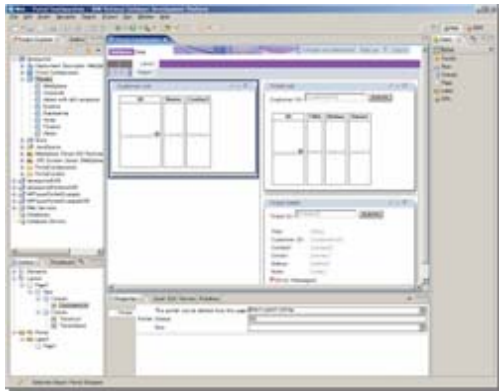
- Problem category:** Structural Analysis : Breakable
- Problem name:** Avoid components that depend on > 10 other components
- Description:** A Breakable is a component that has many immediate dependencies. Such

At the bottom, another tree view shows a list of rules under the 'Memory' category (13 rules, 13 enabled):

- [-] Always call super.finalize() in the finally block
- [-] Avoid calling finalize() unless in the finally block
- [-] Avoid declaring finalize() public
- [-] Avoid returning from finally
- [-] Avoid the throw statement inside of finally
- [-] Avoid instantiating unnecessary temporary objects
- [-] Avoid java.lang.String + operator in concatenation
- [-] Avoid calling java.lang.Runtime.gc()
- [-] Avoid calling java.lang.Runtime.runFinalizersOnExit()
- [-] Avoid calling java.lang.Runtime.runFinalization()
- [-] Avoid instantiating Booleans using new
- [-] Avoid instantiating Strings using new
- [-] Avoid using static collections

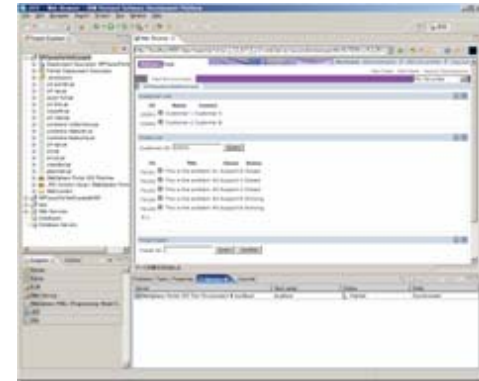
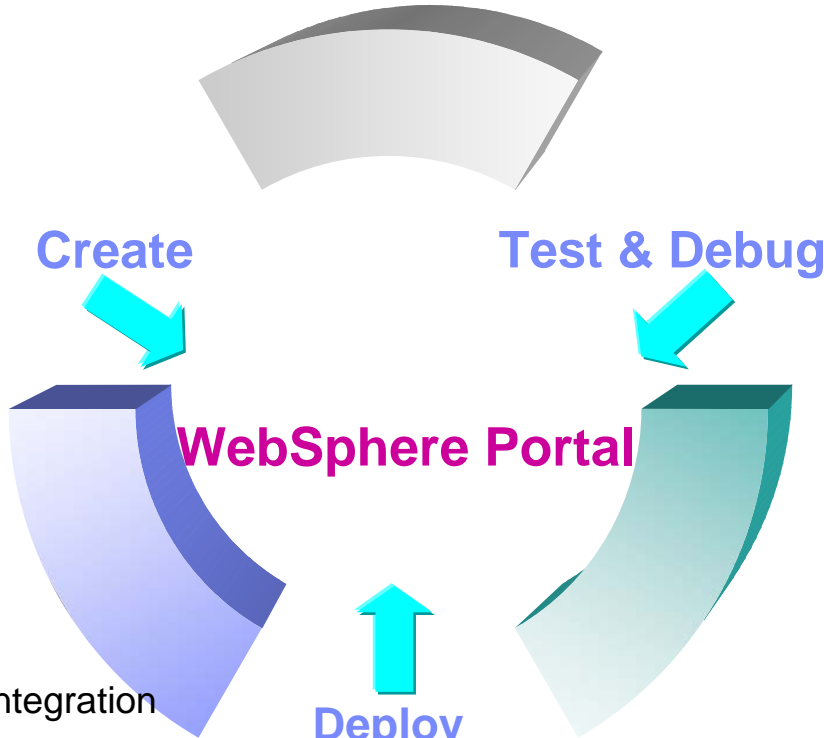
On the right side of the bottom panel, there are buttons for 'Move rule...', 'Show Search Box', 'Expand All', 'Export...', and 'Import...'.

RAD V6 - 1st Class Support for Portal/Portlet Development

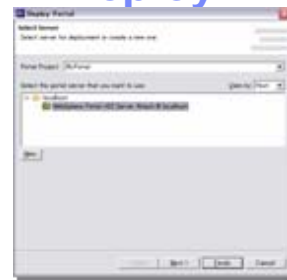


Visual Portlet & Portal Site Development

- ✓ JSF, Struts
- ✓ Enterprise Application Integration
- ✓ Portal page Layout
- ✓ Themes and Skins



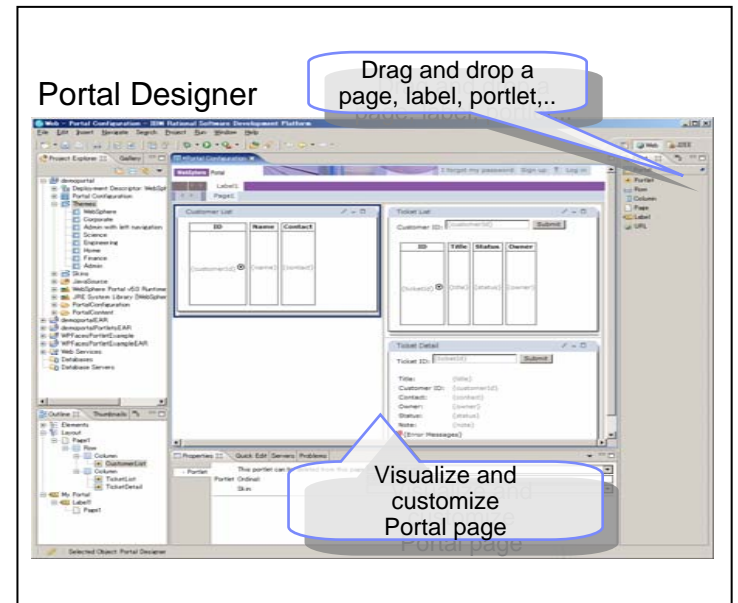
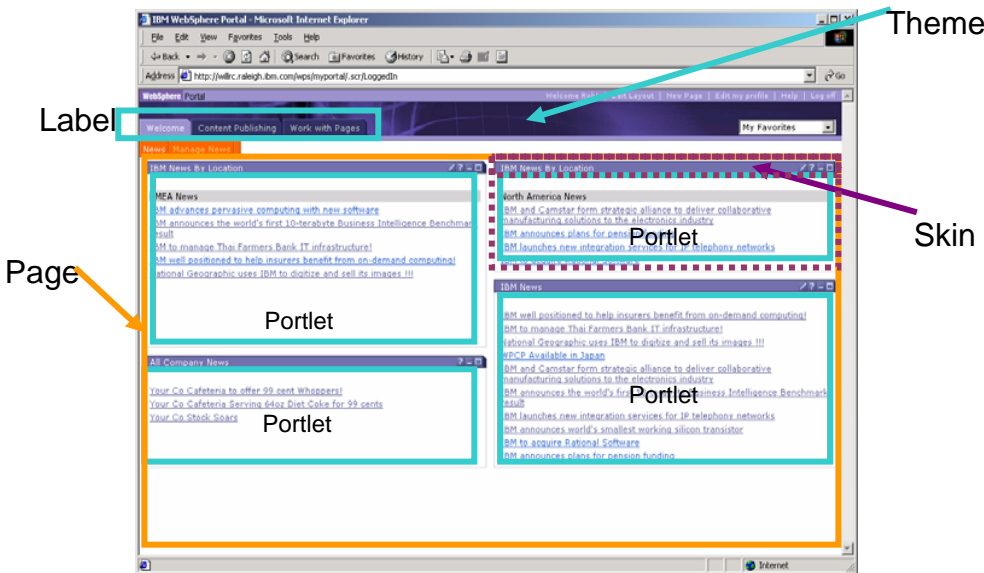
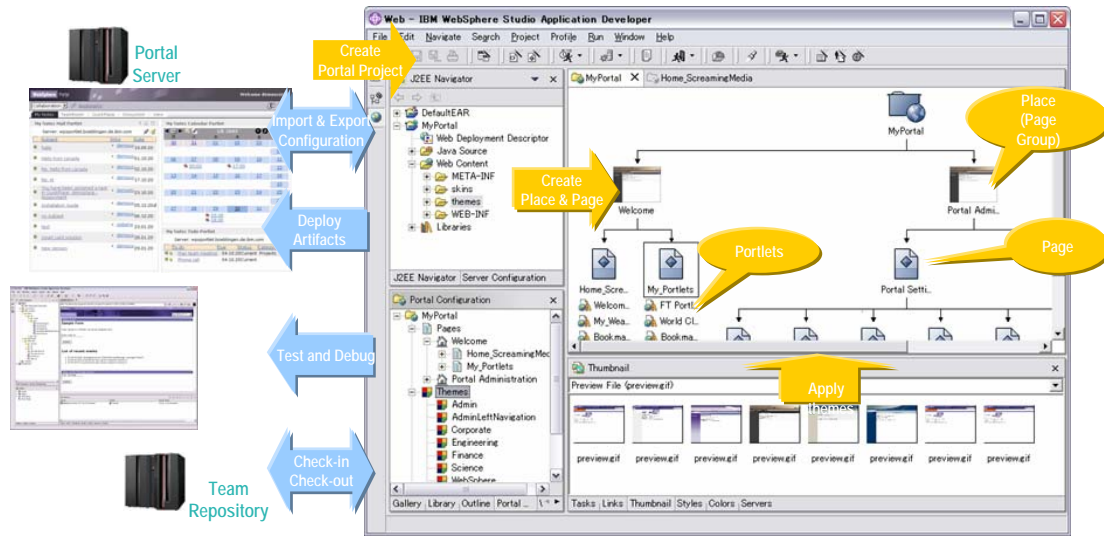
Integrated Portal Test Environment for WP 5.0.2.2 and 5.1



