

System z as the Heart of Business Process Management

IBM Software Group



The Business Landscape is Changing

Forcing Companies of All Sizes to Respond to a 'Flat World'

Innovation that matters to CEOs:

- Extend the ability to collaborate inside & outside
- Innovate business models & processes
- Leverage information for business optimization
- Integrate globally
- Agile business processes



87% expect fundamental change in next 2 years
78% believe innovation requires business and technology

Sources: IBM Global CEO Survey, 2008. CMP Technologies, April 2007. IBM GBS Global CFO Study 2008.

Business Leaders know what's needed from their Business Processes to achieve their Objectives

- Support **innovative business models** and new **differentiated products and services**
- **Change rapidly** and continuously **optimize operational capabilities**
- Provide a **real-time operational view** with the ability to **intervene fast**



Customer Business Objectives

Innovation

Top line growth

Operational Excellence

Reduce costs

Gain market share



How can I...



...meet these business objectives?

...leverage my existing resources and IT systems?

...deliver at a pace and cost that beats my competition?



Legacy Claims Database

Auto Claims System

Home Claims System

Life Insurance Claims

Policy Administration System

...

The Challenge

Innovation

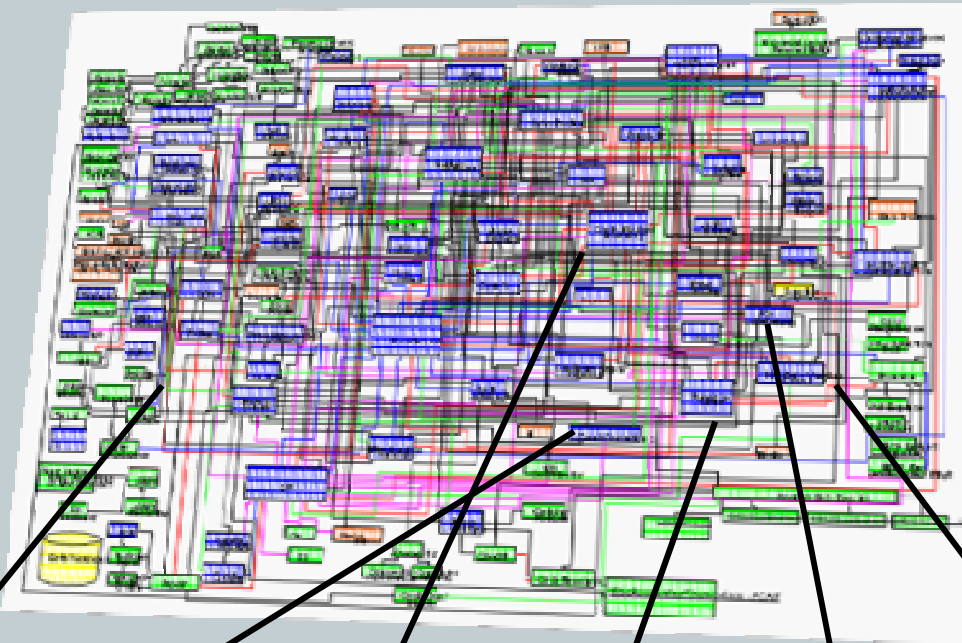
Top line growth

Operational Excellence

Reduce costs

Gain market share

- *Complex processes & systems*
- *Complex applications & interfaces*
- *Difficult to adapt quickly*
- *Large portion of IT budget spent on maintenance, not on new “value add” investments*



Legacy Claims Database

Auto Claims System

Home Claims System

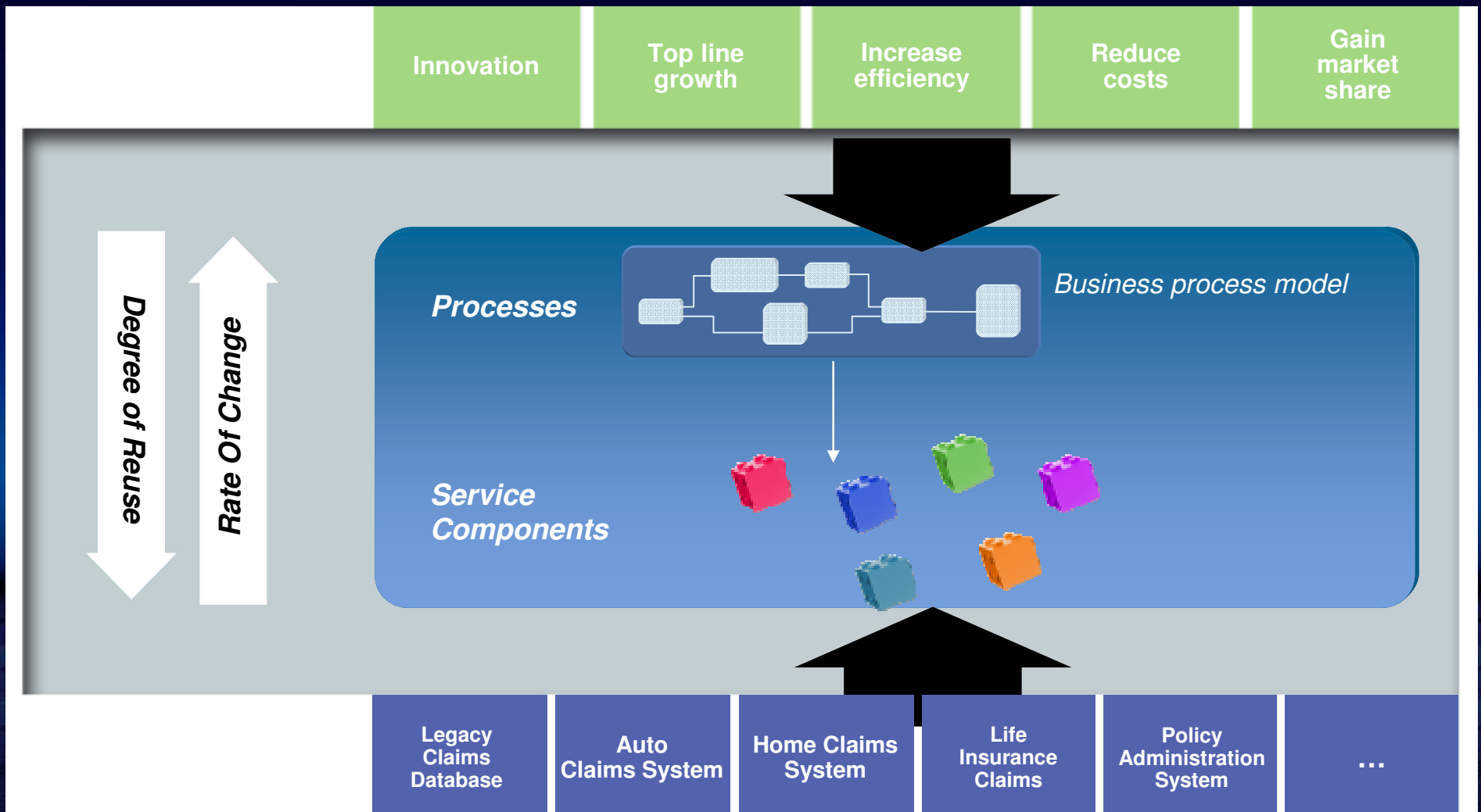
Life Insurance Claims

Policy Administration System

...

Service Oriented Architecture addresses your challenges

And using System z as the hub of your SOA transformation provides unique value



System z is the best place for your SOA Hub

Qualities of service make the difference

■ Availability

- Highest availability in the industry
- Keep your business processes running 24X7
- Shared services down time has greater impact on business

■ Security

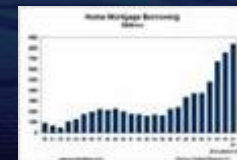
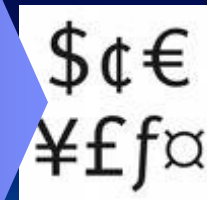
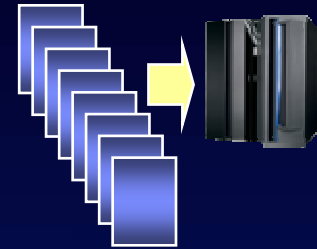
- Most secure platform in the industry
- Business processes are your competitive advantage

■ Performance

- Keeping business services close to the data improves performance
- Minimizing network hops reduces latency

■ Scalability

- Quickly add new capacity non-disruptively
- Scale up and scale out



SOA Entry Points

Reuse, Connectivity, Process

* New!

Application Infrastructure Portfolio

- Reuse and extend existing applications
- Build, run, integrate and manage dynamic, business applications



Reuse

* New!

IBM Connectivity Portfolio

- Improve connectivity to existing applications
- Loosely couple services to processes through service mediation

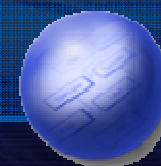


Connectivity

* New!

Business Process Management

- Integrate business processes with existing IT assets as services
- Simplify the description and creation of business processes



Process



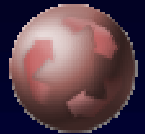
System z capital waiting to be re-invested

- **70% ⁽¹⁾ of corporate data is stored on the mainframes**
- **CICS handles more than 30 billion transactions/day ⁽³⁾ valued at over \$1 trillion/week ⁽³⁾**
- **DB2 has delivered 100% availability of customer information for 10 consecutive years, including migrations**
- **Scalable & high performing connectivity with WebSphere MQ for z/OS processing over 213M messages per day on z/OS in the banking industry alone**
- **\$5T of core System z applications with estimated replacement costs of \$20T ⁽³⁾**
- **System z has been estimated to contain \$3 Trillion ⁽²⁾ (USD) in core assets**
- **Mainframe can handle sustained peak workload utilization of 100% without service level degradation**
- **Mainframe can handle 9,000 transactions per second operating on more than more than 380 million accounts ⁽⁴⁾**
- **Over 15 Million GBs of Production data managed by IMS with over 50 Billion Trans/day and over 200 Million Users/day**



1. LegacyJ Whitepaper
2. ComputerWorld
3. <http://webservices.sys-con.com/read/39850.htm>
4. IBM and FNS benchmark

Reuse: Service enabling existing applications

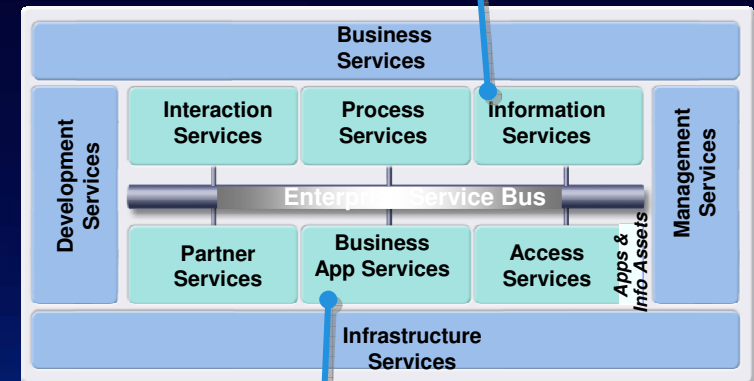


DB2 z/OS
IMS DB

* Enhanced!

