

2002 International Enterprise Developer Conference in Vienna

Eclipse and WebSphere Studio: Update and Strategies

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Agenda

- **WebSphere Family Overview**
- **WebSphere Studio V5 Highlights**
- **WebSphere Product Delivery Timeline**
- **WebSphere Studio Enterprise Tools Strategy**
- **WebSphere Studio Web & J2EE Tools Strategy**
- **Questions?**

► WebSphere Family Overview

- WebSphere Studio V5 Highlights
- WebSphere Product Delivery Timeline
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- WebSphere Studio Web & J2EE Tools Strategy
- Questions?

The WebSphere Platform

Achieve Customer Loyalty

Increase revenue by extending & personalizing your e-business

Reach & User Experience

Business Integration

Achieve Business Agility

Increase speed and efficiency by integrating & automating your e-business

WebSphere.

Foundation and Tools

Achieve Scalability and Productivity

By Rapidly Building & Reliably Growing Dynamic e-business Applications

e-Business Platform

WebSphere Portal Server

Access and manage widespread and diverse data sources from anywhere, anytime, by anyone you allow.

WebSphere Business Integration

The nimble infrastructure needed to support the business imperatives of your dynamic enterprise.

WebSphere Everyplace

Software infrastructure to support mobile solutions addressing the challenge of extending e-business applications to mobile devices.

WebSphere MQ Integrator

Enable customers to flexibly connect and integrate their assets within the enterprise and with trading partners.

WebSphere Commerce

Powerful sell-side solutions to handle the broad range of challenges encountered in B2B and B2C environments.

WebSphere MQ

Exchange information among more than 35 platforms with assured delivery



WebSphere Studio

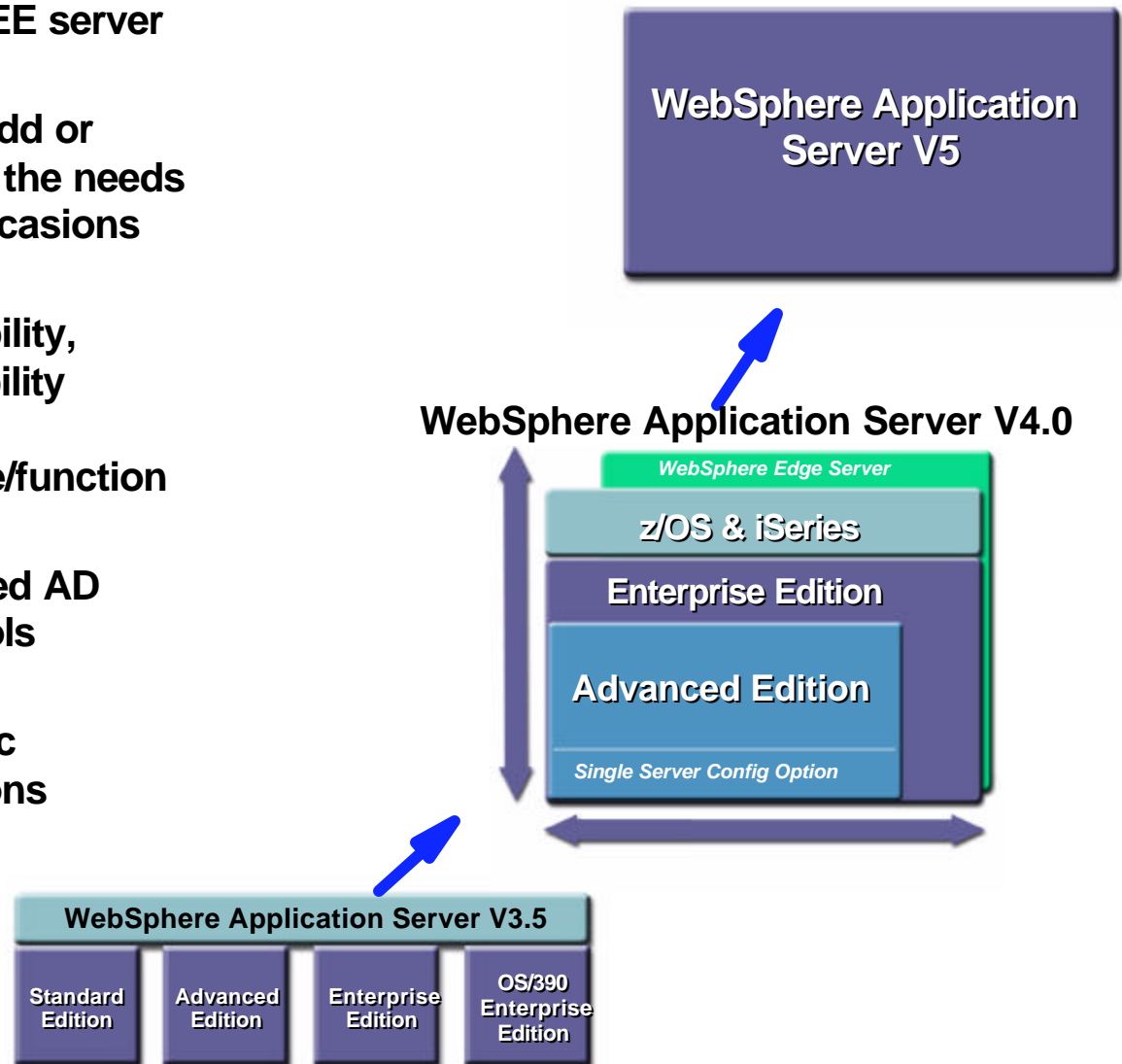
Professional development tools based on a common workbench technology

WebSphere Application Server

High performance and extremely scalable transaction engine for dynamic e-business applications