Deployment Wizards

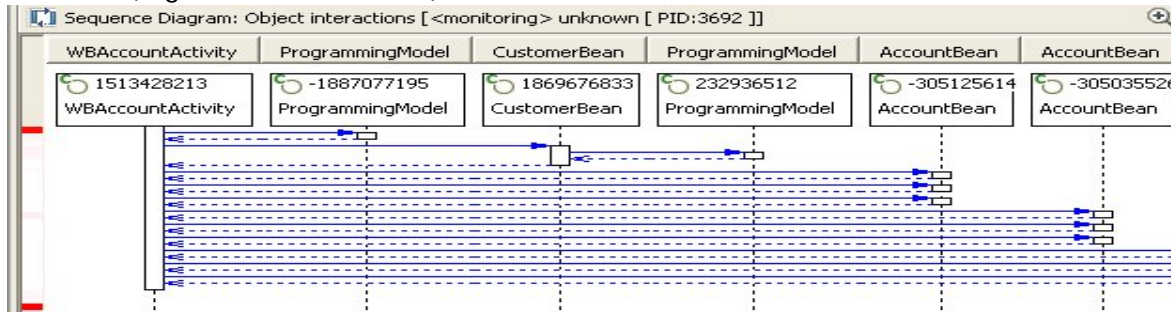


Portal Designer: Site, Page, Themes, Skins 1234



Runtime Analysis ¹²

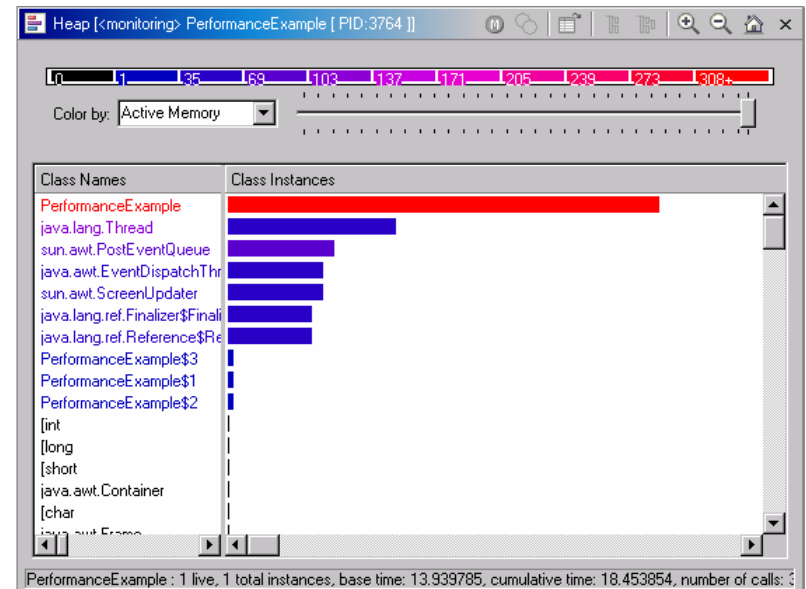
- Sequence Diagram, Method Invocation, heap, etc. views in Profiling Perspective
 - Shows the Execution flow of the application
 - User can drill down from sequence diagram into the application code or launch other Performance Analysis views (e.g. Method Statistics)



Class Method Statistics [<monitoring> InOut [PID:1532]]

Filter: Case sensitive

<Class Names	Package	Base Time	Average Base Time	Cumulative Time	Calls
Thread	java.lang	0.000000	0.000000	0.000000	0
StringBuffer	java.lang	0.364748	0.060791	0.364748	6
String	java.lang	0.000047	0.000047	0.000047	1
Object	java.lang	0.000000	0.000000	0.000000	0
LocalizedPrint...	com.ibm...	0.532924	0.106585	0.532924	5
Launcher\$App...	sun.misc	0.000000	0.000000	0.000000	0
InputStreamR...	java.io	0.009068	0.004534	0.009068	2
InputStrea...	java.io	0.009068	0.004534	0.009068	2
InOut		0.015468	0.003867	23.350155	4
Date	java.util	0.003361	0.000840	0.003361	4
ClassLoader	java.lang	0.001030	0.000258	0.001030	4
BufferedReader	java.io	22.282958	5.570740	22.282958	4
[short		0.000000	0.000000	0.000000	0
[Object		0.000000	0.000000	0.000000	0
[long		0.000000	0.000000	0.000000	0
[int		0.000000	0.000000	0.000000	0
[float		0.000000	0.000000	0.000000	0
[double		0.000000	0.000000	0.000000	0
[char		0.000000	0.000000	0.000000	0
[byte		0.000000	0.000000	0.000000	0
[boolean		0.000000	0.000000	0.000000	0



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• Lifecycle Integrations (Enhanced Rational/WebSphere Eclipse based Integrations)

- Requirements Explorer View
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- Code Review and Runtime Analysis for Profiling
- Built-in Coder-friendly UML Visualizations for Class/Sequence diagrams
- Crystal Reports
- And much more...

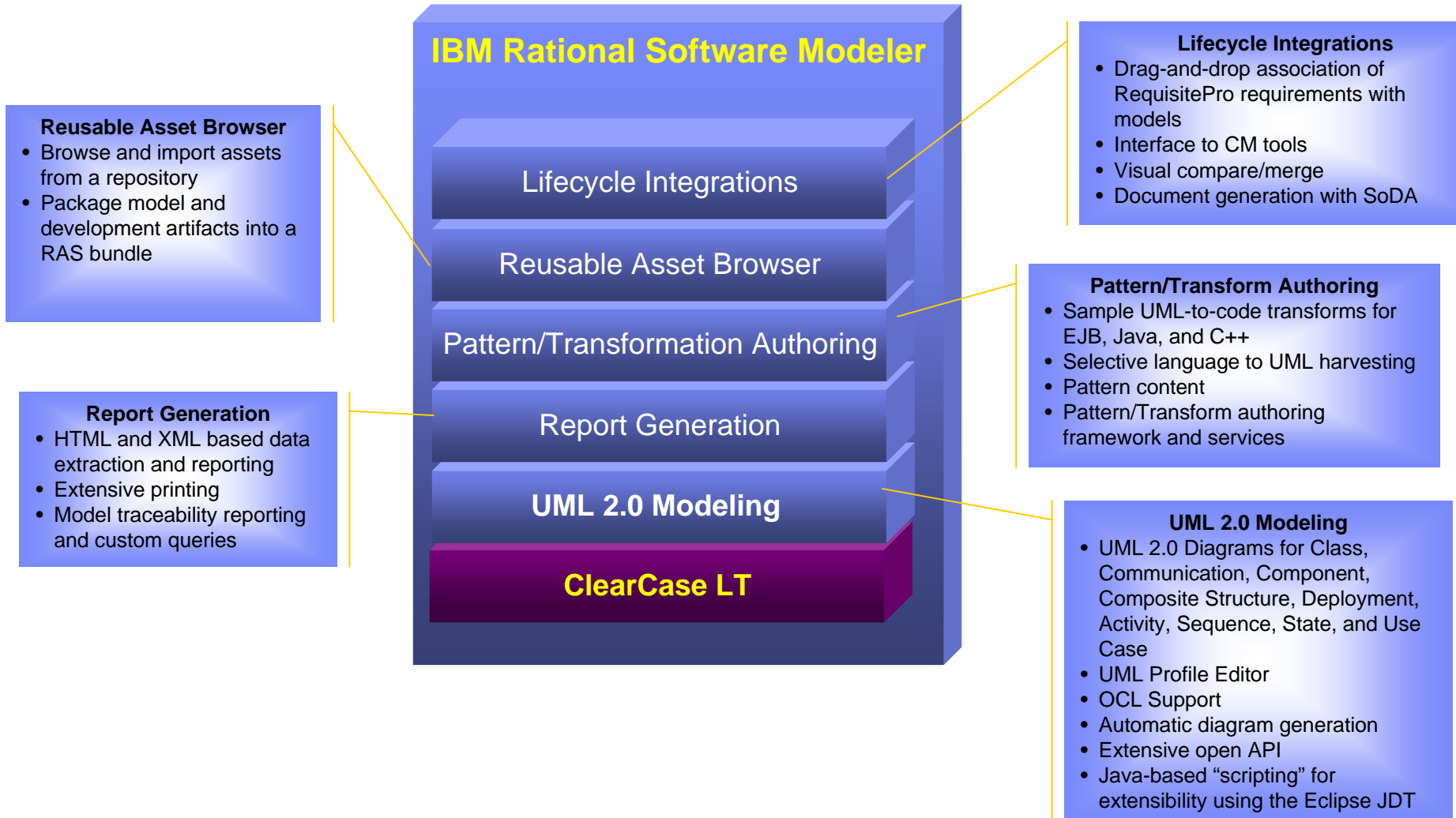
• New UML2 Engine

- New code base
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- Easier GUI development
- Transformations between models and generating Java/C/C++ code

