



WebSphere Live for SOA

Service Oriented Architecture and zSeries:

Achieving business flexibility with strategic middleware and a world-class server technology

SOA on your terms and our expertise

ON DEMAND BUSINESS™

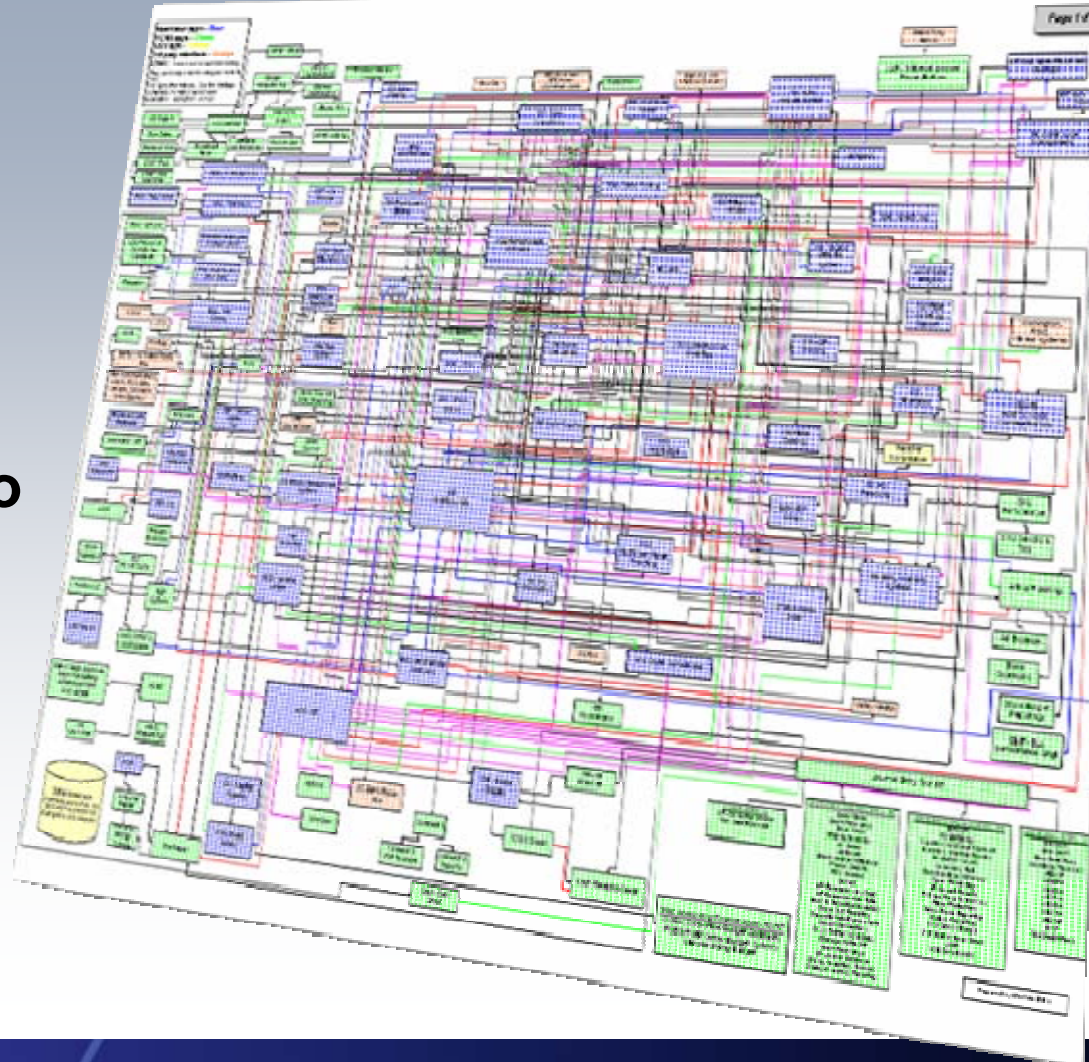


Questions You Need to Consider

- **What is Service Orientation and SOA and why is it important for your business?**
- **Is it real? Are customers really using it today?**
- **What are the core elements brought together under SOA?**
- **How can IBM help you get started?**

What are the barriers to business flexibility?

- Lack of business process standards
- Architectural policy limited
- Point application buys to support redundant LOB needs
- Infrastructure built with no roadmap





What is SOA?

... a service?

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

... service orientation?

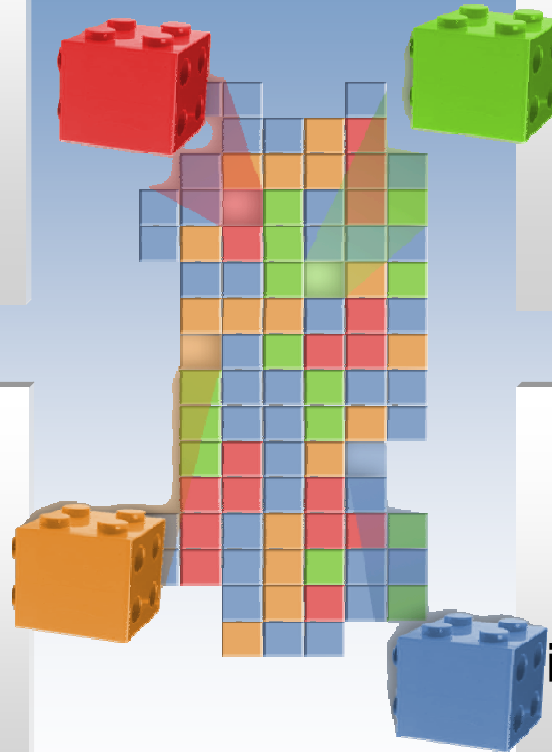
A way of integrating your **business as linked services** and the outcomes that they bring

... service oriented architecture (SOA)?

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

... a composite application?

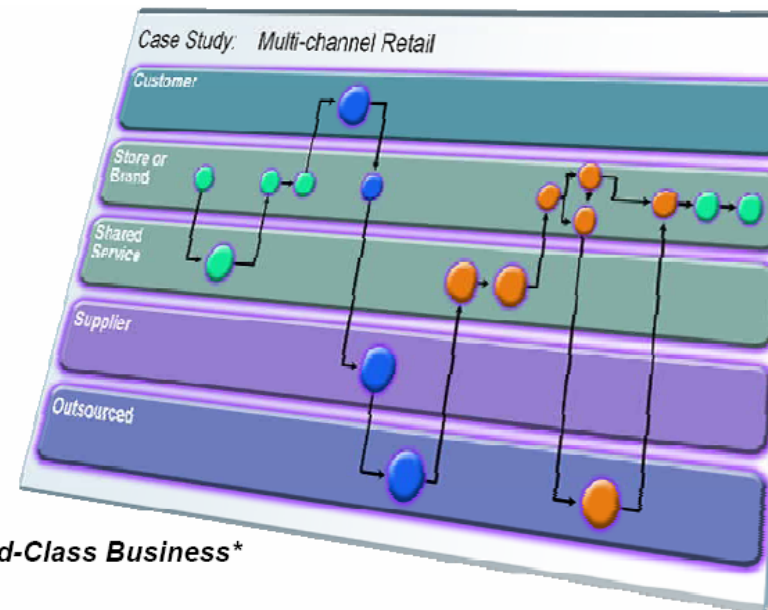
A set of **related & integrated** services that support a business process built on an SOA



Why SOA for Business Flexibility and Reuse?

- **Economics:** globalization demands flexibility
- **Business processes:** changing quickly and sometimes outsourced
- **Growth:** at top of CEO agenda
- **Reusable assets:** can cut costs
- **Information:** greater availability
- **Crucial for flexibility and becoming an On Demand business**

Traditional Business



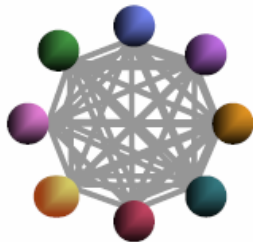
Today's World-Class Business*



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**





What differentiates SOA from claims like this in the past?

Standards

- Broadly adopted Web services ensure well-defined interfaces.
- Before, proprietary standards limited interoperability

Organizational Commitment

- Business and IT are united behind SOA (63% of projects today are driven by LOB)*
- Before, communication channels & 'vocabulary' not in place

Level of Focus

- SOA services focus on business-level activities & interactions
- Before, focus was on narrow, technical sub-tasks

Connections

- SOA services are linked dynamically and flexibly
- Before, service interactions were hard-coded and dependent on the application

Level of Reuse

- SOA services can be extensively re-used to leverage existing IT assets
- Before, any reuse was within silo'ed applications

