



WebSphere Software

WebSphere Process Server Realizing the benefits of SOA on System z

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<http://www.ibm.com/software/integration/wps/>

<http://www.ibm.com/soa>

SOA on your terms and our expertise

ON DEMAND BUSINESS™

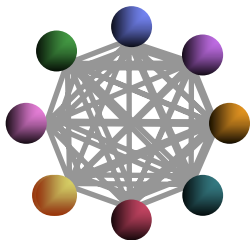
Agenda

- IBM SOA Foundation
 - End-to-end process capabilities
 - BPM: Realizing the value of SOA
 - 9 Key IT Differentiators WebSphere Process Integration
- BPM for SOA on System z: New News
 - WebSphere Process Server (and ESB) for z/OS
 - Tools that support the entire SOA lifecycle for BPM
- Why on System z? And what's Unique?
- Summary

SOA builds flexibility on your current investments

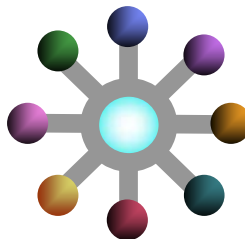
The next stage of integration

Messaging Backbone



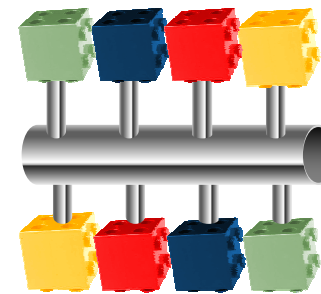
- Point-to-Point connection between applications
- Simple, basic connectivity

Enterprise Application Integration (EAI)



- EAI connects applications via a centralized hub
- Easier to manage larger number of connections

Service Orientated Integration



- Integration and choreography of services through an Enterprise Service Bus
- Flexible connections with well defined, standards-based interfaces

Flexibility

As Patterns have evolved, so has IBM

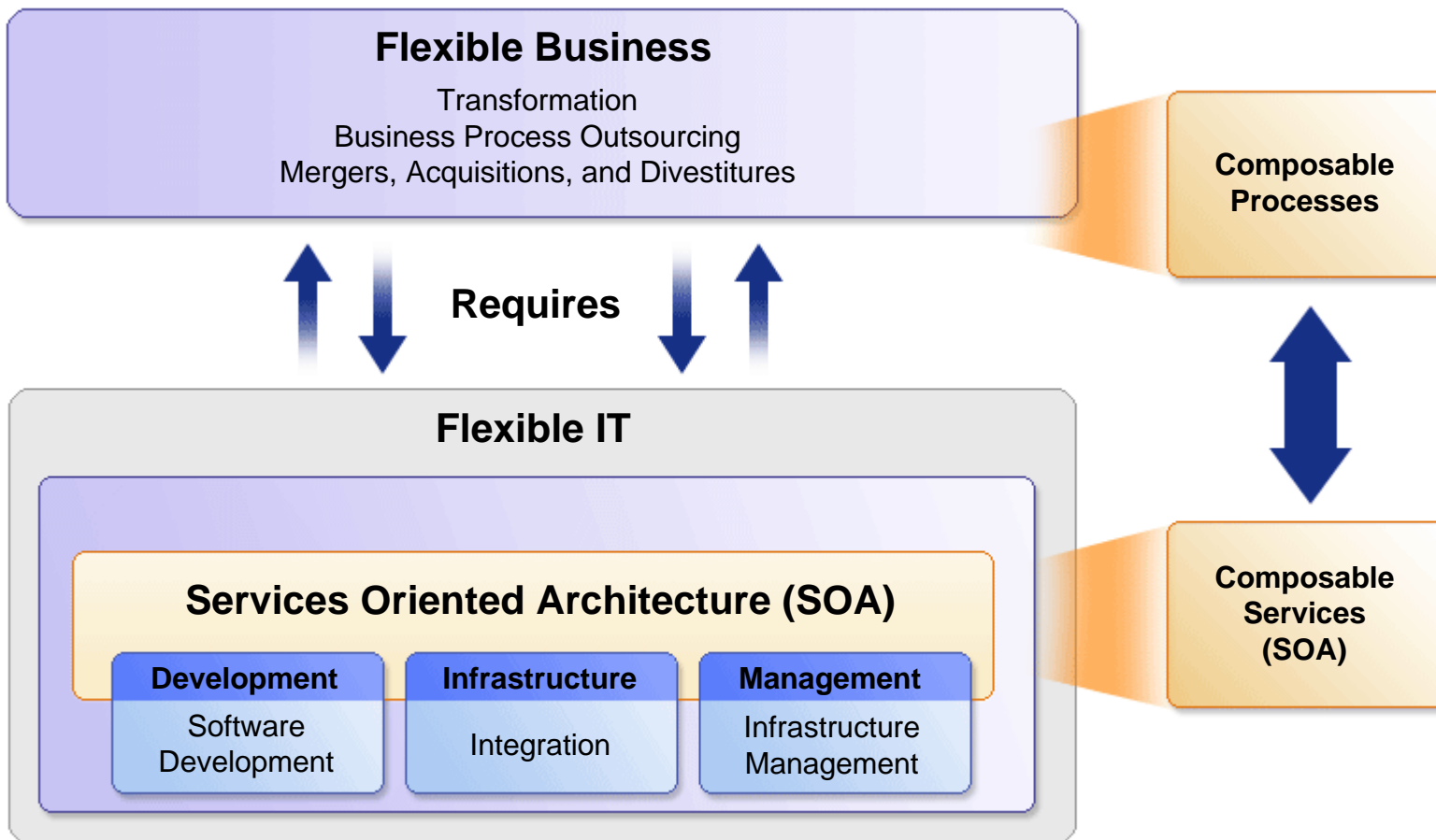
Why SOA now?

- To keep pace with global competition:
 - “We are taking apart each task and sending it ... to whomever can do it best, ... and then we are reassembling all the pieces”
from Thomas Friedman’s ‘The World is Flat’
- The standards and technology are finally in place, with broad industry support
- Availability of best practices for effective governance
- The necessary software to get started is available today