CICS Transaction Server V3.2

- Create components from existing applications which are more flexible & configurable for use in new applications
- Extend existing applications beyond their original designs to support integrated business processes via standard APIs and protocols
- Management of large runtime configurations via modern user interfaces



* New!

IMS 10

- Reuse your existing and new IT investment for SOA
- Provide business flexibility, ease of new application development and management
- Lower operating costs through z/OS and zAAP engine exploitation
- New security capabilities for greater control and business flexibility
- Improved auditing and accountability

CICS Transaction Server
IMS Transaction Manager

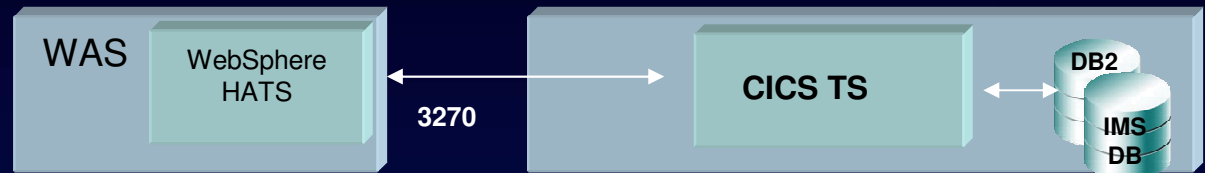
* Enhanced!

DB2 9 optimized for SOA

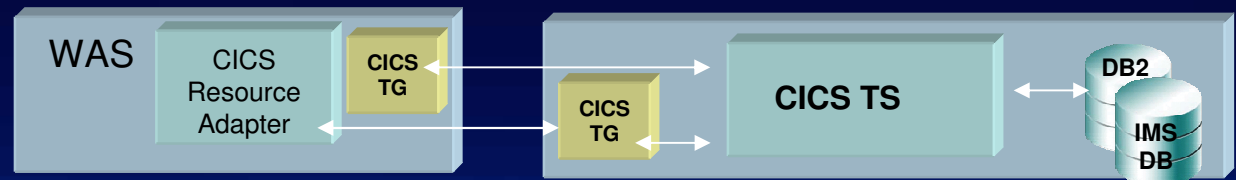
- Business insight and flexibility with pureXML
- WebSphere integration for trusted applications and web serving
- Security & SOA governance capabilities

Using CICS TS in Your SOA

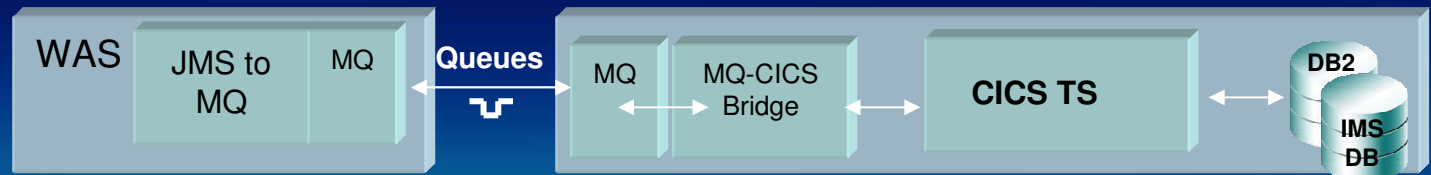
*WebSphere
Host Access Transformation Services
(HATS)*



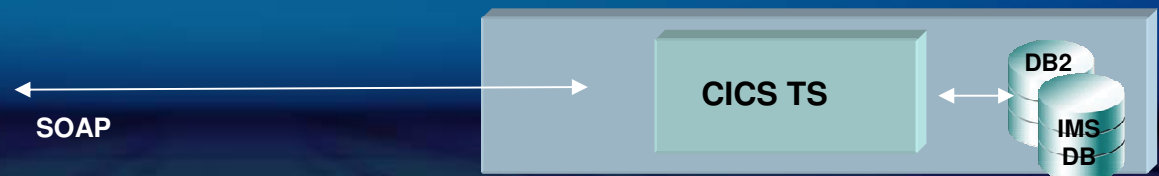
*J2C Connector:
CICS Transaction Gateway**



*JMS Connector:
MQ to CICS Bridge*



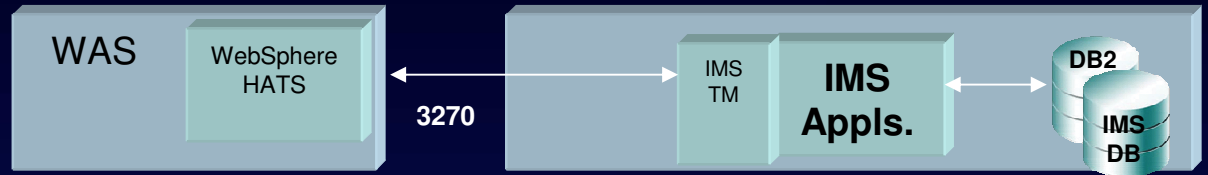
*SOAP Access:
CICS Web Services support*



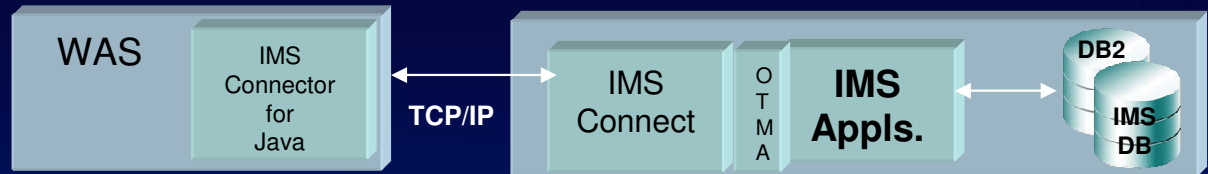
**WAS can be on z/OS, on zLinux or on any distributed platform.
Qualities of Services will vary.**

Using IMS TM in Your SOA

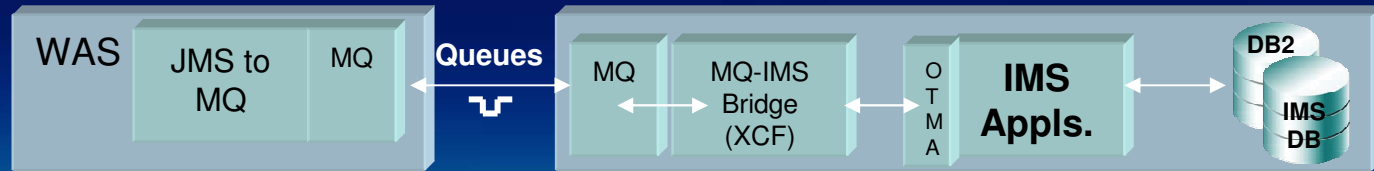
**WebSphere
Host Access Transformation Services
(HATS)**



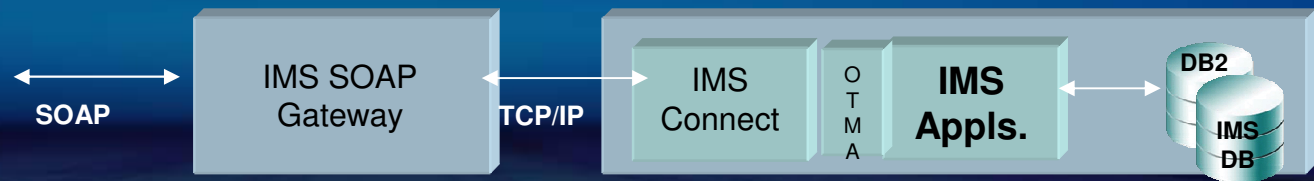
**J2C Connector:
IMS Connect / IMS Connector for Java**