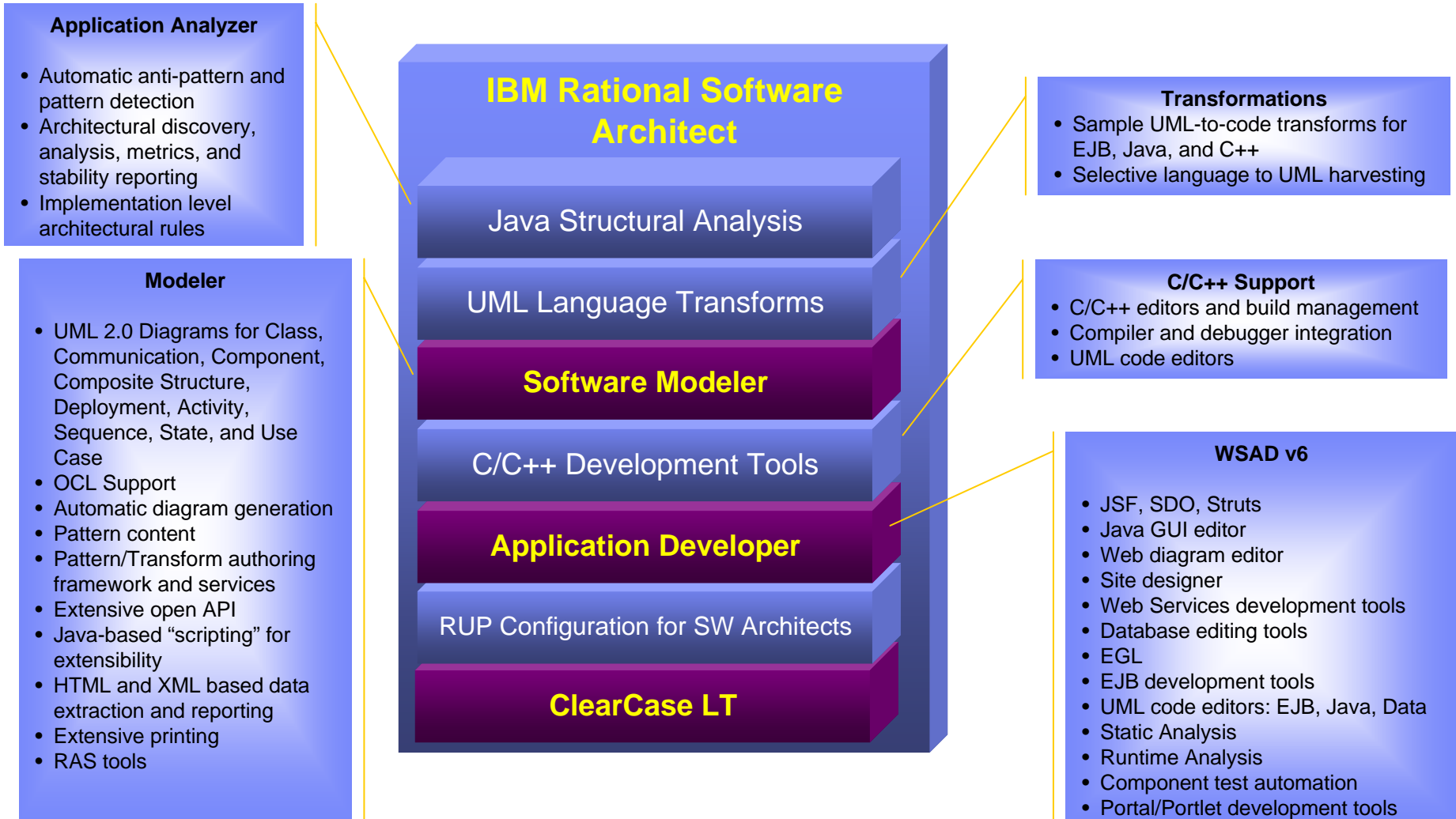
• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)



IBM Rational Software Modeler

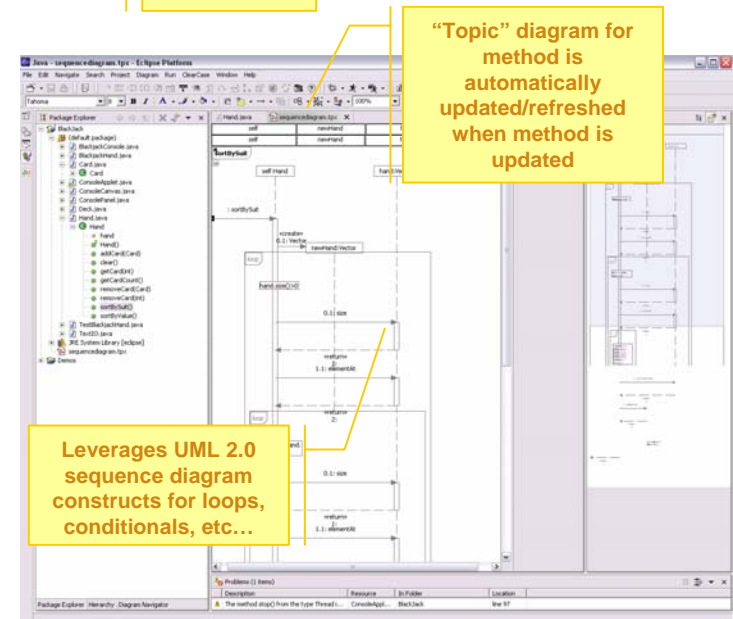
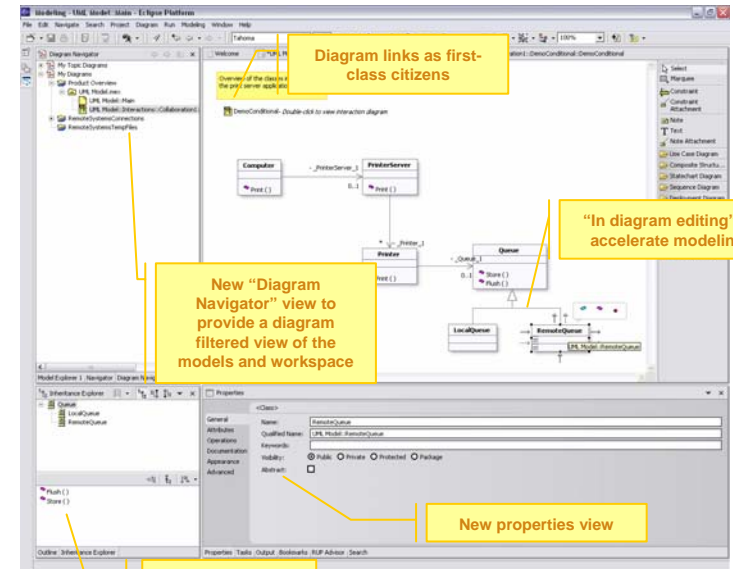
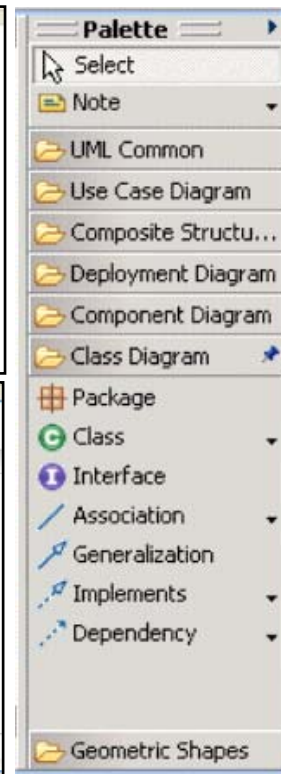
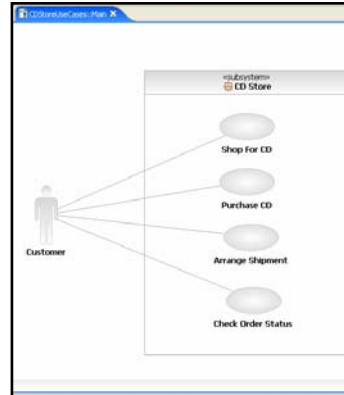
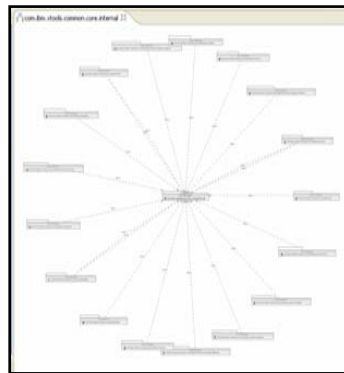
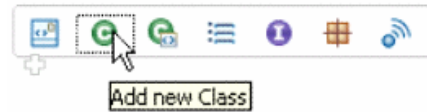