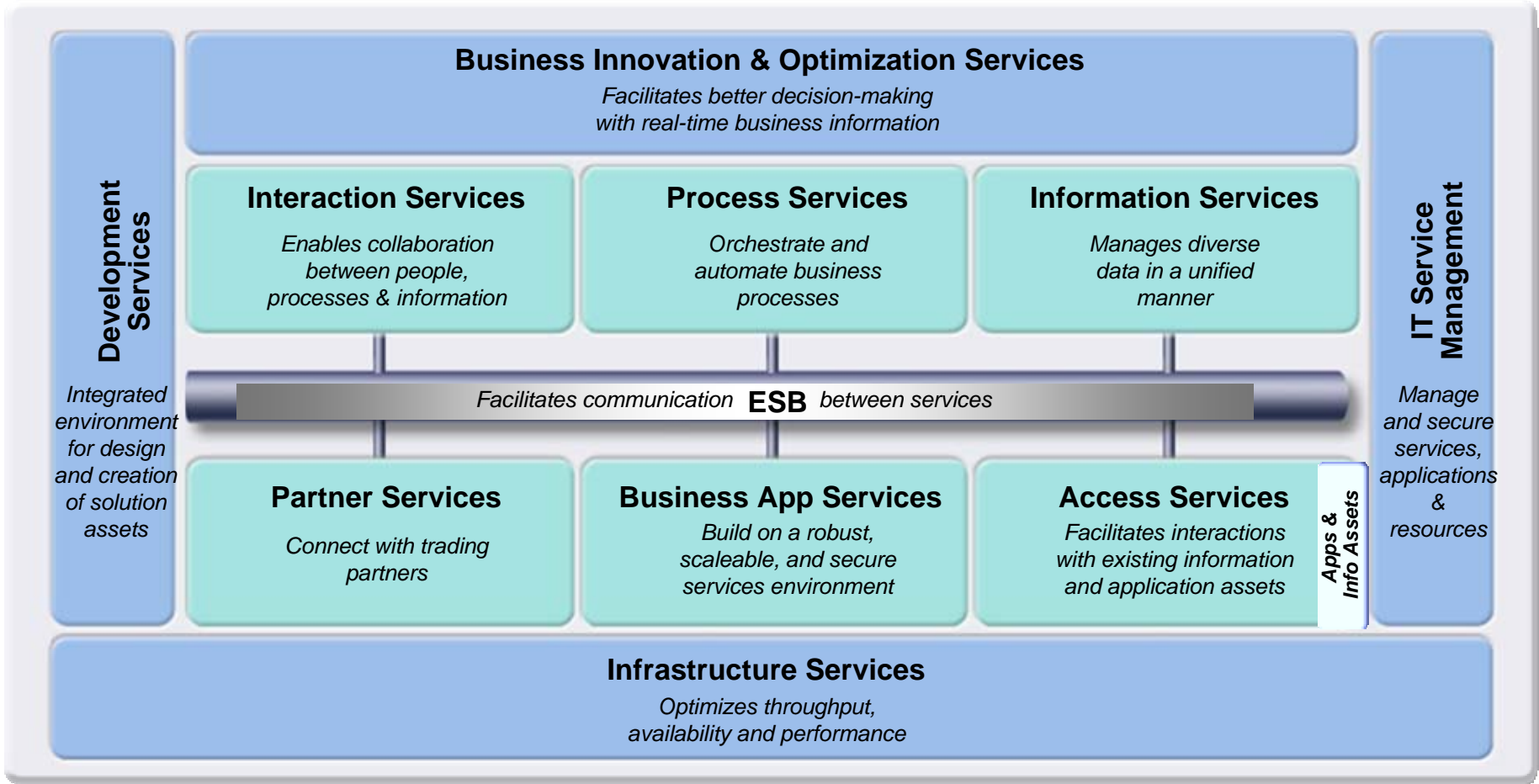
Companies want change at the speed of business

Flexible Business Requires Flexible IT



Change requires a Business Centric view of IT: SOA.

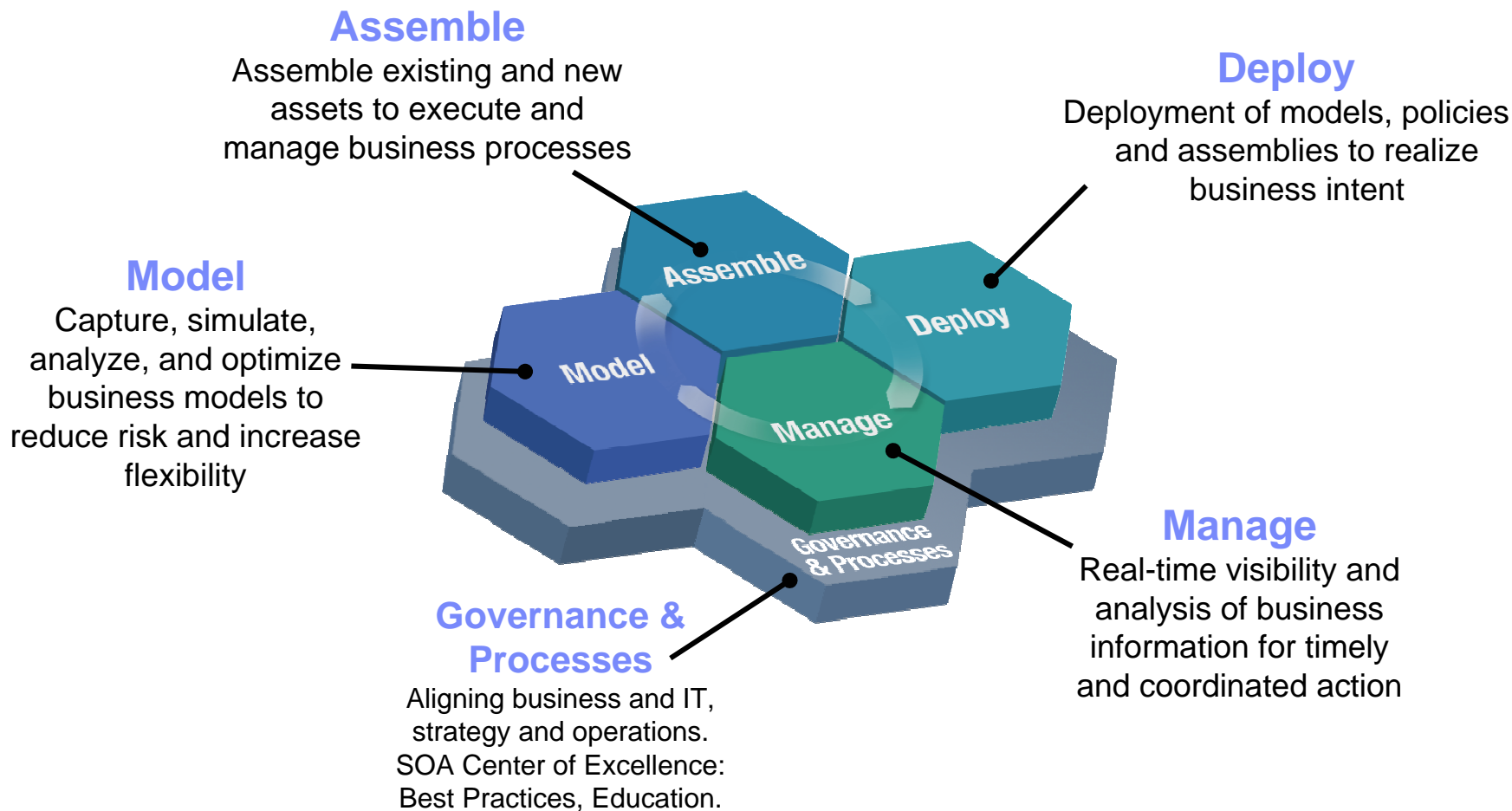
SOA Reference Architecture *allows you to create a set of related and integrated services that support a business process*



Enabling: Solution building efficiency. Reuse of existing assets. Flexibility in change.

