





# WebSphere Software Foundation & Tools for dynamic e-business

**IBM Software Group** 

### Agenda

- WebSphere Market Momentum
- The Road to Dynamic e-business
- WebSphere Software Platform The Pyramid
- WebSphere Application Server and WebSphere Studio
- Customer Highlights
- Summary
- Next Steps
- Questions and Answers



#### **Seminar Objectives**

- By the end of today's seminar you will know the following about IBM's WebSphere Application Server and WebSphere Studio:
  - ► the stages of e-business adoption
  - how WebSphere Foundation and Tools are a key component of the WebSphere Platform
  - how WebSphere Application Server (WAS) and WebSphere Studio meet the needs of customers
  - ► features, functions, and benefits
  - new versions of our tools
  - trends, directions, and future development for WebSphere Foundation and Tools;
  - and how we can perform an assessment of your business to determine how WebSphere Application Server and WebSphere Studio would work for you



#### WebSphere Market Momentum - 2001

- +150% Growth in Global Customers to 50,000 Including over 9,000+ Business Partners
- +180% Growth in Certified Solution Providers Including the Training of 6,000+ Individuals
- +40% Growth in Business Partner Fulfillment of WebSphere Products
- +300% Growth in Business Partner Engagements at WebSphere Innovation Centers to 2,000+
- +330% Growth in Registered WebSphere Developers to over 600,000+
- +500% Growth in Downloads of Application Servers and Studio/Eclipse Tools to 300,000+
- ★ Numbers are Estimations

Market Leading e-business Platform

50%

WebSphere Revenue Growth in <u>2001</u> and 11 Consecutive Quarters of Double Digital Growth



WebSphere Revenue Growth in <u>2000</u> on Unix and Windows NT



WebSphere software

#### What the Analysts are saying...



"The prize for the most impressive growth was IBM...an astronomic increase in WebSphere usage...market dynamics support an increasingly bright future for WebSphere"



"... [we] expect IBM to leverage its many strengths to overtake BEA as the leading app server vendor..."

### Gartner

"...[WebSphere] will threaten BEA as the #1 vendor ... enterprises looking for a comprehensive e-business platform should seriously look at IBM. "



#### The road to dynamic e-business

#### BM Corporation - Netscape Ele Edit View Go Communicator He

dynamic e-business (dy' nam ic e biz' nis) n.

- 1. The adapting of business processes & *IT* systems to support changing business strategies & tactics
- 2. A long term trend toward the creation of more automated & integrated business processes and compelling experiences
- 3. The use of open network standards to deploy dynamic applications

Digital Businesses

**External Integration** 

**Internal Integration** 

e-business Transactions

Web Publishing & Extending Existing Apps

- 🗆 🗵

### **Changing Technology Requirements**







Transactional Integration of in-house applications and dynamically outsourced application functions

Web applications transparently coordinate transactions between internal and external applications

Web applications transparently coordinate transactions between different in-house applications

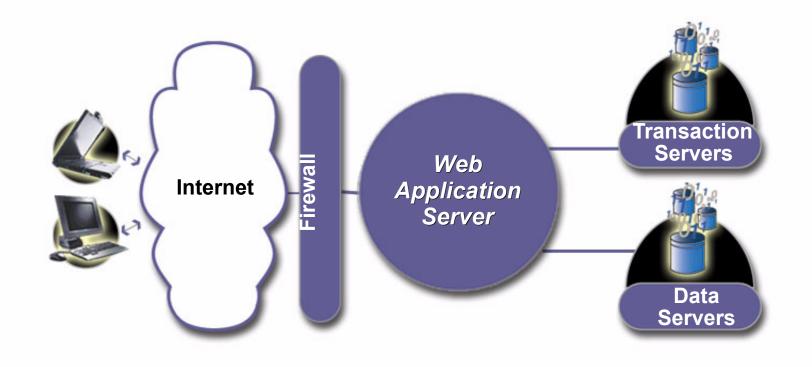
Web applications with separation of business logic and presentation, some transactional integrity and integration required

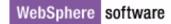
Static Web Serving and e-mail, evolving into limited use of dynamic web content

#### e-business Adoption -

**Technology Requirements changing from Web Application** 

Server...

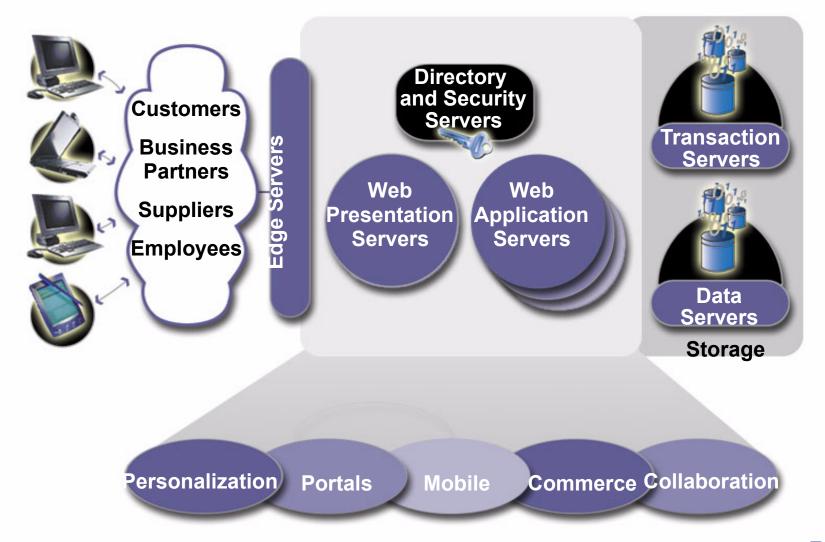






#### e-business Adoption -

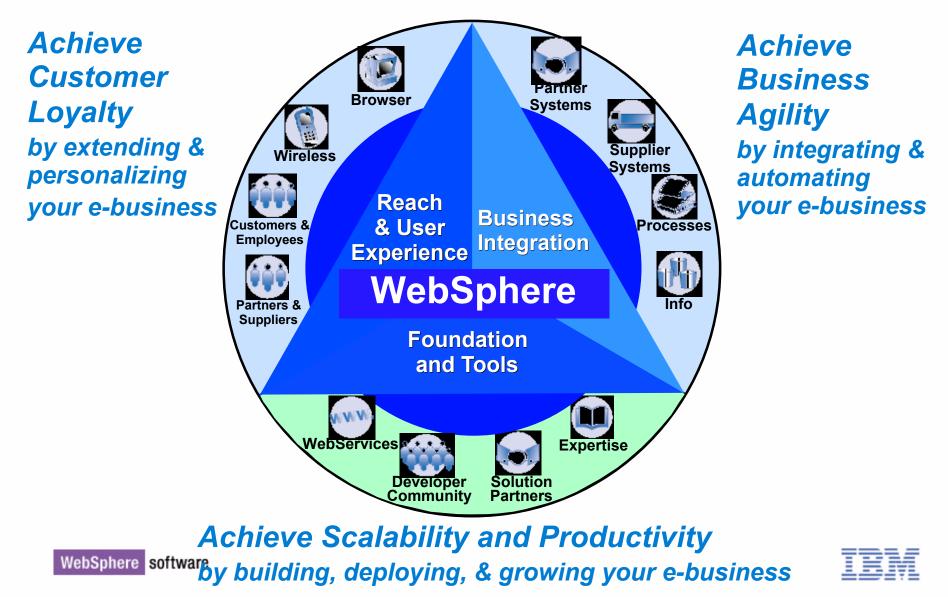
#### ... To full e-business Infrastructure