IBM Rational Software Architect



New UML Modeling Ease-of-Use

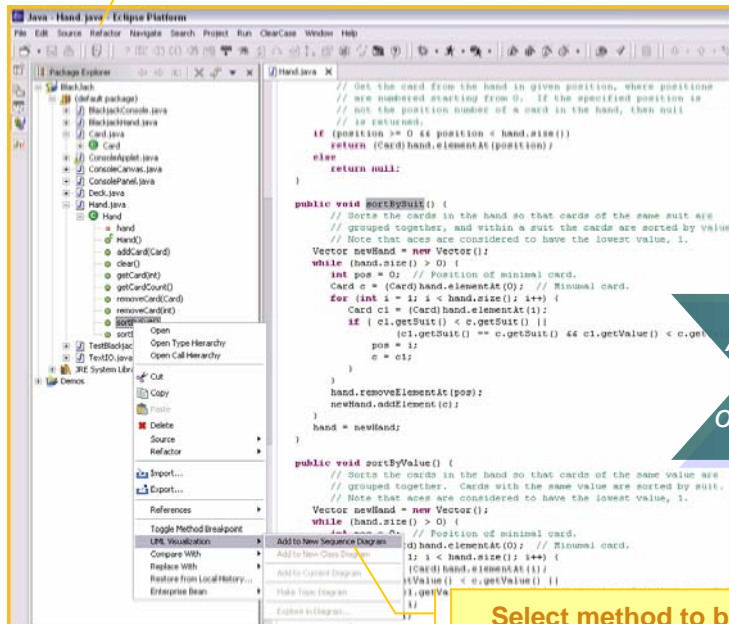
- Simplify creating UML2 diagrams with contextually appropriate UML element creation, via popup toolbars
- Visualize Java code using dynamic code introspection that provides hyperlinked diagrams (Class and Sequence diagrams)
- New custom views to improve the editing experience



UML Visualization for Java Classes, Relationships and Methods

- Facilitates understanding and application's behavior by providing visualization of detailed code
- Diagrams can be integrated in Javadoc reports

Integrated with the Java Package view

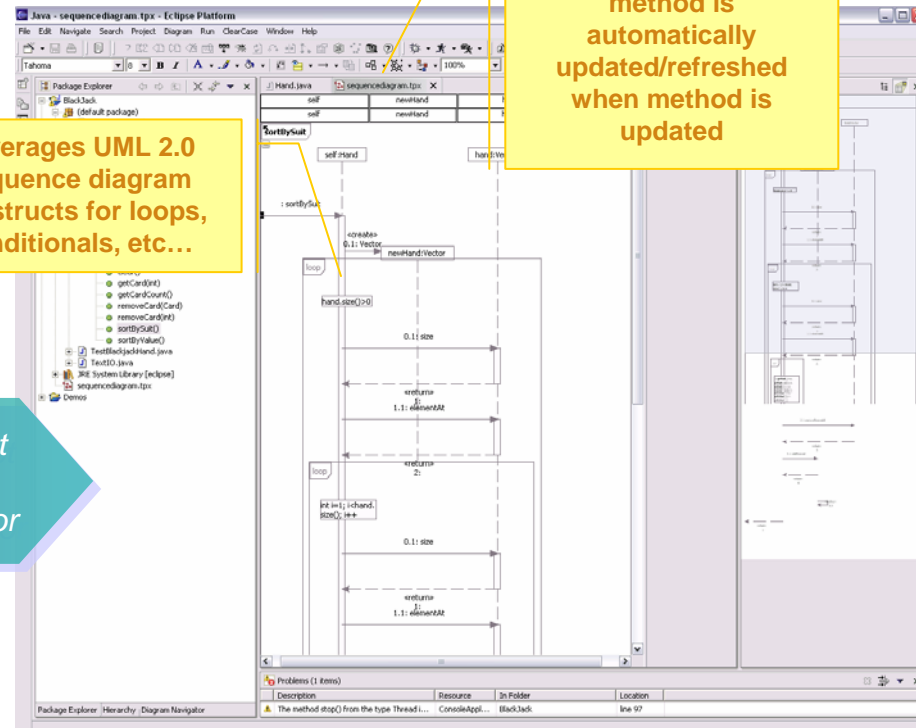


Leverages UML 2.0 sequence diagram constructs for loops, conditionals, etc...

Alternate abstract view of method behavior

Select method to be visualized using UML

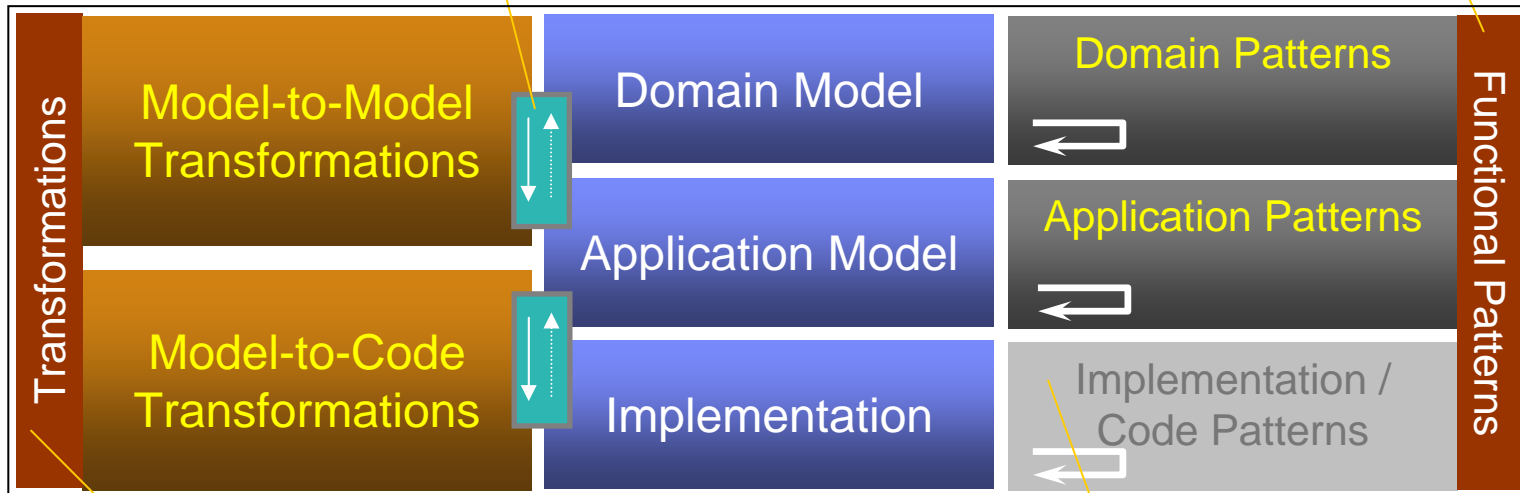
"Topic" diagram for method is automatically updated/refreshed when method is updated



Patterns and transformations

Transformations can be authored to create traceability links between the source and the target of the transformation.

Patterns can be authored/applied and used as recipes or building blocks to refine a model or implementation at its level of abstraction.



Rule/constraints-based transformations can be authored to transform models in a batch style operation. Transformations are authored using Java and the Eclipse PDE. Transformations can leverage functional patterns when they execute.

In a future release, the patterns capabilities will be extended to the implementation level (ex.: J2EE patterns).



V6 Highlights - Areas of Innovation - Enhancements and New Capabilities

• Lifecycle Integrations (Enhanced Rational/WebSphere Eclipse based Integrations)

- Requirements Explorer View
- Model Explorer View
- ClearCase Views for managing changing artifacts
- ClearQuest Views for managing collaborative activities
- Testing Tools Views

• RAD/RSA Design & Construction Tooling Enhancements

- JSF, SDO, Web Services, etc.
- J2EE 1.4/1.3/1.2 and WAS V6.x/V5.x
- Portal/Portlet Integration
- Enhanced Unit/Component Testing
- Code Review and Runtime Analysis for Profiling
- Built-in Coder-friendly UML Visualizations for Class/Sequence diagrams
- Crystal Reports
- And much more...