*Source: Cutter Benchmark Survey

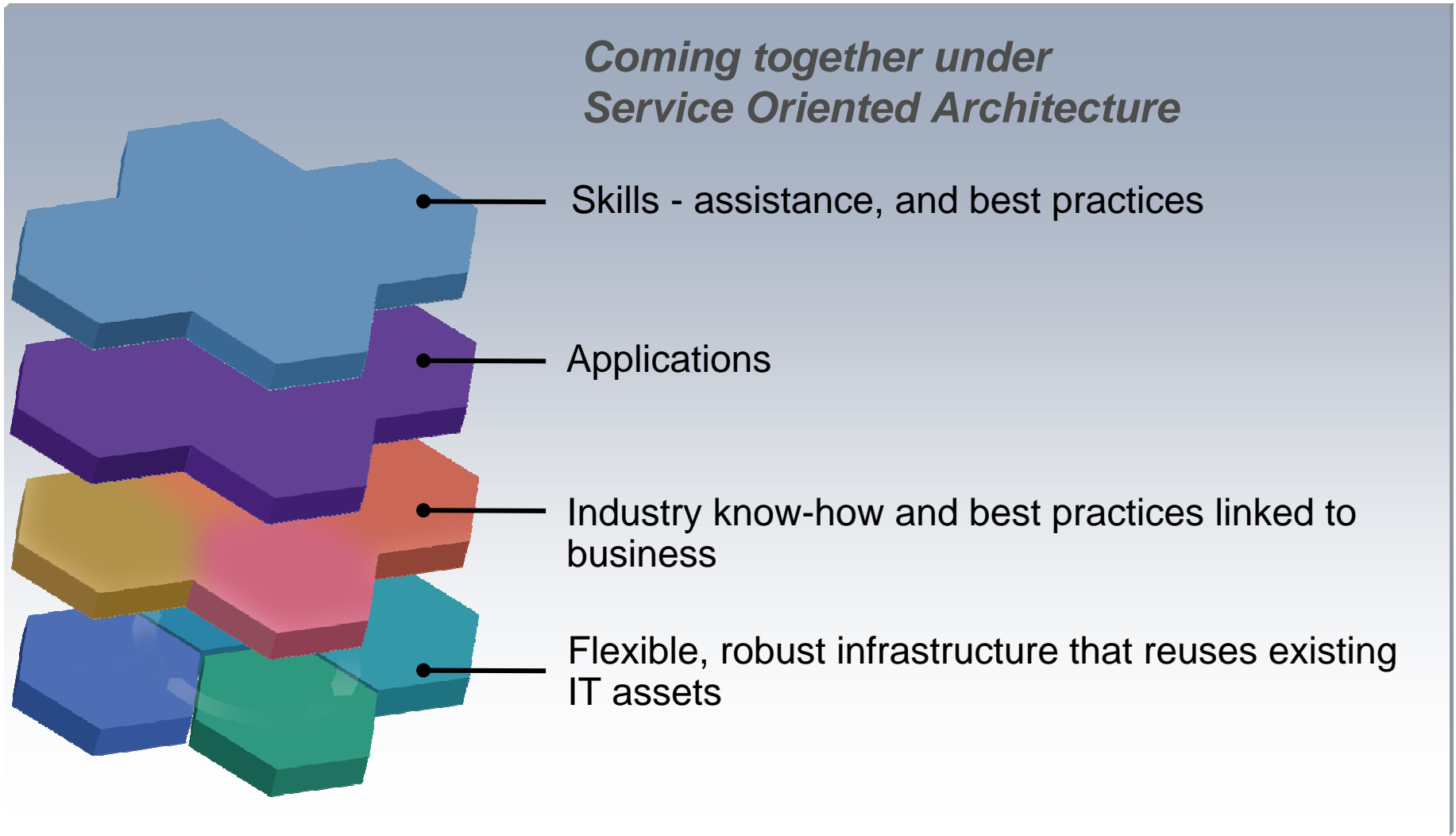
IBM & SOA at MCI

*SOA Drove
Business and IT
Success*



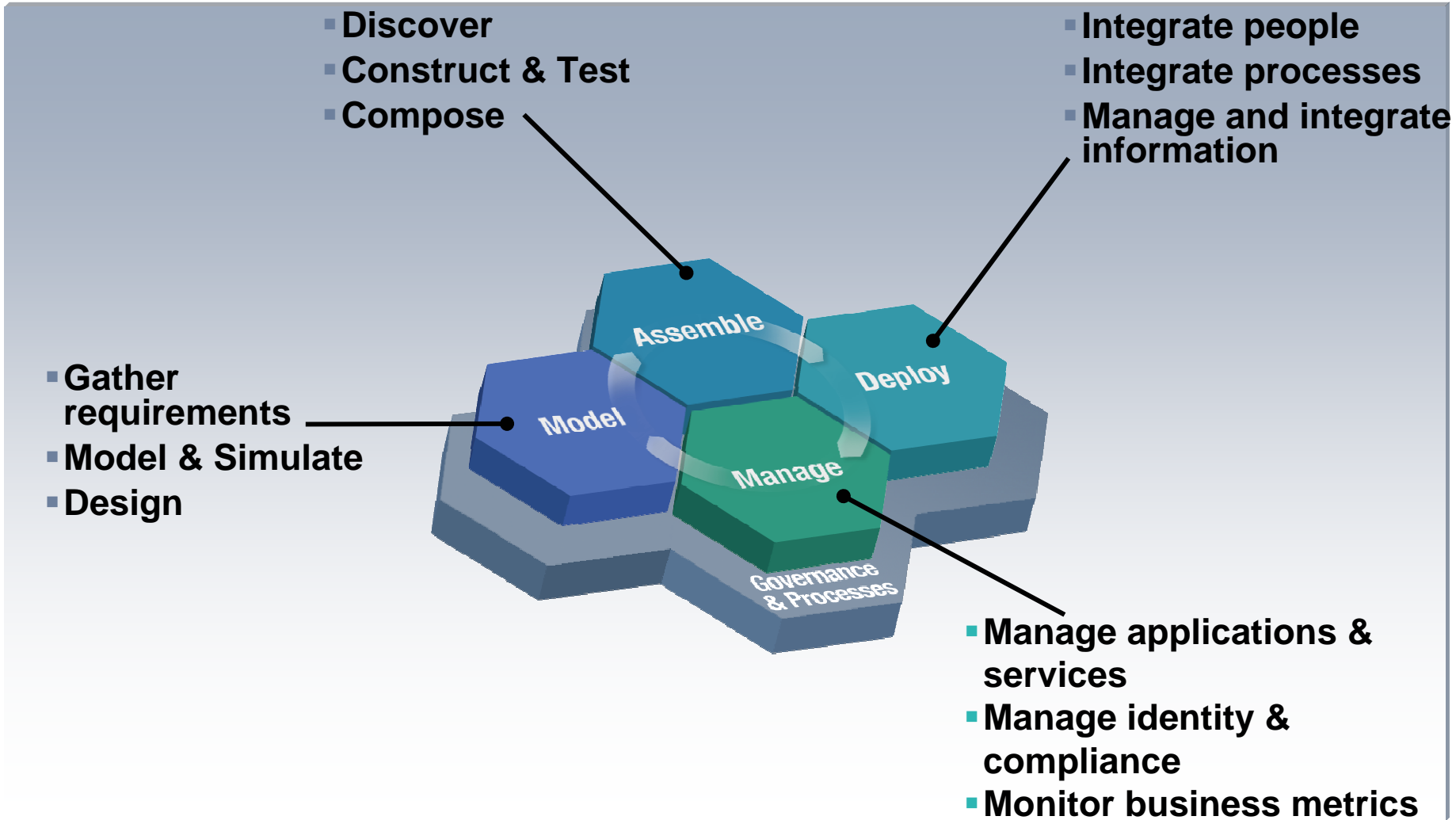


What are the core elements that SOA brings together?





The SOA Lifecycle





The Value of 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

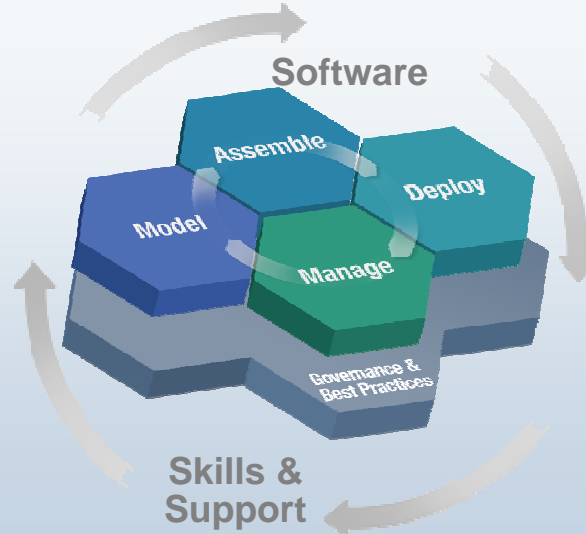
Supports complete lifecycle with a **modular** approach

