IBM WebSphere Application Server — Express, V5: Fast Development, Deployment, and Management of Dynamic Web Sites

Overview

Designed to meet the unique needs of small and mid-size companies, WebSphere® Application Server — Express combines the power and function of an industry-leading application server with a smaller, up-front investment for a low-risk, affordable entry to e-business.

Supporting the latest specifications for JavaServer Pages, Java™ servlet, and Web services, WebSphere Application Server — Express can help you build static and dynamic Web sites. You can view information in databases; perform simple updates; and create and use Web services.

WebSphere Application Server — Express delivers these benefits:

- Ready to go
  Create and run a simple dynamic Web site in a tightly integrated and affordable package that includes a simplified Web application server, a development environment based on WebSphere Studio, powered by Eclipse technology, and wizards and samples that can help reduce complexity and deployment costs.

- Migration-ready
  - Migrate to other WebSphere Application Server and WebSphere Studio V5 configurations, and other Eclipse technology-based tools when more advanced development and deployment capabilities are required.
  - Leverage your investment through a discount when you are ready to upgrade.

Key Prerequisites

Refer to the Software Requirements and Hardware Requirements sections.

Planned Availability Dates

- December 13, 2002: Electronic software delivery
- January 10, 2003: Program package

At a Glance

WebSphere Application Server — Express V5 offers a cost-effective, out-of-the-box solution with the tools necessary to create and run a simple yet dynamic Web site. An easily approachable “on-ramp” to e-business, it features:

- Application server and Eclipse technology-based development environment in one tightly integrated package
- Simplified programming model with wizards and samples, allowing you to leverage existing skills
- Near-zero administration
- Migration to other WebSphere Application Server and WebSphere Studio configurations

The WebSphere Application Server — Express user interface with the Document Management sample open in the main work area

For ordering, contact:
Your IBM representative or the Americas Call Centers at 800-IBM-CALL

Reference: SE001

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: http://www.ibm.com.
WebSphere Application Server — Express is a cost-effective, easily approachable "on-ramp" to e-business. It offers fast and productive development, deployment, and management of dynamic Web sites. Designed for the first steps of e-business, WebSphere Application Server — Express handles the creation of database application, allowing simple information updates, and basic Web-enabling packaged applications.

**Integrated Offering for New e-business Projects**

WebSphere Application Server — Express combines the functions you need to get started in e-business into one integrated package. It includes a simplified configuration of WebSphere Application Server V5.0 and Eclipse technology-based development tools from WebSphere Studio. To meet your specific requirements, WebSphere Application Server — Express offers the flexibility of a single installation, if installing both components on the same hardware, or a custom installation, if you want to install the development tools and application server components on separate machines.

**Simplified Application Server**

This subset of WebSphere Application Server V5 runs without change on the other configurations.

Built from a J2EE 1.3-compatible base, WebSphere Application Server — Express supports the latest Java standards:

- JDK 1.3 across supported operating system platforms
- JSP 1.2 including custom tag libraries
- Java Servlets 2.3
- Web Services (SOAP 2.2, WSDL, and UDDI client)
- Java Security model, including APIs and J2EE authentication and authorization
- XML tools, including Xerces and Xalan
- Java Database Connectivity (JDBC)
- JNDI

WebSphere Application Server — Express also includes JavaScript and Database Connection Pooling.

The integrated design means that you can use the same familiar development tool interface for your administrative tasks including configuring a server instance, configuring an application, publishing an application to the server, and stopping and restarting the server or application. Wherever possible, you can use default settings so that configuration is not required.

**Powerful Development Tools**

WebSphere Application Server — Express offers a robust, easy-to-use Eclipse technology-based development environment that allows developers to create, build, and maintain dynamic Web sites, applications, and Web services. The development tools offer the same development capabilities as WebSphere Studio Site Developer except that they are restricted to deployment to WebSphere Application Server — Express.

Major development tool capabilities include:

- Rapid Web design and authoring tooling, including HTML, JSP, and JavaScript
- Visual Page Designer to create Web user interfaces
- Struts Builder to simplify creation of applications
- Wizards to create Web interfaces to databases
• Image editing and animation tools
• Web services creation and consumption
• Rich media tools to create graphic titles, logos, buttons, and photo frames with professional-looking touches with WebArt Designer
• JSP debugging
• Interface to version control systems
• Simple deployment of applications to the application server

Refer to Software Announcement 202-329, dated December 3, 2002, for more information about the development environment capabilities.