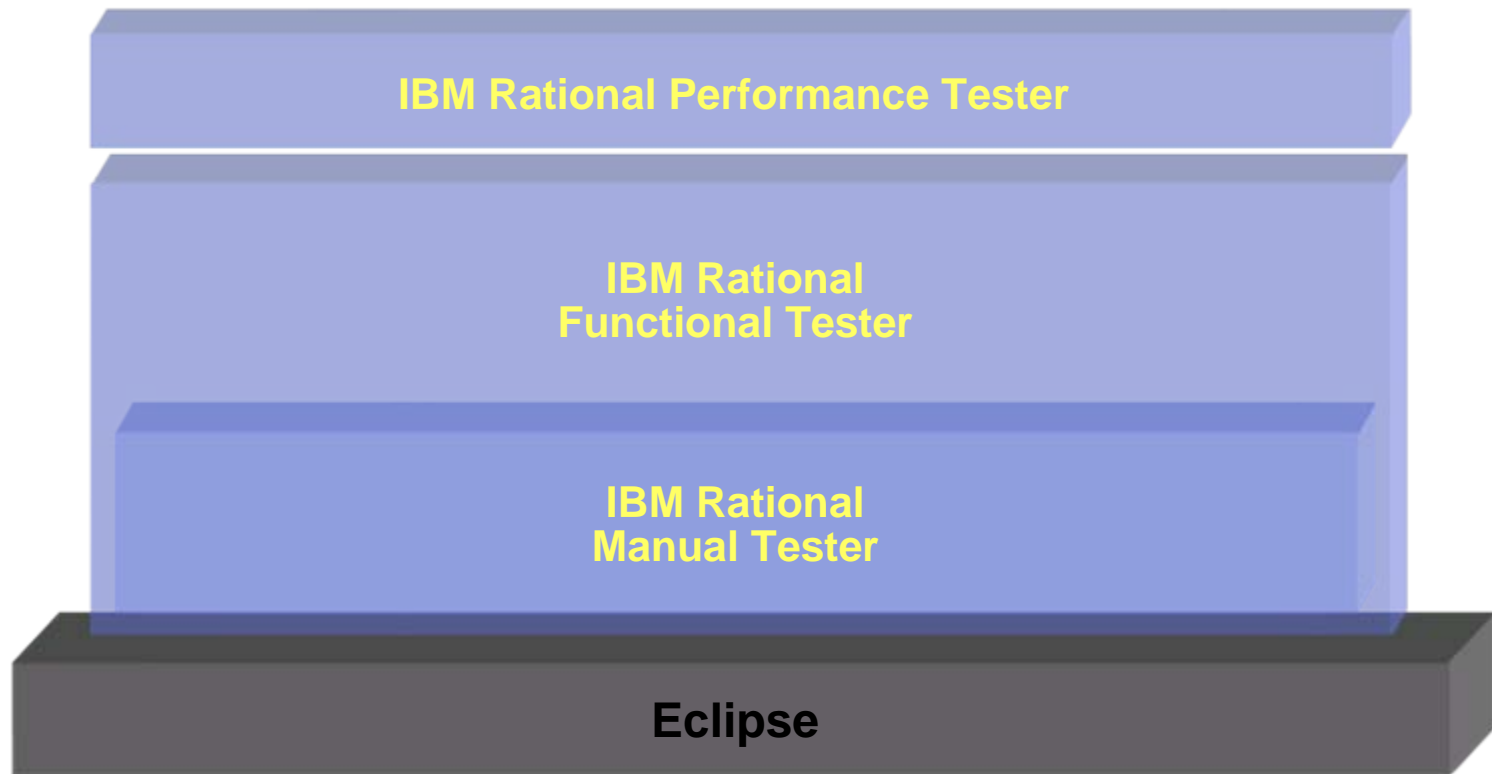
• New UML2 Engine

- New code base
- End-2-End UML2 modeling
- Easier GUI development
- Transformations between models and generating Java/C/C++ code

• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)



Software quality tools



IBM Rational Manual Tester



Manual test authoring and execution

- Rich Text Editor**
- Modify test font, size, color; attach images and files
 - Supports creation of both test steps and verification points
 - Ensures clarity of test step direction and consistency of test execution

- Reuse Library**
- Library for common test procedures
 - Drag-and-drop construction of new tests
 - Automatic global update when modifying any one instance of linked content

- Tool Assistance**
- Automated data entry
 - Automated data comparison and results storage
 - Reduces opportunity for manual error during test execution

- Import/Export**
- Imports manual test source files from Microsoft Word, Microsoft Excel and Rational TestManager
 - Exports test results to CSV format for additional analysis

- Customizable**
- Add new data fields to individual test steps
 - Apply internally-defined naming conventions

- ClearCaseLT "in the box"**
- Supports parallel development of manual tests
 - Enables remote test access for distributed teams



Manual Tester - Manual test authoring and execution



- *What*
 - ▶ Manual test authoring, organization and execution
- *For*
 - ▶ Business analysts
 - ▶ Testers
- *Why*
 - ▶ Reduce impact of software change and human error on manual testing efforts

The screenshot shows the IBM Rational Manual Tester application window. The interface includes a menu bar (File, Edit, Capture, Run, Window, Help), a toolbar, and several panes. A central pane displays a test step: "Launch Browser by clicking the icon shown on your Desktop:" followed by an image of a "Launch Internet..." icon. Below this, another step says "Enter Address http://www.ibm.com into the region shown" followed by a screenshot of a browser window with the address bar containing "http://www.ibm.com". Other steps include "Logon" and "Enter User ID".

Callouts point to various features:

- Rich test editor**: Points to the central test step editing area.
- Test step reuse library**: Points to a pane on the right titled "Reuse Statements" containing a list of reusable test steps like "Launch Browser", "Enter Address http://...", "Logon For Trading", "Navigate to Trading", "Sell Mutual Fund", and "Verify Transaction in".
- Customizable fields**: Points to a "Properties" pane on the right with a table structure.
- Attached images and files**: Points to the browser screenshot used as a reference in a test step.
- Central repository for distributed team access**: Points to the overall application window.



IBM Rational Functional Tester

Automated functional regression testing

GUI Technologies

- Automates regression testing of Java, .NET, Web and terminal emulator-based applications

Data-driven Testing

- Simplified data-driven testing enabled by wizards and Excel-like data tables

Eclipse availability

- When using Java scripting, runs inside Eclipse/RSA/RAD shell
- Full Eclipse JDT features are accessible
- Accessible to developers from within their IDE

ClearCaseLT "in the box"

- Supports parallel development of manual tests
- Enables remote test access for distributed teams



Test Script Language

- User has choice of two test script languages – Java and VB.NET
- Use of Java implies editing and debugging in Eclipse/RAD/RSA-based editor
- Use of VB.NET implies usage of Microsoft VS.NET-based editor/debugger
- Identical capabilities in both editors

Improved Linux support

- Users can author and modify test scripts on Linux (no script recorder)
- Scripts can also be executed on Linux

Manual Tester in the box

- Customers receive one Manual Tester license per Functional Tester license
- Improve return on manual testing efforts while adopting automated test methods



Functional Testing - Automated functional regression testing

- What

- Functional and regression test automation
- Activity automation

- For

- Project specific QA teams
- Experienced testers
- GUI developers

- Why

- Ensure proper use case implementation before deployment
- Support fact-based evaluations of project readiness and application quality

Tester

Eclipse or VS.NET-based editor and debugger

ScriptAssure™ for test script resiliency

Version control ready

Java, VS.NET, Web and terminal-based application support

Data-driven test assistance

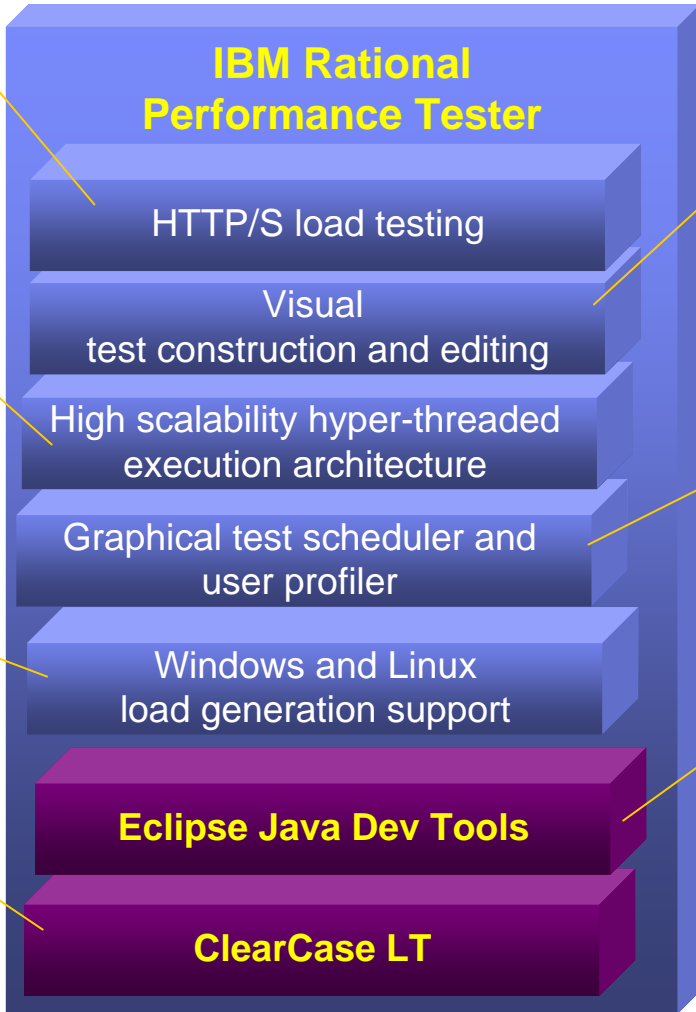
Java in Eclipse or VB.NET in VS.NET

CardNumberInc...	creditCombo	Expirat...	NameText	StreetText	CityStateZipText	Ph
0	444444444444	Visa	0505	Trent Culpito	75 Wall St 22nd Fl NY, NY 12212	21
12	123412341234	Amex	0206	Brian Fred	1212 Foo Ln NY, NY 12214	12



IBM Rational Performance Tester

Load and performance testing



Load testing technology

- New load test recorder and execution engine
- Supports HTTP/S; additional protocol support

Visual Test Editor

- Test viewer requires no coding for test modification and execution
- Automated identification and variation of dynamic data
- Insertion of Java code is supported for advanced customization needs

