



SOA en System z – Madrid, Spain

BPM and SOA Governance
06-Nov-07

Richard Thomas,
WebSphere System z Product Marketing
thomas1@us.ibm.com

Objectives

 **Overview of Business Process Management**

 **BPM WebSphere Middleware**

 **Typical usage scenarios**

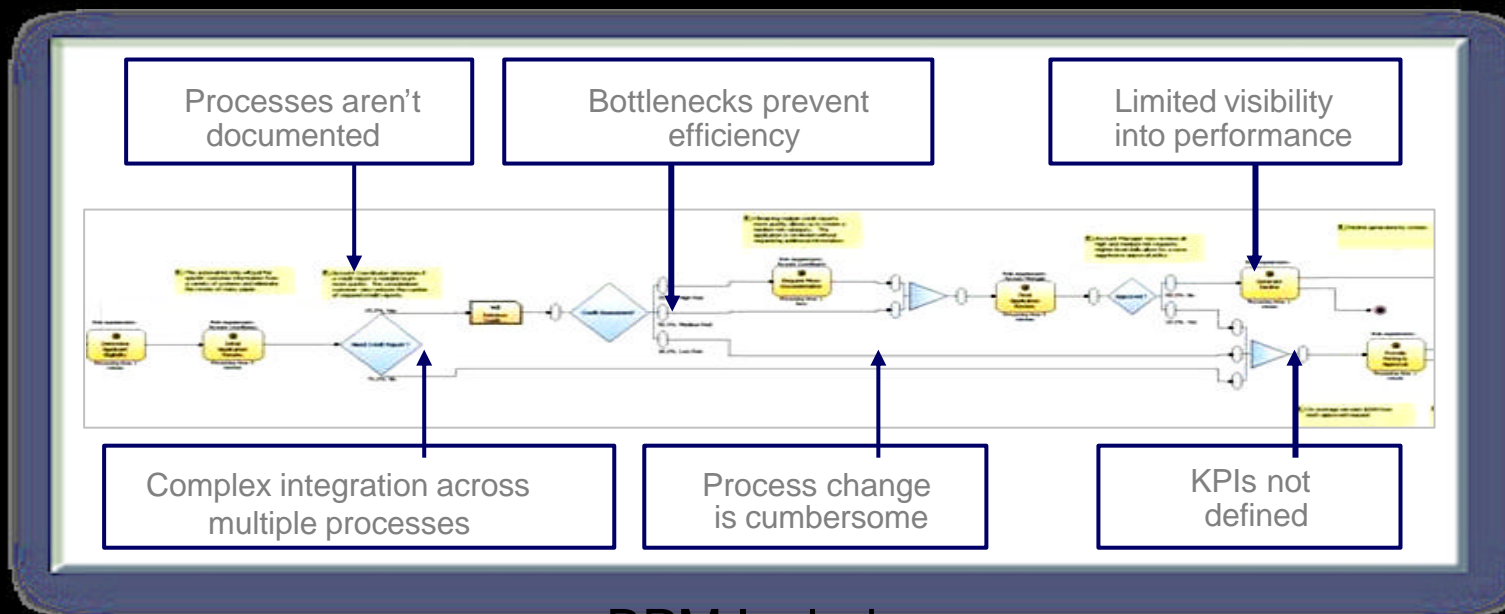
 **Value of deploying WPS on z/OS**

 **Summary**

 **Q&A**

Business Process Management is a Discipline...

BPM solves common business challenges



Integration	Modeling	Monitoring
Forms	Software	Workflow
	Rules Engine	

Models	Process Knowledge	Metrics
	Expertise and Assets	
Policies	Business Logic	Methodology

BPM governs organizational and operational activities

Who Provides and Receives Value in BPM?



Business Leaders

(CxOs, LOBs)

Provide: Domain expertise on business strategy and business function

Receive: Actionable insight into operational performance to make better business decisions



IT Experts

(IT Architects, Developers)

Provide: Technical expertise in resources for implementing BPM solutions.

Receive: Clear business requirements and flexible IT design pattern for lower TCO.



BPM Experts

(Business Architects & Analysts)

Provide: BPM methodology and execution expertise and resource.

Receive: Operational performance information for continuous process improvement and optimization.



Process Users

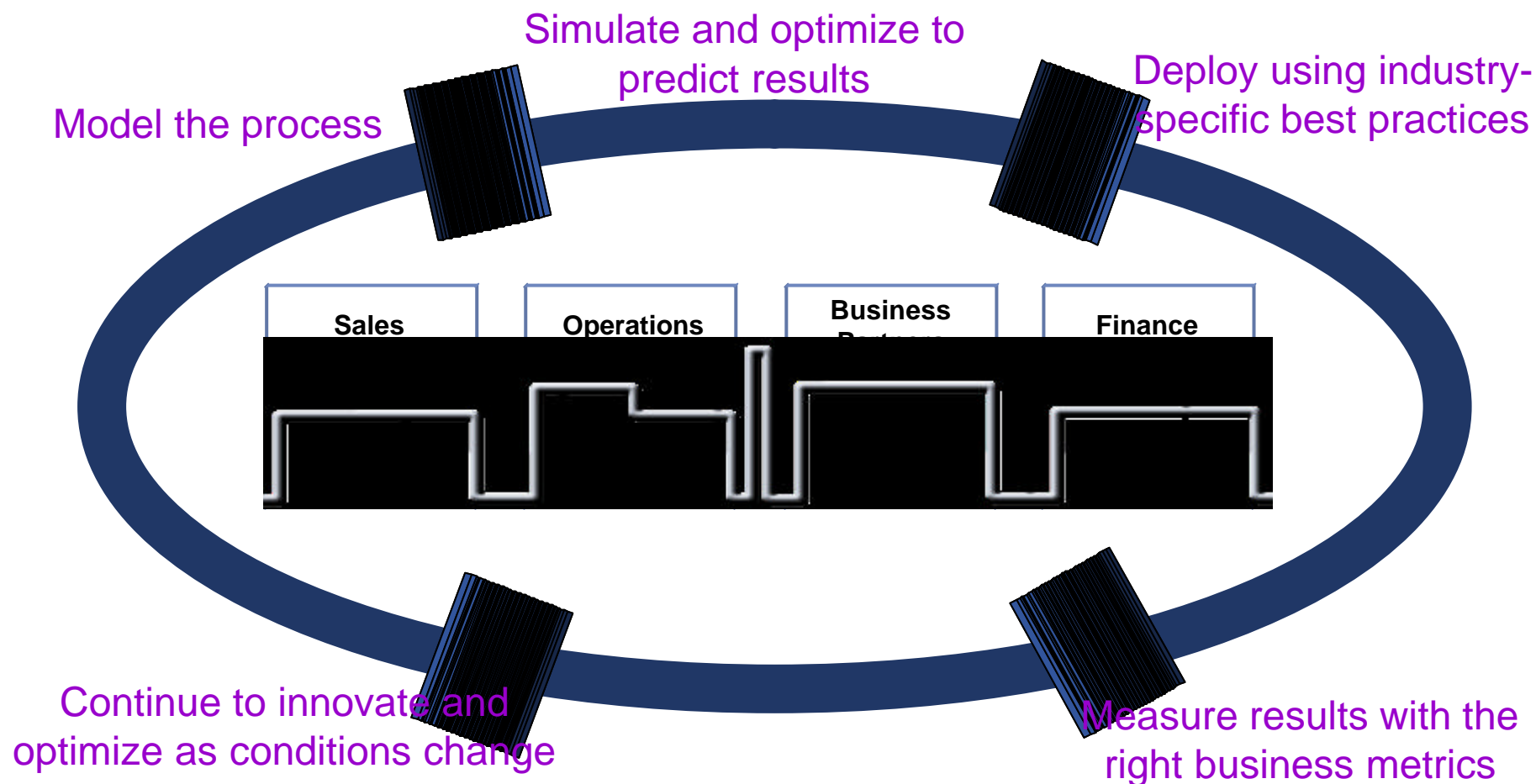
(Customers, Employees & Partners)

Provide: Work activity, content, and resources to execute business processes

Receive: Streamlined and intelligent work environments for increase productivity.

