IBM

What is SOA and Service Orientation – Why is it important for your Business

Jamie Thomas
Vice President, WebSphere Server Development
March 2006

SOA on your terms and our expertise

ON DEMAND BUSINESS™

What is …..?

… a service?

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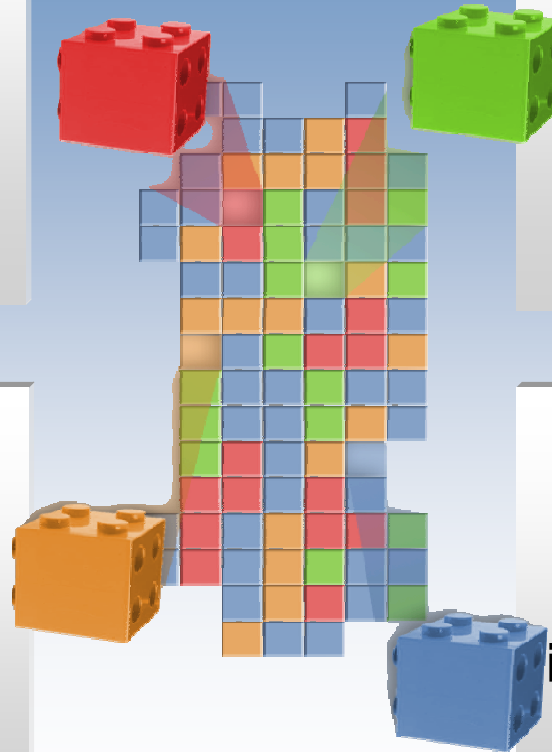
… service orientation?

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

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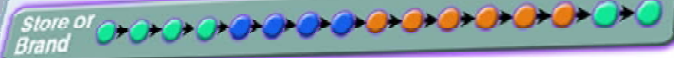
ON DEMAND BUSINESS™
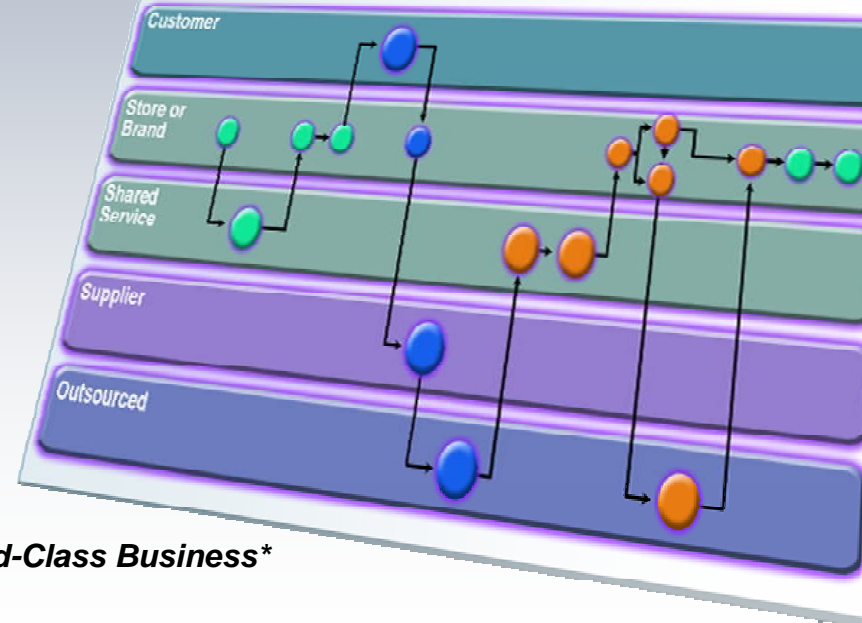
Why SOA for business flexibility and reuse?

- **Economics:** globalization demands flexibility

- **Business processes:** changing quickly and sometimes outsourced

- **Growth:** at the top of the CEO agenda

- **Reusable assets:** can cut costs

- **Information:** greater availability

- **Crucial for flexibility and becoming an On Demand Business**
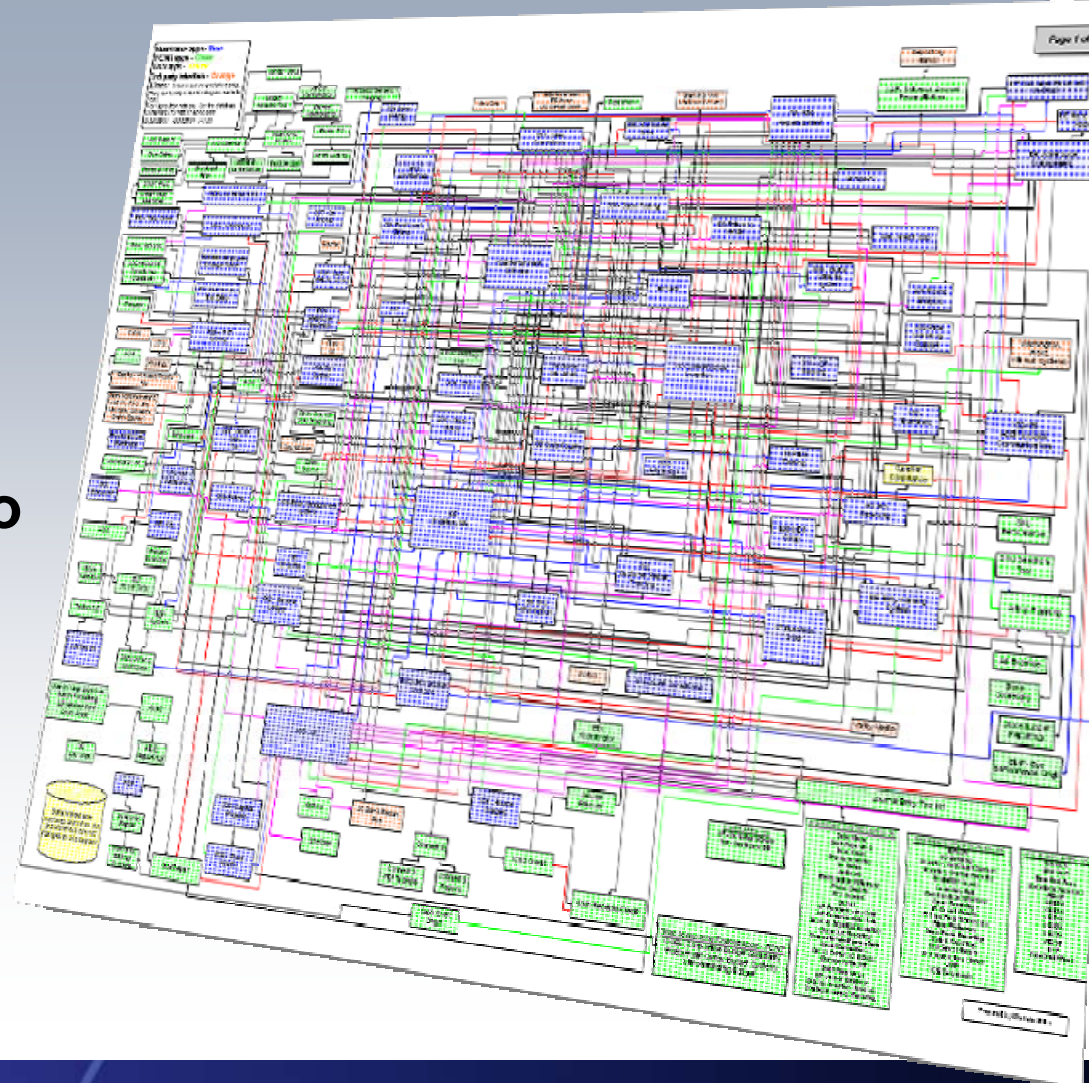
Traditional Business*

Today's World-Class Business*

*Sources: CBDi

What are the barriers to business flexibility and reuse?

- **Lack of business process standards**

- **Architectural policy limited**

- **Point application buys to support redundant LOB needs**

- **Infrastructure built with no roadmap**

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Standard Life Assurance Company

Building a competitive edge with a collaborative SOA

The Challenge

A competitive, multi-channel portal offering is needed to provide IFAs (Independent Financial Advisors) updated information, along with newer, more helpful services.

How they changed

- A collaborative SOA using web services was developed to transfer information between backend systems and an IFA portal.

- IFAs are now able to provide customers with a thorough view of Standard Life's offerings, leveraging current data and advanced, robust, business tools.

- The solution was developed using:
    Rational Application Developer
    WebSphere Message Broker
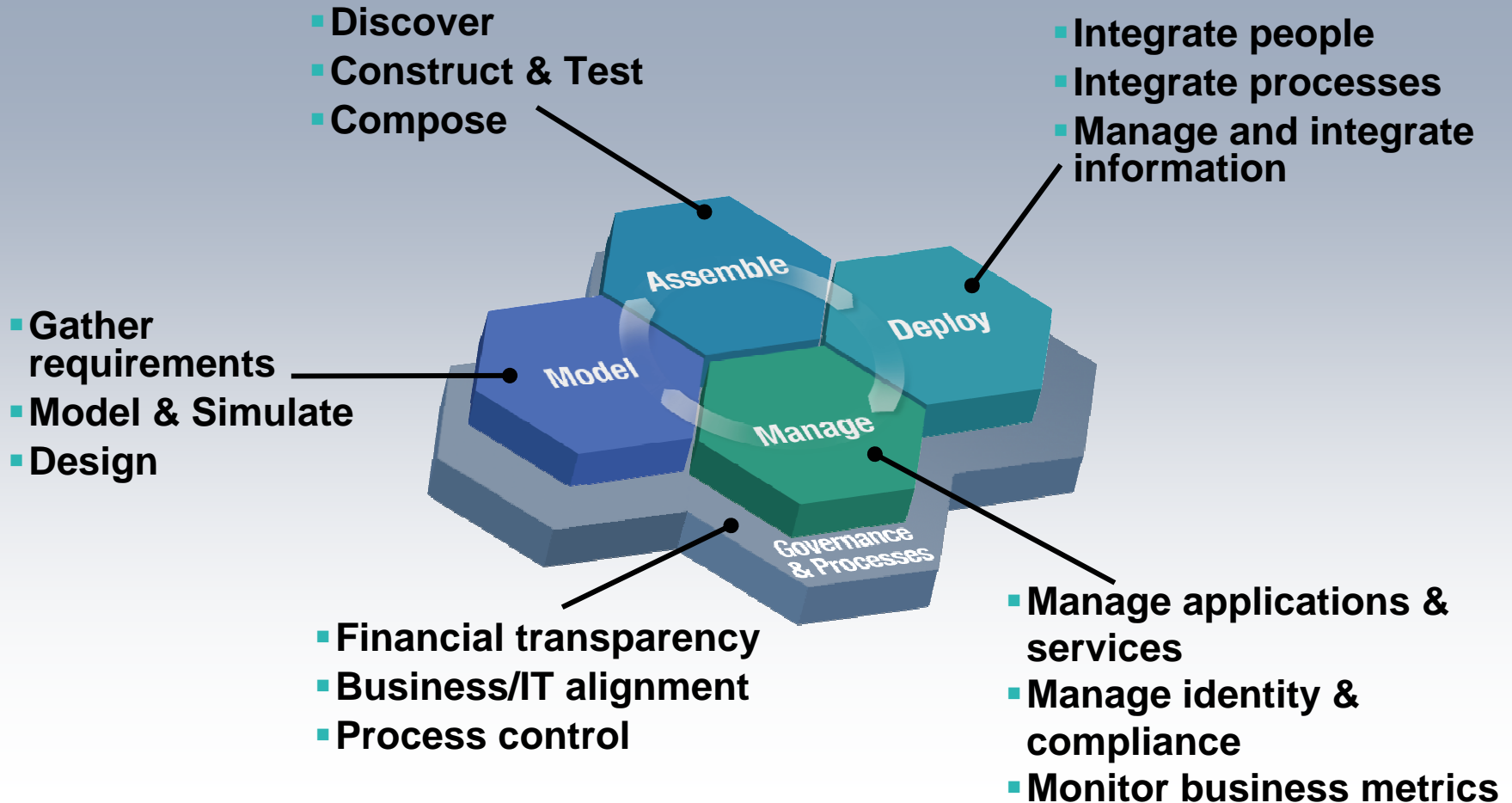   *WebSphere MQ*

Real Results

- IFAs instantly retrieve up-to-date information and access more than 300 advanced business services provided by Standard Life.

- 900% more OLTs = increased competitiveness

- 1.6 Million mainframe transactions daily

- More than £3 million in development costs saved

- Voted Company of the Year by IFAs

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How are customers thinking technically about flexible IT through SOA?
The SOA Lifecycle

- **Discover**
- **Construct & Test**
- **Compose**

- **Integrate people**
- **Integrate processes**
- **Manage and integrate information**

- **Gather requirements**
- **Model & Simulate**
- **Design**

- **Assemble**
- **Deploy**
- **Model**
- **Manage**
- **Governance & Processes**

- **Financial transparency**
- **Business/IT alignment**
- **Process control**

- **Manage applications & services**
- **Manage identity & compliance**
- **Monitor business metrics**

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

IBM SOA Foundation

Extends value of your existing investments, regardless of vendor

Software

Assemble

Deploy

Model

Manage

Governance & Processes

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

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

Skills & Support
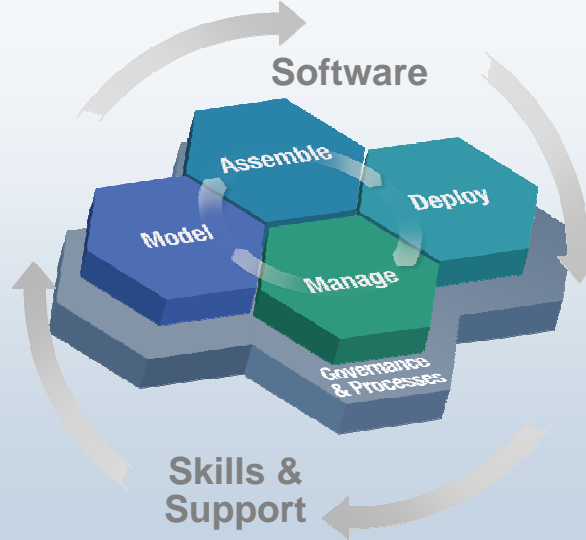
Leveraging existing IT Infrastructure

ORACLE SAP bea **CICS** IBM **WebSphere** **IMS** Microsoft ca **Custom Apps.**

ON DEMAND BUSINESS

SOA Foundation & Additional SOA Enabling Products
Part of a broader portfolio to meet your every need

WebSphere Integration Developer
Rational Application Developer
WebSphere Developer for z

Process:
WebSphere Process Server*
WebSphere ESB & Message Broker*
WebSphere Partner Gateway & Adapters*
CICS Transaction Gateway*