High scalability

- High scalability, low footprint due to hyper-threaded architecture
- Significant improvement over Robot technology

Test scheduler

- Graphical user profiling and transaction modeling
- Eases modeling of user populations

Platform Support

- Multiple platform support for load generation

Eclipse-based

- Runs inside Eclipse/RSA/RAD shell
- Accessible to developers from within their IDE

ClearCaseLT "in the box"

- Supports parallel development of manual tests
- Enables remote test access for distributed teams



Performance Testing - Load and performance testing



- *What*
 - ▶ Load and performance testing
- *For*
 - ▶ Testers
 - ▶ Deployment Managers
- *Why*
 - ▶ Validation of Web-application scalability under variable multi-user loads prior to deployment

Visual test editor

Real-time reporting

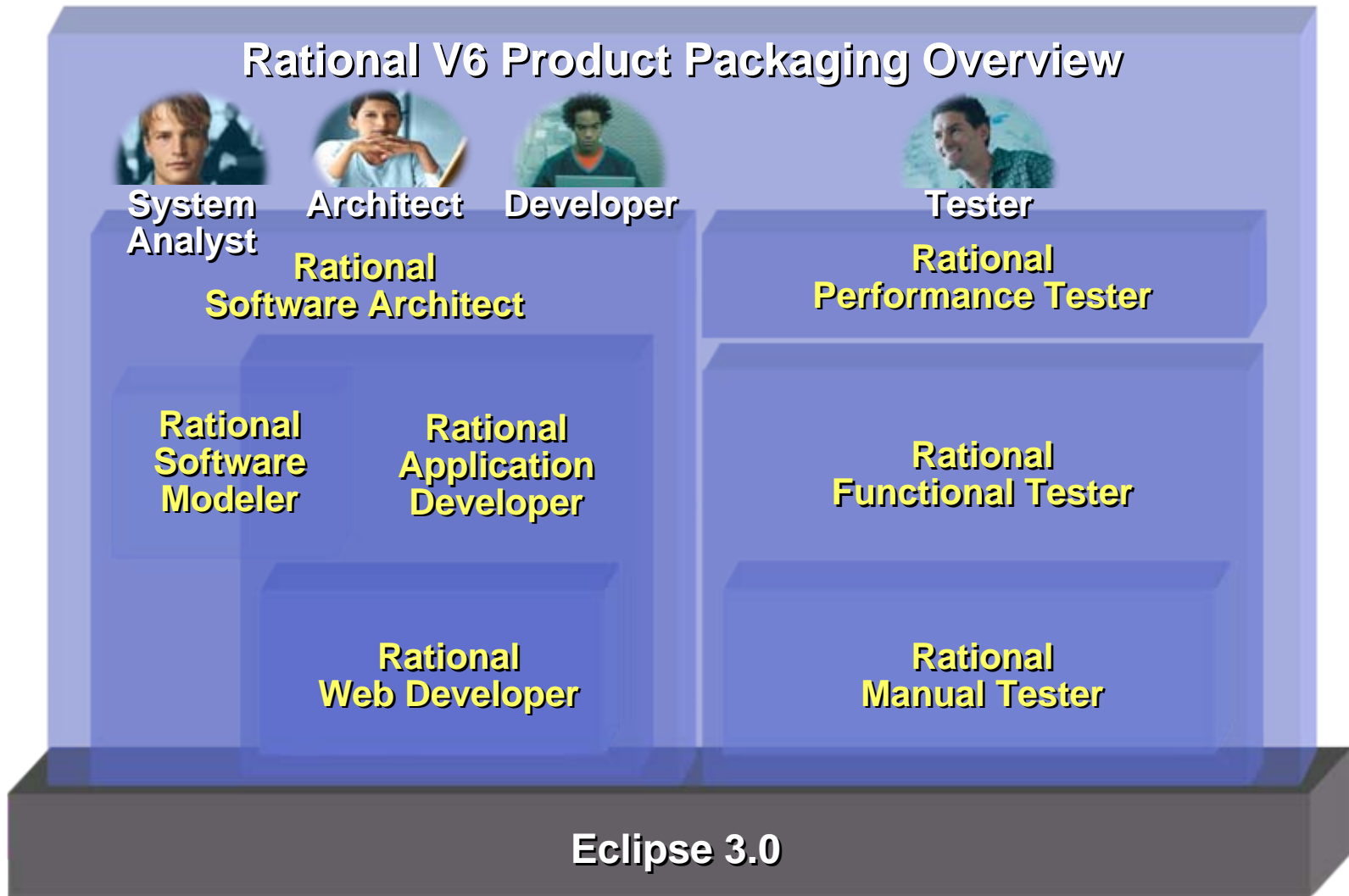
Flexible test design and scheduling

Server resource data collection

Page	Response Time (ms)
Strawberries	294
Home Page	685
Submit Order	96
Customer Info	78
Shopping Cart	547
Login Page	412
Order Confirmation	2,381
Order Confirmation	1,155
Order Confirmation	35



V6 Packaging Overview – Design, Construction and Software Quality Testing



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- JSF, SDO, Web Services, etc.
- J2EE 1.4/1.3/1.2 and WAS V6.x/V5.x
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• Software Quality Testing Tools Enhancements (Manual, Functional and Performance Testing)





IBM Software Group

Application Development Tools

→ *RAD V6 Accelerated Learning* ←



Name

Title

Company

New Infocenter, including “Education Assistant”

- New Infocenter
<http://ibm.com/software/webservers/appserv/infocenter.html>
- Education Assistant
 - Presentations narrated with sound
 - Tutorials
 - Reference information
- Installed with WAS and on ibm.com

WebSphere Application Server Library - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://ibm.com/software/webservers/appserv/infocenter.html>

United States [change] Terms of use

IBM

Home Products Services & solutions Support & downloads My account

All software products Software > Application Servers > WebSphere Application Server >

WebSphere Application Server

Features and benefits

System requirements

Library

Success stories

News

Trials and betas

How to buy

Events

Training and certification

Services

Support

Support for z/OS

Related software

- WebSphere Application Server - Express
- WebSphere Application Server
- WebSphere Application Server Network Deployment
- WebSphere Application Server for iSeries
- WebSphere Application Server for z/OS
- WebSphere Extended Deployment
- Rational Application Developer for WebSphere Software
- Rational Web Developer for WebSphere Software
- Macromedia ColdFusion MX for WebSphere

Related solutions

- WebSphere Business Integration Server Foundation
- WebSphere Industry Solutions

WebSphere Application Server

WebSphere software

V 6.0 V 5.1.x V 5.0.x V 4.0.x

WebSphere Application Server Version 6.0.x Information Center

Express - distributed platforms
[Show | Hide](#)

WebSphere Application Server - distributed platforms
[Show | Hide](#)

Network Deployment - distributed platforms
[Show | Hide](#)

Documentation - Information center format
[WebSphere Application Server Network Deployment, Version 6.0.x](#)
[WebSphere Help System plug-in: Network Deployment](#)
[WebSphere Help System plug-in: Javadoc](#)

Documentation - Book format
[Migrating, coexisting, and interoperating](#) (PDF)
[Installing your application serving environment](#) (PDF)
[Administering applications and their environment](#) (PDF)
[Setting up the application serving environment](#) (PDF)
[Using the administrative clients](#) (PDF)
[Securing applications and their environment](#) (PDF)
[Developing and deploying applications](#) (PDF)
[Troubleshooting and support](#) (PDF)

Evaluation and overview
[Literature: Case studies, data sheets, and more](#)

Tutorials, samples and demos
[IBM Education Assistant](#)
[Accessing the Samples Gallery](#) (requires product installation)

Release notes
[Release notes](#)

Supported hardware and software
[Supported hardware and software](#)
[Supported hardware](#)
[Supported software](#)

Papers and articles
[WebSphere Application Server zone on developerWorks](#)
[WebSphere Developer Technical Journal](#)
[White papers](#)
[Links recommended by product support](#)

Supplemental books
[WebSphere Redbooks Domain](#)

Resources

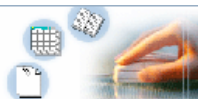
- WebSphere Help System [?]

Related libraries

- WebSphere Application Server for iSeries library
- WebSphere Application Server Express library
- IBM HTTP Server library
- WebSphere Application Server - Edge Components library
- WebSphere Extended Deployment library
- WebSphere Business Integration Server Foundation library
- WebSphere Business Integration Server Foundation for z/OS library

“Education Assistant” – RAD V6 – Modules

IBM Education Assistant



Select your configuration:

IBM® Rational® Application Developer V6.0 ▾

Select how to display results:

Task based view ▾

Go

Click on links below to view educational material.

- New Infocenter
<http://ibm.com/software/webservers/appserv/infocenter.html>
- Education Assistant
 - Presentations narrated with sound
 - Tutorials
 - Reference information

Application development	IBM Rational Application Developer V6
Getting started	Tool overview Eclipse overview
Installation and migration	Installation and migration
J2EE™ application development	Developing Java™ and J2EE applications with Unified Markup Language (UML) Analyzing coding practices in Java and J2EE applications J2EE Web and EJB™ development
Web application development	Developing Web applications (including J2EE Web applications) Developing Web applications with JavaServer™ Faces (JSF)
Portal application development	Developing portal applications

Data application development	Developing applications with Service Data Objects (SDO) Developing applications for databases
XML application development	XML application development
Web services applications	Developing Web services applications Securing Web services applications Testing Web services applications
Test, debug and profile applications	Testing applications with WebSphere Application Server V6 Component testing applications Debugging Java and J2EE applications Profiling Java and J2EE applications
Applying security	Applying J2EE security to EJBs and Web applications



RAD V6 Tutorial Demo Series (<http://JavaDevTools.com>)

Executives and Managers

- *Watch and Learn:* Simply view the "Tutorial Demo" movies to see ROI in action...in just minutes!