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**

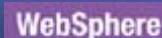
IBM SOA Foundation



Leveraging existing IT Infrastructure



CICS



IMS

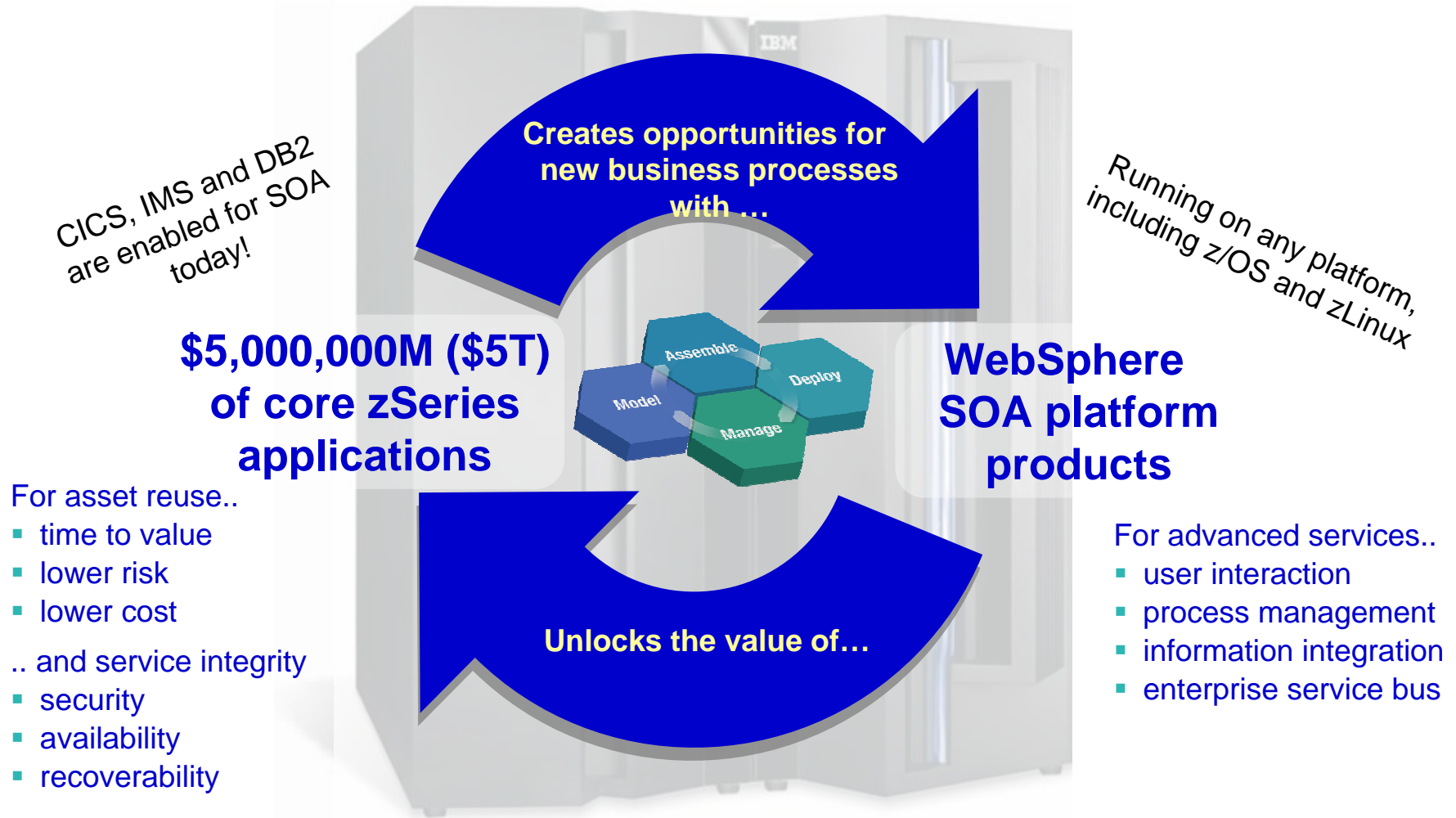


Custom Apps.



SOA on zSeries – Modernizing your most valuable assets!

Extend and enrich core CICS, IMS and WebSphere applications



Why IBM for SOA?

IBM understands service orientation and your business



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
- Leadership in open standards: active in 50+ committees
- Over 300 SOA-related patents

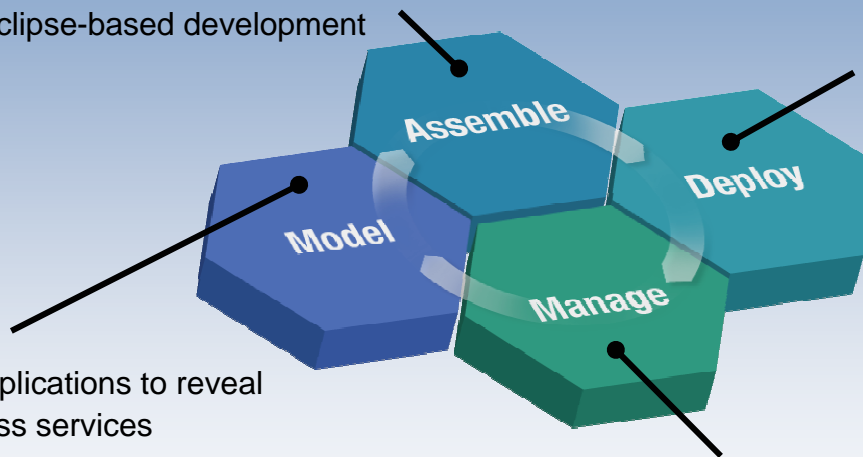


Enhance business flexibility with zSeries

Meet new requirements by leveraging your most valuable zSeries assets

IBM can help you build a service oriented architecture around your core zSeries applications

- Improve cooperation between your mainframe and client-server application teams using open integration technologies and common tools
- Program zSeries (WAS, CICS, IMS and DB2) with the latest Eclipse-based development workbench
- Analyze your applications to reveal reusable business services
- Trace usage patterns / service levels
- Use the latest middleware and management tools to reduce operational overheads
- Automatically generate web-interfaces for core CICS and IMS applications
- Create state-of-the art user interfaces without deep programming skills
- Integrate multiple core and new applications within the same workspace
- Compose business level web services from existing CICS and IMS transactions
- Retain mainframe availability, scalability, security and recoverability
- Connect applications right across your enterprise, across all platforms

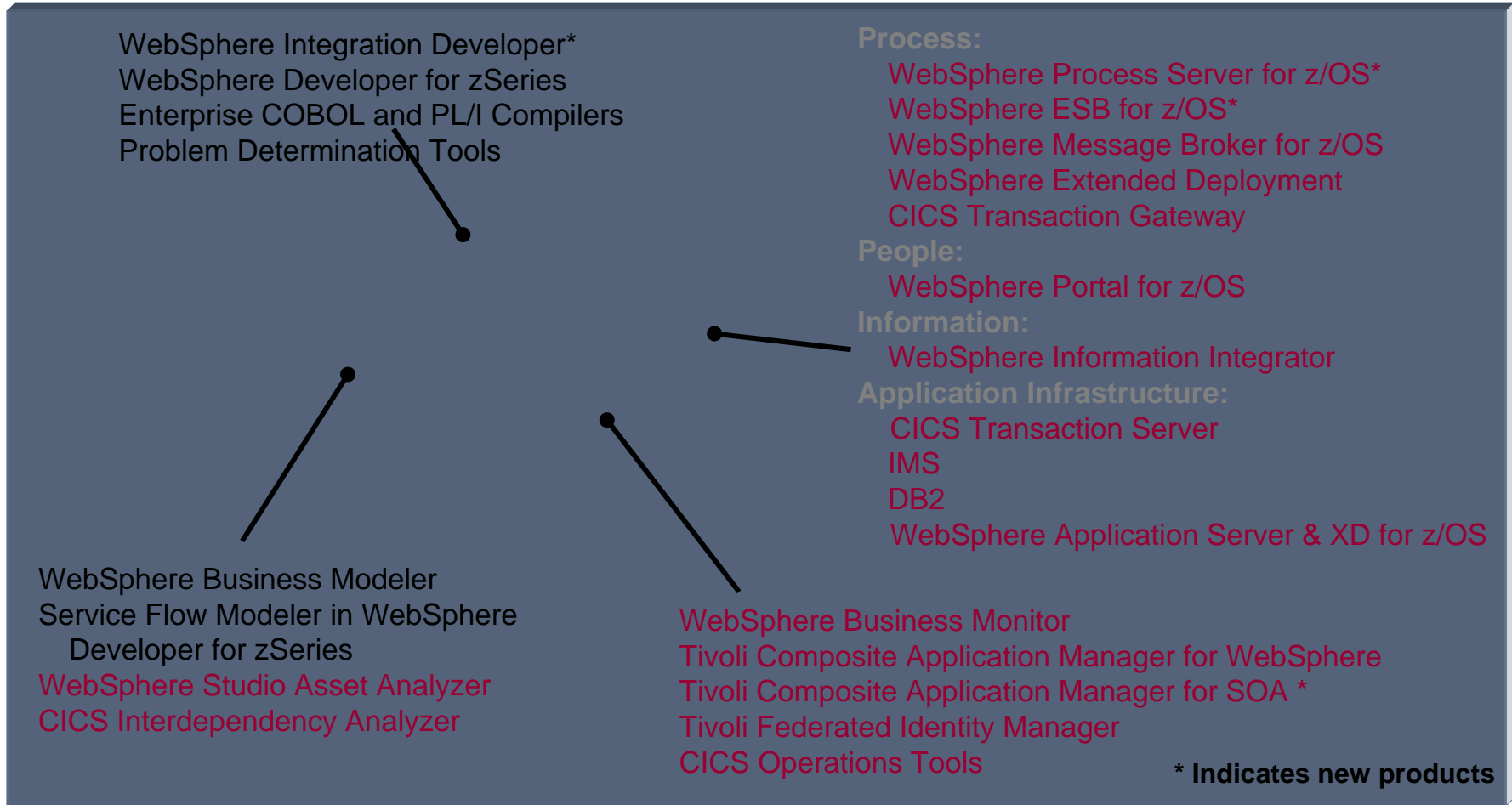


Choose SOA from IBM so that you can maximize re-use and avoid the cost and risk of new application development projects.