BPM facilitates change and accelerates improvements

IBM's prescriptive method for changing your business



Leader in Integration-centric BPMS Wave -- Forrester Research, Inc.

Business Process Management

Model – WebSphere Business Modeler

- Model, choreograph and simulate your business processes

Deploy – WebSphere Process Server

- WPS - the actual runtime environment

Monitor – WebSphere Business Monitor

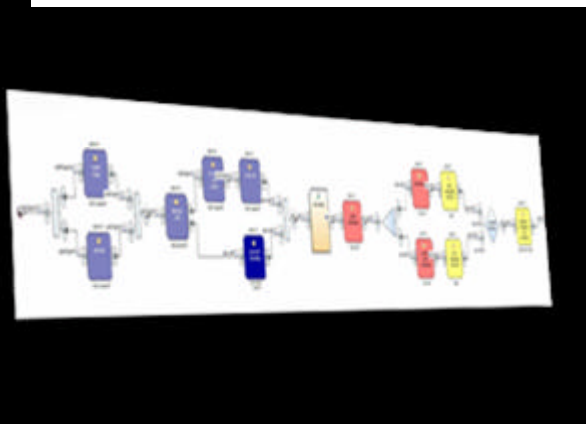
- Monitor and modify your processes

Model, analyze and simulate business processes

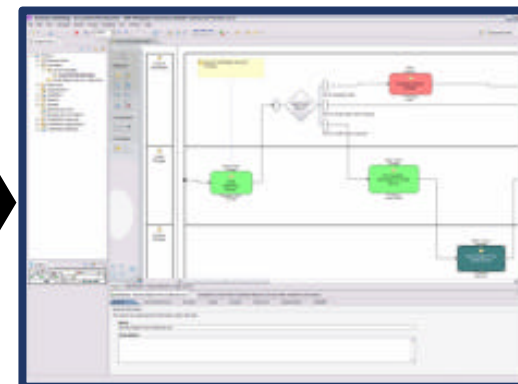
A better way to understand how your business operates



New and Enhanced!



Model for innovation



Predict results before deployment

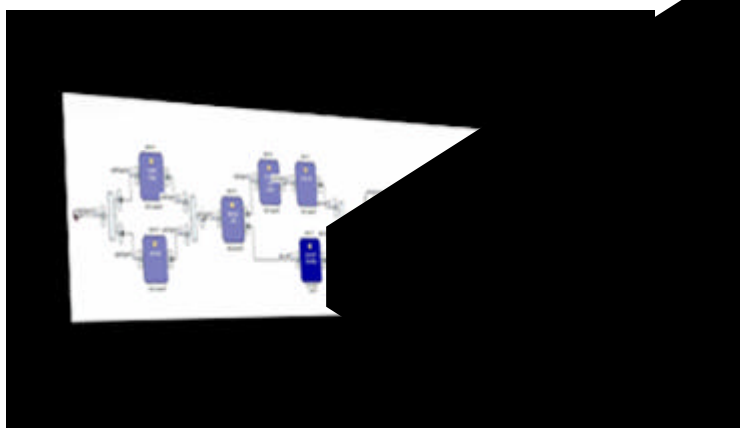
- ✗ New interoperability with Net P8, MS-Word
- ✗ Traceability to easily maintain model consistency

IBM is positioned in the leaders quadrant: *Gartner, Inc.*, "Magic Quadrant for Business Process Analysis Tools, 2H07-1H08"

WebSphere Business Modeler 6.1

Rapidly define interfaces for human tasks as you model

Designed by business people for business people



IBM is positioned in the leaders quadrant: *Gartner, Inc., "Magic Quadrant for Forms"*

dealmanager

Cancel Print
Go to Page...
Close & Close Print All

Page 1

ACH SETUP

IR ID Number: Client Name:
IC Name: Client ID:
Product Request Type: UIC: Client TIN:
Client Address:

Primary Business Contact

Title: _____
Last Name: _____ MOBI (NGO(S)): _____
First Name: _____ Telephone Number: _____
Email Address: _____ Fax Number: _____

Region: Please select... Address: _____ Target Live Date (mm/dd/yyyy): _____

Request Type: New ACH client Existing ACH
(Contract Required!) Company ID: _____
Page #

INTERNAL CONTACTS FOR THIS LIMIT APPROVAL

Escalator Contacts (These individuals are contacted for over-line approval if the primary contact listed above is unavailable.)

	Primary Contact	Escalator # 1	Escalator # 2
Name:			
Work Phone:			
After Hours Home Phone:			
After Hours Cell Phone:			

ACH APPLICATIONS

ACH Application	IBM Client Products	Company ID	Account Number	Bank ID
<input checked="" type="checkbox"/> Direct Send	<input checked="" type="checkbox"/> Cash Manager	1		Please
<input checked="" type="checkbox"/> PC Prompt Pay	<input checked="" type="checkbox"/> Cash/Adv/MBMT/TMS	3		Please
<input checked="" type="checkbox"/> Inflight	<input checked="" type="checkbox"/> First Cash/MTS/SOPT	3		Please
<input checked="" type="checkbox"/> Integrity Test	<input checked="" type="checkbox"/> First Windows/FW LITE	4		Please
	<input checked="" type="checkbox"/> None	9		Please
	<input checked="" type="checkbox"/> TOC (Online)	9		Please
	<input checked="" type="checkbox"/> TOC (Offline)	9		Please



Lotus Forms embedded in WebSphere Business Modeler

WebSphere Process Server

Infrastructure for all SOA-based process automation

WebSphere Integration Developer

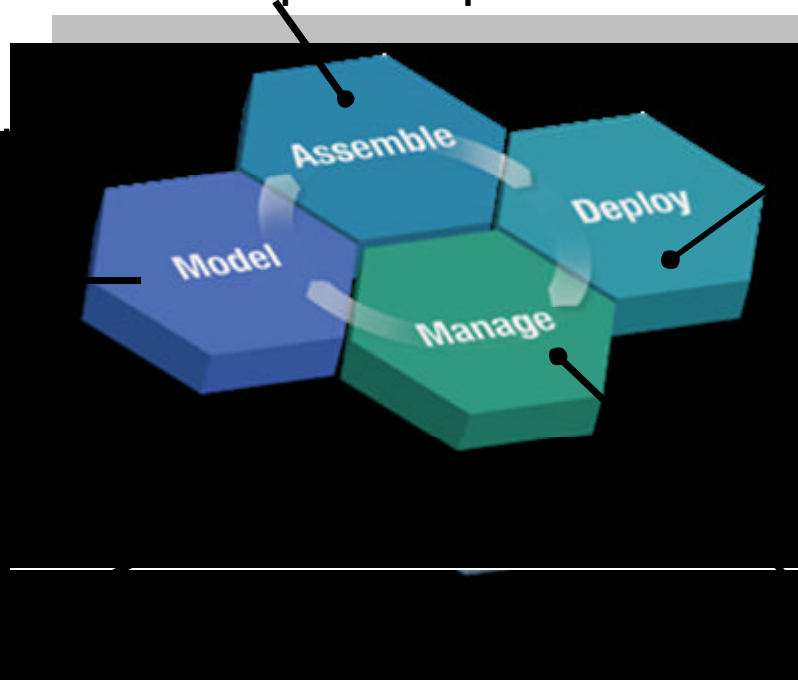
Easy-to-use integration to simplify and speed the assembly of composite applications
Includes **WebSphere Adapters**

WebSphere Business Services Fabric

Make policy-driven changes to business services of composite business applications. Supported by industry content packs.

