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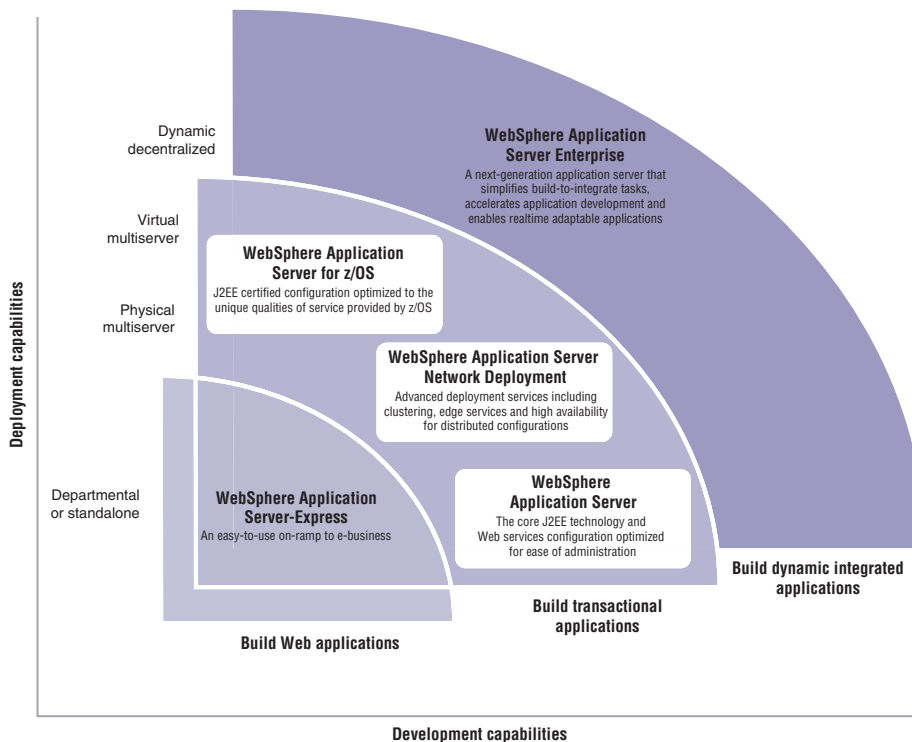
WebSphere® software

IBM WebSphere Application Server, Version 5.0
and IBM WebSphere Application Server Network Deployment, Version 5.0

Highlights

- *Deploys powerful Web services through integrated support for key Web services open standards and UDDI registries*

- *Provides full J2EE 1.3 compatibility, including enterprise-ready Java Message Service*

- *Helps you leverage existing IT assets through built-in adapter technology*

- *Enhances flexibility through broad cross-platform support and multiple configuration options*

- *Enhances developer productivity with an integrated, open standards-based development environment*

- *Offers distributed workload and caching capabilities to intelligently optimize performance*

- *Delivers a single browser-based administration across all deployment options*

- *Provides enhanced application availability with sophisticated clustering and load-balancing capabilities*

Deployment capabilities

Dynamic decentralized

Virtual multiserver

Physical multiserver

Departmental or standalone

WebSphere Application Server Enterprise
A next-generation application server that simplifies build-to-integrate tasks, accelerates application development and enables realtime adaptable applications

WebSphere Application Server for z/OS
J2EE certified configuration optimized to the unique qualities of service provided by z/OS

WebSphere Application Server Network Deployment
Advanced deployment services including clustering, edge services and high availability for distributed configurations

WebSphere Application Server-Express
An easy-to-use on-ramp to e-business

WebSphere Application Server
The core J2EE technology and Web services configuration optimized for ease of administration

Build dynamic integrated applications

Build transactional applications

Build Web applications

Development capabilities

WebSphere Application Server provides the foundation of the WebSphere platform with J2EE technology and Web services-based configurations to deploy, integrate and manage dynamic e-business applications.

Today, building an e-business on demand that can extend your market reach and maximize your return on investment (ROI) means more than simply Web-enabling content and applications. To participate in the next chapter of e-business, it is vital to integrate these applications with existing data stores, other applications and Web services that exist in heterogeneous environments, in multiple programming models and on different sides of firewalls.