Announcing New and Enhanced Products

Strengthening the IBM SOA Foundation



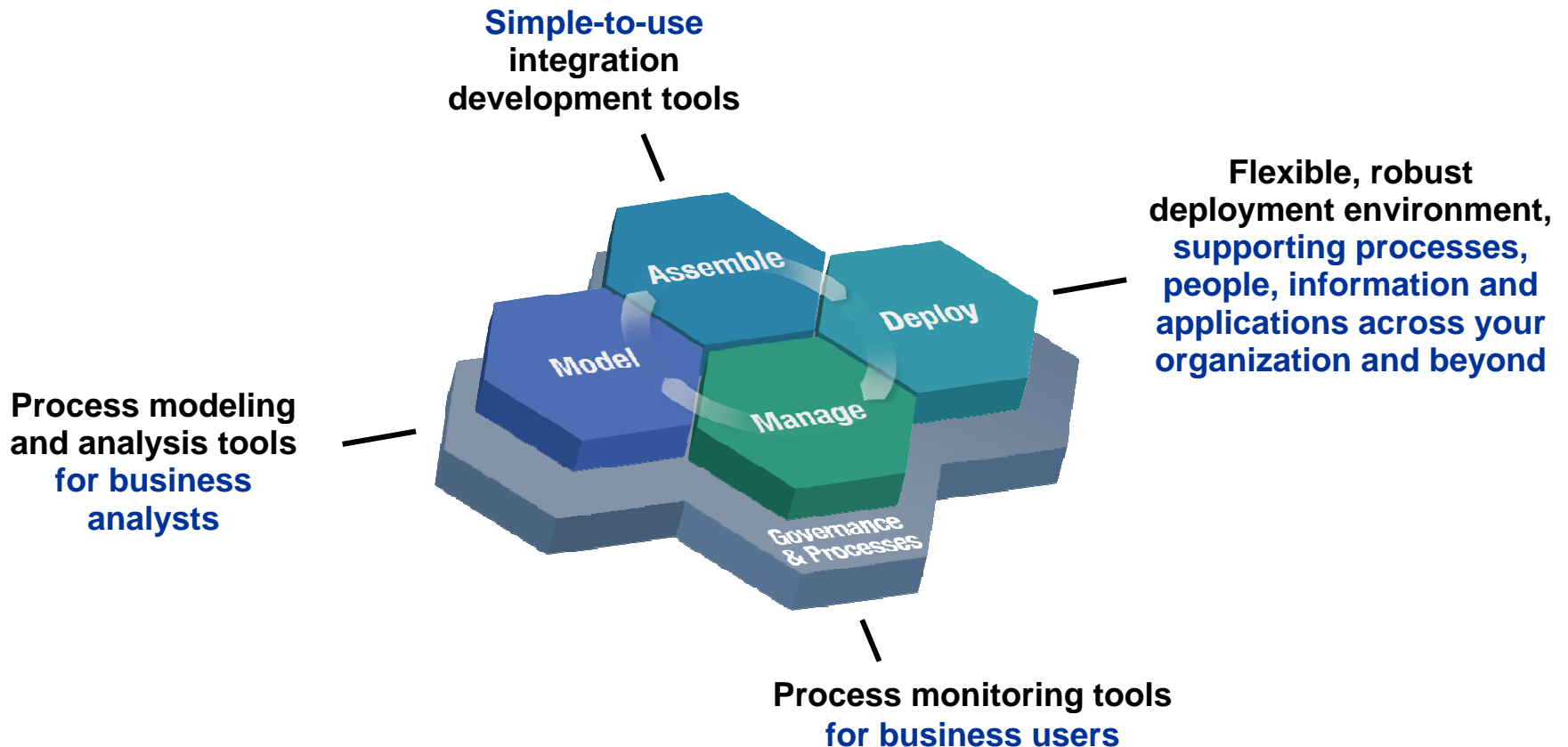
Indicates products currently running – or with stated plans to run – natively on System z9 and zSeries.

Indicates Eclipse-based products running on distributed platforms/workstations, and can deploy composite applications on System z9 and zSeries.



IBM WebSphere Software and SOA

Helping you address today's challenges and improve your flexibility for tomorrow



End-to-end business process capabilities

Breadth of SOA deployment capabilities

WebSphere software



Business process management is key to your SOA

Flexible business demands automating and optimizing business processes

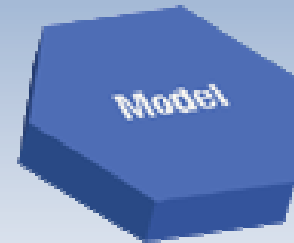
- **Identify and eliminate** redundancies and bottlenecks
- **Reduce risk** by gaining an understanding of process impacts prior to operationalizing
- **Automate** process implementation, eliminating manual deployment tasks
- **Immediately execute** new business rules and processes
- **Visualize** actual process performance against key performance indicators
- **Pinpoint** future process improvements

Without business process management, this would be achieved manually or through a dis-integrated set of tools from multiple vendors

Modeling business processes for SOA roll-out

Enhanced! WebSphere Business Modeler V6

- **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
 - Tools to publish business process work across the business
- **Hand Off To IT**
 - Export business and data models for use in IT deployment
- **Visio import**
 - Import existing process pictures done in Visio as a starting point for true business modeling



IBM WebSphere Business Modeler



Model – Core Application Assets

Design Business Processes for SOA roll-out leveraging core apps.



Enhanced! WebSphere Business Modeler

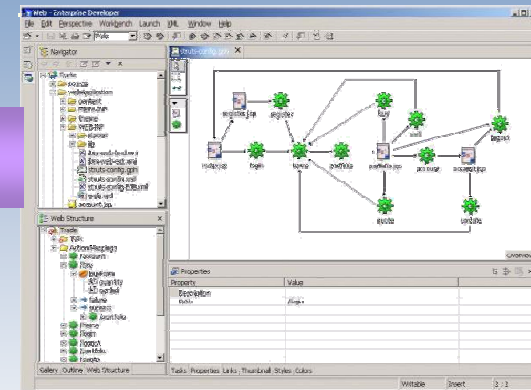
- Expanded user experience and analytical capabilities

Planned Availability Dec 2005

New Feature! Service Flow Modeler in WebSphere Developer for zSeries

- Identify service levels and service level requirements
 - Model new business flows, using processes or services and their interfaces.
 - Expose business flows as a service or Web service
 - Generate adapters to and from interfaces

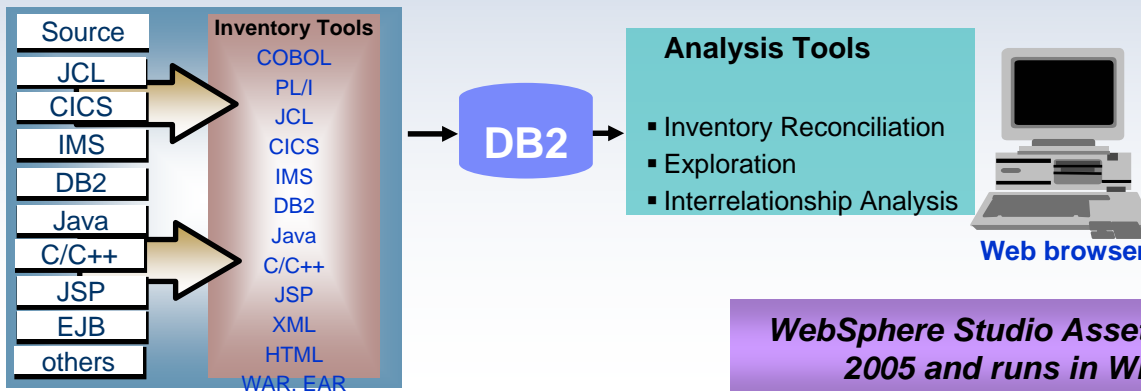
Tech Preview in June '05
GA with WDz V6.0.1 in Nov '05



Program Control Flow Diagram

Enhanced! WebSphere Studio Asset Analyzer

- Automates asset discovery

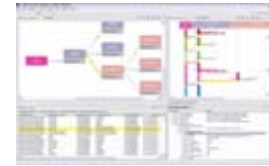


WebSphere Studio Asset Analyzer V4.1 became available in March 2005 and runs in Windows, AIX, and z/OS environments.



Assemble Services Across Platforms

Create composite applications with Core Assets



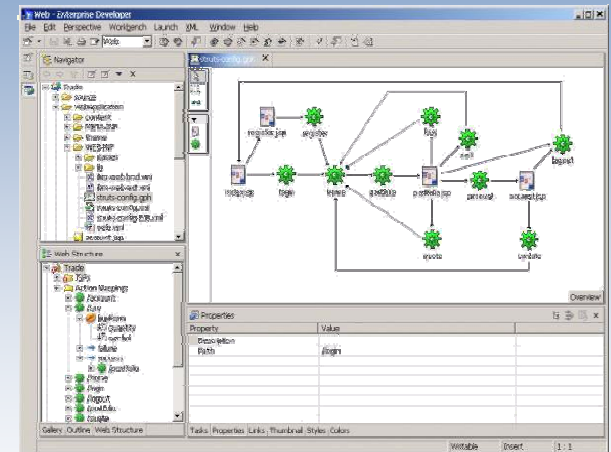
New Product! WebSphere Integration Developer

- Streamlining process design hand-off between business and IT
- Simplify development and maximize re-use.

Planned Availability is October 2005, and WebSphere Integration Developer runs in Windows, Linux and Unix environments.

Enhanced! WebSphere Developer for zSeries

- Bridges mainframe and client-server development
 - For end-to-end integrated processes running across platforms
 - Shared developer repositories and tooling framework
- For deployment to WebSphere, CICS, IMS, DB2 and batch
 - Cross platform development
 - Workstation based development tool
 - Workstation based mainframe application analysis tool
- Develop SOA systems that combine Web services, web applications and traditional applications
 - COBOL, PL/I, EGL (4GL)
 - Java, J2EE, WSDL, Java Beans, XML adapters
 - Portlets and complex user interfaces
 - Service flow modeler for CICS and HATS



WebSphere Developer for zSeries became generally available in June 2005.