WebSphere Business Modeler

Simple to use process modeling tool that enables the business analyst to help maximize process and business resource re-use



WebSphere Process Server

Flexible deployment of business processes, making plug-and-play of components a reality

WebSphere ESB and WebSphere Message Broker

Connectivity infrastructure for integrating applications and services to power your SOA

WebSphere Services Registry

Enterprise-wide service registry and repository improves visibility, reusability, adaptability and manageability of services

WebSphere Business Monitor

Real-time visibility into process performance enabling process intervention and continuous improvement

WebSphere Process Server

Comprehensive Automation & Business Flexibility

✍ A single platform infrastructure for all SOA-based process automation

- Streamlines integration-centric processes
- Automates human-centric processes

✍ Orchestrates a business' assets – people, processes and information services

- To form highly optimized and effective processes on a common SOA platform based on Open Standards
- Throughout the enterprise, and beyond

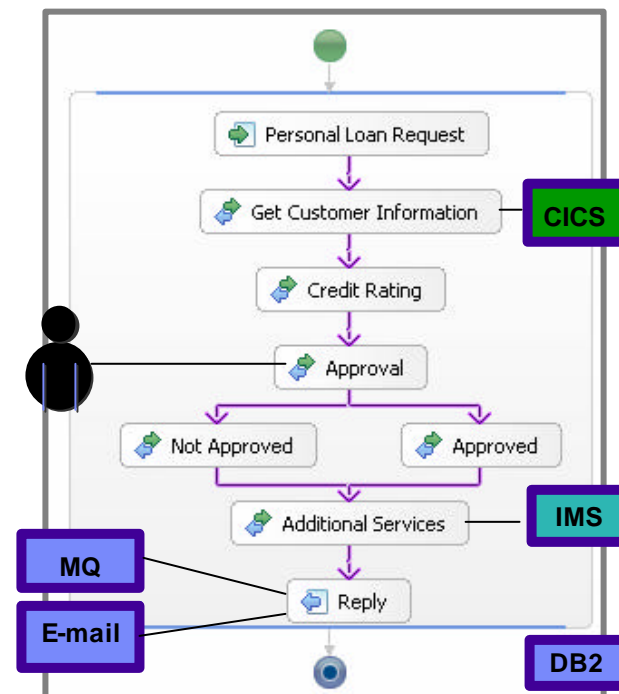
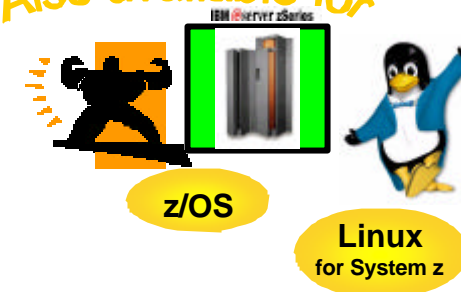
✍ Ease of integration for range and reach

- Bindings for Java, Web services, JMS, MQ, HTTP
- Mediations for flexible XML messaging
- Dynamically lookup definitions in WebSphere Service Registry and Repository
- Adapters provide a service on-ramp for existing applications
- Business User clients for human tasks in a process

✍ Reliable, scalable, secure

- Fully leverages the breadth and capability of IBM WebSphere Application Server
- Clustering built-in on z/OS

Also available for



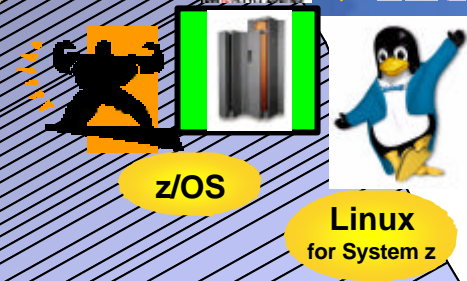
WebSphere Process Server

Supports all aspects of process automation

Separation of Concerns with modular services and service components

A) **Business Decisions:** *why* and *when* to invoke a service

B) **Connectivity Logic:** *how* to invoke a service



Service Components

Business Processes

Human Tasks

Business State Machines

Business Rules

Supporting Services

Mediations

Interface Maps

Business Object Maps

Relationships

Dynamic Service Selection

SOA Core

Service Component Architecture

Business Objects

Common Event Infrastructure

WESB

WebSphere Application Server

Lightweight Java/XML messaging. Access to message headers. Best in class Web services integration. Interoperability with WebSphere MQ assets, such as Message Broker. Lookup service registry and repository.

WebSphere Process Server Version 6.02

Powers your SOA on System z and elsewhere

Enhanced human-centric BPM capabilities

- Graphical process view
- Group work
- Ad hoc follow-up tasks and sub-tasks
- Remote client support
- Web Service interface for tasks

New dynamicity features, including administration configuration of endpoints and mediations, as well as dynamic endpoint selection

Cross-product integration

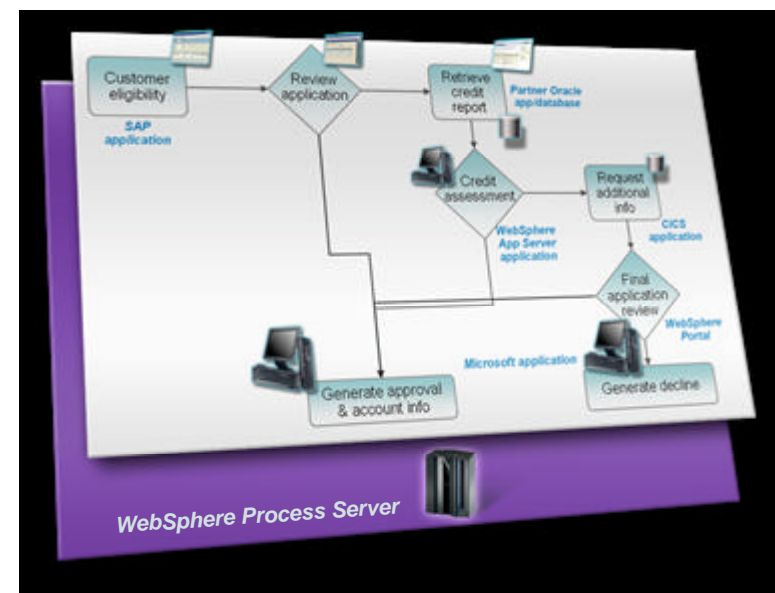
- WebSphere Service Registry and Repository integration
- Information Server and SQL support thru BPEL (information service activity)
- Additional WebSphere MQ SCA binding and new MQ JMS support

Enhancements to relationships, state machines, business rules and mappings

Adapters now delivered as part of WebSphere Integration Developer v6.0.2

- Technology adapters included: email, FTP, Flat File, JDBC, in addition to CICS, IMS
- Application adapters included (for development only): JD Edwards, Oracle E-business, PeopleSoft, Siebel, SAP

64-bit exploitation with Linux zSeries



WebSphere Process Server Version 6.1

Accelerates SOA-based process automation & connectivity

Enhances human-centric BPM capabilities

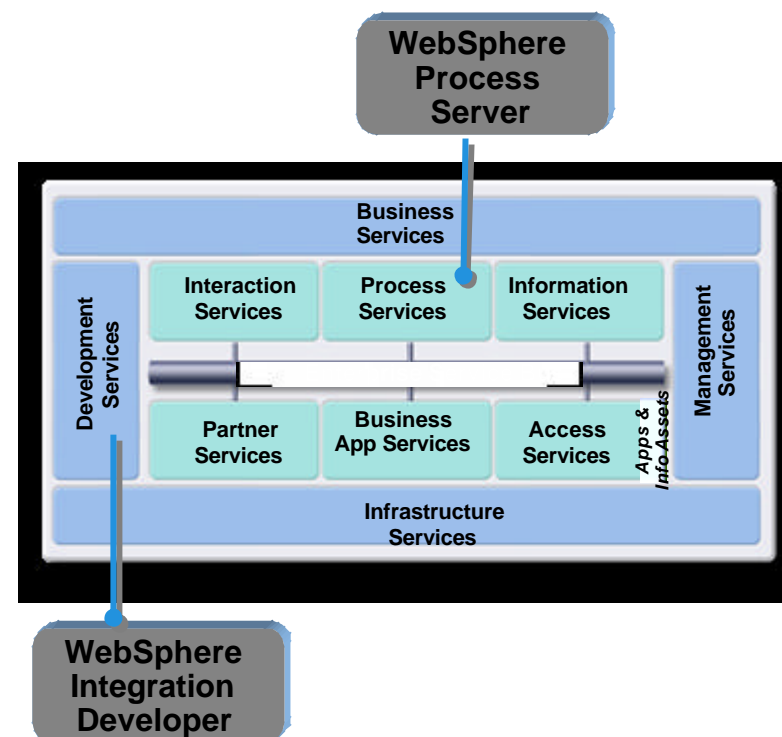
- IBM Lotus Forms integration
- Participant substitution/delegation
- Support for batch work item transfer
- New Business rule administration API
- Enhanced business process administration client

