



Discovering the Value of SOA WebSphere Process Integration

SOA Tools Landscape

SOA & End-2-End Business Driven Development

using J2EE, Portal, Web Services, Modeling, BPM, SDO, JSF, Legacy & more...

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

SOA on your terms and our expertise



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SOA End-2-End Agenda

SOA Overview

- SOA Business Demo
 - Bridging the gap between business and I/T
- SOA Solution Space
 - Lifecycle [Model > Assemble > Deploy > Manage > Governance]
 - Roles [Analyze > Architect > Develop > Integrate > Orchestrate]

SOA Tools In Action

- [Model]
 - Analyze > Business Process Modeling with WebSphere Business Modeler (WBM)
 - Architect > Application Architecture Modeling with Rational Software Architect (RSA)
- [Assemble]
 - Develop > Service Implementation with Rational Application Developer (RAD)
 - Integrate > UI, Data, Service and Enterprise Integration with RAD
 - Orchestrate > Service Orchestration with WebSphere Integration Developer (WID)

SOA Infrastructure

- [Deploy]
 - SOA Services Runtime with WebSphere Process Server & ESB
 - SOA End User Experience with WebSphere Portal Server
- [Manage]
 - WebSphere Business Monitor and Tivoli Composite Application Monitors
- [Governance]
 - IT View: SOA SW Development Process, Quality and Change Management with Rational Unified Process
 - Business View: SOA ROI Controls with Rational Portfolio Manager & Tivoli Dashboards



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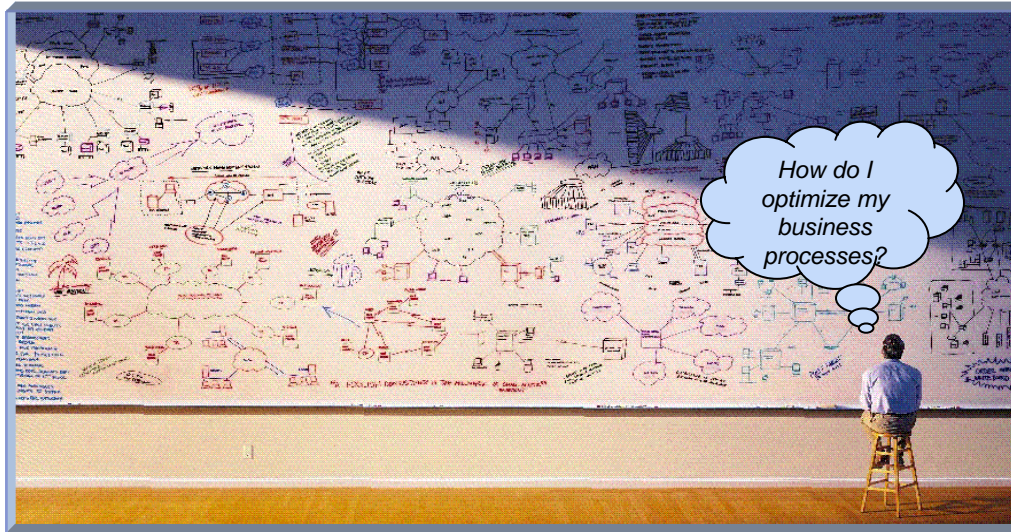
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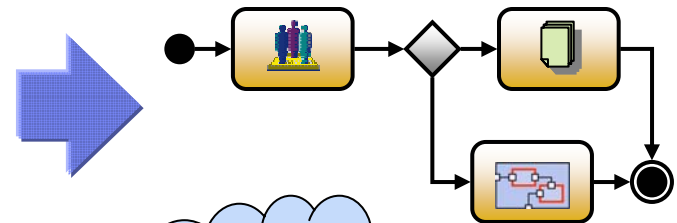
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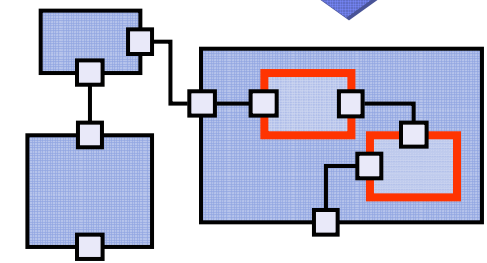
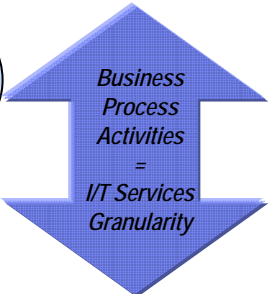
Bridging the Gap between Business and IT: How?



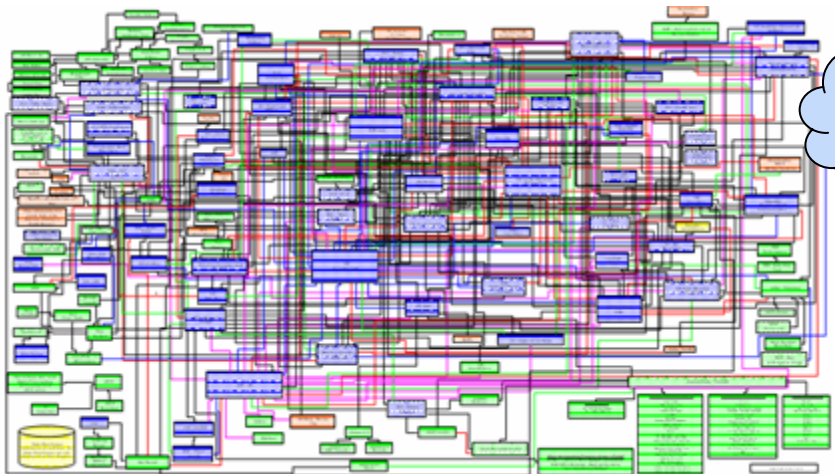
Business Models Identify Process Activities



Business and I/T can use a common language a.k.a. "Process Integration"



I/T Components exposed as SOA Services



How do I integrate to my existing systems?



What is Service Oriented Architecture (SOA) ?

... a service?

A **repeatable business task** – e.g., check customer credit; open new account

... service orientation?

A way of integrating your **business as linked services** and the outcomes that they bring

... service oriented architecture (SOA)?

An IT **architectural style** that supports service orientation

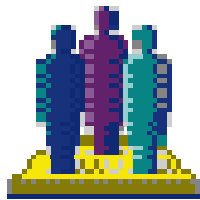
... a composite application?

A set of **related & integrated** services that support a business process built on an SOA

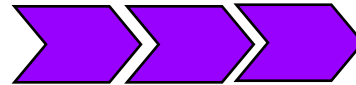


Why should IT use Service Oriented Architecture?

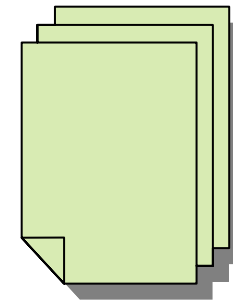
Organizations are composed of



People

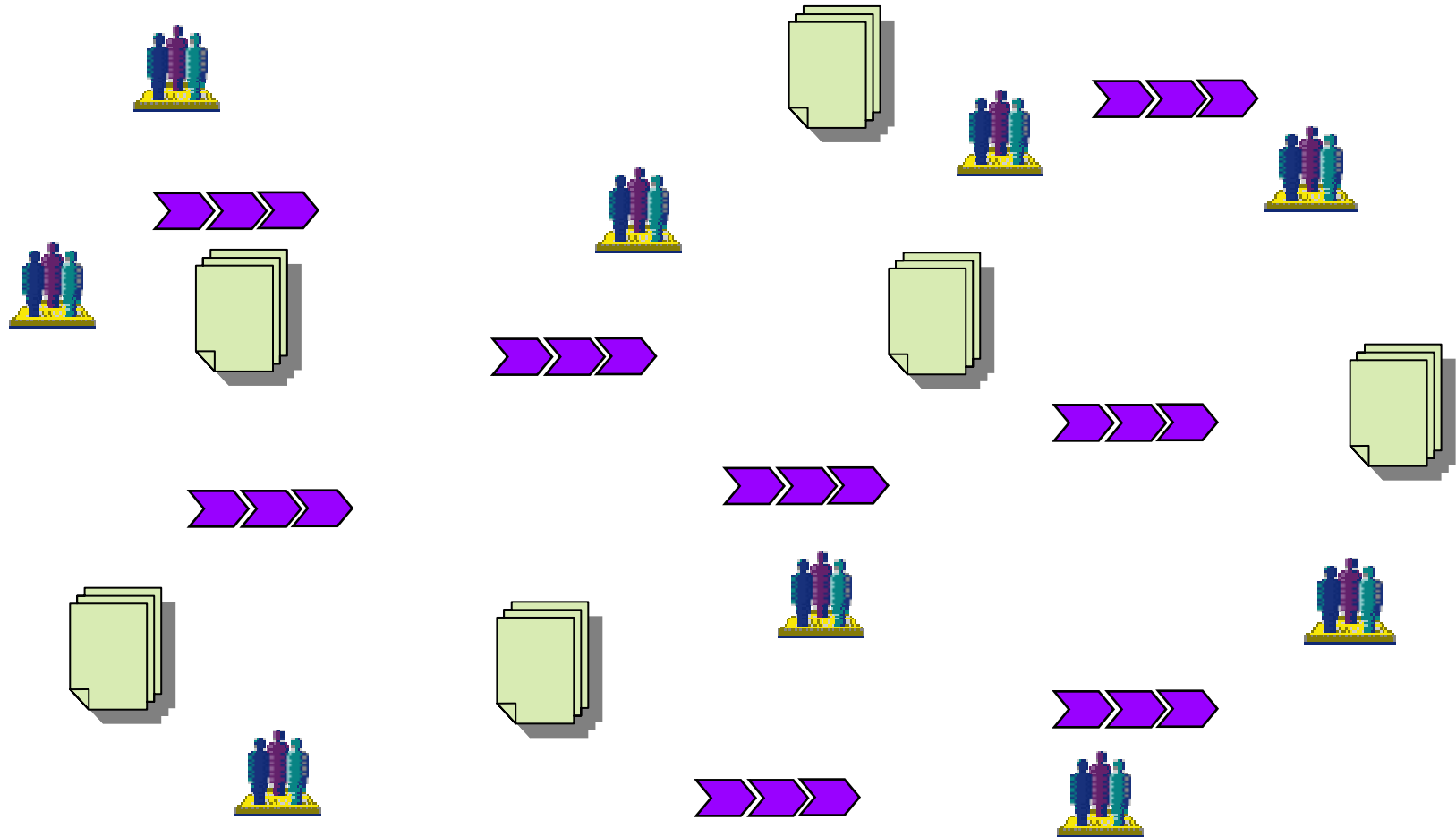


**Processes
they run**



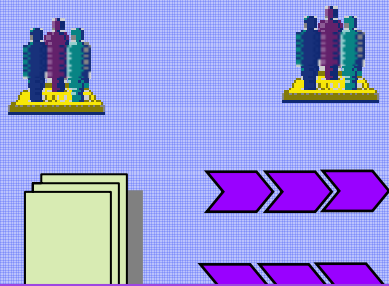
**Information
they use**

Why should IT use Service Oriented Architecture?

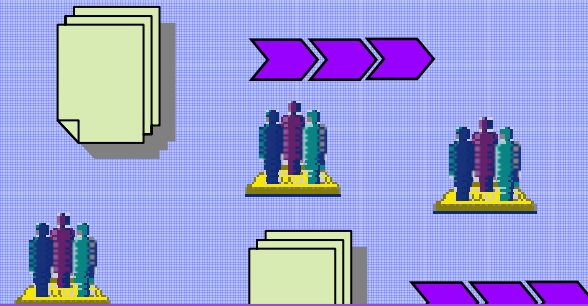


Why should IT use Service Oriented Architecture?

Human Resources

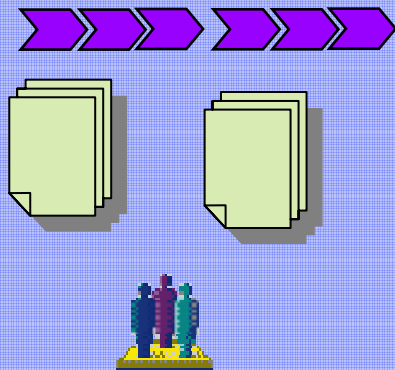


Accounts Payable

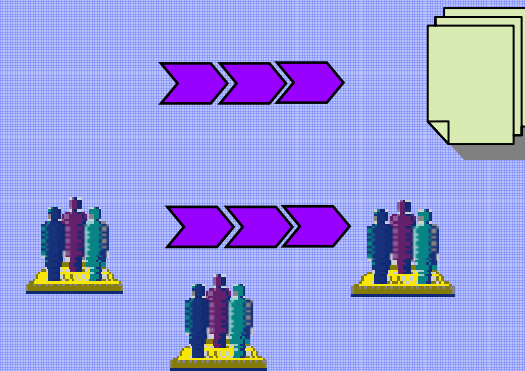


Organizations are Service Oriented

Time & Attendance



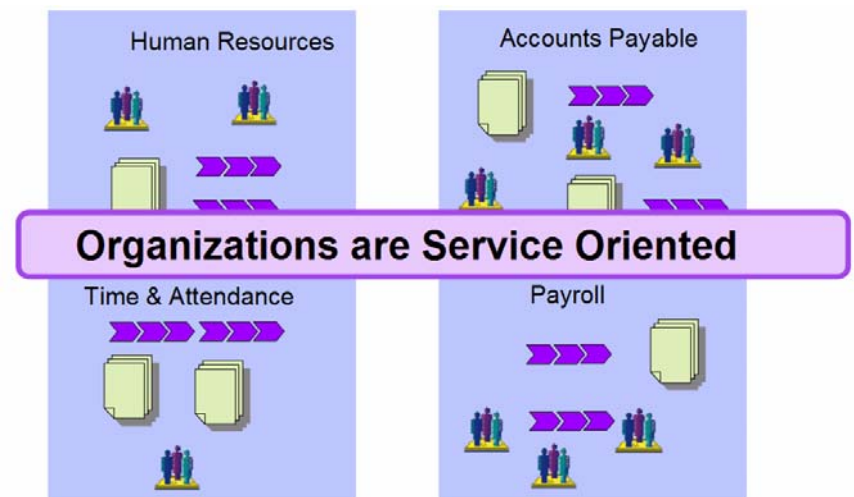
Payroll



Why should IT use Service Oriented Architecture?

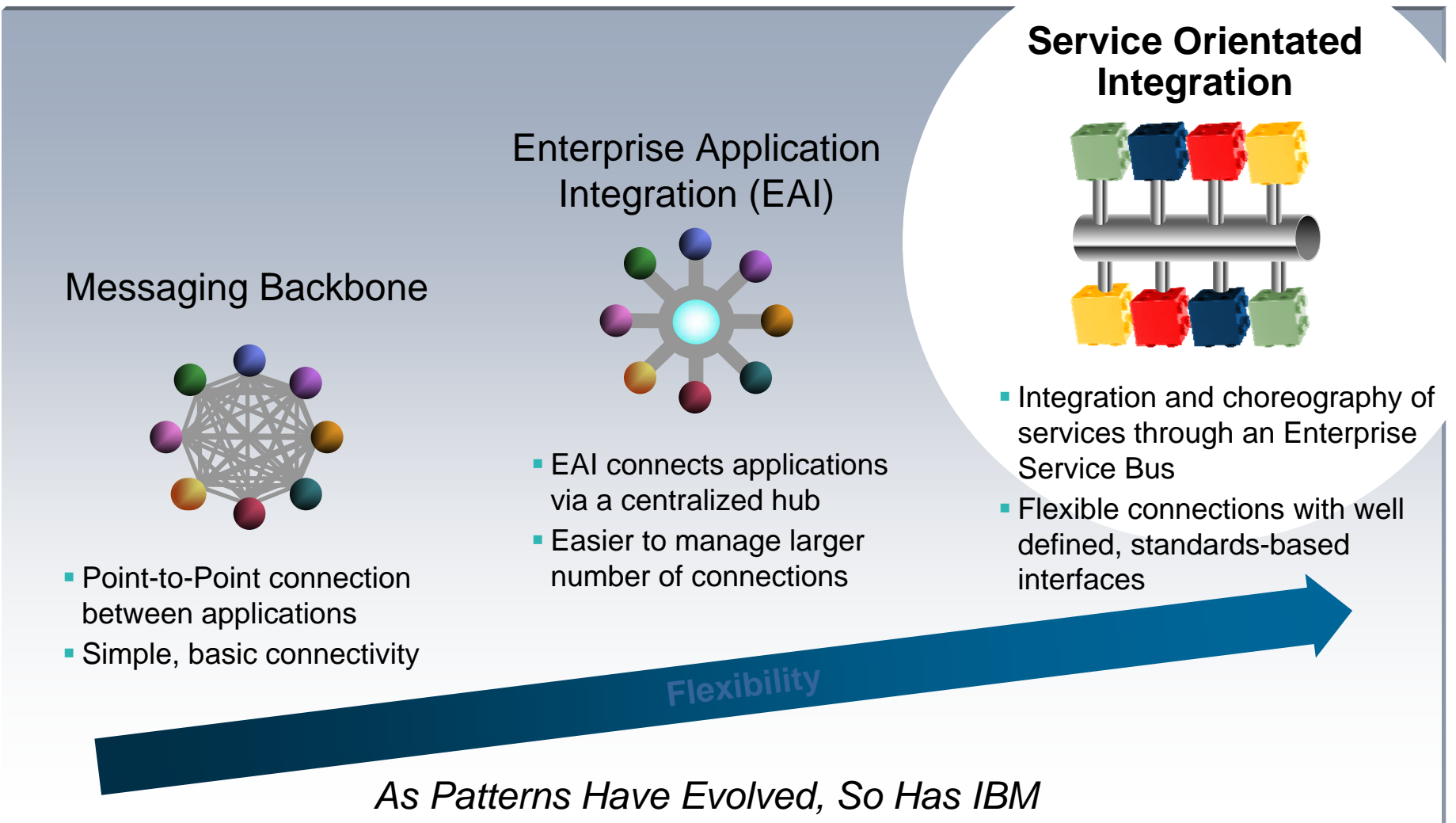
For the same reasons businesses are organized by services:

- Measurable and accountable
- Efficiency and optimization
 - Specialization and best practices
 - Well-defined interaction and processes
 - Independently scalable
 - Reduce duplication and reuse assets
- Isolation of changes

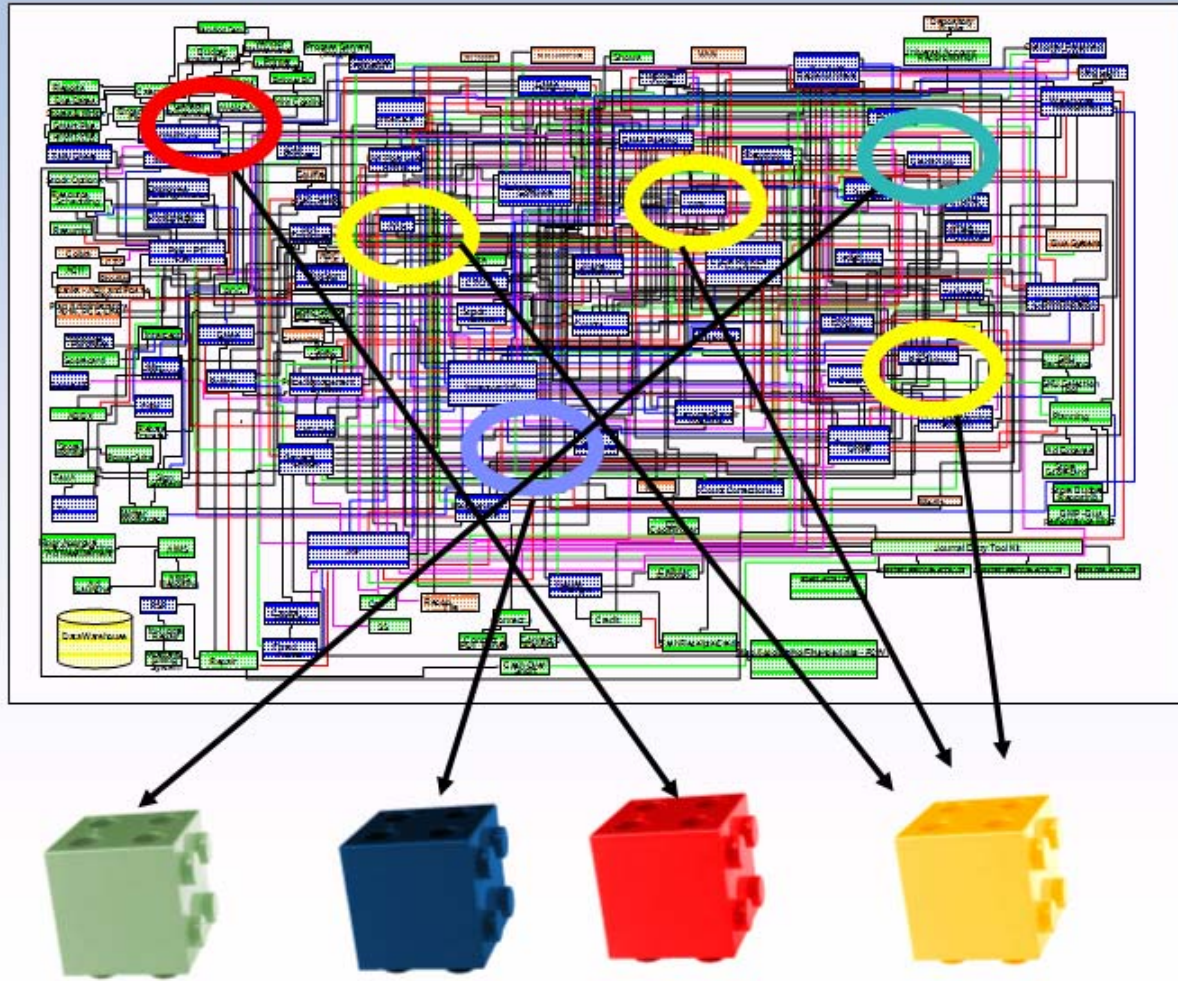


SOA builds flexibility on your current investments

The next stage of integration



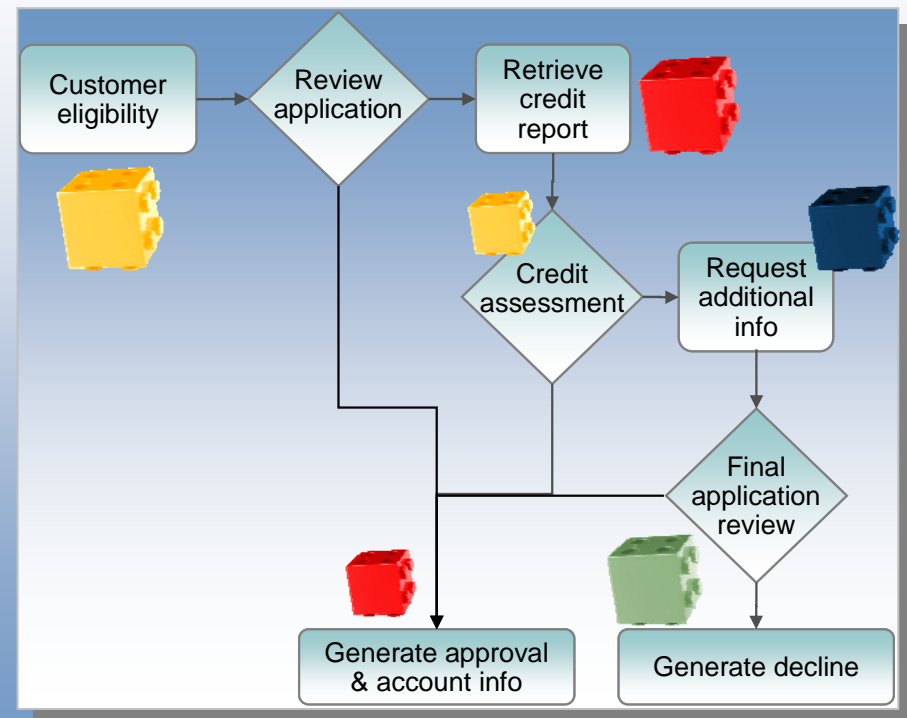
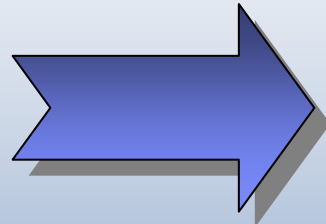
Applications can be composed of or exposed as services