WebSphere Application Server

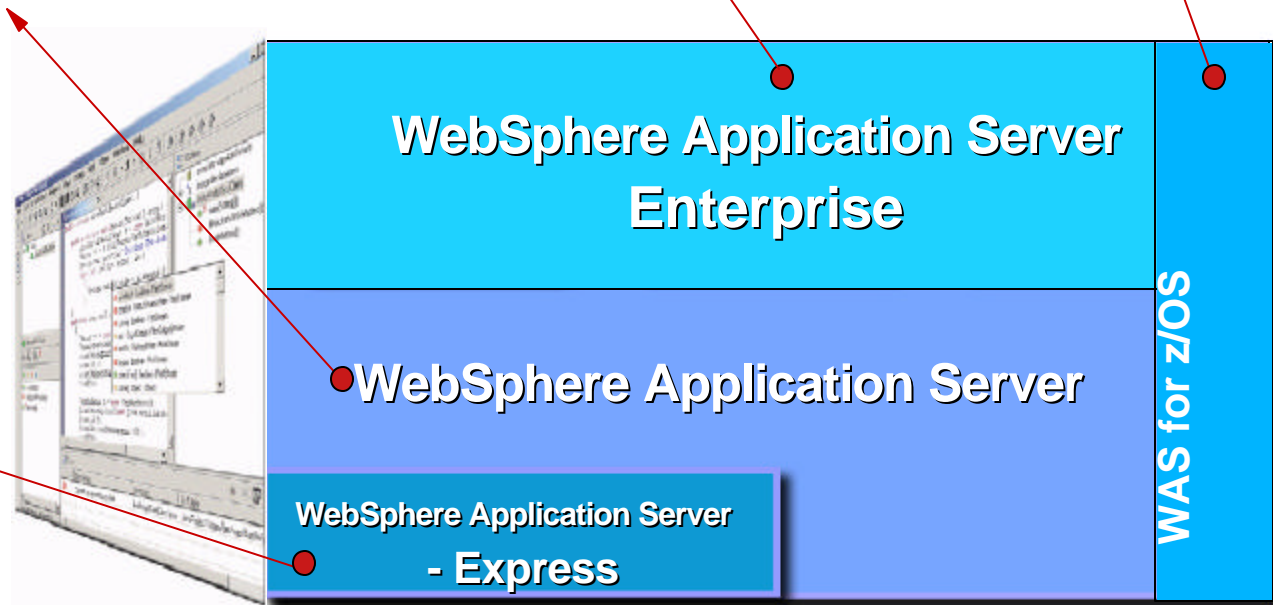
- ★ Evolution to a single, integrated Web services-enabled J2EE server
- ★ Different configurations add or subtract services to meet the needs of differentiated usage occasions
- ★ Increased customer flexibility, agility and eased extensibility based on compelling ROI, price/performance & price/function
- ★ Enables a single, integrated AD programming model & tools
- ★ Step to dynamic electronic licensing and configurations



WebSphere Application Server Version 5 Functionality

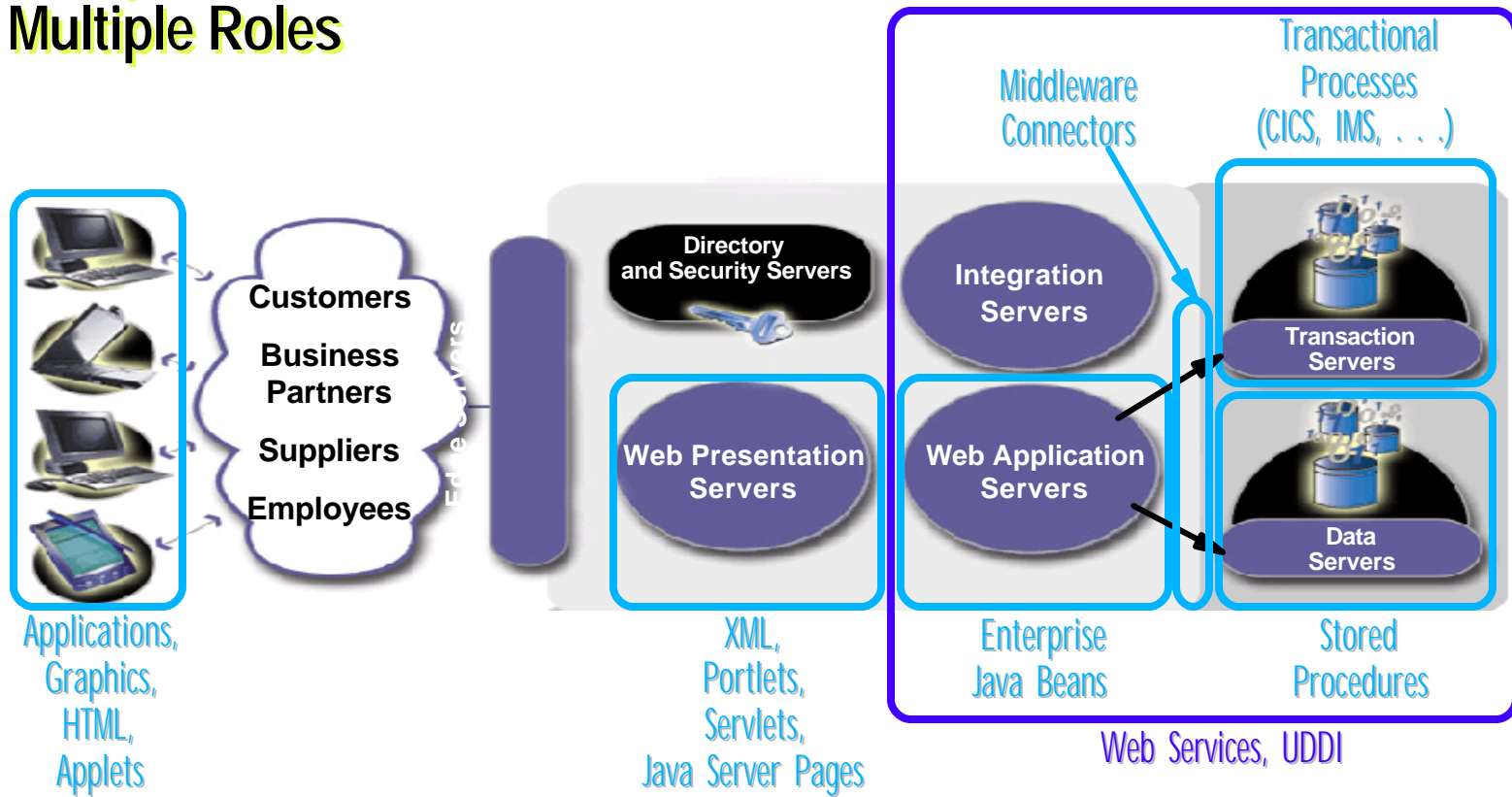
- J2EE 1.3 certified
- Native, high powered JMS
- Extended XML & Web Services
- Web Services Invocation Framework
- UDDI Gateway & Repository
- ActiveX bridge
- JMX objects
- Administration & RAS/P enhancements
- Flexible Deployment Options
 - * standalone
 - * network
 - * extended Network
- Dynamic Application Adapters (JCA++)
- Transactional, interruptable distributed WorkFlow
- 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

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



Real Life

Multiple Artifacts, Multiple Roles



Multiple development roles



Eclipse and WebSphere Studio

Tools + Infrastructure + Open Technology + Community

- **Business Problem**

Productivity & quality limitations due to the inability to integrate best-of-breed tools & infrastructure in a single, seamless environment



- **Technology Problem**

Lack of an open application development integration platform similar in nature to what is available for servers (e.g., Apache / J2EE / Linux)