People:
WebSphere Portal*
WebSphere Everyplace Deployment
Workplace Collaboration Services
Information:
WebSphere Information Integrator*
Application Infrastructure
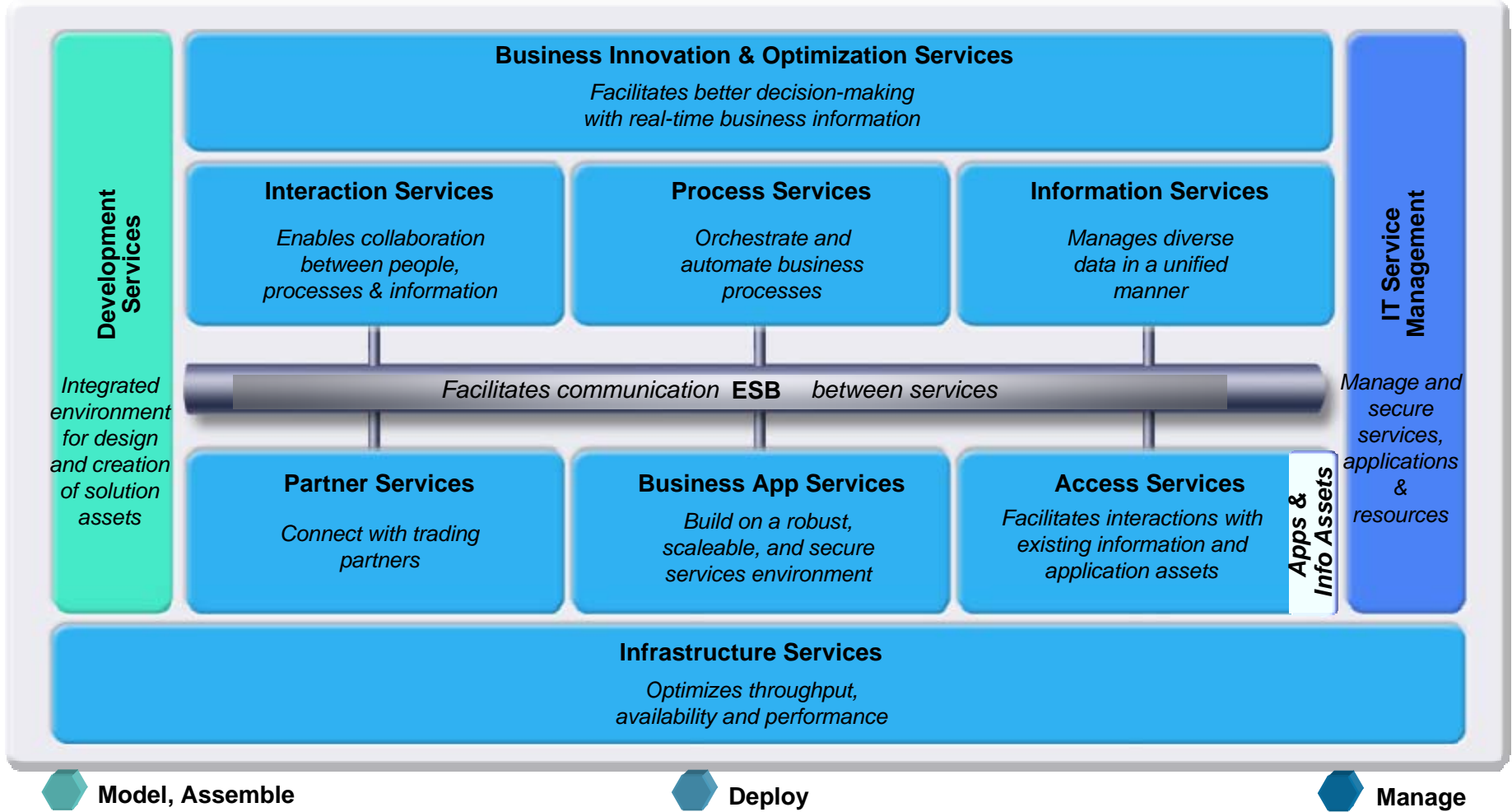WebSphere App. Server & Extended Deployment*
CICS Transaction Server*

WebSphere Business Modeler
Rational Software Architect
WebSphere Studio Asset Analyzer*
CICS Interdependency Analyzer*

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

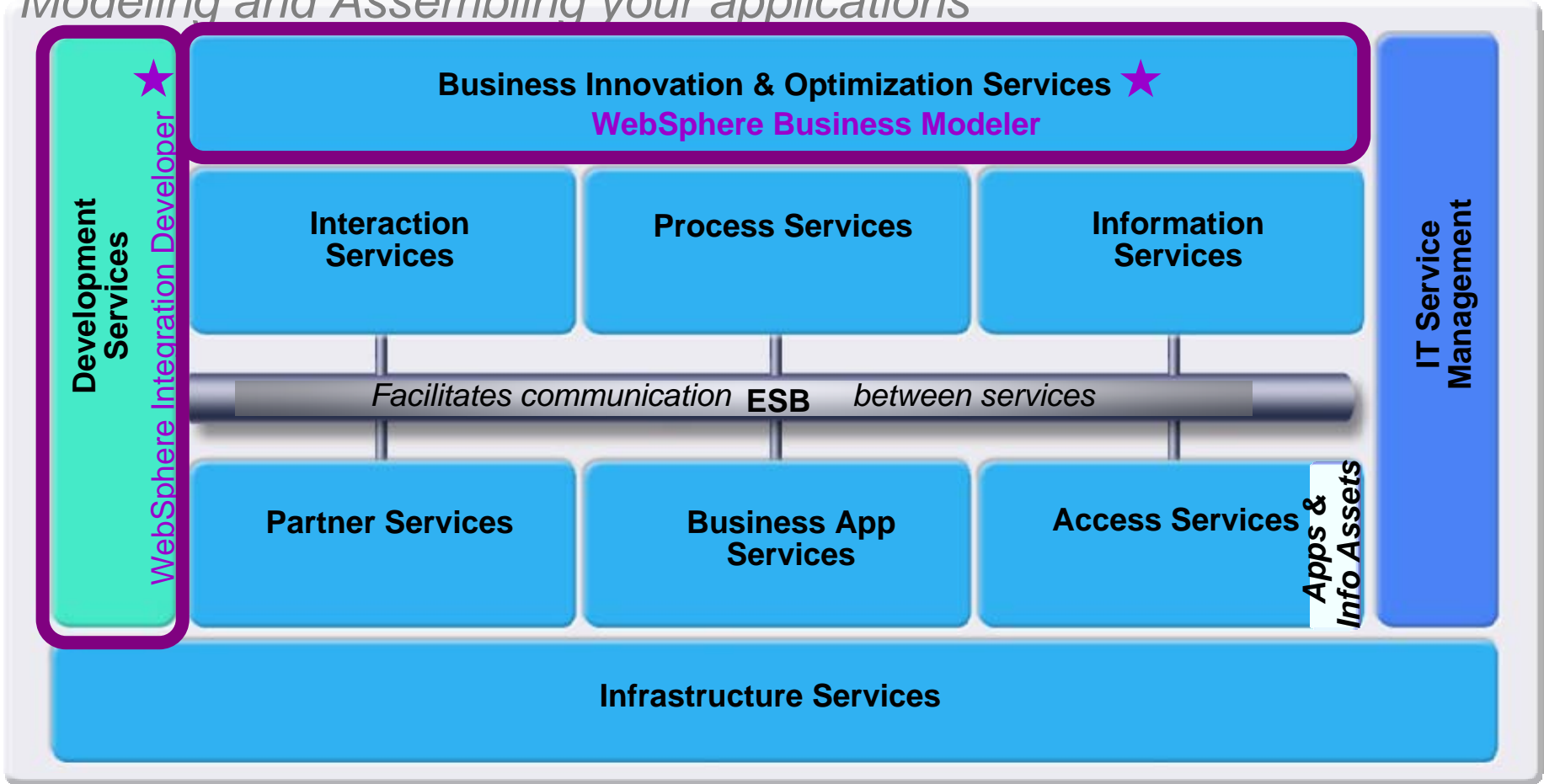* Indicates products currently running – or with stated plans to run – natively on System z9 and zSeries.

SOA on your terms and our expertise

SOA Reference Architecture

SOA Reference Architecture
Modeling and Assembling your applications

Development Services	Business Innovation & Optimization Services ★		IT Service Management
★ WebSphere Integration Developer	**WebSphere Business Modeler**		

Business Innovation & Optimization Services ★
WebSphere Business Modeler

Interaction Services	Process Services	Information Services

Facilitates communication **ESB** *between services*

Partner Services	Business App Services	Access Services

Apps & Info Assets

Infrastructure Services

⬡ **Model, Assemble**   ⬡ **Deploy**   ⬡ **Manage**

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Business Driven Development in the Larger Context

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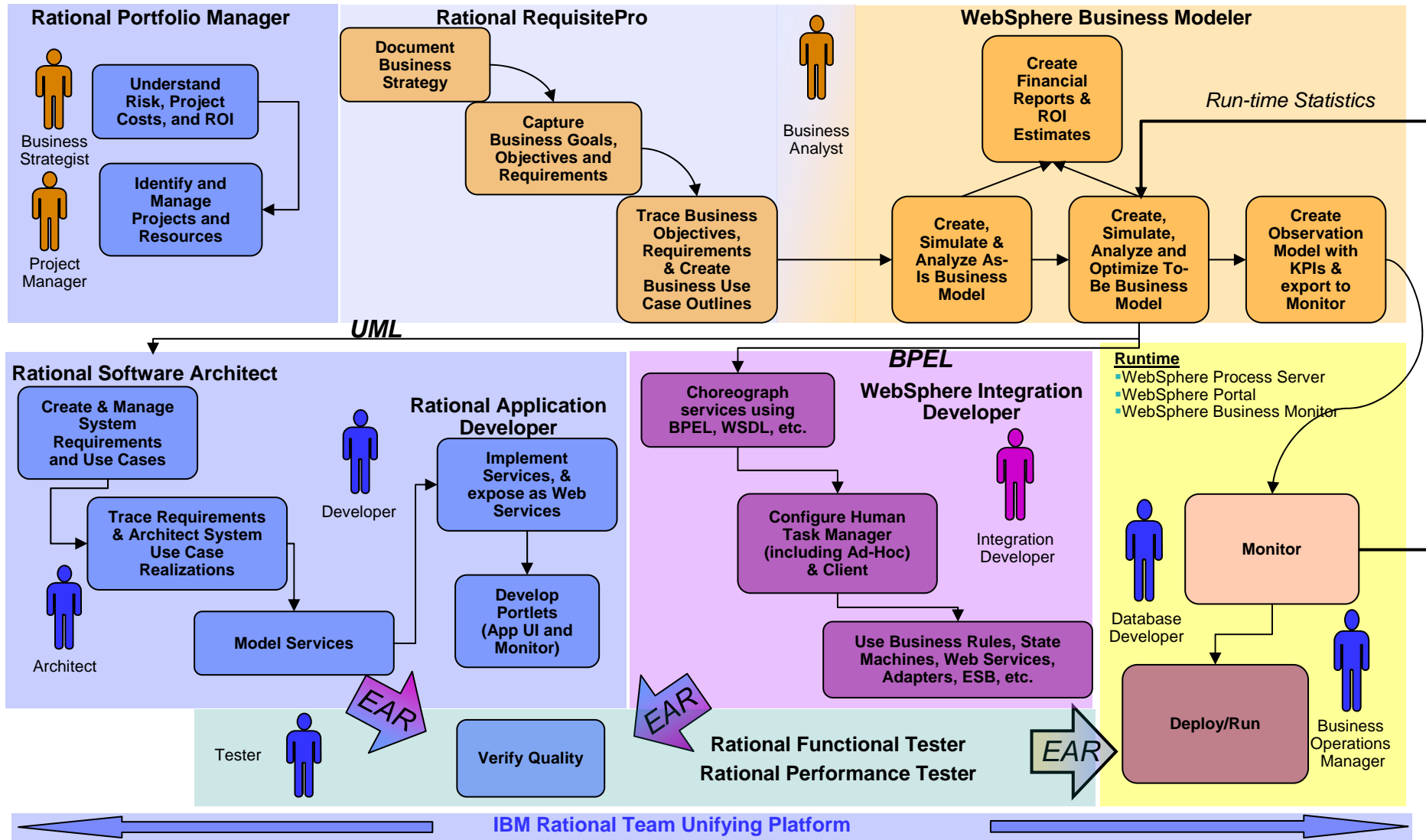
WebSphere Business Modeler
*Modeling business processes for SOA roll-out*

- **Modeling For Compliance/Documentation**
  - Document processes for use by a business to understand the business process
  - Customers use output for training, collaboration, documentation requirements for compliance regulations (Sarbanes-Oxley and Basel II)
  - Linkage to real-time monitoring provides a feedback mechanism for reporting requirements needed for compliance

- **Modeling For Redesign**
  - Document both the current state and future state business process and the comparison to determine Return on Investment (ROI) analysis
  - Six Sigma and Process Improvement are common methodologies
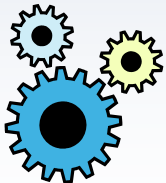
- **Modeling For Execution**
  - Modeler can create artifacts from the business model and make them available in technology development tools to reduce the overall implementation time of new business processes.

Enhanced! **WebSphere Business Modeler v6**
Modeling business processes for SOA roll-out

Expanded user experience and analytical capabilities

- More granular and precise modeling of activities
- Business analyst can now manage end-to-end processes across the organization

Collaborative modeling to enable team work

- Ability to publish, share and comment on models through the web
- Versioning control for capturing most recent changes

Business performance modeling

- Fine tune operations to increase growth and market share
- Continuous process optimization and improvement

New! WebSphere Integration Developer V6

Assembling composite applications with ease

Streamlining process design hand-off between business and IT

- Import and work with business process models directly from the business analyst (WebSphere Business Modeler)

Simplifying and speeding development

- Easy to use tools where everything can be done through the GUI

- Single way to define all types of processes (human, automated, rules, etc.)