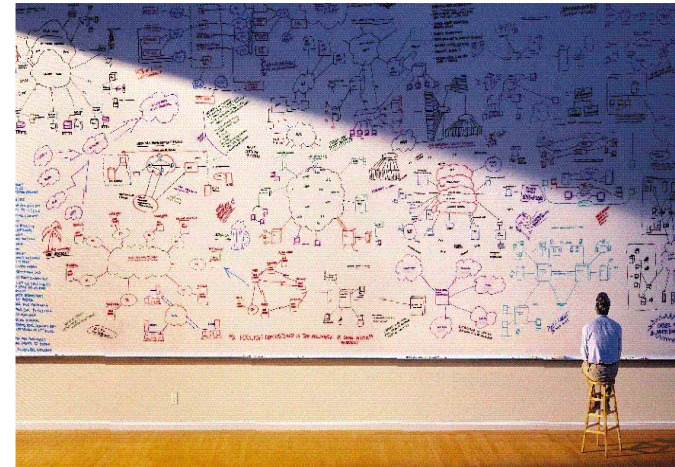
Business Process Management: Realizing the value of SOA

SOA improves how you design, manage and optimize your business processes



Business Processes

- Coordinated chains of activities producing a business result
- Typically consist of:
 - Human activities (Human Workflow)
 - Business system activities (such as ERP, or CRM,...)
 - Combinations of human and system activities
- Define how the business runs at an operational level
- May be hidden or embedded:
 - In the organization and culture of a company
 - In the business systems of a company
- Are often poorly understood



Business Process Management

- Business Process Management is a differentiating business **capability**
 - BPM allows business to design, understand, automate and manage their operational business processes

- BPM consists of compounding layers of value
 - **Business process modeling**
 - **Business process automation**
 - **Business process monitoring**

- It enables a **collaboration between LOB and IT**
 - Business tools for business operations design and analysis
 - Technology tools for business operations execution

End-to-end process capabilities for your SOA

New components to manage business processes

WebSphere Integration Developer

Easy-to-use integration to simplify and speed the assembly of composite applications



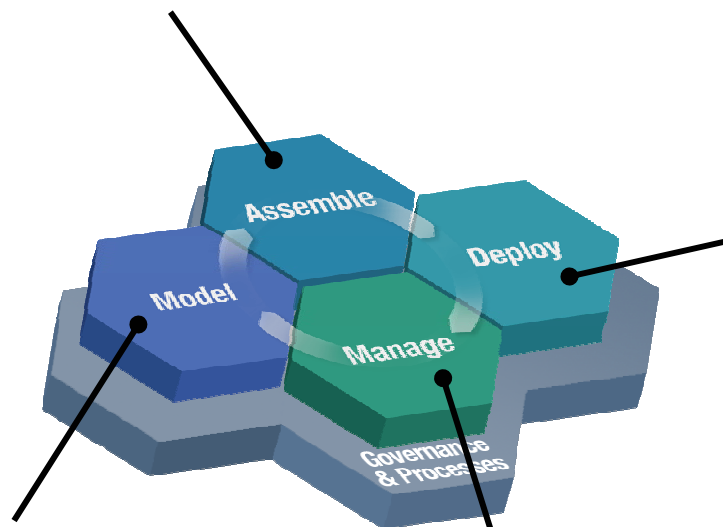
z/OS

WebSphere Process Server

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

WebSphere ESB & Message Broker

Connectivity infrastructure for integrating applications and services to power your SOA



WebSphere Business Modeler

Simple to use process modeling for the business analyst to help maximize process and business resource re-use

WebSphere Business Monitor

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

Introducing the IBM SOA Foundation on z/OS

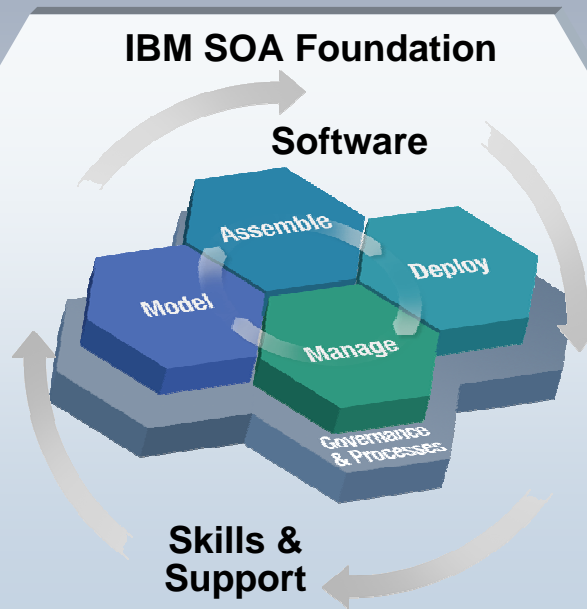
IBM SOA Foundation: Integrated, open set of software, best practice, and patterns

Supports complete lifecycle with a **modular** approach

Extends value of your existing investments, regardless of vendor

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

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



Leveraging existing IT Infrastructure

Oracle SAP BEA Microsoft CA Custom Apps.
CICS IMS

9 Key IT Differentiators of WebSphere Process Integration

- 1 *Process Model Simulation*
- 2 *Eclipse-Based Tooling*
- 3 *Triangle of Truth ~ C+D+I Isolation*
- 4 *Common Business Object Model*
- 5 *Dynamic Service Selection*
- 6 *Human Task Manager*
- 7 *Business State Machine*
- 8 *Common Event Infrastructure*
- 9 *Right-Fit Deployment ~ XP to Z*

New Product! WebSphere Process Server for z/OS

Comprehensive Business Flexibility

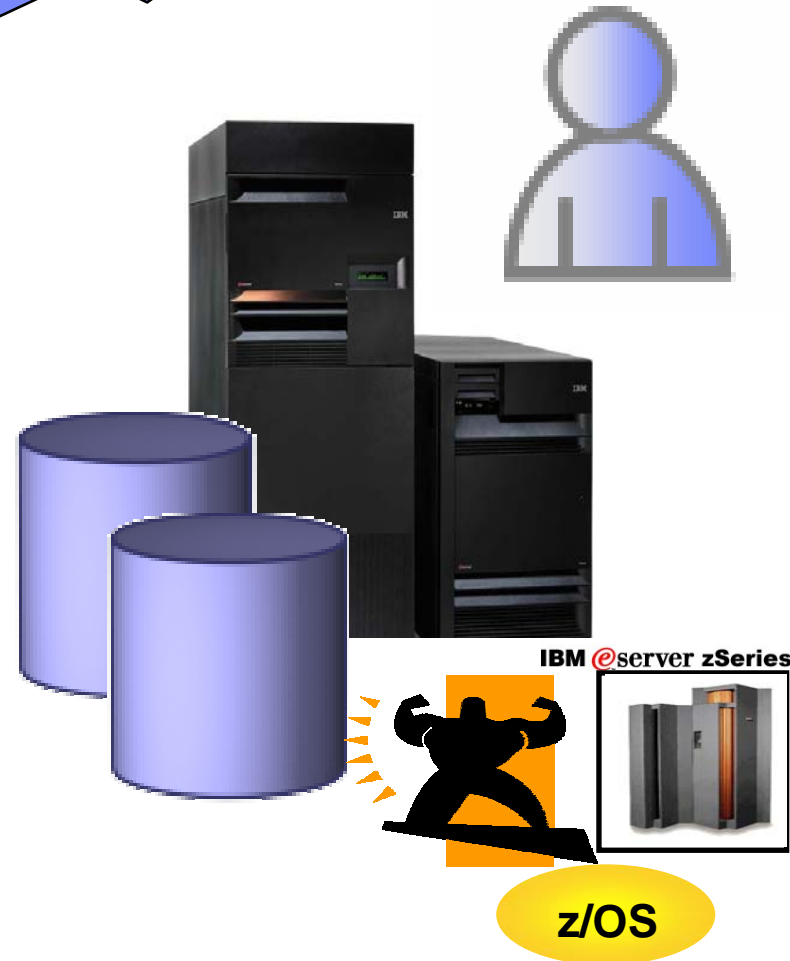
- Businesses want to understand and change their operational processes quickly
 - ...But their processes are: misunderstood, inconsistent, hard-wired, or inflexible
- Support all aspects of process integration
 - With a single process server, supported by integrated tooling
- Rapidly change process behavior to keep pace with business requirements
 - Build processes without knowing where the information is coming from (late binding of services)
 - Business rules control the execution sequence of the process and can change dynamically
- Integrated ESB for message transformation
 - Flexible Web services and Java Messaging Service (JMS) connectivity infrastructure
- Adapters provide the service on-ramp for existing applications
- Service Components and Business Objects
 - Build processes without knowledge of existing applications
 - Simplifying and accelerating, providing flexibility and reuse