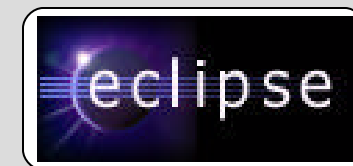


A newly integrated, open

**WebSphere
Studio Family**

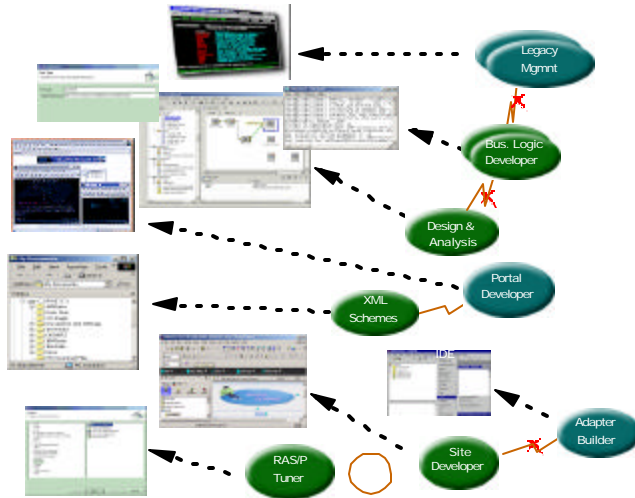


*An open tool platform contributed
by IBM to an independent open
source organization*

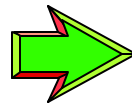


A "Portal-like" Approach for Developers

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



Most AD environments involve more than one tool from multiple suppliers



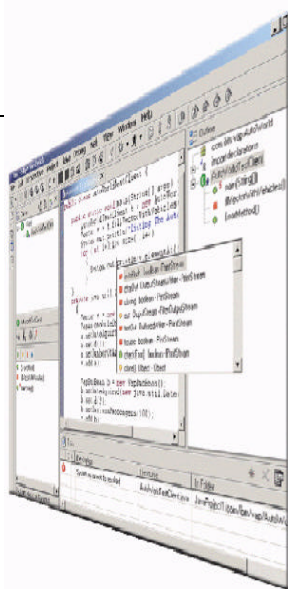
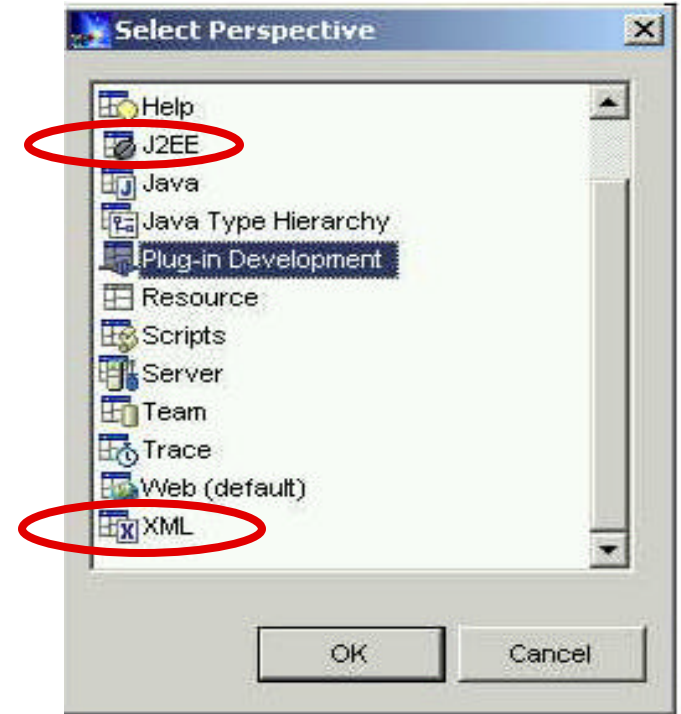
Best-of-breed tools working together as an integrated environment