### **The WebSphere Platform**

Infrastructure software for dynamic e-business



#### **The WebSphere Platform Delivers**



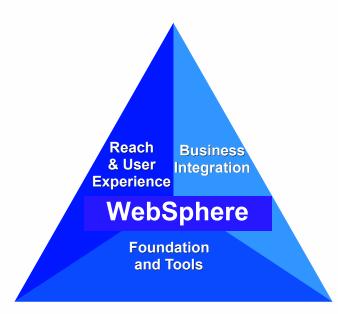
Java Compatible Enterprise Edition

Web Services integrated in the WebSphere **Application Server Family Integrated Software Platform for e-business** Digital with Enhanced User Experience, mobile Web Businesses and Business Integration support Services SOA Externa Integration of Enterprise Java, Integration XML & the MQSeries family Internal Integration Java Distributed Transactions & Tight Integration of AD Tools & **App Server** e-business Transactions

Extend Core HTTP Services with Java

Web Publishing Extending Existing A

#### **WebSphere Application Server Version 4**



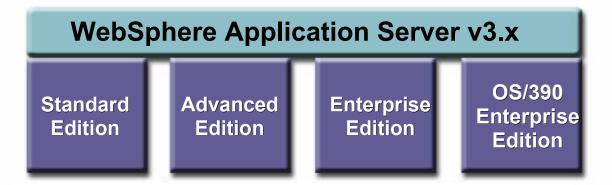
- Meet the needs of customers in different phases of e-business adoption and grow with them
- Lead Web Services implementation
- Maintain best of breed e-infrastructure capabilities to enable intelligent transactions
- Provide an open, integrated application development environment



### **WebSphere Application Server Version 4.0**

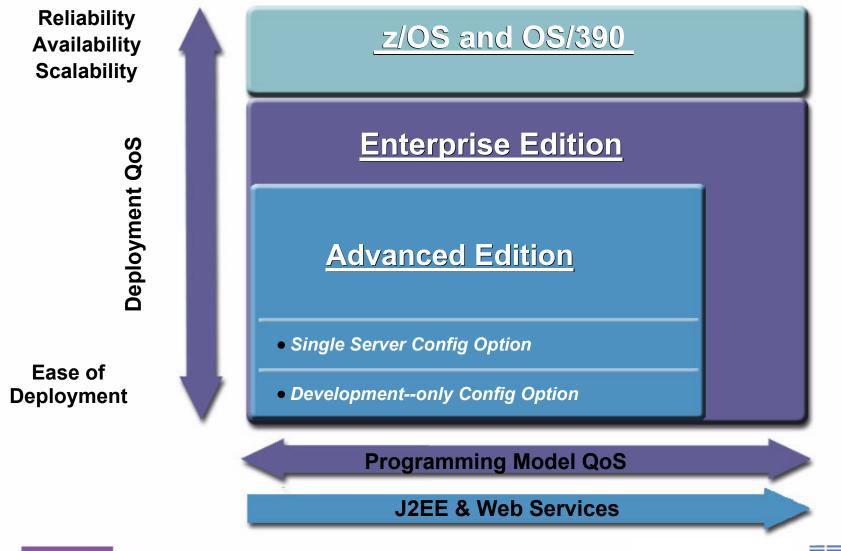
- A single Web services-enabled J2EE certified technology base is the core of Version 4.0
- Different configurations add or subtract services to meet the needs of different groups of customers

### WebSphere Application Server v4.0





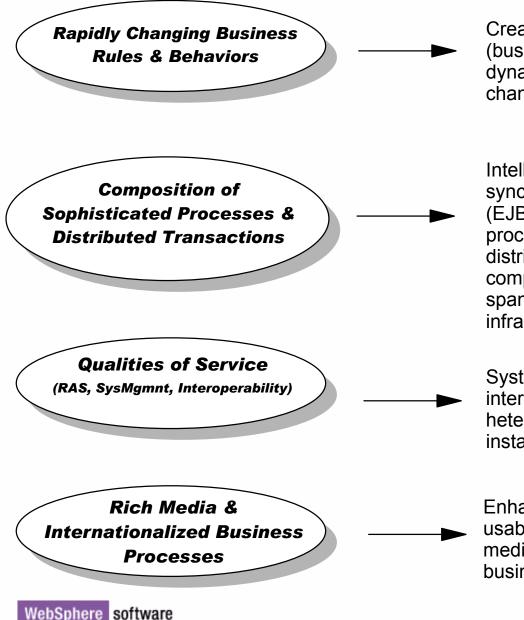
### WebSphere Application Server V4 Configurations



WebSphere software

### **Enterprise Edition - Strategy**

#### **Value Propositions**



Creation of EJB applications (business process) which can be dynamically configured for rapidly changing behaviors (environmental)

Intelligent and dynamic integration of synch and asynch business artifacts (EJBs) into composed business processes, especially in highly distributed infrastructures. Includes composition of 2PC transactions spanning heterogeneous distributed infrastructures

Systems management, RAS, and interoperability enhancements for highly heterogeneous, large distributed installations (> 50 nodes)

Enhanced, more cost effective application usability and reach via extensions for rich media-based and/or internationalized business contexts (EJB artifacts)



### V4 for z/OS and OS/390: At a Glance

- WAS V4 for z/OS provides the full breadth of services required of a J2EE web application server
- Functionally equivalent to Enterprise, satisfying the most stringent requirements in a 2-tier configuration
- Core strength is integration of data from heterogeneous back-ends
  - ► Range of connectors to CICS, IMS and DB2 (MQ coming)
  - Allows integration with transactional integrity
- Common development environment will be used for all WebSphere platforms
- Implementation takes full advantage of all benefits of z/OS and zSeries
  - ► Built from the ground up not a Unix port!
  - ► Full WLM and Parallel Sysplex exploitation



#### **WebSphere® Technology for Developers**

#### **Application Server Single node**

Full J2EE 1.3 Programming Model including: JSP 1.2, Servlet 2.3, EJB 2.0, Java 2 Connectors, etc.