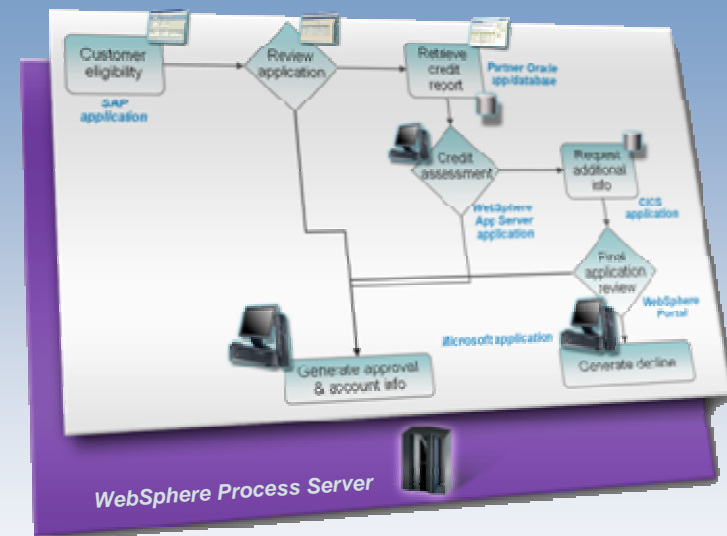
Deploying processes on a flexible, robust SOA integration platform

Deploy composite applications



New Product! WebSphere Process Server V6

- A Single Process Server built on SOA
 - ✓ Reliable, scalable, secure, open standards
 - ✓ Single integrated runtime for all SOA based process automation
- Support all aspects of process integration
 - ✓ process flows
 - ✓ business rules
 - ✓ human steps
 - ✓ services
 - ✓ state machines
- Rapidly change process behavior to keep pace with business requirements
 - ✓ 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



Planned Availability on System z9 and zSeries

- Linux for zSeries – 4Q2005
- z/OS – 1H2006

Monitoring business performance across your SOA



New! WebSphere Business Monitor V6

Real-time process execution visibility

- Management dashboards and reporting capabilities, including trending information
- Tools to define or customize your dashboards



Ability to intervene in deployed processes

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

Supporting continuous process improvement

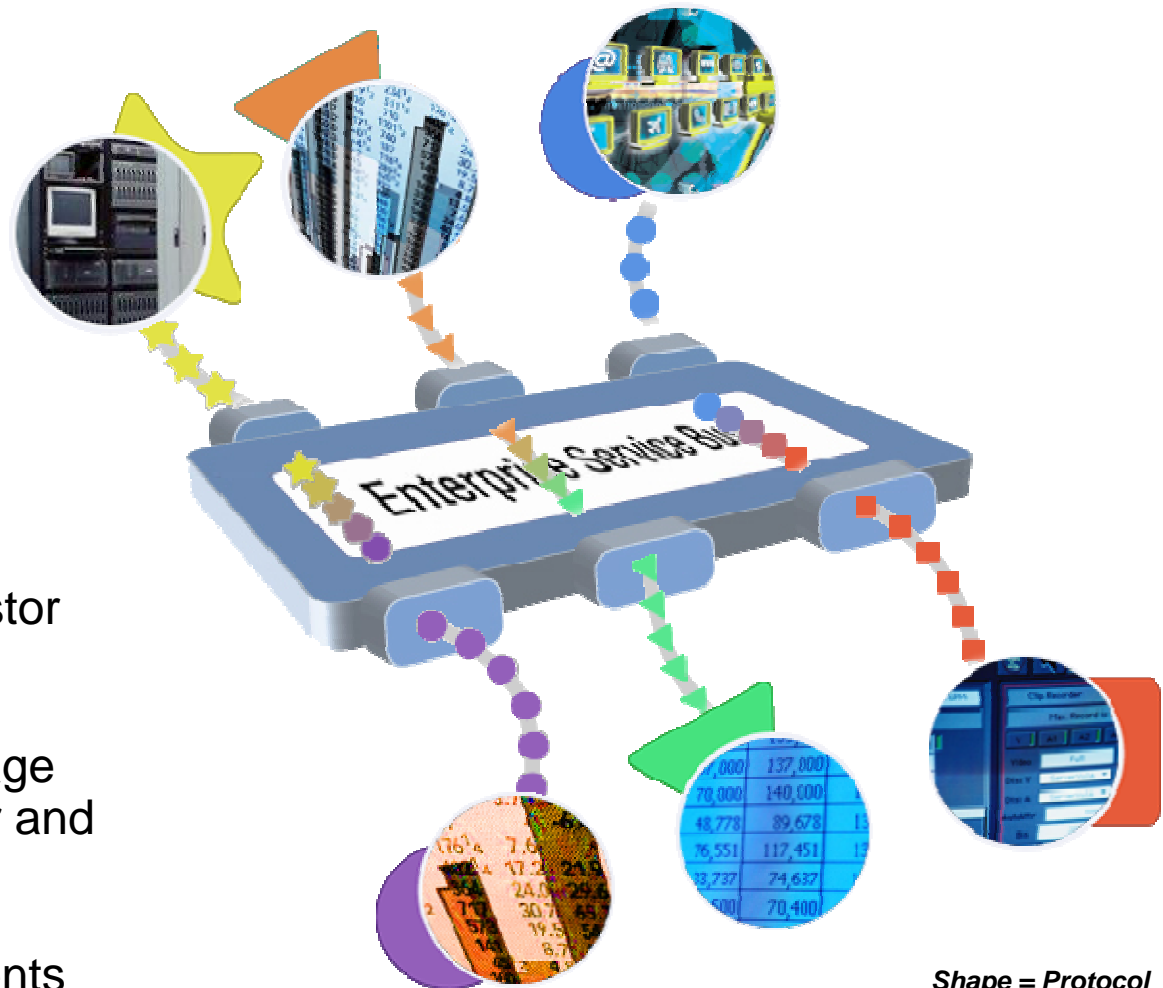
- Ability to export data to WebSphere Business Modeler for analysis and process improvement
- Run modeling simulations based on real data from the Business Monitor

Planned Availability is October 2005 in Windows and AIX environments and 2H2006 on zSeries.

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



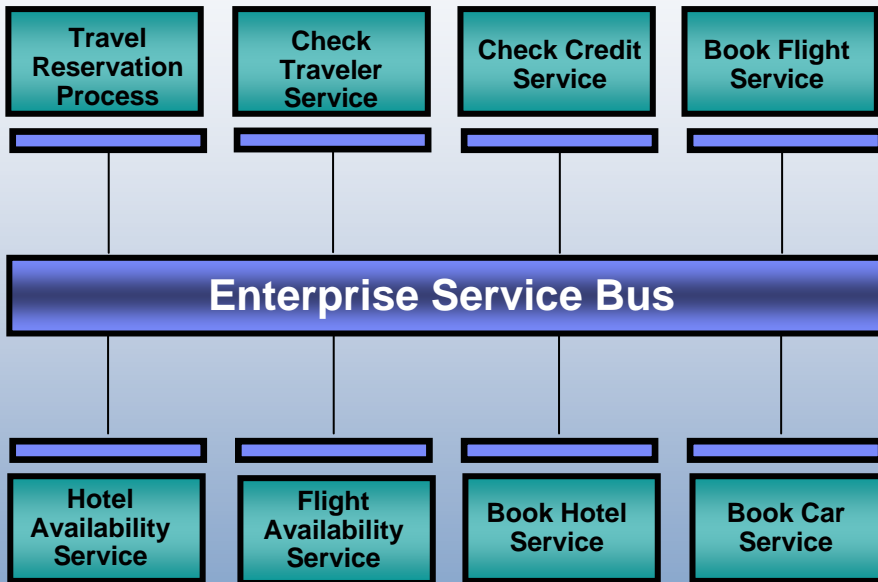
Shape = Protocol
Color = Data type



Two key requirements for an Enterprise Service Bus

1

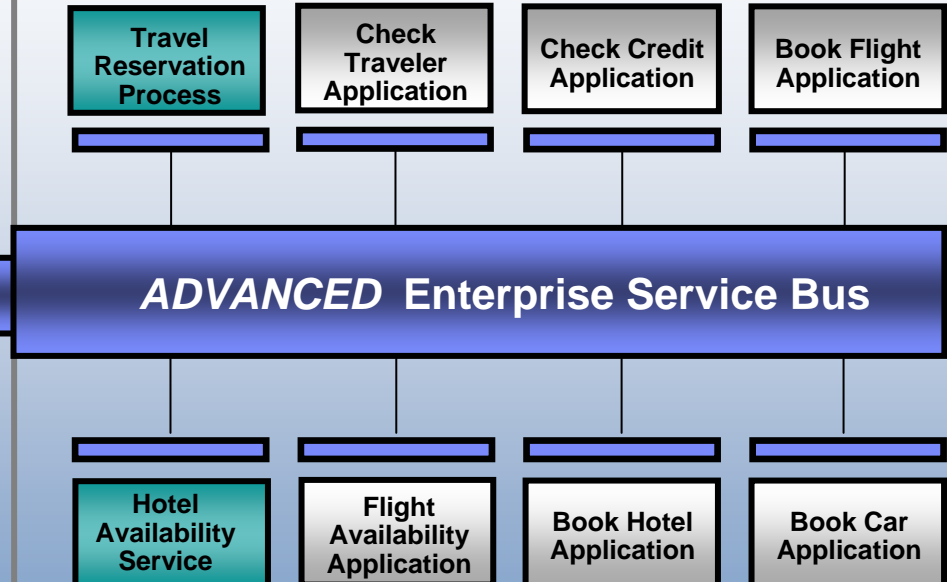
If all your applications conform to the Web Services standards...



...then all you may require is an **ESB** focused on standards-based service integration.

2

If not all your applications conform to the Web Services standards...



...then you may require a more **advanced ESB** focused on the integration of services with existing non-services assets.



