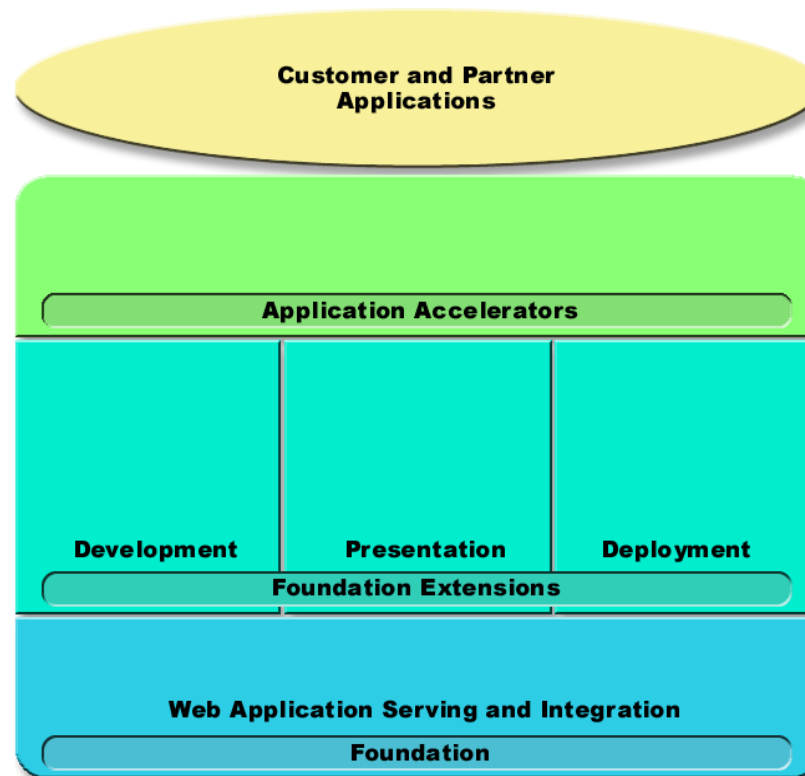# WebSphere Delivers Dynamic e-business

New Foundation and Tools

Pre-Packaged Business Infrastructure

WebSphere Delivers Dynamic e-business

WebSphere software platform

Customer and Partner
Applications

Application Accelerators

| Development | Presentation | Deployment |

Foundation Extensions

Web Application Serving and Integration

Foundation

June 28, 2000

Key Integration Points

- **Foundation - WebSphere Application Server and Application Development Tools**
- **Presentation capabilities to maximize productivity**
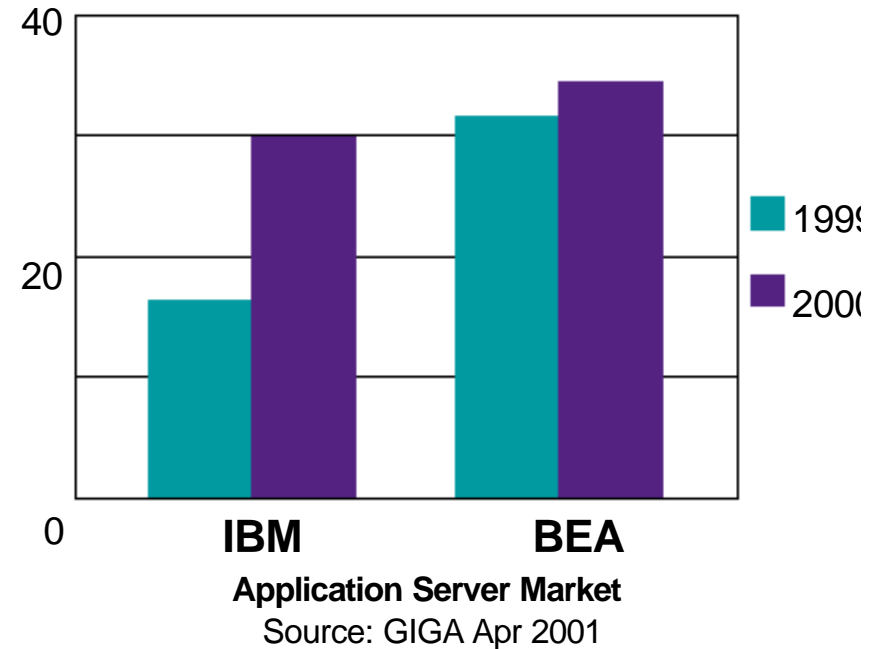- **Deployment capabilities to maximize web traffic performance**

4

WebSphere Market Success

Accelerating e-business Platform Market

V a l u e

Application Server Market
Source: IDC 2000
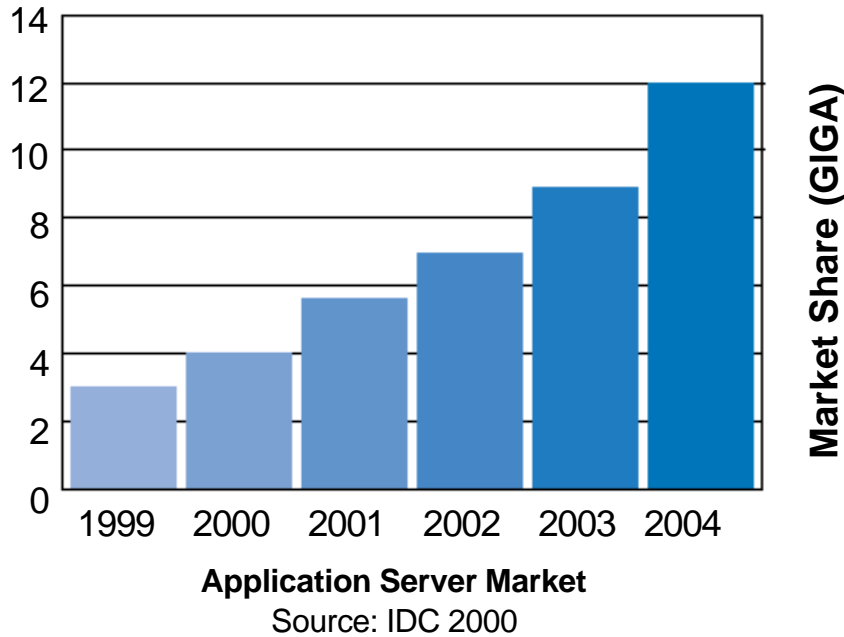
WebSphere: Fastest Growing Platform

Market Share (GIGA)

1999
2000

IBM   BEA

Application Server Market
Source: GIGA Apr 2001

35,000 customers worldwide

9,000+ ISV application

7,000 certified professionals

Top Flight Customers

Nasdaq	Bank of Montreal	BASF
Cigna	Bank of Nova Scotia	Aetna
Siemens	AXA	Prudential
Heineken	UPS	Nestle
Boeing	Coca-Cola	Caterpillar
Shell	Deutsche-Bahn	AT&T
Bank of Ireland	Borders	Wal-Mart
State Farm	Kemper	Sears
J P Morgan	Ford	GTE
HSBC	Agricultural Bank of China	Morgan Stanley
IT Ergo	Post Office (EMEA-UK)	PaineWebber
Barclays	Nordea	Bristol-Myers Squibb
US Mint	American Express	DaimlerChrysler
Farmers Insurance	Fortis	Kimberly Clark
UBS	Marriott	
MetLife	First Union	
US Air Force	BNP	
Southwest Airlines	Toys R Us	
Merrill Lynch	Bayer	
Chase Manhattan Bank	Credit Suisse	
	Blue Cross Blue Shield SC	

WebSphere
the fastest way to dynamic e-business

Dynamic e-business

*i*ntelligent transactions

*i*ntegration

*i*nfrastructure

Dynamic e-business

Value Networks

Internal Integration

e-business Transactions

Web Publishing

Source : The McKenna Group, IBM Market Research

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Answering the Market

Effective

- **Exploit the e-business opportunity**
- **React more quickly than competitors**
- **Attract and retain a loyal customer base**
- **Reach customers and employees anywhere, anytime**

Fast

- **Respond rapidly to change**
- **Reduce time to market**
- **Grow seamlessly**