**JMS Connector:
MQ to IMS Bridge**



**SOAP Access:
IMS SOAP Gateway**

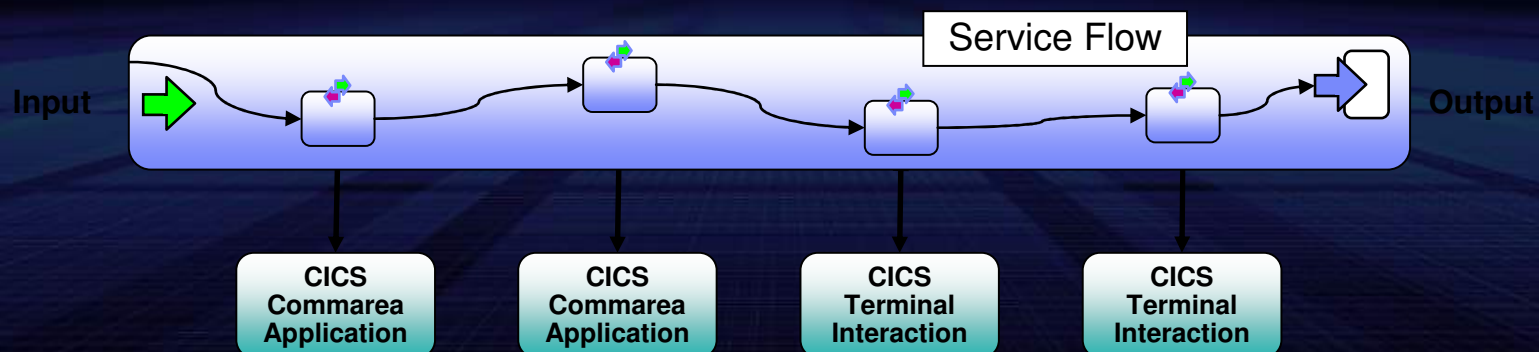


**WAS can be on z/OS, on zLinux or on any distributed platform.
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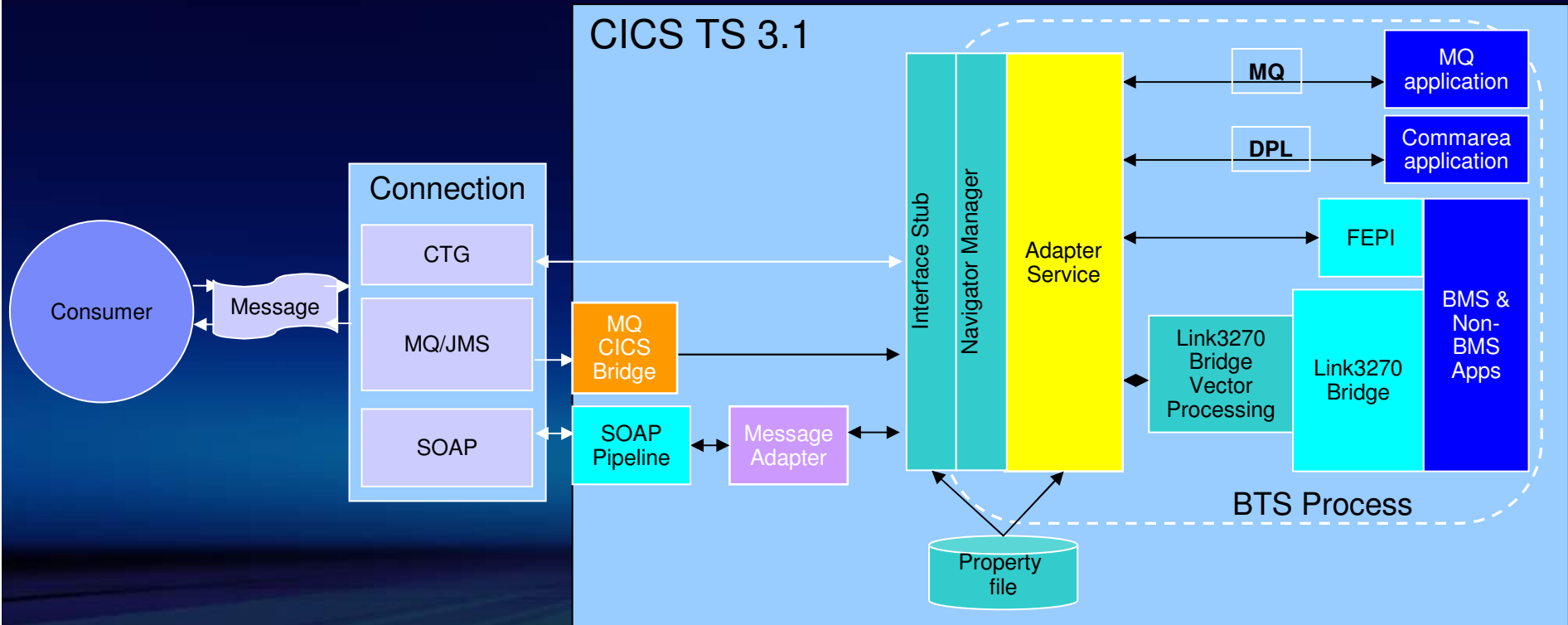
The CICS Service Flow Feature

Creating business services by aggregating applications

- **CICS Service Flow Builds Business Services That Can Be Assembled Into A Business Process**
 - Accelerates adoption of SOA technology by delivering access to existing enterprise CICS application assets utilizing Web Services standards.
 - Enhances the value of existing CICS applications through reuse, integration, and aggregation.
 - Generates CICS business services that preserve qualities of service by composing a sequence of CICS application interactions.
 - The CICS Service Flow Modeler allows you to build business services for integration in SOAs by composing a flow of CICS application interactions.
 - The composed flow runs as a highly optimized CICS application in the CICS Service Flow Runtime.



The CICS Service Flow Runtime



 = CICS Service Flow Runtime (Core)

 = Service Flow Modeler Generated

 = Rational Developer for System z Generated

WebSphere Service Registry and Repository

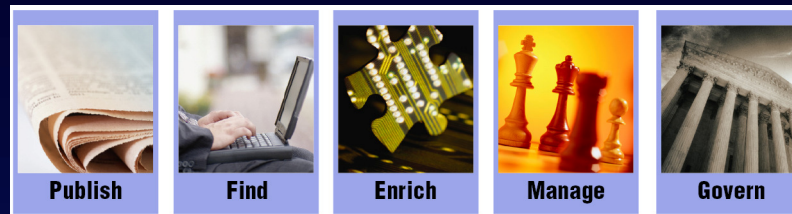
Provides value throughout the service lifecycle



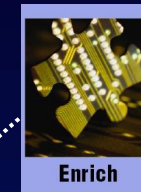
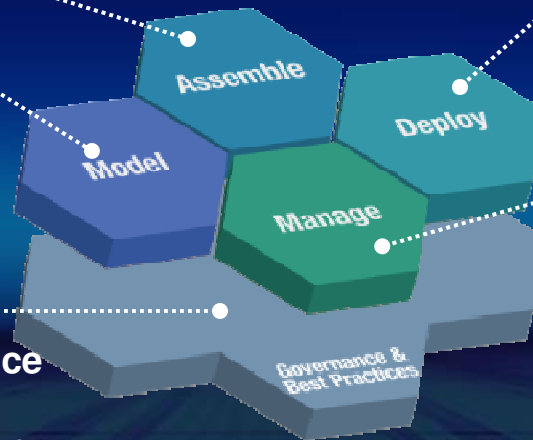
Promote Reuse
Find and reuse services for building new processes and applications.



Enable Governance
Govern services throughout the service lifecycle. Reconcile governed services with deployed services.



IBM WebSphere Service Registry and Repository 6.1

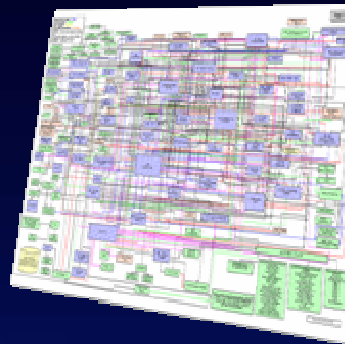


Enhance Connectivity
Enable dynamic and efficient integration of services. Enable enforcement of policies.

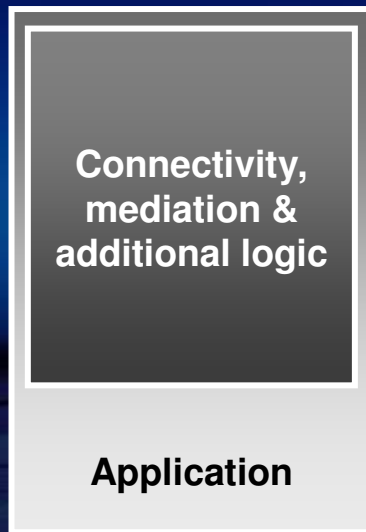


Optimize Service Usage
Impact analysis. Change notification. Version management. Socialize health and performance information.

The Evolution of Enterprise Integration

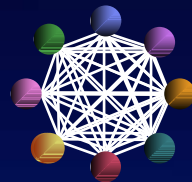


Direct Connectivity

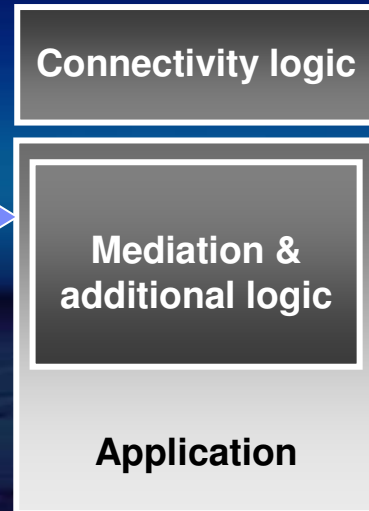


All connectivity, mediation & additional logic buried in the application

Point-to-Point connection between applications

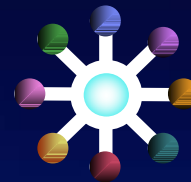


Message Queuing

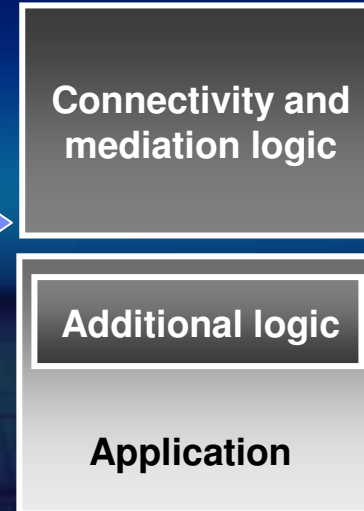


Abstracts the connectivity logic from the application

Applications via a centralized hub

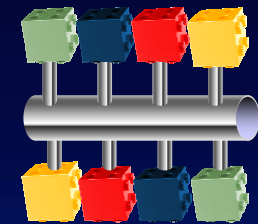


Message Brokering

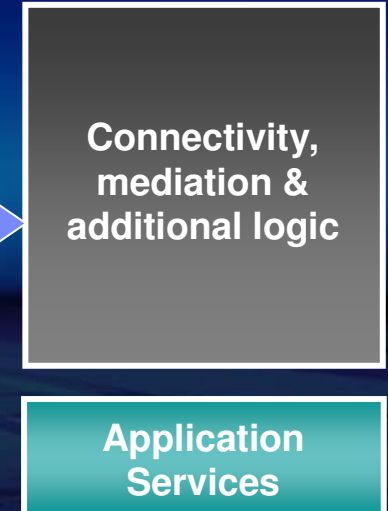


Abstracts the connectivity & mediation logic from the application

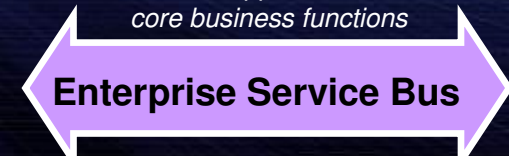
Integration of services through an Enterprise Service Bus