IBM WebSphere® Application Server, Version 5.0 is a comprehensive Java™ 2 Platform, Enterprise Edition (J2EE) 1.3 and Web services technology-based application server that integrates enterprise data and transactions with today's e-business world. Through a rich application deployment environment, you can build, manage and deploy dynamic e-business applications, handle high-transaction volumes and extend back-end business data and applications to the Web. IBM WebSphere Application Server Network Deployment offers advanced

Web services that can operate across disparate application frameworks and business-to-business (B2B) applications, and provides virtually any-to-any connectivity with transaction management and application adaptivity.

With multiple configuration options, WebSphere Application Server supports a wide range of scenarios, from simple administration of a single server to a clustered, highly available, high-volume environment with edge-of-network services. These specialized configuration options give you the flexibility to respond to an ever-changing marketplace — without the costs of migrating to a different technology base.

As the foundation of the WebSphere platform and the core J2EE and Web services configuration, IBM WebSphere Application Server, Version 5.0 is optimized for ease of administration in a scalable, single-server deployment environment. This configuration is recommended for organizations that need to build and deploy message-oriented, stand-alone, departmental applications

and Web services but don't require failure bypass or workload distribution. This configuration is also available with a restricted development-only license to allow enterprises using third-party development tools to effectively build applications for WebSphere Application Server.

Advanced management and automated performance optimization make IBM WebSphere Application Server Network Deployment, Version 5.0 the next level in application serving, with features that include world-class clustering, caching and high availability, combined with extended Web services management capabilities.

Leverage existing software assets
In today's business environment, it's more important than ever to take full advantage of your existing IT resources — from hardware to personnel. With its commitment to open standards and extensible connectivity features, WebSphere Application Server can greatly improve your ability to leverage those existing assets. WebSphere Application Server helps increase

productivity through its close interlock with IBM WebSphere Studio, a tightly integrated Java development environment based on open Eclipse workbench technology. Develop, test and deploy Java and Web services applications with easy access and minimal errors. The integrated development and deployment platform of WebSphere Application Server optimizes development resources through its ability to reuse CORBA, Microsoft, C++, Java and legacy assets.

Application adapters that quickly and easily extend enterprise applications to e-business also help you leverage current resources. WebSphere Application Server helps reduce the risk, complexity and cost of creating and customizing application adapters through its advanced support for J2EE Connector Architecture (JCA). JCA gives you a consistent way of connecting to and communicating with a wide range of enterprise systems and applications—without the need for advanced programming skills or extensive coding. Reuse and integrate

disparate systems and applications, while allowing for broad cross-platform support and unparalleled connectivity and integration with a variety of back-end systems.

Increase productivity with messaging integration
WebSphere Application Server enables dynamic application interaction through a native, high-performance Java Message Service (JMS) subsystem based on market-leading IBM WebSphere MQ technology and support for J2EE 1.3, Enterprise JavaBeans (EJB) 2.0. The JMS application programming interface (API) increases productivity by defining a common set of messaging concepts and programming strategies. JMS further simplifies development by allowing loosely coupled, reliable asynchronous interactions among J2EE components and legacy systems capable of messaging. EJB 2.0 message beans and container-managed messaging save valuable programming time and skill by allowing requests to be processed without requiring code to check for messages when they arrive. And developers can

easily incorporate new behavior in a J2EE application with existing business events by adding a new message-driven bean to operate on specific business events.

Maximize ROI with Web services
WebSphere Application Server extends the J2EE 1.3 programming model by providing a comprehensive infrastructure to support the production-ready deployment of Web services-based applications. Build, publish and manage integration-ready application services that can be used by other internal or external organizations or platforms. Create new business opportunities and reduce costs by finding the least expensive trading partners and share applications electronically with other organizations. WebSphere Application Server supports key Web services open standards, including Simple Object Access Protocol (SOAP), Universal Description, Discovery and Integration (UDDI) and Web Services Description Language (WSDL). Deploy Web

services with a variety of communication mechanisms, including SOAP and HTTP, JMS or Remote Method Invocation Internet Inter-ORB Protocol (RMI/IIOP).