- Step 1**
Identify the Business Service – the basic SOA building block
- Step 2**
Locate the service components
- Step 3**
Construct the interface
- Step 4**
Repeat

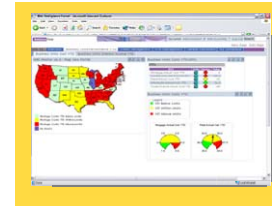
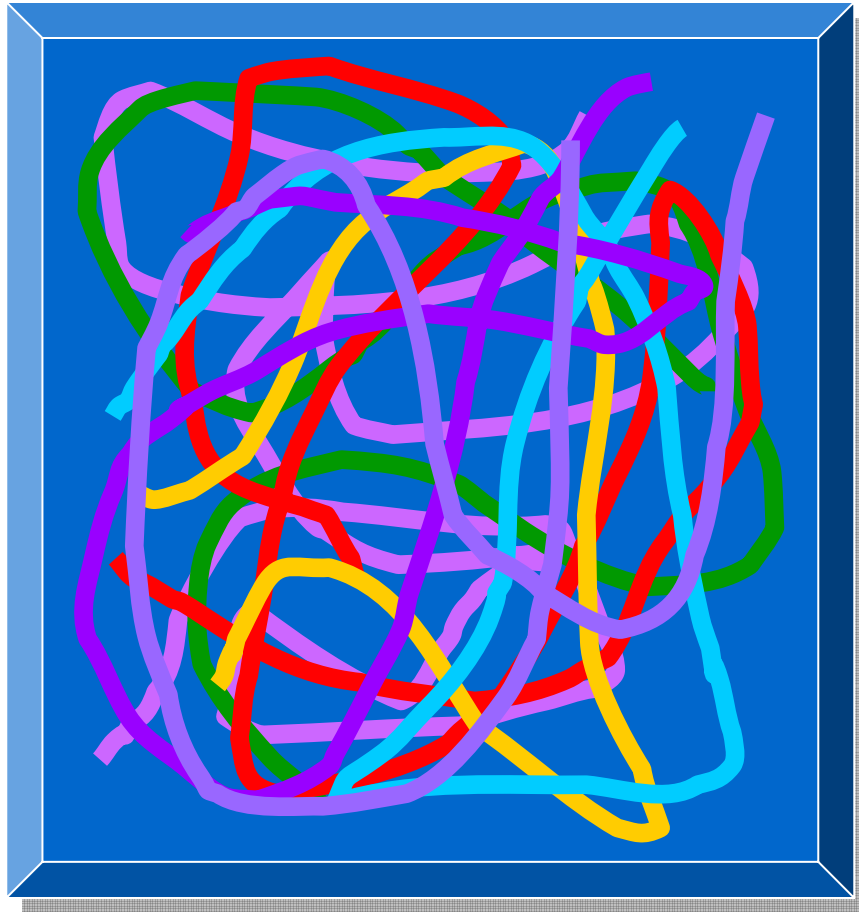
Applications can implement business process workflows... by using services

-  Determine Customer Eligibility
-  Retrieve Credit Report
-  Request additional info
-  Generate decline
- Etc....

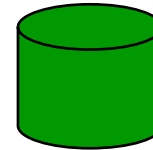


Business Process is implemented by integrating services

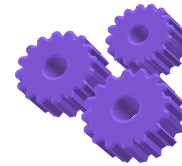
What is in an application?



User Interaction
Logic



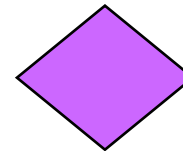
Data
Logic



Integration
Logic



Process
Logic

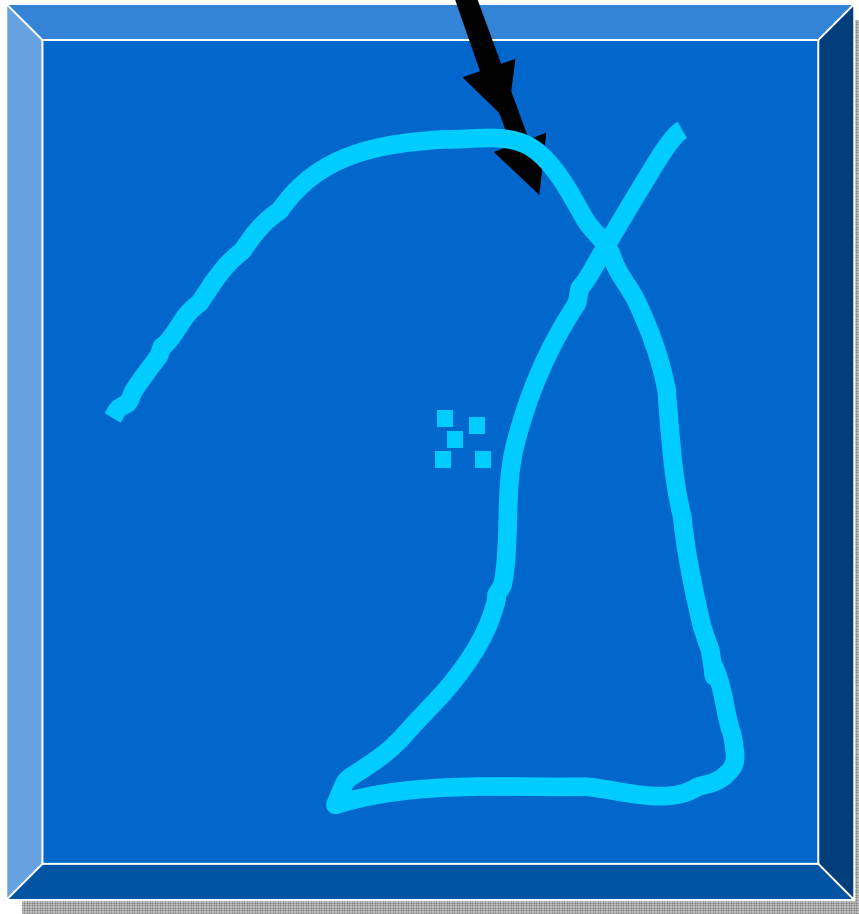


Business
Rules

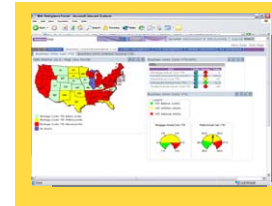


Monitoring &
Management
Logic

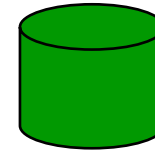
Business Services



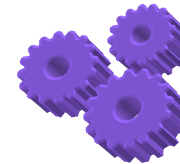
User Interaction
Logic



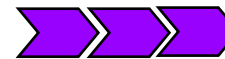
Data
Logic



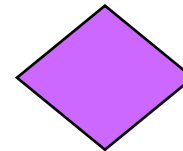
Integration
Logic



Process
Logic



Business
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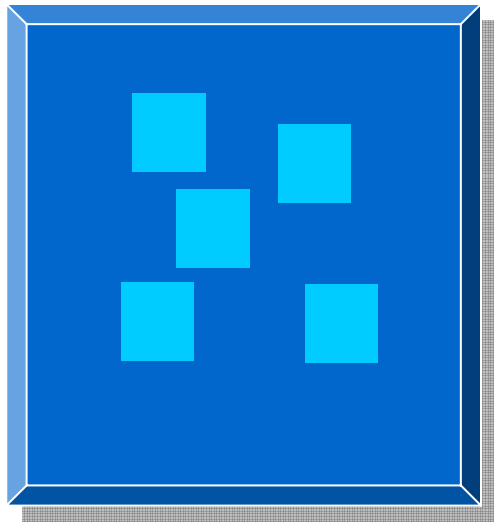


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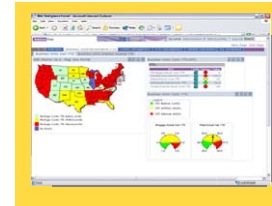


**Integration through disintegration
Or “Service Orientation”**

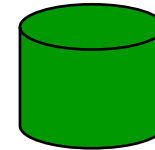
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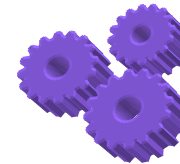
- Closely model business functions
- Realized by
 - Transforming existing assets
 - Creating new assets
- Independently utilized & re-used
- Composed into processes (a.k.a. Services, applications, etc.)



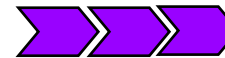
User Interaction Logic



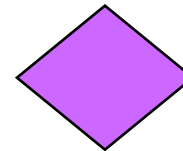
Data Logic



Integration Logic



Process Logic

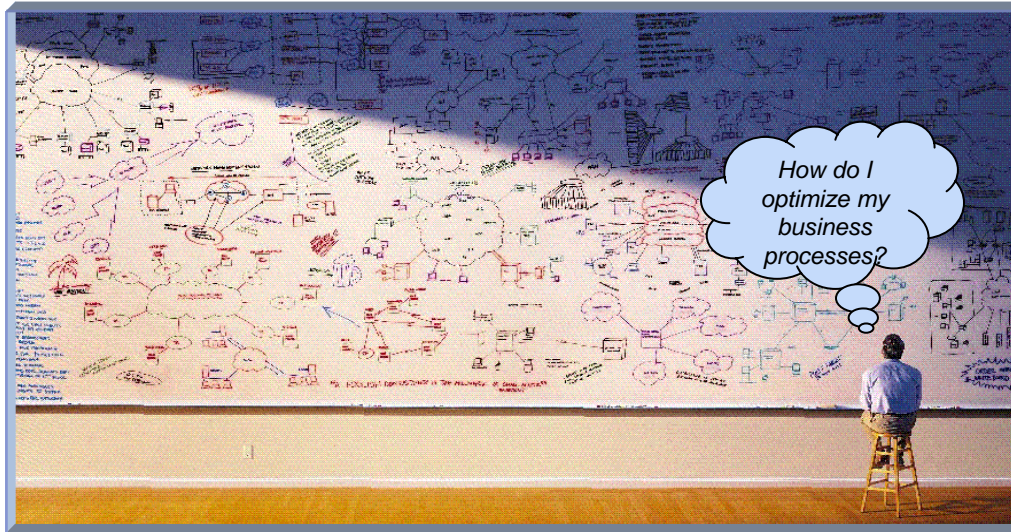


Business Rules

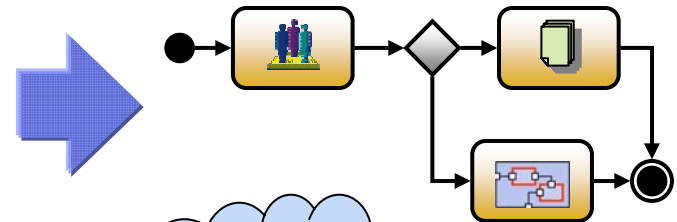


Monitoring & Management Logic

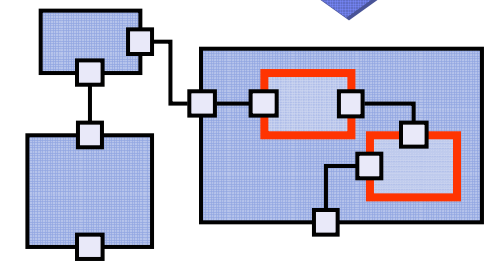
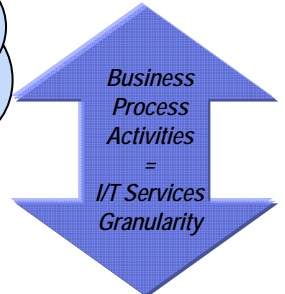
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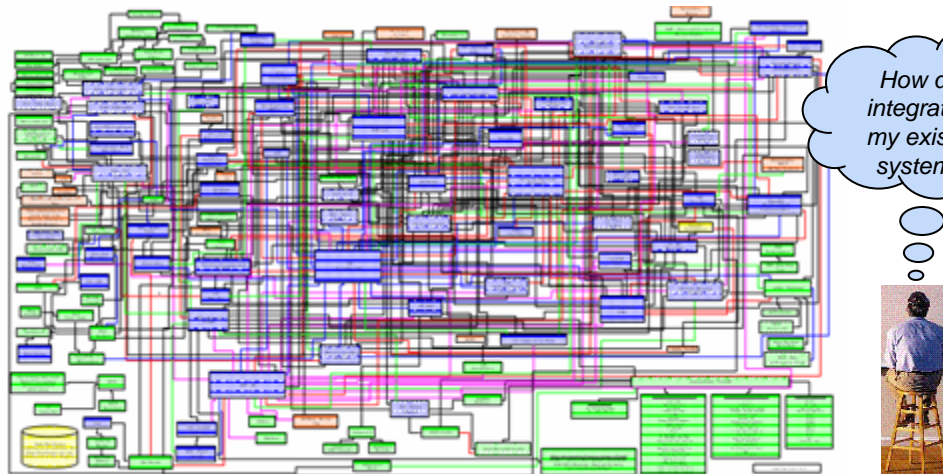
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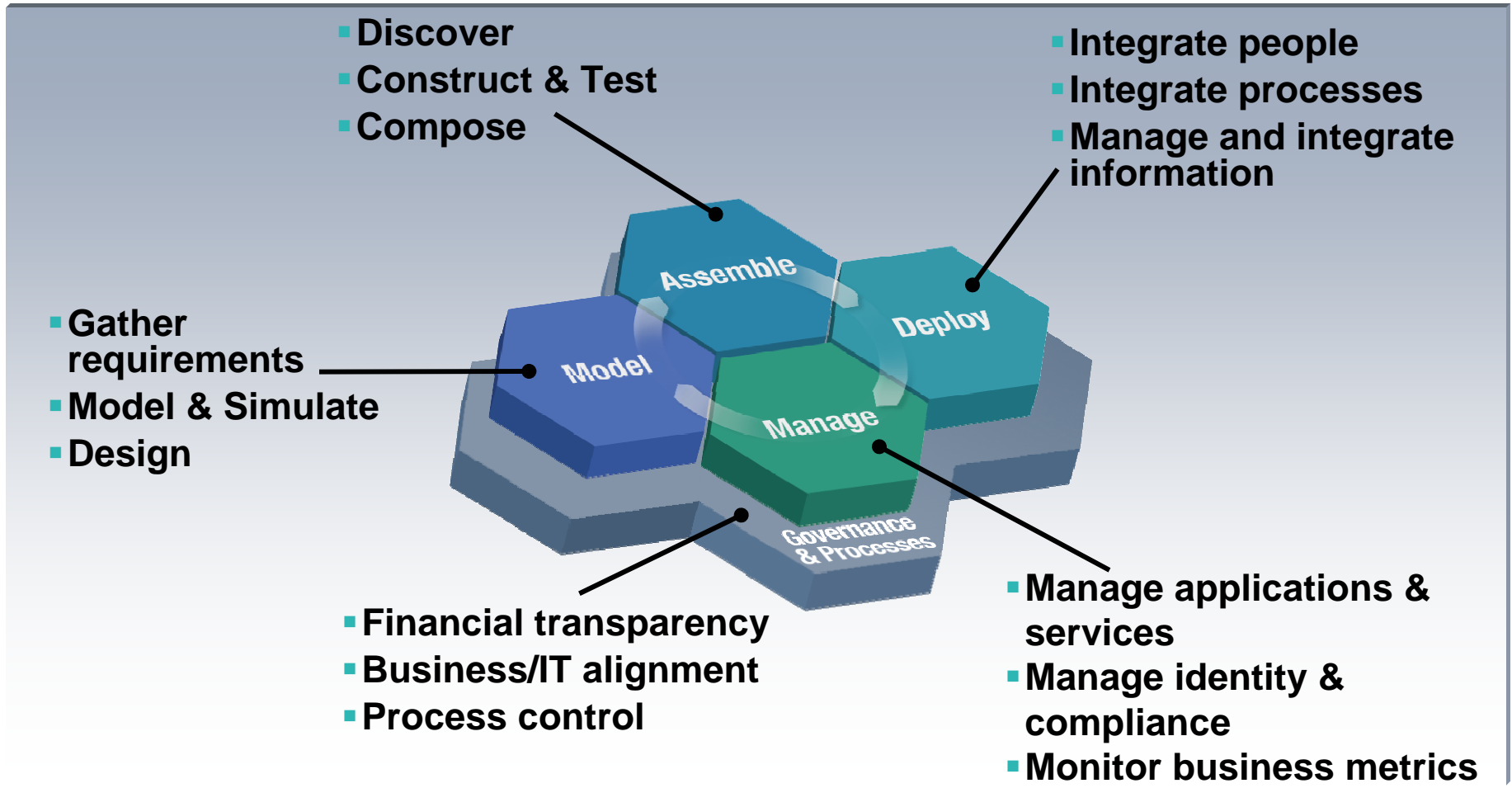
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Using SOA to Bridge the Gap Between Business and I/T

The SOA Lifecycle



SOA is a Team Sport

Roles Across Business and I/T

	Title	Role
	Business Analyst	Provide comprehensive and structured view of the business requirements
	Architect	Provide architecture for a software application or service
	Integration Developer	Creation of new business function by combining existing services
	Application Developer	Develop the business services according to the Architects' design, incorporating both functional as well as presentation aspects of the offering
	CIO / Project Manager	Gain visibility into the business benefits, costs and risks of the portfolio of SOA services from proposal to retirement