Eclipse

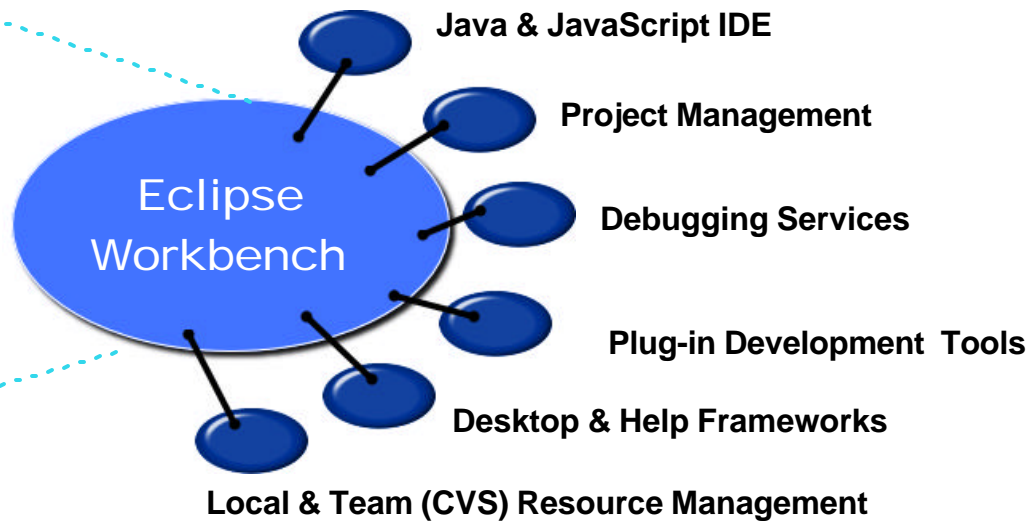
An Open Tool Integration Platform

A personalized, extensible development platform organized via developer

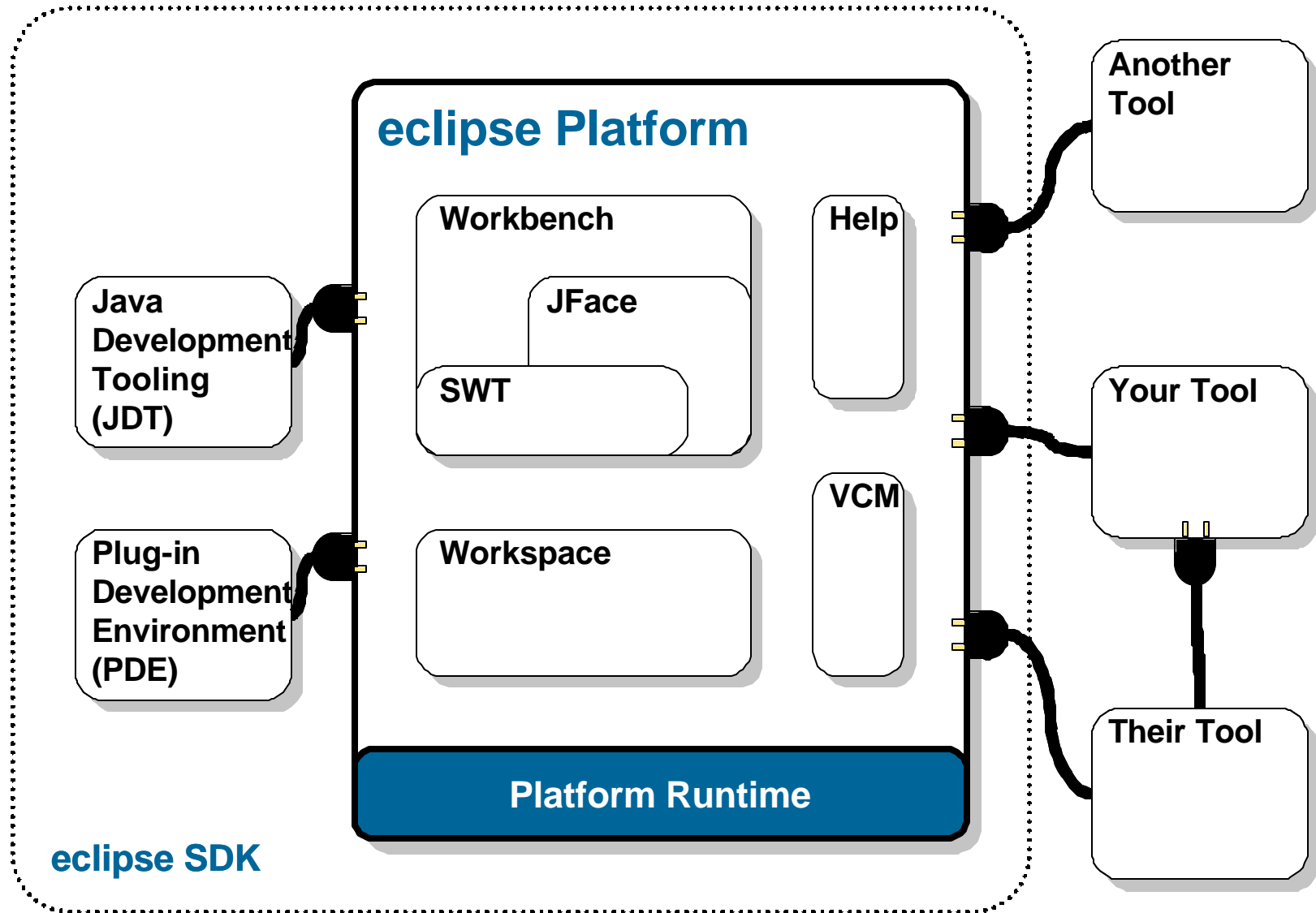
"Perspectives"



Products built with Eclipse inherit these capabilities plus 'plug-ins' built by others



Eclipse Structure



NOTE: We use the same extension mechanisms as business partners, competitors and customers.

Eclipse Momentum Growing

■ Eclipse.org established in November 2001

- ▶ Initial board members: Borland, IBM, Merant, QNX, Rational, RedHat, SuSE, TogetherSoft, Webgain*
- ▶ Expanded since to include Fujitsu, Serena, Sybase, Instantiations, Montavista, Scapa Technologies, Telelogic, Trans-Enterprise Integration, Hitachi, H-P, MKS, SlickEdit

■ Grassroots enthusiasm from developers

- ▶ Over 2.5 million downloads in 10 months since release
- ▶ Version 2 released on June 28th: 150K downloads in first four days of release
- ▶ <http://eclipse-plugins.2y.net/eclipse/index.jsp> hosts 112 plug-ins

■ Vendors committing

- ▶ 30 vendors delivered or announced Eclipse plug-ins
- ▶ Significant commitments from Rational, TogetherSoft, Serena, QNX, Merant
- ▶ Over 100 Eclipse-based open source projects
- ▶ C/C++ IDE plug-in for Linux being led by QNX with RedHat, Rational, and Montavista

* - no longer a member

Plug-in Landscape Samples

■ Business Objects

- ▶ BrowserSoft Business Component Designer
- ▶ Versata Business Logic Designer
- ▶ Versant enJin

■ Modeling

- ▶ Rational XDE Professional for J2EE
- ▶ TogetherSoft
- ▶ Embarcadero Describe
- ▶ Holosofx BPM Workbench

■ Testing / Performance

- ▶ Mercury Interactive
- ▶ Sitraka Jprobe
- ▶ Mid-Comp Oyster
- ▶ ParaSoft JTest

■ Web Services

- ▶ Systinet WASP Developer

■ Source & configuration mgt.

- ▶ CA AllFusion Harvest Change Manager
- ▶ Interwoven TeamSite
- ▶ Merant PVCS Version Manager
- ▶ Merant PVCS Dimensions/Tracker
- ▶ MKS Source Integrity Enterprise
- ▶ Rational ClearCase
- ▶ Serena ChangeMan
- ▶ Starbase StarTeam
- ▶ Telelogic Synergy

■ Server support

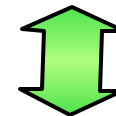
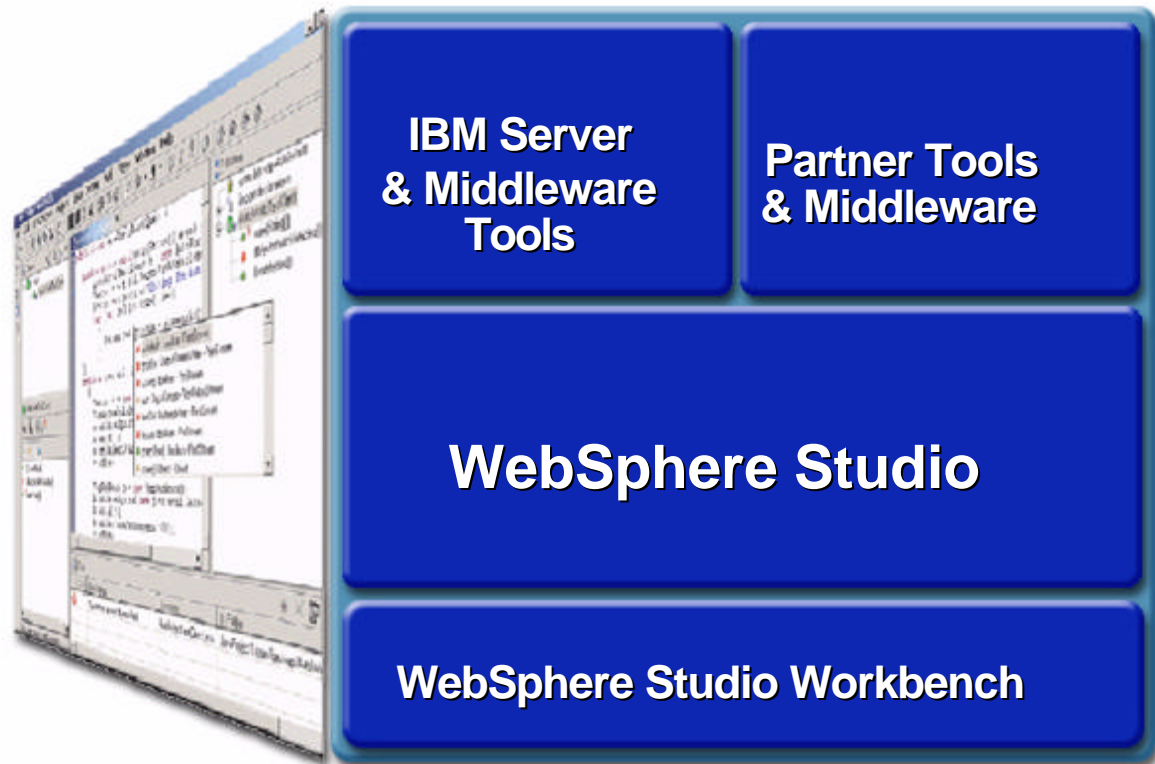
- ▶ Genuitec EASIE Plug-in Suite for J2EE (Jboss, Oracle, WebLogic)