Extends integration-centric BPM capabilities

- New SCA HTTP binding
- New JMS binding for generic workflow clients
- WebSphere TX integration
- Improved handling of WSDL/XSD
- New and enhanced WESB primitives

Expands platform and infrastructure currency

- WAS v6.1 based runtime, including JDK5
 - Staff repository support with Virtual Member Manager
 - MQ Shared Queues on z/OS
 - zFS support for installation and configuration on z/OS (in addition to the older Hierarchical File System)
 - z/OS V1.7 and higher
- 64-bit support for all server platforms
- WAS XD support across all components
- i5/OS platform coverage



Companion WID v6.1 enhancements

- Ease of Authoring for WPS, WESB, Adapters v6.1 capabilities
- Based on RAD V7 and Eclipse V3.2.2
- Microsoft Windows Vista support

WebSphere Business Monitor

Achieve Real-time Visibility into Processes

Scorecards

Key Performance Indicators for business units

Collaboration

Work with teams to resolve situations

Business Alerts

Notification of situations that require response

Reports & Analyses

Understanding trends by combining real-time performance and historical information

External Information

Information affecting performance



Information for better business decisions at your fingertips

Empowering business people with actionable insight in dashboards

- ✍ **Actionable; Role-Based; Contextual Visibility into Performance**
- ✍ **Take proactive and corrective actions directly from the dashboard**
- ✍ **Analyze activity with decision making assistance**
- ✍ **Dynamically create new views with Web 2.0 functionality**
- ✍ **Automated alerts provide warning to preempt bigger problems**



WebSphere Business Monitor

An entry-level SOA Application pattern

Lightweight Java/XML messaging and mediation layer

WESB for z/OS

- Mediation layer on top of WAS for z/OS - extends java applications
- Lightweight Java/XML messaging that can exploit interoperability with WMQ assets on z/OS
- Best in class Web services integration to create an SOA on z/OS

WPS for z/OS

- BPM platform capability for all SOA-based process automation
- Includes WESB for z/OS – flexible connectivity (how to invoke a service) for process automation

Leveraging the power of zSeries

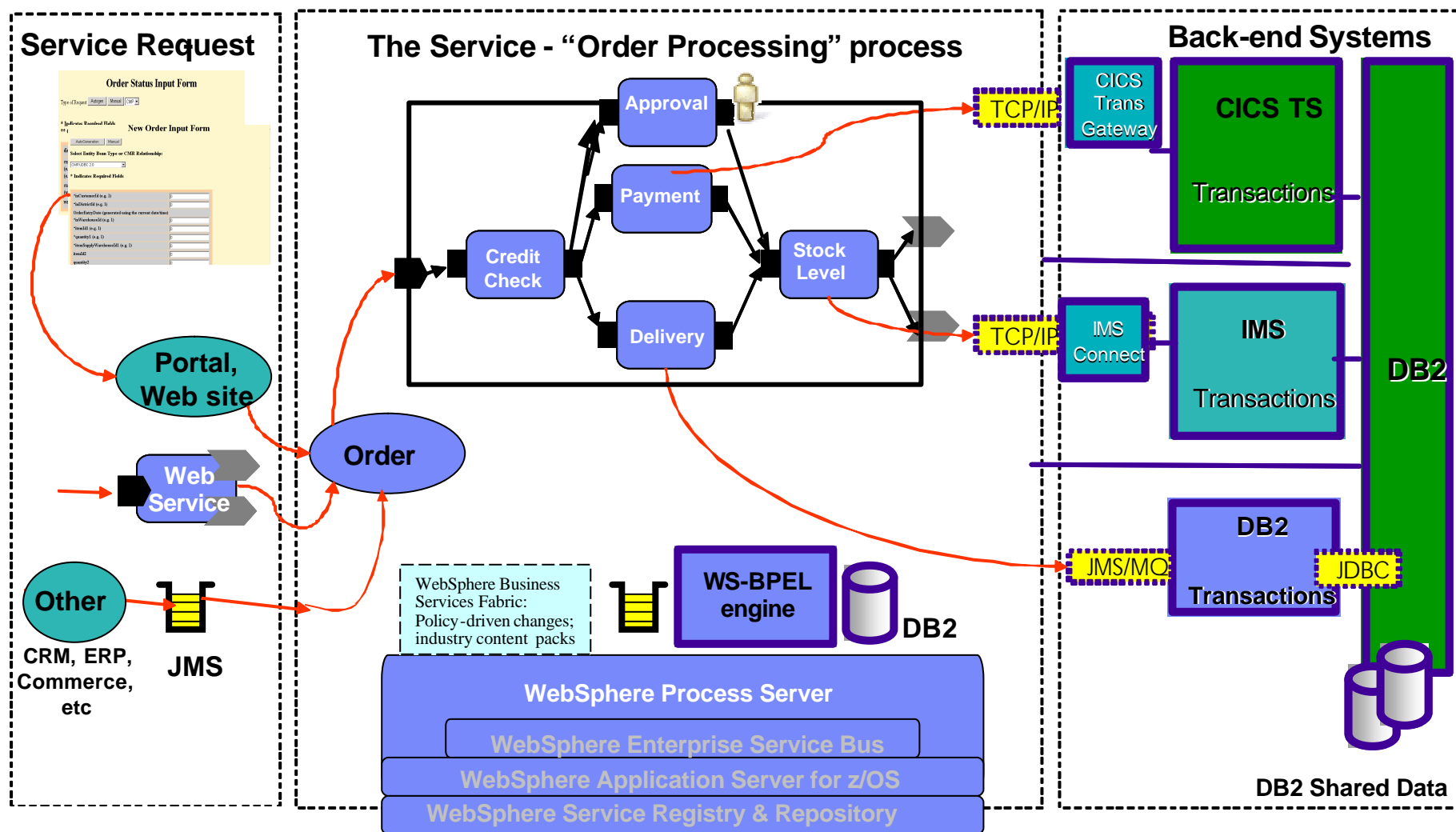
- Continuous availability, mixed workloads, most stringent security, central database, central admin....

Customer example:

- 1st project: Mediation between disparate data sources for student name and address.
 - Business case: "Why can you send me a bill, but you can't send me my grades?"
- Next project: Extended education registration for students
- Was a very "Microsoft-centric" shop when we began the project. Now using z/OS.