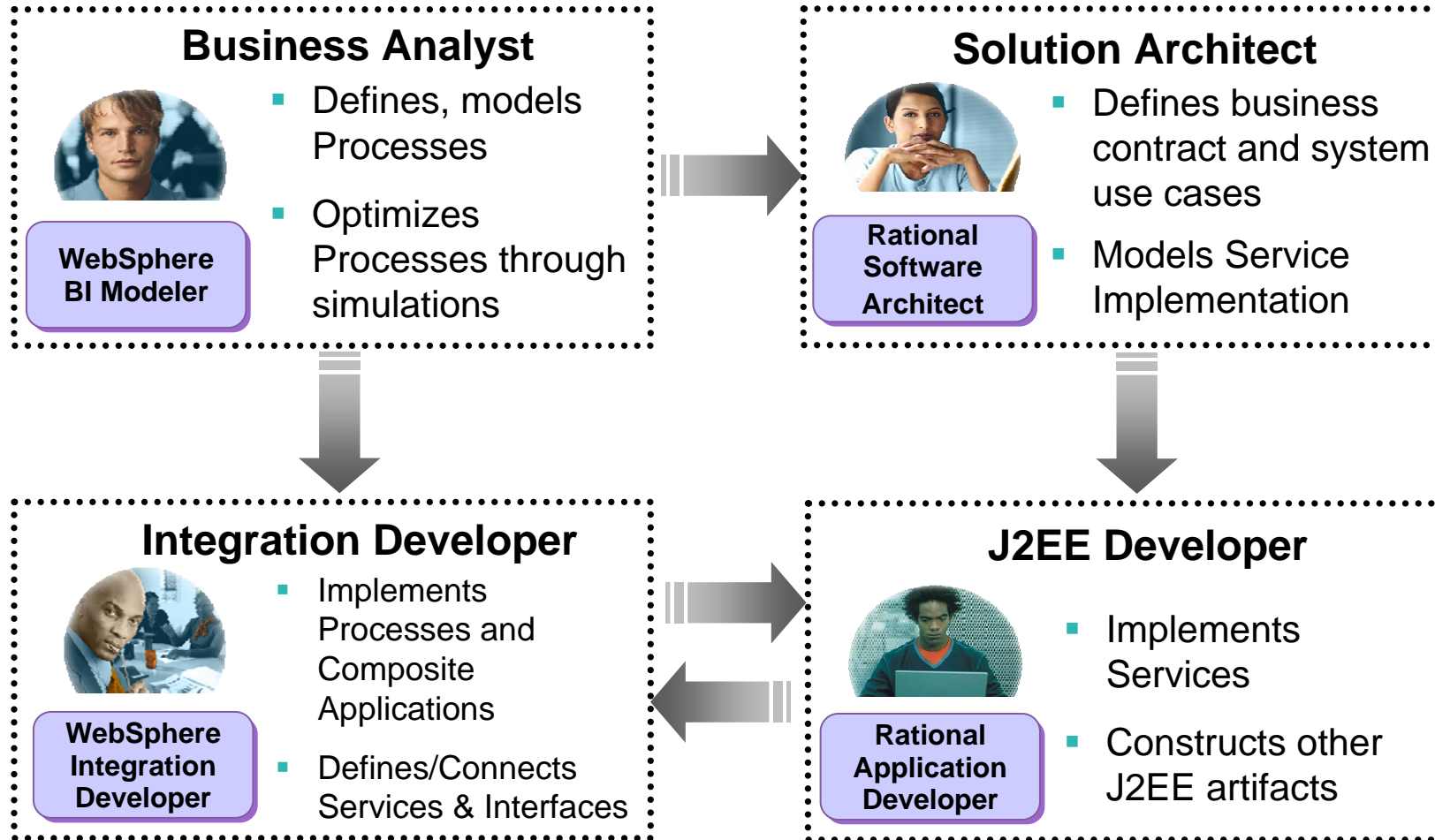
SOA Foundation – Development Roles

Role	Description	Benefits & Skill Requirements
Business Analyst	Modeling business processes for optimization or to reengineer existing business processes or define new business processes	<ul style="list-style-type: none"> ▪ No programming experience required ▪ Can focus on business performance & process
Integration Developer / Specialist	Visual tools to configure integration logic with existing and new applications and humans in the network	<ul style="list-style-type: none"> ▪ Some basic programming experience (loops, conditions, string manipulation) ▪ No J2EE skill required ▪ Expect tools to simplify and abstract advanced IT implementation details
Software Architect	Model-driven development environment that automates the translation from design to implementation. Includes requirements and business modeling integrations with RequisitePro and WBI Modeler	<ul style="list-style-type: none"> ▪ Focused specifically on UML modeling and J2EE implementation
J2EE / Java Application Developer	Comprehensive integrated development environment, for Web, Java, Web services, Portal, and EJB development with visual tools that accelerate application development.	<ul style="list-style-type: none"> ▪ Focused specifically on J2EE implementation

SOA Foundation – Development Tools

Role	Description	Development Tool
Business Analyst	Modeling business processes for optimization or to reengineer existing business processes or define new business processes	WebSphere Business Modeler
Integration Developer / Specialist	Visual tools to configure integration logic with existing and new applications and humans in the network	WebSphere Integration Developer
Software Architect	Model-driven development environment that automates the translation from design to implementation. Includes requirements and business modeling integrations with RequisitePro and WBI Modeler	Rational Software Architect
J2EE / Java Application Developer	Comprehensive integrated development environment, for Web, Java, Web services, Portal, and EJB development with visual tools that accelerate application development.	Rational Application Developer

SOA Business Driven Development – Roles and Primary Tools



Differentiating Integration Developer vs. J2EE Developer

Integration Developer



WebSphere
Integration
Developer V6.0

- Focus on SOA implementations and business process automation
- Had some basic programming experience (loops, conditions, string manipulation)
- Expects tools to simplify and abstract advanced IT & SOA implementation details

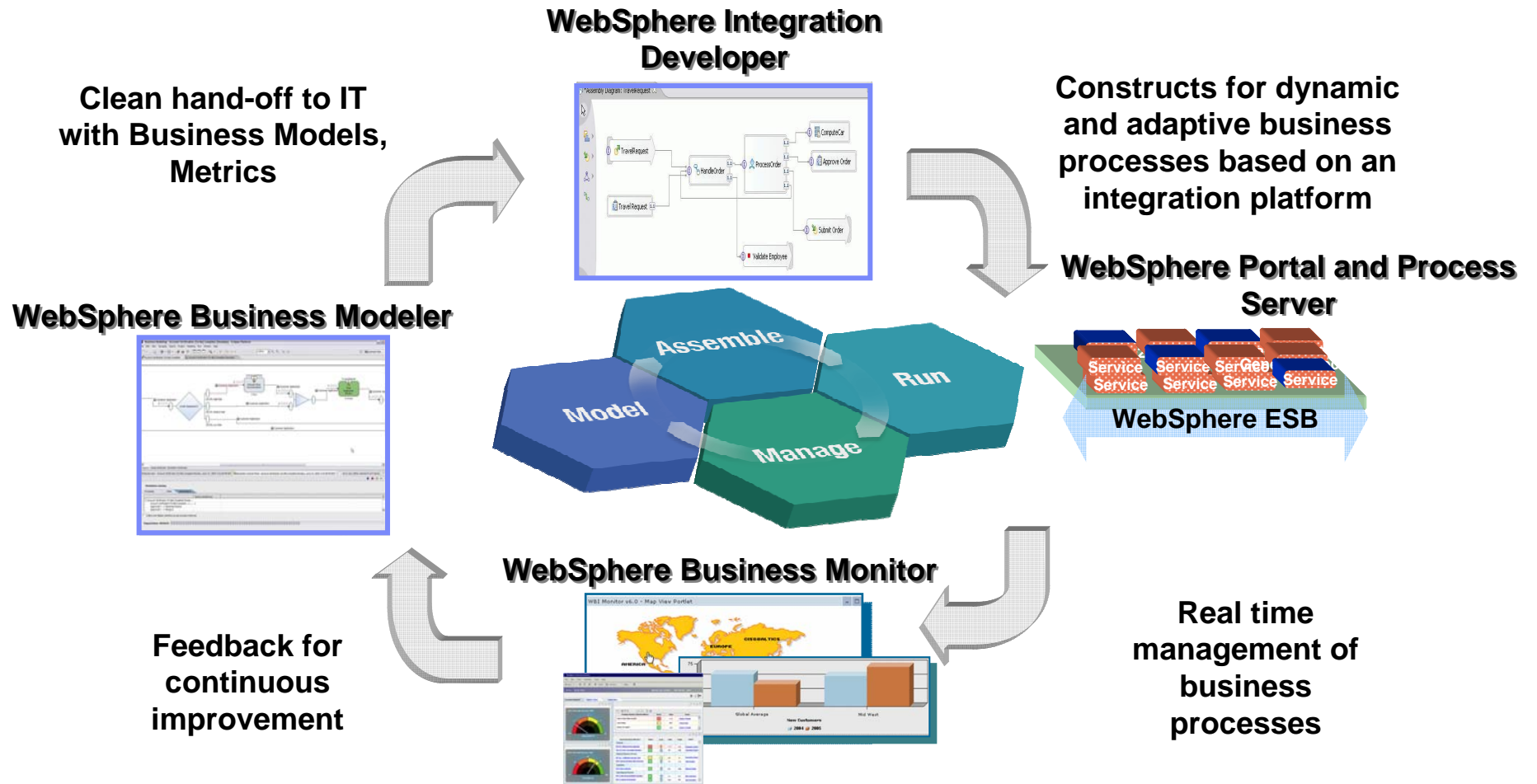
J2EE Developer



Rational
Application
Developer V6.0

- Creates J2EE artifacts used by Integration Developer to assemble solutions
- Has J2EE and Web Services skills
- Expects tools to automate the low level details of J2EE programming model

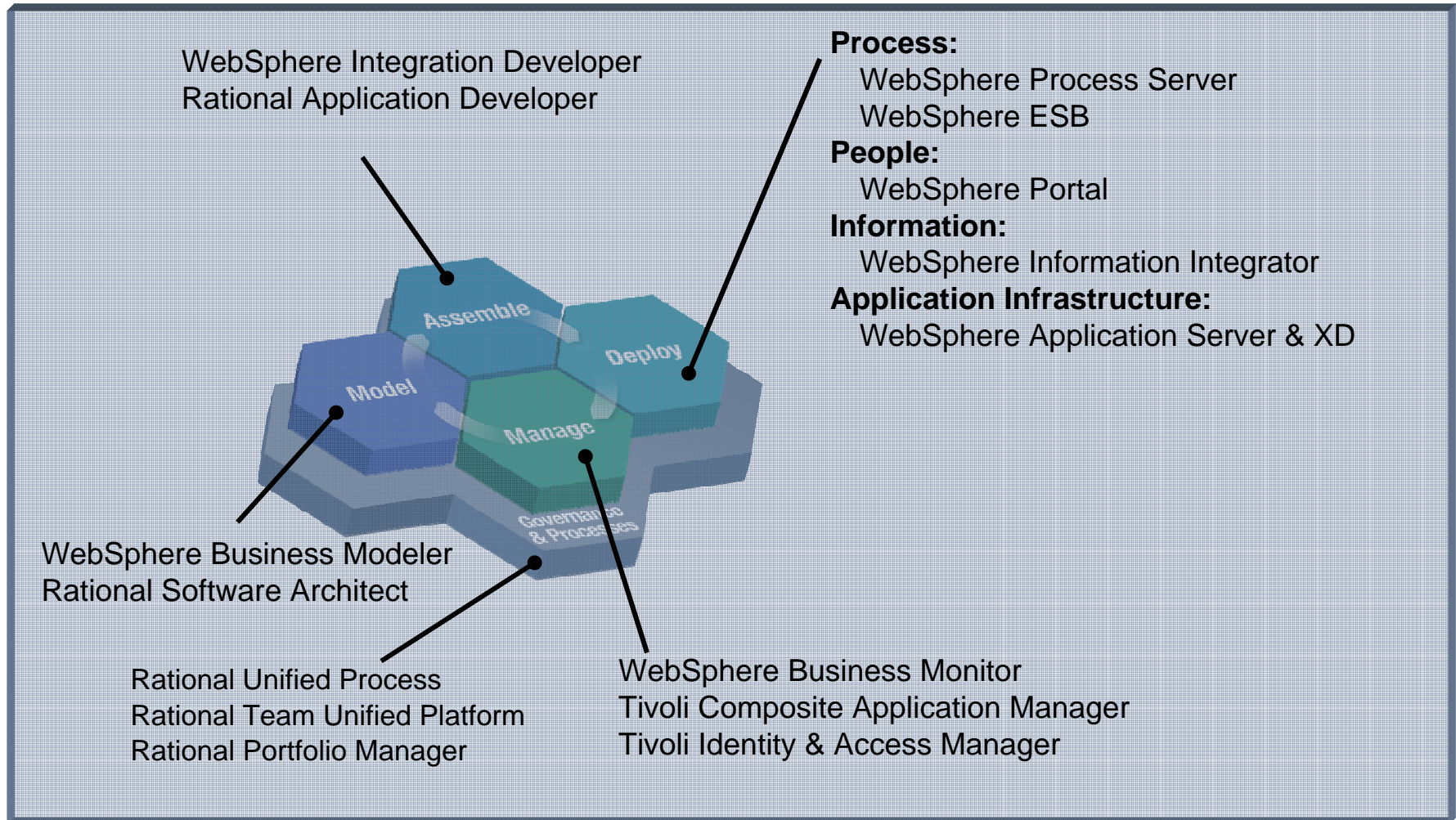
WebSphere Business Process Management for SOA



Managing Your Business Processes with a Service Oriented Architecture

IBM SOA Foundation

Part of a broader portfolio to meet your SOA needs



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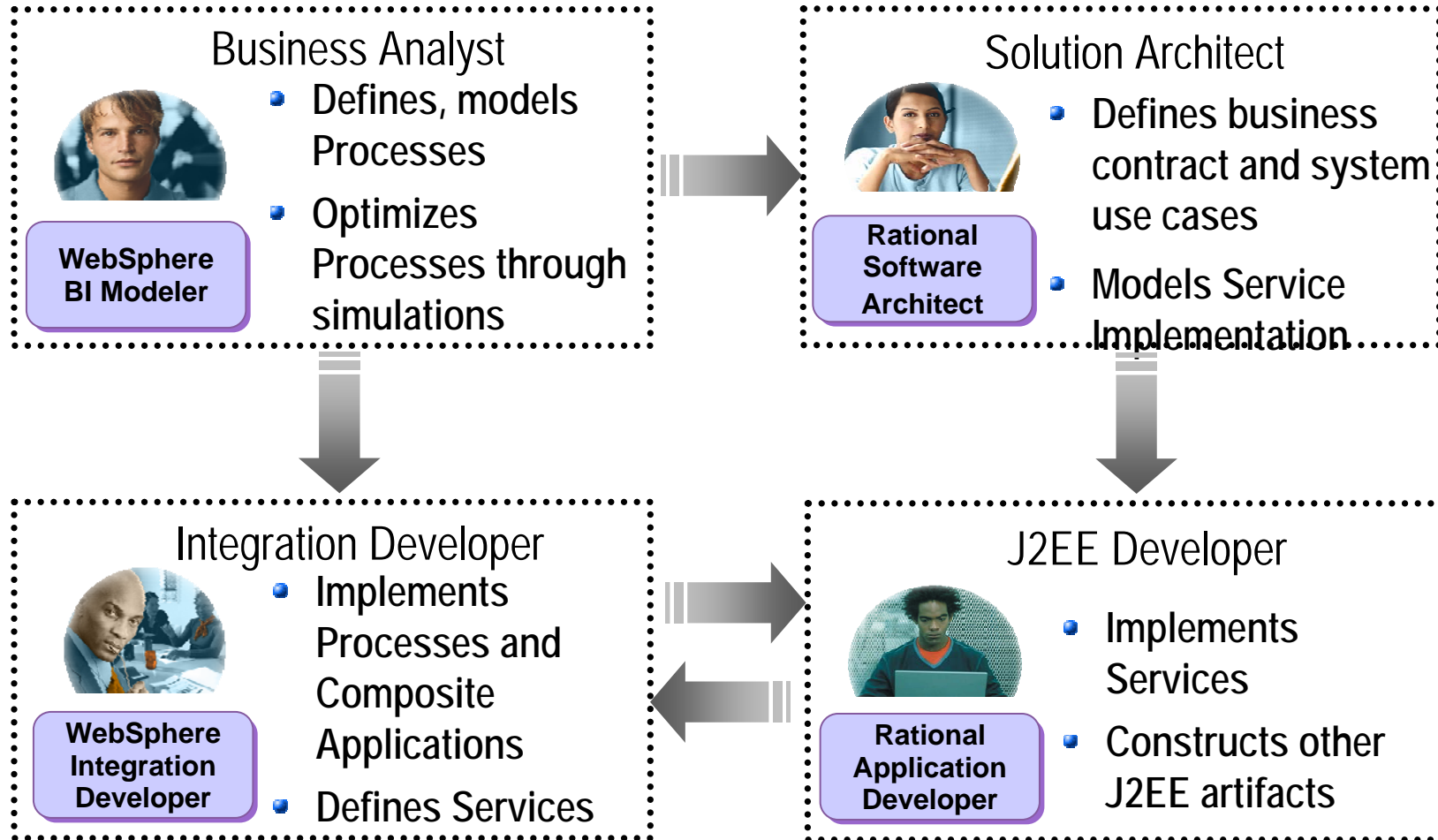
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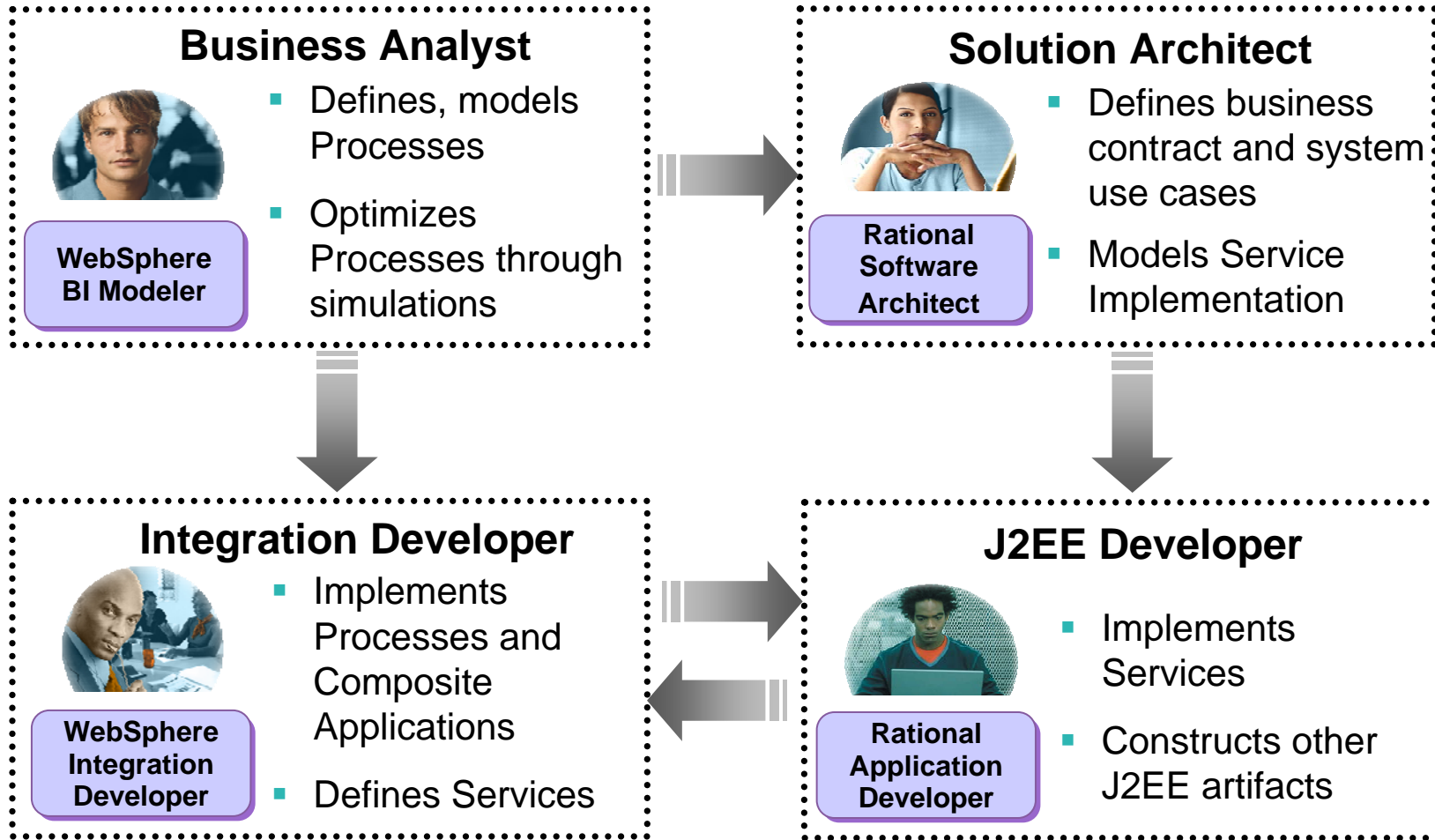
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SOA Business Driven Development – Key Roles and Tools



SOA Business Driven Development – Key Roles and Tools



Business Models Driven into J2EE Workflows

- Business process model - Simulate cost/time savings and assign business measures (KPIs)

WebSphere Business Modeler

The interface shows a process flow diagram with a decision diamond 'Achieve Final Approval?'. The 'Yes' path leads to 'Send Confirmat...' and the 'No' path leads to 'Send Risk Rejection...'. Below this is a more detailed process flow diagram. To the right is a 'Resource Cost Analysis' table.