Efficient

- **Drive for tighter integration to cut expense**
- **Maximize performance**
- **Reduce implementation costs**

WebSphere Answers

- **Greatest business value**
- **Most platform agility and efficiency**
- **Best development tools on open standards**

Platform for Dynamic e-business

Customer and Partner Applications

Application Accelerators

Development	Presentation	Deployment	Integration

Foundation Extensions

e-business Foundation

May 30, 2001

- Incorporating Integration and Business Process Management
- Enhancing Foundation with Version 4.0
- Delivering pre-packaged business infrastructure
- Widest support for open standards -- leader in Web services

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WebSphere 4.0

Realize greatest business value

‣ **Twice the number of transactions for 20 percent less cost**

Deliver dynamic e-business

‣ **First with Web Services technologies - SOAP, WSDL, UDDI**

Easily adapt to changing market conditions with WebSphere flexibility and scaleability

‣ **Support for the most operating environments - S/390 to PC**

Leverage your existing applications with:

‣ **Broadest range of complementary middleware**

‣ **Widest availability of partner solutions.**

Establish the most productive developer environment through a full range of integrated AD tools

‣ **Greatest number of certified developers**

Pre-Packaged e-business Infrastructure

Three New Offerings enable you to...

Accelerate exploitation of dynamic e-business for competitive advantage
- ► Single installation, single source for complete solution
- ► Implement in days, not months: 30- 40 % cycle time reduction results

Rely on integrated technology based on solid foundation
- ► Reach across the enterprise from host systems to cell phones - 35 platforms
- ► Process integration inside and outside company boundaries - open standards, Web services

Realize great return on investment
- ► Cost and performance leader
- ► IBM integrated solution costs less than multi-vendor competition

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Delivering Dynamic e-business

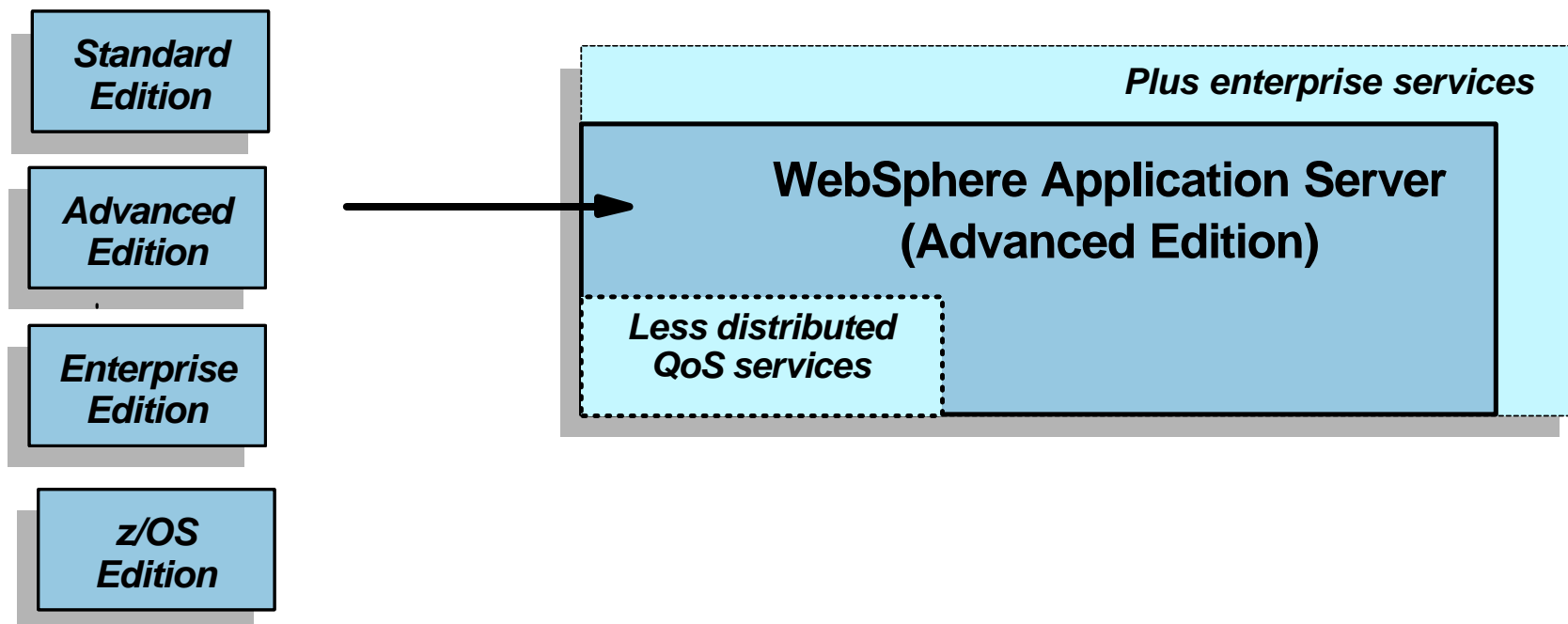*Ability to Execute with the WebSphere Software Platform*

Ability to Execute with point product technology

12

WebSphere Delivers Dynamic e-business
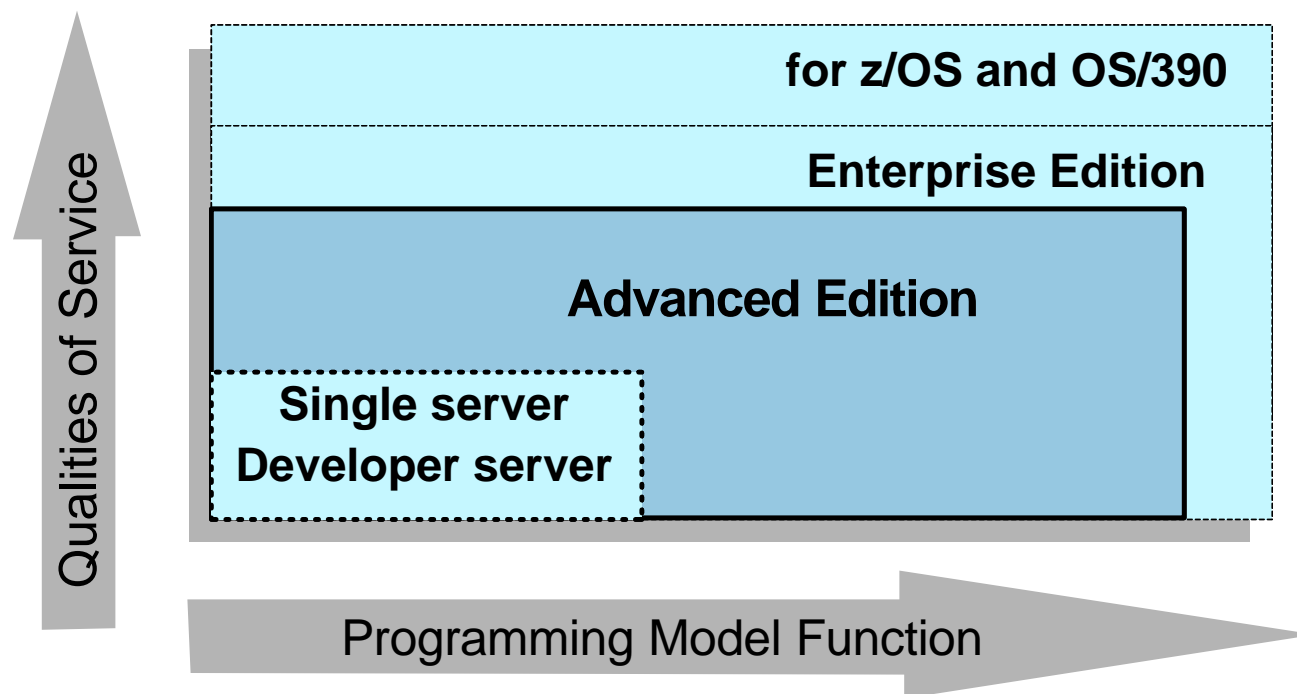
New Foundation and Tools

- **WebSphere Application Server Version 4.0**
- **WebSphere Studio Version 4.0**
- **VisualAge for Java Version 4.0**
- **WebSphere Studio Workbench**