A Single Process Server

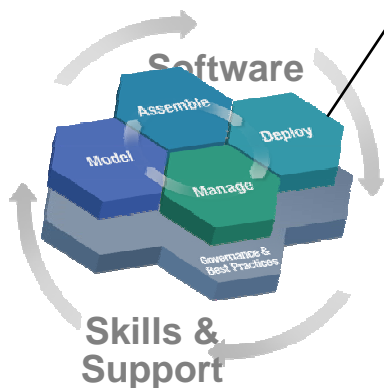
Unified platform
facilitates composite
applications

- Scalable, Reliable, Secure Platform (based on WebSphere Application Server)
- Wide Range of Platform Support
- Standards-Based Event Management
- Broad Support for Standards with optional valuable extensions
- Tight integration with IBM SWG portfolio
- Interoperability with existing investments



Support all aspects of process integration

- 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

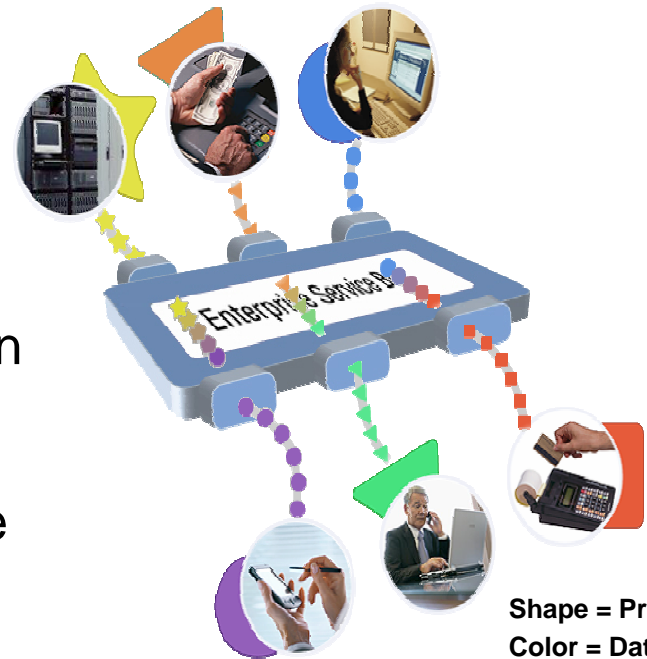


Integrated ESB for Range and Reach

Enterprise Service Bus - extend the reach into your IT with flexible options

■ WebSphere Process Server is powered by ESB

- **ROUTING** messages between services
- **CONVERTING** transport protocols between requestor and service
- **TRANSFORMING** message format between requestor and service
- **HANDLING** business events from disparate sources



■ Standards based Integration

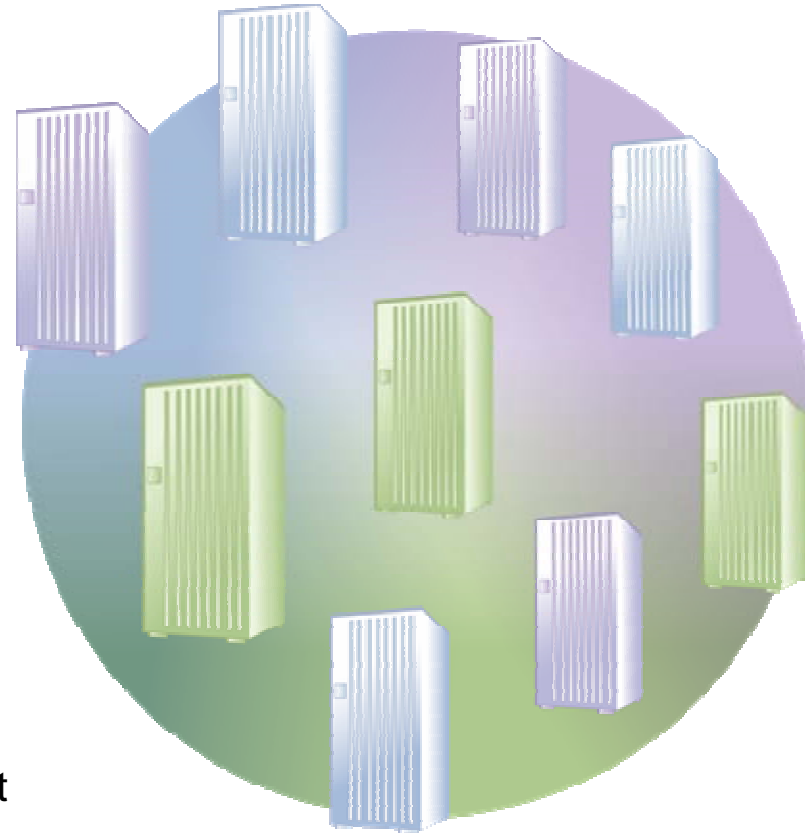
- Web Services connectivity
- JMS messaging

Scalable, Reliable, and Secure

Leveraging infrastructure services from WAS

An extension to the world-leading WebSphere Application Server

- High Qualities of Service
 - Clustering, failover, high availability and robust platform
 - Single administration environment
 - Common Event Infrastructure for Process Monitoring
- Service Oriented Architecture
 - A uniform data representation model (Business Objects)
 - A uniform service representation model (Service Components)
- Single Runtime Platform
 - Reduces complexity and administration cost



Service Component Architecture

Composite Applications – Composition, Data, Invocation

- IBM, along with BEA, Oracle, SAP, IONA, Siebel and Sybase announced the new specifications for SCA on Nov. 30, 2005