Resource Cost Analysis	
	Start Time
Total	Thursday, January 1, 2004 12:00:00 AM CST
Average Cost Per Time Unit	\$68.31 / 1 Hours
Average One Time Cost	\$0.00
Average Cost Per Quantity	
Average Cost Per Quantity & Time Unit	
Annual Per TimeUnit Cost	\$590,163.93

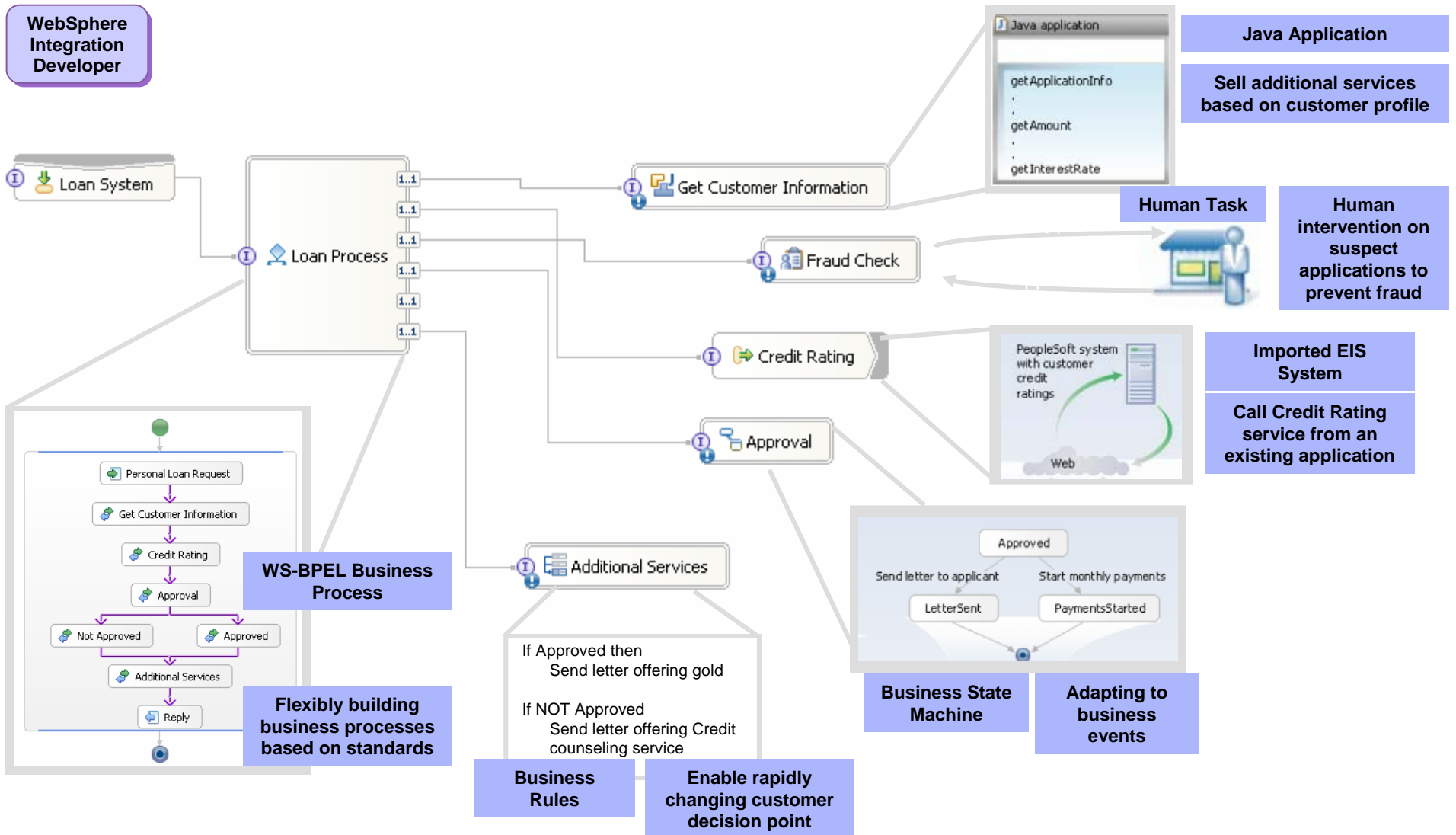
- Re-use business process model in visual workflow tools to build SOA J2EE web services

WebSphere Integration Developer

The interface shows a business process diagram on the left and a BPEL workflow diagram on the right. The business process diagram starts with 'Receive Application' from 'Customers' (Call Center, Branch Offices). It flows through 'Create Application' (CICS) and 'Check Credit' (Microsoft .net) to an 'Auto Approve?' decision. If not auto-approved, it goes to a 'Loan Officer' who performs 'Risk Assessment', leading to 'Approved' or 'Denied'. The BPEL diagram, titled 'QuickLoanProcess.bpel', starts with 'Account Verification (To-Be) Complete Receive', followed by 'Determine Applicant Eligibility', 'Initial Application Review', and a parallel split into 'Credit Report Service - Electronic' and 'Credit Risk Assessment - Business Rule'. The 'Business Rule' path leads to 'Request More Documentation', then 'Final Application Review', which then splits into 'Provide Pricing & Approval' and 'Generate Decline'. Both paths converge to 'Account Verification (To-Be) Complete Reply'.



SOA Example - Composite Application



Traditional Open Integration Programming Model

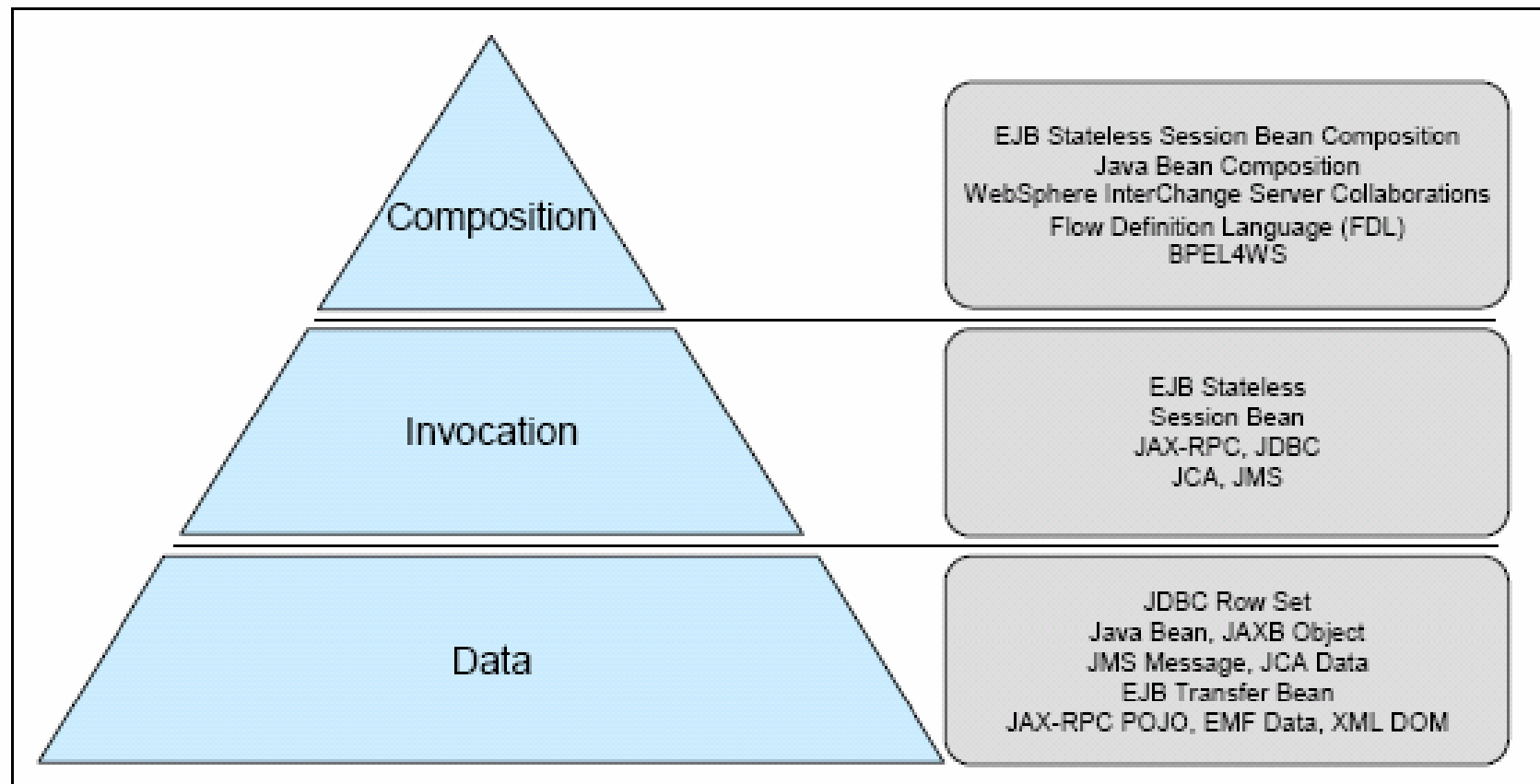


Figure 2-1 Traditional programming model

Today's Open SOA Programming Model

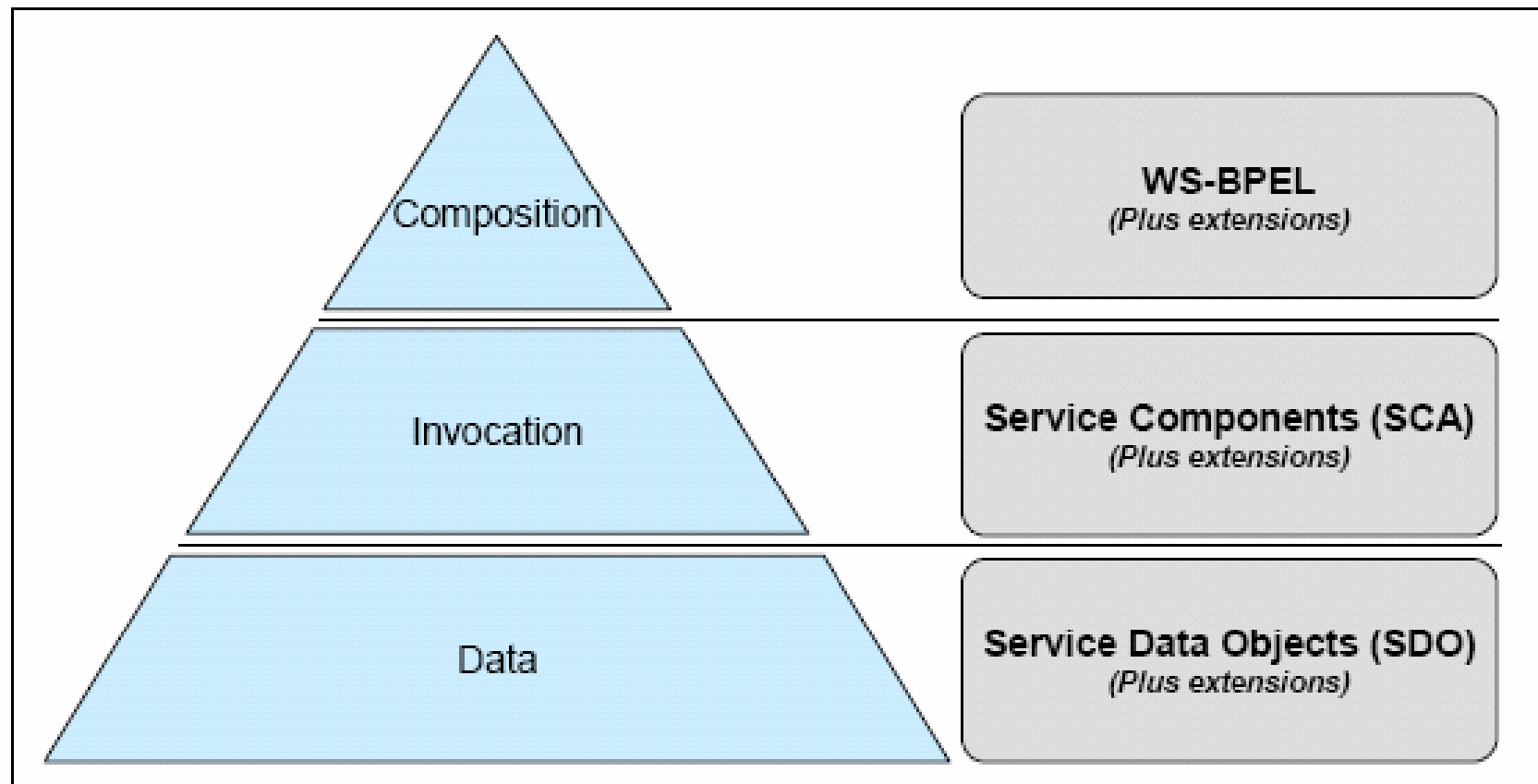


Figure 2-2 New programming model

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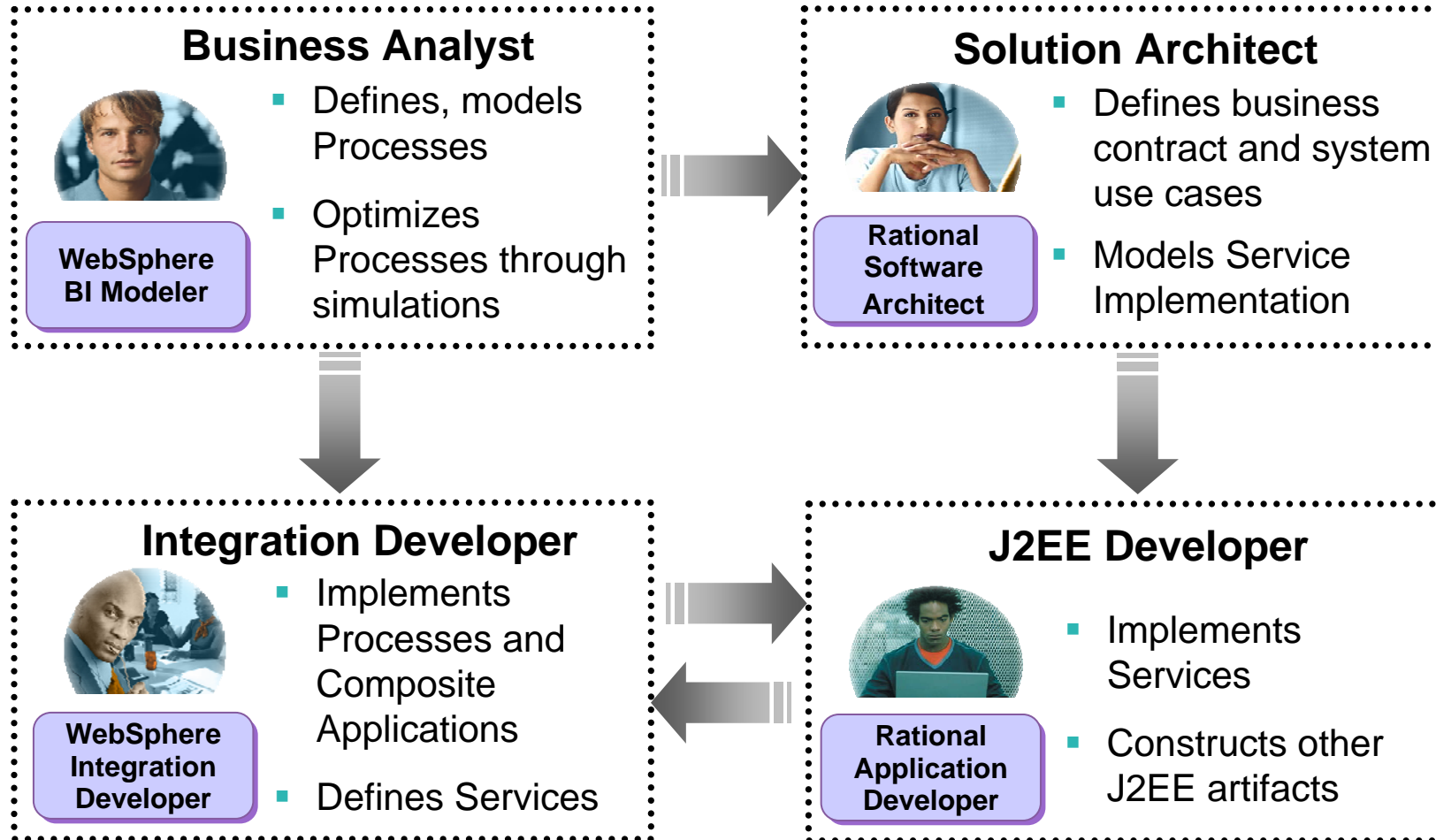
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- [Governance]
 - IT View: SOA SW Development Process, Quality and Change Management with Rational Unified Process
 - Business View: SOA ROI Controls with Rational Portfolio Manager & Tivoli Dashboards



SOA Business Driven Development – Key Roles and Tools

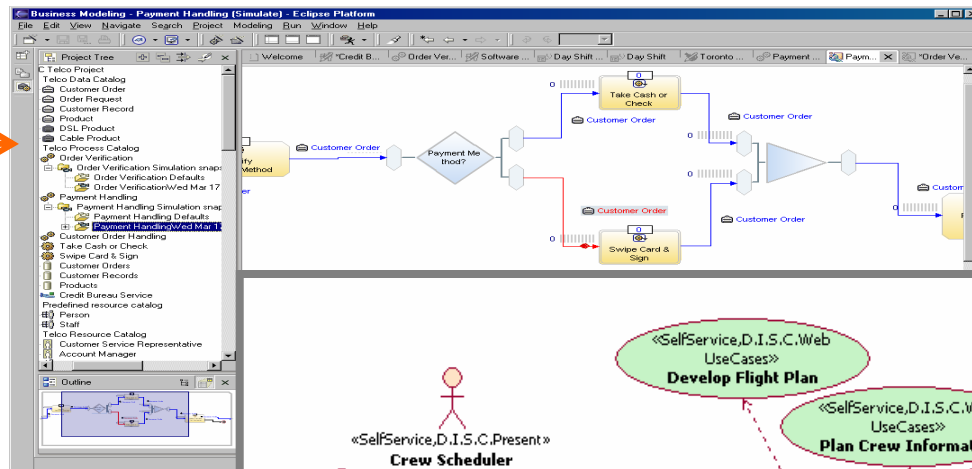


Model the Business

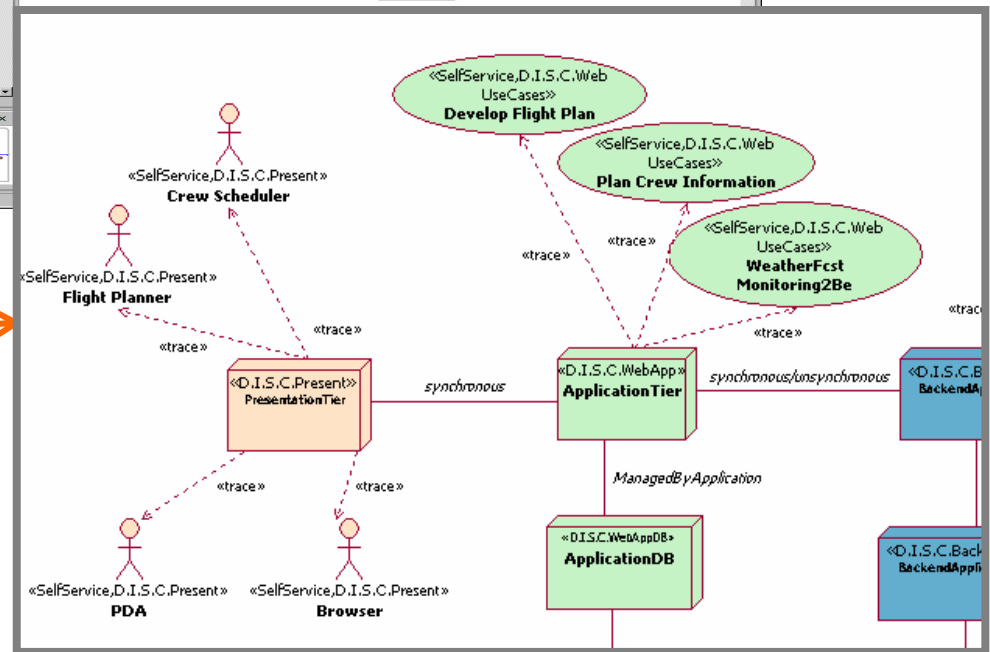
Document business processes and user interactions



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*



IBM Design & Construction Offerings

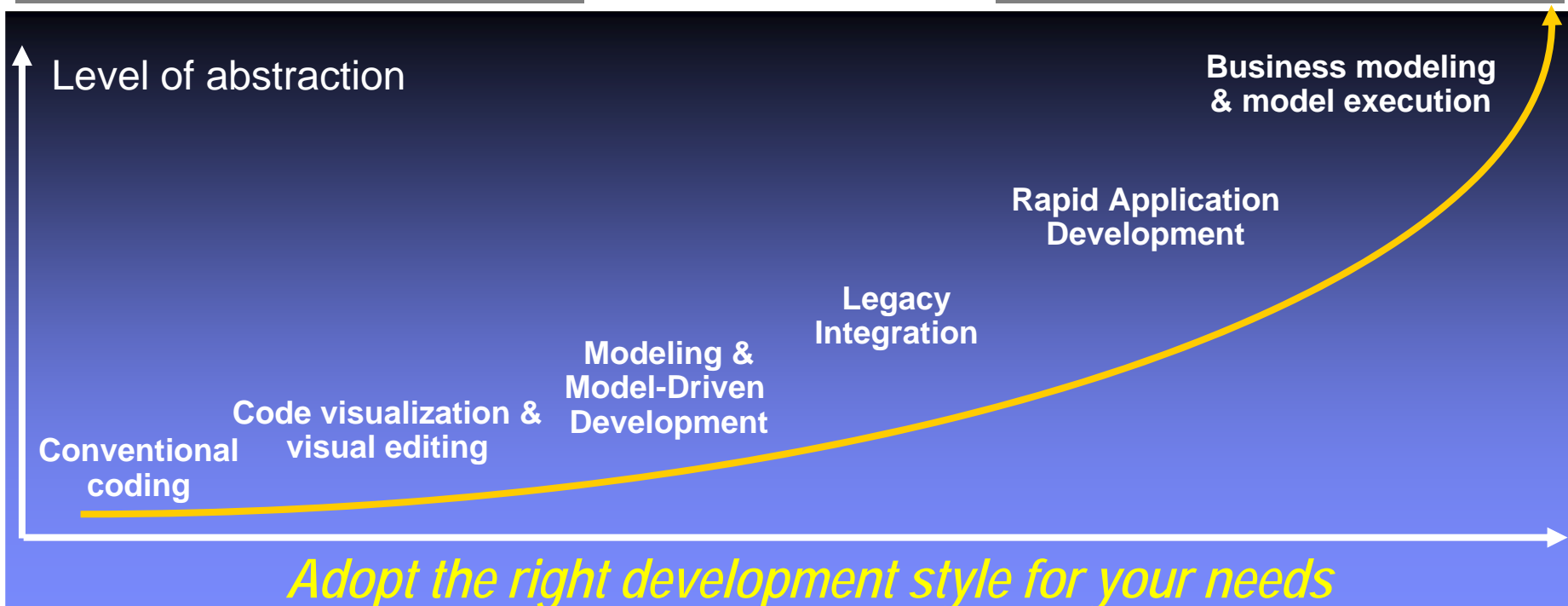
Benefits

- Drive higher levels of productivity and time to value
- Maximize quality, robustness, reusability
- Maximize value from both code & models
- Choice of development styles