EJB 2.0 implementation: Container-managed persistence Container-managed relationships EJB Query Language Message-Driven Beans Local interfaces

Standards based Interoperability support: CORBA 2.3 ORB Interoperable Naming Service (INS) Object Transaction Service (OTS) Common Secure Interoperability (CSIv2) J2EE 1.3 Application Assembly Tool Command Line Deployment Tool HTTP Transport for Web request Webservices Enablement via SOAP and UDDI Browser based Administrative Console

#### **J2EE Application Client**

Java Message Service (JMS) /XA

**System Management Improvements** 

Embedded JMS Provider JMS 1.0.2 compliant level supporting: Point-to-Point and Publish/Subscribe Lightweight variant of IBM's WebSphere MQSeries Browser based Administration of JMS resources



### WebSphere Application Server 4.0 Packaging

#### **Configuration Options**

Advanced Edition Single Server Edition Developer Edition

Enterprise Edition z/OS and OS/390 WebSphere Technology for Developers

#### **Platforms**

Windows Linux Solaris HP-UX AIX OS/390, z/OS OS/400 Novell Netware

WebSphere software



#### GA

All configurations currently available

#### Pricing

\$35,000/CPU for z/OS \$35,000/CPU for Enterprise Edition \$12,000/CPU Advanced Edition \$8,000/CPU Advanced Single Server No charge for Advanced Developer Edition download



### **Version 4.0 Technology Highlights**

- Full Web services support (SOAP, UDDI, WSDL, XML) and J2EE 1.2 certified including robust integration and transaction technology
- Unparalleled connectivity including J2EE Connector Architecture, CORBA, ActiveX, and expanded database support
- Message Beans and JMS Listener function to complement existing JMS/XA support
- EJB Extensions Internationalization, Business Rules and Process Flow
  - Intelligent adjustments to client locales for time zone, currency, language, etc.
  - Dynamic updates without re-coding when business practices change
  - Agile and adaptable business process flows via BPBeans technology preview

Dynamic caching, enhanced security, improved manageability, and increased performance

WebSphere softw

### **Total Cost of Ownership Summary**

Configuration	IBM Price	BEA Price	Delta
<i>Three-Tier (Web Server, Presentation Services-to- Business Logic-to-DB)</i>	\$ 377,000	\$ 508,200	IBM 74% the cost of BEA
Two-Tier (Web Server, Application Server-to-DB)	\$ 246,000	\$ 278,000	89%
Large SMP (12-way Sun)	\$ 988,000	\$1,084,000	91%
<i>Two-Tier (Web Server-to- Application Server, DB)</i>	\$ 483,452	\$521,432	93%
Small SMP (4-way Intel)	\$ 221,000	\$ 253,000	87%

WebSphere software

IBM pricing ranges from 74% to 93% the cost of BEA



### **Major Influencers on TCO Pricing**

- Cost of IBM software support is one-fourth that of BEA
  - New IBM maintenance plan (9/01) expected to provide standard 5x9 coverage based on a 5% OTC license fee
  - ► BEA support options are 20% and 28% OTC license fee (5x12, 7x24 coverage, respectively)
- BEA has no maintenance program (i.e. annual subscription fee) to handle upgrades
  - customers expected to buy version-to-version upgrades at standard prices (discounts are generally tied to special promotion periods and are applied on a customer-by-customer basis)
  - assumed the same overall annual maintenance cost structure as IBM (i.e. 20% OTC license fee)
    - works out to be an 80% discount based on BEA's historical average of one major release per year



### **WebSphere Application Server**

The proof

#### Hewitt Associates

- Major global human resources consulting firm
- Manages \$300B retirement funds for 150 client companies

#### Direct access to accounts for business partners

- Full B2B integration based on open standards
- Real time transactions with token encryption security

We achieved full B2B integration [at Hewitt] using advanced open standards technologies running on WebSphere Application Server. And we did it under five months. We estimate it would have doubled the cost and time involved if we had built all the pieces from scratch.

> *—Tim Hilgenberg, Chief Technology Strategist, Business Logic Corp.*

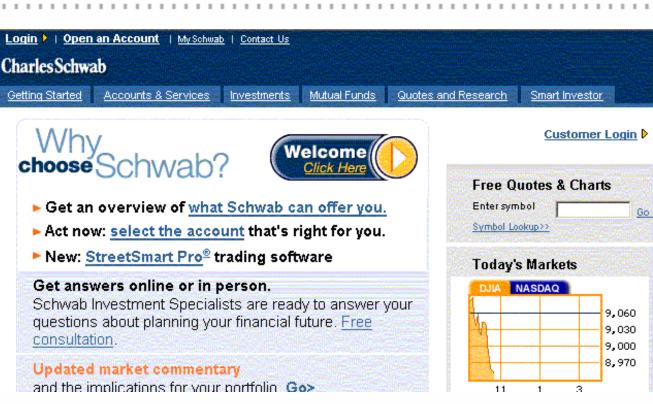




#### **Charles Schwab**

Schwab.com is one of the largest transactional web sites in the world

- #1 in online brokerage
- powered by WebSphere App Server, Edge Server & MQSeries
- 10.7 Million peak transactions/day (0.5M peak trades/day)
- 2.2+ Million customers, 110,000 peak concurrent users
- 4,000 peak trans/sec, 80 Million peak hits/day
- 150+ deployed WebSphere projects in production
- 75% of the business runs on WebSphere





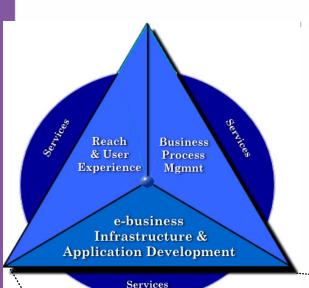
#### eBay



- Today 200M dynamic pages views/day
  - -72,000 hits/sec. Built on home grown C++ application
  - ► Tomorrow 15X expected growth
  - ► Need improved scalability, performance, availability, developer's productivity
  - ► Solution after 4 months of competitive POC
    - Selected WebSphere Application Server over BEA WebLogic and Microsoft .NET (Fall 2001)



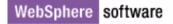
#### **WebSphere Application Server Version 5**