■ Programming tools

- ▶ Instantiations CodePro Studio
- ▶ SlickEdit
- ▶ LegacyJ PERCobol
- ▶ QNX Momentics

WebSphere Studio

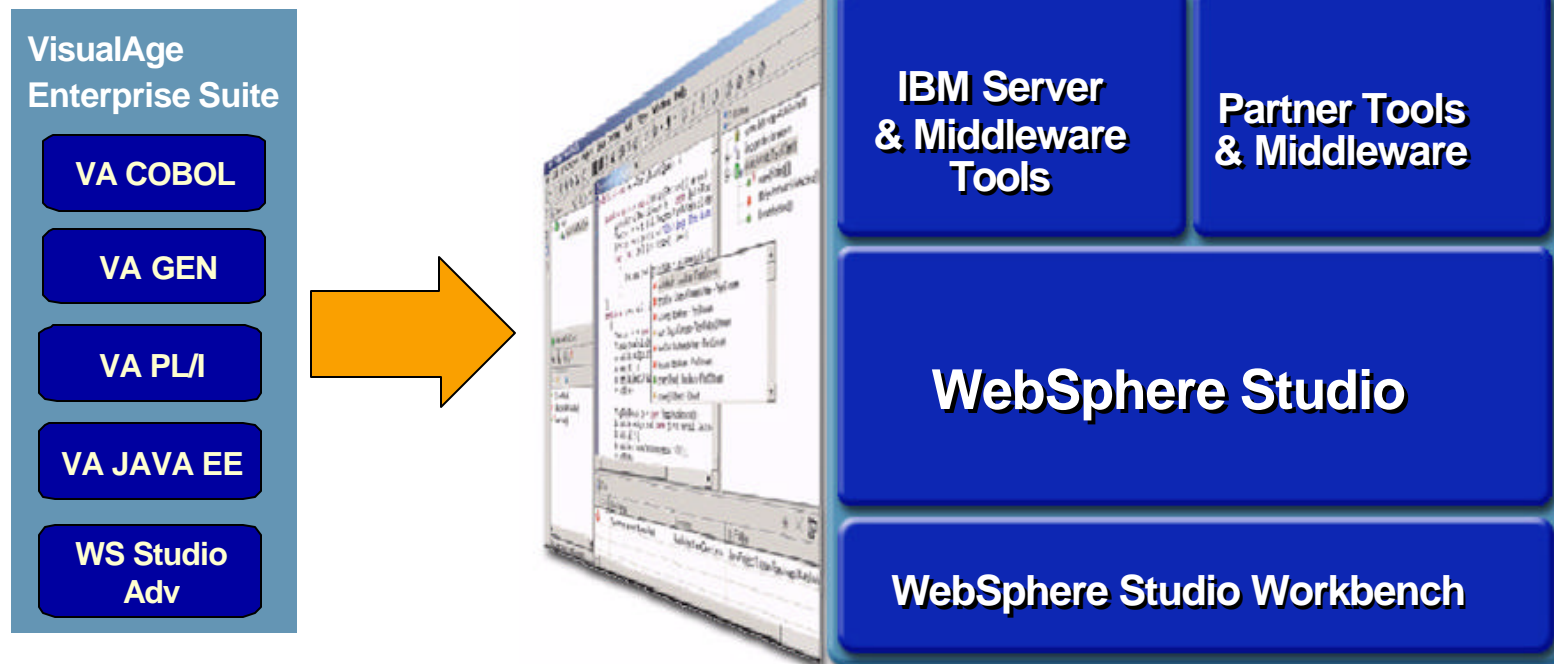
- A single, comprehensive development environment with unprecedented flexibility & extensibility
- Configurations with tools to meet the needs of specific developer roles
- Extended and customized with partner, customer & IBM tools
- Common development environment across Windows and Linux



www.eclipse.org

Evolving IBM AD and Protecting Customers' Investment

- **VisualAge products can transition to WebSphere Studio products**
 - ▶ License protection through PPA contracts
- **Guiding principles**
 - ▶ Source upward compatibility (no rework required)
 - ▶ Minimize migration effort (tools, procedures, guidelines, services)
 - ▶ Minimize learning curve
 - ▶ Long co-existence (flexible pace depending on business pressures)



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➤ WebSphere Studio V5 Highlights

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WebSphere Studio - V5 Highlights

Fast, Easy and Powerful

For developers creating and maintaining extended J2EE applications that integrate with existing application assets

- Workflows including human interaction and compensation
- Advanced EAI tools for creating application adapters & dynamic microflows
- JCA-based application adapters including adapters for CICS and IMS

For developers creating and maintaining J2EE applications

- J2EE 1.3 including EJB 2.0 and JMS 1.0.2
- Stored procedure support, object level profiling, Server log analyzer, XML to SQL wizard, EJB query language support, XPath Wizard
- Automated support for asynchronous (Out/In) JMS messaging

For professional developers of dynamic Web applications & sites

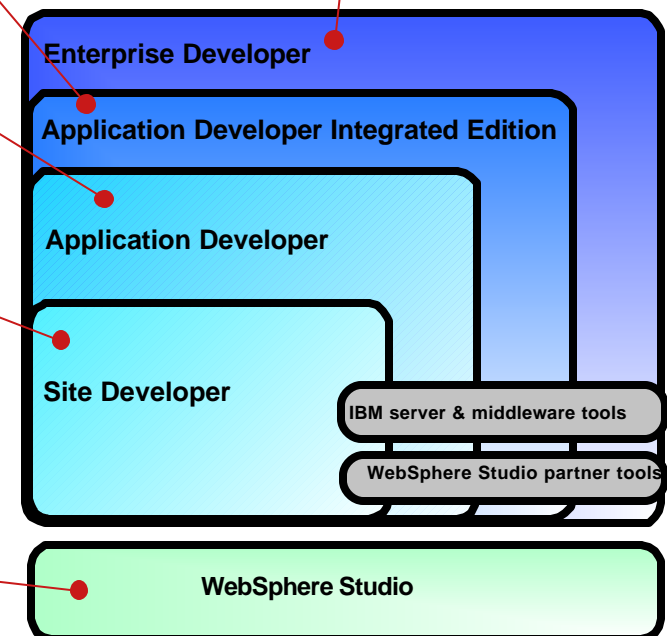
- Java, JSP 1.2, Servlet 2.3, XML, & Web services tools
- Dual support of WAS v4 and v5
- Visual Editor for Java
- RAD tools for visual application structuring: Application Template Wizards, Struts Tools including Visual Editor, Structure Editor, and Wizards

A single, comprehensive Java and JavaScript 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
- Local and Team resource management
- Common development environment across Windows and Linux based on WebSphere Workbench 2.0
- Significant Java IDE improvements (code re-factoring, code assist, etc.)