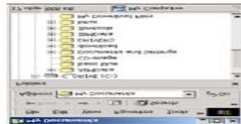
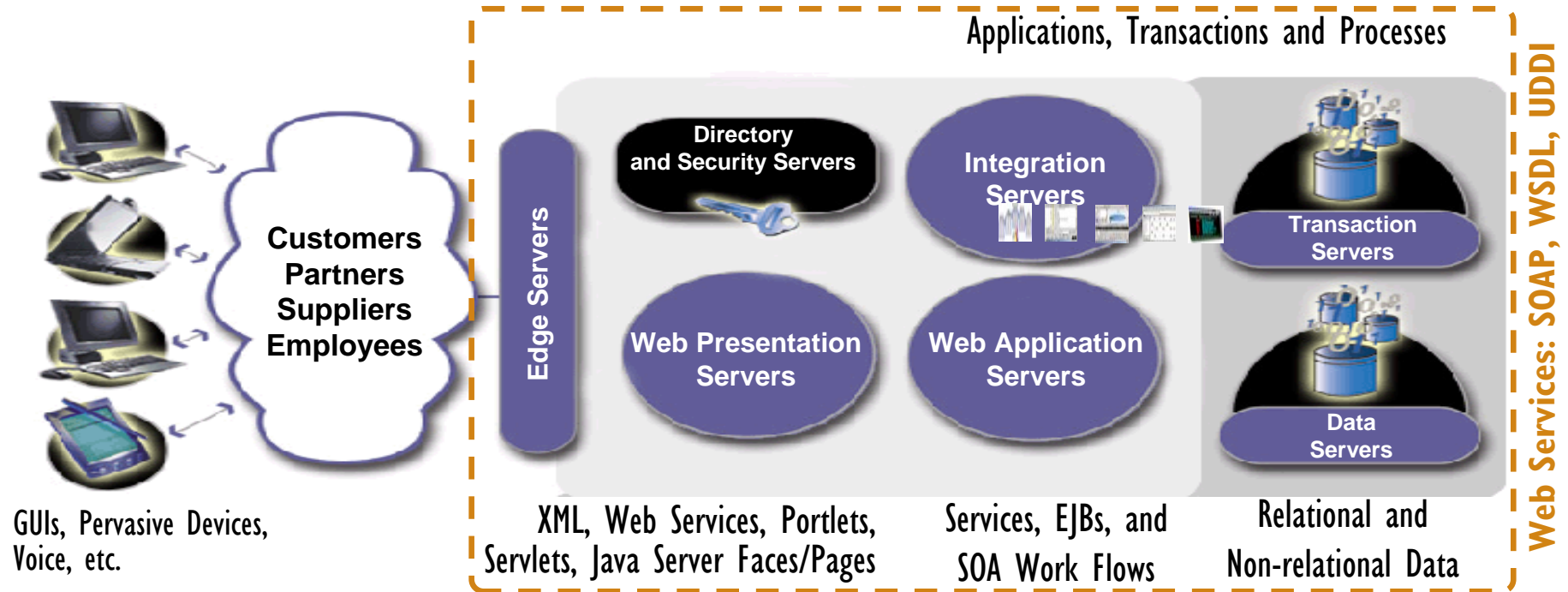


Capabilities

- Design > Build > Test > Deploy
- Code visualization & visual editing
- Modeling & round-trip engineering
- Legacy integration
- Rapid application development
- Model execution



Build Tools - End-2-End Design & Construction



Development Roles

Application Modeling



Java/J2EE Development



Web/Portal Development



XML Web Services Development



Database App Development



Business Process SOA Integration

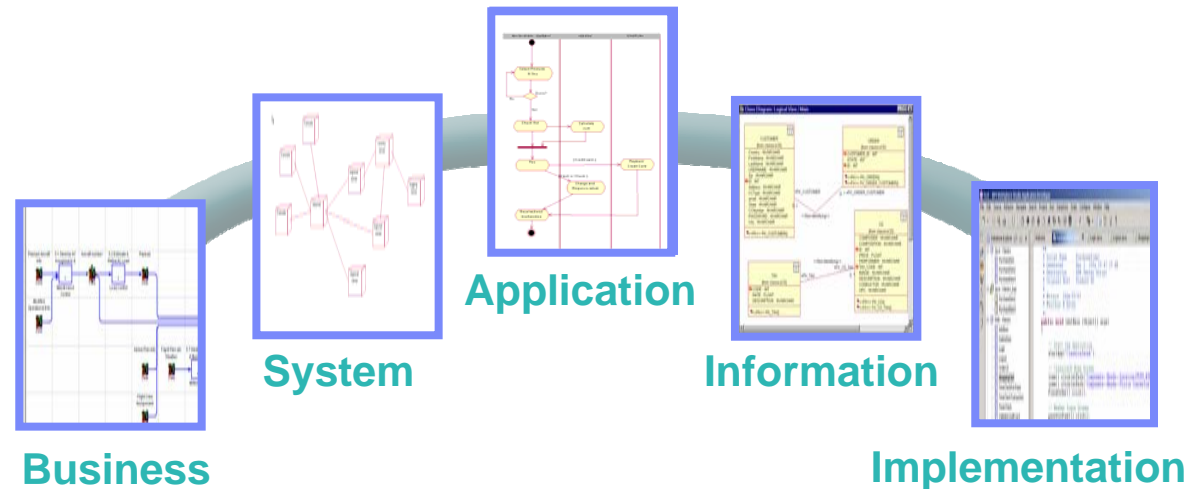


Cobol, CICS/IMS, 4GL Development



Model Driven Development With A Focus On Architecture

- ✓ Create models at various levels of abstraction
- ✓ Implement with component-oriented and service-oriented architectures
- ✓ Visualize as-built architecture
- ✓ Validate or refine & iterate



Business Benefits

- Better align projects with business needs
- Higher-level reuse for improved productivity
- Faster, more reliable changes

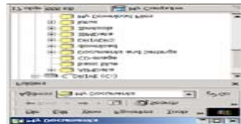
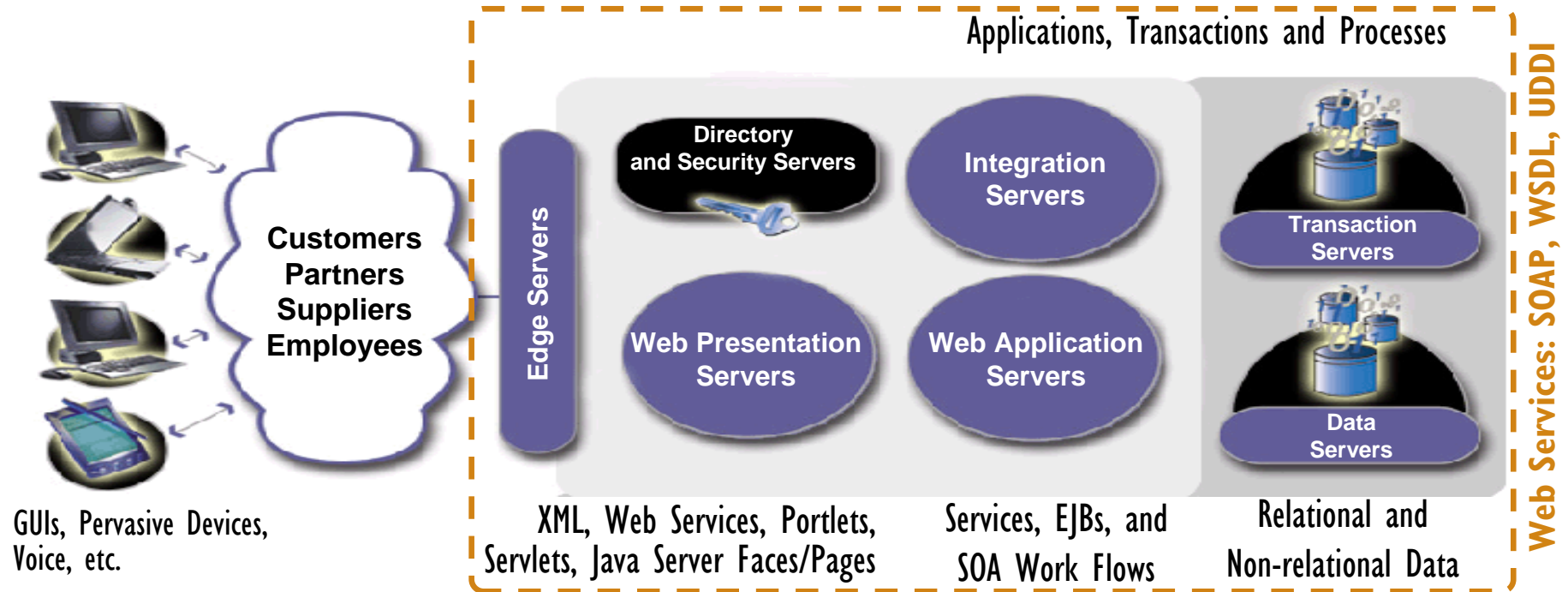


Technology Benefits

- Enables model-driven architecture and development
- Scales better than focusing only on code
- Facilitates traceability across the lifecycle



Build Tools - End-2-End Design & Construction



Development Roles

Application Modeling

Java/J2EE Development

Web/Portal Development

XML Web Services Development

Database App Development

Business Process SOA Integration

Cobol, CICS/IMS, 4GL Development



Simplifying J2EE, Web and Portal/Portlet Development

- Data (relational and non) 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}

Cust_id	Firstnm	Midinit	Lastnm	State	Zip
1	Arthur	A	Platinum	IL	60606
2	Betsy	B	Golden	IL	60606
3	Charlie	C	Silver	IL	60606
4	Denise	D	Copper	IL	60606



Richer Thin Clients (Portal, Portlets and Web Apps)

Database Query

Web Service

Tabbed Panels

Spreadsheet Control

Graphing Controls

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

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



Build Scenarios – J2EE, Web Services and Data

- Web Services – Creating, testing and consuming
- Data - Relational and non-relational data integration via Service Data Objects (SDO)
- JavaBeans and EJBs – Creating, testing and JavaServer Faces (JSF) MVC app design

Web Service Discovery Dialog

Web Services from a UDDI Registry

Select or enter a registry's inquiry URL followed by a partial or complete service name or key and click Go. You may use '%' wildcards when searching by the service name.

UDDI Registry:

Search text:

Search by: Service name Service key

Name	Description	WSDL URL
Weather - Temperature	Endpoint for service	http://www.xmethods.net/sd/2001/1Ten
Weather Fetcher	Endpoint for service	http://nlkev.webs.innerehost.com/nlkev
Weather Services from EISE, Inc.	Endpoint for service	http://www.eise.com/WeatherService/

QuickWeatherWebService.jsp

<http://localhost:9080/QuickSuccess/faces/QuickWeatherWebService>

Quick Weather Web Service

ZipCode:

Location: Fort Lauderdale, FL
 Forecast: Mostly Cloudy
 Temperature: 75°F
 FeelsLike: 75°F
 Humidity: 90%

Banking and Finance

My Portal Administration Edit my profile Log out

New Page Edit Page Assign Permissions Search:

My Favorites

Customers

Cust_id	Firstnm	Midinit	Lastnm	Addr	City	State	Zip	Email	Workph	Homeph	Cellph	User_id
1	Arthur	A	Platinum	123 Easy Street	Long Island	NY	11101	Cash.A.Plenty@mail.com	773-123-1111	773-456-1111	773-789-1111	Arthur
2	Betsy	B	Golden	45 Plush Circle	Arlington	VA	22202	Gold.P.Lated@mail.com	773-123-2222	773-456-2222	773-789-2222	Betsy
3	Charlie	C	Silver	67 Humble Avenue	Fort Lauderdale	FL	33303	Simply.E.Nuff@mail.com	773-123-3333	773-456-3333	773-789-3333	Charlie
4	Denise	D	Copper	89 Trailer Park Drive	Burghill	OH	44404	Always.N.Debt@mail.com	773-123-4444	773-456-4444	773-789-4444	Denise

Customer Update

Cust_id:
 Firstnm:
 Midinit:
 Lastnm:
 Addr:
 City:
 State:
 Zip:
 Email:
 Workph:
 Homeph:
 Cellph:
 User_id:

Add Customers

Cust_id:
 Firstnm:
 Midinit:
 Lastnm:
 Addr:
 City:
 State:
 Zip:
 Email:
 Workph:
 Homeph:
 Cellph:
 User_id:



Build Scenarios – Banking & Finance (Applying End-2-End Development)

- Account Management - Transfer Funds, Web Services, Service Data Objects (SDO), JavaServer Faces (JSF)
- Accounts Summary - SDO custom queries, Portlet User session/state, personalization
- Portfolio Management & Financial Advisor Dashboard - Portlet wiring click-2-action, charts/graphs
- Portal Site Design - Themes, skins, navigation, look-n-feel

Banking and Finance

Customer Admin

AccountsManagement portlet

Accounts Management

Transfer Funds Portfolio Allocation

SourceAcct: Checking

TargetAcct: Checking

Amount:

Transfer Funds

Transfer Results:

AccountsSummary portlet

Accounts Summary

Account Balances Transaction History Portfolio Details

Acct_id	Cust_id	Acct_type	Bal
1	1	Checking	\$10,000.00
2	1	Savings	\$100,000.00
3	1	Investments	\$500,000.00

Invested_bal: \$500,000.00

Projected_bal: \$526,997.50

Projected_return: 5.4%

Submit Delete

< Back Next >

My Portal Administration Edit my profile Log out

New Page Edit Page Assign Permissions

My Favorites

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

(\$ousands)

\$ Invested

BankPortfolios portlet

Banking > Finance > Portfolio Management

Customer # 1

Analyze Customer Portfolio

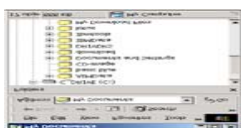
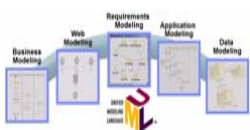
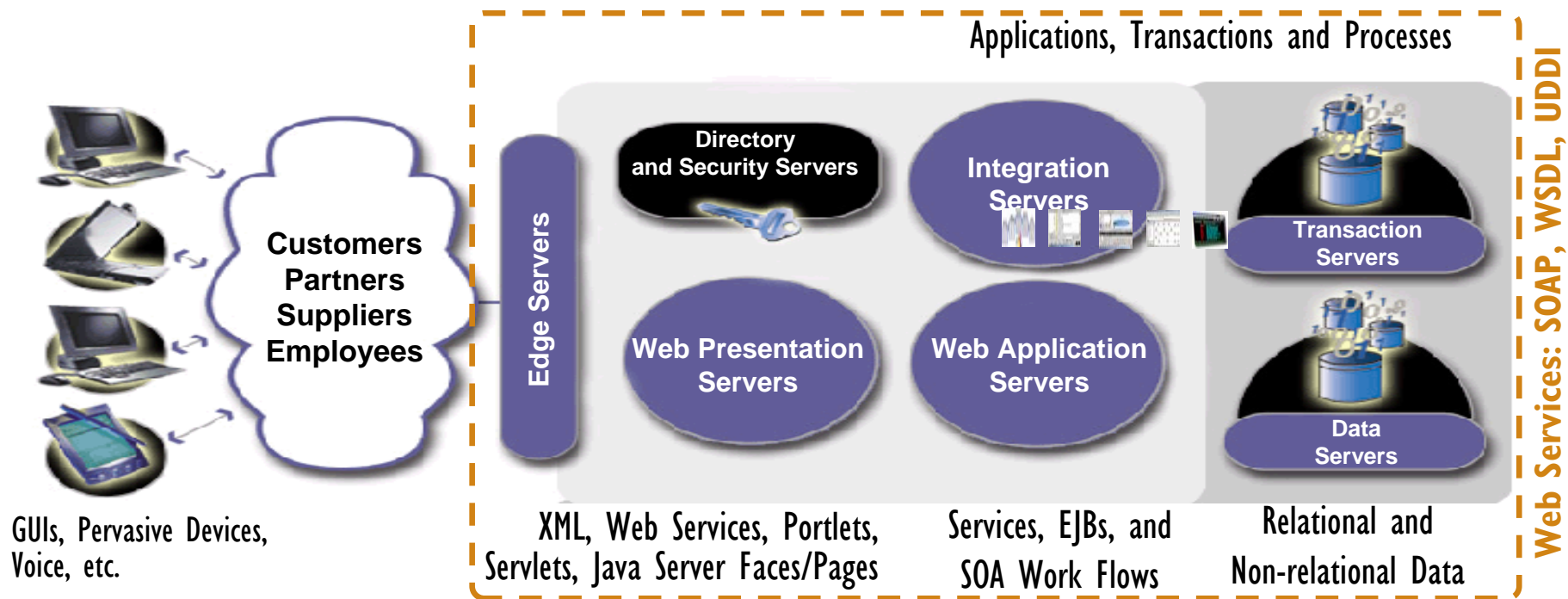
Portfolio details for Arthur Platinum appear below:

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

Build Tools - End-2-End Design & Construction



Development Roles

Application Modeling



Java/J2EE Development



Web/Portal Development



XML Web Services Development



Database App Development



Business Process SOA Integration



Cobol, CICS/IMS, 4GL Development



The Business Driven Development Lifecycle

Business Process Integration – Full Circle

SOA End-2-End Agenda

- **SOA Overview**

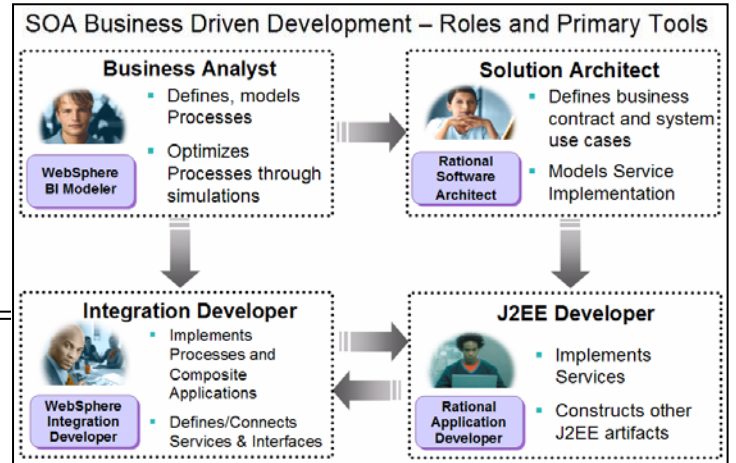
- SOA Business Demo
 - Bridging the gap between business and I/T
- SOA Solution Space
 - Lifecycle [Model > Assemble > Deploy > Manage > Governance]
 - Roles [Analyze > Architect > Develop > Integrate > Orchestrate]

- **SOA Tools In Action**

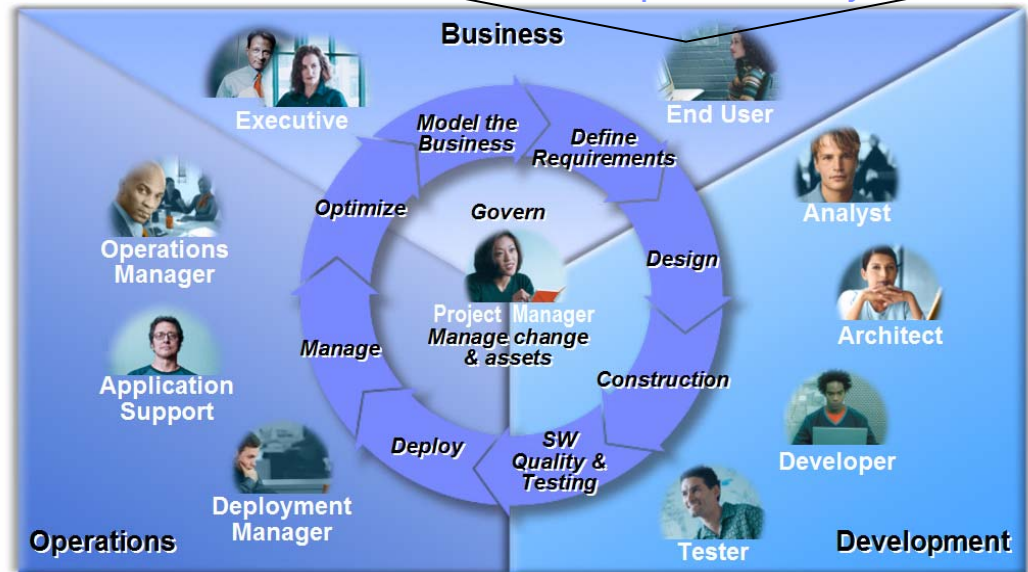
- [Model]
 - Analyze > Business Process Modeling with WebSphere Business Modeler (WBM)
 - Architect > Application Architecture Modeling with Rational Software Architect (RSA)
- [Assemble]
 - Develop > Service Implementation with Rational Application Developer (RAD)
 - Integrate > UI, Data, Service and Enterprise Integration with RAD
 - Orchestrate > Service Orchestration with WebSphere Integration Developer (WID)