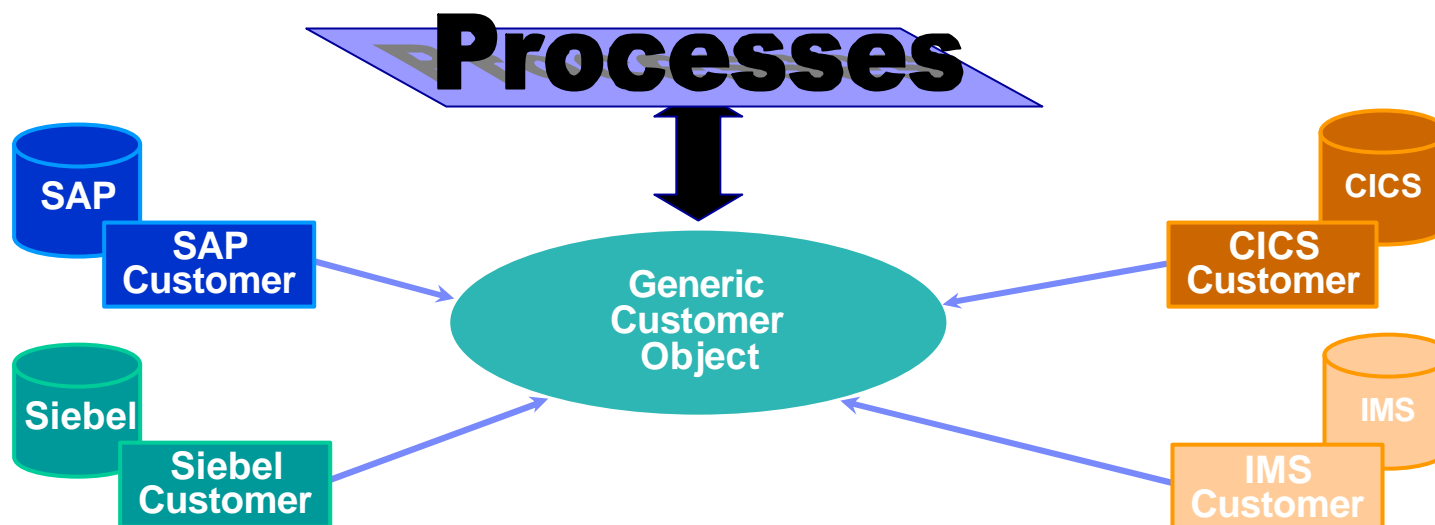
Typical SOA Application pattern

Extend and enrich critical transactions and business data



Typical SOA Application pattern

Application-independent Process Integration logic



- Synchronization of similar Business Data in disparate (sub-)systems
- Advance knowledge of all participating applications not required
 - Common business object model across application-specific interfaces
 - Business object mapping and relationship management (static, dynamic)
- Normalized view provides consistency in data representation to processes
- Adding applications means creating one transformation, not many
- Reduces effort, reduces project times, simplifies integration work

Typical SOA Application pattern

Consistent process execution across multiple channels

Transform banking operations

- Implement a service-oriented architecture (SOA) to support multiple delivery channels and to reduce information technology (IT) maintenance and support costs associated with duplicate business logic.
- Provide a single set of business and foundational services to support existing and future delivery channels, such as
 - OnLine Banking (OLB),
 - Call center
 - Interactive voice response (IVR) channel
- Eliminate duplicate business logic
- Reduce costs by leveraging common services
- Provide a run-time environment for new services
- Offer a high-performance server environment to support its large user base.

Two IBM eServer zSeries 990 servers running the z/OS V1.4

- SOAP and HTTPs from OLB applications
- IMS and CICS backends
- zSeries servers' capacity backup upgrade (CBU) feature, for emergency backups and disaster recovery
- Using zSeries advanced security features and a peripheral component interconnect (PCI) crypto card to maintain a secure SOA environment.

Typical SOA Application pattern

Policy-driven Variability and Industry-specific Accelerators

Industry Content Packs

Industry-specific business reference models & common industry services

- Healthcare Payer
- Insurance Property & Casualty
- Banking Payments
- Telecom Operations

WebSphere Business Services Fabric - Tools Pack

- ✍ **WebSphere Integration Developer** - orchestrate processes and construct mediations
- ✍ **Composition Studio** - Visual assembly and simulation of business services, business metadata models and business policies

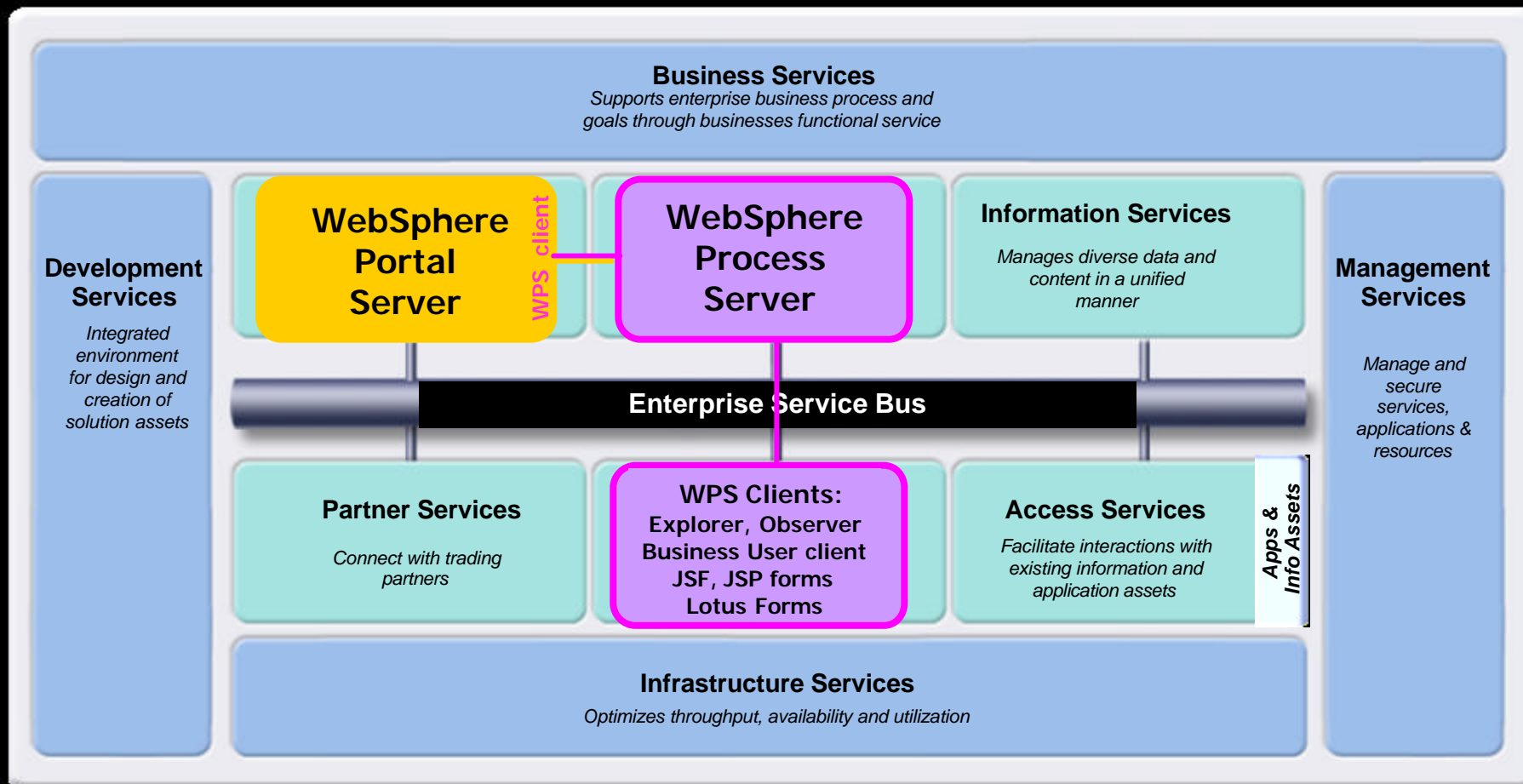
WebSphere Business Services Fabric - Foundation Pack

- ✍ **WebSphere Process Server** – Integration and automation of enterprise business processes
- ✍ **Business Services Dynamic Assembler** - Highly scalable, business service personalization and semantic services association engine
- ✍ **Business Services Repository** - Maintains business service policies & metadata & federates with **WebSphere Services Registry and Repository**
- ✍ **Business Services Subscriber Manager** - Controls and automates business service entitlements
- ✍ **Business Services Performance Manager** - Provides business services visibility monitoring and metering
- ✍ **Business Services Governance Manager** - Visualize the hierarchies, deployments & dependencies to manage Business SLAs for business services

** Business Services Tools Pack for zOS operates on a Windows or Linux workstation*

Typical SOA Application pattern

Human-centric processes (“Workflow”)