WebSphere Application Server Network Deployment provides extended Web services support with a private IBM UDDI Registry and IBM Web Services Gateway. UDDI Registry—which acts as a directory of services to help users find information about Web services—enables developers to publish and test their internal e-business applications in a security-rich, private environment. Web Services Gateway helps reduce development costs by making selected services available to different divisions within an enterprise or to customers and partners who use different protocols or are outside the firewall. Using Web Services Gateway, developers and IT managers can safely externalize a Web service so users can invoke it from outside the firewall.

Reduce costs with simplified deployment and administration features

Deploy applications and transactions efficiently and effectively to increase productivity and reduce costs. WebSphere Application Server provides a central and open management interface to help you administer multiple applications and components from the same environment and reduce the complexity in application and systems management. Agile setup options and administration features help you administer, deploy and manage applications with ease. And automated application server management functions help enhance productivity and reduce administrative costs. As your business needs change, WebSphere Application Server can help you quickly and easily move from one configuration to another by providing a single browser-based administration across all deployment options.

To let you effectively manage your operations and applications, WebSphere Application Server provides installation and administration capabilities through exposed Java Management eXtension (JMX) interfaces and an extended command-line interface. Support for JMX allows third-party products (like Tivoli® security software from IBM) to read and manage WebSphere software in a standard way.

Meet the changing demands of e-business

Dependable system availability can help you avoid costly downtime and, in turn, build customer loyalty. But as volume increases, it becomes more difficult to maintain high levels of performance. WebSphere Application Server can help you handle unpredictable volumes—without degrading user experience. Its consistent, leading-edge performance and scalability help maintain high responsiveness to constantly changing environments. Leverage new levels of scalability, reliability and performance through expanded database support and enhanced security to help enable continuous operation of critical enterprise Java applications.

WebSphere Application Server Network Deployment distributes workload across multiple servers through sophisticated load-balancing and clustering capabilities, including automatic failover capability, content-based routing to deliver more effective session management and enhanced edge-based caching capabilities. The sophisticated load balancing and edge-of-network components provide a scalable solution for load-balancing requests between HTTP, FTP or other TCP-based servers. Customer-defined rules and requirements can be incorporated to help the load balancer reroute requests quickly. And custom advisors can be used to load-balance requests based on unique application and platform criteria.

Instill confidence with security-rich applications

It's more important than ever that you provide your employees, partners and customers with the most advanced levels of security and superior performance. WebSphere Application Server offers a sophisticated security

infrastructure and extensive support of open standards-based Java specifications, including:

- *Java authentication authorization services (JAAS). Authenticates new principals and manages privileged information for a principal*
- *Java 2 Security Model. Helps secure system resources*
- *Java Secure Socket Extension (JSSE). Helps secure communication channels based on transport level security (TLS/SSL)*
- *Java Cryptographic Extension (JCE). Provides a framework for security encryption and message authentication*
- *Java Cryptographic Architecture (JCA). Provides Java cryptographic extensibility, as with PKI integration*
- *Common Secure Interoperability (CSIv2). Supports secure interoperability between application services*

Sophisticated enterprise topologies and infrastructure can be implemented through WebSphere pluggable security architecture. These include:

- *Pluggable user registries to enable you to exploit Lightweight Directory Access Protocol (LDAP) or custom registries*

- *Web single sign-on exclusively provided with WebSphere software or through integration with front-end authentication end-points with Trust Association Interceptor (TAI) technology*
- *Highly secure access to enterprise information systems through a pluggable principal and credential mapping facility*

A flexible e-business infrastructure

IBM WebSphere Application Server, Version 5.0 provides flexible options and a smooth migration path to help you develop and maintain complete solutions. WebSphere Application Server meets you wherever you are on the path to e-business to help reach your business objectives.