WebSphere Application Server 4.0

Standard Edition

Advanced Edition

Enterprise Edition

z/OS Edition

Plus enterprise services

**WebSphere Application Server
(Advanced Edition)**

Less distributed QoS services

- **A single Web services-enabled J2EE technology base is the core of V4**
- **Different configurations add or subtract services to the core to meet the needs of different groups of customers**

Version 4.0 Configurations

- Qualities of Service (vertical axis)
- for z/OS and OS/390
- Enterprise Edition
- Advanced Edition
- Single server / Developer server
- Programming Model Function (horizontal axis)

- **Increased customer flexibility, easier growth**
- **Faster time to market of configurations for niche needs**
- **First step to dynamic electronic licensing, configuration**
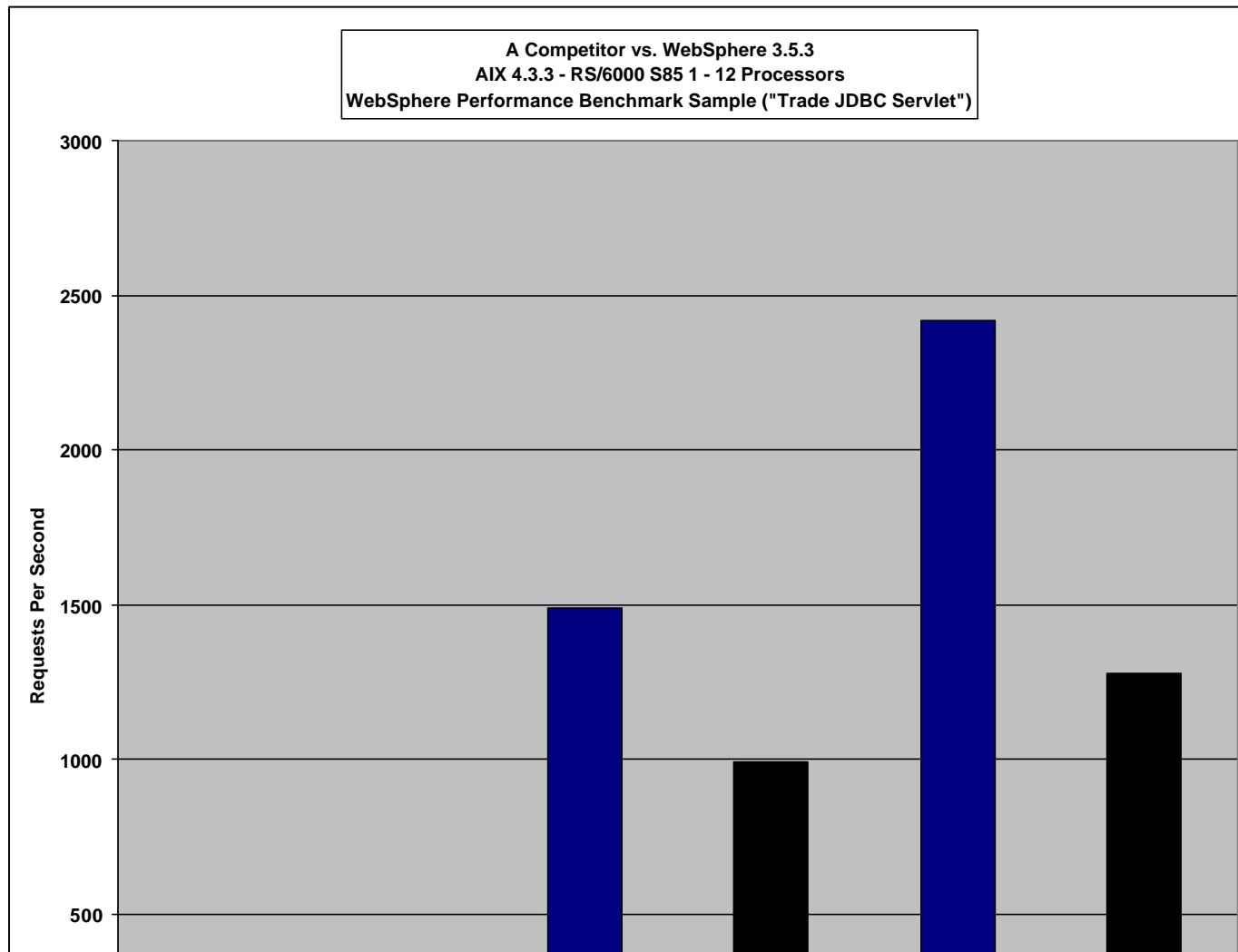
New Single Server Configuration

	for z/OS and OS/390
	Enterprise Edition
	Advanced Edition
Single server **Developer server**	
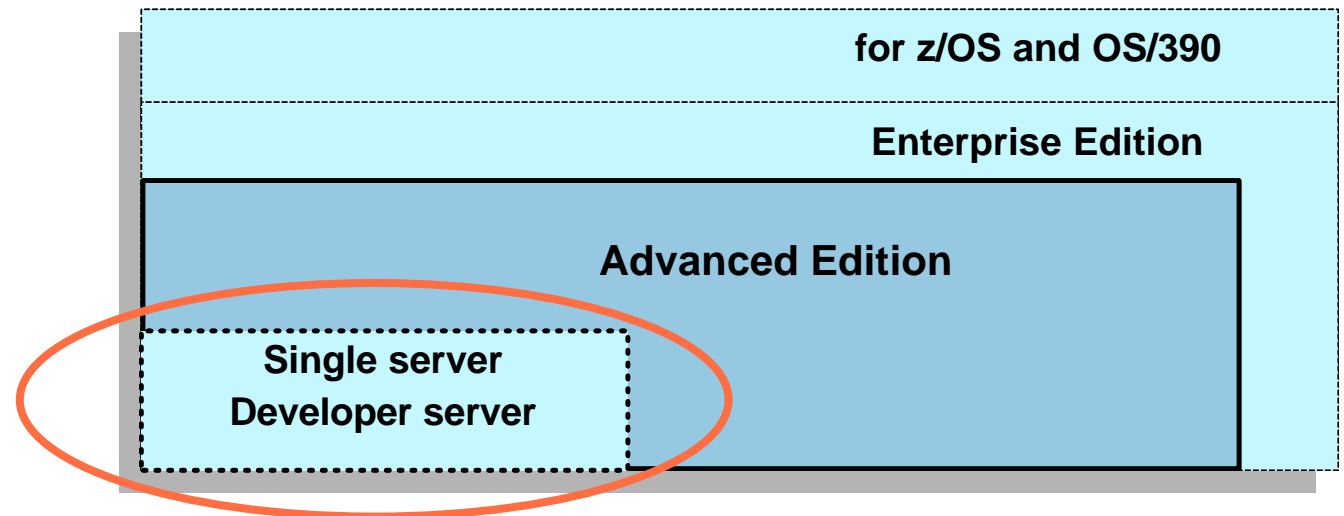
- **Same Web services, J2EE runtime**
- **Browser-based administration without clustering, workload management**
- **Very rapid deployment; fewer pre-reqs, small footprint**
- **For stand-alone department and small and medium business applications**
- **Free development-only license for Linux and Windows**

New Feature Highlights

- **Full Web services (SOAP4J, UDDI4J, WSDL, XML4J)**
- **Java 2 Connectivity and expanded database support with Merant 5.0 JDBC**
- **Performance enhancements including dynamic reload of EJBs, dynamic caching (muti-tier), JNDI caching**
- **Globalization service**
  - ▶ Intelligently adjust to each client locale for time zone, currency, language sorting rules
- **Business Rule Beans**
  - ▶ Create parameters to enable updates without coding when business practices changes

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Performance and Scalability

A Competitor vs. WebSphere 3.5.3
AIX 4.3.3 - RS/6000 S85 1 - 12 Processors
WebSphere Performance Benchmark Sample ("Trade JDBC Servlet")

"IBM's WebSphere Application Server...was by far the fastest and most scalable server on the scenario test. At its peak, it maintained 4,000 virtual users at 177 pages per second."
-- PC Magazine Editor's Choice Award, May 2001