Maximizing re-use

- Ability to leverage existing services and develop for future reuse

New service reusing SAP functionality

Customer eligibility → Review application → Retrieve credit report

Existing service from a partner

Credit assessment → Request additional info

New service reusing CICS functionality

Final application review

Generate approval & account info

Generate decline

Existing service
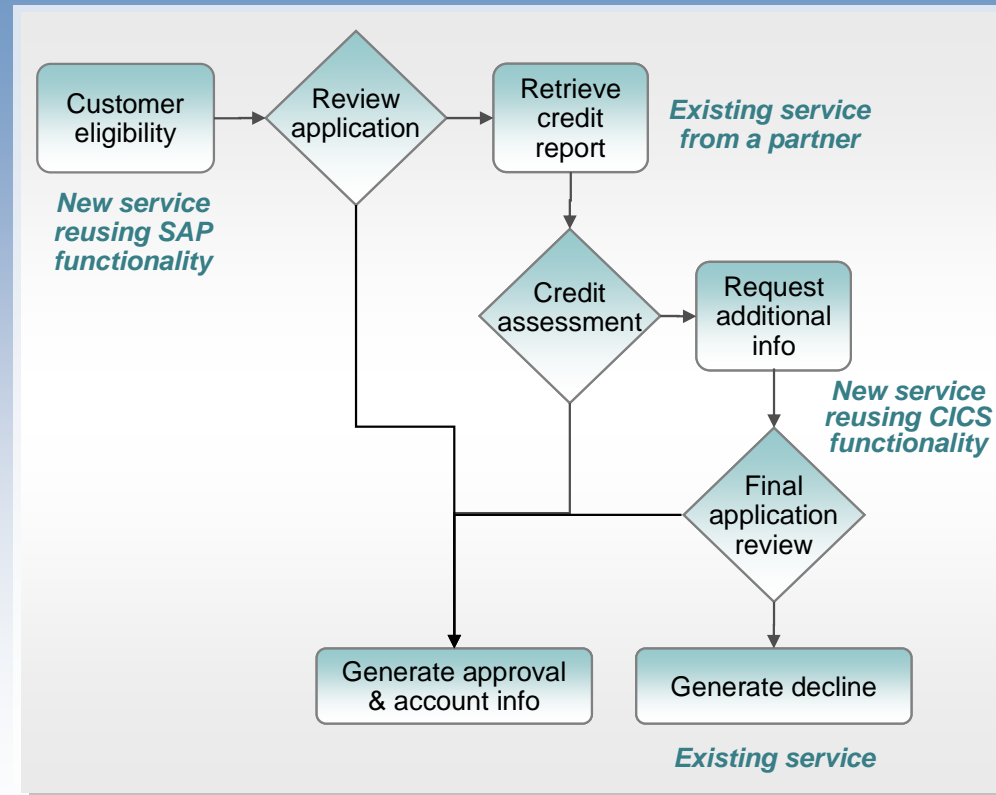
Available in October 2005: WebSphere Integration Developer runs in Windows, Linux and Unix environments.

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SOA Reference Architecture
Deploying your applications

Business Innovation & Optimization Services

Development Services

| **Interaction Services** | **Process Services** | **Information Services** |

Facilitates communication **ESB** *between services*

IT Service Management

Partner Services

Business App Services
WebSphere
Application Server &XD ★

Access Services

Apps & Info Assets

Infrastructure Services

Model, Assemble   **Deploy**   **Manage**

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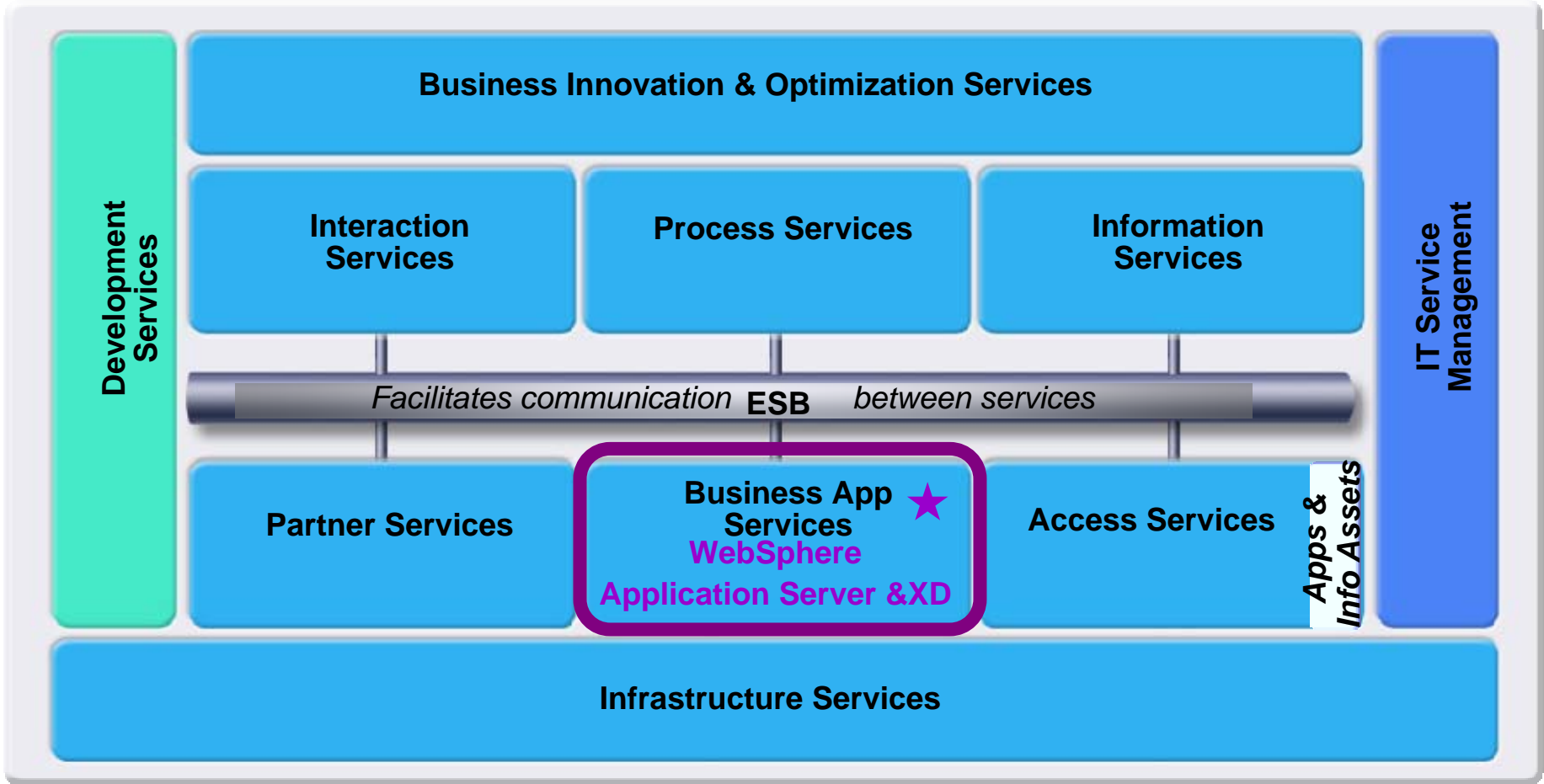
Techniques for achieving scale and availability

Scale-up: Deployment of applications to large (shared-memory) SMP servers

Clusters / Virtualization

Scale Up / SMP Computing

Scale-out: Deployment of applications to a collection of small, (cheap) computers

Scale Out / Distributed Computing

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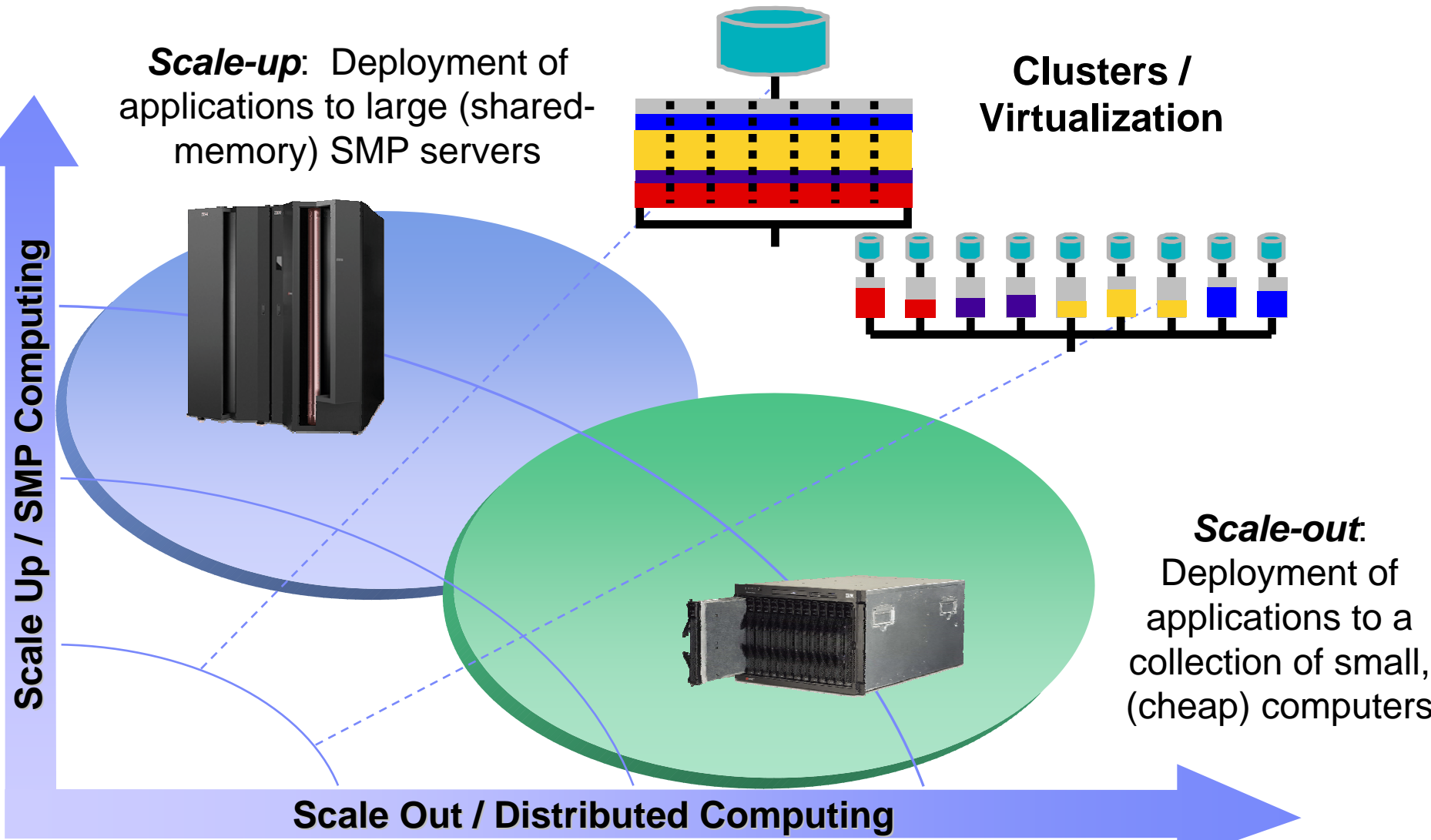
The WebSphere Application Server Family Summary

Multiple Business Models, Multiple Deployment Options

Ultimate scalability & performance; functional depth & breadth

Customer Needs

Reduced acquisition costs; Small footprint..

WebSphere Application Server for zOS

WebSphere Application Server Network Deployment

WebSphere Application Server

WebSphere Application Server - Express

WebSphere Application Server Community Edition

■ *Built on common WebSphere code*

□ *Built on open source technology*

Fast deployment of single app; low transaction volumes…

Capabilities

High transaction volumes, High Availability, Advanced Web Services…

WebSphere Application Server v6.0.2
Enabling a robust, flexible SOA runtime environment

J2EE Enhancements

- J2EE 1.4 Compliance
- Java Server Faces (JSF) support
- Programming Model Extensions
- WebSphere Rapid Deployment (WRD) framework for simplified J2EE application construction and deployment
- Embedded JMS provider implementation with exceptional scaling, and interoperation with MQ

Ease of Use

- Packaging aligned with distributed platforms
- Deployment Plans to support strong separation of application configuration requirements
- Mixed cell support
- Unified clustering for consistent cluster management and improved workload balancing
- Administration Improvements
- Tooling enhancements

Common code base

- z/OS and distributed platforms

Web Services

- Services Oriented Architecture support
- Web Services Gateway with pre-defined mediations, workload balancing
- Service Data Objects, WS-I Basic Profile 1.1 Conformance
- Multi-protocol support (SOAP/HTTP, SOAP/JMS, Local Optimization) under a common JAX-RPC client interface

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WebSphere Application Server v6.1
Powering your SOA for the Ultimate in Business Flexibility

Deploy

- **Standards Based and Open**
  - J2SE 5.0
  - Web services standards
    - WS-Interop Basic Security
    - WS-Notification
    - WS-BusinessAgreement
  - JSR168 Portlets
  - JSR116 SIP Servlets

- **Ease of Use**
  - Automation toolkit and Command Assistance
  - Simplified Administration
  - Simplified SSL Key/Certificate Management
  - Security enhancements
  - IHS administration enhancements

- **Consumability**
  - Improved performance and high availability
  - Tighter alignment/integration across the Websphere & SWG portfolios

- **Platform Capability**
  - Proxy Server Enhancements
  - WebSphere Identity Manager
  - Government Standards
  - Common Event Infrastructure

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2H06 "z Deliverables"

64-Bit Support on WAS 6.1

- **Allows WebSphere Application Server to run in 64-bit virtual addressing mode**
  - Today JVM heap limited to 1G
  - Removes restriction on amount of virtual storage available to both the applications and the server
- **Addressing mode will be configurable on a per server basis**
  - One node can contain both a 31-bit server and a 64-bit server

- **Post GA deliverable:**
  - Current target is late 2H06

"Apache HTTP Server" on z/OS on WAS 6.1

- **Meet customer demands for "Apache" on zOS**
  - Provide an easier to use HTTP server on z
    - ❖ same skills required as on other platforms
    - ❖ doesn't require deep z skills to use
  - Port of the distributed code base onto z platform
  - Focus on making Z-IHS look/feel like D-IHS
  - No additional function beyond what is in D-IHS in initial release

- **Currently in beta**
- **Post GA deliverable**
  - Current target is late 2H06

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Web Services Standards Evolution in WebSphere

| WebSphere 5.02/5.1	WebSphere 6.0	WebSphere 6.1
JAX-RPC (JSR-101) 1.0 ▪New standard API for programming Web services in Java	**JAX-RPC (JSR-101) 1.1** ▪Additional type support & Fault support ▪Security - isUserInRole()	**Performance Enhancements** ▪SAAJ Changes ▪SOAP/JMS ▪New Parser (Banshee replacing B2B)
JSR-109 1.0 ▪New J2EE deployment model for Java Web services	**JSR-109 – WSEE 1.1** ▪Tighter integration with J2EE 1.4 ▪Handlers support for EJBs	**SOAP JMS Enhancements** ▪Caching enhancements ▪Text message enhancements
SAAJ 1.1 ▪APIs for manipulating SOAP XML messages	**SAAJ 1.2** ▪extends DOM (easy to cast to DOM and use)	**WS-N (Notification)** **WS-I BSP (Basic Security Profile)** **WS-BA (Basic Activity)**
WS-Security ▪Security Extensions **WS-I Basic Profile 1.0** ▪Profile compliance	**WS-Security** ▪OASIS draft 17; Following WS-I Security Profile **WS-I Basic Profile 1.1** (Attachments support) **WS-TX AT** **WS-Addressing**	
UDDI4J version 2.0 ((client)	**UDDI v3 support** ▪both registry implementation and client API library ▪Client UDDI v3 API different than JAXR (exposes more native UDDI v3 functionality N/A in JAXR)	
WS Engine Enhanced ▪**Apache SOAP 2.3** ▪**New high performance SOAP engine supporting both HTTP and JMS**	**JAXR support**	

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WAS z/OS Performance – Trade Scenario

5-15% improvement from V5.1 to V6.0.2!