Service Orientation

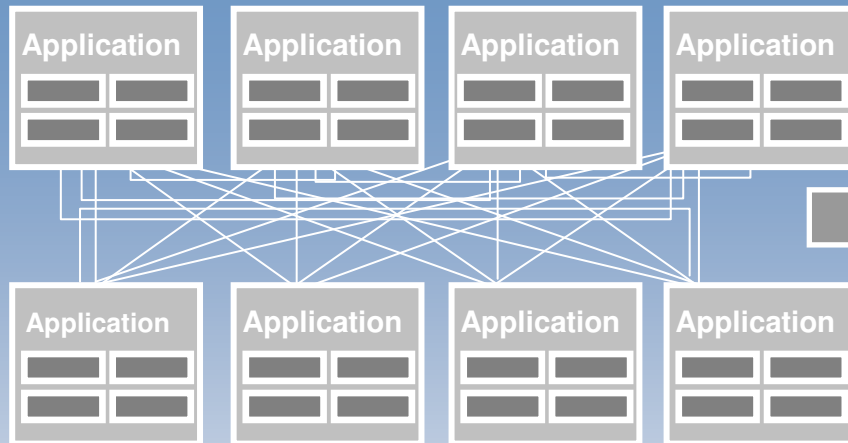


Reduces application to its core business functions



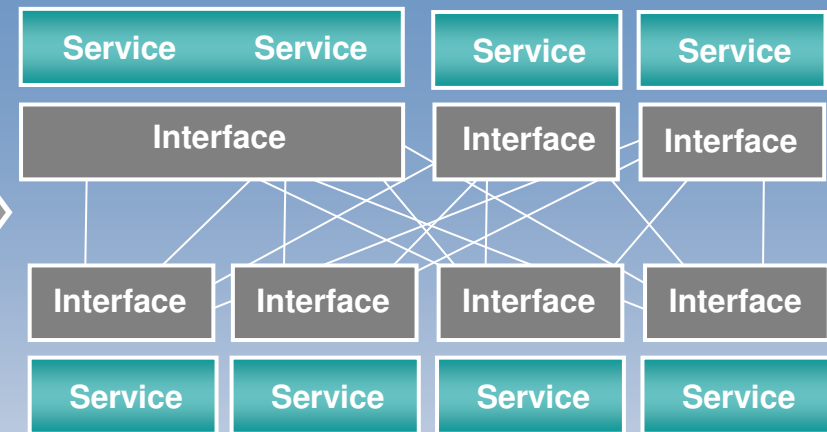
Web Services simplifies connectivity interfaces...

Web services turns this...



▬ = interface

...into this.



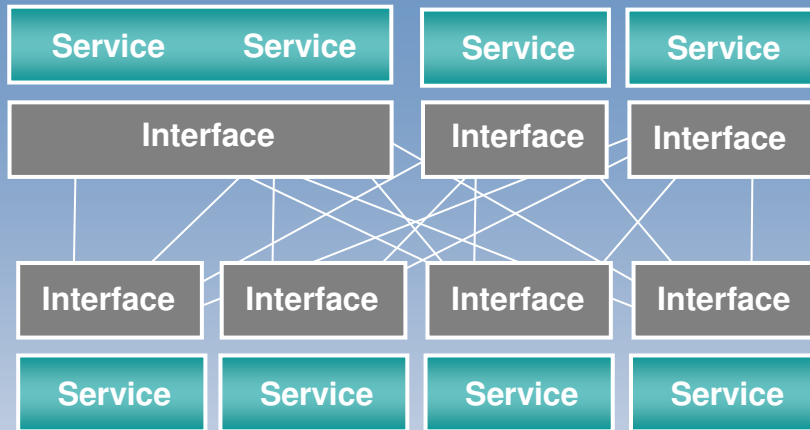
Web services:

- ✓ Introduces rich business abstractions to describe the application interface.
- ✓ Decouples the interfaces from the business applications.
- ✓ Reduces the number and technical complexity of interfaces.
- ✓ Enables re-use of both the business applications and their interfaces.

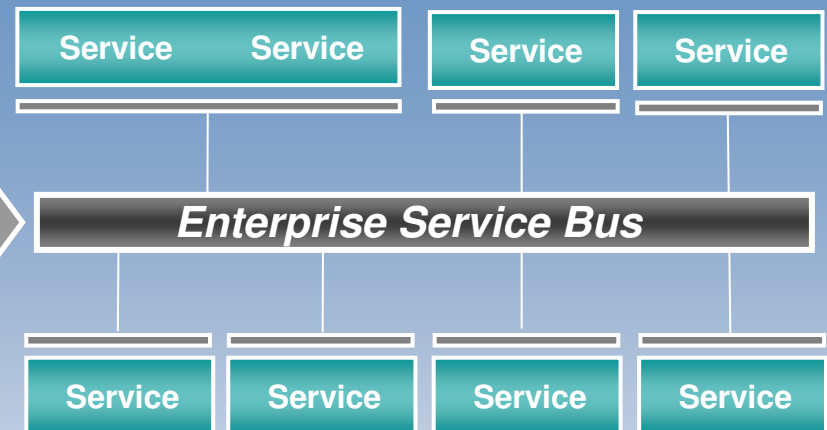
...but you still need to know (1) what services you can connect to, (2) where they are, (3) how to connect to them, (4) how to log into them, (5) how to mediate the differences in data between them.

To get full value from SOA you need an ESB

An ESB turns this...



...into this.



The ESB helps you:

- ✓ Identify and connect to the appropriate service without hardcoding.
- ✓ Communicate using the appropriate protocol for the service.
- ✓ Mediate data so that the message to the receiver makes sense.
- ✓ Log and manage the interaction and correlates events.

The ESB → Virtualizes access to services.

The Enterprise Service Bus

An Enterprise Service Bus (ESB) is a flexible connectivity infrastructure for integrating applications and services.

An ESB performs the following between requestor and service



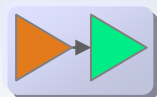
MATCHES & ROUTES

communications between services



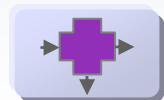
CONVERTS

between different transport protocols



TRANSFORMS

between different data formats



IDENTIFIES & DISTRIBUTES

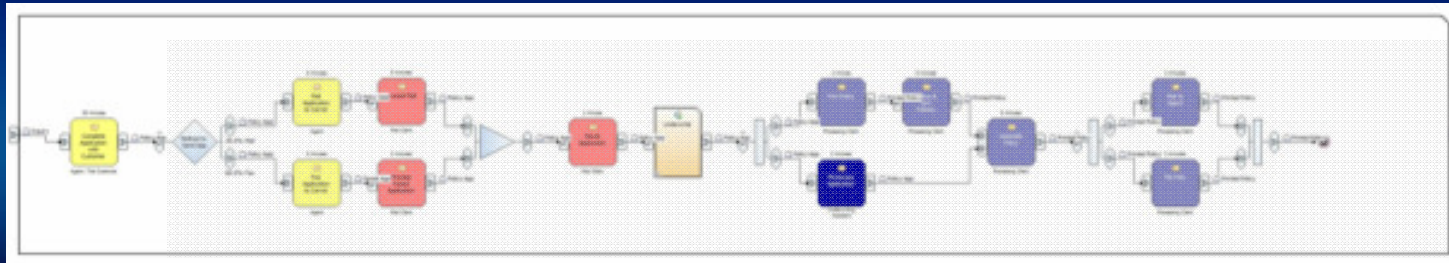
business events



Business Process Management enabled by SOA

a discipline enhanced by a flexible architecture

What is Business Process Management?
**A discipline combining
business expertise and technology capabilities
to accelerate process improvement and
facilitate business innovation**



Expertise that Delivers BPM

- Process Knowledge
- Industry Methods and Models
- Business consulting expertise

Technology that Enables BPM

- Business Services
- Tools, Rules, Servers, Repositories
- Business Dashboards, Forms