WebSphere Application Server 4.0 Packaging

Configuration Options

✓ **WebSphere Application Server Version 4.0**

  ✓ **Advanced Edition**

    ✓ **Development only license**

  ✓ **Enterprise Edition**

    ✓ **Advanced Edition**

    ✓ **Enterprise services**

    ✓ **TX Series**

  ✓ **Z/OS and OS/390**

  ✓ **WebSphere Technology for Developers preview technologies**

Platforms

  ✓ **Windows**

  ✓ **Linux**

  ✓ **Solaris**

  ✓ **HP-UX**

  ✓ **AIX**

  ✓ **OS/390**

  ✓ **AS/400**

GA

  ✓ **4/30/01 for Z/OS and OS/390**

  ✓ **6/30/01 Advanced Edition**

  ✓ **9/30/01 Enterprise Edition**

Pricing

✓ **$35,000/CPU for Enterprise Edition and Z/OS**

✓ **$12,000/CPU Advanced Edition**

✓ **$8,000/CPU Advance Single Server Edition**

✓ **No charge for Development Server**

Web Services Enabled

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WebSphere Application Development

- **A comprehensive integrated development environment**
  - ► full application development life cycle
  - ► leverage complementary third-party tools
  - ► tight integration with WebSphere servers and extensions
- **A programming model**
  - ► open, industry standards
  - ► high developer productivity through automation
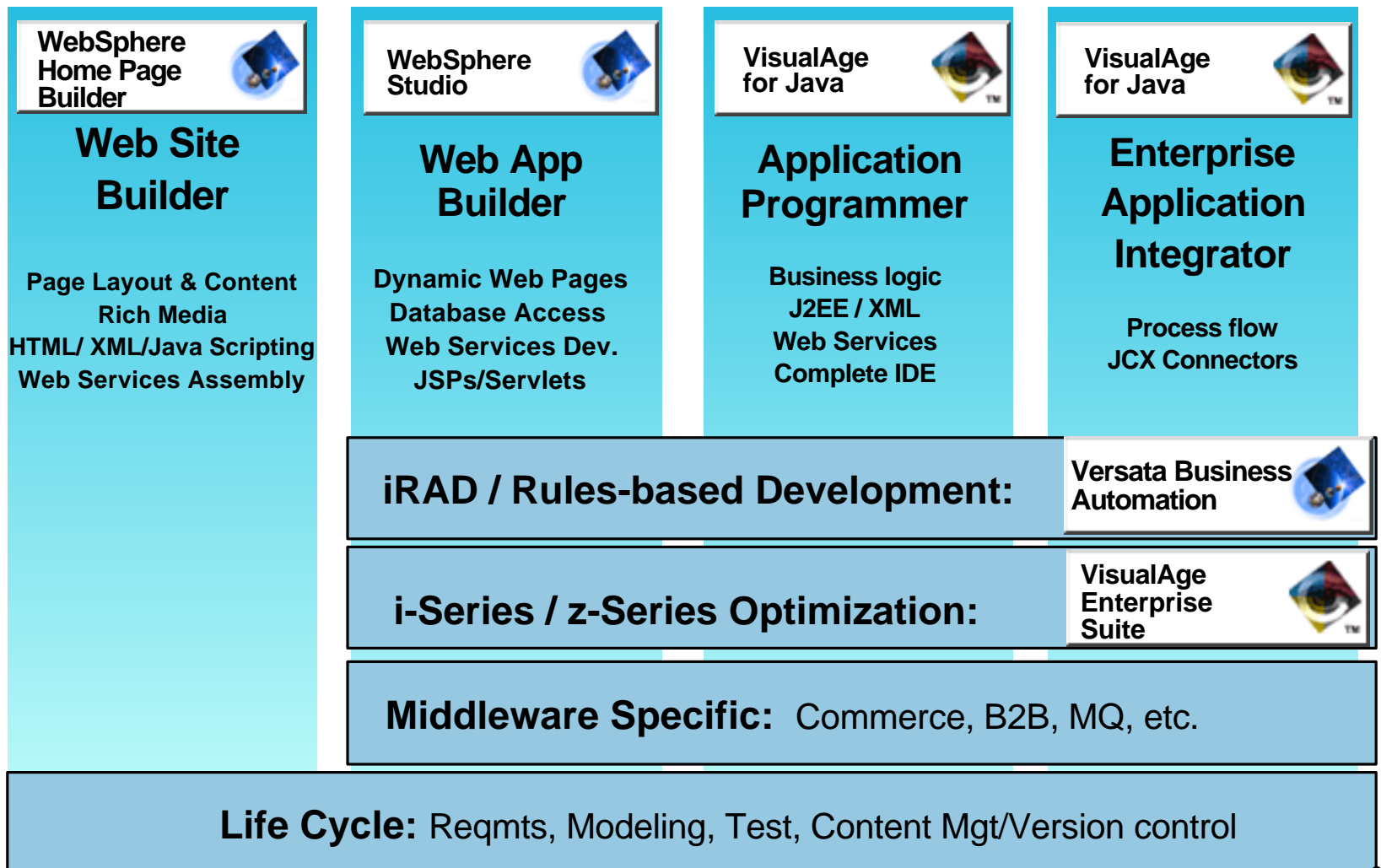 - ► rapid support for new technologies (e.g., Web services)
- **A developer community**
  - ► Education and training
  - ► WebSphere 2001
  - ► WebSphere Developer Domain

- **multi-platform**
- **open standards**
- **open architecture**

community
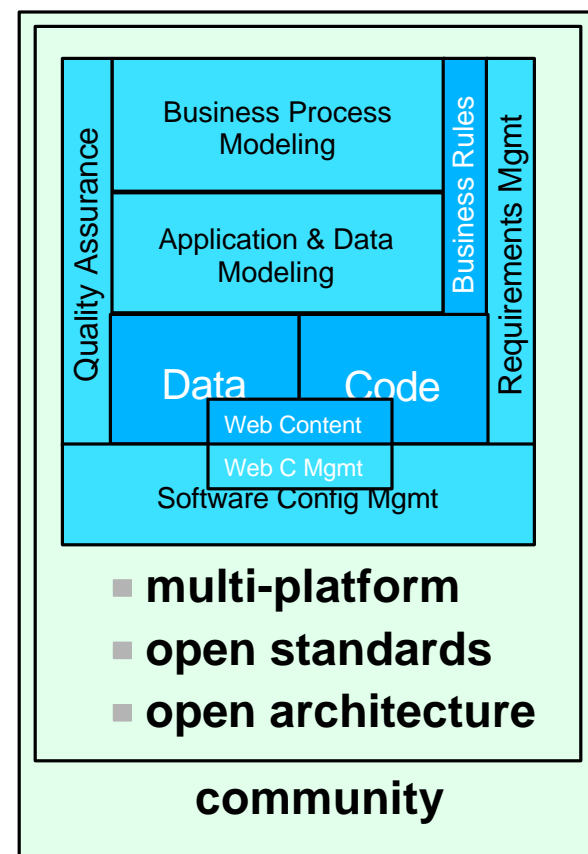
Application Development Portfolio

◄── Full life cycle support for role based development ──►

WebSphere Home Page Builder	WebSphere Studio	VisualAge for Java ™	VisualAge for Java ™
Web Site Builder	**Web App Builder**	**Application Programmer**	**Enterprise Application Integrator**
Page Layout & Content Rich Media HTML/ XML/Java Scripting Web Services Assembly	Dynamic Web Pages Database Access Web Services Dev. JSPs/Servlets	Business logic J2EE / XML Web Services Complete IDE	Process flow JCX Connectors

iRAD / Rules-based Development: | Versata Business Automation

i-Series / z-Series Optimization: | VisualAge Enterprise Suite ™

Middleware Specific: Commerce, B2B, MQ, etc.

Life Cycle: Reqmts, Modeling, Test, Content Mgt/Version control

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Key Enhancements

■ **WebSphere Studio Version 4.0**

▶ New Web Services Wizards - allows developers to easily develop, describe and publish web services.