Trade EJB Throughput
No Dynacache
External MQ

Requests per second

- 187 — Version 5.10
- 228 — Version 6.01
- 236 — Version 6.02

z990 2-way
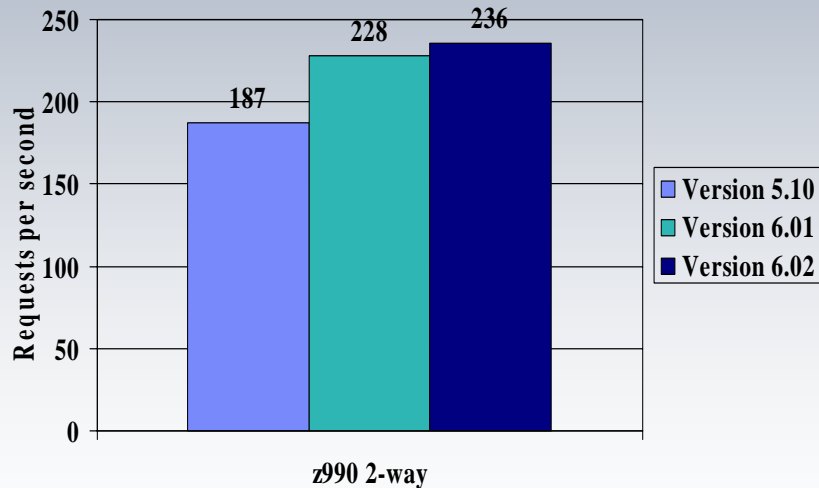
More is better!

Trade Scaling

Requests per second

- Linear
- Version 6.02

Number of Processors
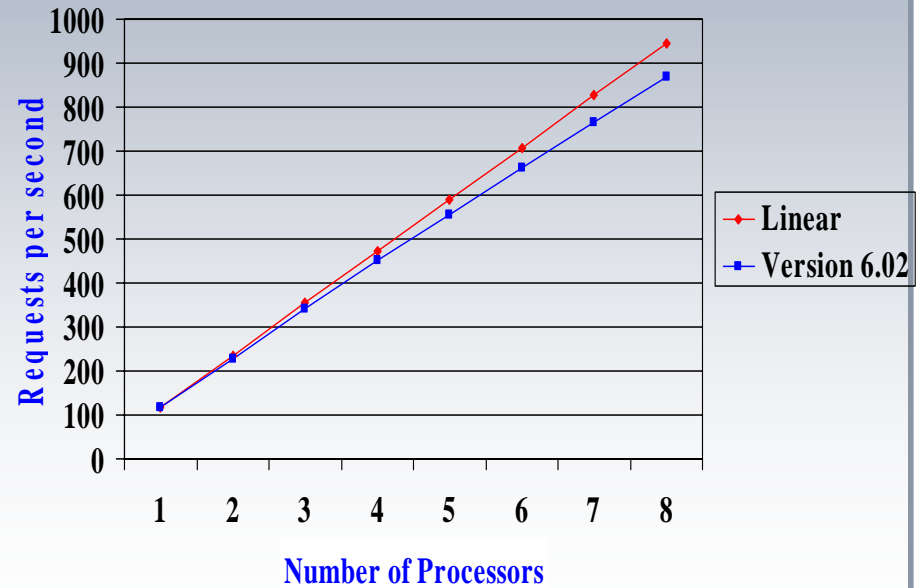
WebSphere Application Assist Processor for z/OS

Consider a WebSphere Application that is transactional in nature and requires 1000 MIPS today on zSeries

Manage

80% Utilization

Java Execution Powered by zAPP

40% Utilization

1000 MIPS for
WebSphere Application

500 MIPS for WebSphere App +
500 MIPS now available for additional workloads
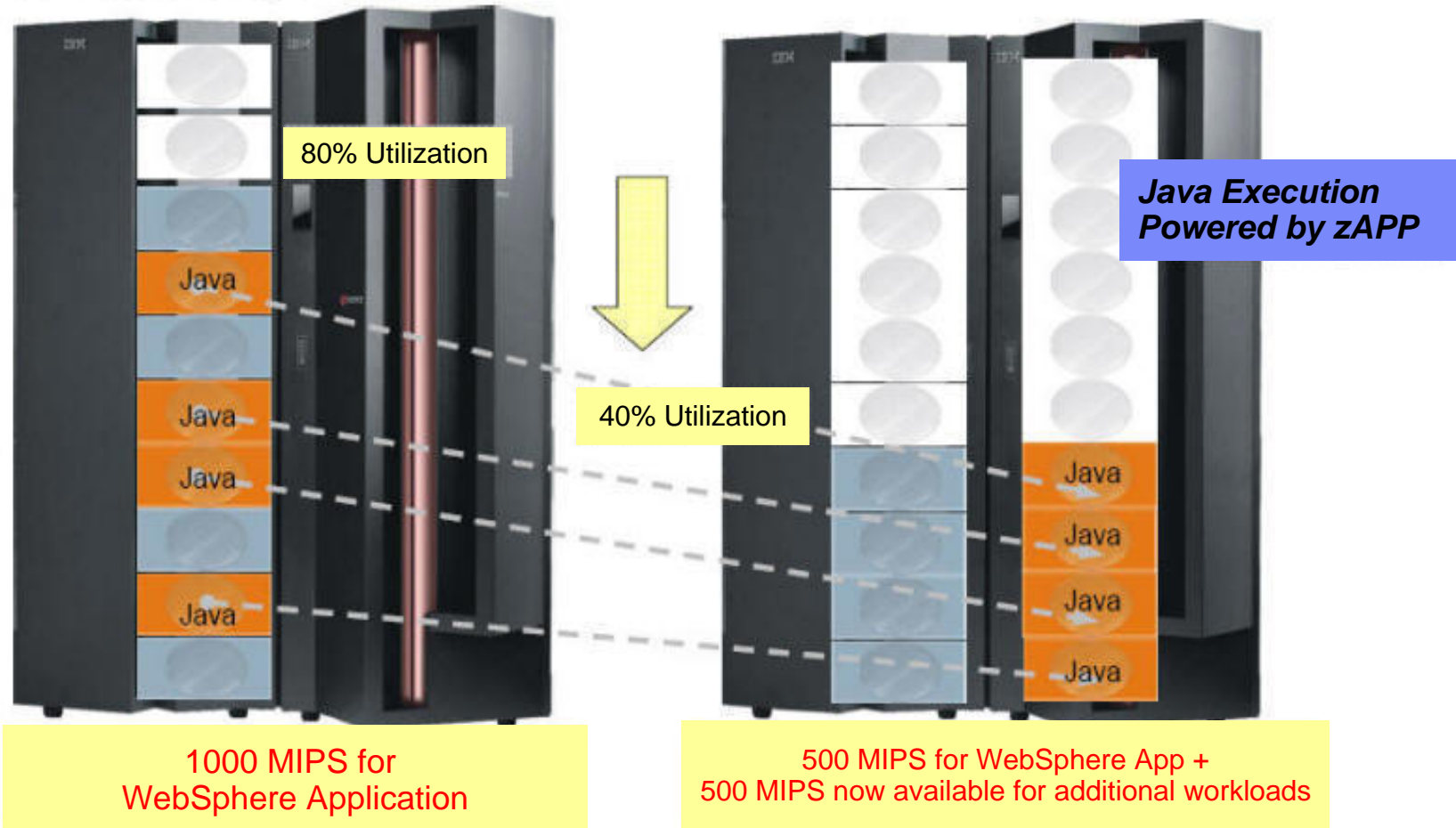
In this example, with zAAP, we can reduce the standard CP capacity requirement for the Application to 500 MIPS or a 50% reduction. *For illustrative purposes only

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GAD builds SOA using WebSphere for z/OS

GAD
IT für Banken

*GAD is an IT service provider for banks - providing data processing and software development using 6 z109s and 116TB of data*

GAD conducted extensive benchmarks for their state of the art "bank21"-application to determine the best platform, based upon …

Performance

Using Type 2 connections WAS for z/OS was the clear performance winner, without degradation even during intense utilization
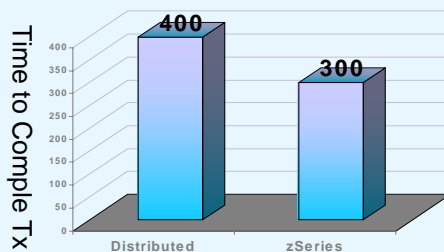
TCO

Extensive cost variables were identified for the study to provide a true assessment of the cost of running the application

- *With zAAPs, WAS for z/OS was the most cost effective platform, without zAAPs it is still cost competitive*
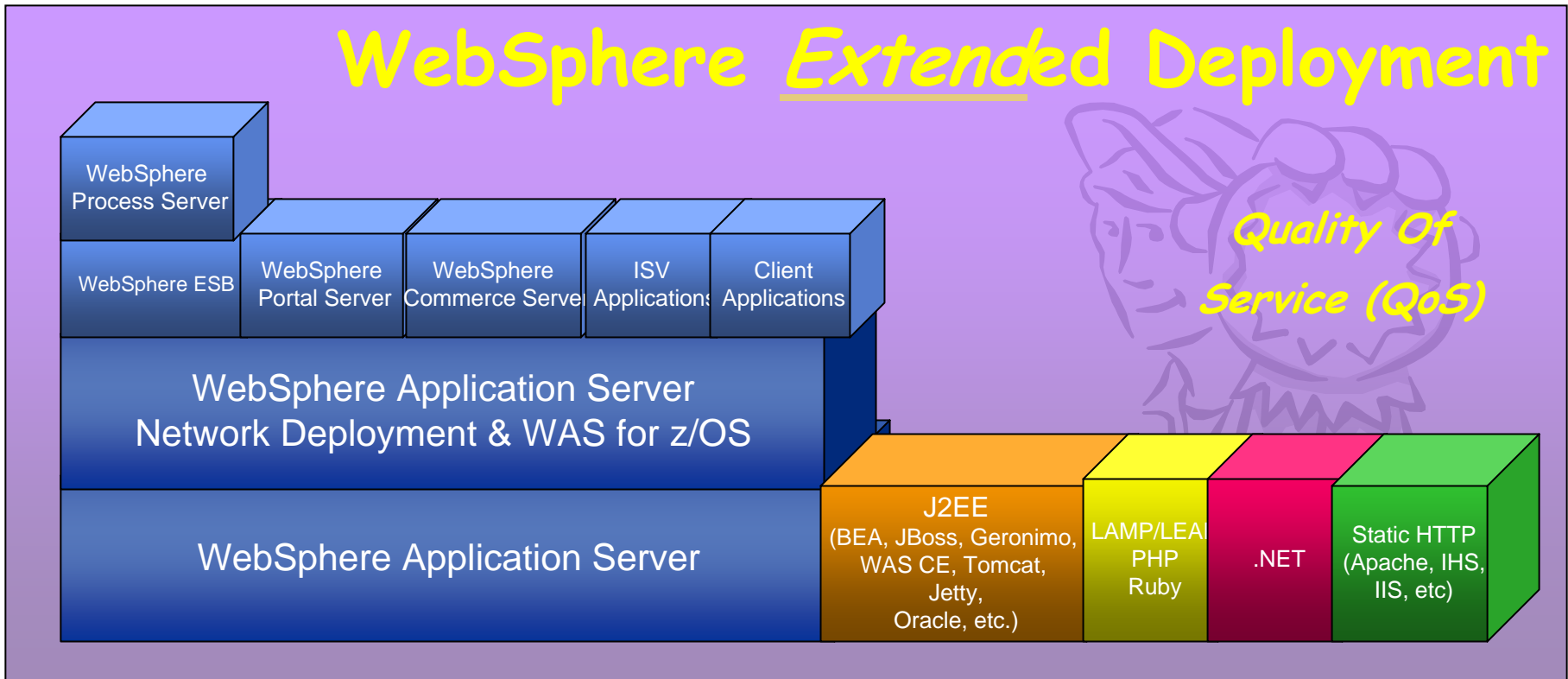
Quality of service

Any platform COULD run bank21, but only WebSphere Application Server for z/OS afforded a dynamic business environment capable of intelligent automation and delivery of deep system insight.

WAS for z/OS was the clear winner for bank21 – affordable, high performing, and easy to use

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XD is a Quality of Service Extender for Middleware

WebSphere *Extend*ed Deployment

WebSphere Process Server

WebSphere ESB

WebSphere Portal Server

WebSphere Commerce Server

ISV Applications

Client Applications

WebSphere Application Server
Network Deployment & WAS for z/OS

WebSphere Application Server

J2EE
(BEA, JBoss, Geronimo, WAS CE, Tomcat, Jetty, Oracle, etc.)