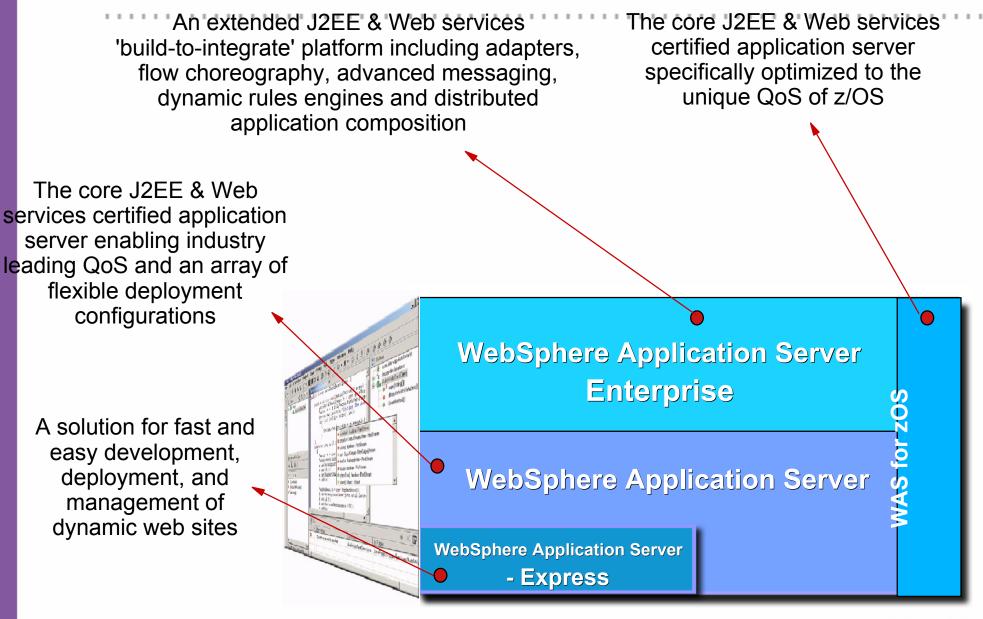
★ A single, deployment-agile Web services-enabled J2EE application

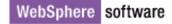
- server providing universal application & integration foundation services
- ★ Sold as the foundation of the WebSphere Software Platform at a single price point or via a flexible, configuration-based pricing model
- ★ Different configurations add or subtract services for specific usage occasions providing increased flexibility and extensibility
- \* Optimized OEM & embedded capabilities including unparalleled extensibility options

### WebSphere Application Server v5



#### **WebSphere Application Server Version 5**







#### WebSphere Application Server Version 5 Functionality

- J2EE 1.3 certified
- Native, high powered JMS
- Extended XML & Web Services
- Web Services Invocation Framework
- UDDI Gateway & Repository
- ActiveX bridge
- JMX objects
- Administration & RAS/P enhancements
- Flexible Deployment Options
  - \* standalone
  - \* network
  - \* extended Network

- Tightly integrated development environment
- Wizards and samples for rapid application development
- Web services consumption
- Near-zero administration & smaller footprint
- Smooth transition to other configurations of WAS

- Dynamic Application Adapters (JCA++)
  Leverages advanced z/OS
  - Transactional, interruptable distributed WorkFlow
  - State machines and compensation patterns
  - Application composition
  - Dynamic Business Rule Beans & Extended EJB Query
  - JMS Automation Container Managed Messaging
  - Advanced Internationalization & Workspaces
  - Dynamic Application Profiling
  - Advanced Transaction Coordination
  - JMS Messaging Extensions (WebSphere MQ5.3)
  - CORBA ORB & C++ Interoperability

- Leverages advanced z/OS features and functions including parallel sysplex and WLM
- Web services and XML
- Optimized for high integration with existing z/OS data

WebSphere Application Server Enterprise

•WebSphere Application Server

WebSphere Application Server

- Express



#### WebSphere Application Server Version 5 Network Deployment Options

Advanced deployment services & QoS characteristics for multi-server distributed configurations

- WLM / Load Balancing / Clustering / Failover
- Distributed Security & Directory
- Distributed, Dynamic Administration
- Sophisticated network caching
- UDDI Repository & Gateway

Cross-Enterprise deployment services & QoS characteristics for highly dynamic and decentralized distributed configurations

- Dynamic WLM with Advanced Multi-Domain Availability/Failover
- Content Distribution infrastructure

S

- Web Services Caching and rules-based Routing
- ESI-Based Dynamic Fragment Caching and Invalidation

WebSphere Application Server

**Deployment Options** 

Enhanced Authentication/Access Control Security

Standard deployment & qualities of service characteristics optimized for ease of administration in stand-alone server configurations

- Dynamic Caching
- File-based (Browser) Administration
- Single Server, non-distributed
- Extended database support





**\$\$** 

#### **2001 Scorecard - Technology Priorities**

1.1.1

Dolivor first Wab Sanvisse Blatform	First application server in March	
Deliver first <u>Web Services</u> Platform	• First app development tools in August	
Deliver first <u>J2EE 1.3</u> certification	<ul> <li>First Sun certification in December</li> </ul>	
Dominate in <u>performance</u> & QoS	<ul> <li>Won PCMag, ecPerf &amp; Trade2 benchmarks</li> </ul>	
	<ul> <li>Delivered Edge Server v4</li> </ul>	
	<ul> <li>Won eBay performance study</li> <li>New Studio v4 Family</li> </ul>	
Deliver integrated <u>App Dev tools</u>	Delivered 200+ new AD partnerships	
Deliver choice of <u>infrastructure</u>	<ul> <li>100+ IBM products run on app server</li> </ul>	
Deliver common programming model for <u>flexible deploy options</u>	<ul> <li>single v4 code base w/ config flexibility</li> </ul>	
	<ul> <li>13 platforms including zSeries &amp; iSeries</li> <li>new OEM configuration capabilities</li> </ul>	
Deliver <u>ease-of-use</u> & <u>ease-of-admin</u>	<ul> <li>New AE single server configuration</li> </ul>	
Deliver innovative J2EE services	<ul> <li>New EE services (eg, business rules)</li> </ul>	