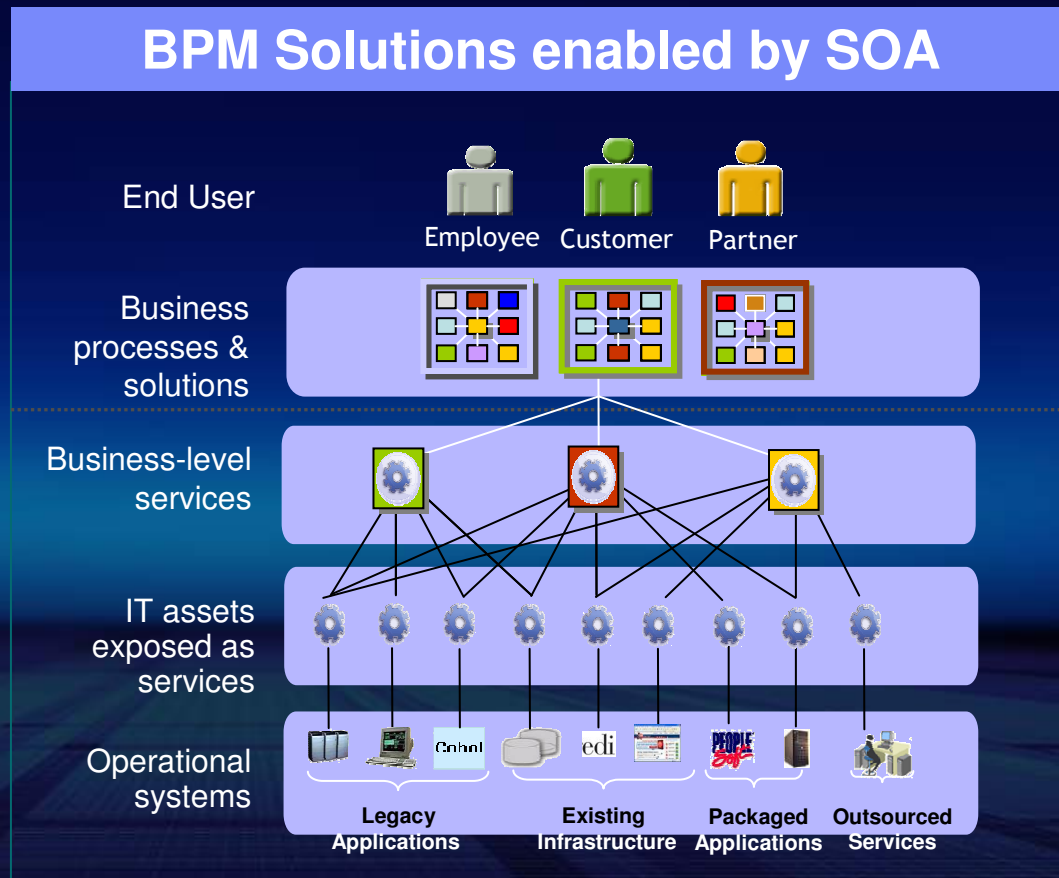
BPM enabled by SOA

Flexible Infrastructure, Composite Business Solutions

Three Levels of Maturity and Value

- ✓ Design
- ✓ Automate
- ✓ Optimize

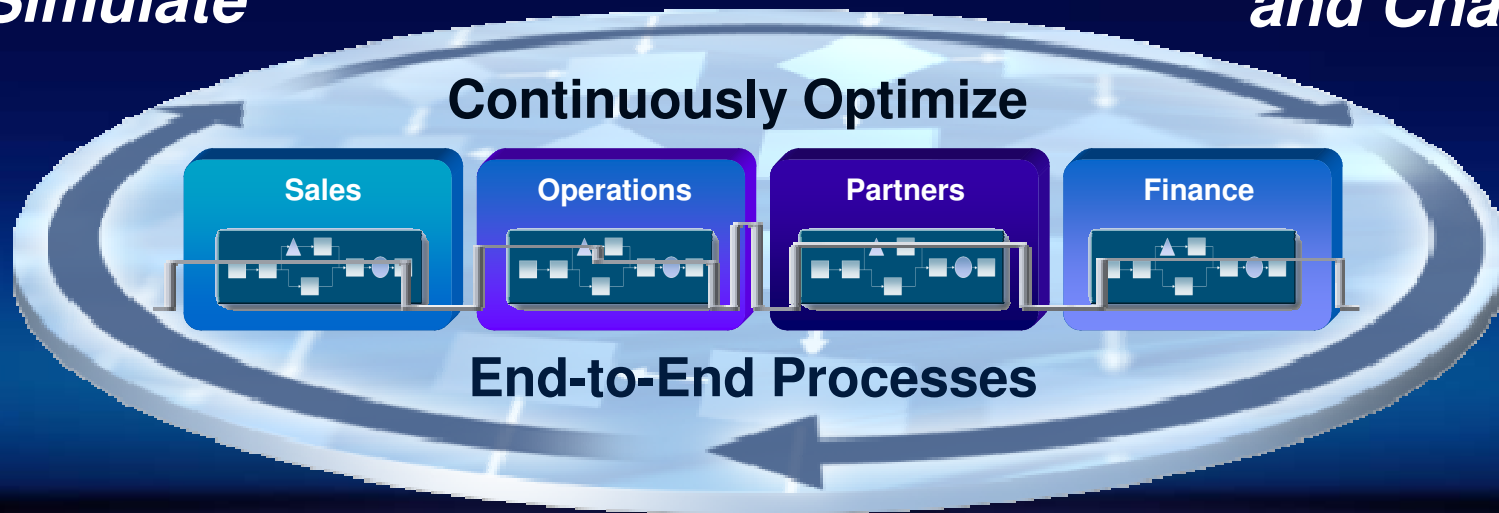
Efficient solution building
Reuse of existing assets
Flexibility in change



BPM from IBM Empowers You To Embrace Change and Continuously Optimize Your Business

Model and Simulate

Rapidly Deploy and Change



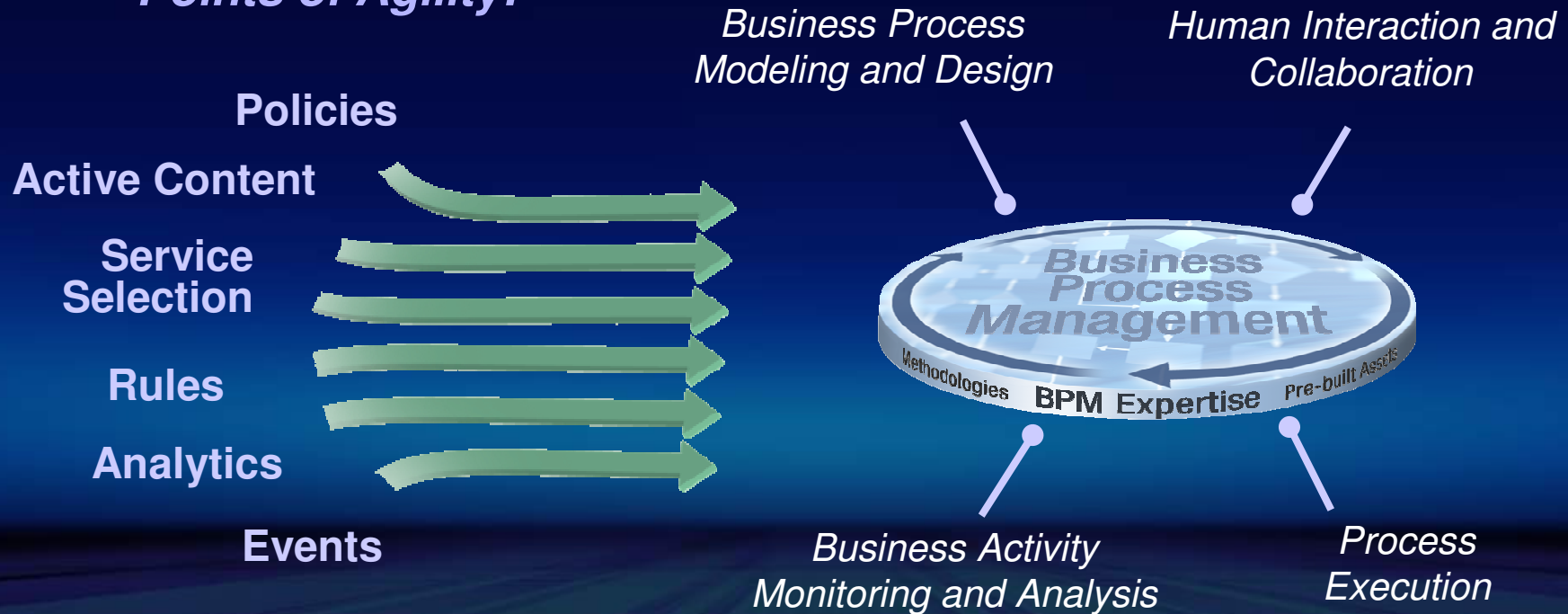
Monitor, Predict and Act

The logo for IBM's BPM Suite is a blue, three-dimensional oval with a metallic sheen. Inside the oval, there is a complex flowchart with various shapes (rectangles, diamonds) and arrows indicating a process flow. The text "IBM's BPM Suite" is written in a bold, dark blue font across the center of the oval. The background of the slide is a dark green gradient with several bright green laser-like beams radiating from the corners.

IBM's BPM Suite

IBM's BPM Suite Provides a Comprehensive Set of Role-Based Capabilities for Continuous Process Optimization

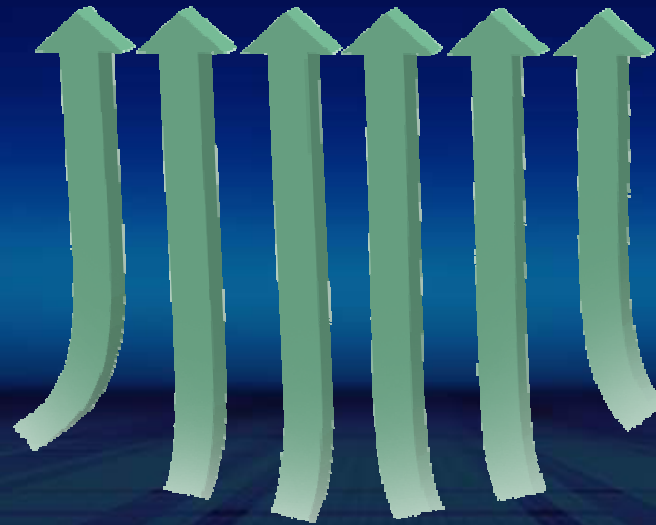
Points of Agility:



Scenario: Bank Account Opening Dynamic Process



Points of Agility



Service Selection: Credit check performed through third-party services or on-premise data, based on date of last check

Policies: Pre-sale policy to cross-sell and up-sell products based on geography, product, and customer type

Rules: Fraud detection based on transaction source, amount, and customer verification

Active Content: Automatically personalize and fulfill content for customer on-boarding during account opening process

Events: Correlate account opening event with address/PIN change and large withdrawal to trigger fraud alert

Analytics: Analyze processing time by region and regulatory compliance requirements to identify further efficiencies

Service Selection

Policies

Rules

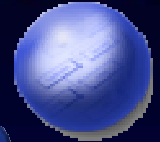
Active Content

Events

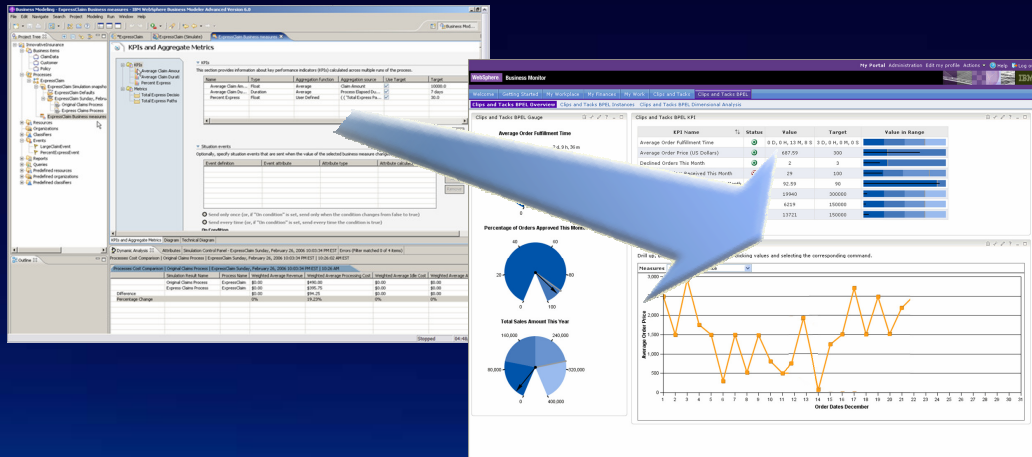
Analytics

Business Process Management

A discipline enhanced by flexible architecture - SOA



*** Enhanced!**



WebSphere Integration Developer V6.1

- Eclipse-based tool for building SOA-based BPM and integration solutions
- Enables rapid assembly of business solutions by wiring reusable service components
- Enables integration developers to assemble complex business solutions
- Enables construction of process and integration solutions using drag-and-drop technology

*** Enhanced!**

WebSphere Business Modeler V6.1

- Visualize, understand, and document your business processes
- Document processes to better understand your business
- Discover potential areas for process improvement and latent value in processes
- Ability to change the business process to respond to changes in market

*** Enhanced!**

WebSphere Process Server for z/OS V6.1

- Accelerate time to value, and simplify the integration of applications in a SOA
- Improve connectivity for application reuse with new Adapter Nodes for WebSphere Message Broker V6.1
- WebSphere Adapters now available for WebSphere Application Server z/OS 6.1