LAMP/LEAP
PHP
Ruby

.NET

Static HTTP
(Apache, IHS, IIS, etc)

Quality Of Service (QoS)

- XD is constructed to extend an existing middleware environment

- XD provides QoS features to extend what types of applications you can run on your middleware and how you run them

- XD works across a heterogeneous environment that includes IBM WebSphere and non-WebSphere servers

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Delivering high qualities of service to your SOA

NEW!! *WebSphere Extended Deployment for z/OS V6.0.1*

Service mixed environments more efficiently

- *Enables REAL IT environments*
  - *Mixed application servers (WebSphere and non-WebSphere)*
  - *Mixed workloads (Java transactional batch and OLTP)*
- *Enhances quality of service management for a mixed application servers and data sources*

Easily manage large scale production implementations

- *At-a-glance assessments of system vitality and improved application management*
- *Interruption-free application updates to manage deployment of multiple application versions*

Improve the performance and throughput of your transactions

- *Near linear scalability for **high-end transaction processing***
- *Enhanced data access for accelerating throughput*
- *Partitioning facility enables development of highly scalable, high performance J2EE applications*

Accommodate peaks in demand by better utilizing existing resources

- *Compliment the value of z/OS workload manager (WLM) with granular prioritization of J2EE workloads and enhanced cross-LPAR routing capabilities*
- *Functions with Intelligent Resource Director (IRD)*

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IBM's On Demand Workplace (ODW) is a production showcase for WebSphere Extended Deployment

Challenge

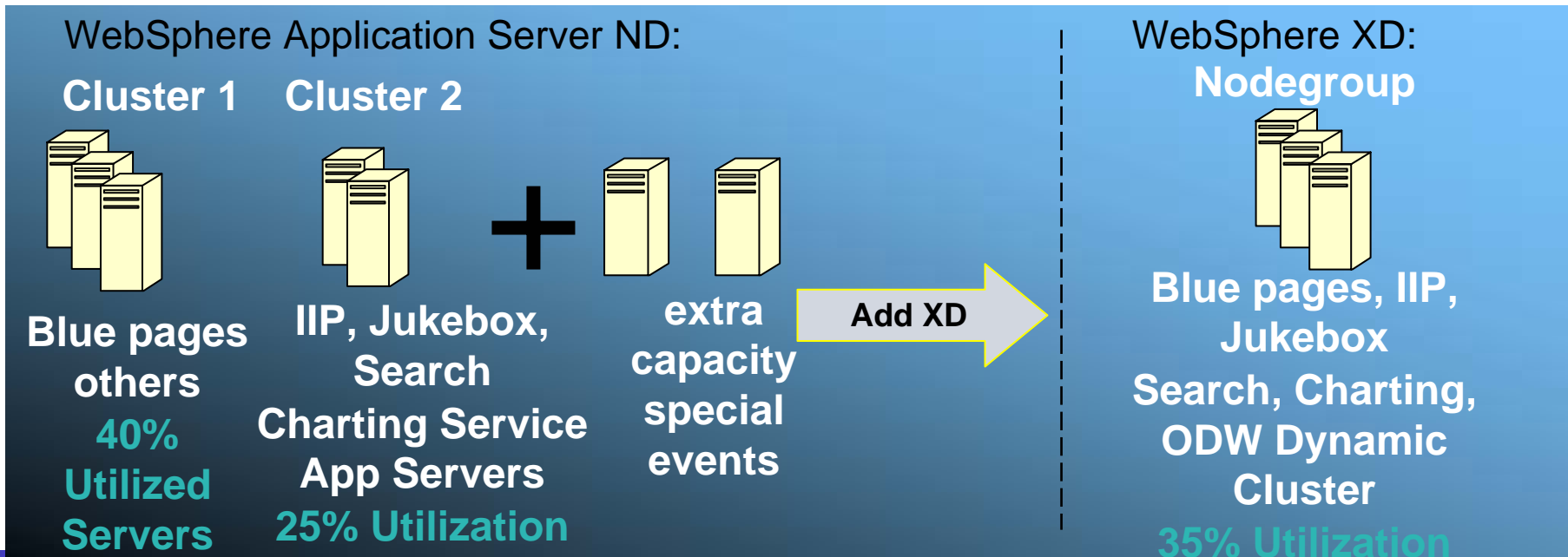**Reduce hosting costs, increase resiliency and ability to dynamically increase capacity on-demand**

Solution

Leverage WXD virtualization features for server consolidation and increased utilization

- Improved **application resiliency** and **increased efficiency** through virtualization

- Achieved **cost savings of 25%**

- Enhanced **monitoring** in a more complex environment.

WebSphere Application Server ND:

Cluster 1   **Cluster 2**

+

Blue pages others
40% Utilized Servers

IIP, Jukebox, Search Charting Service App Servers
25% Utilization

extra capacity special events

Add XD

WebSphere XD:
Nodegroup

Blue pages, IIP, Jukebox Search, Charting, ODW Dynamic Cluster
35% Utilization

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SOA Reference Architecture
Deploying your applications

	Business Innovation & Optimization Services		
Development Services	Interaction Services	**Process Services** WebSphere Process Server ★	Information Services
	Facilitates communication **ESB** *between services*		
	Partner Services	Business App Services	Access Services — Apps & Info Assets
	Infrastructure Services		

IT Service Management

Model, Assemble   **Deploy**   **Manage**

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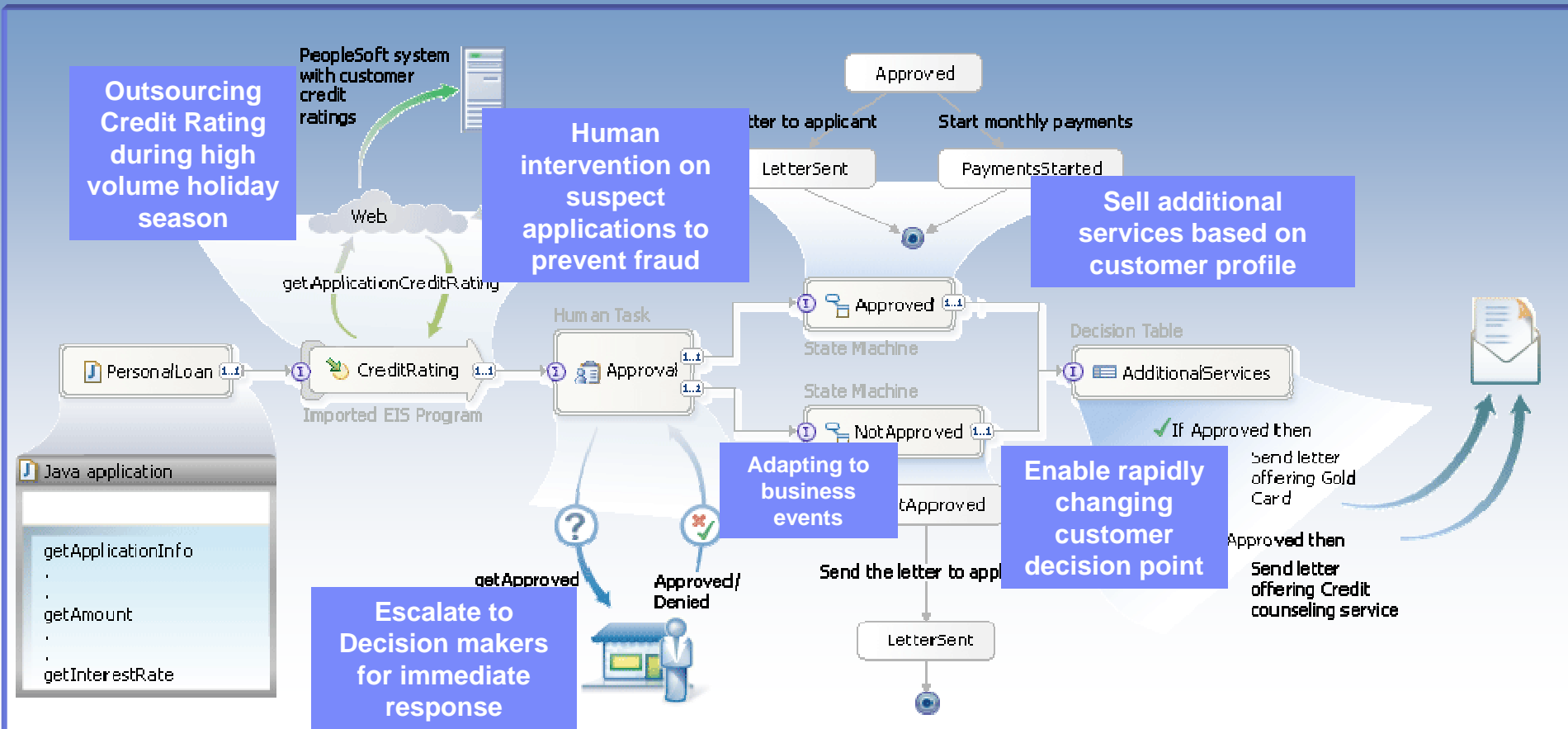# A Day in the life of a Business Process

Accessible capabilities to fine-tune business processes to address emerging situations dynamically on operational processes

Deploy

Constructs for dynamic processes – Addressing scenarios once deployed

Outsourcing Credit Rating during high volume holiday season

Human intervention on suspect applications to prevent fraud

Sell additional services based on customer profile

Adapting to business events

Enable rapidly changing customer decision point

Escalate to Decision makers for immediate response
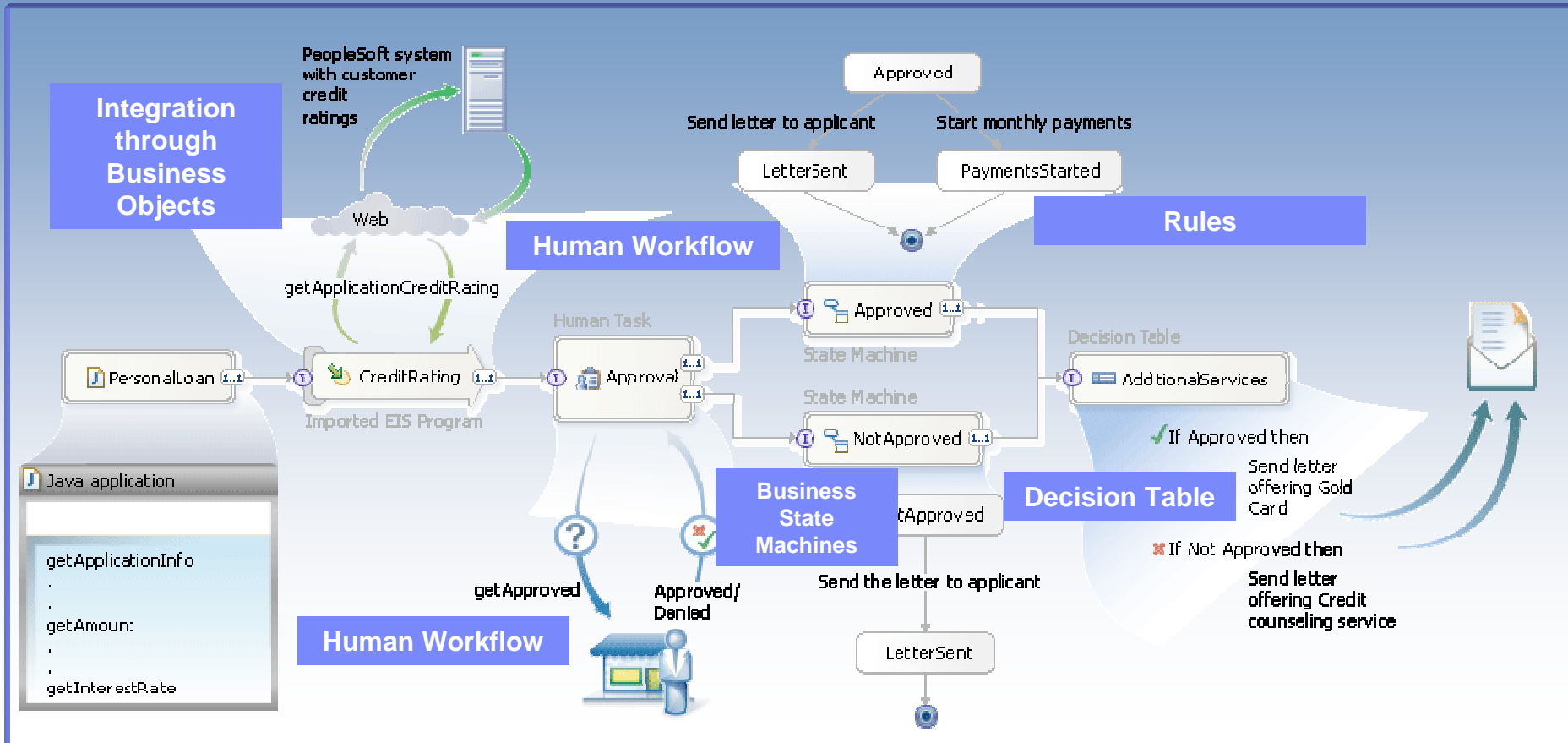
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A Day in the life of a Business Process

Accessible capabilities to fine-tune business processes to address emerging situations dynamically on operational processes

Deploy

Constructs for dynamic processes – Addressing scenarios once deployed

Integration through Business Objects

PeopleSoft system with customer credit ratings

Human Workflow

Approved

Send letter to applicant | Start monthly payments

LetterSent | PaymentsStarted

Rules

Web

getApplicationCreditRating

Human Task

Approved 1..1

State Machine

PersonalLoan 1..1 | CreditRating 1..1 | Approval

Imported EIS Program

State Machine

NotApproved 1..1

Decision Table

AdditionalServices

Java application

getApplicationInfo
.
getAmount
.
getInterestRate

Business State Machines

Decision Table

✓ If Approved then

Send letter offering Gold Card

✗ If Not Approved then

Send letter offering Credit counseling service

getApproved | Approved/Denied

...tApproved

Send the letter to applicant

Human Workflow

LetterSent

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New! WebSphere Process Server V6
Deploying processes within BPM enhances your SOA project

## Simple, flexible deployment of processes

- Built and optimized on the market leading application server, IBM WebSphere Application Server

Powered by Enterprise Service Bus (ESB)

- Built on top of an open standards based ESB
- Flexible connectivity infrastructure for integrating applications, data, and services to power your SOA
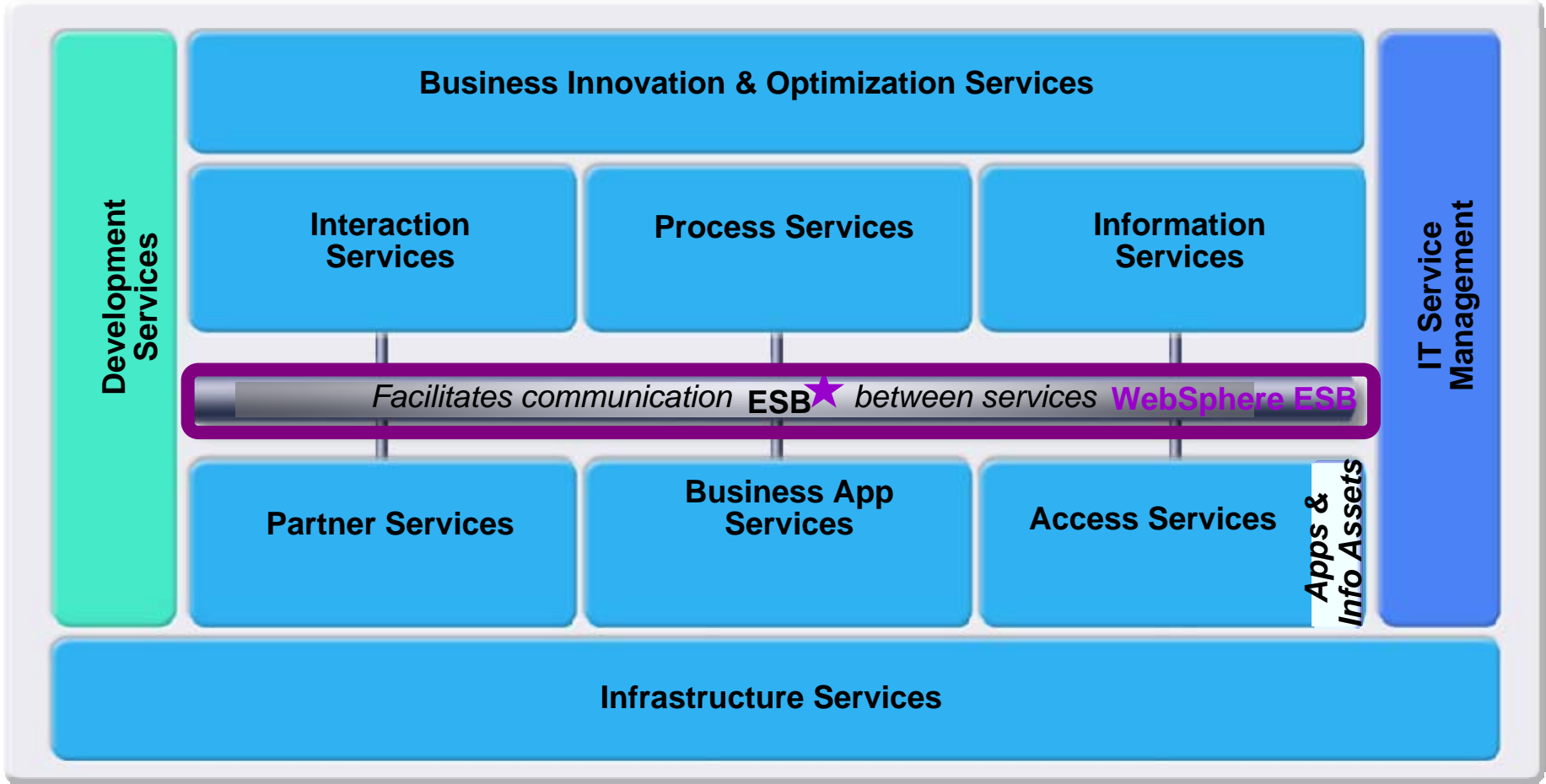
Dynamically modify deployed processes