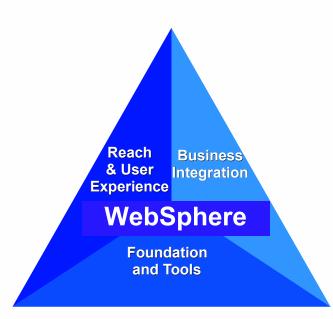




### WebSphere Studio

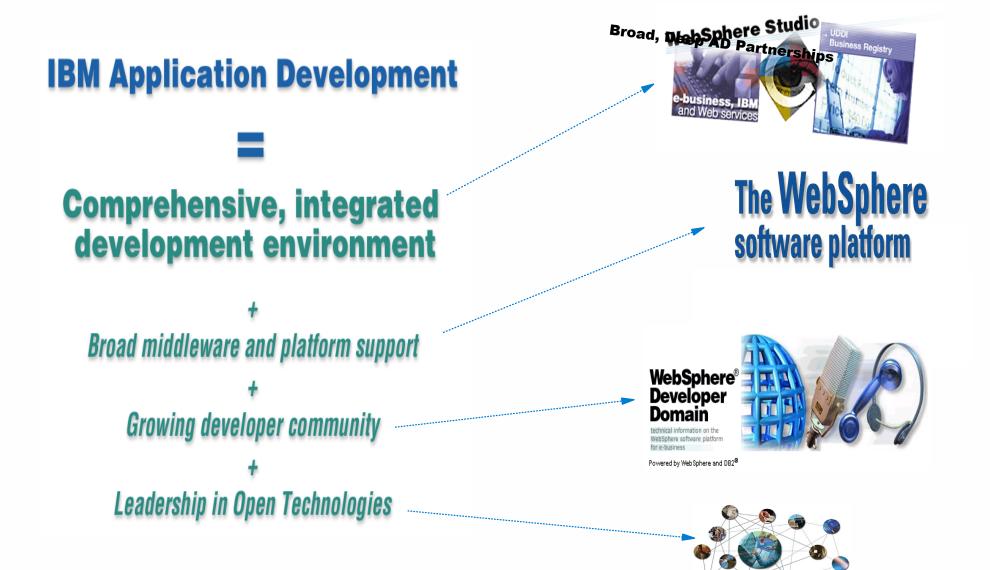
**IBM Software Group** 

### WebSphere Studio Improved Developer Productivity



- WebSphere Studio is <u>the</u> development environment for the WebSphere software platform
- WebSphere Studio provide the industry's first Web services-enabled Application Development environment
- WebSphere Studio Workbench is based on the Eclipse open development platform enabling unparalleled cross-tool integration (www.eclipse.org)
- IBM, in partnership with industry leading vendors, is creating a comprehensive cross life cycle development environment

### WebSphere Software Platform Developers, developers, developers!!!



## Application Development is the Key to Unlocking Dynamic e-business

 Integration of emerging technologies and managing their effect on processes

Web

The Next **★** Flexible, team-oriented application development **Technology** ... processes **\*** Specialization for different mixes Dynamic orchestration of of middleware services applications Web **Services ★** Growing diversity and interactions among developer roles **Transparent discovery** and interaction of apps **XML** 

tm

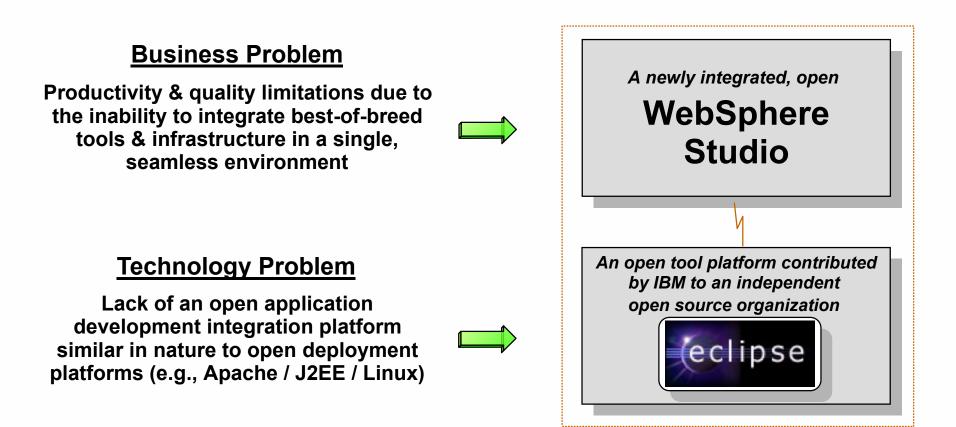
**J2EE** 

Integration of transactions, data & applications

Separation of business logic & presentation with transactional integrity and data integration

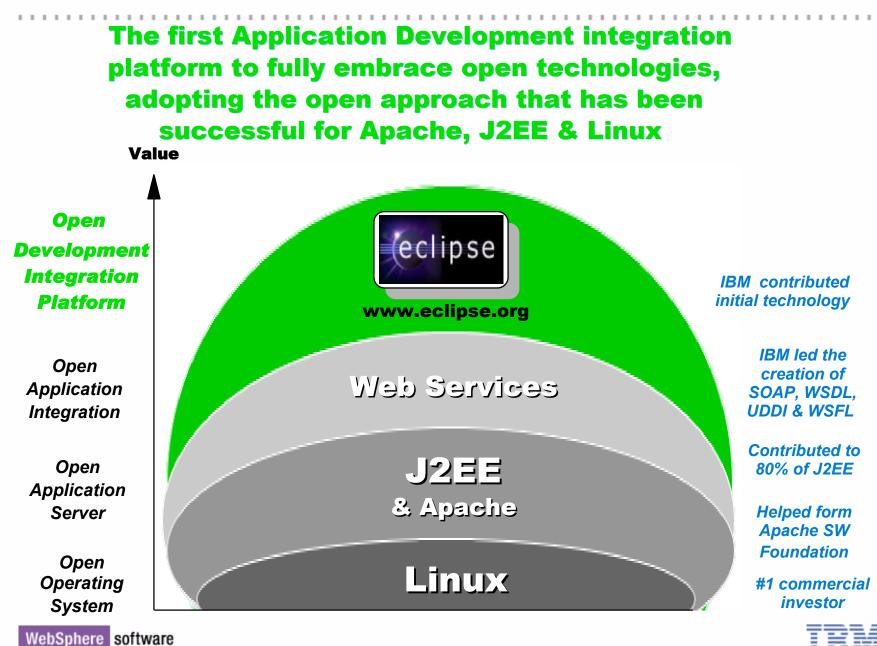
Static Web sites & e-mail evolving dynamic Web content

### **Open and Integrated Application Development**





#### **Open Technology Leadership**



### **WebSphere Application Development**

#### - A <u>flexible</u> and <u>extensible</u> Tools environment

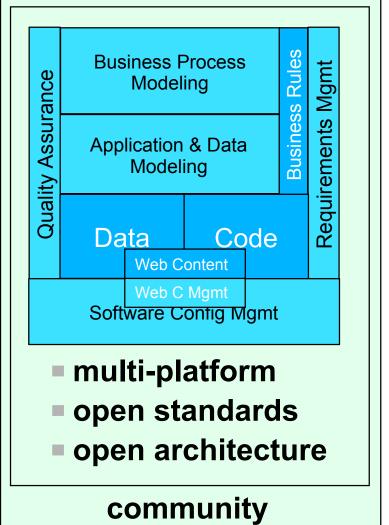
- ► Full application development life cycle
- Leverage complementary third-party tools
- Integrated RAD capabilities