For enterprise developers for creating new or integrating Web & traditional host-based applications

- IBM CICS system-based code, IBM IMS and SQL statements, and access to IBM z/OS datasets
- Edit/Compile/Debug COBOL, ASM, and PL/I code
- High-level EGL to generate to COBOL for CICS or Java for WAS (Struts based web flow control)



Application Structure Using Apache Struts

The screenshot displays the IBM WebSphere Enterprise Developer interface. The Navigator on the left shows the project structure for 'Trade', including source files like 'struts-config.gph' and 'struts-config.xml'. The Web Structure view shows the Struts configuration, including Action Mappings for '/account', '/buy', '/home', '/login', '/logout', '/portfolio', and '/quote'. The Properties window shows the path for the login action as '/login'.

The main editor area shows a visual diagram of the application structure, illustrating the flow between various actions and JSPs. The diagram includes the following components and their relationships:

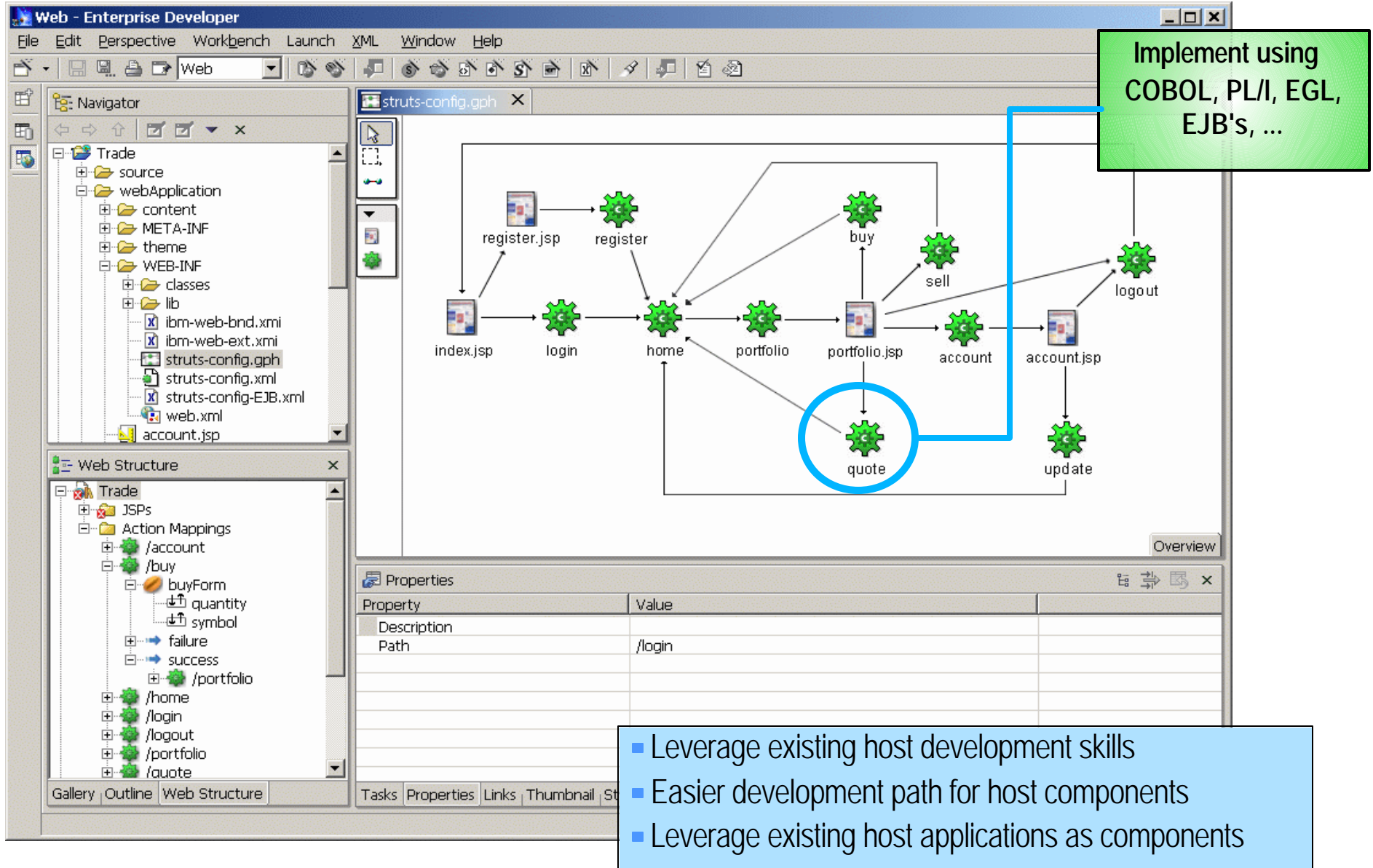
- index.jsp** leads to **login**.
- login** leads to **home**.
- home** leads to **register.jsp** and **register**.
- home** leads to **portfolio**.
- home** leads to **quote**.
- portfolio** leads to **portfolio.jsp**.
- portfolio.jsp** leads to **buy**, **sell**, and **account**.
- buy** leads to **account.jsp**.
- sell** leads to **account.jsp**.
- account** leads to **account.jsp**.
- account.jsp** leads to **update** and **logout**.
- logout** leads to **home**.

The Properties window shows the following table:

Property	Value
Description	
Path	/login

- Wizards (Project, JSP, Actions, ActionForms, ...)
- Editors Launched (Struts Config, JSP, Actions, Action Forms, Web.XML, ...)
- Visual Builder
- Application Structure View
- Validation / Indexing

Integrating Traditional Development



Implement using
COBOL, PL/I, EGL,
EJB's, ...