*** Enhanced!**

WebSphere Business Monitor V6.1

- Offers comprehensive business activity monitoring of your business performance
- End-to-end visibility of business performance through customizable dashboards
- Early detection and alerts to emerging business situations
- Advanced analytics for decision making based on historical and trending data

WebSphere Business Modeler

Business Level Modeling And Simulation

Designed for business users

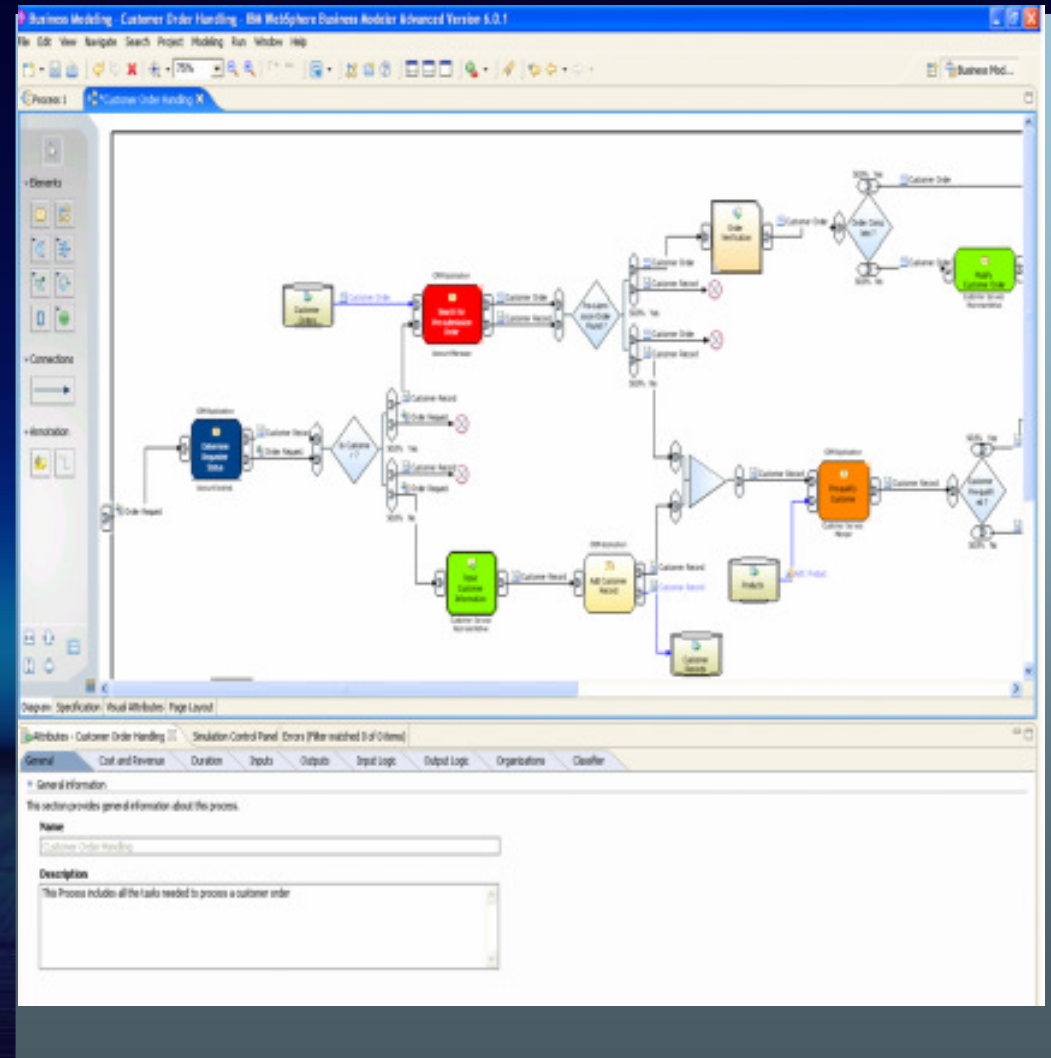
- Import models directly from Visio, MS Word, FileNet P8
- Hundreds of process templates available (IFW, IAA)
- Optimize all aspects of your business – set KPI's and metrics
- Collaborate with subject matter experts through the Publishing Server

Model, simulate, and analyze

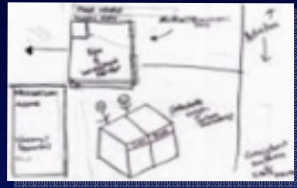
- Enhanced analysis and simulation capabilities. Fully understand impacts before deploying.

Clean hand-off to I/T

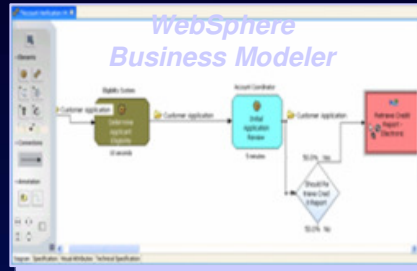
- Rapid and accurate deployment of your solutions
- Business modeling is the starting point for IT deployment (WID)



Use Simulation to Identify High Impact Process Changes



Existing Processes



Run simulation to estimate savings and support the business case for the process change

- Define and optimize processes thru simulation
- Justify process changes through ROI calculations
- Understand impact of process changes to the business
- Example: Simulation results showing areas of greatest opportunity

Current State - Times & Costs

Case Analysis with Unlimited Resources

Probability	Average Process Time (min:sec)	Average Cost
32.91%	10:11	\$5.40
32.10%	3:11	\$1.67
15.01%	14:11	\$7.56
15.20%	3:21	\$1.77
4.78%	11:11	\$5.93

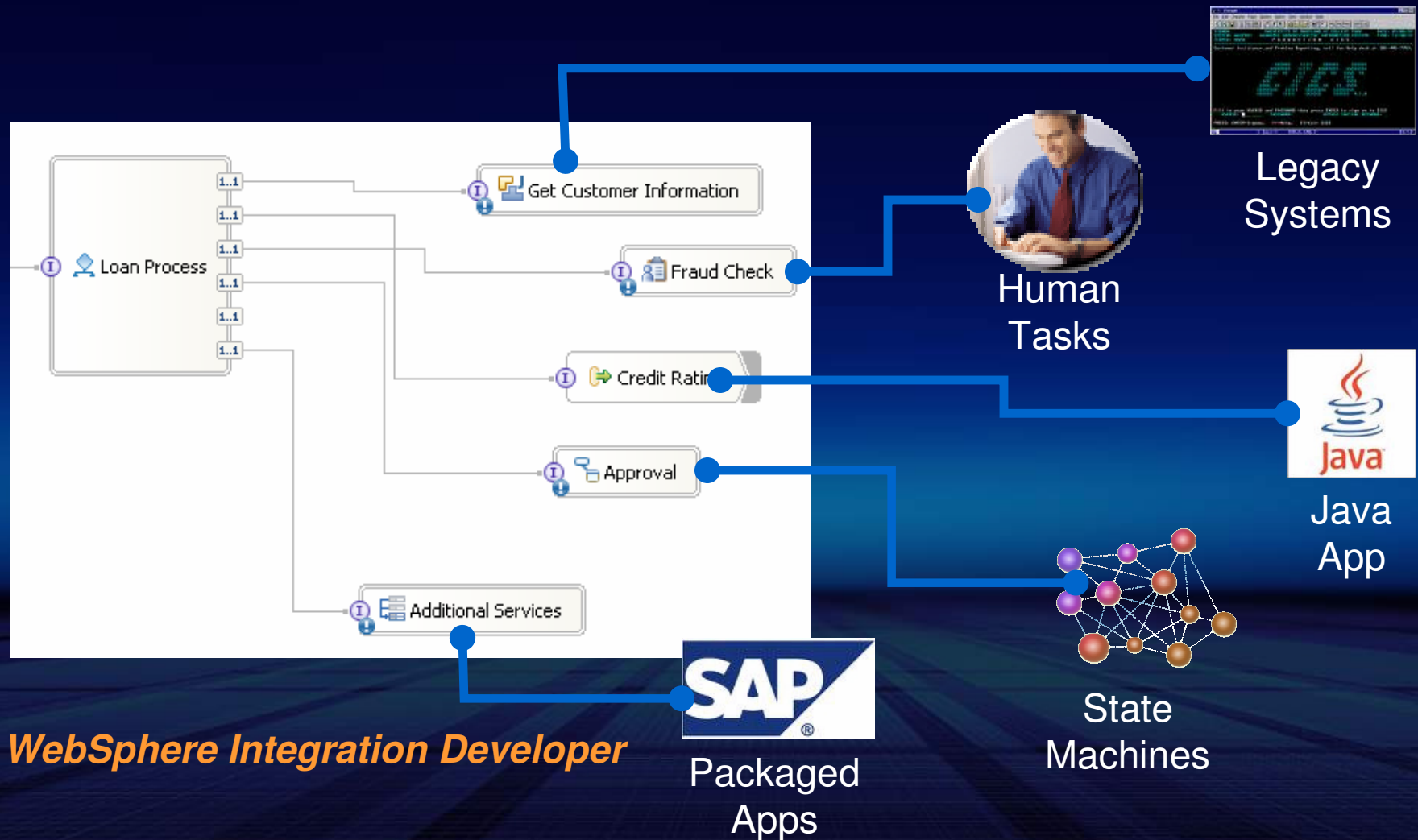
Future State - Times & Costs

Case Analysis with Unlimited Resources

Probability	Average Process Time (min:sec)	Average Cost
35.57%	8:16	\$4.38
33.03%	1:51	\$0.96
13.51%	7:51	\$4.16
14.50%	1:54	\$0.96
2.39%	8:16	\$4.38

Simple integration of processes without coding

With SOA, leverage existing assets and achieve greater flexibility



WebSphere Integration Developer

WebSphere Process Server

The runtime engine for your business processes

- **Robust execution of business processes**

- Reliable, scalable, secure, open standards
- Single integrated runtime for all SOA based process automation