#### - An integrated <u>open</u> programming model

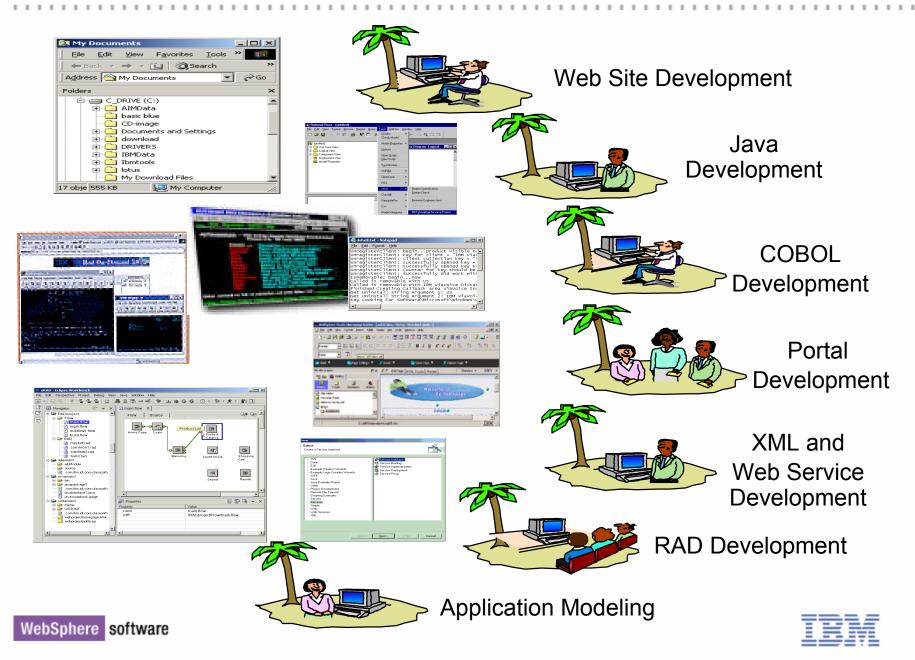
- Open, industry standards
- Rapid support for new technologies (e.g., Web services)
- Tight integration with WebSphere software platform

#### Expanding Business Partner & Developer Commun

WebSphere Developer Domain, developerWorks, alpha

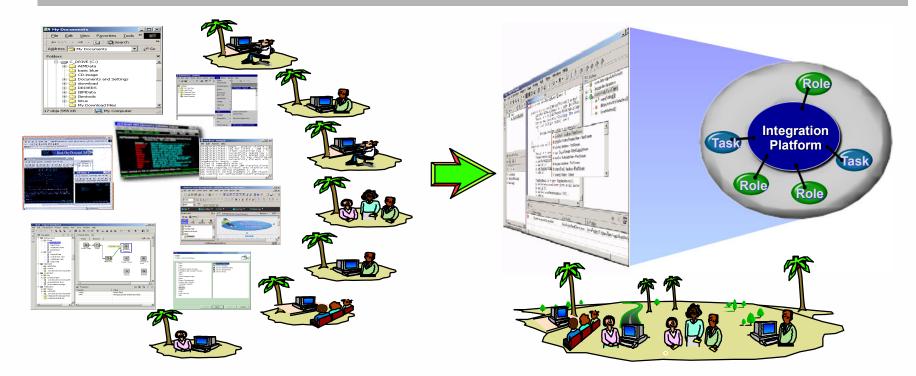


# **Poorly Integrated Development Tools and Teams**



# A "Portal-like" Approach for Developers

An integrated experience unlocks greater productivity by bringing order and collaboration to rapidly expanding e-business development teams



# Independent tools and poorly connected islands of development

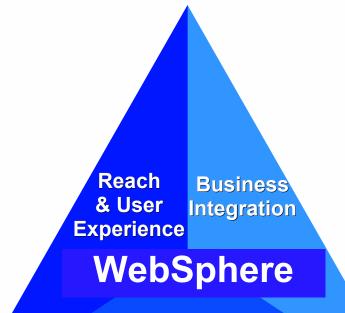
Best-of-breed tools and teams working together in an integrated environment





#### WebSphere software platform

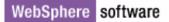
#### **Application Development**



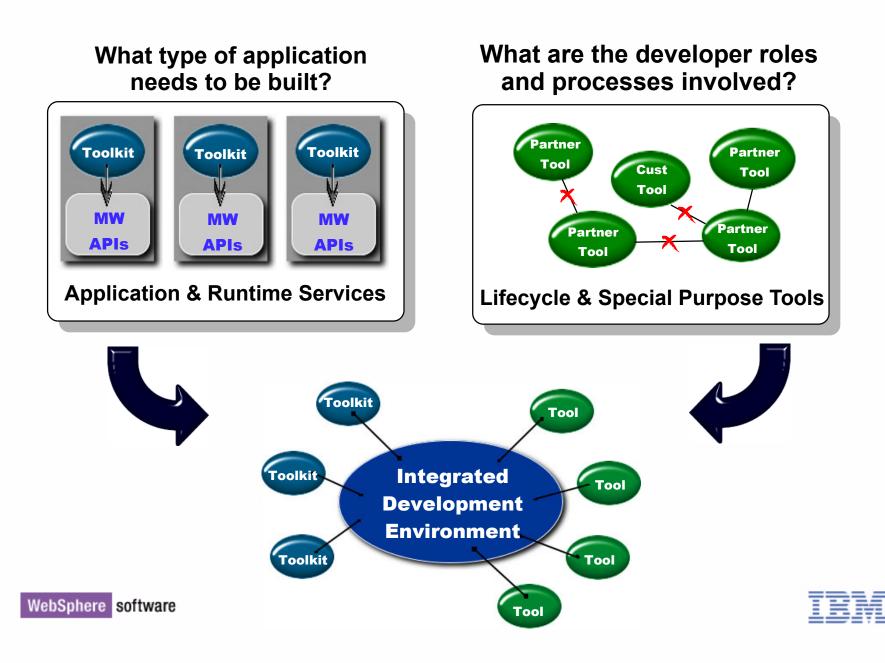
Foundation and Tools Help customers deliver, grow & differentiate their e-business to sustain competitive advantage

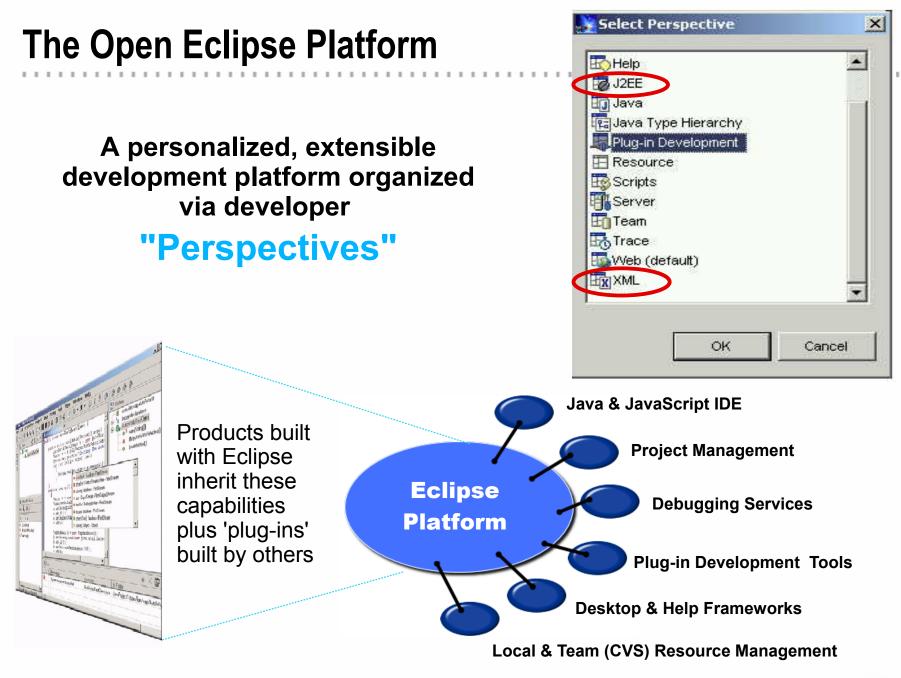
**Open Technology + Community** 

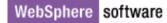
Higher Quality Applications **in a Fraction** of the Time