- Making plug-and-play of process components a reality
- Change business rules quickly and easily

WebSphere Process Server
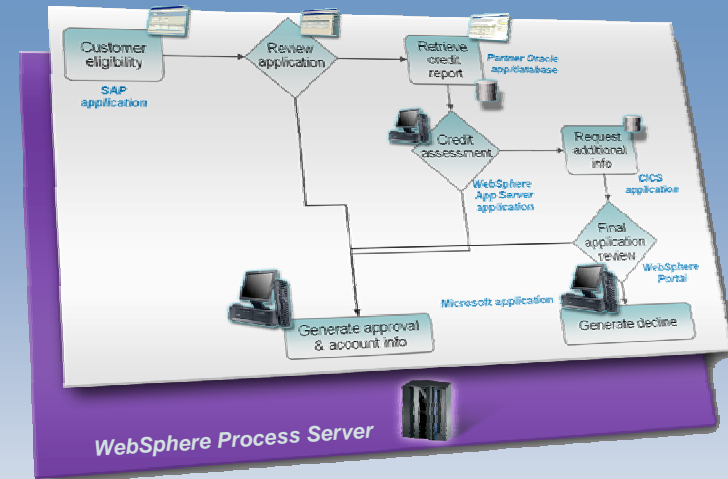
"Once the up-front analysis and definition work are completed, the Business Integration infrastructure allows us to implement new business processes at a rate of one every few weeks for medium to complex processes."
– EAI Project Manager, Electrabel

## SOA Reference Architecture
Deploying your applications

Deploy

Business Innovation & Optimization Services

Development Services

Interaction Services

Process Services

Information Services

IT Service Management

Facilitates communication **ESB** ★ *between services* **WebSphere ESB**

Partner Services

Business App Services

Access Services

Apps & Info Assets

Infrastructure Services

Model, Assemble

Deploy

Manage

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What is an Enterprise Service Bus (ESB)?

Flexible connectivity infrastructure for integrating applications and services to power your SOA

- ▶ **ROUTING** messages between services

- ▶ **CONVERTING** transport protocols between requestor and service

- ▶ **TRANSFORMING** message format between requestor and service

- ▶ **HANDLING** business events from disparate sources

Enterprise Service Bus
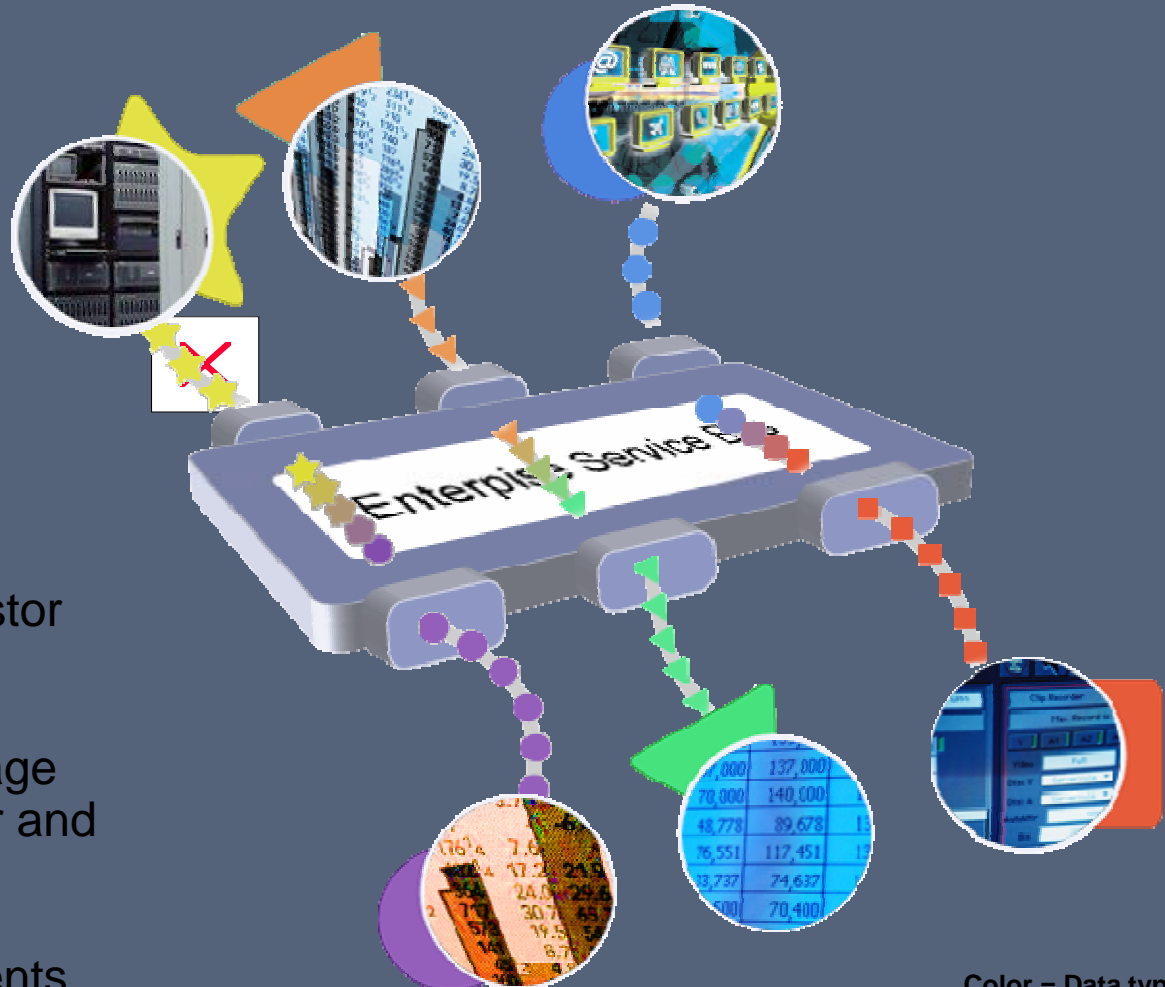
Color = Data type

Shape = Protocol

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New! Enterprise Service Bus software from IBM WebSphere
Integrating the applications in your SOA

Flexible connectivity infrastructure for integrating applications and services to power your SOA

WebSphere ESB: a new product delivering an Enterprise Service Bus

- Standards based connectivity including SOAP, XML, JMS, etc.

WebSphere Message Broker: a new version delivering an *advanced* Enterprise Service Bus

- Universal connectivity including SOAP, XML, JMS, COBOL copybook, SCADA, etc.
- Advanced message transformation, enrichment and routing

WebSphere ESB and WebSphere Message Broker

ESB:

WebSphere ESB

Advanced ESB:

WebSphere Message Broker

Web Services connectivity and data transformation

Universal connectivity and data transformation

HTTP   JMS

WebSphere MQ

Web Services   XML

WebSphere Adapters

Plus the following:

HTTP   JMS

WebSphere MQ

Weblogic JMS®   Biztalk®   TIBCO Rendezvous®

Web Services   XML

MQe   Multicast   Tuxedo®   FTP   TIBCO EMS JMS®

WebSphere Adapters

COBOL Copybook   HIPAA   EDI-FACT   HL7   SonicMQ JMS®

ACORD   Real-time IP   AL3   Word/Excel/PDF

SWIFT   FIX   ebXML   EDI-X.12   MQTT   Custom Formats

Customers face a range of ESB requirements. As a result, any given project might require an ESB or an Advanced ESB… OR BOTH.

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SOA Reference Architecture

Deploy

Development Services	Business Innovation & Optimization Services			IT Service Management
	Interaction Services **WebSphere Portal** ★	**Process Services**	**Information Services**	
	Facilitates communication **ESB** *between services*			
	Partner Services	**Business App Services**	**Access Services** — Apps & Info Assets	
	Infrastructure Services			

⬡ **Model, Assemble**　　　　⬡ **Deploy**　　　　⬡ **Manage**

ON DEMAND BUSINESS
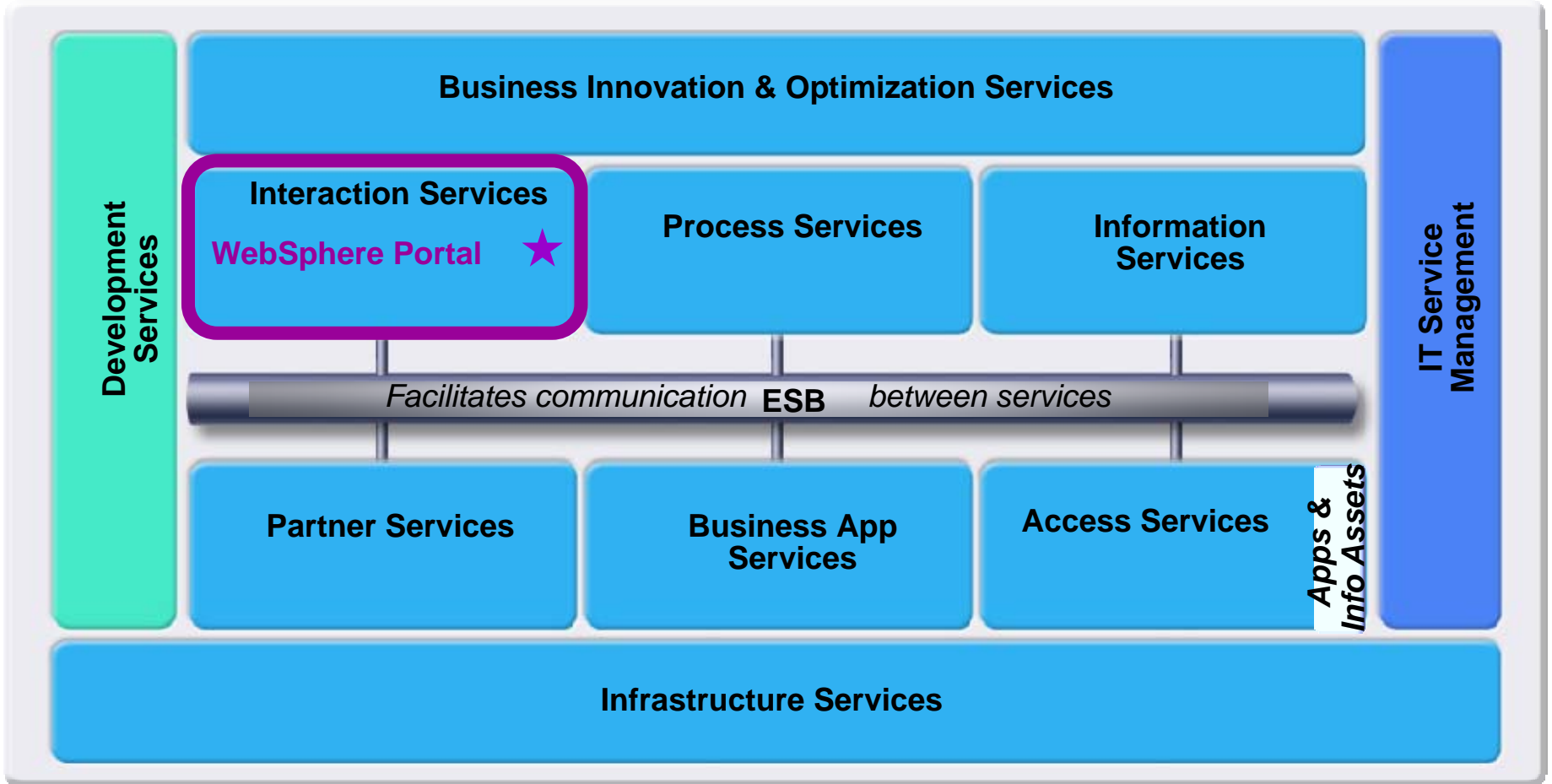
WebSphere Portal V5.1

Deploy

Framework Services

- Quickly develop and deploy portal applications
- Customize and personalize delivery

Integration Services

- Leverage existing IT investments
- Simplify access to processes, content and applications

Content Services

- Delivers pre-built productivity components
- Create, manage and search content and web assets

Collaboration Services

- Delivers ready-to-use collaborative components
- Find, connect, and work with people

WebSphere Portal on z

- Functional Parity with WebSphere Portal for Multiplatforms V5.1

- Close to 100% code compatibility

- Easier and More Intuitive Installation and Configuration

- Selected Exploitation of z/OS Qualities of Service

- Performance equal to or better than WebSphere Portal for Multiplatforms V5.1

- Enterprise Characteristics of the z/OS Platform

- Includes support for the zSeries Application Assist Processor (zAAP)