▶ New Support for JSP 1.1 and Servlet 2.2

▶ Improved support for pervasive devices. Now WebSphere Studio V4.0 includes WebSphere Everyplace Suite SDK.

■ **VisualAge for Java Version 4.0**

▶ Enhanced EJB Export SmartGuide supports WebSphere V3.5 and V4.0

▶ Code and deploy to EJB 1.0 and EBJ 1.1

▶ Code and deployment wizards for EJB 1.0

▶ Enhanced EAB SmartGuide generates JCX 1.0 compliant code

▶ WTE supports Servlet 2.2, JSP 1.1, EJB 1.0

▶ AD environment using JDK 1.2.2, deploying to JDK 1.2.2 or JDK 1.3

▶ Improved Java2 stability and performance

■ **Beta for WebSphere Studio Application Developer**

▶ Next generation VA for Java

Application Development 4.0 Packaging

Configuration Options

✓ *VisualAge for Java Professional Edition*
✓ *VisualAge for Java Enterprise Edition*
✓ *WebSphere Studio Professional Edition*
   – *includes VisualAge for Java PE*
✓ *WebSphere Studio Advanced Edition*

Platforms

✓ **Development:**
   ➡ WindowsNT
✓ **Deployment:**
   ➡ All WebSphere Server Platforms

GA

✓ 7/20

Pricing

✓ **VA for Java PE: $149**
✓ **VA for Java EE: $2999**
✓ **WS Studio PE: $599**
✓ **WS Studio AE: $1999**

Web Services Enabled

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WebSphere Studio Workbench

■ **Open Tool Development Kit**

- ► **A tool for building and integrating application development tools**
- ► **Simple -- plug and play**
- ► **ISVs can integrate tool portfolios with IBM**
- ► **A new, integrated application development community based on industry standards**
- ► **Far greater re-use of tooling components -- reduced development cycles and speed to market**
- ► **Reduced training costs**

Workbench Partners

Rules based development
- ► **Versata**

Connectors
- ► **Extricity**
- ► **Neon**

Development tools
- ► **Instantiations**
- ► **Macromedia**

- ■ Enables partners to integrate their own tool portfolios
- ■ Low cost
- ■ Industry community gaining momentum

Business Process Modeling
- ► **Holosofx**

Requirement Management
- ► **RationalSuite Analyst Studio**

Application and Data Modeling
- ► **RationalSuite Developer Studio**

Web Content Management
- ► **Interwoven SiteExpress**

Software Configuration Management
- ► **Rational ClearCase / ClearQuest**
- ► **Merant PVCS**
- ► **Serena ChangeMan**

Quality Assurance / Performance
- ► **RationalSuite Test Studio**
- ► **Sitraka**

Business Process Integration
- ► **CommerceQuest**

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WebSphere Delivers Dynamic e-business

New Foundation and Tools

- **WebSphere Application Server Version 4.0**
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- **WebSphere Studio Workbench**

Pre-Packaged Business Infrastructure

- **WebSphere Business Integrator Version 2.1**
- **WebSphere User Experience for Multiplatforms Version 1.1**
- **WebSphere Everyplace Access for Multiplatforms Version 1.1**

Pre-packaged Business Infrastructure

WebSphere Business Integrator Version 2.1

Business process automation, management, and optimization upheld by industry dominating enterprise application integration

- ▸ deliver frictionless process integration inside and outside the company boundaries leveraging existing organizational resources including applications, people and best practices
- ▸ model and automate business processes across the supply chain
- ▸ react dynamically to business changes with an open, standards-based offering built on industry-leading middleware

WebSphere User Experience Version 1.1

WebSphere Everyplace Access Version 1.1

First in the industry to provide a unique customer experience, extended to the wireless Internet, measurable to 24X7 availability

- ▸ attract and retain customers employing a personalized portal
- ▸ dynamically respond to web trends and analysis gathered across your entire web infrastructure
- ▸ reach customers and employees anyplace, anytime, with consistency across access points - including the capability to translate text to speech
- ▸ improve customer satisfaction with measurable reliability and customizable quality of service

WebSphere Business Integrator

IBM WebSphere Business Integrator

Challenges

"*Up to $4.4 Billion was lost in e-commerce revenues in 1999 due to inadequate infrastructure that led to poor site and service performance.*"

—Source: Zona Research

IBM WebSphere Business Integrator

Challenges

"*Up to $4.4 Billion was lost in e-commerce revenues in 1999 due to inadequate infrastructure that led to poor site and service performance.*"

—Source: Zona Research

What lies beneath the surface

1%   **e-commerce web sites**

99%   **Backend infrastructure and processes to support e-commerce**

Source: Goldman Sachs
E-Commerce/Internet 1999

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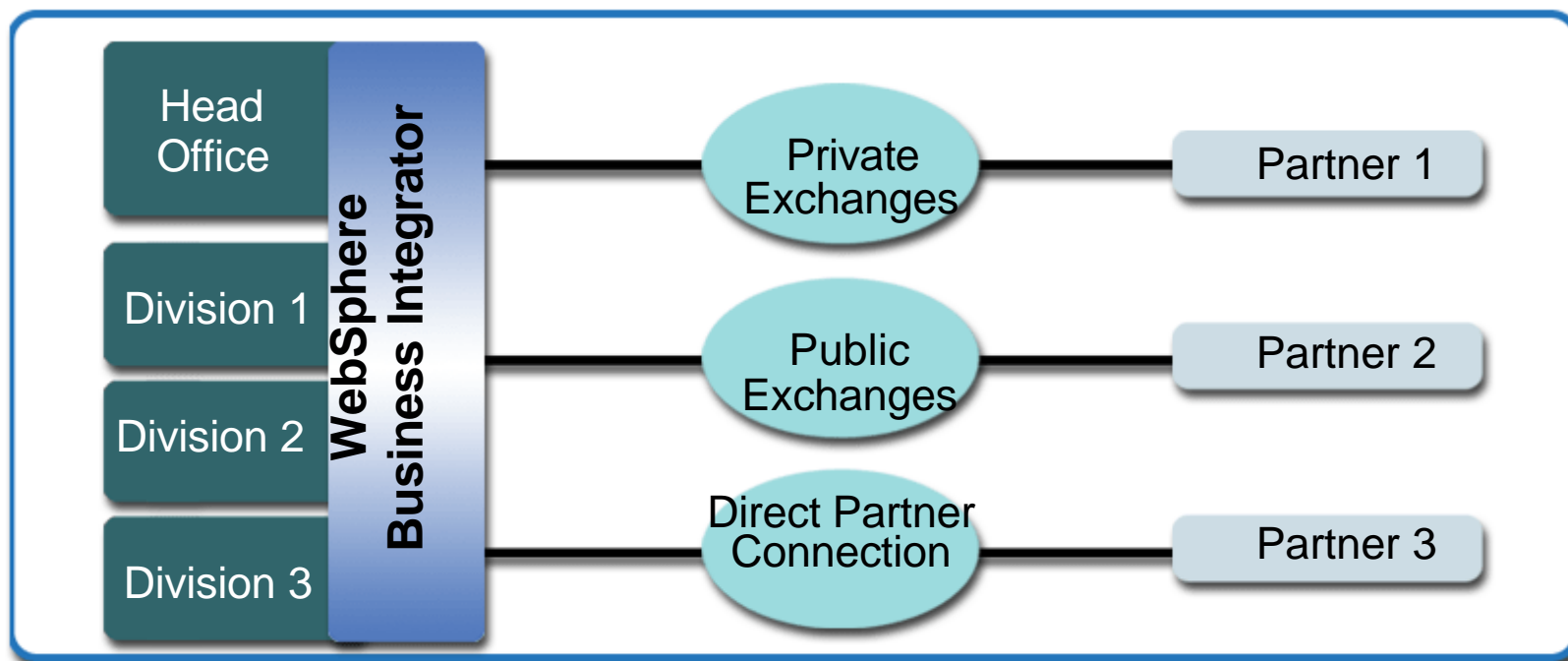# IBM WebSphere Business Integrator
The solution

- Single infrastructure
- Enables agility
- Significant enterprisewide savings
- Complete system management
- Manage and improve service levels

In an e-business world, processes are not isolated to individual applications... they span your enterprise... and beyond.