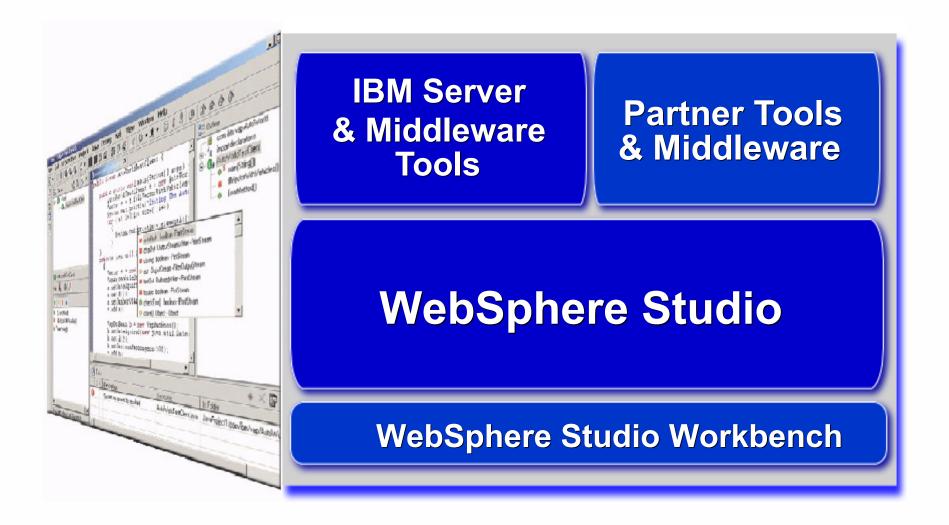
#### A Comprehensive, Integrated Application Development Environment Leveraging the Power of Open Integration Technology







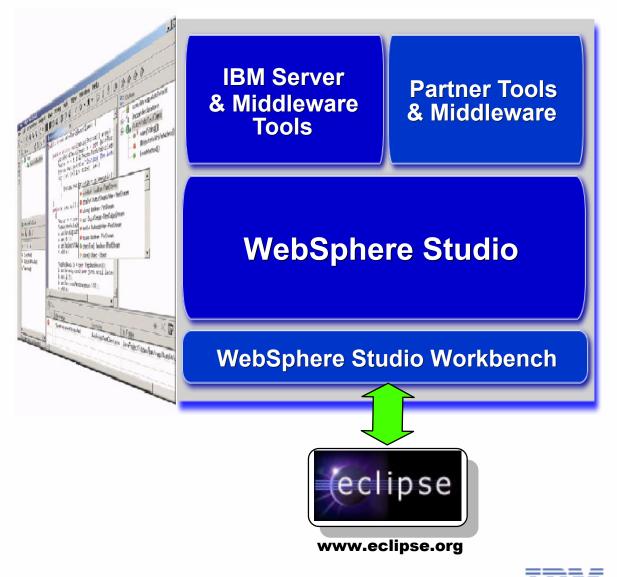
# The New WebSphere Studio IBM's Development Solution for e-business





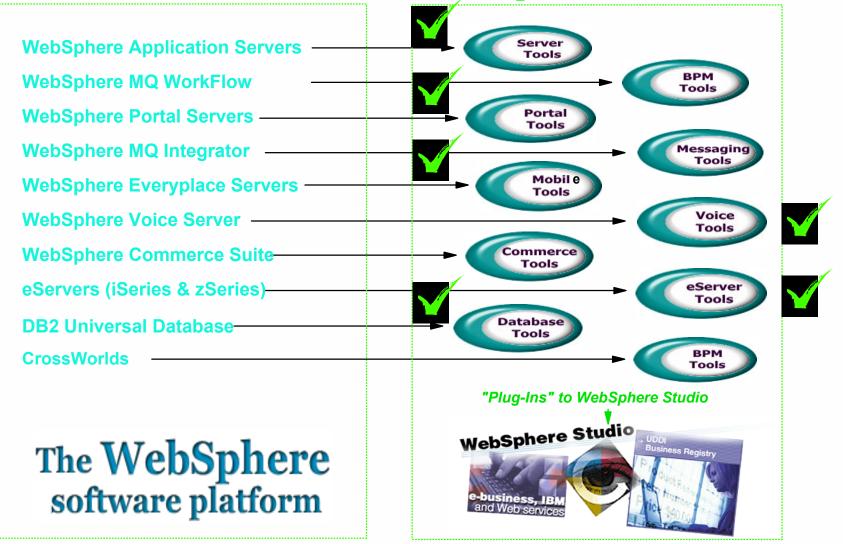


- A single, comprehensive IDE with unprecedented flexibility & extensibility
- Configurations add or subtract "perspectives" to meet the needs of specific developer roles
- Extend and customize with partner, customer & IBM plug-ins
- Common development environment across Windows and Linux



#### e-business Infrastructure

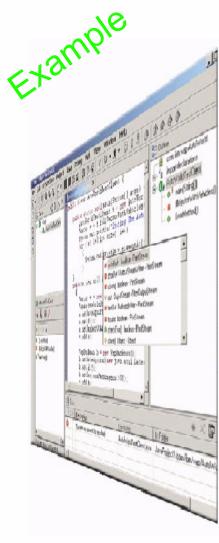
#### **Development Environments**





# **A Customized Development Environment**

Creating an Adaptable, Voice-enabled B2B Commerce application



Integrated, Roles-based Team Development

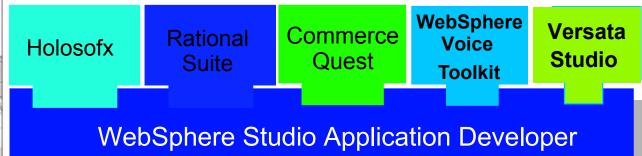
Holosofx - Model & Simulate Business Process