Human Workflow in WPS v6.0.2

Combining Human Task Services with WS-BPEL processes

✍ Full integration of human workflow into SOA

- ✍ **Human tasks** are a just another kind of **service components**
- ✍ Full flexibility to adapt business processes quickly to changing requirements

✍ Rich task assignment capabilities

- ✍ **Staff queries** to assign the right task to the right person at the right time
- ✍ Real-time access to **staff/organization directories** through LDAP
- ✍ Ability for full **dynamic task assignment** at runtime (through business data, process context information and process properties)

✍ Multi-level escalation mechanisms

Improved

- ✍ Time/priority based aging of tasks
- ✍ **Notification** through e-mail and notification tasks

✍ Support for ad-hoc human collaboration

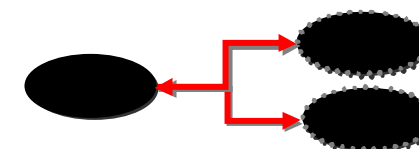
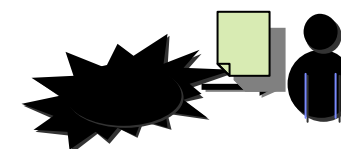
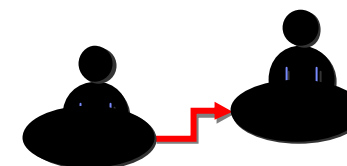
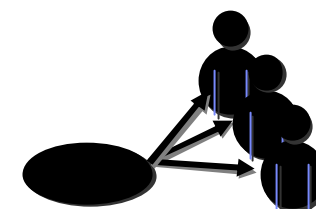
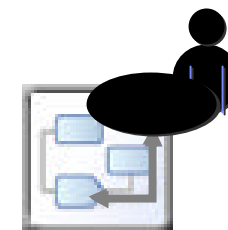
New

- ✍ **Create human tasks on-the-fly**, extend pre-defined process models dynamically

✍ Range of client types and platforms supported

Improved

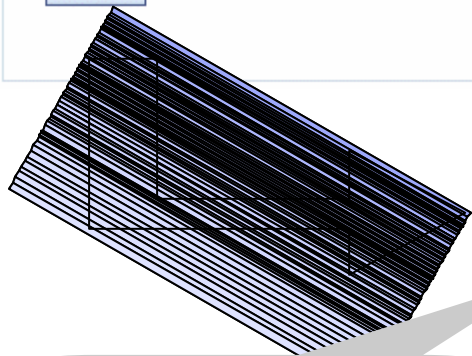
- ✍ **Generator for business user client**
- ✍ **Generic interface for web services clients** (eg .NET applications)



Human-centric processes

Portal clients: MyTask portlet

Portlet to start a specific business process



Generic "MyTasks" portlet, displaying all tasks for a user

Task	Created	Description	Claimed	Details
<input type="checkbox"/>	09/10/2005 10:54 AM		✓	
<input type="checkbox"/>	07/10/2005 05:44 PM	Approve Insurance Proposal		
<input type="checkbox"/>	07/10/2005 03:47 PM	Approve Insurance Proposal	✓	
<input type="checkbox"/>	01/10/2005 04:39 PM	checkClaim	✓	

Resulting in an integrated work environment

Application user interfaces, MyTasks, and Content

The screenshot displays the IBM Workplace 'My Work' interface. At the top, there is a navigation bar with 'My Work', 'Templates', 'Administration', 'Edit my profile', 'Actions', 'Help', and 'Log out'. Below this is a secondary navigation bar with 'My Work', 'HR', 'Documents', 'Collaboration', and 'Manager Portal'. A status indicator shows 'I am available'.

The main content area is divided into several panels:

- Inbox:** A list of messages with columns for '#', 'Name', and 'Modified'. The top message is 'Out of the office' by Sean Ferrell, modified at 3:43P.
- Client Details:** A section for 'Customer Number: 2245-8870-236'. It includes contact information (12809 Sycamore Lane, Bridgewater, NJ 08807) and a recent communication log showing a message on 12/29/2004 at 8:19PM about a daughter's college transition. Below this is an 'Accounts Mix Overview' table.
- Documents for Review:** A list of documents including 'Strategy Review Slides' (1,704 KB), 'Technical Taskorce Report' (633 KB), and 'Status Report' (468 KB).
- Calendar:** A monthly view for April, showing events like 'Strategy Review' (9:00-12:00), 'Lunch with Investors' (12:00-1:00), and 'Technical Task Force' (2:00-3:00).
- Accounts Mix Overview Table:**

Key	Account Number	Account Name	Current Balance	Last Update
Yellow	234786-2999-200-1289	Preferred Checking	\$3,400.00	1/3/2005
Blue	100292-2777-001-2001	Money Market Advantage	\$27,865.00	10/20/2004
Pink	100201-2001-100-2992	Savings Platinum	\$6,500.09	12/20/2004
Dark Blue	4356-2992-2999-0000	Visa Gold	\$12,345.00	1/2/2005
- Contacts:** A list of contacts including Meggan Grupo, Charlie Notting, Bob Morris, and Denise Shay.
- Revenue Scorecard:** A bar chart comparing 'Target' (green) and 'Actual' (purple) revenue across four quarters (Q1, Q2, Q3, Q4). The Y-axis represents revenue in dollars, ranging from 25 to 40.

Highly personalized experience. Single sign-on. Collaboration. etc

Why deploy WPS on z/OS?

versus any other platform

Streamline existing processes

- Extend and enrich CICS, IMS, DB2, WAS z/OS
- Optimized Transaction Coordination for composite applications on z/OS

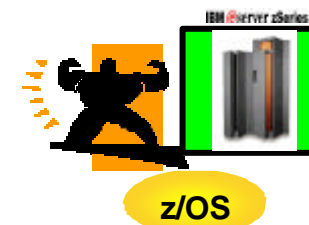
Proximity: Single platform, less complex infrastructure

- Leverage co-location with z/OS subsystems and business data
 - Put Process Control next to the assets reused.
 - Mixed workload on a single platform (hardware box and operating system)
 - Cross-memory connections, less overhead, maximum efficiency
- Standard platform for core business processes, applications, and data

z/OS Class of Service for mission-critical solutions

- Enterprise Computing: Energy and floor space savings (fewer machines)
- Centralized Operation: Fewer IT staff
- Built-in cluster: Simpler install & config
- Exceptional Availability and Security
- High-end throughput and (almost linear) scalability

Migration from heritage z/OS products



Streamline existing processes

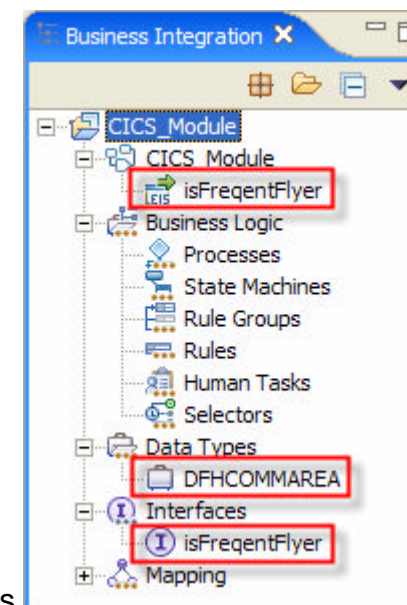
WebSphere Process Server integration with CICS

Directly Integrate WS-BPEL processes with CICS transactions

- WebSphere Integration Developer capability
- Enterprise Service Discovery wizard, CICS adapter
- Accepts a Cobol or C file defining the CICS COMAREA
- Using a CICS Transaction Gateway adapter. Creates
 - (i) a Business Object that represents the CICS com area;
 - (ii) an interface to invoke the CICS transaction and;
 - (iii) SCA import to call the EXEC CICS Interface (EXCI)
- Using MQ/CIH CICS Integration
 - SCA MQ binding, CICS COMMAREA data binding or mediation
- Several options for process access to 3270 screen interfaces
 - Host Access Transformation Services
 - CICS TS v3.1 Service Flow Feature