Eclipse technology-based tools give developers freedom of choice in a multilanguage, multiplatform, multivendor supported environment. Developers who want the flexibility to choose the best technology can use tools built using open source code consistent with open standards. For more information, visit:

http://www.ibm.com/websphere/eclipse

Easy to Install and Use
WebSphere Application Server — Express is easy to use from end to end.

Ease-of-use features include:
• Fast and simple installation: An installation wizard walks you through five steps.
• Code generation: Wizards, samples, and application templates help write or provide the code for you whenever possible.
• Simplified development: A choice of programming models takes advantage of your existing skills. To offer a model that more closely parallels HTML and VisualBasic programming skills, Jakarta Tag Libraries are included and JavaScript support is enhanced.
• Productive development: The development tool includes a list of valid alternatives for completing the current line of code to speed the development process.
• Rapid application design: The Struts Builder offers a high-level view of an application, allowing you to map out the pages and actions within an application before writing any code.
• Simplified testing: Automatic creation of the test server and dynamic debugging allows for easy verification that your applications will run correctly. The debugger enables you to detect and diagnose errors in your program running either locally or remotely. You control the execution of your program by setting breakpoints, suspending execution, stepping through your code, and examining the contents of variables. You can debug live server-side code as well as programs running locally on your workstation.
• Simplified deployment: Assembling and deploying your application takes as little as one click.
• Simplified administration:
  - Creating and configuring server instances
  - Configuring data sources and ports
  - Starting and stopping the server
  - Publishing an application to the server
  - Stopping and restarting the application

Wherever possible, you can use the default settings so configuration is not required.

• Additional ease-of-use features such as hover help, context sensitive help, dynamic tag help, error assistance, and extensive documentation.

Helpful Wizards
Wizards walk you through the process of creating a new file. Each page of the wizard indicates the content and entries necessary to be entered. Then the wizard generates the code based on your entries. Over 70 wizards are included.

Quick Start Samples
Samples can be used as an educational guide, a code repository, or a starting point for applications. The samples demonstrate a variety of development techniques from basic Model 1 design to the more scalable Model 2 (Model View Controller) method. Each sample comes with extensive documentation on how to use and customize the sample.

• Custom home page — Features an employee-based home page with links to existing Web-based resources. Each employee can easily access current company information via subwindows, and can add or delete links or subwindows.
• Customer self-service — Features a company Web site that permits customers to log in to a private, SSL-protected user account with an associated list of activity by that customer.
• Document management — Features a password-protected site that allows users to log in and have read-only access to numerous documents.
• Survey — Features an internationalized company Web site and shows you how to internationalize your own site.
• Your company — Illustrates how you can use HTML pages, cascading style sheets, tag libraries and JavaServer Pages (JSPs) to provide a complete intranet for a fictitious YourCo company. The YourCo Web application enables employees of YourCo to look up an employee’s phone number, reserve conference rooms, view or post job listings, manage vacation and leave, and personalize the view of the intranet site.
• My home page — Illustrates how you can use HTML to build a simple static home page containing text and images.
• JSP and servlet — Illustrate how you can use Java servlets and JSPs for various common functions in Web sites.

Application Templates: Like samples, the application templates are based on common usage scenarios. However, application templates actually use a wizard to walk you through customizing the application to your specific needs. When you complete the wizard, the application code is generated for you.

Application templates included are:
• Solutions Template: Address Book, Resource Reservation, Self Service Insurance, White Pages
• IT Template: List — Details, Login
• Tutorial: Shopping Cart
Build and Deploy Web Services: WebSphere Application Server — Express facilitates the following Web services development tasks.

- Discover — Browse Universal Description, Discovery, and Integration (UDDI) business registries or a Web Services Inspection Language (WSIL) document to locate existing Web services for integration. A UDDI registry allows storage of business units that describe basic services to help users find information about Web services.
- Create or transform — Create Web services from existing artifacts such as JavaBeans, URLs that take and return data, DB2® XML Extender calls, DB2 stored procedures, and SQL queries.
- Build — Wrap existing artifacts such as simple object access protocol (SOAP) and HTTP GET/POST-accessible services and describe them in Web Services Description Language (WSDL).
- Deploy — Deploy the Web service on the test environment or in production.
- Test — Test the Web service as it runs locally or remotely.
- Develop — Generate a sample application to assist you in creating your own Web service client application.
- Publish — Publish your Web services to a public UDDI business registry advertising your Web services so that other clients or businesses can access them.