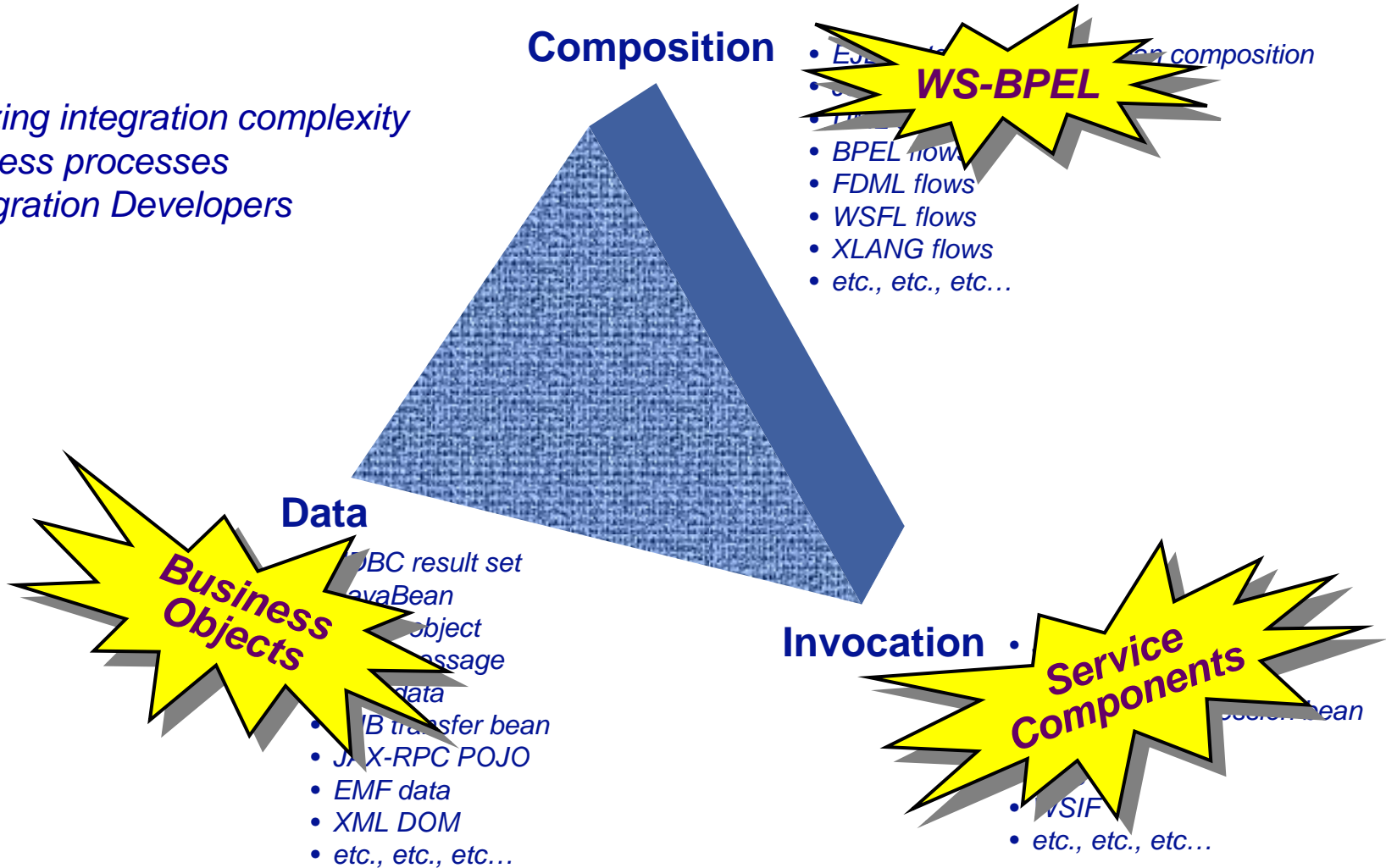
“ ‘SCA - A Deployment Descriptor On Steroids’ – Has Been Specifically Designed for SOA”. Web Services Journal, Nov 30, 2005

"The day of monolithic enterprise apps that aren't service-oriented is now over -- this effort puts the final nail in that coffin" – Ron Schmelzer, Analyst, ZapThink

- Although SCA was just announced, it is not new to IBM. WebSphere Process Server and WebSphere Integration Developer, which were announced in September 2005, were built on SCA and SDO.

The Challenge to Programmer Productivity for SOA ~ Solved!

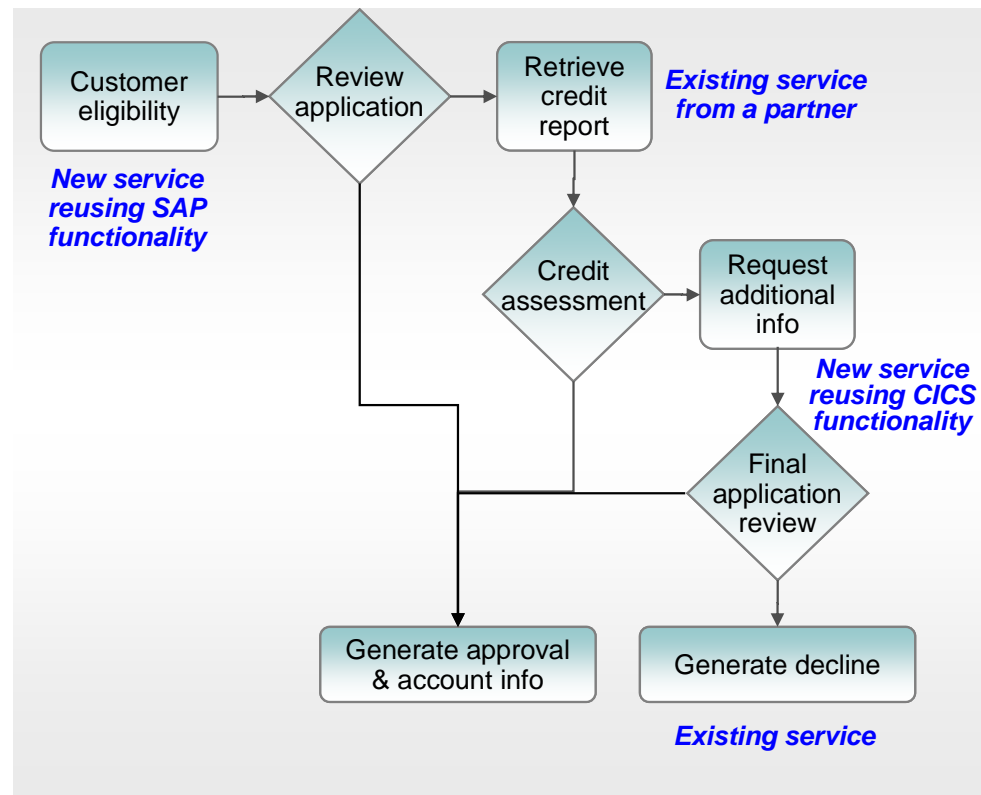
Normalizing integration complexity for business processes and Integration Developers



Companion Tool! WebSphere Integration Developer

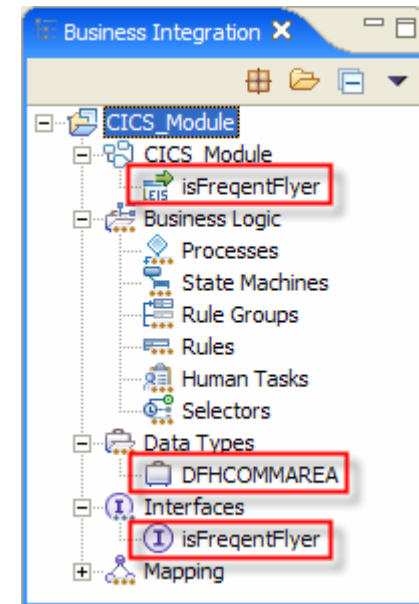
Graphical Tools for Assembling Composite Applications

- Streamlining process design hand-off between business and IT
- Import and work with business process models directly from the business analyst (WebSphere Modeler)
- Single architecture that supports multiple roles
- Simplifying and speeding development
- Easy to use tools where everything can be done through the GUI
- Can be the starting point for developing business processes through IT
- 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
- Leverages existing skills through technology built on Eclipse
- Migration tools allow you to use what you have today through WebSphere applications