CICS Transaction Processing exposed for SOA

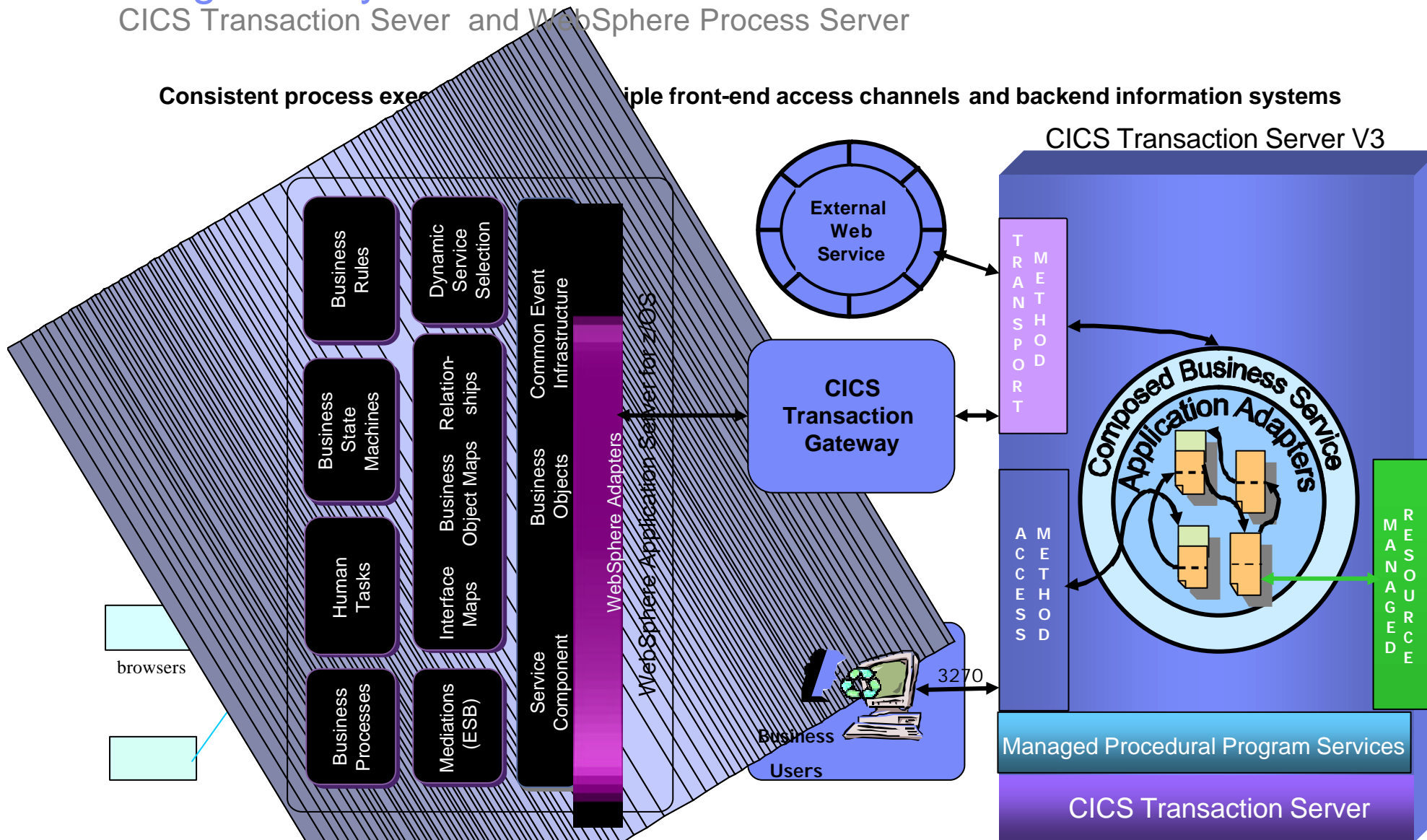
- Service-enables CICS transactions
 - Allows for the development of CICS services from fine(r)-grained CICS transactions
- A CICS service Flow
 - gets exposed as a CICS service to WPS/WESB



Integrated System z architecture

CICS Transaction Server and WebSphere Process Server

Consistent process execution across multiple front-end access channels and backend information systems

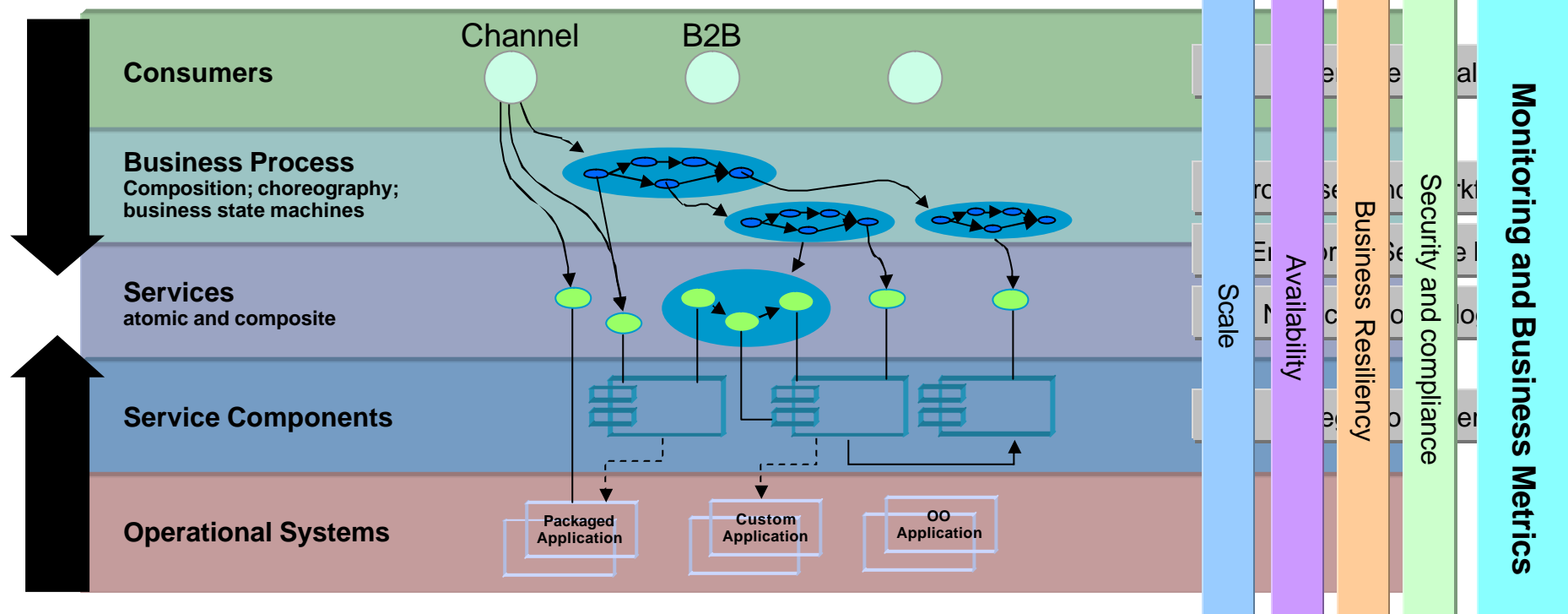


Proximity

Turning SOA abstractions into real deployments

CO-LOCATE SOA infrastructure with core z/OS assets where possible to utilize native interfaces for optimized connectivity, and exploit z/OS ability to satisfy a wide range of non-functional requirements

Deployment Decisions

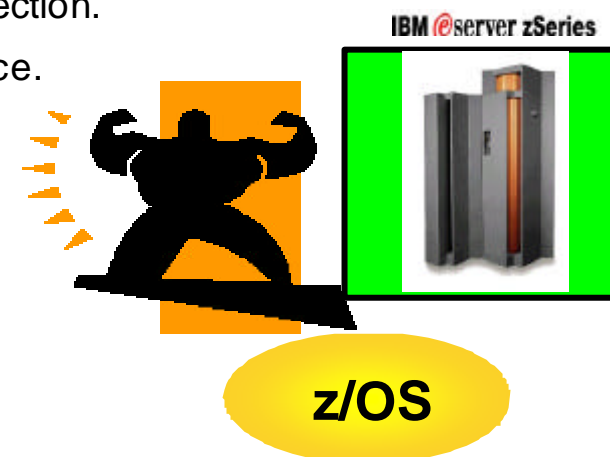


? Physical Infrastructure and Operations Management ?