C U S T O M E R S

Customer Relationship Management

Enterprise Resource Planning

Trading Partner Management

P A R T N E R S

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IBM WebSphere Business Integrator

Scenario

- Single infrastructure
- Intercompany process management
- Significant enterprisewide savings

IBM WebSphere Business Integrator

The proof

- **AT&T**
  - ► **Shortened customer response time from 60 days to 5 days**
  - ► **Increased quality and customer service**
  - ► **Improved process visibility and management**

- **First Union**
  - ► **Reduced cycle time 30-40%**
  - ► **Implementation time was 10-days for production pilot**
    - – **" IBM's Business Process Management bridges the gap between the business and IT" Scott Fleming**

- **Aetna Insurance**
  - ► **Business Agility : Envision new offerings and rapidly deploy them**
  - ► **Business Visibility : High-lighted business anomalies - previously unseen**
    - – **"It took two weeks to build the prototype process model, designed by business users and implemented independently by the IT department" Bob Miano**

# WebSphere Business Integrator Packaging

Offering Capabilities

- ✓ **Messaging middleware and business integration**
- ✓ **Integration adapters**
- ✓ **One-to-many connectivity model, plus transformation, intelligent routing and information flow modeling**
- ✓ **Workflow management**
- ✓ **Access Management**
- ✓ **Personalization**
- ✓ **Integrated application development workbench**
- ✓ **Automated Business-to-business integration**
- ✓ **Electronic Data Interchange**
- ✓ **Application Serving**

GA

- ✓ 5/31

Pricing

- ✓ $45,000/cu Enterprise Deployment
- ✓ $25,000/cu Entry Configurations
- ✓ $15,000/cu Development

Web Services Enabled

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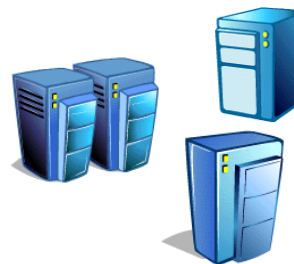
WebSphere User Experience

IBM WebSphere User Experience
Challenges

- Standards for user experiences are rising
- Competitors are just a click away
- Need to attract, engage and retain customers
- Need to provide user experience at a reasonable cost

They don't know who I am
They don't know what I like
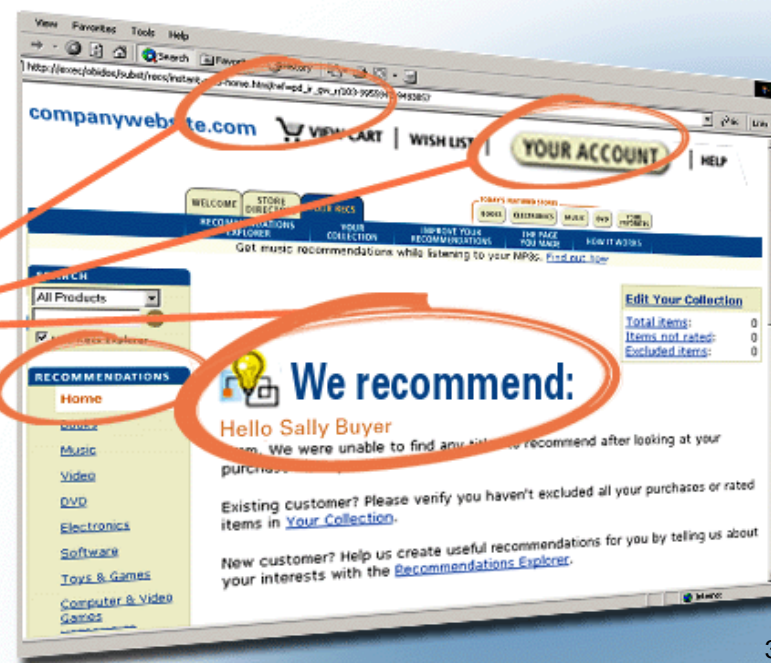*They can't make recommendations*
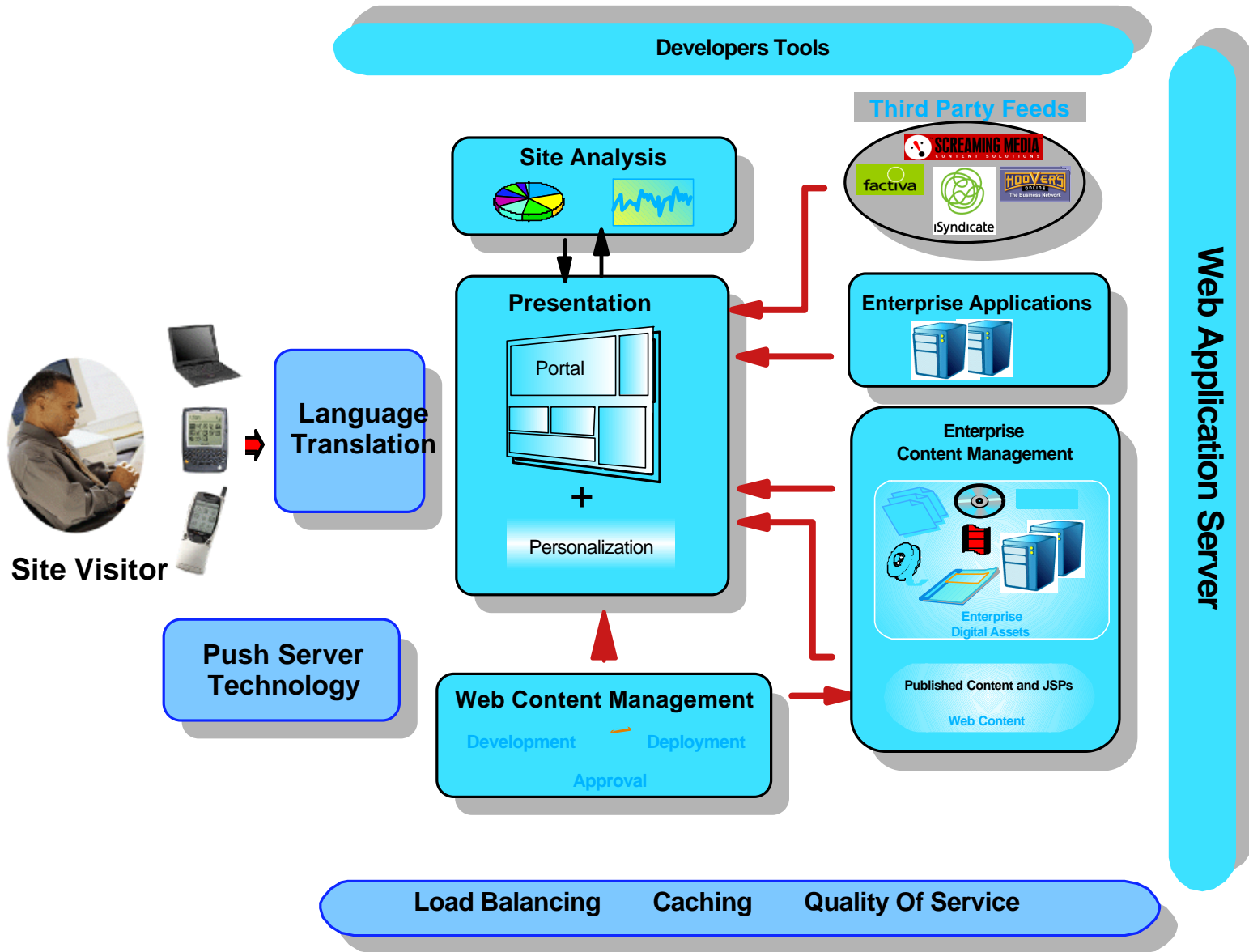
IBM WebSphere User Experience
The solution