- **SOA Infrastructure**

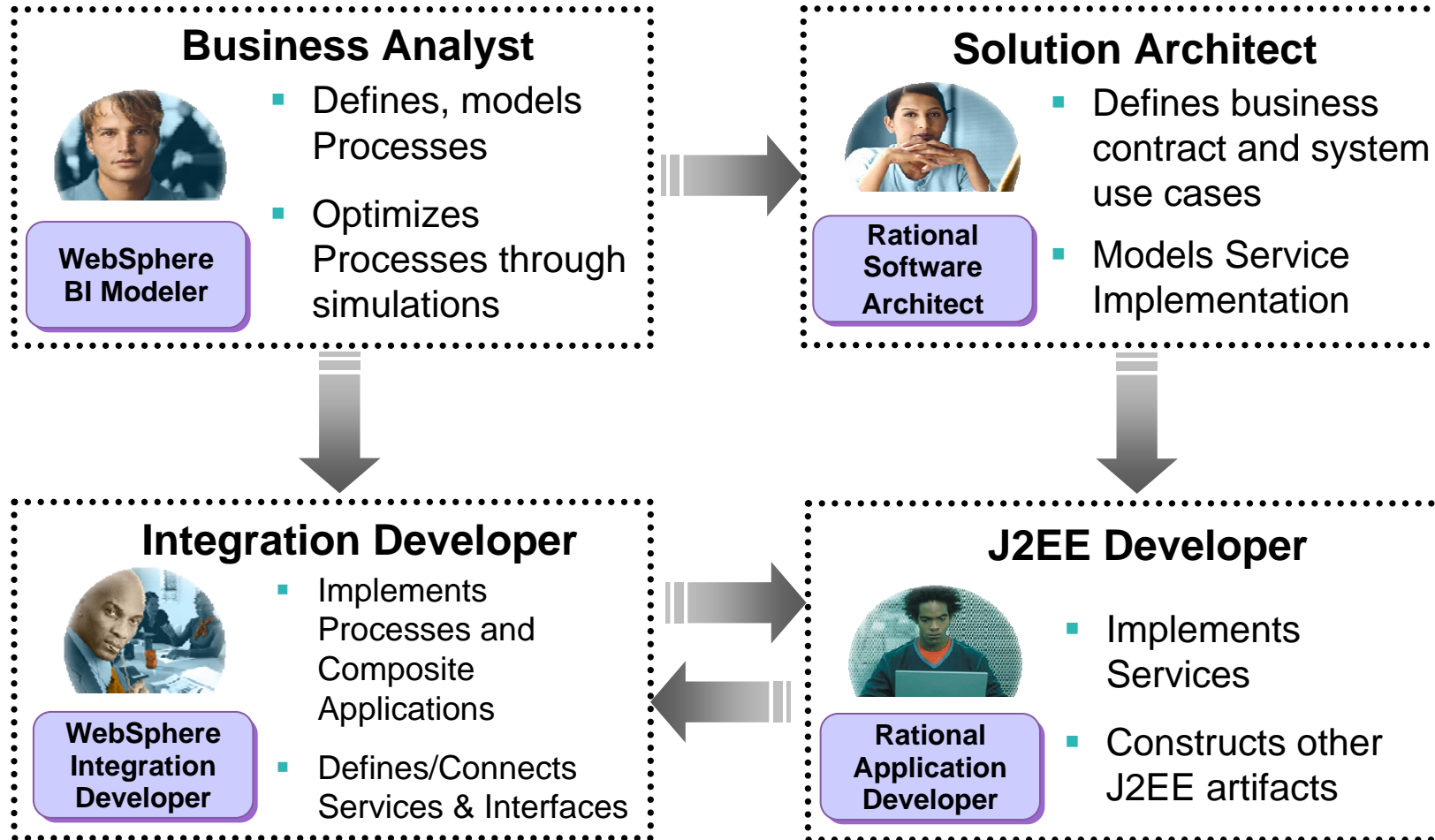
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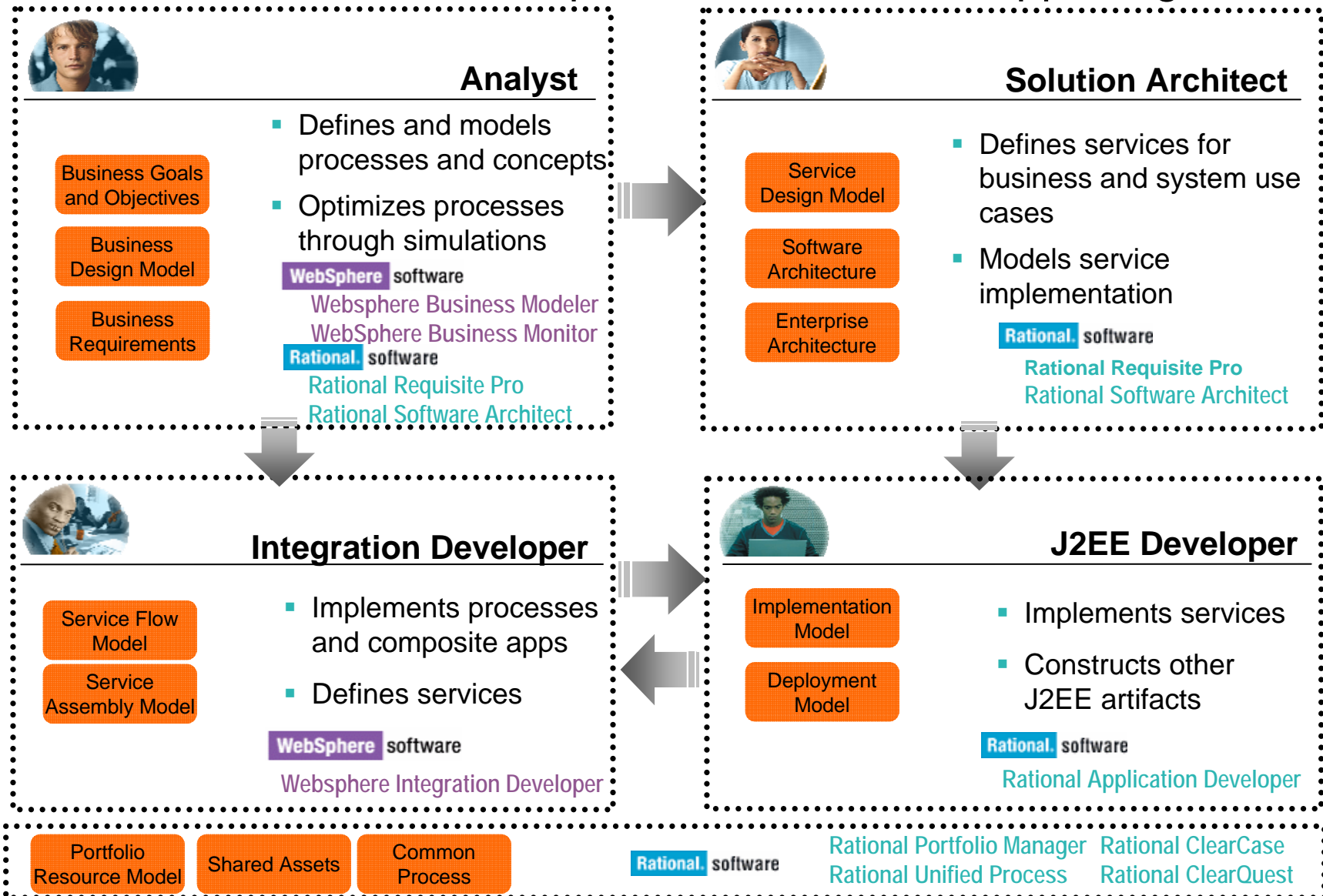
The Business Driven Development Lifecycle



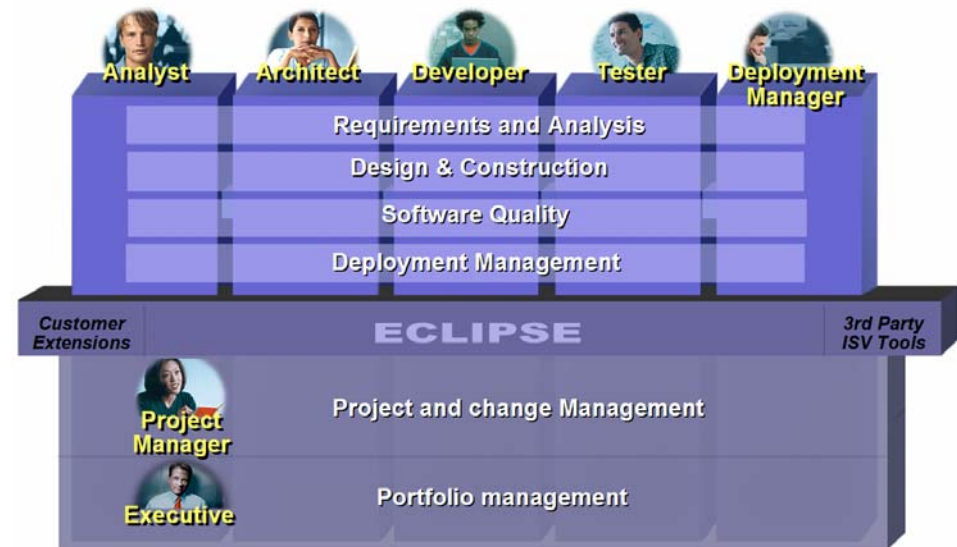
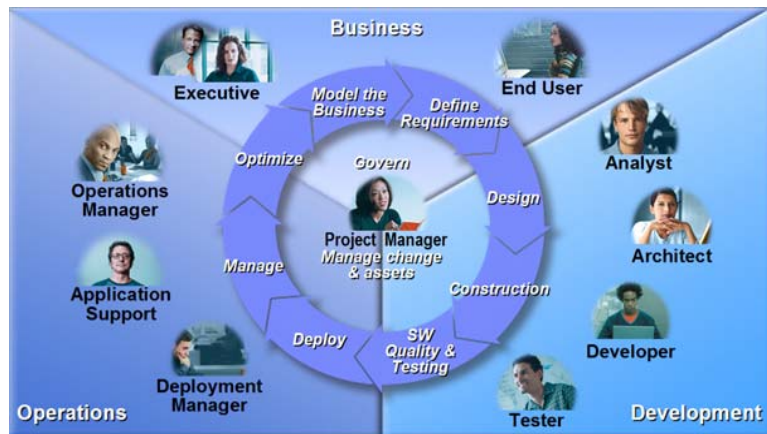
SOA Business Driven Development – Roles and Primary Tools



SOA Business Driven Development – Roles and Supporting Tools



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



SOA End-2-End Agenda

SOA Overview

- SOA Business Demo
 - Bridging the gap between business and I/T
- SOA Solution Space
 - Lifecycle [Model > Assemble > Deploy > Manage > Governance]
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SOA Tools In Action

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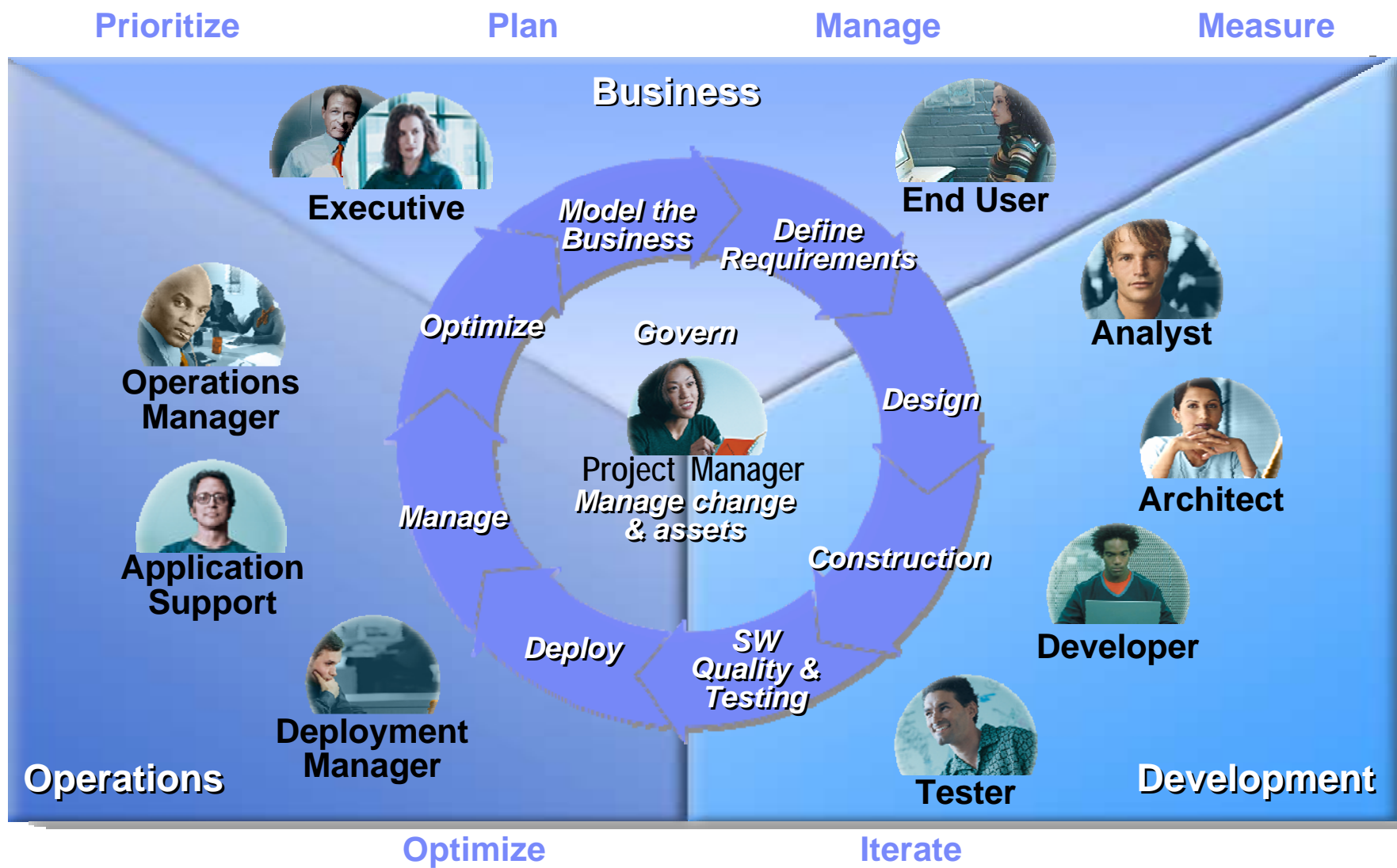
SOA Infrastructure

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The Business Driven Development Lifecycle

IBM Rational Software Development Platform

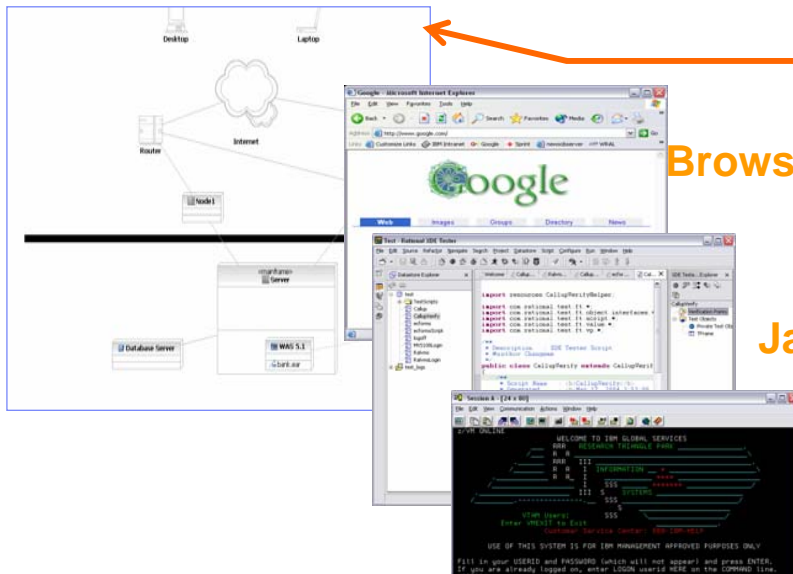


Test application

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

Tracing

Monitoring

Logging

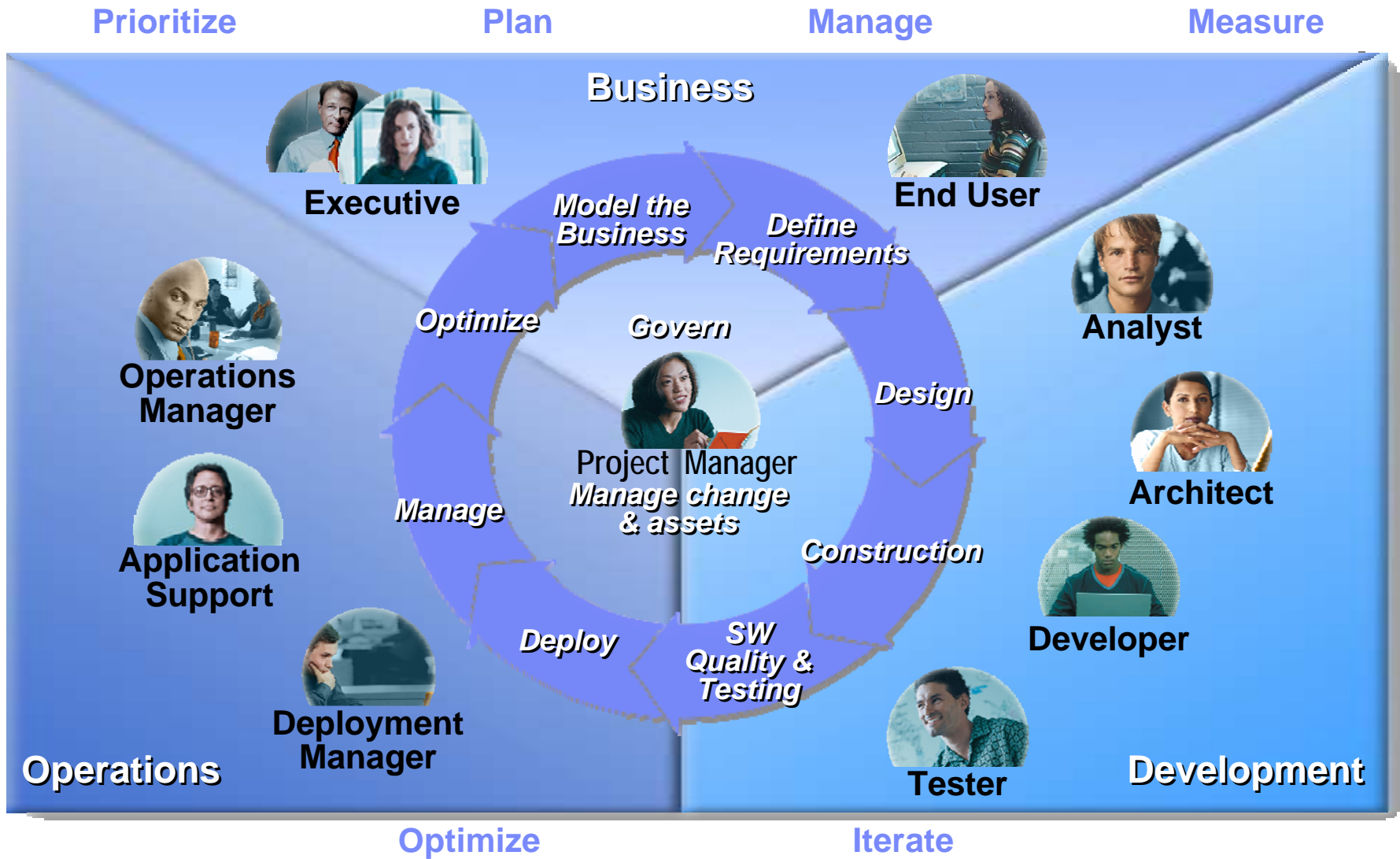
The screenshot displays three main panels: 'Tracing' with a pie chart, 'Monitoring' with a 3D bar chart titled 'Page Performance' showing response times for various pages, and 'Logging' with a detailed log viewer showing system events and performance metrics.

IBM Rational Manual Tester
IBM Rational Functional Tester
IBM Rational Performance Tester