Architects and Developers

- *Watch and Do:* Use the "Tutorial Demo" movies to build the reference applications from scratch!

#1 End-2-End Application

End-2-End Page (End2EndPage.jsp and .java)

Call All

Type of Calls Input->Submit->Results

Diagrams

Web Services:

- o Temperature (www.smthods.net)
- o FastWeather (ServiceObjects.com)

XML:

- o Create XML Doc
- o Receive XML Doc

JSF:

- o Client-side data:
- o Table
- o Graphs

Temperature Web Service FastWeather Web Service

Zip Code: 11101 Cond: Clear
 City: Long Island City
 State: New York
 Temp°F: 28

Create XML Doc Read XML Doc

Id: 123
 Info: Hi XML!

COUNTER COUNT

CounterA	111
CounterB	200

Page 1 of 2 | Jump to page: []

Counter Usage

#2 Quick Success Apps

Navigation - QuickSuccess

http://localhost:9060/QuickSuccess/faces/QuickHome.jsp

Home
 Weather
 Java
 EJB
 EJB Web Service
 SDO CMP Facade
 DB List
 JSF Page Data
 JSF Client Data

Welcome to the Quick Success Gallery

Navigation - QuickSuccess

- Home
 - QuickHome.jsp...
 - Weather
 - QuickWeather...
 - Java
 - QuickJavaWeb...
 - SDO CMP Facade
 - QuickSDOcmp...
 - JSF Page Data
 - QuickJSFPageD...
 - EJB
 - QuickEJB.jsp...
 - EJB Web Service
 - QuickEJBWebS...
 - DB List
 - QuickDOList...
 - DB Update
 - QuickSDOdup...
 - JSF Client Data
 - QuickJSFClient...

#3 Banking & Finance

Financial Advisor Dashboard

Bankers portfolio

Financial Advisor's Dashboard

Customers

Customer #	First Name	Last Name	City	State	Zip	Work Phone	Invested	Projected	% Rate of Return
1	Arthur	Platinum	Long Island	NY	11101	773-123-1111	\$500,000.00	\$527,751.13	5.55%
2	Betty	Golden	Arlington	VA	22202	773-123-2222	\$300,000.00	\$327,568.75	9.18%
3	Charlie	Silver	Fort Lauderdale	FL	33302	773-123-3333	\$300,000.00	\$354,688.75	19.33%
4	Dennis	Copper	Burghil	OH	44404	773-123-4444	\$300,000.00	\$510,625.00	71.12%

Customer Portfolios Performance

Bankers portfolio

Banking > Finance > Portfolio Management

Customer # 1

Analyze Customer Portfolio

Portfolio details for Arthur Platinum appear below

Invested: \$500,000.00 Projected: \$527,751.13 Rate of return: 5.55%

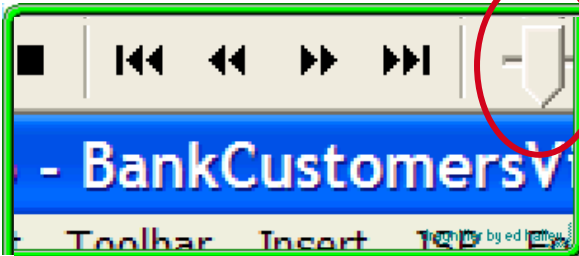
Fund Act #	Fund Name	% of Folio	Invested	Risk	% Return	Projected
101	Blended - Income Plus Life Strategy	5%	\$25,000.00	1	2.124%	\$25,531.00
102	Blended - Conservative Life Strategy	4%	\$20,000.00	2	4.247%	\$20,849.00
103	Blended - Moderate Life Strategy	6%	\$30,000.00	3	6.371%	\$31,912.00
104	Blended - Aggressive Life Strategy	7%	\$35,000.00	4	8.424%	\$37,948.40
105	Honey Market	3%	\$15,000.00	1	2.124%	\$15,319.00
106	Bond - Stable Value	3%	\$15,000.00	1	2.123%	\$15,318.75
107	Bond - Total Market	5%	\$25,000.00	2	6.375%	\$26,592.75

RAD V6 Tutorial Demo Series – How They Work...

- The embedded movie player has playback controls like a DVD player.
- The SLIDER allows accelerated forward/reverse playback control.



Magnified View of Slider



BankCustomers portlet

Bank Customers

Customers	Portfolios Dashboard							
Cust #	First Name	Last Name	Address	City	State	Zip	e-mail	Work Phone
1	Arthur	Platinum	123 Easy Street	Long Island	NY	11101	Cash.A.Plenty@mail.com	773-123-1111
2	Betsy	Golden	45 Plush Circle	Arlington	VA	22202	Gold.P.Lated@mail.com	773-123-2222
3	Charlie	Silver	67 Humble Avenue	Fort Lauderdale	FL	33303	Simply.E.Nuff@mail.com	773-123-3333
4	Denise	Copper	89 Trailer Park Drive	Burghill	OH	44404	Always.N.Debt@mail.com	773-123-4444

BankPortfolios portlet

Bank Portfolio Management

Customer #

Analyze Customer Portfolio

Portfolio	Allocation	Graphics	Market Simulation			
Fund Acct #	Fund Name	% of Folio	\$ Invested	Risk	% Return	\$ Projected
301	Blended - Income Plus Life Strategy	5%	\$25,000.00	1	2.125%	\$25,531.25
302	Blended - Conservative Life Strategy	5%	\$25,000.00	2	4.25%	\$26,062.50
303	Blended - Moderate Life Strategy	5%	\$25,000.00	3	6.375%	\$26,593.75
304	Blended - Aggressive Life Strategy	5%	\$25,000.00	4	8.425%	\$27,106.25
305	Money Market	5%	\$25,000.00	1	2.125%	\$25,531.25
306	Bond - Stable Value	10%	\$50,000.00	1	2.125%	\$51,062.50

Paused 00:59/01:06

End-2-End Application

Demo

"Accelerate development...
increase productivity...
maximize ROI !\$!"

Iterative Development Demos

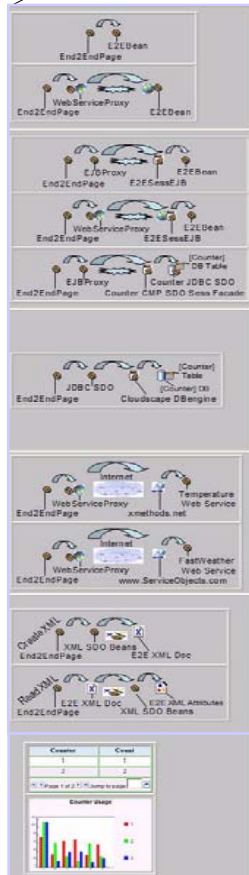
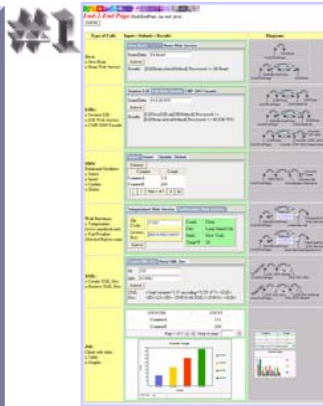
➔ Model, Build, Test, Debug, Deploy

- UML Model Visualizations
- Dynamic Development
- Automated Deployment

J2EE+ Builder Demos

➔ Includes JSF, SDO, Web Services

- Java
- Databases
- Web Services
- Drag-n-Drop GUI



Quick Success Applications

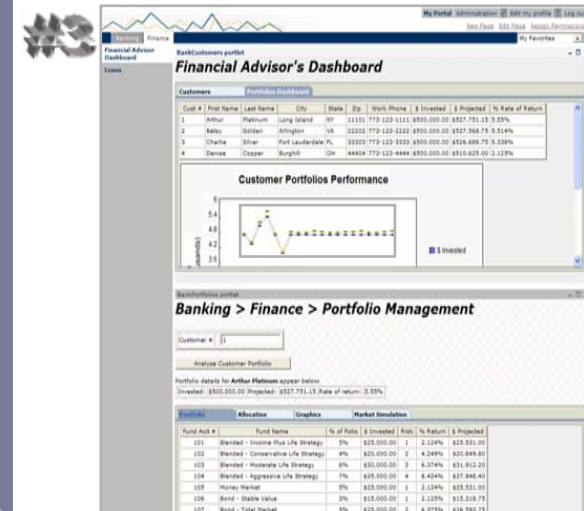
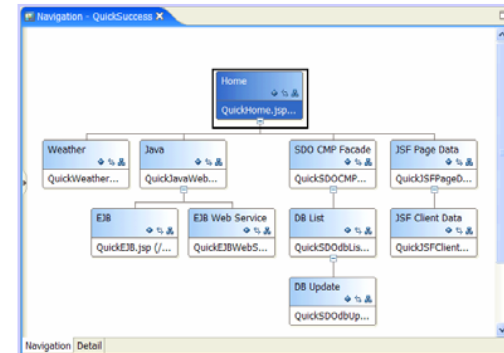
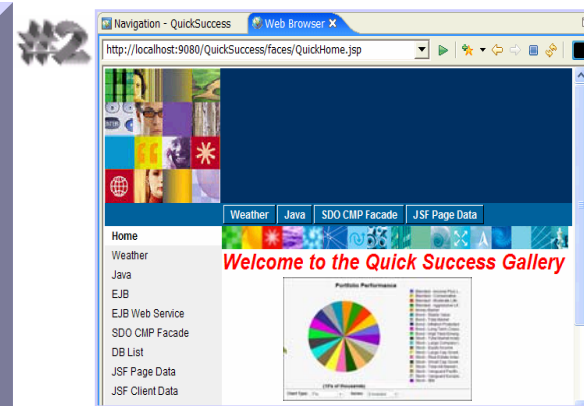
Demo