Rational Suite - Design Application Models

CommerceQuest - Build and Link e-business Processes

WebSphere Voice Tools - Enable for Voice & Wireless

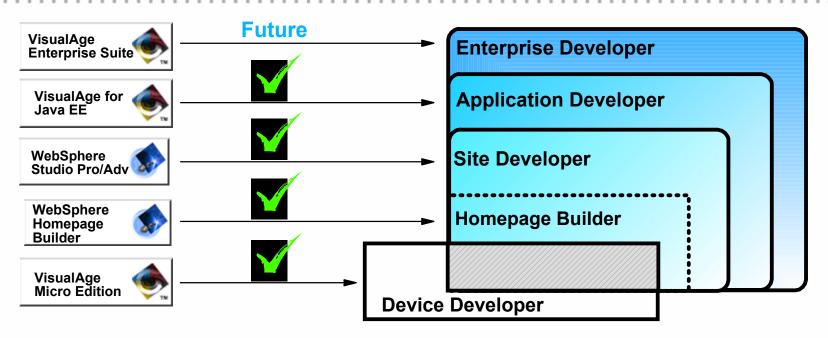
Versata Studio - Enable Easily Adaptable Business Rules



# WebSphere Studio Business Partner Program







Workbench	NOW	no cost to partners
Device Developer	NOW	\$499
Homepage Builder	NOW	\$99
Site Developer	Mid 2002 NOW	TBA ** \$1,999
Application Developer	NOW	\$3,499 \$5,999
Enterprise Developer	Mid 2002	TBA **

\*\* Final names & pricing TBA



WebSphere software

# The proof

carepánio

#### CareTouch

- Lifecare health company
- Online support for patient services

### Carepanion Application

- Robust e-commerce site in 85 days
- 2500 concurrent users initially, open ended scaleability

We estimate we saved two to four weeks of development time and reduced the cost of building the solution by approximately 1.4 million dollars...Sometimes building interfaces can be a challenge, but with the integration of Visual Age for Java with WebSphere, it was very easy.

*—Dr. Prasuna Dornadula Vice President, Web Development* 



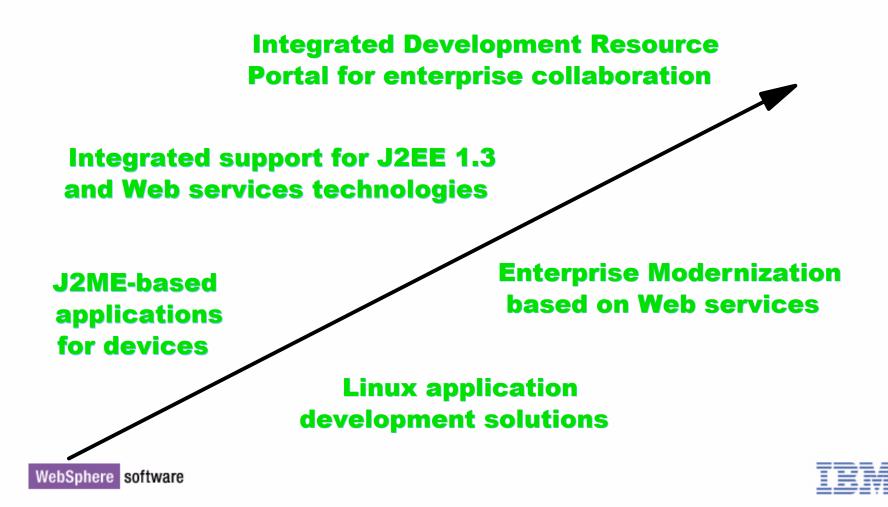
# WebSphere Studio Summary

- IBM and other industry leaders are unlocking the full power of open e-business software infrastructure through an equally powerful open application development platform
- IBM and a broad set of partners are introducing the first Application Development integration platform to fully embrace open technology, adopting the open approach that has been successful for Apache, J2EE & Linux
- This heralds a new era promising startling productivity gains -- higher quality applications in a fraction of the time -- due to unprecedented integration of process, tools, infrastructure & assets
- ★ IBM expands its leadership with developers and ISVs by contributing its rich Application Development integration platform to an open source organization and by introducing the new WebSphere Studio family

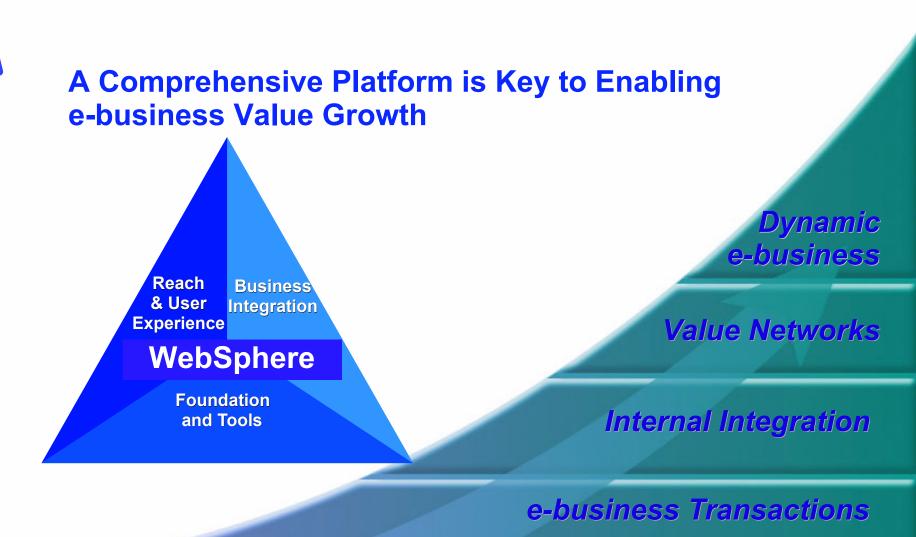


## What's Next?





# Realizing the full potential of e-business



Web Publishing

## **Realizing the full potential of e-business**



**Business Value** 

# Ability to Execute with the WebSphere Software Platform

Ability to Execute with Point Solutions

52

# **Business Partner Overview**

 This page is for the business partner to provide an overview of WebSphere Foundation and Tools; may be inserted where needed within the presentation





# **Business Partner Services**

 This page is for the business partner to indicate what services they will provide to the customer





# **Next Steps**

- WebSphere Application Server and WebSphere Studio Executive Assessment
  - Meet with an IBM business partner to conduct a e-business assessment of your company
  - Approximately 2 3 week process
- What the customer gets:
  - Report of Findings recommended software and hardware
  - Prototype website (your data)
  - -e-business assessment
  - -e-business strategic and tactical proposal
  - -competitive Website analysis, prototype, ROI analysis (where appropriate)
- WebSphere Application Server and WebSphere Studio executive assessment available end of June:
  - http://www.ibm.com/partnerworld/software





# How to find out more....

- To learn more about the WebSphere software platform, WebSphere Application Server and WebSphere Studio, visit:
  - ► ibm.com/websphere
  - ► ibm.com/software/webservers/appserv
  - ► ibm.com/websphere/studio