Delivering an Enterprise Service Bus to power your SOA

New Product! WebSphere ESB

Provides Web Services connectivity, JMS messaging and service oriented integration

- Improve flexibility through the adoption of service oriented interfaces
- Minimize disruption by using an ESB to handle integration logic

Ease of use

- Easy to use tools that require minimal programming skills
- Simple to install, configure, build and manage

Improve time to value

- Cost effective solution for services integration
- Support for over hundreds of ISV solutions
- Save time and development costs by utilizing pre-built mediations
- Dynamically re-configure to meet changing business processing loads

Seamless integration with the WebSphere platform

- Leverages z/OS qualities of service: highest level of availability, guaranteed service levels, deep end-to-end security integration on the industry's most efficient operating environment.
- Easily extends to leverage WebSphere Process Server as needs dictate
- Integrates tightly with IBM Tivoli security and systems management offerings



Availability date on System z9 and zSeries to be announced.

Delivering an advanced ESB to power your SOA



New Version! WebSphere Message Broker

Provides universal connectivity

- Provides Web Services connectivity and non standard interface connectivity
- Unmatched ability in integrating many systems, platforms,
- Facilitates service oriented integration

Provides universal data transformation

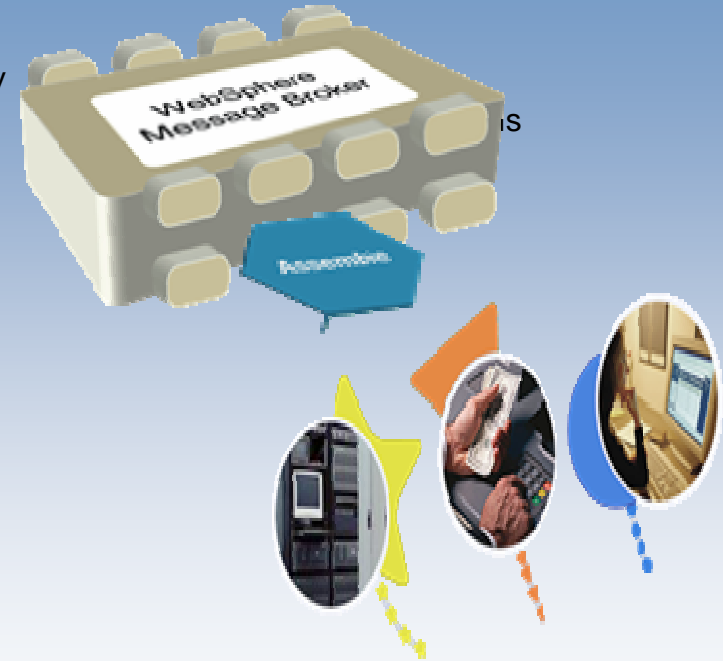
- Advanced message transformation, enrichment, and routing
- Option to use WebSphere DataStage TX
- Support for industry standard data formats (AL3, HL7, SWIFT, HIPAA, EDI, etc.)

New & improved pre-built capabilities to improve ROI

- Leverage existing skills with rich Java™ and XML support
- Implement complex event processing with no programming
- Offers simple and easy to use tools with advanced capabilities

Leverage the performance

- Offers performance of traditional transactional processing environments

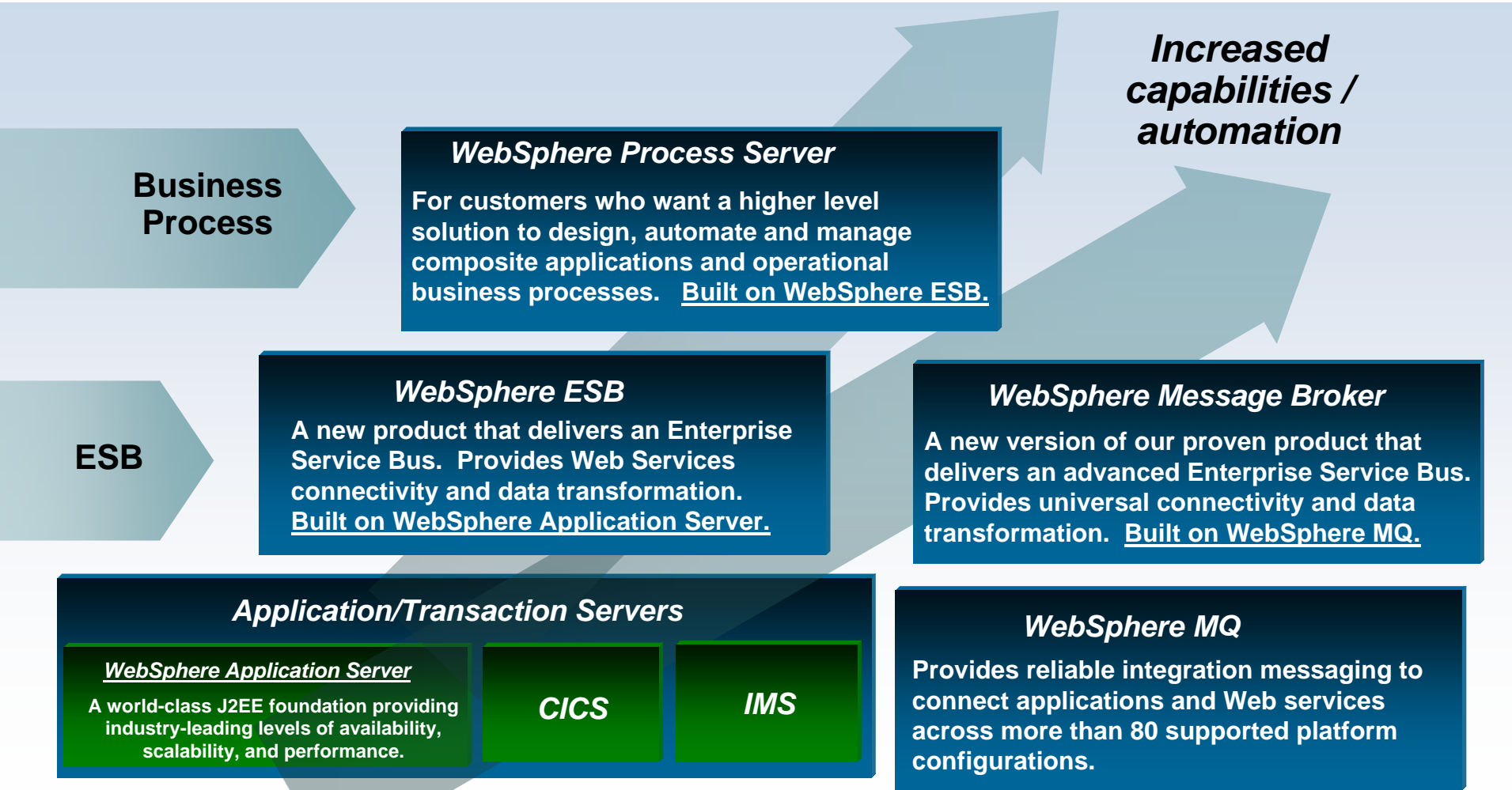


Planned Availability for z/OS: October 28, 2005

Integrate your existing environment with the world of Web Services



IBM leads the way with flexible deployment options for an SOA environment!





Enabling a robust, flexible SOA runtime environment

While maximizing the value of existing assets **Fully SOA capable!**



WebSphere Application Server V6

March 2005

- Extend existing Java assets with support for Web Services standards and standards-based messaging
- Help ensure 24x7 availability of business-critical applications with clustering and high availability
- Build and deploy Web Services quickly and easily with rapid development and deployment features

CICS Transaction Server V3.1

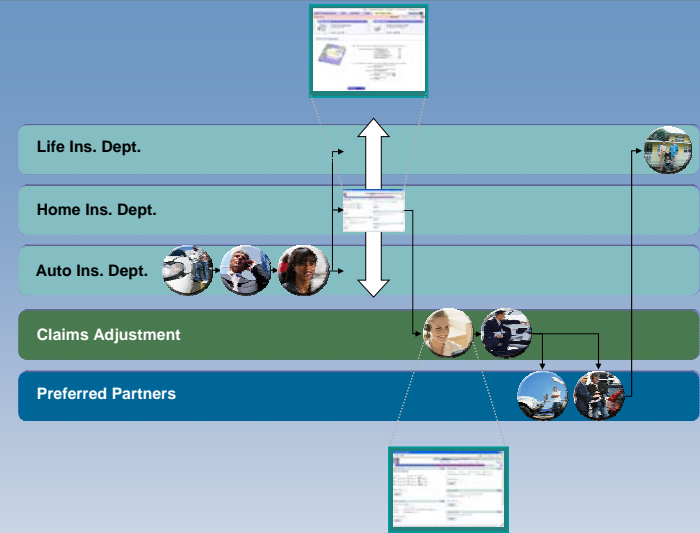
March 2005

- Exploit provider/requestor Web service support for CICS assets, based on full Web service standards
- Extend the value of CICS transactions in a mixed language environment
- Build Web services from CICS transactions with no change to existing applications.