CICS integration with WebSphere Process Server

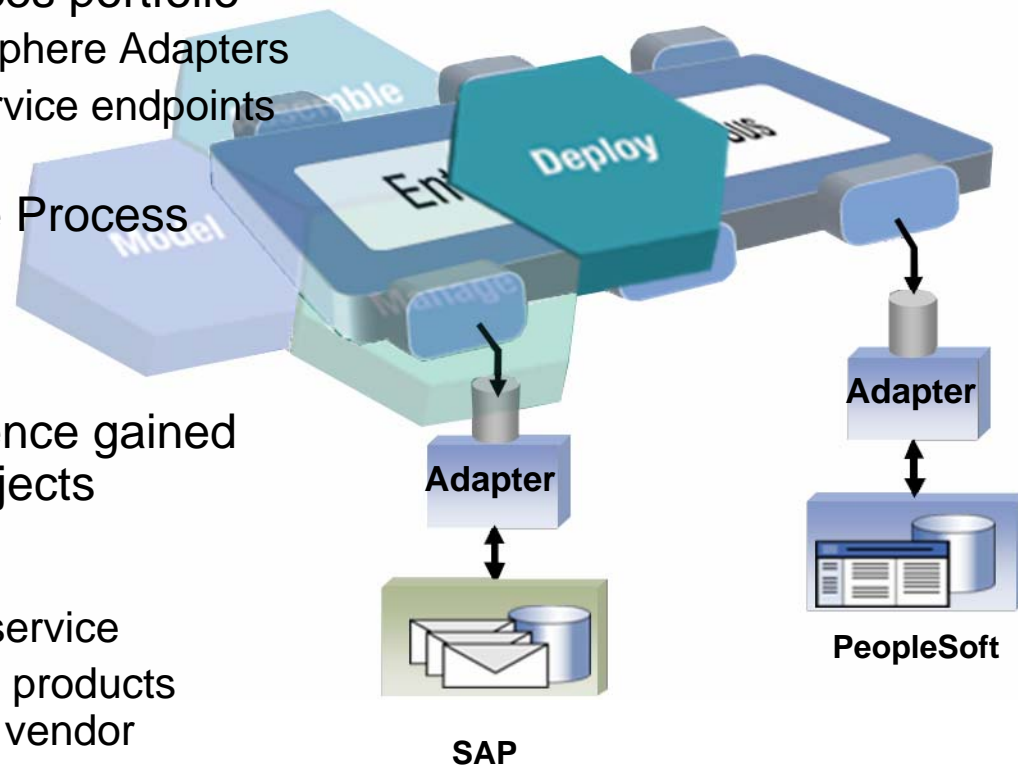
- WebSphere Integration Developer – Direct Integration
 - Enterprise Service Discovery wizard
 - Accepts a Cobol or C file defining the CICS COMAREA
 - Generates a CICS Transaction Gateway adapter. Creates
 - (i) a Business Object that represents the CICS com area;
 - (ii) an interface to invoke the CICS transaction and;
 - (iii) SCA import to call the EXEC CICS Interface (ECI)
- CICS Web services and WebSphere Integration Developer - Teamwork
 - CICS application developer modifies CICS transactions to expose coarse-grained business services for integration using WID, WPS.
 - Integration Developer (using WID) creates composite application using web services exposed by CICS TS v3.1 Service Flow Feature, WebSphere Developer for zSeries v6.0.1
 - SOAP/http – Business services exposed by CICS, WDz
- JMS / MQ based integration with CICS transactions
 - Use with MQ bridge, adapters
 - WBI Adapters for CICS, IMS, Natural (OEM from NEON Systems)
- HATS, Host-on-Demand for access to 3270 screen interfaces



Companion! Adapters – Service-enable application assets

Enterprise-ready connections based on industry best practices

- Broadest reach in the marketplace
 - Part of IBM's Access Services portfolio
 - Extensive library of WebSphere Adapters
 - Access to hundreds of service endpoints for business integration
 - Supported with WebSphere Process Server and ESB **for z/OS**
- Best Practices
 - Based on first-hand experience gained from integration service projects
 - Enterprise Ready
 - Mission-critical quality of service
 - Full portfolio of integration products available through a single vendor



For latest information on supported adapters, please see:
<http://www.ibm.com/software/integration/wbiadapters/>

IBM provides the broadest reach with access to hundreds of endpoints...

*For latest updates on supported adapters, please see:
<http://www.ibm.com/software/integration/wbiadapters/>*

▪ Web Services standards

▪ Enterprise Applications

- SAP
- Oracle E-Business Suite
- Siebel
- PeopleSoft Enterprise
- JD Edwards OneWorld
- Ariba Buyer
- Lotus Domino
- MS Exchange
- i2

▪ Messaging / Clients

- JMS
- WebSphere MQ
- XMS
- .NET
- C++
- Java
- MQe
- Multicast
- Real-time IP
- MQTT

▪ Technologies

- JDBC
- ODBC
- Email
- EJB
- Files
- FTP
- HTTP
- CORBA
- COM
- TCP
- LDAP

▪ Data Formats

- XML
- COBOL Copybook
- EDI X.12
- EDIFACT
- SWIFT
- FIX
- ACORD
- HIPAA
- HL7
- NCPDP
- C header

▪ Data Sources

- DB2
- Oracle
- Informix
- MS SQL Server
- Sybase
- JDBC
- ODBC
- VSAM
- IMS/DB
- Teradata

▪ Host Systems

- CICS
- IMS/TM
- COBOL
- RPG
- Tuxedo
- TN3270
- TN5250
- Batch
- Sequential files

▪ *...plus hundreds of adapters
from IBM business partners...*

z/OS Adapter Product Matrix (WAS, WPS, WESB)

DB2	IMS DB	VSAM	Sequential File (PDS)	Flat File (HFS)
JDBC: DB2 Universal Driver & WebSphere JDBC Adapter	JDBC: IMS JDBC & WebSphere JDBC Adapter	JDBC: II CF & WebSphere JDBC Adapter	JDBC: II CF & WebSphere JDBC Adapter	WebSphere Flat File Adapter
CA Datacom	CA IDMS	Software AG Adabas	Oracle database	
JDBC: II CF & WebSphere JDBC Adapter	JDBC: II CF & WebSphere JDBC Adapter	JDBC: II CF & WebSphere JDBC Adapter	JDBC: WebSphere JDBC Adapter	
CICS	CICS 3270	IMS TM	IMS MFS (3270)	LU 0 & LU 6.2
JCA: CTG WS: CICS Web Services JMS: MQ/ MQ CICS Bridge	JCA: HOD or CTG via CICS Link3270	JCA:IMS Connect WS: IMS SOAP Gateway JMS: MQ/MQ IMS Bridge	JCA HOD or IMS MFS Web Support	JCA: BTT
SAP	Siebel	Oracle applications	PeopleSoft	JD Edwards
WebSphere SAP Adapter	No z/OS Client	JDBC: WebSphere JDBC Adapter	No z/OS Client	No z/OS Client
FTP				
WebSphere FTP Adapter				

Note: JDBC driver sufficient for typical WAS applications using Create-Read-Update-Delete functionality. JDBC adapter needed for full WPS functionality beyond CRUD, e.g. to listen for data changes.