All Web services support is based on open standards such as UDDI Version 2, SOAP, WSDL, and new support for WSIL.

Sophisticated XML Support

WebSphere Application Server — Express provides a comprehensive visual XML development environment that allows you to:

- Debug and edit XSL with code assist
- Create, view, and validate DTDs, XML schemas, XMLs, and XSLs
- Create XML documents from a DTD/XML schema and vice-versa
- Generate JavaBeans from XML and vice-versa
- Define mappings between XML documents and generates XSLT
- Create an HTML or XML document by applying an XSL stylesheet against an XML document, using the Xalan processor
- Debug XSL stylesheets using the XSL debugger
- Create and execute your Xpath using the Xpath wizard
- Compile XSL stylesheets for fast execution
- Produce XML-related artifacts from an SQL query
- Update a relational table from an XML document
- Define mappings between relational tables and DTD files
- Generate a document access definition (DAD) script, used by DB2 XML Extender, to either compose XML documents from existing DB2 data or decompose XML documents into DB2 data
- Generate XML and related artifacts from SQL statements and use these files to implement your query in other applications

Security

WebSphere Application Server — Express offers strong security through its sophisticated infrastructure and support of open, standards-based Java specifications. To validate user identities, it supports Basic (User ID and password), forms-based and client-side public key infrastructure (PKI) certificates for user authentication. It can be configured to use certificates from any certificate authority, such as VeriSign, Entrust, or Baltimore Technology. Additionally, to protect against unauthorized access to your critical J2EE resources, WebSphere Application Server — Express supports J2EE Roles-Based Authorization.

Support for Growth

As the on-ramp to the WebSphere family, WebSphere Application Server — Express enables you to easily migrate when you require more sophisticated capabilities. Applications can run without alteration with the more advanced configurations of WebSphere Application Server and WebSphere Studio. Finally, trade-up discounts are available for WebSphere Studio Site Developer, WebSphere Studio Application Developer, and WebSphere Application Server. The investment in skills acquired with WebSphere Application Server — Express is protected when migrating to these other products.

Broad Database Integration

WebSphere Application Server — Express supports the current versions of databases including DB2, Informix™, SQL Server, Sybase, and Oracle.

Accessibility by People with Disabilities

WebSphere Application Server — Express includes the following features:

- Supports interfaces commonly used by screen readers
- Can be operated using only the keyboard
- Allows the user to request more time to complete timed responses
- Supports customization of display attributes such as color, contrast, and font size
- Communicates all information independently of color
- Supports interfaces commonly used by screen magnifiers (applies to applications on Windows® platforms only)
- Supports the attachment of alternative output devices
- Provides keys that can be distinguished by touch without activating them
- Provides documentation in an accessible format
- Requires minimal reach and manual dexterity
- Supports the attachment of alternative input and output devices
- Supports alternatives to audio information
- Supports adjustable volume control
- Does not flash the screen at rates that could induce epileptic seizures
Some accessibility features may not be available in the following products:

- DB2 Connect® Personal Edition, V7.2 FP5 for the Windows Operating Environments CD
- DB2 Universal Database® Personal Edition, V7.2 FP5 for Linux for Intel® CD

Product Positioning

With your chosen WebSphere Application Server configuration, you can:

- Get to market fast by quickly designing new applications ready to be integrated as Web services, and by leveraging existing software through customizable, programmable adapter technology that is built in
- Administer, deploy, and manage applications with agile setup options and administration features
- Boost developer productivity with an integrated, open-standards-based development environment featuring customizable, high-end tools and promote reuse of modular resources
- Meet the changing demands of dynamic e-business using intelligent, end-to-end application optimization built with an industry-leading combination of reliability, scalability, and performance, all within an environment that uses rich security features

Configuration options in addition to WebSphere Application Server —Express include:

- WebSphere Application Server — the core Web services and J2EE-compatible application server enabled with industry-leading qualities of service and an array of flexible deployment configurations to meet the needs of stand-alone, multiserver-distributed, and highly dynamic, decentralized distributed enterprise environments. WebSphere Application Server V5 provides a rich e-business application deployment environment with a set of application services that include enhanced capabilities for enablement and management of heterogeneous Web services, increased security, performance, availability, connectivity, and scalability.
- WebSphere Application Server Enterprise — a next-generation application server that simplifies build-to-integrate tasks, accelerates application development and enables real-time adaptable applications. WebSphere Application Server Enterprise meets the needs of customers who require advanced build-to-integrate capabilities such as advanced application adapters, application flow composition and choreography, extended messaging, dynamic rules-based application adaptability, and internationalization. WebSphere Application Server Enterprise can be differentiated from the core WebSphere Application Server in that it delivers more development capabilities, extending the J2EE infrastructure to deliver additional build to integrate capabilities.
- WebSphere Application Server for z/OS™ — a J2EE 1.3-compatible Web services application server that is specifically optimized to utilize the unique qualities of service provided by IBM @server zSeries™ hardware and the z/OS operating system. WebSphere Application Server for z/OS was built to provide the robust, enterprise-level capabilities for workload management, availability, and scalability demanded by the most advanced mission-critical e-business applications.

For more information about WebSphere Application Server and WebSphere Studio V5 configurations, refer to Software Announcement 202-318, dated November 19, 2002.

Statement of Direction

IBM plans to make WebSphere Application Server — Express available on IBM @server iSeries™ at a later date. WebSphere Application Server — Express plans several customizations to tailor the product specifically for iSeries including designing the application server to work with IBM HTTP servers for iSeries (Powered by Apache).

IBM plans to make WebSphere Development Studio for iSeries, V5 available at a later date. This comprehensive, integrated iSeries suite of host and workstation tools is ideal for traditional, client/server and e-business development. The workstation tool set, WebSphere Development Studio Client for iSeries, V5.0 features iSeries enhancements to the Java and Web development tools, and the IBM WebFacing Tool — a fast, easy and potentially cost-effective way to move IBM 5250 applications to the Web.

All statements regarding IBM’s plans, directions, and intent are subject to change or withdrawal without notice.

Trademarks

The e-business logo, Informix, z/OS, zSeries, and iSeries are trademarks of International Business Machines Corporation in the United States or other countries or both. WebSphere, DB2, DB2 Connect, and DB2 Universal Database are registered trademarks of International Business Machines Corporation in the United States or other countries or both. Intel is a registered trademark of Intel Corporation. Windows is a registered trademark of Microsoft Corporation. Java is a trademark of Sun Microsystems, Inc. Other company, product, and service names may be trademarks or service marks of others.
Education Support

Education and classes in support of WebSphere® Application Server — Express are being developed. When they are ready, an announcement will be made through the appropriate channels.

Offering Information

Product information is available through Offering Information (OITOOL) at:

http://www.ibm.com/common/ssi

Publications

No publications are shipped with this program.

The Publication Notification System (PNS) is available by order number/product number. Customers currently subscribing to PNS will automatically receive notifications by e-mail. To subscribe, visit:


The IBM Publications Center Portal:

http://www.ibm.com/shop/publications/order

Note that PNS subscribers most often order their publications via the Publications Center.

Displayable Softcopy Publications: A PDF version of the following:

- WebSphere Application Server — Express Getting Started, including the following Web development tutorials:
  - Workbench basics
  - Developing your first Web page
  - Adding dynamic content
- WebSphere Application Server — Express Installation Guide
- WebSphere Studio Site Developer Migration Guide
- WebSphere Application Server — Express “YourCo” Scenario: Intranet Site Using WebTools, JSP, and Servlets
- WebSphere Application Server — Express “Hospital” Scenario: B2B Database Query Using Web Services, JSP, Servlets, and XML Tools

The help files, scenario documents, and other product documentation are available in HTML. These require a Web browser that supports HTML 3.2, and Cascading Style Sheet (CSS). Microsoft™ Internet Explorer V5.5, SP1®, or later, is required.

Technical Information

Hardware Requirements: Display resolution:

- Windows® — VGA (800 x 600) display minimum (1024 x 768 recommended)
- Linux — SVGA (1024 x 768) display minimum

For Tools only on one machine:

- Intel® Pentium® II processor minimum; Pentium III at 500 MHz, or faster, recommended
- 512 MB RAM minimum (768 MB RAM recommended)
- Disk space: 650 MB minimum disk space for installing WebSphere Application Server — Express and additional disk space for your development resources. Additional disk space is required if you download the electronic image to install WebSphere Application Server — Express.