IMS Transaction and Database V9

October 2004

- Exploit Web service support for IMS assets, based on full Web service standards
- Extend the value of IMS transactions in a mixed language environment
- Build Web services from IMS transactions with no change to existing applications



#1 in market share for Application Server software



IBM WebSphere Application Server comes out on top

35+ years of maturity and innovation in transaction and data systems



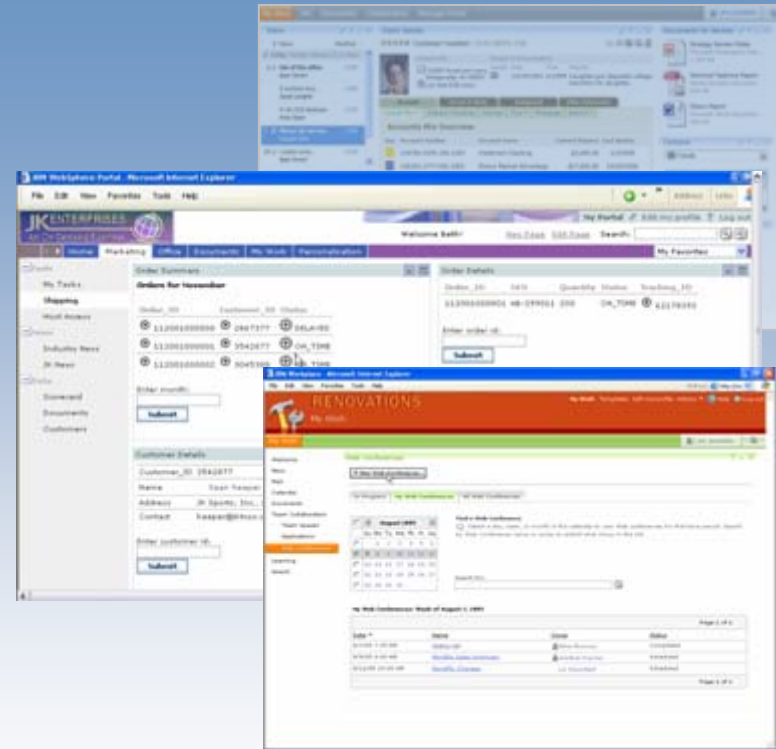
Deploy – People



Deliver Collaboration, Mobility, & Composite Applications 'on the glass'

Enhanced! WebSphere Portal V5.1

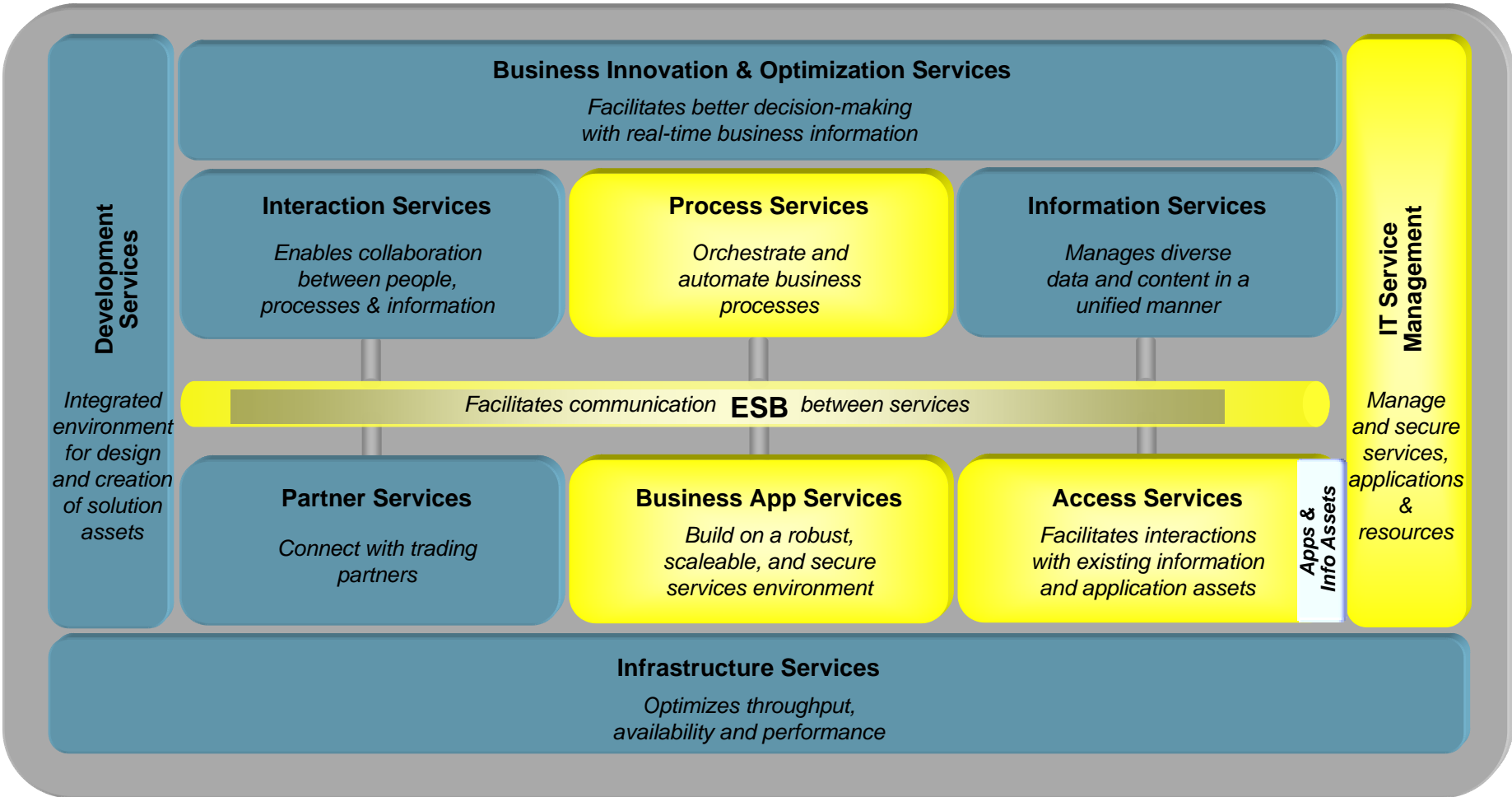
- **Ease of use**
 - Now supporting WebSphere Process Server V6 for process-driven portal capabilities
 - Support for DB2 V8 planned for mid-October with WP5102 fix-pack
- **Ease of management**
 - Virtual portals and policy-driven administration
- **Reduced total cost of ownership**
 - Reuse of SOA components across customer, employee, and partner/supplier portal environments





SOA Reference Architecture

Supporting your SOA Lifecycle



 Leverage zSeries middleware for maximum business flexibility.



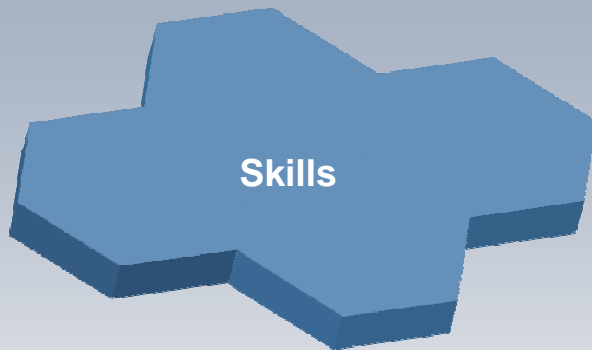
The IBM SOA Business Partner Community enables, supports and energizes business partners



- **Wide access** to key assets and skills
 - *Extensive* community of application vendors, utility software vendors and integrators
- **Lower risk and rapid** integration of new software
 - *Open standards* -- Applications built on open standards supported by IBM Software
 - *High enablement* -- IBM training and resources for Partners minimize implementation risk

www.ibm.com/soa, "Partners"

Get started today! Three ways to help you!



SOA Industry 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

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

SOA Jumpstart

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

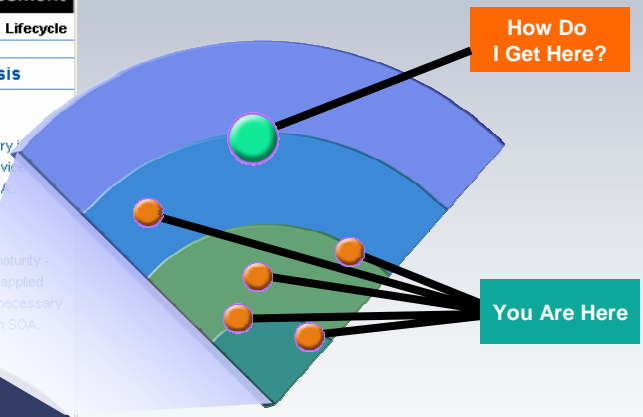
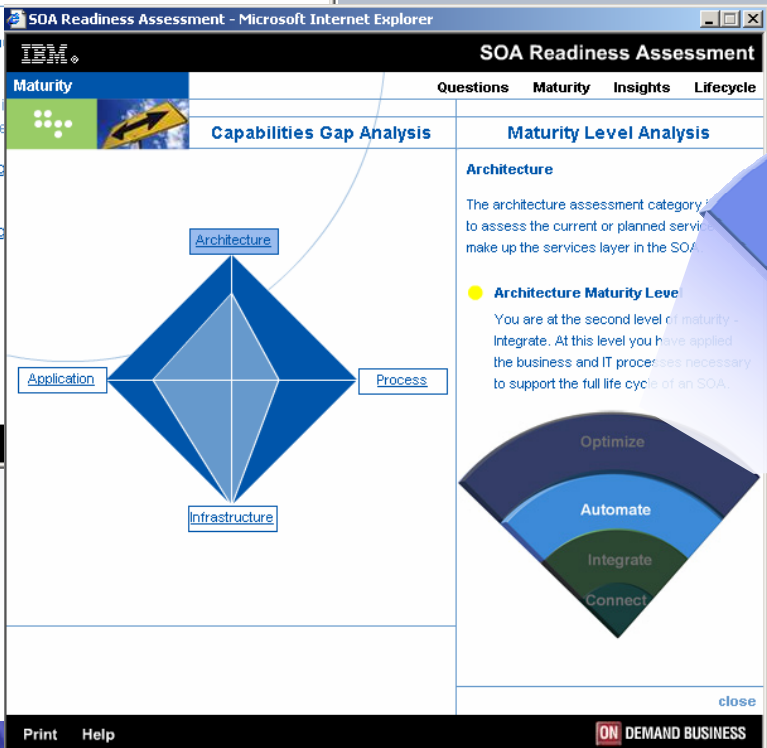
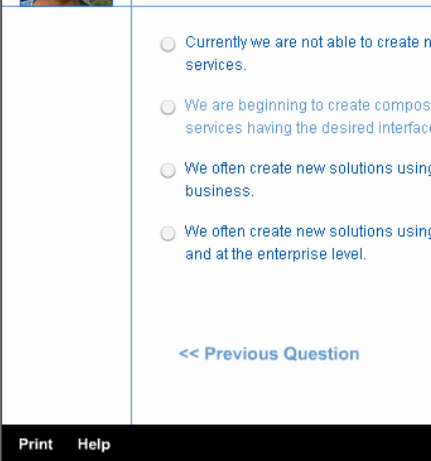
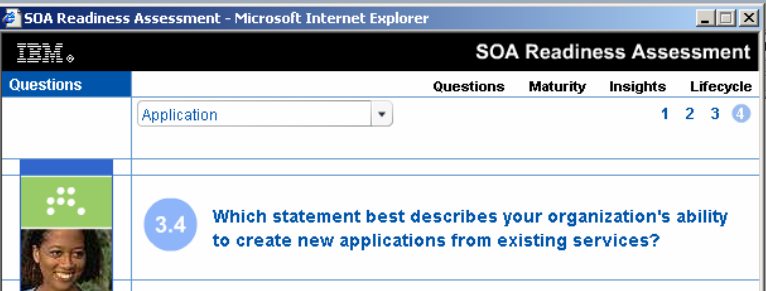