Highest possible Qualities of Service (QoS)

WebSphere products for z/OS

- ✍ **Availability:** z(ero downtime) /OS brand promise. on the application and data level.
 - ✍ almost **continuous** availability on the application and data level
 - ✍ **dynamic** application of software changes
 - ✍ **managed** workload sharing toward achievement of business goals
- ✍ **Security:** the industries most stringent access control and asset protection.
- ✍ **Efficiency:** full utilization of system capacity with same class of service.
 - ✍ Less people to configure, monitor and adjust workload
 - ✍ Total Cost of Computing (long term viability)
 - ✍ Energy and floor space saving – “Green Data Center”
 - ✍ Hw/Sw synergy: zAAPs for java workloads
- ✍ **Integrity:** transaction coordination for composite applications.
 - ✍ System managed resource recovery
 - ✍ With multiple z/OS resource managers (CICS, IMS, DB2, etc)
- ✍ **Proximity:** cross-memory connections between core business processes, applications and data (“network in a box”) - fewer physical components and network connections result in less complex infrastructure



Summary

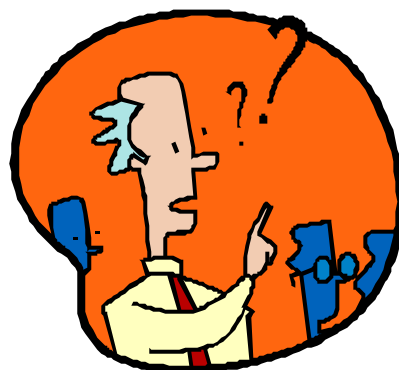
Comprehensive Process Automation capabilities

- ✍ Process choreography and state machines
- ✍ Rules for flexible decision making
- ✍ Object mapping and ESB message transformation
- ✍ Cross-referencing between common business objects
- ✍ Event infrastructure for monitoring
- ✍ Staff support and human task management for workflow
- ✍ Selectors to dynamically invoke service components



Questions

 Thank you!!



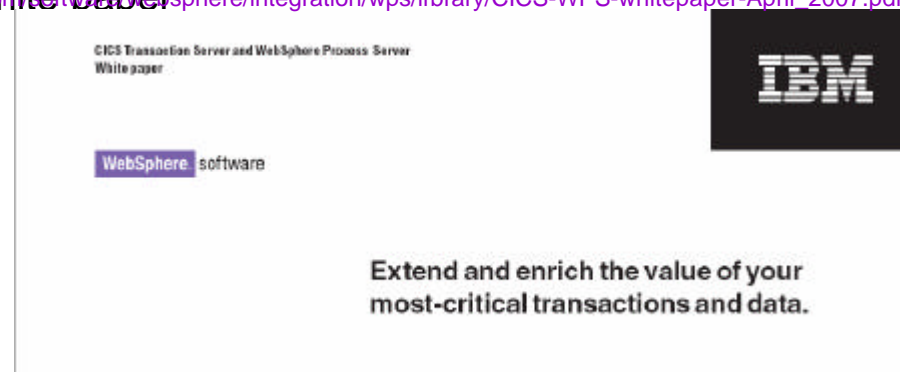
More information

Public product web pages

- **WPS** <http://www.ibm.com/software/integration/wps/>
- **ESB** <http://www.ibm.com/software/integration/wsesb/>
- **WID** <http://www.ibm.com/software/integration/wid/>

- **Library:** <http://www.ibm.com/software/integration/wps/library>
 - Extended entitlement from heritage products to WPS
 - Announcements, Data sheets, Redbooks, White papers.
 - CICS and WebSphere Process Server white paper

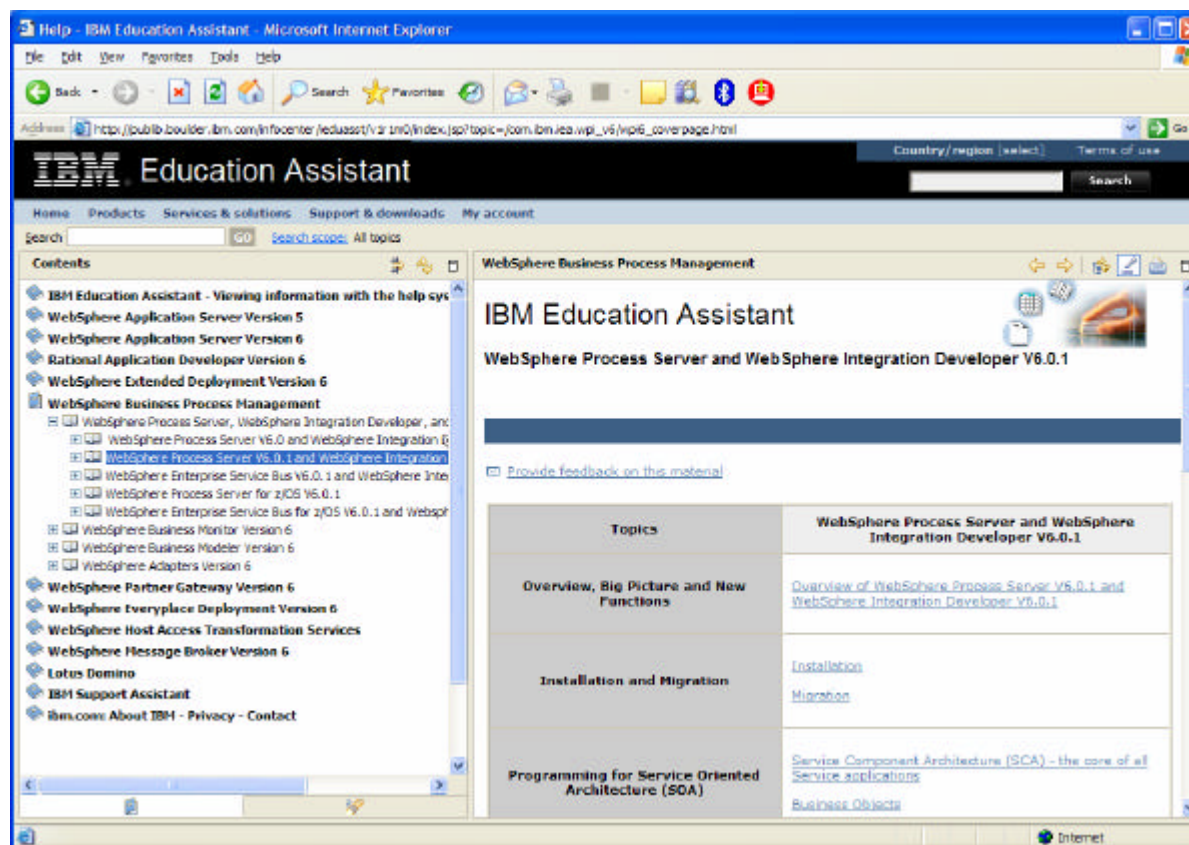
http://www.ibm.com/software/integration/wps/library/CICS-WPS-whitepaper-April_2007.pdf



Learning More about WPS

IBM Education Assistant

- ✂ Overview, Big Picture and New Functions
- ✂ Installation and Migration
- ✂ Programming for Service Oriented Architecture
- ✂ Monitoring SOA Integration Applications
- ✂ Supporting Services for Service Applications
- ✂ Enterprise Service Bus Application Components
- ✂ Integration with enterprise applications using WebSphere Adapters
- ✂ Unit Testing Service Components
- ✂ System Administration
- ✂ Clustering
- ✂ Building integration applications - end-to-end scenario



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