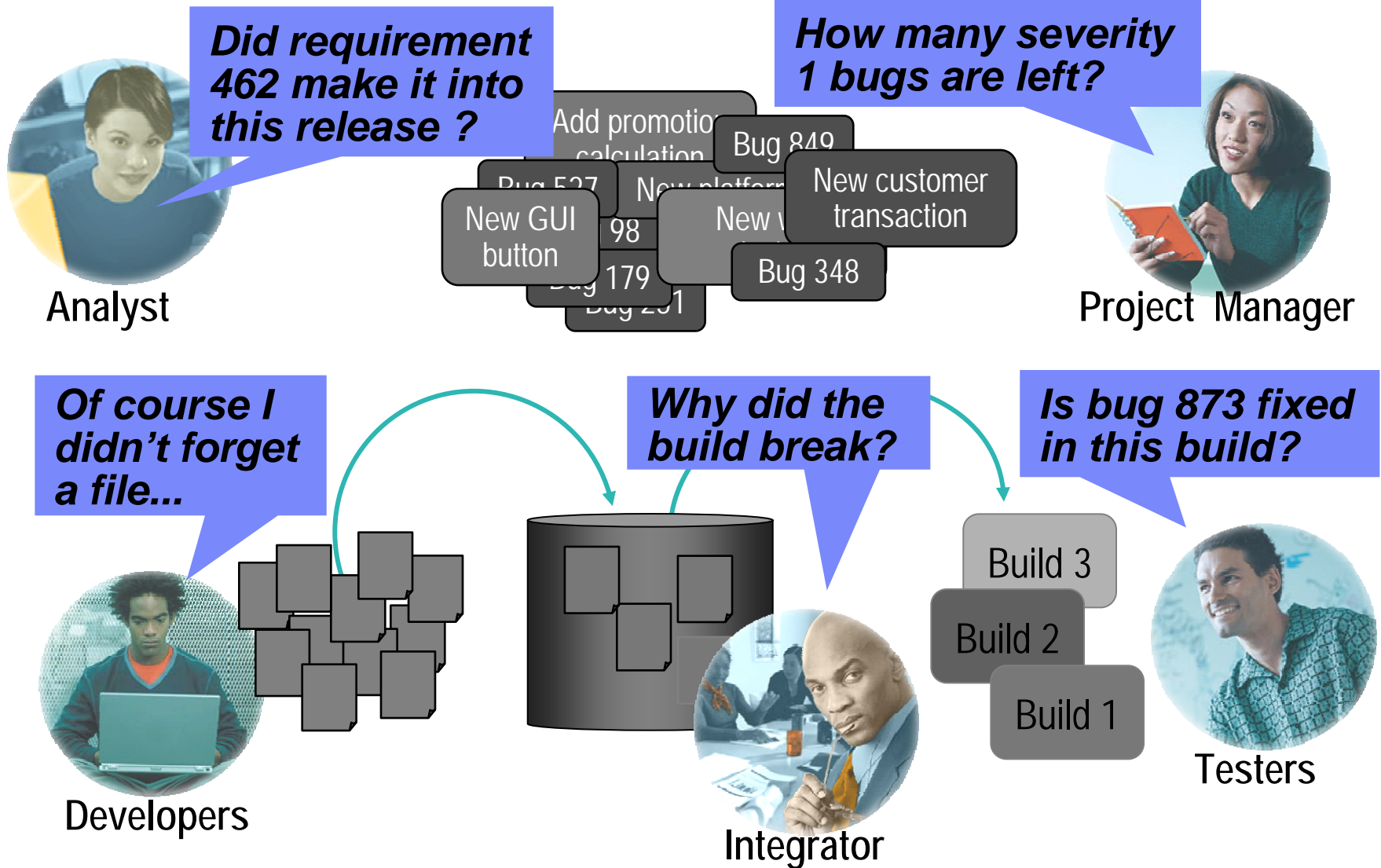


The Business Driven Development Lifecycle

IBM Rational Software Development Platform



Managing Change: The Challenge

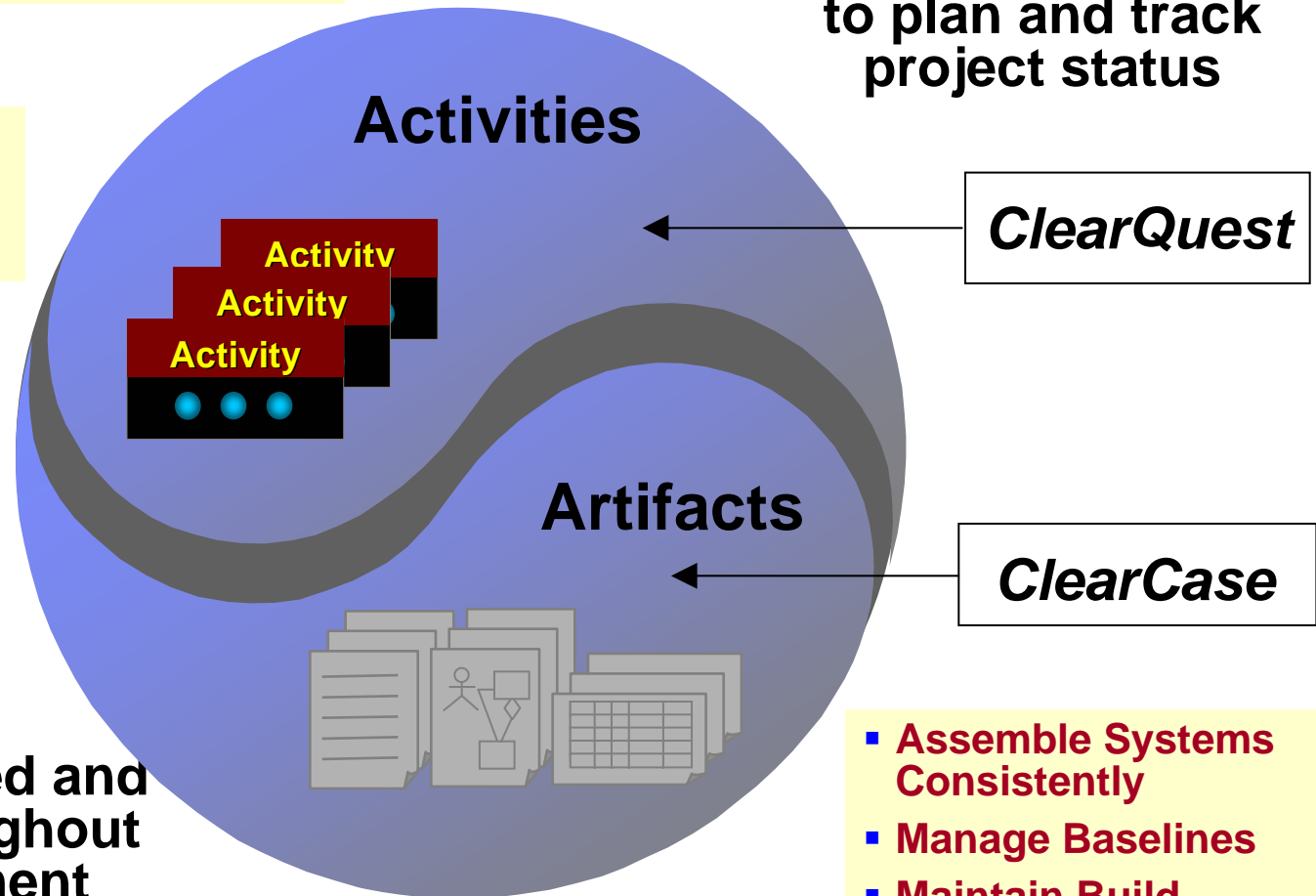


Unified Change Management: The Solution

▪ **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/WID/WBModeler

- 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

ClearCase Navigator view

ClearCase Details view

ClearCase Search & Synchronize views

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
CustomerMainPane.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
TaxMainPane.java	12131	Mar 24, 2004 11:06:15 AM	Loaded

Resource Name	Status	Full Path
TaxMainPane.java	Loaded	D:\ctrc_views\sschurma_Rel3\Classics\Source\com\rational\cdshop\...
Logon.java	Checked Out	D:\ctrc_views\sschurma_Rel3\Classics\Source\com\rational\cdshop\...

ClearQuest Integration Inside RAD/RSA/WID/WBModeler

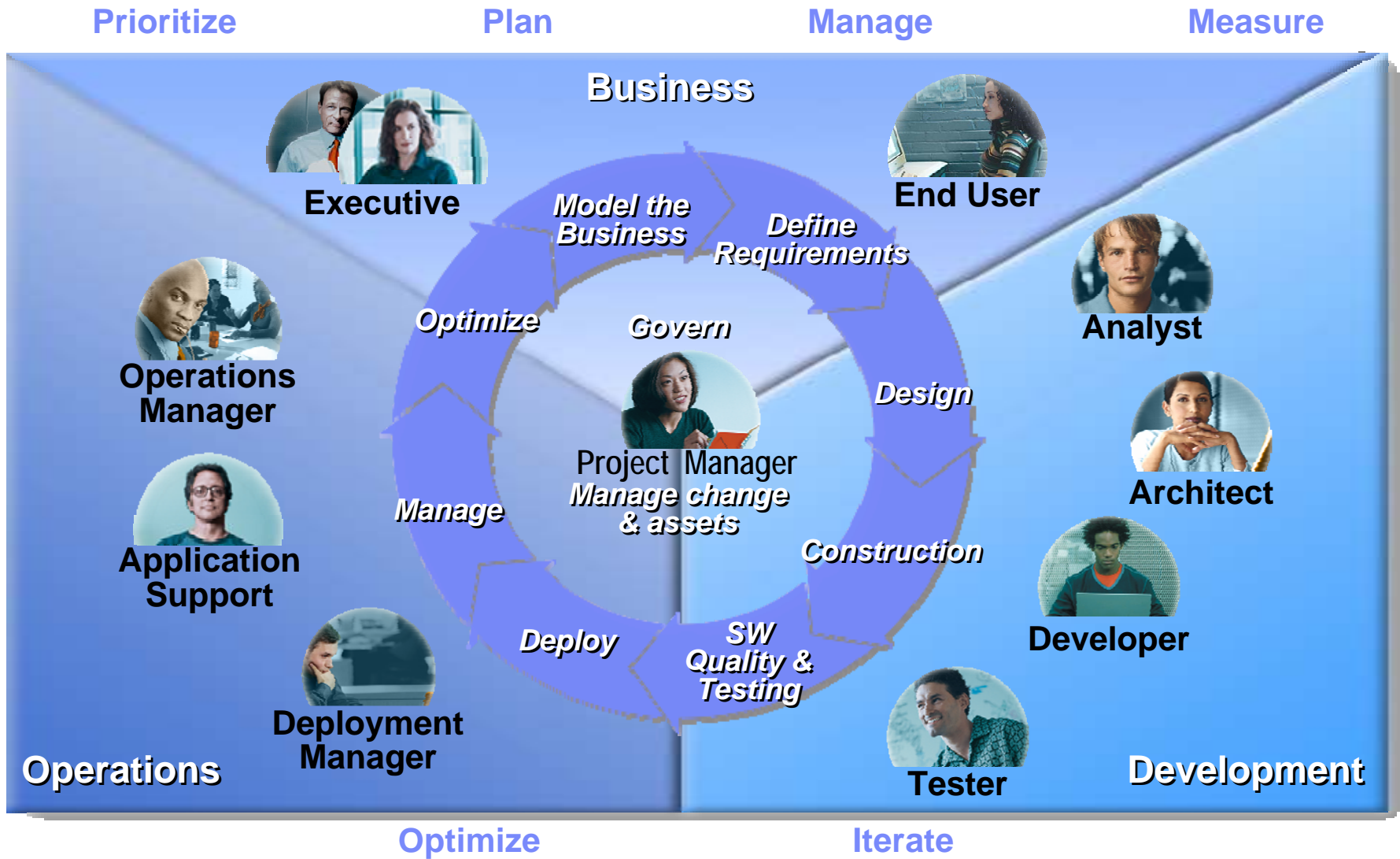
- A new client interface for ClearQuest based on Eclipse 3.0
- Provides complete CQ capabilities for developers and testers in the Eclipse IDE
- Replaces existing ClearQuest Result Set plugin,

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 view of the project structure, including 'ClearQuest: Queries', 'Personal Queries', 'MyToolList', 'Filters', 'Display Fields', 'Public Queries', and 'Report Formats'.
- CQ Toolbar:** A toolbar with icons for various actions like 'Validate', 'Reject', 'Duplicate', 'Modify', 'Delete', 'Add Attachment', 'Details', 'Refresh', and 'Properties'.
- 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 the first row, showing the 'Modify' option.
- Properties view:** A table showing the properties of the selected defect, such as 'Actual_Iteration', 'am_statetype', 'Build', 'cc_change_set', 'Company', 'Computer', 'Contact', 'Custom1', 'Custom2', 'Custom3', 'dbid', 'Description', 'id_in_build', 'Hardware', 'Headline', 'id', 'is_duplicate', and 'Keywords'.
- Console view:** A text area at the bottom left showing the application's log, including the message 'Defect and Change Tracking' and 'Login to CLSIC@CLSIC Successful'.
- Record Details form view:** A detailed form for the selected defect (ID: CLSIC00000037), showing fields for 'State', 'Headline', 'Suite Project', 'UCM Project', 'Priority', 'Severity', 'Owner', and 'Description'.

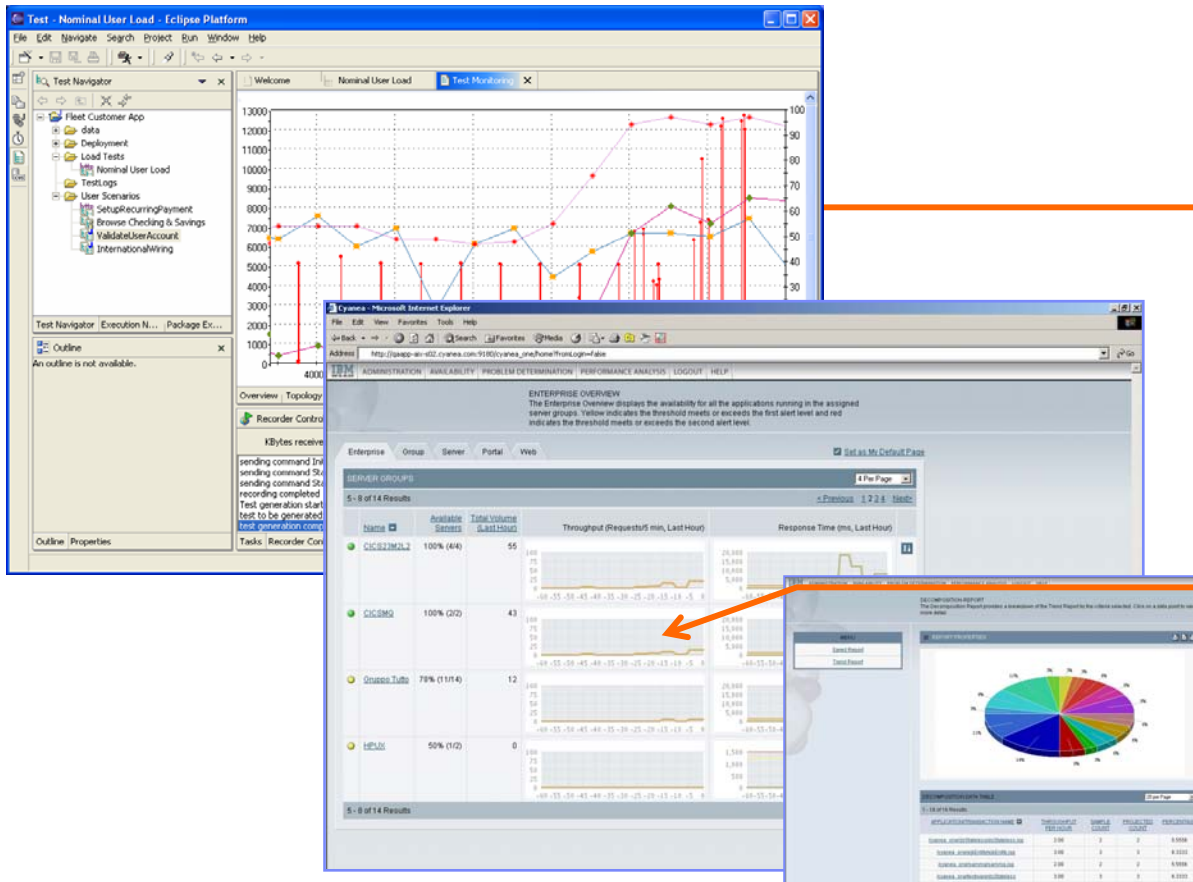
The Business Driven Development Lifecycle

IBM Rational Software Development Platform



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 Tivoli Composite Application Monitor
IBM Rational Performance Tester*



Manage and Monitor

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



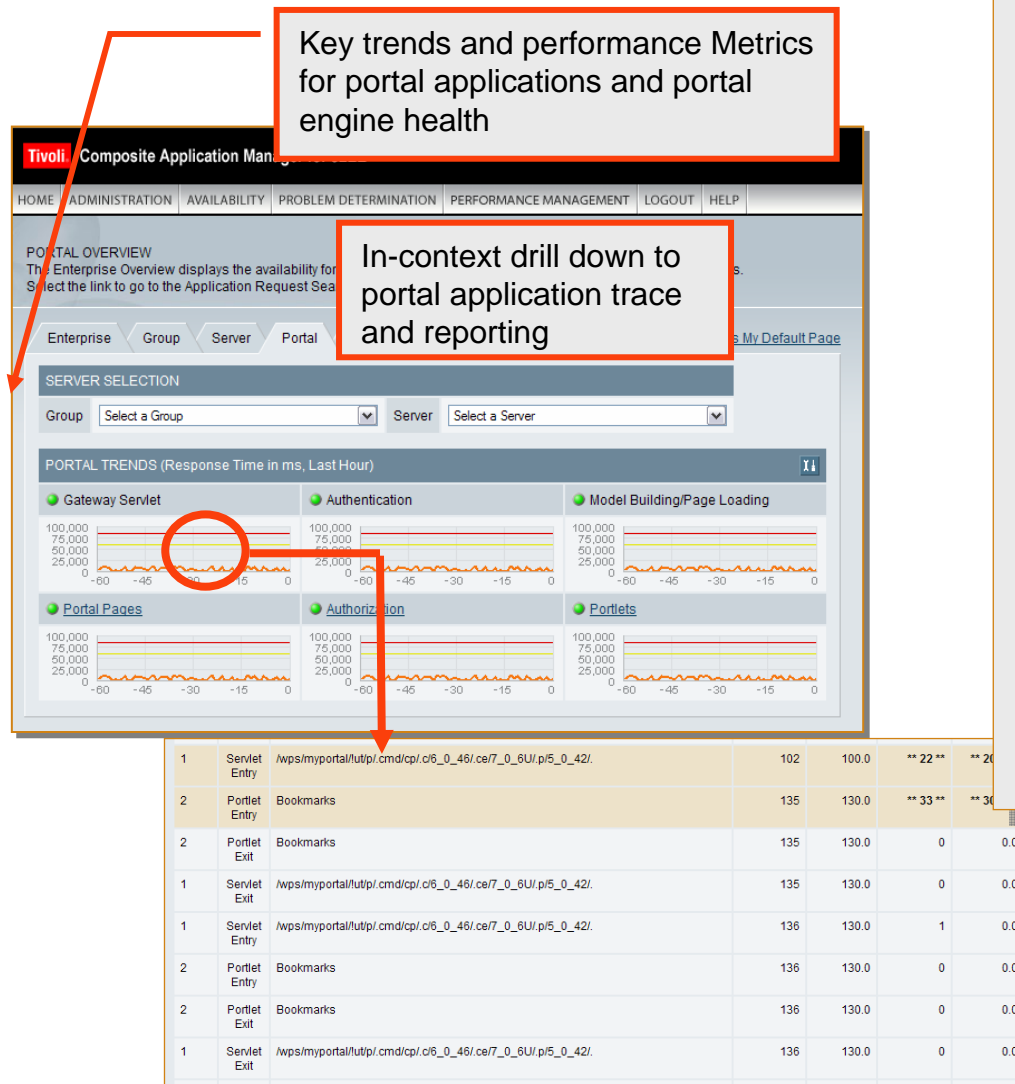
Operations Manager monitors application performance and is automatically notified of problems, enabling fast triage to the right stakeholders (application, DB, network, etc.)

Time Received	Class	Hostname	Severity	Status	Message
October 11, 2004 4:23:33 PM...	TMTF-MS-Event	was60-332a	Minor	Open	The ViewAccountHistory transaction of the Home...
October 11, 2004 4:23:01 PM...	TMTF-STI-POLICY-VIOLATION	was60-331b	Warning	Open	Policy Name="C... .. Back... .."
October 11, 2004 4:22:00 PM...	WebSphereAS_high_Serflet_Resp...	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_Corruption	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	was60-332a	Warning	Open	

IBM Tivoli Enterprise Console
IBM Tivoli Monitoring for Transaction Performance



Advanced WebSphere Portal Monitoring



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

In-context drill down to portal application trace and reporting

ITCAM for J2EE Portal Monitoring Highlights

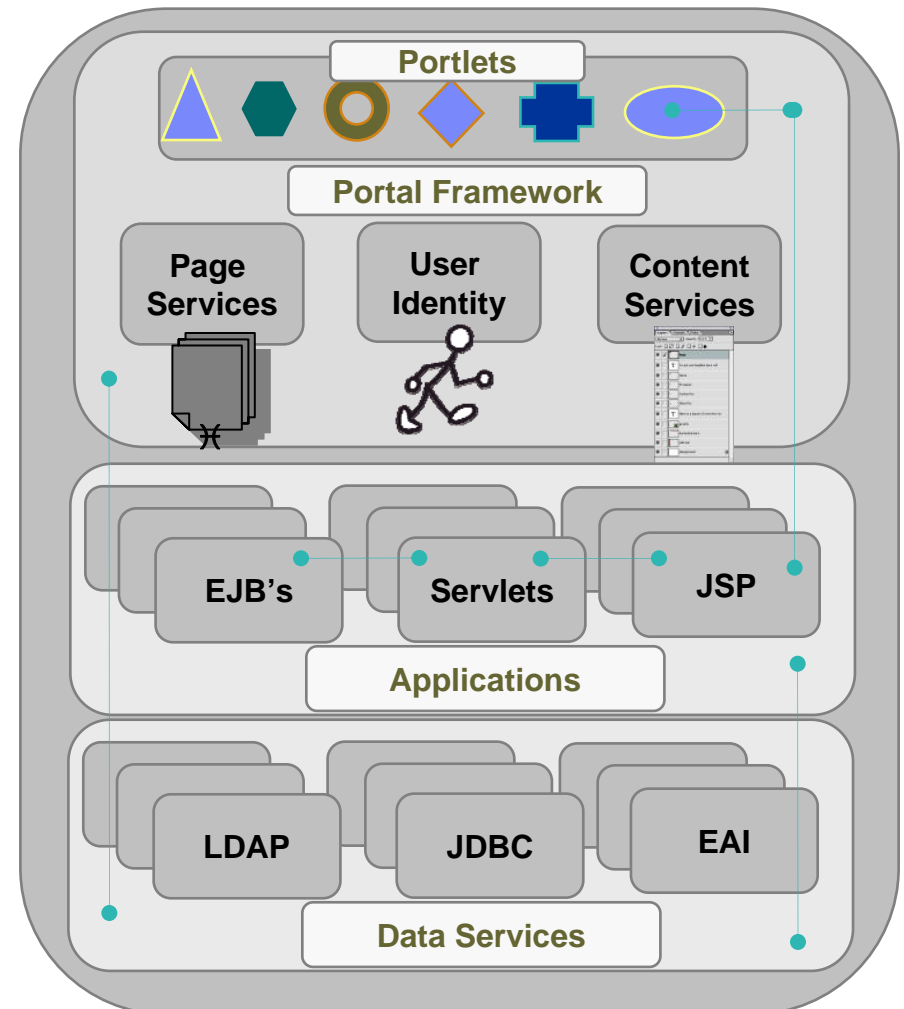
- Portal Overview page/tab
 - Trend views of recent performance of critical metrics
- Links to new trend PAR reports:
 - Gateway Servlet, Building Models, Page Loading, Authentication, Authorization
- Powerful Drill-down for deep portal diagnostics
 - Nested Request support for instance-level tracing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



Advanced Transaction Monitoring

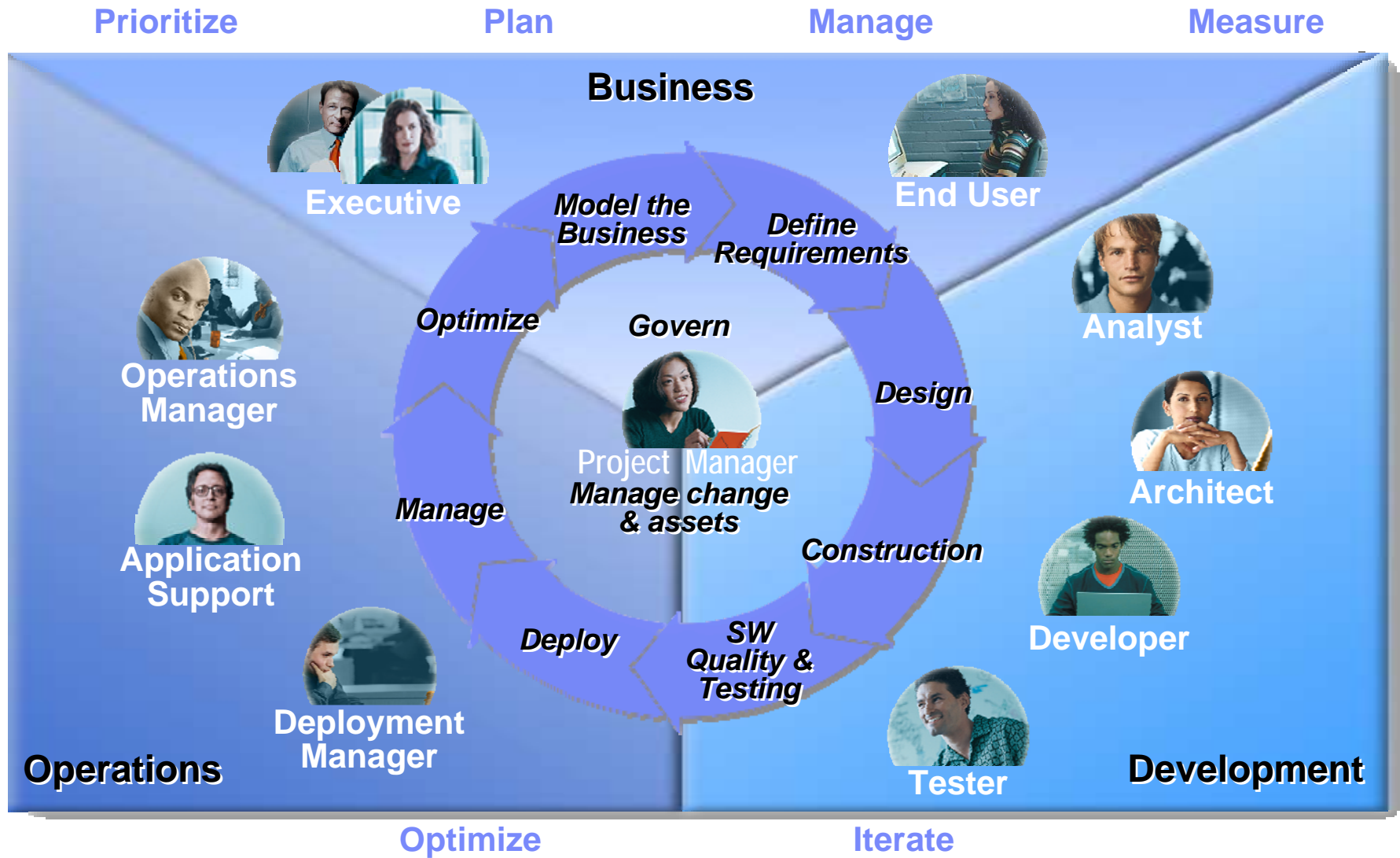
- **Performance Analysis**
 - ▶ Rich historical data
 - ▶ Interactive graphical presentation
 - ▶ Application demand characterization for accurate infrastructure sizing
- **Problem Determination**
 - ▶ Quickly isolate problematic application components
 - ▶ Drill-down from portlets to components to methods 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





Rational Portfolio Manager

Align priorities, projects and people

- Scope Management
- Proposal Management
- Portfolio Management
- Resource Management
- Project Management
- Work Management
- Time & Expense Tracking
- Exception Management
- Service Request Management
- Issues Management

All Portfolios Selected

My Portal
[Local] tjportal
Customize ...