Choose the level of capability best suited for today's needs and expand as your business needs change. An extensive list of offerings includes:

- *WebSphere Application Server-Express.* An easy-to-use, cost-effective on-ramp to develop and deploy dynamic Web applications with basic e-business capabilities

- *WebSphere Application Server.* The core Web services J2EE 1.3 certified application server, enabling industry-leading and flexible deployment options
- *WebSphere Application Server for Developers.* The functional equivalent of the core WebSphere Application Server configuration, providing an easy-to-use development environment to build and test e-business applications (licensed for development use only)
- *WebSphere Application Server Network Deployment.* A J2EE and Web services Web application server with advanced deployment services that include clustering, edge services and high availability for distributed configurations
- *WebSphere Application Server Enterprise.* An extended J2EE and Web services, build-to-integrate platform to create, compose and choreograph dynamically adaptable networked application flows and behaviors
- *WebSphere Application Server for z/OS.* A J2EE and Web services application server specifically optimized for the IBM z/OS® environment

- *IBM WebSphere Application Server for iSeries.* IBM WebSphere Application Server-Express for iSeries and IBM WebSphere Application Server Network Deployment for iSeries deliver WebSphere Application Server value on the IBM **@server** iSeries platform.

For more information
IBM WebSphere Application Server is the foundation of the IBM WebSphere software platform for e-business on demand— a set of integrated, award-winning e-business solutions. No matter where you are in the e-business cycle, the WebSphere software platform can allow you to grow at the speed your market demands. Building on this robust platform, you can integrate your current investments. And leverage existing skills with a full range of server solutions from the WebSphere family of products.

To learn more about IBM WebSphere Application Server, visit:

ibm.com/software/websphere/appserv

To learn more about how the IBM WebSphere software platform can help you succeed in e-business, contact your IBM representative, IBM Business Partner or visit:

ibm.com/websphere

To order IBM WebSphere Application Server, contact your IBM representative or IBM Business Partner, or call 1800 IBM-CALL. Or visit the IBM Web site:

ibm.com/shop

IBM WebSphere Application Server configurations

	WebSphere Application Server, Version 5.0*	WebSphere Application Server Network Deployment, Version 5.0
Full XML support	X	X
Full Web services	X	X
JDBC and Connection Management for access to IBM DB2®, SQL Server 2000 and Oracle 9i	X	X
Basic platform support for rapid implementation on Microsoft® Windows®, Windows NT®, Windows 2000, Linux® and IBM OS/400®	X	X
Extended platform support for IBM AIX®, Sun Solaris operating environment, HP-UX	X	X
Full J2EE 1.3 support	X	X
Microsoft component object model architecture to EJB support for integration with ActiveX client and server resources	X	X
Enhanced features for performance, such as dynamic caching, IBM Tivoli Performance Viewer, integration with third-party tools		X
Advanced authentication and authorization, such as JAAS and JCE for enhanced security		X
Support for some J2EE 1.4 features		X
Extended JDBC support for access to Informix and Sybase	X	X
Extended HTTP Server included	X	
Browser-based administration for remote administration across firewalls	X	
Full JMS supported message-driven beans, including embedded JMS transport	X	
Migration tools and assistance	X	X
Support for private UDDI registries		X
Enhanced authentication and authorization through CSI, Version 2.0, single sign-on and embedded LDAP		X
Restricted DB2 license*		X
Web Services Gateway		X
Intelligent workload distribution across a cluster		X
Failure bypass		X
Clustering support		X

*Note: In addition to the base WebSphere Application Server components, WebSphere Application Server for Developers also supports a restricted DB2 license.