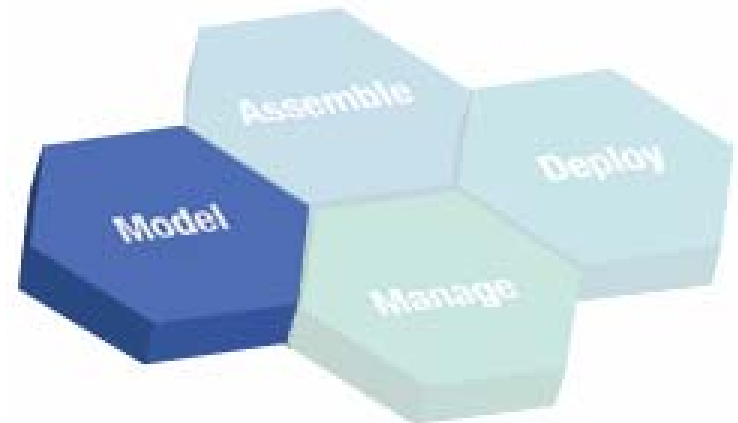
Integrated Tooling Framework Specialized by Developer Role

Role	Description	Benefits & Skill Requirements
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
Enterprise Developer	Tools for maintaining legacy assets and extending them to new users to enable those assets to be used in Service Oriented Architectures (SOA) and as Web services	WebSphere Developer for zSeries

Companion Tool! WebSphere Business Modeler

Business Analyst – Key Capabilities

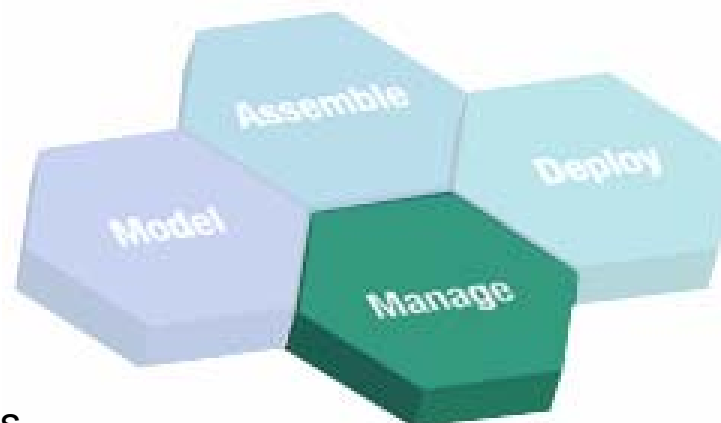
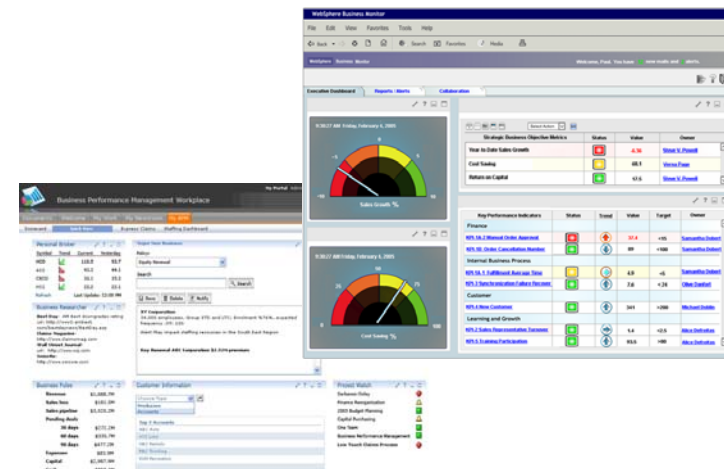
- Graphically Model Processes
 - Simple but comprehensive modeling
 - A business tool for business users
 - Model everything you need to design and "sand-box" your business process – Costs, Times, Resources
- Simulate And Analyze
 - Simulated execution of the business process with detailed statistical analysis tools
- Collaborate and Web Publish
 - Tools to allow multiple people to work as a team on business process work
- Visio import
 - Import existing process pictures done in Visio as a starting point for true business modeling
- Hand Off To IT
 - Export business and data models for use in IT deployment



Companion! WebSphere Business Monitor

Real-time Business Control

- Business Dashboards
 - Scorecards of Key Performance Indicators
 - Track cost, time and resources
 - Identify bottlenecks, balance workloads, reduce latencies
- Process Intervention
 - Business event triggers and notifications
 - Dynamic response to alerts
- Continuous Process improvement
 - Real data in WebSphere Business Modeler to understand your business performance
 - Real data in WebSphere Business Modeler to design the next release of your business process

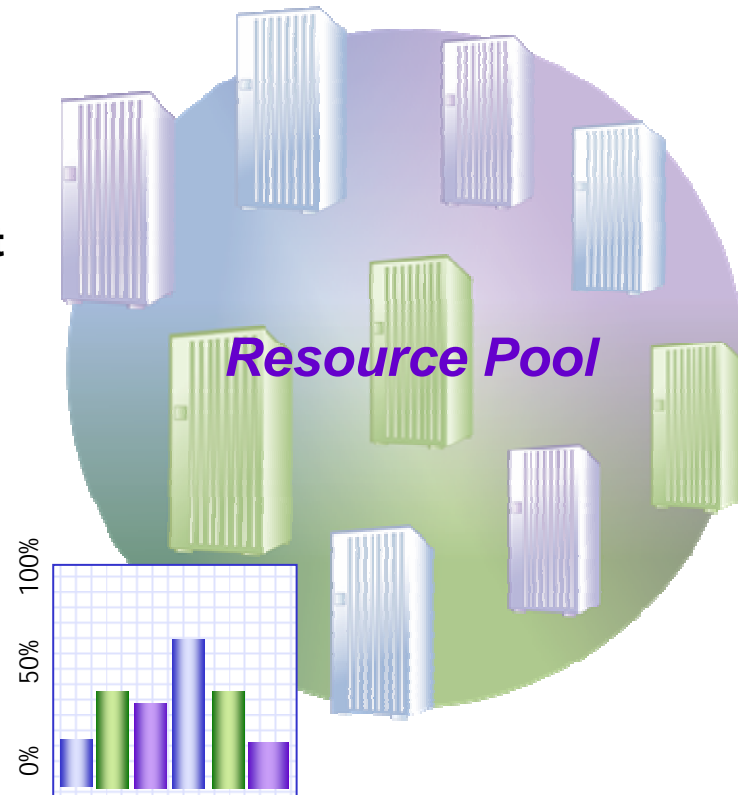


Create executive dashboards that monitor WPS for z/OS.