For Tools and Remote Server on one machine:

- Intel Pentium II processor minimum; Pentium III at 500 MHz, or faster, recommended
- 512 MB RAM minimum (768 MB RAM recommended)
- Support for a communications adapter (Windows)
- Support for TCP/IP and an adapter (Linux)

Note: Running Linux Red Hat for the production server component requires one machine at 512 MB RAM minimum (768 MB RAM recommended) for the Tools component and one additional machine with 256 MB RAM minimum (512 MB RAM recommended) for the production server component.

- Disk space:
  - 750 MB minimum disk space for installing WebSphere Application Server — Express and additional disk space for your development resources.
  - Additional disk space is also required if you are installing WebSphere Application Server — Express using the electronic image.

For remote server alone on one machine for Windows NT® and Windows 2000:

- Intel Pentium processor at 500 MHz, or faster.
- Support for a communications adapter.
- Minimum 100 MB free disk space for installation (includes SDK). Additional disk space is required if you download the electronic image to install WebSphere Application Server — Express.
- Minimum 256 MB memory; 512 MB recommended.
For remote server alone on one machine for Linux on Intel (must have this separate machine for the server if using Linux Red Hat):

- Linux Distribution Red Hat Advanced Server 2.1 or SuSE 7.3 Linux based on kernel 2.4.
- Intel x86 processor at 500 MHz, or faster.
- Support for TCP/IP and an adapter.
- Minimum 100 MB free disk space for installation (includes SDK). Additional disk space is required if you download the electronic image to install WebSphere Application Server — Express.
- Minimum 256 MB physical memory; 512 MB recommended.

**Software Requirements**

- One of the following operating systems:
  - Windows 2000 Professional with Service Pack 2, or later
  - Windows XP Professional for the Studio tools component, including the unit test environment only
  - Windows NT Workstation or Server V4 with Service Pack 6a, or later
  - Linux Red Hat V7.2 for the Studio tools component, including the unit test environment only
  - Linux Red Hat AS V2.1 for the remote server component only
  - Linux — SuSE Version 7.2
- Web browser:
  - Windows: Microsoft Internet Explorer 5.5 with Service Pack 1, or later, or Netscape Navigator Version 4.76
  - Linux: Netscape Navigator Version 4.6: universal test client and Web Services Explorer require Netscape Version 4.6 or Mozilla Version 0.7, or later
  - While the supplied DB2® Personal Edition, Version 7.2 is not required to install WebSphere Application Server — Express, it is required to work with certain WebSphere Studio applications and samples
  - To profile your applications, ensure that JRE 1.3.0, or later, is installed

**Planning Information**

**Direct Customer Support:** Direct customer support is provided by IBM Operational Support Services — Support Line at 800-IBM-SERV (426-7378). This fee service enhances customers’ productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services — Support Line will help answer questions pertaining to usage and suspected software defects for eligible products.

**Packaging**

Multiplatform media:

- WebSphere Application Server — Express CDs
- Net.Data® for OS/2®, AIX®, Windows NT, Windows 2000, HP-UX, Linux, and Solaris operating environment V7.2 CD
- DB2 Universal Database® (UDB) XML Extender V7.2 FP7 CD

Linux only media:

- DB2 Connect® Personal Edition, V7.2 FP7 for Linux for Intel CD
- DB2 UDB Personal Edition, V7.2 FP7 for Linux for Intel CD

Windows only media:

- DB2 Connect Personal Edition, V7.2 FP7 or the Windows operating environments CDs
- DB2 UDB Personal Edition, V7.2 FP7 for the Windows operating environments CDs
- DB2 UDB Image, Audio, and Video Extenders and Text Extender V7.1 CD

This program when downloaded from a Web site, contains the applicable IBM license agreement, and License Information (LI), if appropriate and will be presented for acceptance at the time of installation of the program. The license and LI will be stored in a directory such as LICENSE.TXT for future reference.