SOA on your terms and our expertise

ON DEMAND BUSINESS™
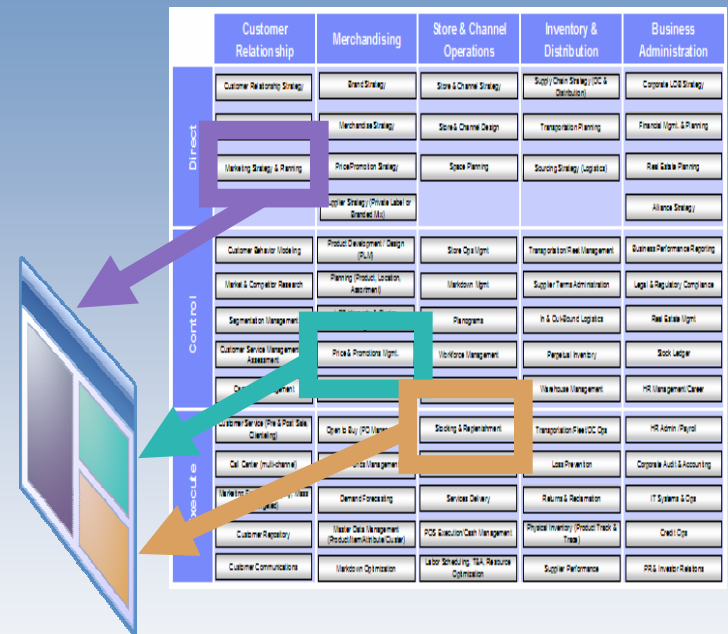
SOA Reference Architecture
Managing your applications

Development Services

Business Innovation & Optimization Services ★
WebSphere Business Monitor

Interaction Services	Process Services	Information Services

Facilitates communication **ESB** *between services*

Partner Services	Business App Services	Access Services

Apps & Info Assets

IT Service Management

Infrastructure Services

Model, Assemble   **Deploy**   **Manage**

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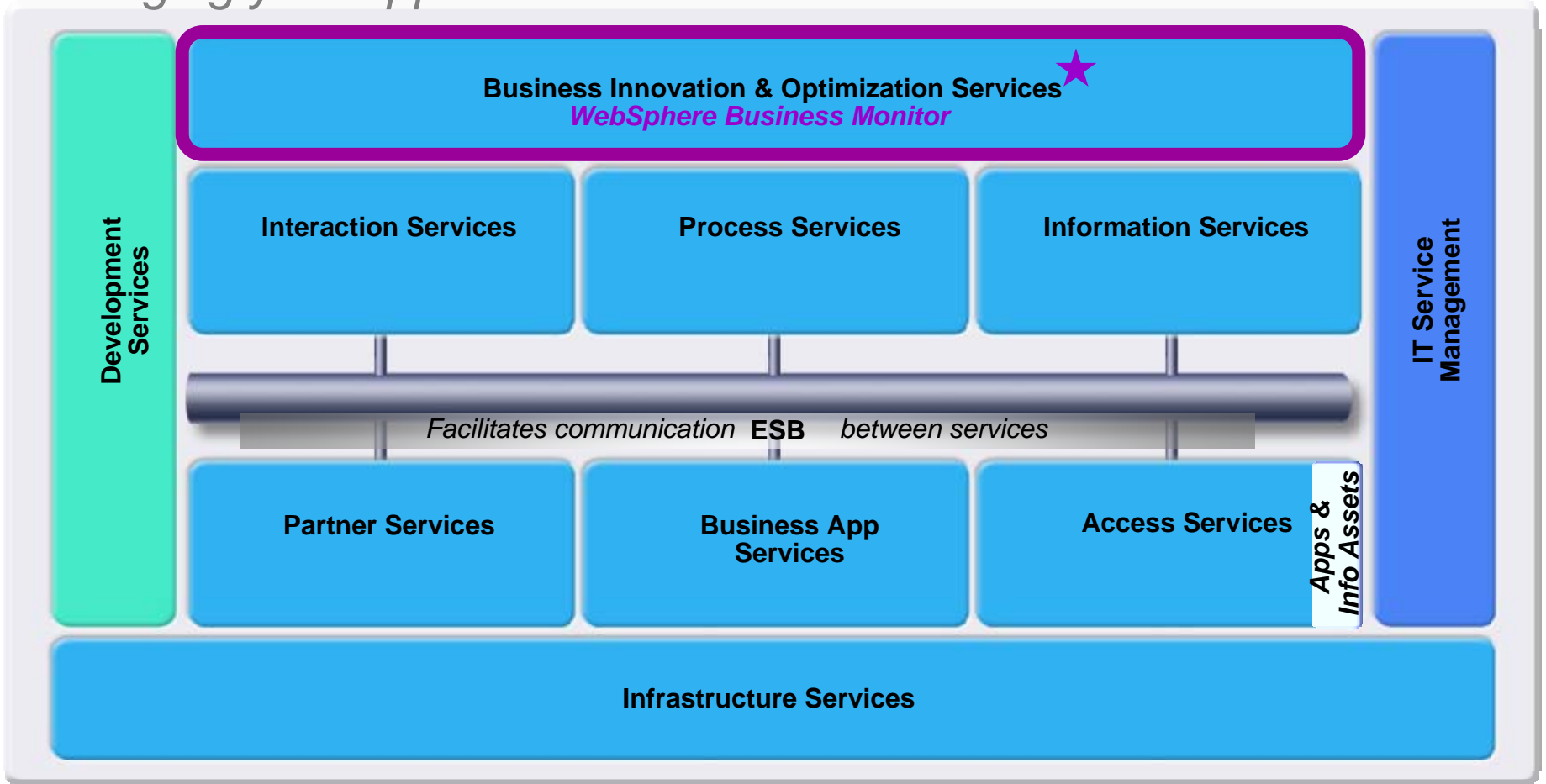
New! WebSphere Business Monitor
Monitoring business performance across your SOA

View and modify your business in real time

- Management dashboards and reporting capabilities, including trending information

- Tools to define or customize your dashboards

- See how your business is performing before issues arise

- Set KPI's based upon Key Performance Objectives

Ability to intervene in deployed processes

- Action Manager – supporting real-time response and action as performance data is received

Supporting continuous process improvement

- Ability to export data to WebSphere Business Modeler for analysis and process improvement

- Run modeling simulations based on real data from the business monitor
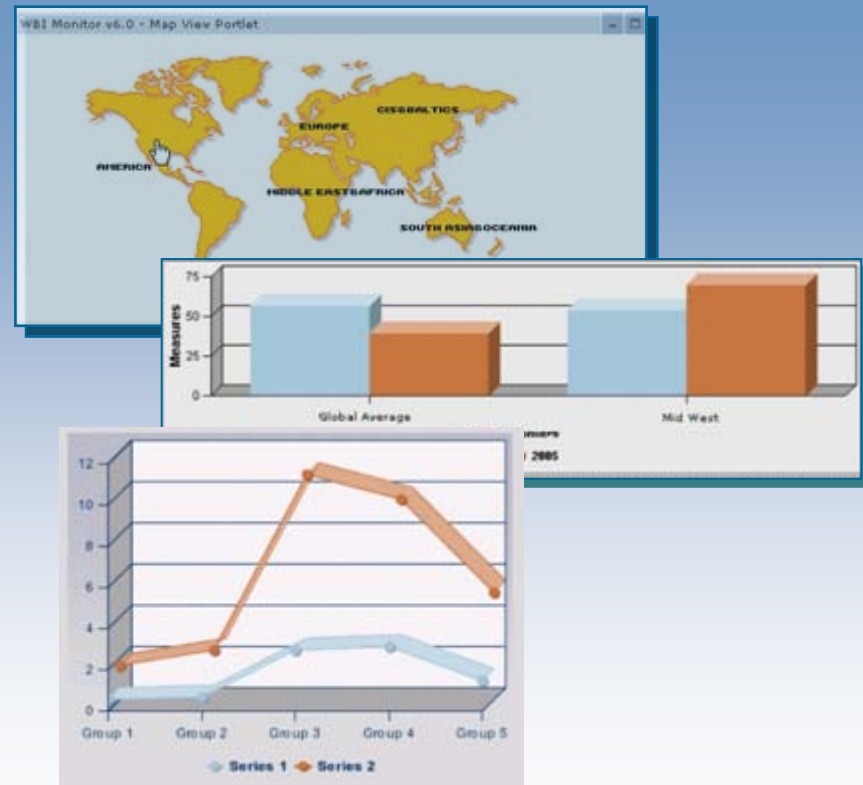
Planned Availability is February 2006 in Windows and AIX environments.

IBM Customer Order System
Transformed with SOA to a flexible, dynamic environment

The Challenge

- Backlog of unmet business requirements
- Lengthy development cycle
- Lack of skills to maintain legacy code.

How they changed

- Created a business model and standardized, reusable components
- New environment supports real-time transaction processing and increases resiliency with built-in performance monitoring through KPI's

Real Results

- Reduced time and cost of new releases by 25%

- Business logic adaptable in real-time by business users

- Improved business insight and better performance for faster order fulfillment

SOA on your terms and our expertise

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SOA Foundation is more than just software

Governance and Process
- SOA Center of Excellence
- Rational Unified Process (RUP)
- IT Infrastructure Library (ITIL)

Best Practices
- SOA-Related IP
  - Patterns
  - Redbooks
- Engagement Experience

Education
- Introduction to Value and Governance Model of SOA
- Web services for managers
- Technologies and Standards for SOA Project Implementation
- Design SOA Solutions and Apply Governance

SOA on your terms and our expertise

Why IBM for SOA?

IBM understands service orientation and your business

Skills

Partners

Know-how & best practices

Infrastructure

Expertise in aligning business and IT processes
- SOA consultants, architects and IT specialists
- Dozens of SOA-enabled business solutions
- Unique intellectual property and methods

Thriving ecosystem of partners (ISVs, SIs, Resellers)
- 100+ partners in SOA community

Extensive Industry experience and best practices
- Over 1000 customers worldwide

Unmatched breadth and depth of products
- Over $1B/yr invested in SOA
- IBM leads over 50 standards bodies
- Over 300 SOA-related patents

SOA on your terms and our expertise

ON DEMAND BUSINESS

Why IBM WebSphere software for SOA?

Nobody has the same breadth and depth

- Broad portfolio relied on by over 87,000 customers

- #1 across application integration middleware

- Extensive ecosystem – more than 4,000 partners and 3,150 active ISV solutions

Nobody invests more

- IBM investing over $1B a year around SOA and Web services

- Over 6,700 IBM developers

- Over 10,750 IGS technical practitioners trained on WebSphere

Award winning SOA products

IBM tops elite vendor list   -Intelligent Enterprise Editors' Choice Awards (April 2005)

IBM Overall Winner in Application Integration Middleware
-CRN Channel Champions Award (March 2005)

WebSphere: "impressive management options, support for Web services and general ease of use…"   – Network Computing (February 2005)

Q&A

SOA on your terms and our expertise
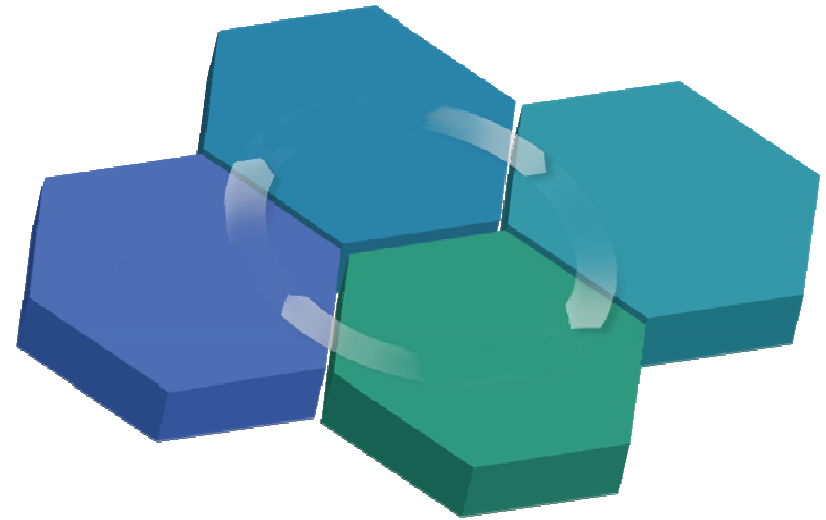
Get started today! Three ways to help you!

Skills
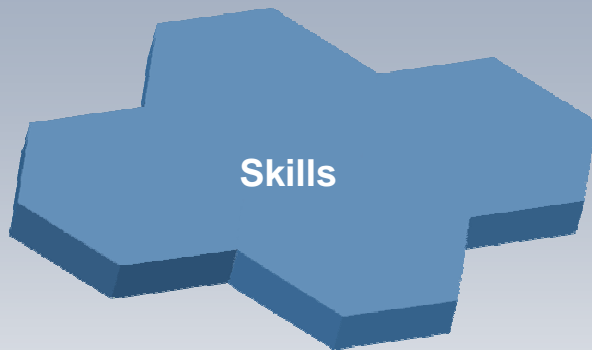
SOA Industry Win Teams

- Industry aligned SOA expert teams
- Deep vertical industry knowledge/expertise
- Identify/resolve your unique business problem
- Ability to leverage resources/assets across IBM to enable SOA deployment in weeks vs. months

Client Architecture Readiness Evaluation

Free!

- Review business/IT Initiatives and architecture alignment
- Evaluate enterprise architectures SOA support readiness
- Analyze governance maturity
- Provide SOA-based solution adoption roadmap

SOA Jumpstart

Free!

- Multi-day on-site session
- Available worldwide at no charge
- Skill development and governance
- Integration architecture workshop
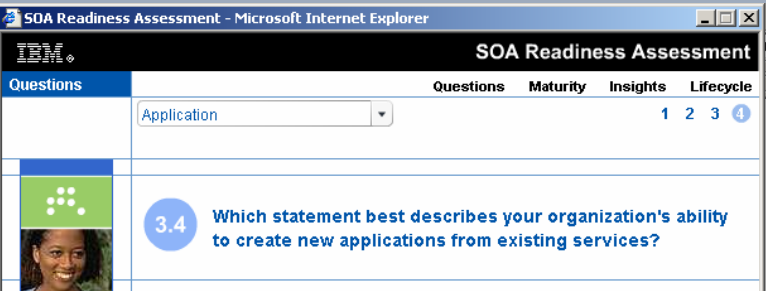- Actionable next steps

SOA on your terms and our expertise

ON **DEMAND BUSINESS**™

IBM SOA Assessment Tool
On line or on site

Receive actionable recommendations customized to your level of SOA maturity

How Do
I Get Here?