- Deliver a world-class user experience

- Increase customer loyalty through personalization

- Flexible and scalable for rapid e-business growth

- Leverage existing investments

- Improve productivity,
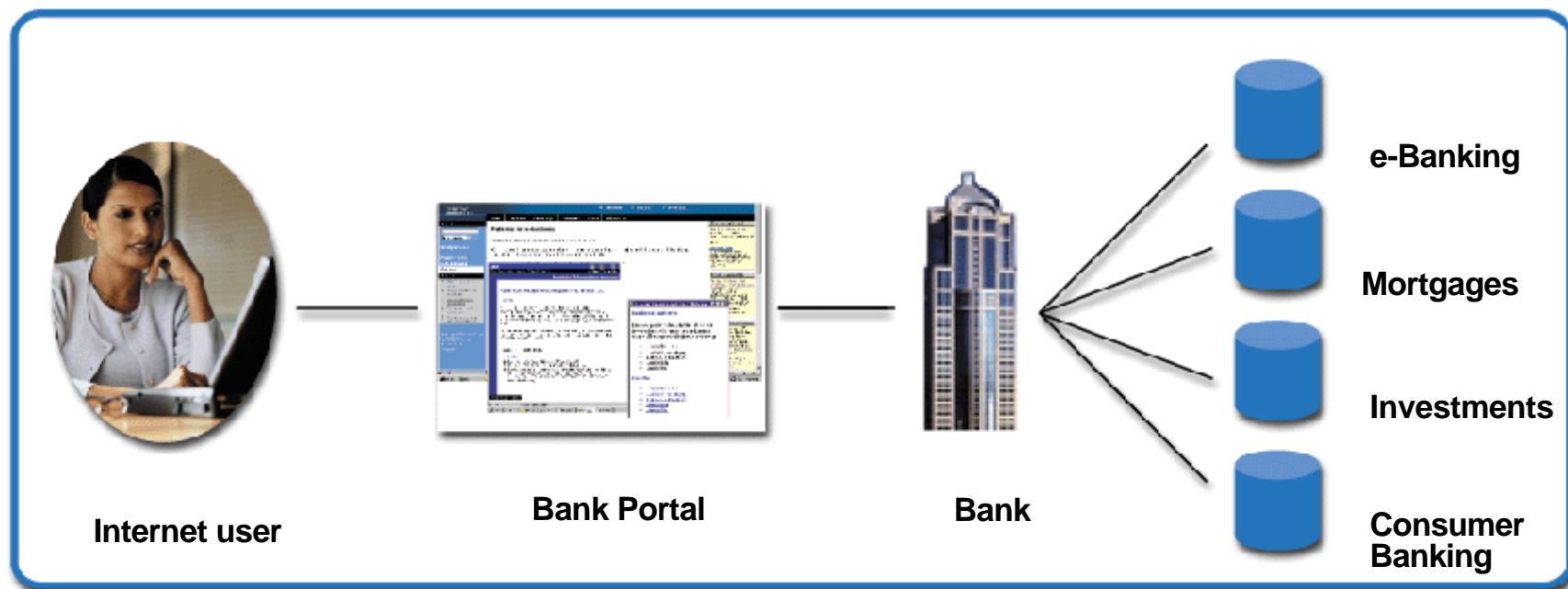 satisfaction and profitability

Customization
Personalization
Recommendations
Portalization and syndicated content
High quality content

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How it all comes together

Developers Tools

Third Party Feeds

SCREAMING MEDIA
factiva
HOOVERS
ıSyndicate

Site Analysis

Presentation

Portal

+

Personalization

Enterprise Applications

Enterprise Content Management

Enterprise Digital Assets

Published Content and JSPs

Web Content

Language Translation

Site Visitor

Push Server Technology

Web Content Management

Development   Deployment

Approval

Web Application Server

Load Balancing   Caching   Quality Of Service

IBM WebSphere User Experience

Scenarios

Internet user   Bank Portal   Bank   e-Banking

Mortgages

Investments

Consumer Banking

- Differentiate yourself
- Continuous improvement
- Increase customer loyalty

IBM WebSphere User Experience

The proof

" We are excited about IBM's two new WebSphere offerings WebSphere Everyplace Access and WebSphere User Experience. They will greatly enhance our ability to *deliver the robust, next-generation e-business systems* *required by our customers. "*

—Joe Lindsay, Chief Technology Officer, eBuilt

WebSphere User Experience Packaging

Offering Components

✓ **WS Personalization (4 cpu licenses)**
✓ **WS Site Analyzer (1 cpu license)**
✓ **WS App Server, Adv. (4 cpu licenses)**
✓ **WS Studio (1 developer license)**
✓ **Interwoven TeamXpress (1 cpu license)**
✓ **IBM Content Mgmt (1 cpu license)**
✓ **WS Portal Server (4 cpu licenses)**
✓ **Integration scenarios and sample code**

Availability

✓ **5/31/01**

Price

✓ **$261,000** (across 4 cpu license)

Competitive Price Comparison

✓ **$500K SW**
+ **Integration Services**

Language Support

✓ **Personalization, Site Analyzer, App Server, IBM Content Manager**
  ● **English, French, Spanish, Italian, German, Japanese, Chinese (Simp and Trad), Korean, Brazilian Portuguese**
✓ **Portal Server, Interwoven TeamXpress**
  ● **English**
✓ **IBM Content Manager supports 13 other languages**

Platforms

✓ **AIX**
✓ **NT/Windows 2000**
✓ **Solaris**
✓ **some products have additional platform support including Linux**

Optional Components

✓ *WS Translation Server*
✓ *Push Technology*
✓ *WS Edge Server*
✓ *1 Year Supportline*

Web Services Enabled

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WebSphere Everyplace Access

IBM WebSphere Everyplace Access
Challenges

- Demand for anytime, anywhere access to your e-business
- Desire to protect existing Web investments and infrastructures
- Complexity of dealing with new technology

I don't have mobile access to the site
I don't have voice interaction

companywebsite.com

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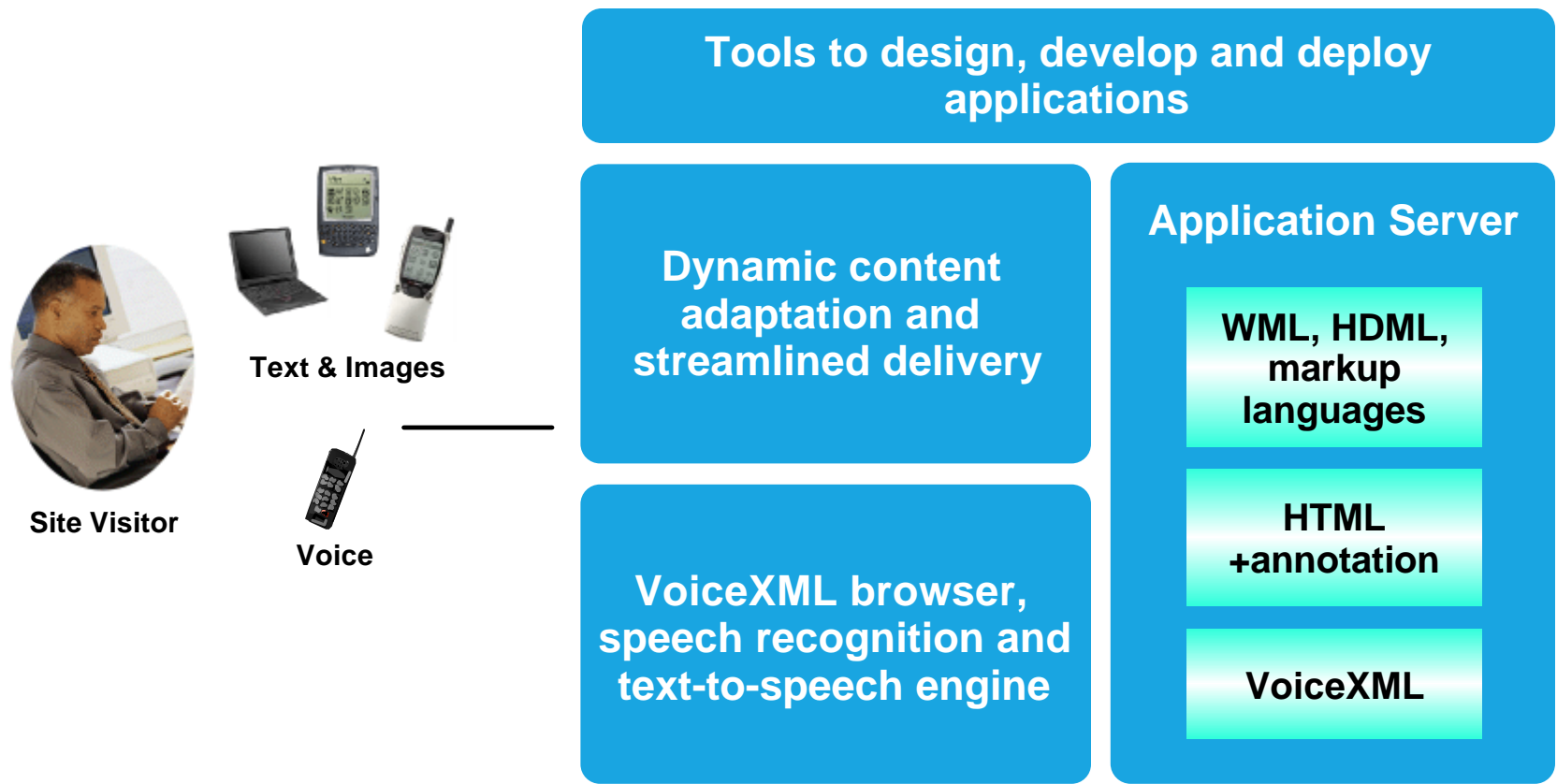# IBM WebSphere Everyplace Access
The solution