Property	Value
Description	
Path	/login

- Leverage existing host development skills
- Easier development path for host components
- Leverage existing host applications as components

Cobol and PL/1 Edit/Compile/ Debug

The screenshot displays the Eclipse Workbench interface. The main editor window shows a COBOL job definition for 'JOB10033.out'. The code includes job parameters like 'USER=&SYSUID', 'TIME=(1)', and 'MSGCLASS=H'. It also defines several data sets (DD) for the job, such as 'SIGYCOMP', 'COBCOPY', and 'LISTING'. A context menu is open over the PBNavigator, showing options like 'Connect to S/390 Host', 'Add Mapping', and 'New'. The Tasks window at the bottom shows a list of tasks with columns for 'C', '!', 'Description', 'File', and 'Line'. The tasks include 'Job JOB10080 accepted.', 'IGYPS0002-E A character other than "S", "D", "/" or "." was fo...', and 'JOB10033 Outp'.

```
AKHC JOB ,
/ USER=&SYSUID,TIME=(1),MSGCLASS=H,NOTIFY=&SYSUID,MSGLEVEL=(1,1)
/ SET LNGPRFX=IGYV2R10,
/   LIBPRFX=CEEV1R90,
/   USRPRFX=&SYSUID..UTIL
STEP1 EXEC PGM=IGYCRCTL,REGION=4096K,
/ PARM='APOST,LIB,OBJECT,RENT,TEST,ADATA'
STEPLIB DD DSN=&LNGPRFX..SIGYCOMP,DISP=SHR
SYSLIB DD DSN=&USRPRFX..COBCOPY,DISP=SHR
SYSIN DD DSN=&USRPRFX..COBOL(PROG1),DISP=SHR
SYSPRINT DD DSN=&USRPRFX..LISTING(PROG1),DISP=SHR
SYSADATA DD DSN=&USRPRFX..SYSADATA(PROG1),DISP=SHR
SYSLIN DD DSN=&USRPRFX..OBJECT(PROG1),DISP=SHR
SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT2 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT3 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT4 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT5 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT6 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
SYSUT7 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//
```

C	!	Description	File	Line
!	!	Job JOB10080 accepted.	COMP1.jcl	1
!	!	IGYPS0002-E A character other than "S", "D", "/" or "." was fo...	sort.cbl	86
!	!	IGYPS2072-S "		
!	!	JOB10033 Outp		

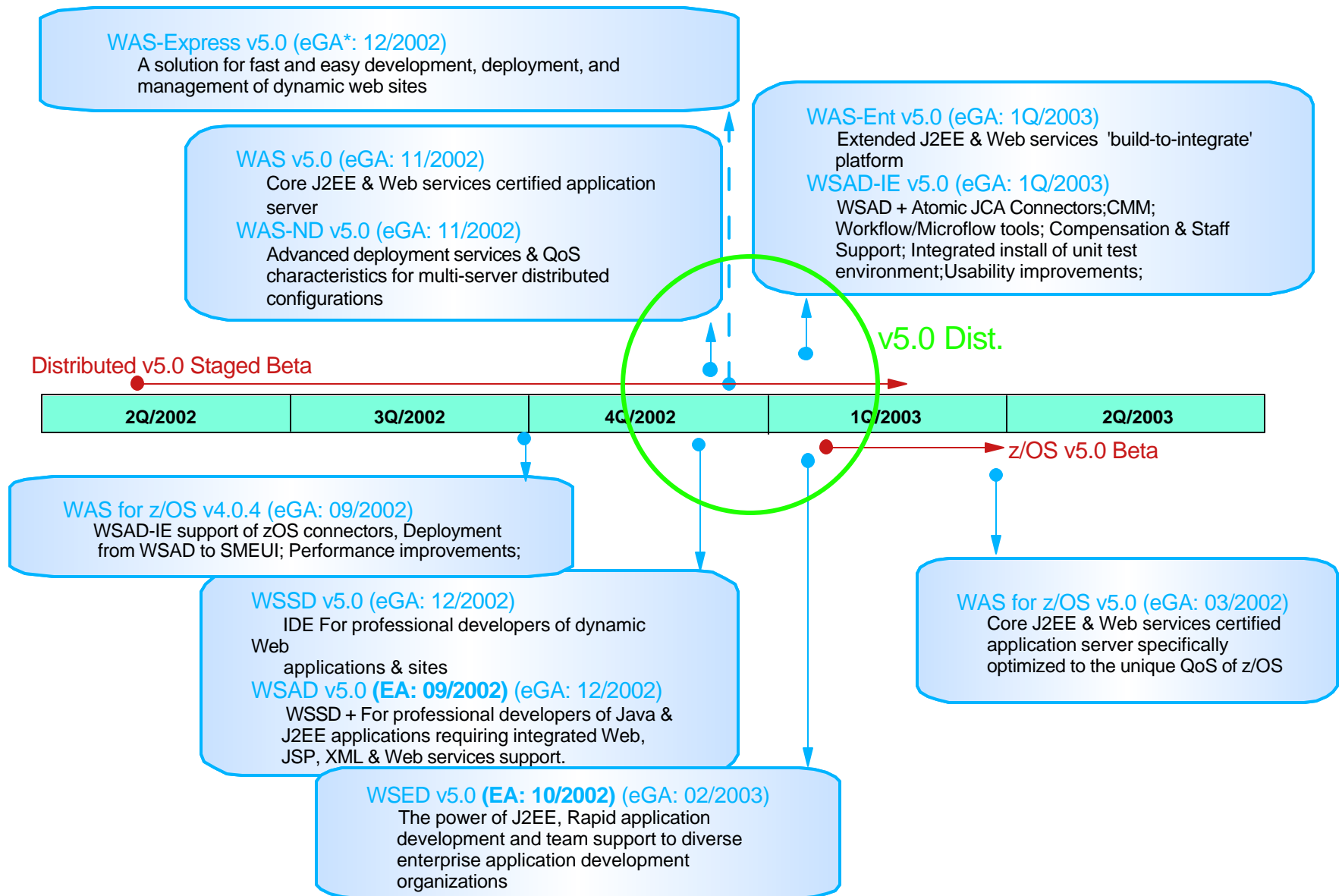
- Editor completely integrated with WebSphere Studio
- Remote Debug of compiled artifacts
- Compile submission capabilities

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► **WebSphere Product Delivery Timeline**

- WebSphere Studio Enterprise Tools Strategy
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WebSphere Foundation Product Delivery Timeline



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WebSphere Studio Enterprise Tools Strategy

- **Provide a comprehensive AD environment**
 - ▶ Open, extensible, and flexible
 - ▶ Address the entire AD process (Discovery, Develop, & Deploy)

- **Accelerate e-business application delivery**
 - ▶ Reuse and componentize
 - ▶ Promote ease of integration via Web Services & XML exploitation
 - ▶ Facilitates team development and knowledge sharing

- **Deploy robust applications quickly**
 - ▶ Leverage RAD technologies
 - ▶ Provide performance & monitoring tools for mixed workload environments

- **Lower the Total Cost of Application Ownership for all platforms**

Enterprise Modernization

- **What is it?**
 - ▶ **Enterprise Modernization is the liberation of ALL core business assets to satisfy new e-business application development**