You Are Here
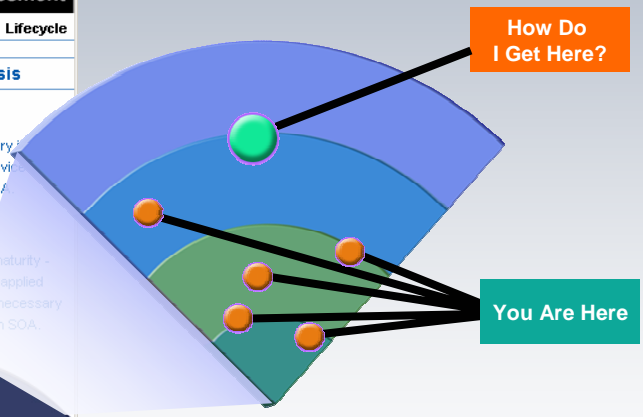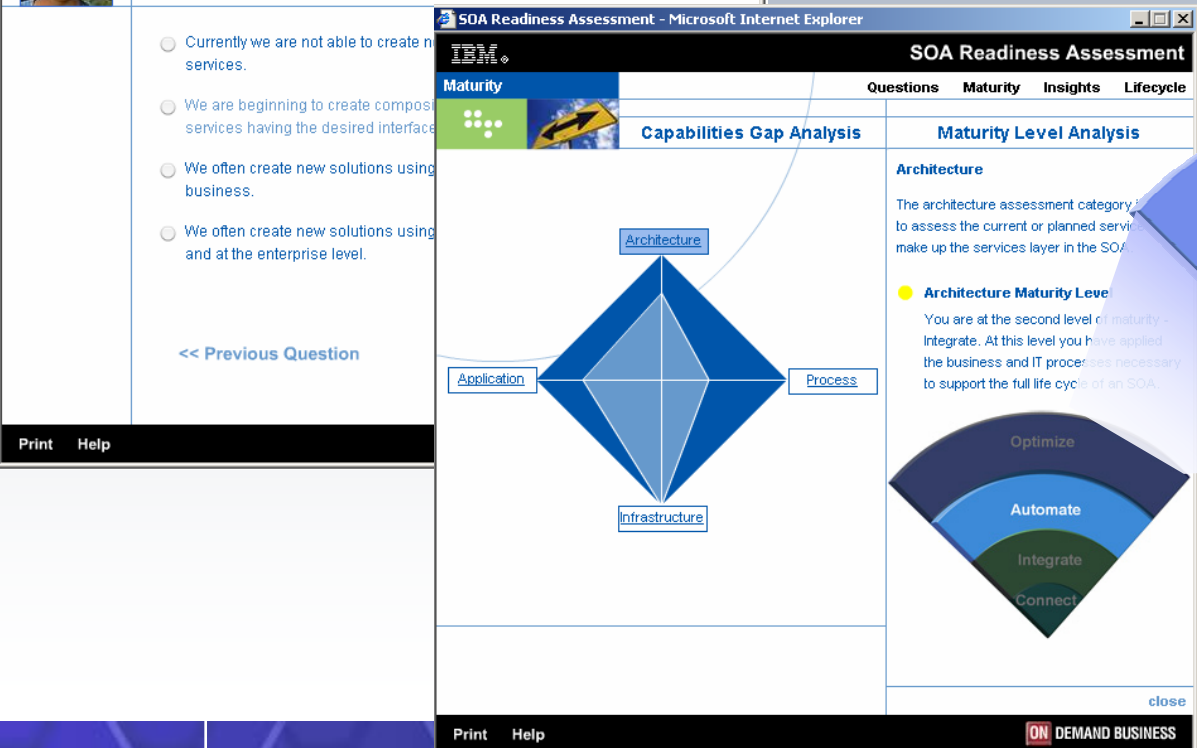
Find out at ibm.com/soa

or contact soa @us.ibm.com

SOA on your terms and our expertise

WebSphere Business Monitor
IBM Brings Together Process and Enterprise Information

External Information
Information affecting performance

Risk Factors
Manage risk

Monitored Actions
Track status of projects

Collaboration
Work with teams to resolve situations

Scorecards
Key Performance Indicators for business units

Business Alerts
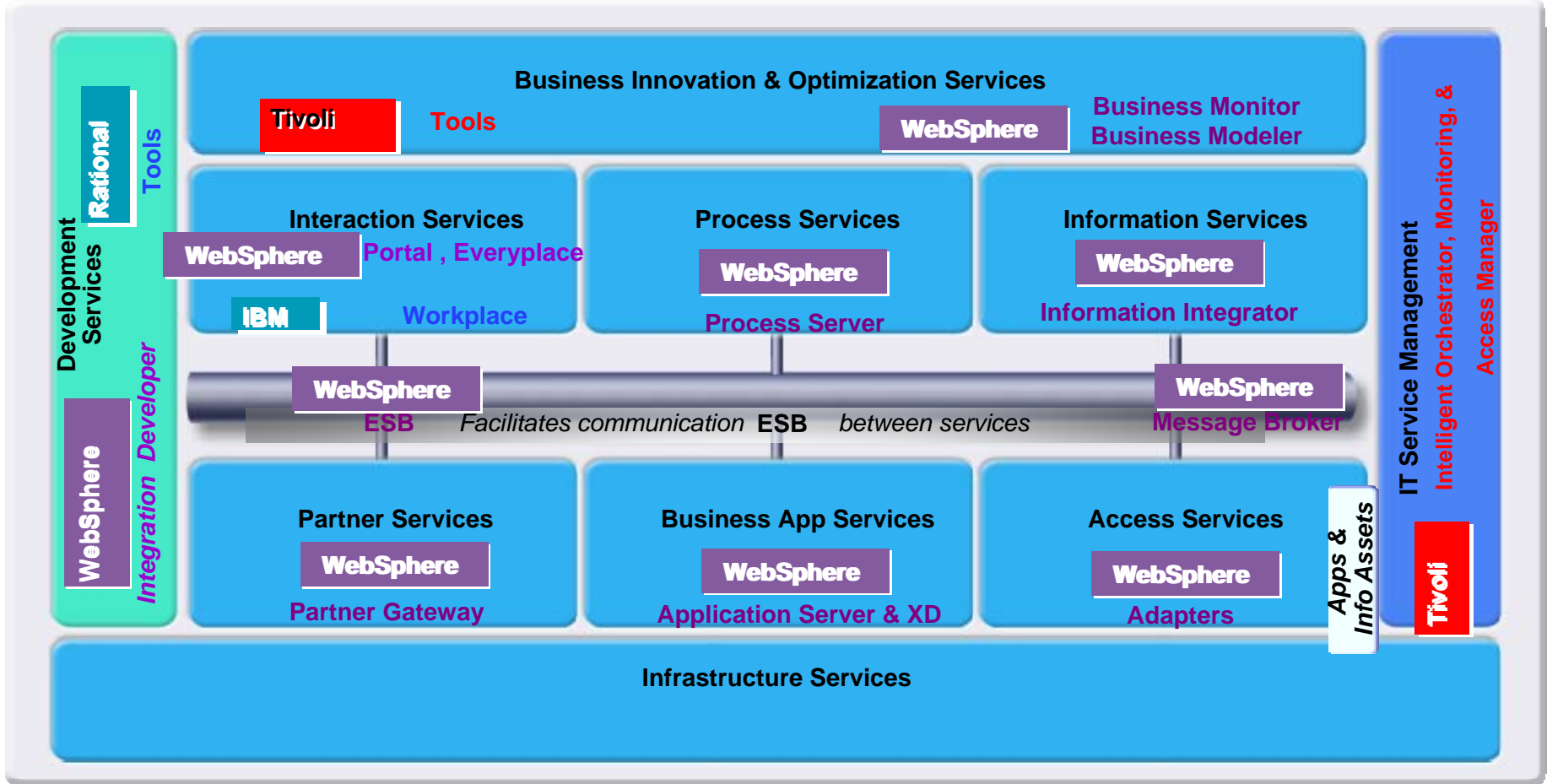**Notification of situations that require response**

Reports & Analyses
Understanding trends by combining real-time performance and historical information

Prompted Actions
Options provided to improve performance

Monitored Processes
Metrics of critical business processes

SOA Reference Architecture

Business Innovation & Optimization Services

Tivoli · Tools · WebSphere · **Business Monitor Business Modeler**

Development Services

Rational · Tools

WebSphere · Integration Developer

Interaction Services

WebSphere · **Portal , Everyplace**

IBM · **Workplace**

WebSphere · ESB · *Facilitates communication* **ESB** *between services*

Process Services

WebSphere · **Process Server**

Information Services

WebSphere · **Information Integrator**

WebSphere · **Message Broker**

IT Service Management

Intelligent Orchestrator, Monitoring, & Access Manager

Partner Services

WebSphere · **Partner Gateway**

Business App Services

WebSphere · **Application Server & XD**

Access Services

WebSphere · **Adapters**

Apps & Info Assets · Tivoli

Infrastructure Services

⬡ **Model, Assemble**   ⬡ **Deploy**   ⬡ **Manage**

ON DEMAND BUSINESS™

BMO Financial Group
Bank of Montreal assembles mainframe-based assets

The Challenge

- Teller application, based on early-1990s technology, did not integrate with sales and customer relationship management (CRM) systems.

- Deploy a new teller application that would allow flexibility, reuse of services and integration with other systems.

Real Results

- A common set of Web services for more than 300 types of financial transaction processes reused across multiple channels.

- Enhanced operational efficiency with a high-availability environment.

- Eliminated duplication, driving consistency for the personal banking line of business

How they changed

- Re-used and assembled CICS assets with new Web services interfaces into new CRM business process

- Used WebSphere Studio Application Developer-Integration Edition and CICS Transaction Server

- Web service interfaces deployed on WebSphere Application Server on zSeries to access CICS assets

DataPower Continues SOA Foundation Enhancement

WebSphere Integration Developer
Rational Application Developer
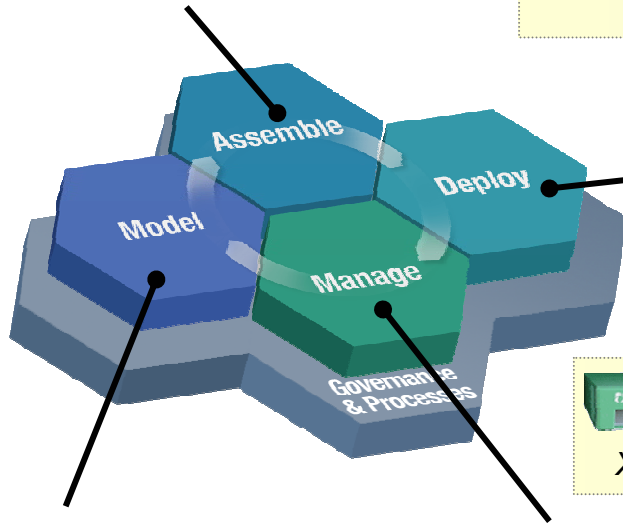
XI50 XML Message Handling

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

XA35 XML Accelerator

Application Infrastructure:
   WebSphere Application Server & XD

WebSphere Business Modeler
Rational Software Architect

WebSphere Business Monitor
Tivoli Composite Application Manager

Tivoli software *does*

+ **Tivoli Federated Identity Manager**
Tivoli Access Manager for e-business

DataPower does
B2B XML Security Policy Enforcement

SOA Security Management
Policy Management
Federated Identity Management
Auditing and Compliance for SOA
User Provisioning

ON DEMAND BUSINESS

e-business Evolving to On Demand

Access	**Enterprise Integration**	**On Demand**
Connect to the Internet...	**Buying, not browsing... working, not surfing, …..**	**Optimize operations...**

Access	Publish	Transact	Integrate Internally	Integrate Externally	Adapt Dynamically
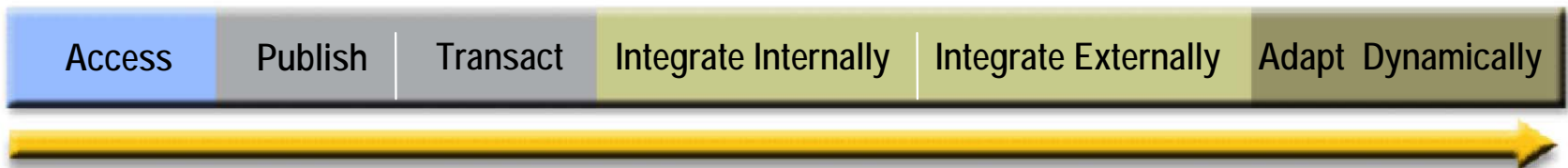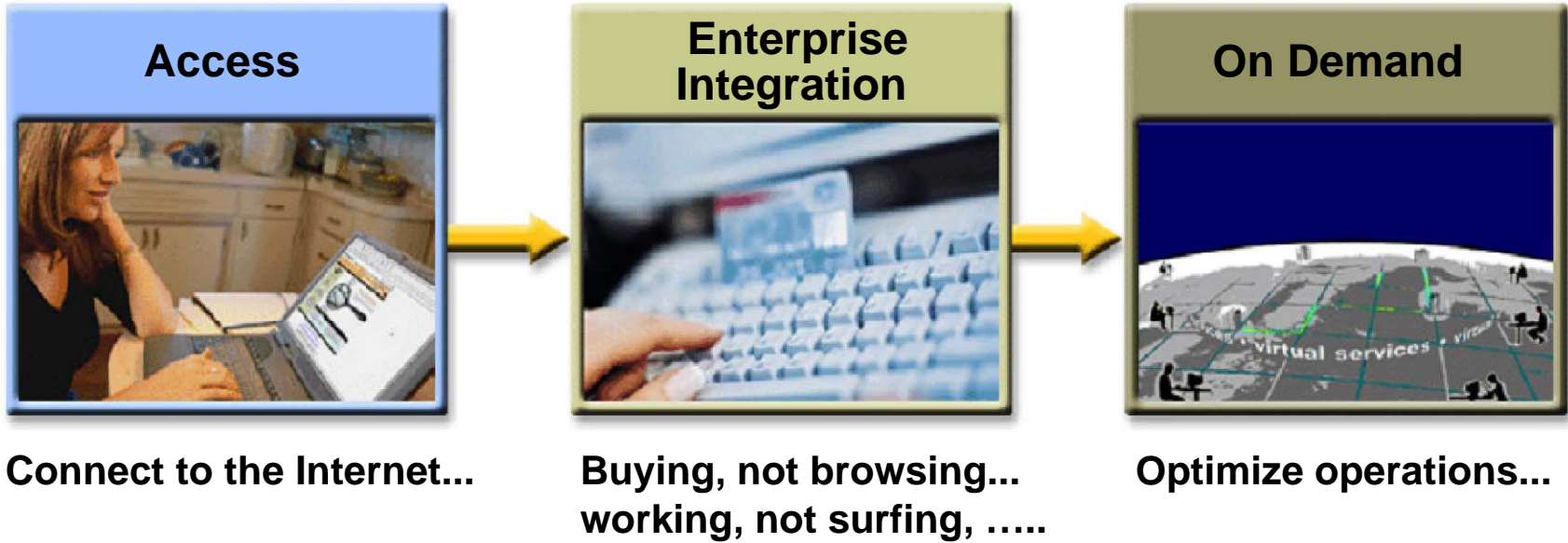
An on demand business is an enterprise whose business processes – integrated end-to-end across the company and with key partners, suppliers and customers – can respond with speed to any customer demand, market opportunity or external threat

SOA on your terms and our expertise

ON DEMAND BUSINESS™