- Easy access to your e-business from any contact point
- Lower development costs and decreased time to market
- Consistent e-business experience through multiple channels
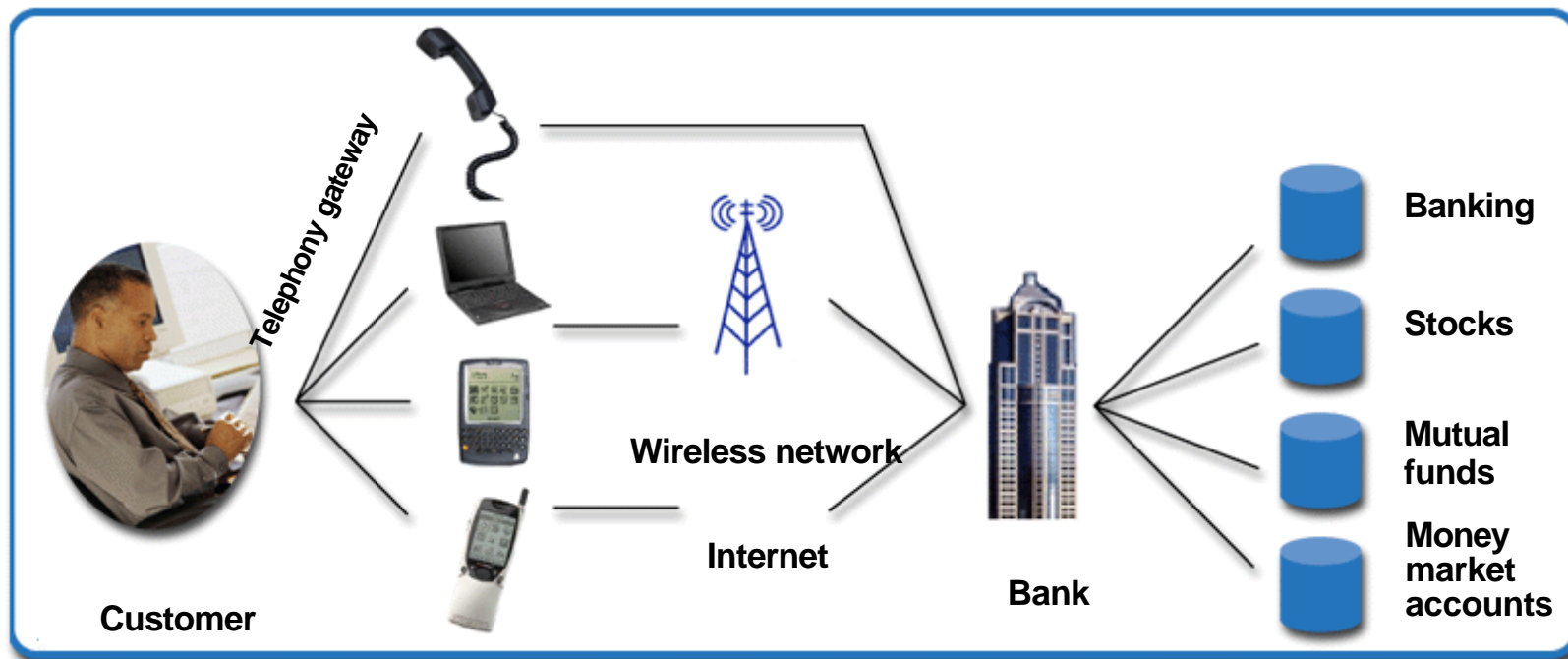- A scalable, integrated, standards-based solution

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IBM WebSphere Everyplace Access
How it works

Tools to design, develop and deploy applications

Site Visitor

Text & Images

Voice

Dynamic content adaptation and streamlined delivery

VoiceXML browser, speech recognition and text-to-speech engine

Application Server

WML, HDML, markup languages

HTML +annotation

VoiceXML

IBM WebSphere Everyplace Access
Scenarios

- Connect from home
- Do your banking during a meeting
- Use voice recognition to access an account from your car

IBM WebSphere Everyplace Access
The proof

Tom.com

- Time to market - first voice portal in mainland China
- Extended reach - Users can get information on weather, travel, news, entertainment, finance using voice interaction

"This voice portal platform enabled us to deploy a speech system with high accuracy which our users enjoy using and which we can easily scale as its popularity grows."

Lei Lei Wang, General Manager, TOM Voice

Kaifeng Securities

WAPHead! is helping Kaifeng Securities bring mobile stock trading to China, with WebSphere technology

"We are confident that within five years, we will generate an estimated annual profit of RMB 18 million (US$2.25 million) through Net transactions, compared to RMB 16 million (US$2 million) from direct sales."

Mr. Hu Yanru, general manager, Kaifeng Securities.

VoiceRite

"WebSphere Everyplace Access provides an exciting tool for our company to provide solutions for the reuse of existing Web content for the next generation of voice response technology."

Joshua Schrager, Chief Executive Officer, VoiceRite

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WebSphere Everyplace Access Packagin

Offering Components

✓ *WebSphere Transcoding Publisher Version 3.5*

✓ *WebSphere Voice Server Version 1.5*

✓ *WebSphere Application Server, Advanced Edition, Version 3.5*

✓ *WebSphere Studio, Advanced Edition, Version 3.5*

✓ *VisualAge for Java, Enterprise Edition, Version 3.5*

Availability

✓ 5/31/01

Price

✓ $49,500

Competitive Price Comparison

✓ $75,000

✚ Integration Services

NLS*

✓ English, French, Spanish, Italian, German, Japanese, Chinese (Simp and Trad), Korean, Brazilian Portuguese

*Voice Server speech technology supports only U.S. and U.K English, French and German

Platforms

✓ AIX
✓ NT/Windows 2000
✓ Solaris
✓ Linux

*Voice Server supports NT and AIX but runs on a separate machine

Optional

✓ *WebSphere Edge Server*
✓ *WebSphere Translation Server*
✓ *1 Year SupportLine*

Web Services Enabled

1

Only WebSphere supports the full range of standards that deliver dynamic e-business

- **All of the products and pre-packaged offerings deliver support for Web services and IBM is leading the industry in the vision and commitment to dynamic e-business.**

2

Only WebSphere is delivering the performance for cost and market leadership in application serving

- **WebSphere Application Server Version 4.0 will keep WebSphere breaking away from competitors as it leaps ahead in performance and other key measures.**

3

Only WebSphere is delivering pre-packaged infrastructure to the market to help customers solve problems and create opportunities faster and better

- **WebSphere Business Integrator, WebSphere User Experience, and WebSphere Everyplace Access are first-of-kind proof points on innovatio and delivery of customer value.**

Delivering dynamic e-business today

WebSphere

The Fastest Way to e-business