**Security, Auditability, and Control**

WebSphere Application Server, V5.0 uses the security features of the respective operating systems, such as local user registry. The customer is responsible for evaluation and selection of the various WebSphere security features including the implementation of authentication and authorization policies. This responsibility extends to the administration of WebSphere security policies and security related policies external to WebSphere such as the operating environment, network topology/security, and physical security.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

**Ordering Information**

- Product Group: WebSphere Tools
- Product Identifier Description: WebSphere Application Server — Express (5724-D06)
- Product Category: WebSphere

WebSphere Application Server — Express V5.0 is a stand-alone product with three separate charge units

- Processor
- 20 intranet users
- Developer

It is available in units of one.

Customers with a license and active maintenance for WebSphere Application Server V3.5 Standard Edition will be entitled to an equal number of licenses of WebSphere Application Server — Express. The entitlement license will be for the per processor option of WebSphere Application Server — Express. Customers requiring additional copies to complete their needs (for additional processors on a multiprocessor server) will need to purchase those licenses via Passport Advantage or ibm.com. To receive maintenance for the WebSphere Application Server — Express entitlements, customers must order maintenance renewals for each entitlement.
# WebSphere Application Server — Express

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9634</td>
<td>WebSphere Application Server Site Developer (Developer, Intranet, or Processor option)</td>
<td>D51ZHL</td>
</tr>
<tr>
<td>Program Package 1 Processor Multilingual</td>
<td>45P9704</td>
<td>License &amp; SW Maintenance 1 Anniv. Date — 20 Users</td>
<td>D522LPL</td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9707</td>
<td>License &amp; SW Maintenance 2 Anniv. Date — 20 Users</td>
<td>D522MLL</td>
</tr>
<tr>
<td>Program Package 20 users Multilingual</td>
<td>45P9708</td>
<td>SW Maintenance Renewal to 1 Anniv. — 20 Users</td>
<td>E00MPLL</td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9635</td>
<td>SW Maintenance after License to 1 Anniv Date — 20 Users</td>
<td>D522QLL</td>
</tr>
<tr>
<td>Electronic Delivery</td>
<td>45P9705</td>
<td>License &amp; SW Maintenance 1 Anniv. Date — Developer</td>
<td>D522PLL</td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9708</td>
<td>License &amp; SW Maintenance 2 Anniv. Date — Developer</td>
<td>D522QLL</td>
</tr>
<tr>
<td>Net Delivery 1 Processor Multilingual</td>
<td>45P9635</td>
<td>SW Maintenance Renewal to 1 Anniv. — Developer</td>
<td>E00MQLL</td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9705</td>
<td>SW Maintenance after License to 1 Anniv Date — Developer</td>
<td>D522RLL</td>
</tr>
<tr>
<td>Net Delivery 20 users Multilingual</td>
<td>45P9708</td>
<td>WAS — Express Proc from WAS — Express Processor License Option by providing one of the following documents:</td>
<td>D520HLL</td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9635</td>
<td>• A copy of purchase invoice/bill of sale for one of the products listed above</td>
<td></td>
</tr>
<tr>
<td>Net Delivery Developer Multilingual</td>
<td>45P9708</td>
<td>• The original Proof of Entitlement (PoE)</td>
<td></td>
</tr>
<tr>
<td>Passport Advantage</td>
<td>45P9635</td>
<td>• The original front cover page of the Getting Started publication</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Part Number</td>
<td>Description</td>
<td>Part Number</td>
</tr>
<tr>
<td>License &amp; SW Maintenance 1 Anniv. Date — Processor</td>
<td>D520ELL</td>
<td>WebSphere Application Server from WebSphere Application Server — Express</td>
<td>D520MPLL &amp; D520PLL</td>
</tr>
<tr>
<td>License &amp; SW Maintenance 2 Anniv. Date — Processor</td>
<td>D520FLL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SW Maintenance Renewal to 1 Anniv. — Processor</td>
<td>E00M6LLL</td>
<td>Valid license holders of WebSphere Application Server — Express Processor License Option are eligible for the tradeup to WebSphere Application Server V5.0 and WebSphere Application Server for zSeries Linux V5.0 by providing one of the following documents:</td>
<td></td>
</tr>
<tr>
<td>SW Maintenance after License to 1 Anniv Date — Processor</td>
<td>D520GLL</td>
<td>• A copy of purchase invoice/bill of sale for one of the products listed above</td>
<td></td>
</tr>
<tr>
<td>WAS — Express Proc from WAS — Express 20 Users TRD LIC/SW MAINT 1 ANNIV WAS — Express Proc from Competitive Products TRD LIC/SW MAINT 1 ANNIV (refer to Table 1 below) WAS Processor from WAS — Express Processor TRD LIC/SW MAINT 1 ANNIV WAS for zSeries™ Proc from WAS Express Proc TRD LIC/SW MAINT 1 ANNIV</td>
<td>D520HLL</td>
<td>• The original PoE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D520FLL</td>
<td>The original front cover page of the Getting Started publication</td>
<td></td>
</tr>
<tr>
<td>D520MLL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D520PLL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part Description Number
WebSphere Studio Application Developer D520JLL for Linux and Win User from IBM product tradeups
Valid license holders of WebSphere Studio Site Developer and WebSphere Application Server — Express Processor License Option are eligible for the tradeup to WebSphere Studio Application Developer V5 by providing one of the following documents:

• A copy of purchase invoice/bill of sale for one of the products listed above
• The original PoE
• The original front cover page of the Getting Started publication

Note: For ordering information and pricing information on the following part number (D51ZHLL), refer to Software Announcement 202-329, dated December 3, 2002.

Part Description Number
WebSphere Studio Site Developer from D51ZHLL WebSphere Application Server — Express (Developer, Intranet, or Processor option)
Valid license holders of WebSphere Application Server — Express (any license option) are eligible for the tradeup to WebSphere Studio Site Developer V5 by providing one of the following documents:

• A copy of purchase invoice/bill of sale for one of the products listed above
• The original PoE
• The original front cover page of the Getting Started publication

Part Description Number
WebSphere Application Server — Express D520ILL
Valid license holders of any of the following products by competitors or IBM Business Partners are eligible for the tradeup to WebSphere Application Server — Express Processor License Option by providing one of the following documents:

• A copy of purchase invoice/bill of sale for one of the products listed above
• The original PoE
• The original front cover page of the Getting Started publication

Table 1 — Competitive Products
• Apple WebObjects App Server
• BEA WebLogic Express
• Borland Enterprise Server Web Server
• Cauchito Resin Core V2.1.2
• Desiderata Software Blazik App Server

• IONA Orbix E2A
• Ironflare Orion
• Microsoft Internet Connector
• New Atlanta ServletExec Developer
• Pramati Technologies Pramati Server
• Sun Open Net Environment (ONE) App server V7, Standard Edition
• Sybase Small Business Enterprise Server
• TradeCity Cybersoft Rexip App Server Developer and Standard Edition V2.0
• Trifork Enterprise Application Server — Web, Standard, Pro Single CPU
• Macromedia JRun (IBM Business Partner product)

Passport Advantage Customer: Media Pack Entitlement Details
Customers with active subscription on the products listed below are entitled to receive the corresponding media pack.

WebSphere Application Server — Express

Part Description Number
WebSphere Application Server — Express Multilingual — Processor BA08IML

Corresponding SUB-ID description

WebSphere App Svr Express Proc WSAPSVEXS01
WebSphere App Svr Standard WSAPSRVR

Corresponding SUB-ID description

WebSphere Application Server — Express Multilingual — 20 Users BA09FML

Terms and Conditions

Licensing: IBM International Program License Agreement. PoEs are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

License Information Form Number: Softcopy only

Limited Warranty: Yes

Program Services: Available until November 30, 2005

Money-Back Guarantee: If for any reason you are dissatisfied with the program, return it within 30 days from the invoice date, to the party (either IBM or its reseller) from whom you acquired it, for a refund. This applies only to your first acquisition of the program.
Copy and Use on Home/Portable Computer: Yes

Volume Orders (IVO): No

Passport Advantage Applies: Yes, and through the Passport Advantage Web site at:
http://www.ibm.com/software/passportadvantage

Usage Restriction: Yes Applications developed with WebSphere Application Server — Express may only be deployed to a WebSphere Application Server — Express remote (for example, production as opposed to unit test environment) server.

The license to WebSphere Application Server — Express entitles you to use the program under one or more of the following options, as specified in your PoE:

Processor License Option: The Processor License Option authorizes you to provide applications on Internet, intranet, or extranet Web sites and may be installed on up to four processors on the same server. This option includes one developer license.