Rational Portfolio Manager

- My Portal
- Work Management
- Scope Management
- Documents
- Communications
- Personal Calendar
- Timesheets
- Expenses
- Personal Record
- Resource Managem...
- Assets
- Clients/Cost Centers

WBS Plans / By State (12)

My Teams' / Assignments (23)

All Scope Elements (26)

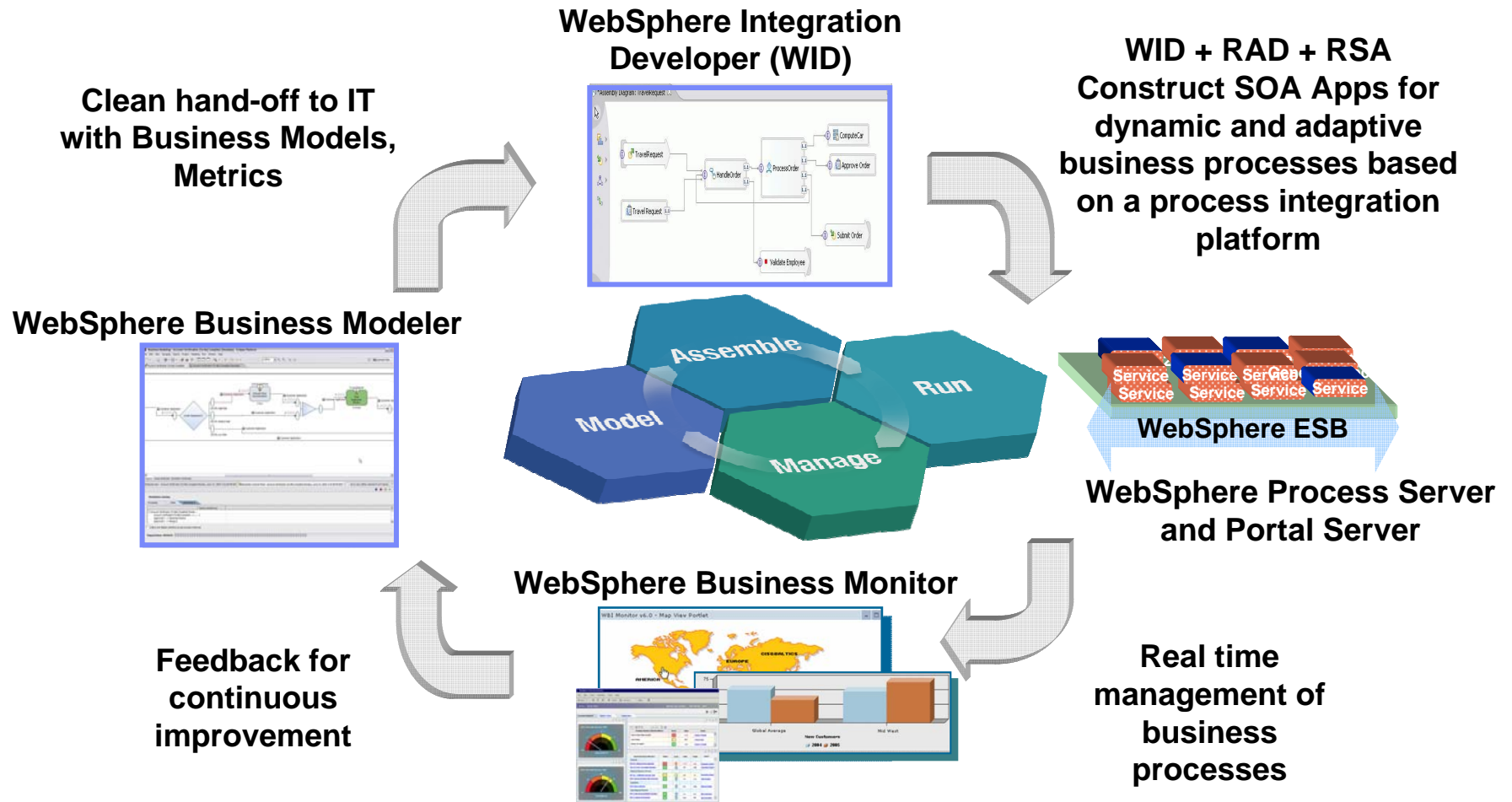
IBM Rational Portfolio Manager



Summary Highlights of the SOA Tools Landscape

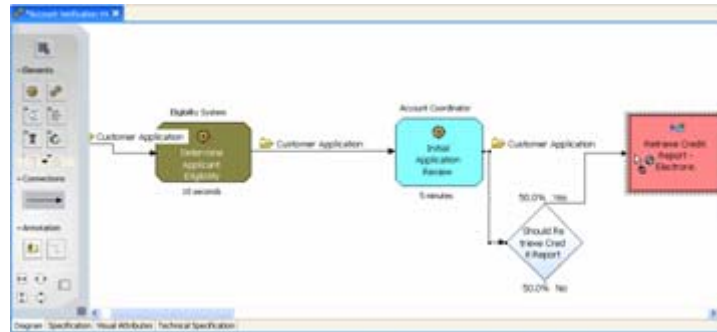


Build → RUN → Manage your SOA



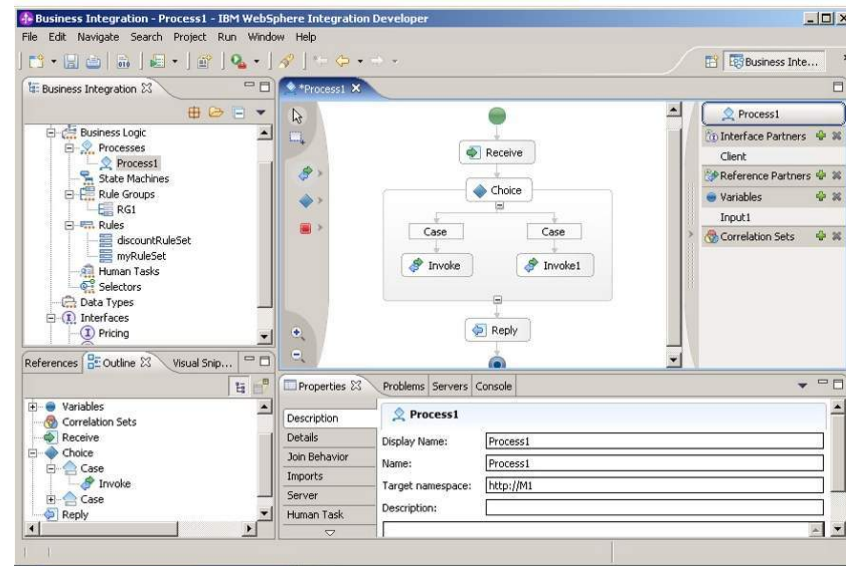
Managing Your Business Processes with a Service Oriented Architecture

WebSphere Business Modeler



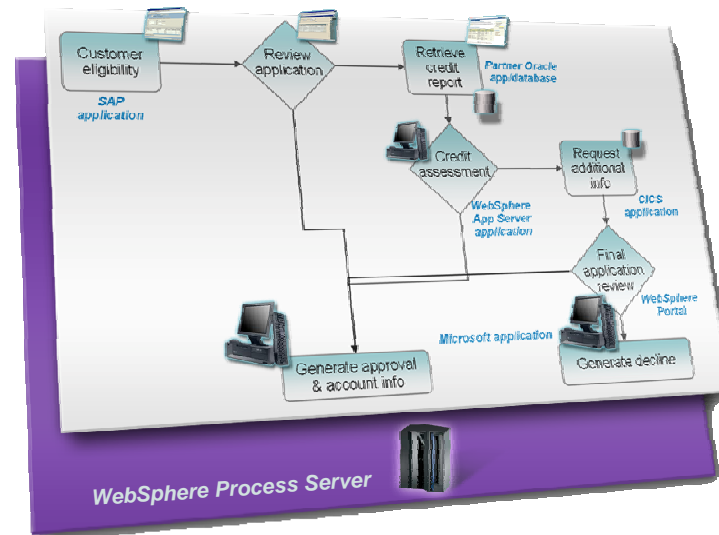
- **Easy-to-use** (multiple modes, business friendly, multi-user support)
- **Robust Analysis with a Powerful Simulation Engine**
- **Collaboration Support-Web Publishing**
- **Business Measures (Metrics, KPIs, Aggregations)**
 - Export model to WebSphere Business Monitor
 - Import WebSphere Business Monitor Run-Time Metrics
- **Integration...**
 - WebSphere Integration Developer – BPEL
 - Rational Software Architect – UML
 - Tivoli IT Process Management-CEI Event Catalog
 - WebSphere MQ Workflow-FDL
 - WebSphere Studio Application Developer Integration Edition – BPEL

WebSphere Integration Developer



- **Rapid assembly of composite applications**
- **Streamline process design hand-off between business and IT (BPEL support)**
- **Simplify and speed development (J2EE programming skills not needed)**
- **Maximize re-use**

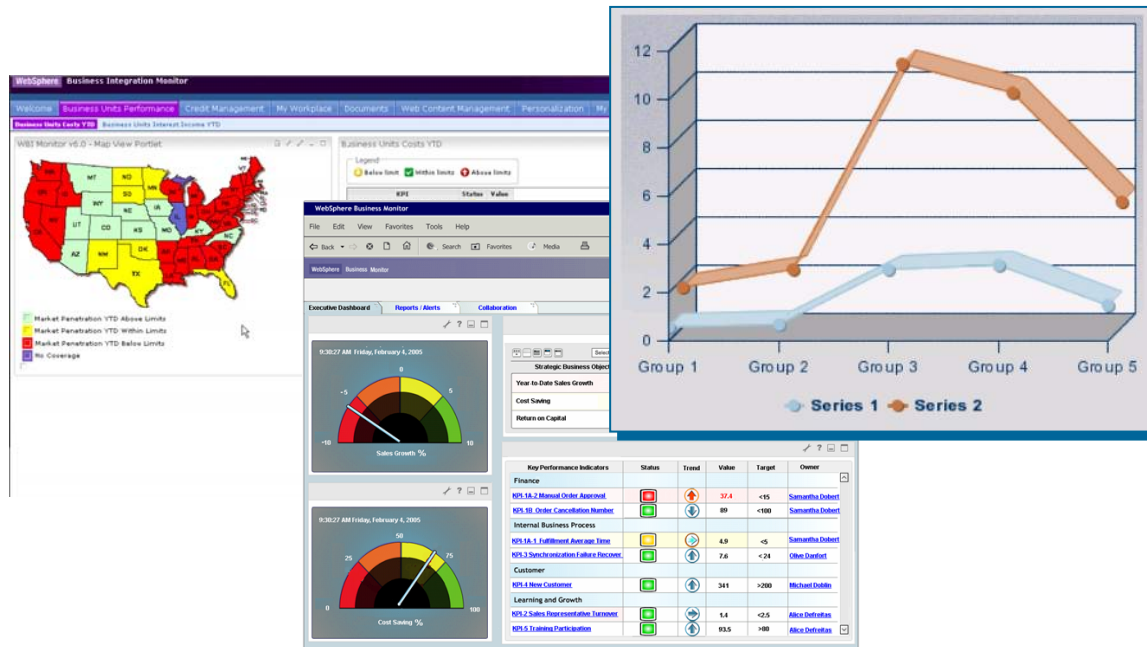
WebSphere Process Server



- Built on WebSphere Application Server
- Powered by the Enterprise Service Bus (ESB)
- Flexible deployment of processes
- Dynamically modify deployed services

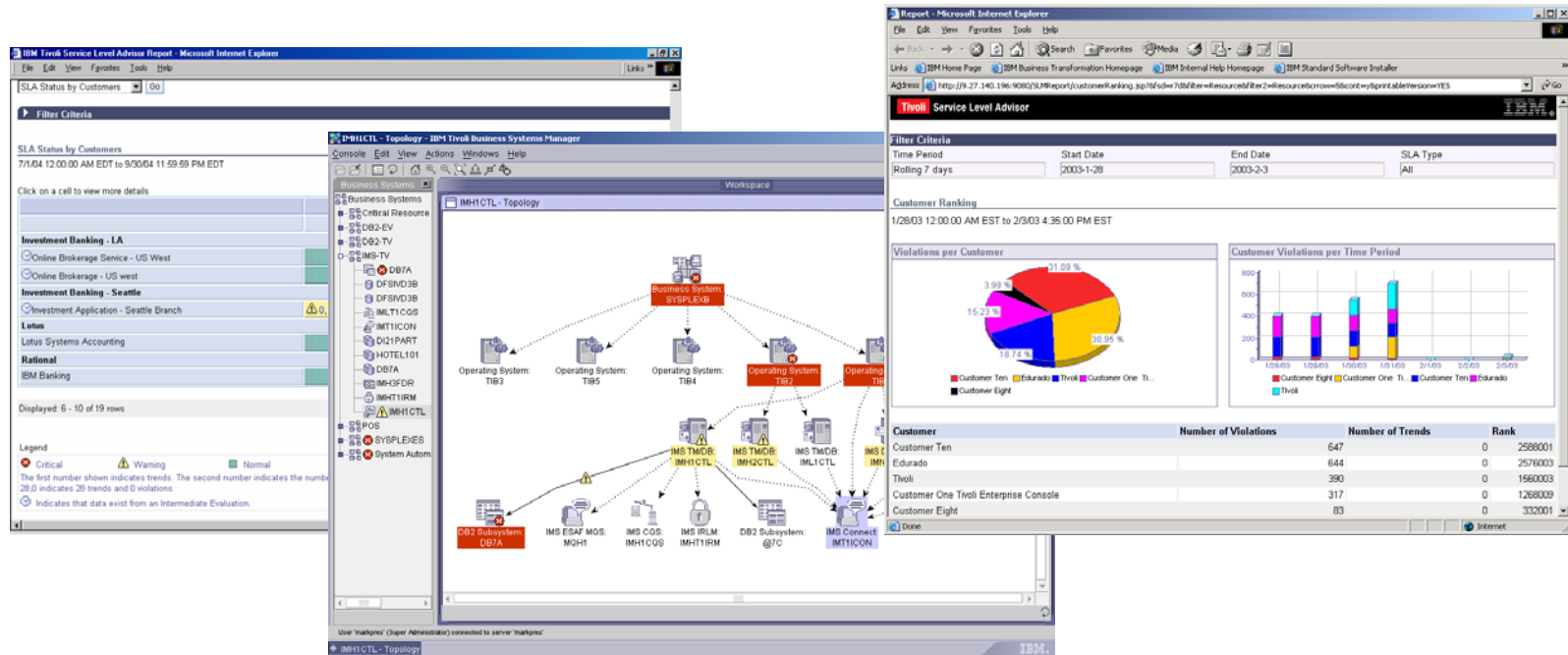
WebSphere®

WebSphere Business Monitor



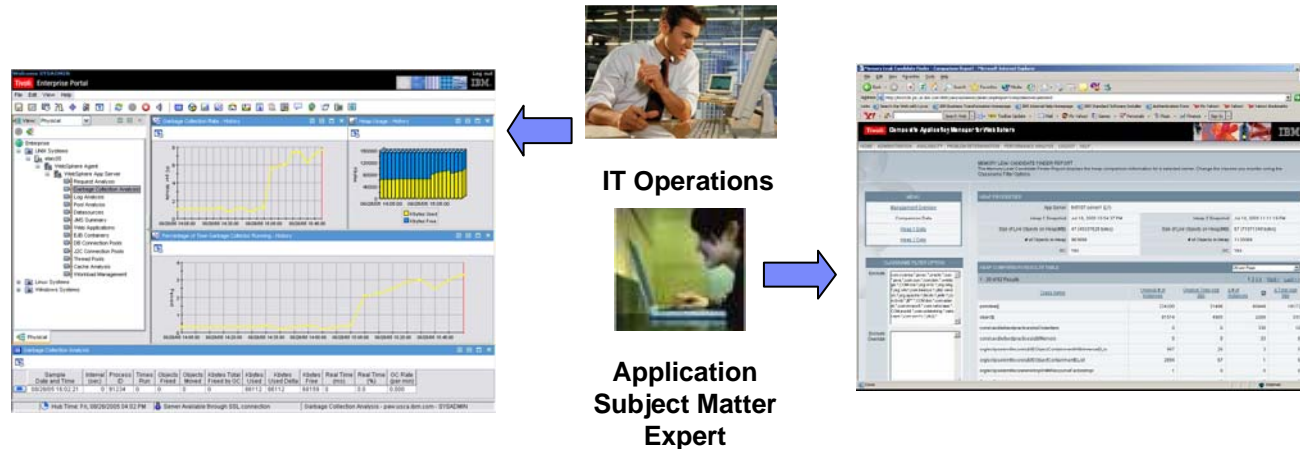
- Real-time visibility into process execution
- Management dashboards, reporting, and trending
- Active intervention in process execution
- Exports results to WebSphere Business Modeler

Business Systems Management



- Business focused versus technology centric
- Prioritization of IT activities
- Planning investments and changes
- Consolidate status consoles into business views
- Understand the impact of outages to business

IT Management of Business Process Management



ITCAM for SOA

- **Web Services automated mediation & problem identification**

ITCAM for Response Time Tracking

- **End-to-end transaction tracking isolates problems**

ITCAM for WebSphere

- **WebSphere application performance problems**

IBM Tivoli OMEGAMON XE for WebSphere Business Integration

- **Resource analysis for WebSphere MQ environments**

IBM Tivoli Business Systems Manager

- **Manage resources with Business views**



SOA End-2-End Agenda

SOA Overview

- SOA Business Demo
 - Bridging the gap between business and I/T
- SOA Solution Space
 - Lifecycle [Model > Assemble > Deploy > Manage > Governance]
 - Roles [Analyze > Architect > Develop > Integrate > Orchestrate]

SOA Tools In Action


- [Model]
 - Analyze > Business Process Modeling with WebSphere Business Modeler (WBM)
 - Architect > Application Architecture Modeling with Rational Software Architect (RSA)
- [Assemble]
 - Develop > Service Implementation with Rational Application Developer (RAD)
 - Integrate > UI, Data, Service and Enterprise Integration with RAD
 - Orchestrate > Service Orchestration with WebSphere Integration Developer (WID)

SOA Infrastructure

- [Deploy]
 - SOA Services Runtime with WebSphere Process Server & ESB
 - SOA End User Experience with WebSphere Portal Server
- [Manage]
 - WebSphere Business Monitor and Tivoli Composite Application Monitors
- [Governance]
 - IT View: SOA SW Development Process, Quality and Change Management with Rational Unified Process
 - Business View: SOA ROI Controls with Rational Portfolio Manager & Tivoli Dashboards



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://JavaSOA.com> (a.k.a. JavaDevTools.com, RationalCentral.com, WebSphereCentral.com)
 (Tutorials, Links, Presentations, White Papers, Articles, etc.)

developerWorks
DB2
eServer
Lotus
Rational
Tivoli
WebSphere
Autonomic computing
Grid computing
Java™ technology
Linux
Open source
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