- **Supports all aspects of process integration**

- Process flows
- Business rules
- Human steps
- Forms
- State machines

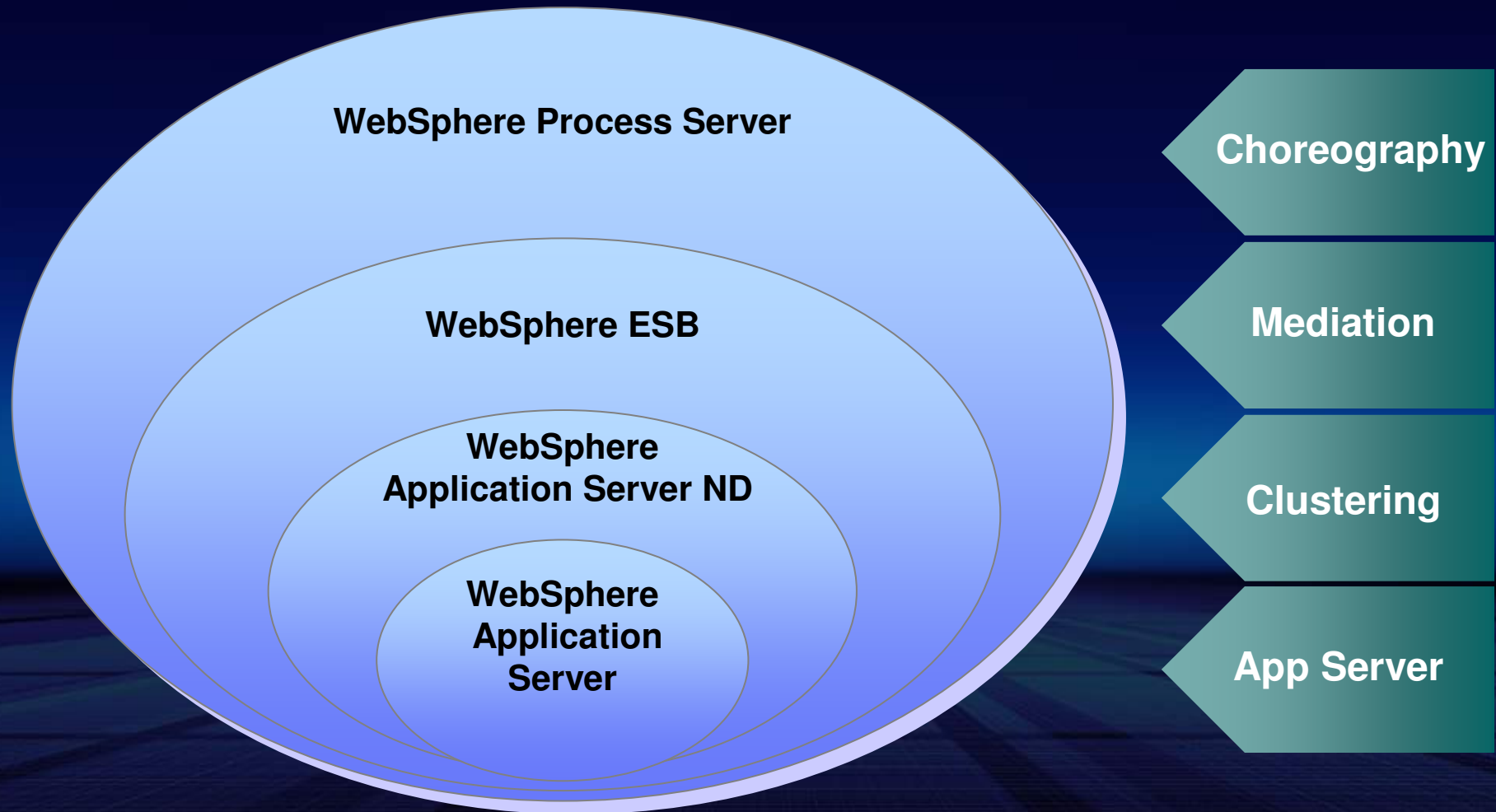
- **Rapid process change ensuring business agility**

- Reuse existing services that you already have and create new services for future use.
- Build process flows 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



WebSphere Process Server

Based on WebSphere Application Server and ESB



WebSphere Process Server

Integrated Adapters and Built-in ESB for Range and Reach

WebSphere Process Server ...

- ...Contains WebSphere ESB capabilities
 - **ROUTING** messages between services
 - **CONVERTING** transport protocols between requestor and service
 - **TRANSFORMING** message format between requestor and service
 - **HANDLING** business events from disparate sources
- ...Provides standards-based connectivity (native bindings)
 - Web Services
 - JMS messaging
 - WebSphere MQ
- ...Supports Adapters as service on-ramp to related applications, technologies and data
 - CICS, IMS
 - SAP; Oracle E-business, PeopleSoft; Siebel, JD Edwards
 - Application adapters are included with WID for development purposes only
 - JDBC, Flat File, FTP, e-mail

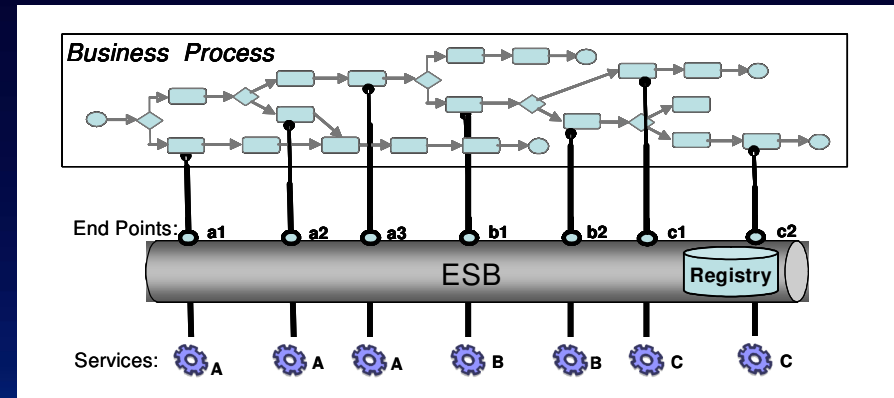


Enabling Greater Business Process Flexibility

WebSphere Business Services Fabric

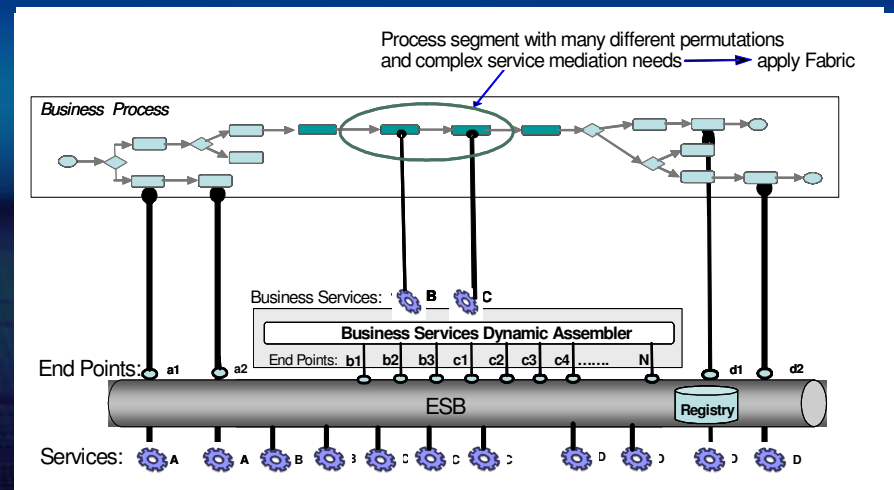
BPM Enabled by SOA without Fabric

- Services accessed through ESB
- Business policy embedded in the process flow



Fabric extends BPM Enabled by SOA

- Faster change through business service policies and metadata
- Dynamic service selection at runtime based on business policies
- Easily modify and dynamically execute business services based on content, context and contract
- Lower time and cost of change

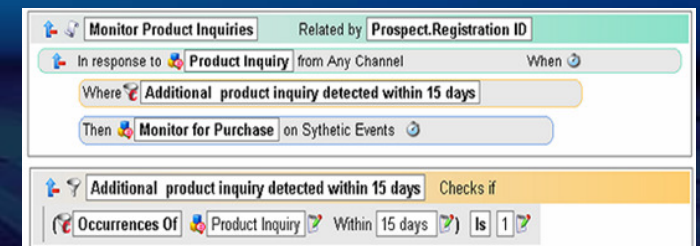
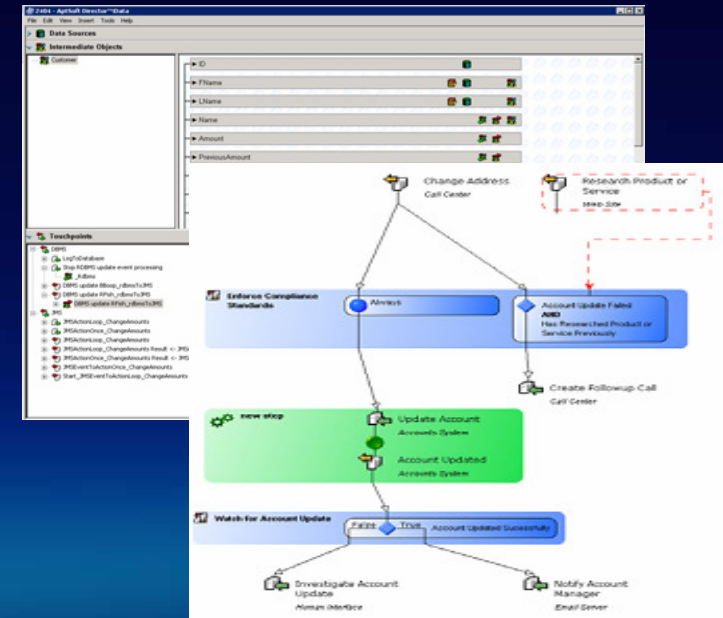


WebSphere Business Events

Sense when to act, know what to do



- Allows business users to detect, evaluate and react to business events in real time
- Designed for process analysts
 - Understands business language and vernacular
 - Enables straightforward expression of business logic
 - Codeless, Graphical Authoring tools
- Accepts events from many sources
 - “Derived” events
 - Plug & Play to extend your existing SOA and BPM infrastructures
- Sense meaningful patterns
 - Simple and complex rules patterns
 - Define filters and conditions
 - Event flows and long running correlations
- Initiate the appropriate response
 - Take action when those patterns form
 - Drive existing services (WPS business process, ESB, etc.)
 - Automated Tasks (Update DB, write to file, etc.)
 - Notifications (Email, pager, etc.)