- **Why modernize?**
 - ▶ **Reuse is cheaper than writing new**
 - ▶ **Bridge the development skills gap with a common toolset for both Web and Legacy programmers (850K+ COBOL developers).**
 - ▶ **Accelerates the e-business adoption for competitive advantage**

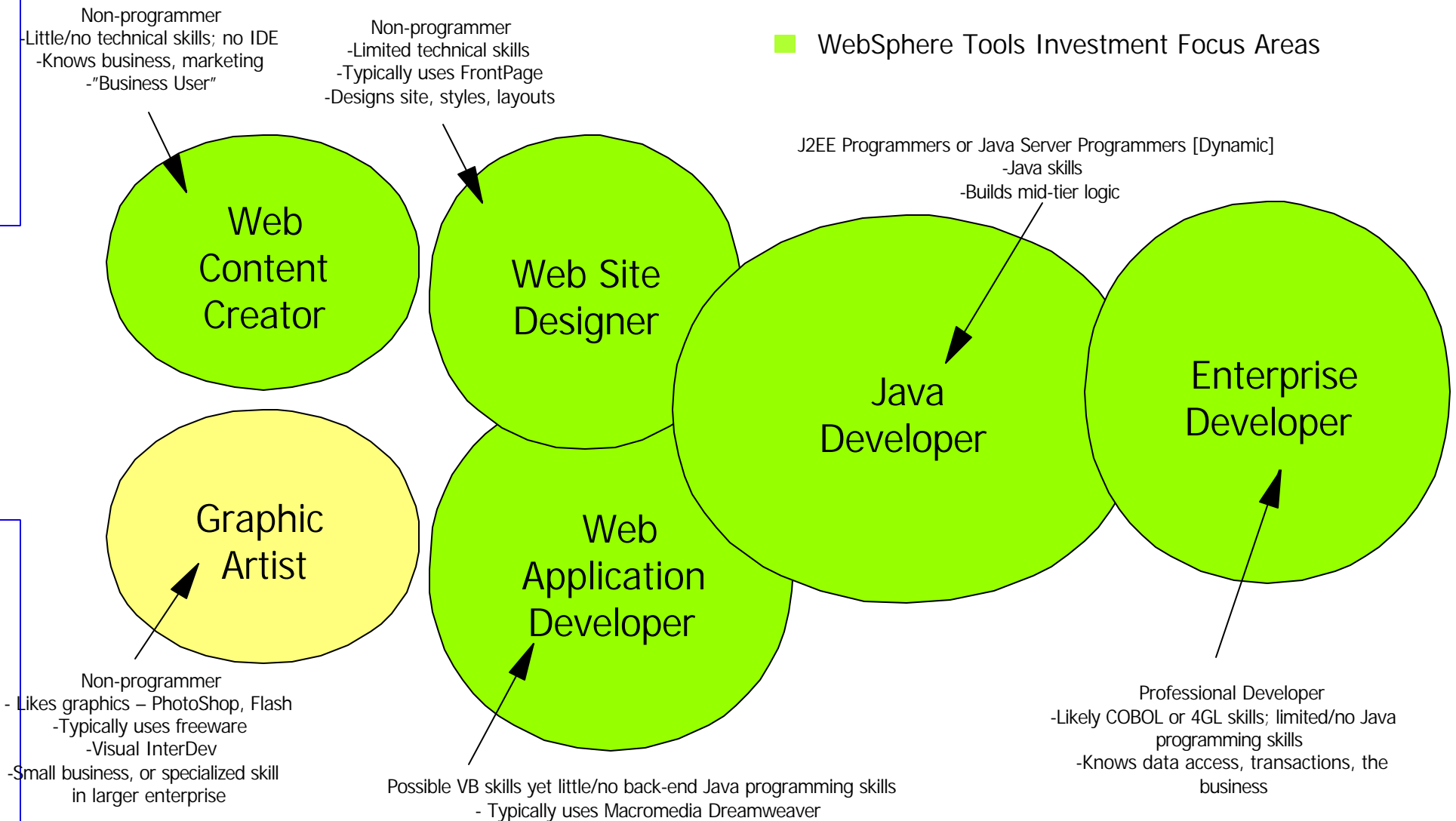
- **Why should IBM customers care?**
 - ▶ **IBM customers have significant business knowledge invested in enterprise systems (over 180 billion LOC and 5 Billion new each year)**
 - ▶ **Customers want to leverage Qualities of Service built in enterprise systems**

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e-business Development: The Roles



Web Development Trends

■ Primary trends

- ▶ Page authoring -> site authoring
- ▶ Static web sites -> dynamic, heterogeneous web applications
- ▶ Increased availability of RAD technologies
- ▶ Emergence of standard web frameworks

■ Secondary trends and other opportunities

- ▶ Browser only -> multiple device types
- ▶ Broader use of XML, XSLT, XHTML, XFORMS
- ▶ Integration between WCM and IT tools
- ▶ Broader use of edge technologies
- ▶ Increase in Rich Media usage

WebSphere Studio Web & J2EE Tools Strategy

■ **Raise productivity**

- ▶ Make simple and initial tasks much more simple.
- ▶ Offer higher-level abstractions and RAD tools for well-known types of activities (e.g. site mgmt, simple application creation).

■ **Broaden appeal**

- ▶ Reach developers who do not want, or have time for, the full J2EE complexity. Support progressive disclosure approach.
- ▶ Increase focus on intra-product usability, consistency, fit-and-finish, documentation (e.g. Page Designer, cheat sheets).

■ **Extend integration**

- ▶ Continue to leverage cross-component integration (e.g. Web Services pervasiveness, multiple RAD efforts). Consolidate where appropriate.
- ▶ Embrace Portal as core part of platform (e.g.. Portal Server UTE)

■ **Maintain Java/standards currency**

- ▶ Reinforce the java-centric story, key differentiator, platform neutrality and runtime options
- ▶ Stay current on Web Services, JSP, JSF, XML, etc.. standards

For more Information...



- **WebSphere Studio Information/Web Demo**
 - ▶ www.ibm.com/software/ad/adstudio

- **WebSphere Studio Developer Domain (WSDD) - trial downloads, articles**
 - ▶ www.ibm.com/websphere/developer/zones/studio/transition.html
 - "Transitioning to the New WebSphere Studio Development Products"

- **Redbooks/Redpieces**
 - ▶ **Web Services Wizardry with WebSphere Studio Application Developer**
 - ▶ **WebSphere Studio Application Developer Programming Guide**

- **WebSphere Studio Partner Program**
 - ▶ www.ibm.com/partnerworld

- **Education**
 - ▶ www-4.ibm.com/software/ad/studioappdev/education

- **Eclipse**
 - ▶ www.eclipse.org

2002 International Enterprise Developer Conference in Vienna

Thank You!

► Questions?