Intranet User License Option: The Intranet User License Option authorizes you to provide applications on intranet Web sites only. For each PoE, under this option, you are authorized to have up to 20 intranet users accessing the remote server. This license may be installed on one operating system on one server with up to four processors. This option includes one developer license.

Developer License Option: The Developer License Option authorizes you to provide applications on Internet, intranet, or extranet Web sites, for unit test purposes only, meaning for testing by the developer of the application only. You would need to acquire a PoE from any one of the other options available for the program to provide applications on the Internet, intranet, or extranet Web sites, or system test, with more than just the developer of the application doing the testing, or for production use.

For all of the options above, you are allowed to install and use the development tools on a home/portable computer. This means, it may be stored on the primary machine and another machine, provided that it is not in active use on both machines at the same time. You are not allowed to do this with the remote server included in the program.

For complete information on usage restrictions and additional detail on the option definitions above, refer to the license that accompanies the program. Specifically, the program-unique terms part of the license records the restrictions on the use of the product and the software associated with it.

Software Maintenance Applies: Yes

IBM includes Software Maintenance with each program acquired during the coverage period. The coverage period means the period commencing on the date you acquire the program up to the first or second anniversary date, depending on whether you acquired coverage for one or two anniversaries. The coverage period for Software Maintenance acquired in the two months preceding an anniversary date will be extended to the next applicable anniversary date.

While your Software Maintenance is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions and code-related questions. IBM provides assistance via telephone and, if available, electronic access, only to your IS technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, visit:
http://techsupport.services.ibm.com/guides/handbook.html

Software Maintenance does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under this agreement.

For more information, about the Passport Advantage Agreement, refer to the IBM International Passport Advantage Agreement Software Announcement 201-202, dated July 10, 2001, or visit:
http://www.ibm.com/software/passportadvantage

IBM Operational Support Services — Support Line: No

AIX/UNIX® Upgrade Protection Applies: No

Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees: No

iSeries™ Software Subscription Applies: No

Variable Charges Apply: No

Educational Allowance Available: Not applicable
Prices

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>OTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WebSphere Application Server — Express V5.0</td>
<td>45P9634</td>
<td>$2,000</td>
</tr>
<tr>
<td>Program Package Processor Multilingual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Application Server — Express V5.0</td>
<td>45P9704</td>
<td>500</td>
</tr>
<tr>
<td>Program Package 20 users Multilingual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9707</td>
<td>400</td>
</tr>
<tr>
<td>Program Package Developer Multilingual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9635</td>
<td>1,975</td>
</tr>
<tr>
<td>Net Delivery Processor Multilingual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9705</td>
<td>475</td>
</tr>
<tr>
<td>Net Delivery 20 users Multilingual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WebSphere Application Server — Express</td>
<td>45P9708</td>
<td>375</td>
</tr>
<tr>
<td>Net Delivery Developer Multilingual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 One-time charge

Passport Advantage

For Passport Advantage and charges, contact your authorized Lotus® Business Partner. Additional information is also available on the Passport Advantage Web site:

http://www.ibm.com/software/passportadvantage

Global Financing

IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, both from IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or visit:

http://www.ibm.com/financing

Order Now

To order, contact the Americas Call Centers or your local IBM representative.

To identify your local IBM representative, call 800-IBM-4YOU (426-4968).

Phone: 800-IBM-CALL (426-2255)
Fax: 800-IBM-FAX (242-6329)
Internet: ibm_direct@vnet.ibm.com
Mail: The Americas Call Centers
Dept. SE001
P.O. Box 2690
Atlanta, GA 30301-2690

Reference: SE001

The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

Trademarks

zSeries and iSeries are trademarks of International Business Machines Corporation in the United States or other countries or both. WebSphere, SP1, DB2, AIX, Net.Data, OS/2, DB2 Universal Database, and DB2 Connect are registered trademarks of International Business Machines Corporation in the United States or other countries or both. Intel and Pentium are registered trademarks of Intel Corporation. Microsoft is a trademark of Microsoft Corporation. Windows and Windows NT are registered trademarks of Microsoft Corporation. UNIX is a registered trademark of the Open Company in the United States and other countries. Lotus is a registered trademark of Lotus Development Corporation and/or IBM Corporation. Other company, product, and service names may be trademarks or service marks of others.