Real-Time Pattern Detection
Real-Time Decision Triggers

WebSphere Business Monitor

Achieve Real-time Visibility into Processes through customized dashboards

Scorecards

Key Performance Indicators for business units

Collaboration

Work with teams to resolve situations

Business Alerts

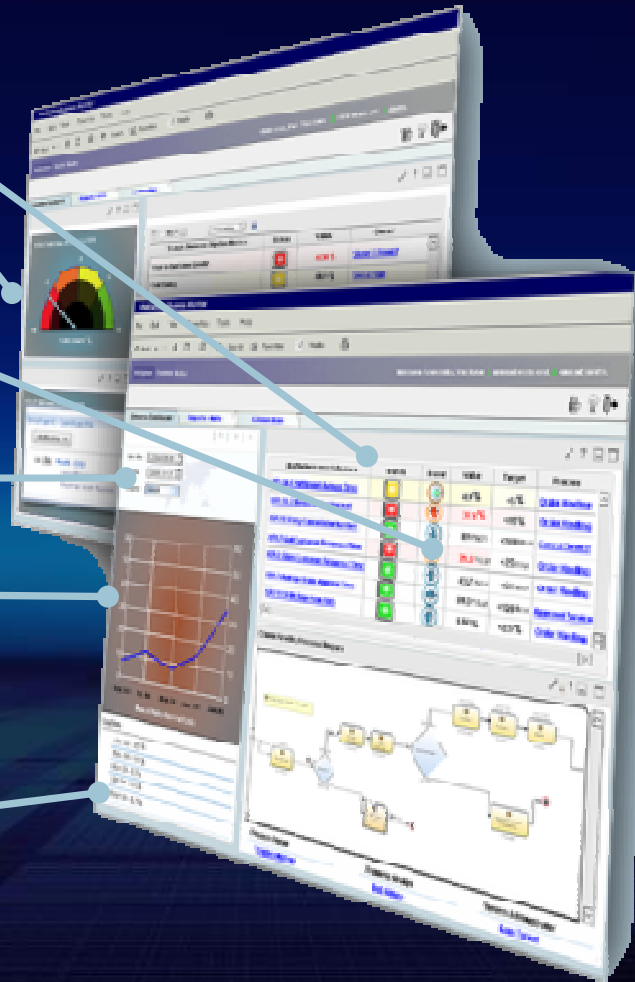
Notification of situations that require response

Reports & Analyses

Understanding trends by combining real-time performance and historical information

External Information

Information affecting performance



People



Process

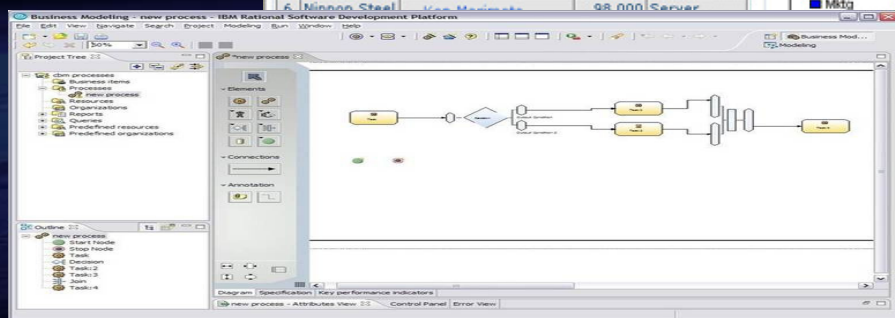
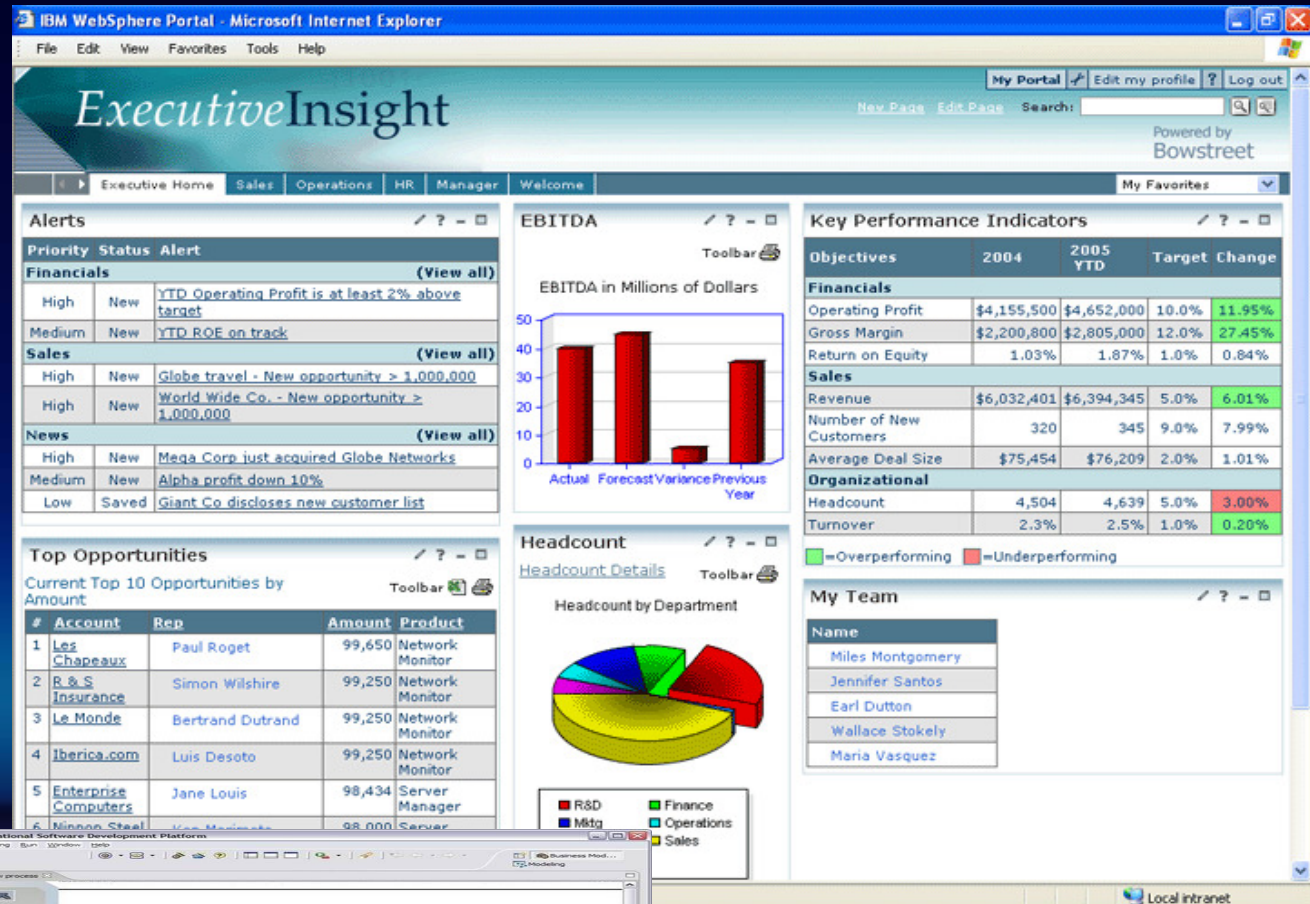


Information

Learn From Your Data

Modeler and Monitor Together:

- Feed your real data back into your modeling tool for real life simulations
- Using real business facts as the basis for analysis



Why deploy your BPM suite on z/OS? *versus any other platform*

■ Efficiency

- Co-locating with applications and data avoids network overhead
- Cross memory interactions are much faster
- Sophisticated workload management across multiple systems

■ Availability

- Redundant hardware components protect against failures
- Parallel Sysplex can protect against system failures

■ Security

- Highest level of security rating in the industry
- Has never been hacked

■ Scalability

- Almost linear scalability
- Scale up (SMP) or Scale out (clustering)

■ Cost

- Centralized Operation: Fewer IT staff
- **Green** Enterprise Computing: Energy and floor space savings (fewer machines)



Deploying on System z provides differentiated value

Enabling intelligent IT that works for your business

The New IBM System z10 Enterprise Class

The power of many . . .



. . . the simplicity of ONE

Server Leadership: 40+ years in the making!

Mainframe utilization rates often exceed 80%, and are designed to handle sustained peak workload utilization of 100% without service level degradation.

- Processors, CPU speed, memory, network I/O
 - Growth of traditional workloads
 - Consolidation of hundreds of applications
 - Granularity of WebSphere deployments
 - Access to corporate data
 - Messaging speeds to support SOA
- Price / performance improvement of specialty engines
- Just in Time capacity and management
 - Adapt faster to workload variations such as dynamic SOA
 - Respond automatically to demand from CICS, IMS, DB2, WebSphere, ...
 - Deploy new WebSphere workloads in minutes

Customers turn to IBM for an unmatched breadth of BPM Software and deep BPM and Industry Expertise

#1 in BPMS market share*

Over 2850 BPMS customers in over 30 countries and growing...

Depth of BPM Expertise

- World-class BPM methodologies, process templates, industry best practices, and benchmarks
- BPM Competency Centers
- BPM value assessments and workshops
- 1000+ BPM consultant specialists
- 1,770+ systems integrator and reseller partners
- 4000+ ISV partners
- 10,750+ GBS/GTS practitioners
- 20+ BPM training and education courses

Breadth of BPM Software

- Collaborative business process modeling and simulation
- Best-in-class integration tools, technologies, and adaptors
- Comprehensive asset repositories for BPM-related reuse
- Dynamic, policy-based process customization using composite business application
- High performance, scalable process orchestration and execution engine
- Real-time activity monitoring and response
- Pre-built industry solution accelerators and industry models



“The IBM [BPM] software that we now use has encouraged better business practices throughout our organization, making our company as well as our customers more profitable.”



* Gartner BPMS market share, June, 2007, Michele Cantera

Summary

We discussed:

- Business needs and aligning them with IT
- How SOA can help
 - The Reuse, Connectivity and Process SOA entry points
- The value in reusing existing applications and assets
 - How to reuse CICS and IMS applications using IBM tools
- Web services, SOA hub, enterprise service bus and repository and registry
- Business Process Management
 - Modeling your business processes
 - Assembling composite services into process flows
 - Deploying to the process server and the capabilities of the process server
 - Extending BPM with policy management and service selection based on business and user context
 - Monitoring and optimizing your business processes
 - Events monitoring

धन्यवाद
Hindi

多謝
Traditional Chinese

Grazie
Italian

ขอบคุณ
Thai

Gracias
Spanish

Thank You

多谢
Simplified Chinese

Спасибо
Russian

Obrigado
Brazilian Portuguese

شكراً
Arabic

Danke
German

Merci
French

நன்றி
Tamil

ありがとうございました
Japanese

감사합니다