IBM SOA Assessment Tool

On line or on site

Receive actionable recommendations customized to your level of SOA maturity



Find out at ibm.com/soa or contact soa@us.ibm.com



Some entry points along your roadmap

Example

Entry Point

“How To Get Started”



SOA a strategic initiative for application development and integration at an **Enterprise level**

Component Business Modeling



Line of business level, or across a set of related projects

Client Architecture Readiness Evaluation

Travelex

worldwide money

Single project implementation at IT group level. “Testing the waters”... gradual adoption approach

SOA Jumpstart

zSeries and System z9: SOA for Today and Tomorrow

1. Leverage zSeries infrastructure foundation platform for integration.

- ✓ z/Architecture, Virtualization, Sysplex, z/OS V1.6 and V1.7, WLM/IRD, zAAP, IFL, Linux

2. Model & discover business functions and processes.

- ✓ WS Business Modeler, Service Flow Model for WDz, WS Asset Analyzer, Rational Rose/XDE, CICS Interdependency Manager

3. Transform, modernize & extend legacy applications, processes and data.

- ✓ WAS, SOA & Web Services and ESB, HATS, CICS TG, DB2 Connect, IMS Connect, WS MQ

4. Integrate applications, processes and data; new and old.

- ✓ z/OS, PR/SM, zAAP, IFL / Linux, zVM, Hipersockets
- ✓ WS MQ Workflow, WS MQ Message Broker
- ✓ WebSphere ESB, WebSphere Process Server

5. Manage workload performance against business objectives.

- ✓ WLM & IRD, EWLM, z/OS Security Server, IBM Director, Sysplex Distributor, VMRM
- ✓ Tivoli OMEGAMON, WS Application Monitor (Cyanea), WS Workload Simulator
- ✓ WebSphere Business Monitor



System z9 offers an advanced SOA integration platform for the on demand world!



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)



ON DEMAND BUSINESS™

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Customer References



Avis Drives Customer Service Innovation to Grow Brand

Challenge

- Reduce time and cost of delivering new dynamic services that improve customer ease of use and widen competitive advantage

Solution

- A flexible service-oriented infrastructure helps Avis rapidly launch dynamic service offerings
“We’ve built a flexible service-oriented infrastructure that will enable Avis to develop creative solutions to widen our competitive advantage” -David Harris, CIO, Avis Futures

IBM WebSphere Business Integration
IBM WebSphere MQ for z/OS Software
IBM WebSphere
Business Integration Message Broker
IBM zSeries



Business Benefits:

- Accelerates service delivery time
- Reduces service delivery costs
- Enables faster responsiveness to customers and competitive challenges
- Helps strengthen security and reduce risk

Technology Benefits:

- Reduce time and cost of delivering new services
- Deliver services using any device type



SOA is not just for new development

Thailand's Bank for Agriculture and Agricultural Cooperatives (BAAC) assembles mainframe-based assets



What is the business challenge?

Improve customer service by extending real-time banking services over the web and across branches

Benefits

- Faster customer response times
- More efficient transaction processes
- Improved customer experience

Action taken

- Integrate new services and interfaces with core banking systems
- Information integration across 600 bank branches



SOA is not just for new development

Ohio Casualty Group find a solution for the present and the future



What is the business challenge?

Modernize the technology infrastructure that supported a mixture of stand-alone applications —automating and integrating them for maximum efficiency.

Benefits

- flexible architectural models for developing custom applications to meet changing business needs over time
- Faster, more efficient policy administration processes but with lower operating costs

Action taken

- Using existing technology assets, developed on open standards-based technology that easily integrates across heterogeneous platforms
- Create a policy administration systems which included using DB2 UDB for z/OS, Rational WebSphere Studio Application Developer-Integration Edition and CICS transaction software

“All our product lines use the same components, arranged in various ways and under different banners. That flexibility is what makes the IAA model so valuable for us.”

John Kellington, Chief Technical Officer, The Ohio Casualty Insurance Company



SOA is not just for new development

National City Bank blends new and proven technologies



National City

What is the business challenge?

Improve response times on web transactions and continue to exploit years investment in the development applications on the mainframe

Benefits

- Faster customer response times
- Significantly faster transaction processes
- Improved customer experience

Action taken

- Implement Web Services interface to core banking applications
- Use Web services in an SOA environment with CICS TS V3.1 and extend the mainframes reach to standards-based interfaces on other platforms



SOA is not just for new development

SERPRO now does in 2 hours what used to take 7 days



What is the business challenge?

To have easy and accessible data exchange between 4 countries – each with its own its computing systems and IT infrastructures

Benefits

- Web services technology enables interaction among applications using standardized Extensible Markup Language (XML) messages that can be transmitted regardless of the platforms or programming languages used by the member countries
- Simplified, standardized operations
- Quicker transports of imports and exports
- Up-to-date statistics and reports.

Action taken

- Developed information exchange solution based on service-oriented architecture (SOA) that utilizes Web services technology.
- Solution based on WebSphere Application Server for z/OS, CICS Transaction Gateway v1.3 and leverages WebSphere Studio Application Developer Integration Edition V5.1



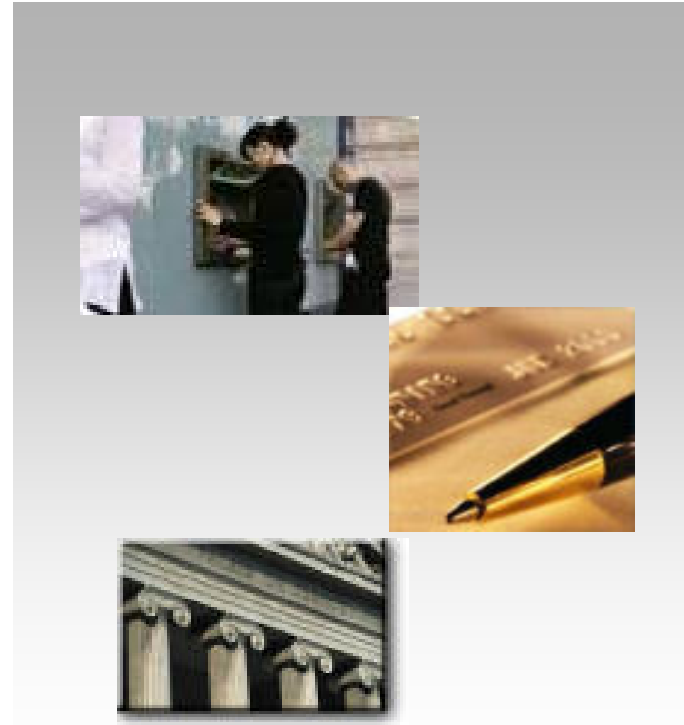
Getting to SOA – Wachovia Uses zSeries Technology!

■ Business Challenges

- The “customer experience” needs to be as seamless as possible even though customers can access bank services via multiple channels (i.e., Internet, ATM, call centers, etc...)
- Growth through acquisitions and mergers created silos of applications and information across different systems

■ Solution and Benefits

- SOA and WebSphere allowed silos of applications to become an integrated platform where the front-end actually talks to a *single* back-end service
- Simplified cross-platform communications provided disparate platforms with easier access to mainframe assets
 - allowing quicker time-to-market with cost reductions.



“We can meet our customers’ needs because our services are written and run on WebSphere.”

*David Griffes
Mgr, App Server Competency Group, Wachovia*



SOA is not just for new development

Bank of Montreal assembles mainframe-based assets

What is the business challenge?



Revitalize customer relationship management across multiple banking channels

Benefits

- Unified view of customer for personal banking line of business
- Existing investments preserved and re-used

Action taken

- 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



Some entry points along your roadmap

Example

Entry Point

“How To Get Started”



SOA a strategic initiative for application development and integration at an **Enterprise level**

Component Business Modeling



Line of business level, or across a set of related projects

Client Architecture Readiness Evaluation

Travelex



Single project implementation at IT group level. “Testing the waters”... gradual adoption approach

SOA Jumpstart



Backup