Add On! Extending Qualities of Deployment

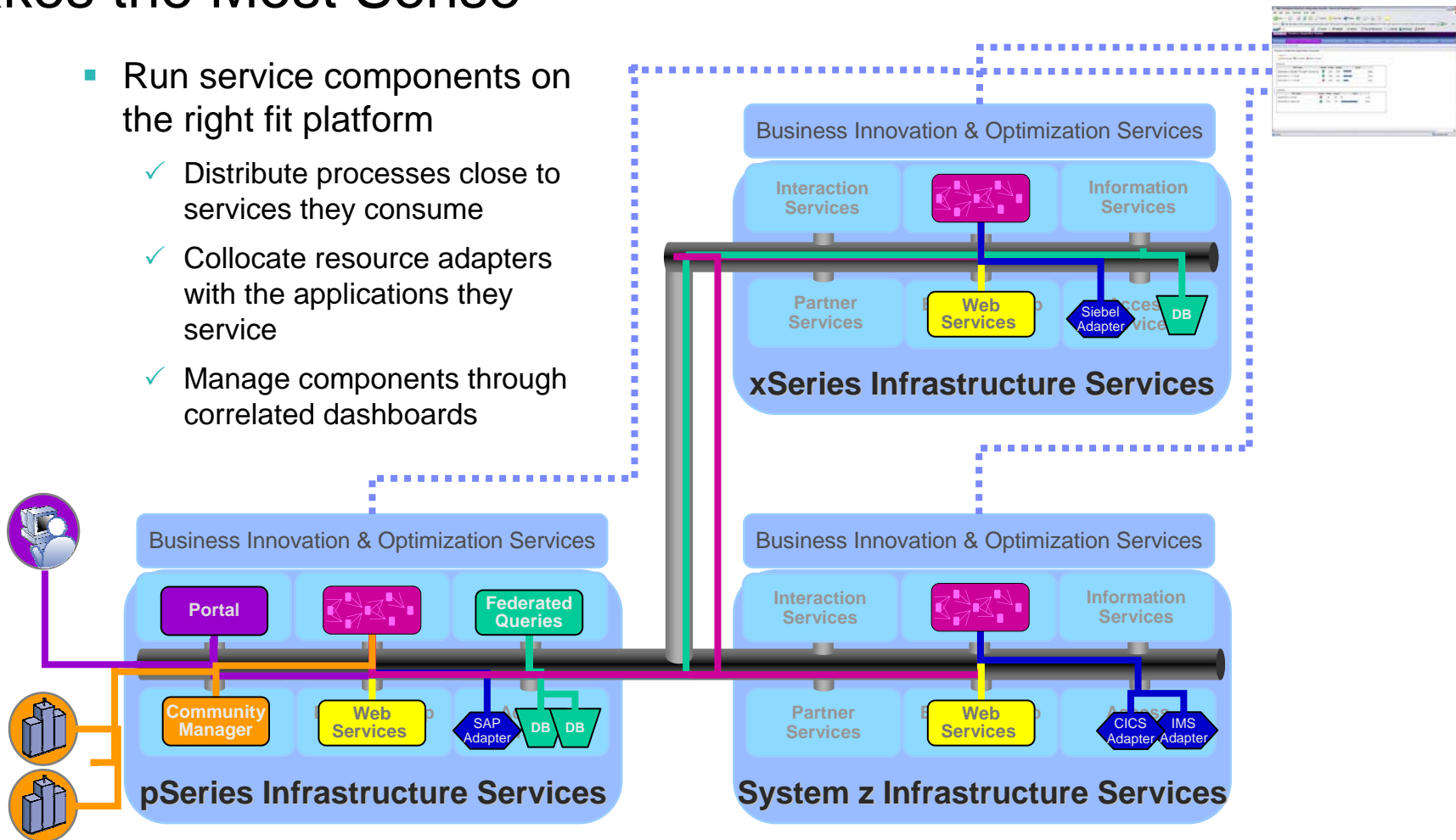
Leveraging WebSphere XD for heterogeneous environments

- **Flexibility for your heterogeneous environment**
 - ✓ Efficiently support mixed workloads
 - ✓ Effectively enable quality of service management for a mixed application servers and data sources
- **Optimizing the performance and throughput of your transactions**
 - ✓ ObjectGrid, a caching fabric which enables object data to be shared among multiple clients
 - ✓ Partitioning facility enables the development of highly scalable, high performance J2EE applications
- **Enhanced manageability**
 - ✓ At-a-glance assessments of system vitality and improved application manageability
 - ✓ Interruption-free application updates to manage the deployment of multiple application versions



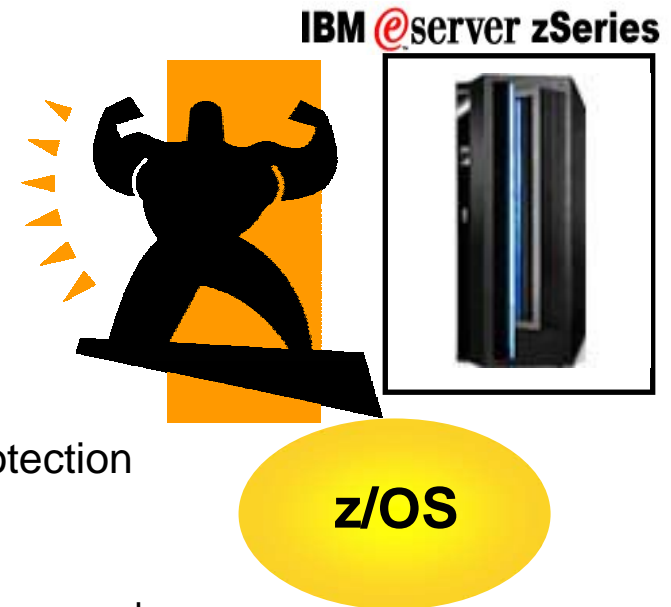
Access and Place Resources where it Makes the Most Sense

- Run service components on the right fit platform
 - ✓ Distribute processes close to services they consume
 - ✓ Collocate resource adapters with the applications they service
 - ✓ Manage components through correlated dashboards



The Value of System z for SOA and BPM

- Strategic platform for mission-critical business processes, core business applications and data
 - **Proximity:** Fewer physical components and network connections result in less complex infrastructure
 - **Integrity:** System-managed resource recovery and transaction coordination
- Highest possible Qualities of Service
 - **Security:** Most stringent access control and asset protection
 - **Availability:** z(ero downtime) /OS brand promise
 - 99.999% availability at the application and data level
 - Managed workload sharing toward achievement of business goals
 - Dynamic application of software changes
 - **Efficiency:** Full utilization of system capacity with same class of service
 - Less people to configure, monitor and adjust workload
 - zSeries Application Assist Processors (zAAPs) to execute java workloads under z/OS
 - Best Total Cost of Computing



SOA on zSeries – Modernizing your most valuable assets!

Designed to extend and enrich the value of core CICS and IMS applications

Composite business process applications
Retaining the Qualities of System z

Mining

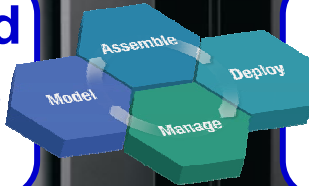
Refining

*CICS, IMS, DB2 and MQ
are enabled for SOA
today!*

*WebSphere solutions can be
deployed on any platform,
including z/Linux and z/OS.*

**Core data and
transactions
on System z**

**WebSphere
SOA platform
for System z**



Creates opportunities for ...

Unlocks the value of...

For asset reuse..

- time to value
- lower risk
- lower cost

.. and service integrity

- security
- availability
- recoverability

For business integration...

- User interaction
- Process management
- Information integration
- Enterprise service bus

**Central Enterprise DB.
Central Administration.
Most stringent security.**

**Continuous Availability.
Mixed Commercial Workloads.
Proximity to core transactions.**

The mainframe has powerful qualities that make it unchallenged as the heart of SOA

- A supple and responsive IT fully aligned with the business has always been the dream ...
 - Now SOA makes it a reality
 - You have the power to build new processes, exploit new channels, drive new business
- And with that power comes responsibility ...
 - To maintain full transactional control over your business processes
 - To administer full business control, and IT governance
- The mainframe has always been a trusted powerhouse in the enterprise - now it assumes responsibility



<http://www.ibm.com/software/integration/wps/>
<http://www.ibm.com/soa>

धन्यवाद
Hindi

多謝
Traditional Chinese

ขอบคุณ
Thai

Спасибо
Russian

Gracias
Spanish

Thank You
English

شكراً
Arabic

Merci
French

Obrigado
Brazilian Portuguese

Grazie
Italian

多谢
Simplified Chinese

Danke
German

நன்றி
Tamil

ありがとうございました
Japanese

감사합니다