- Easy build scenarios
- You watch or build
- < 10 minutes each

Banking & Finance Web/Portal Applications

Demo

- Banking Accounts
- Portfolio Management
- Financial Advisor Dashboard



End-2-End Application

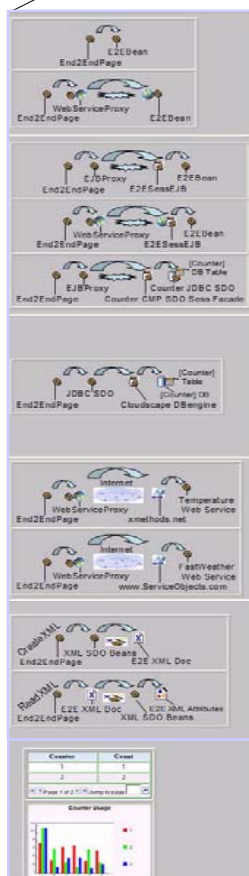
"Accelerate development...
increase productivity...
maximize ROI !\$! "

Iterative Development Demos

- ➔ Model, Build, Test, Debug, Deploy
- UML Visualizations
- Dynamic Development
- On-the-fly code changes
- Incremental build engine
- Testing for Java, EJBs, Web Services, etc...
- Dynamic Interactive Debugger
- Automated Application Packaging and Deployment

J2EE+ Builder Demos

- ➔ Includes JSF, SDO, Web Services
- Java and EJBs (Session, CMP)
- Service Data Objects (SDO)
- SDO CMP Session Facades
- XML and XSD Schemas
- XML SDO JavaBean Bindings
- JavaServer Faces (JSF)
- Database and SQL
- Web Services Creation and Consumption



End-2-End Page (End2EndPage.jsp and java)

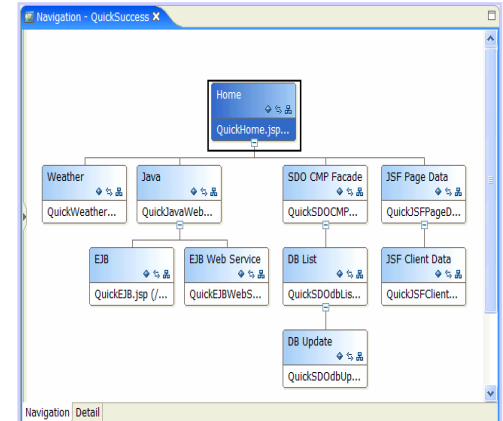
Call All

Type of Calls	Input>>Submit>>Results	Diagrams						
Java: o Java Bean o Bean Web Service	Java Bean Bean Web Service SomeData: Hi Bean! Submit Results: [E2EBean.aJavaMethod] Processed >> Hi Bean!	 						
EJBs: o Session EJB o EJB Web Service o CMP SDO Facade	Session EJB EJB Web Service CMP SDO Facade SomeData: Hi EJB WS! Submit Results [E2ESessEJB.aEJBMethod] Processed >> [E2EBean.aJavaMethod] Processed >> Hi EJB WS!	 						
SDO: Relational Mediator: o Select o Insert o Update o Delete	Select Insert Update Delete Refresh <table border="1"> <thead> <tr> <th>Counter</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>CounterA</td> <td>111</td> </tr> <tr> <td>CounterB</td> <td>200</td> </tr> </tbody> </table> Page 1 of 2	Counter	Count	CounterA	111	CounterB	200	
Counter	Count							
CounterA	111							
CounterB	200							
Web Services: o Temperature (www.xmethods.net) o FastWeather (ServiceObjects.com)	Temperature Web Service FastWeather Web Service Zip Code: 11101 Cond: Clear City: Long Island City License Key: WS14-PBJ1-KXY3 State: New York Temp*F 28 Submit	 						
XML: o Create XML Doc o Recieve XML Doc	Create XML Doc Read XML Doc Id: 123 Info: Hi XML! Submit XML <?xml version="1.0" encoding="UTF-8"?><E2E> Doc: <ID>123</ID> <INFO>Hi XML!</INFO> </E2E>							
JSF: Client-side data: o Table o Graphs	<table border="1"> <thead> <tr> <th>COUNTER</th> <th>COUNT</th> </tr> </thead> <tbody> <tr> <td>CounterA</td> <td>111</td> </tr> <tr> <td>CounterB</td> <td>200</td> </tr> </tbody> </table> Page 1 of 2 Jump to page: 	COUNTER	COUNT	CounterA	111	CounterB	200	
COUNTER	COUNT							
CounterA	111							
CounterB	200							

Quick Success Gallery Applications

- Easy J2EE build scenarios
- Internet Weather Web Service
- JavaBean Web Service
- EJB Web Service
- Service Data Objects (SDO)
 - Database Mediator: Select, Insert, Update, Delete
- Java Server Faces (JSF)
 - Rich UI Controls, Charts/Graphs, drag-n-drop
 - Custom coding, Event Driven, MVC Framework

#2



Banking & Finance Web/Portal Applications

- Transfer Funds
- Transaction History
- Account Management
- Portfolio Management
- Asset Allocation
- Graphical portfolio analysis
- Stock Market Simulation
- Mutual Funds, Stocks, Bonds, Money Mkt

#3

Financial Advisor's Dashboard

Cust #	First Name	Last Name	City	State	Zip	Work Phone	\$ Invested	\$ Projected	% Rate of Return
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3	Charlie	Silver	Fort Lauderdale	FL	33303	773-123-3333	\$500,000.00	\$526,688.75	5.338%
4	Denise	Copper	Burghill	OH	44404	773-123-4444	\$500,000.00	\$510,625.00	2.125%

Customer Portfolios Performance

Line chart showing performance over time. Y-axis: \$ (thousands). Legend: \$ Invested.

Banking > Finance > Portfolio Management

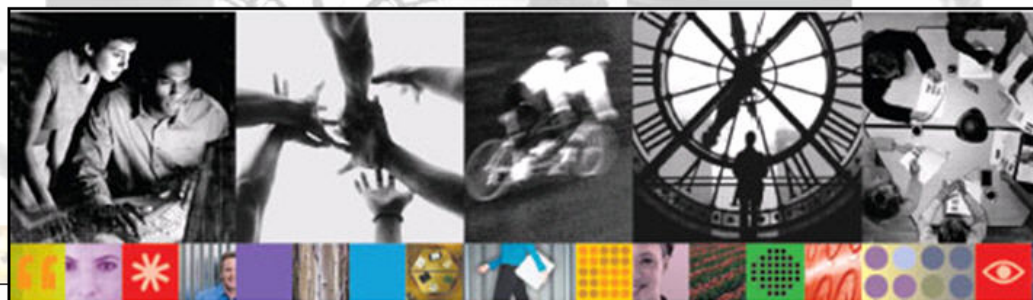
Customer #:

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Portfolio details for **Arthur Platinum** appear below:
 Invested: \$500,000.00 | Projected: \$527,751.15 | Rate of return: 5.55%

Fund Acct #	Fund Name	% of Folio	\$ Invested	Risk	% Return	\$ Projected
101	Blended - Income Plus Life Strategy	5%	\$25,000.00	1	2.124%	\$25,531.00
102	Blended - Conservative Life Strategy	4%	\$20,000.00	2	4.249%	\$20,849.80
103	Blended - Moderate Life Strategy	6%	\$30,000.00	3	6.374%	\$31,912.20
104	Blended - Aggressive Life Strategy	7%	\$35,000.00	4	8.424%	\$37,948.40
105	Money Market	5%	\$25,000.00	1	2.124%	\$25,531.00
106	Bond - Stable Value	3%	\$15,000.00	1	2.125%	\$15,318.75
107	Bond - Total Market	5%	\$25,000.00	2	6.375%	\$26,593.75

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Featured Demo

- o [RAD V6 Introduction and Tour Demo](#)

This demonstration showcases RAD in action and concisely explains the breadth and depth of RAD V6. Executives, managers, architects and developers can use this overview and the referenced resources to quickly learn about the power and value of RAD V6.

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- o [RAD V6 Tutorial Demo Series has arrived!](#)

- o [RAD V6 Tutorial Demo Series has arrived!](#)


(Getting Started Guide, Introduction and Tour)

Four scenarios with > 75 demos

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Resources

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(IBM developerWorks for technologies and/or products)
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