IBM WebSphere Application Server, Version 5.0 at a glance

Hardware requirements with supported operating environments

Windows NT and Windows 2000

- An Intel® technology-based PC running Microsoft Windows NT Server, Version 4.0, Service Pack 6a or higher; or Windows 2000 Server or Windows 2000 Advanced Server with Service Pack 3 or higher
- Intel Pentium® processor at 500MHz or faster
- CD-ROM drive
- Minimum of 180MB available disk space for installation (including IBM Software Developer Kit)
- Minimum of 256MB memory, 512MB recommended
- Support for a communications adapter

AIX

- IBM RS/6000® or RS/6000 SP™ running IBM AIX, Version 4.3.3 with the 4330-10 recommended maintenance package or Version 5.1 with the 5100-02 recommended maintenance package
- IBM RS/6000 604e workstation at 375MHz or faster
- CD-ROM drive
- Minimum of 200MB available disk space for installation (including IBM Software Developer Kit)
- Minimum of 256MB memory, 512MB recommended
- Support for an appropriate network interface

Red Hat Linux operating environment on Intel

- Red Hat Linux Advanced Server 2.1, SuSE 7.3 or SLES 7.0, based on kernel 2.4
- Intel x86 processor at 500 MHz or faster
- Support for TCP/IP and an appropriate communications adapter
- CD-ROM drive
- Legacy application support RPMs installed (provided on SuSE and Red Hat distribution CD-ROMs)
- Minimum of 220MB available disk space (including IBM Software Developer Kit)
- Minimum of 256MB memory, 512MB recommended

Red Hat Linux on IBM @server zSeries operating environment

- zSeries server running Linux distribution SuSE 7.0 or Red Hat Linux 7.2 , based on kernel 2.4
- G5, G6 or higher processor
- Legacy application support RPMs installed (provided on SuSE and Red Hat distribution CD-ROMs)
- CD-ROM drive
- Minimum of 150MB available disk space for installation
- Minimum of 256MB memory, 512MB recommended

Sun Solaris operating environment

- A workstation running Sun Solaris operating environment, Version 8 at a maintenance level of July 2002 or higher
- Sparc workstation at 440MHz or faster
- CD-ROM drive
- Minimum of 220MB available disk space for installation (including the Software Developer Kit)
- Minimum of 256MB memory, 512MB recommended
- Support for TCP/IP and an appropriate communications adapter

IBM WebSphere Application Server, Version 5.0 at a glance (continued)

Software requirements with supported operating environments

Windows NT

- Windows NT Server 4.0, Service Pack 6a or higher
- Netscape Navigator, Version 4.7.9 or Microsoft Internet Explorer, Version 5.5, Service Pack 2 or higher
- Web browser that supports HTML 4 and CSS

Windows 2000

- Windows 2000 or Windows 2000 Advanced Server with Service Pack 1
- Netscape Navigator, Version 4.7.9 or Microsoft Internet Explorer, Version 5.5, Service Pack 2
- Web browser that supports HTML 4 and CSS

AIX

- AIX, Version 4.3.3 with the 4330-10 recommended maintenance package or Version 5.1 with the 5100-02 recommended maintenance package
- Netscape Navigator, Version 4.7.9
- Web browser that supports HTML 4 and CSS

Red Hat Linux operating environment on Intel

- Red Hat Linux Advanced Server 2.1, SuSE 7.3 or SLES 7.0, based on kernel 2.4
- Netscape Navigator, Version 4.7.9
- Web browser that supports HTML 4 and CSS

Red Hat Linux on zSeries operating environment

- zSeries server running Linux distribution SuSE 7.0 or Red Hat Linux 7.2 , based on kernel 2.4
- Netscape Communicator 4.79
- Web browser that supports HTML 4 and CSS

Sun Solaris operating environment

- Sun Solaris operating environment, Version 8 at a maintenance level of July 2002 or higher
- Netscape Communicator, Version 4.7.9
- Web browser that supports HTML 4 and CSS

Supported HTTP servers

- Apache Server, Version 1.3.26 for AIX, Solaris, Windows NT, Windows 2000, Red Hat Linux on Intel and Red Hat Linux on zSeries
- Web Server Enterprise Edition 6.0.4 for Solaris, Windows NT and Windows 2000
- Microsoft Internet Information Server, Version 4.0 for Windows NT
- Microsoft Internet Information Server, Version 5.0 for Windows 2000
- Lotus® Domino™ Enterprise Server, Release 5.0.5 and Release 5.0.6 for AIX, Solaris and Windows NT
- IBM HTTP Server, Version 1.3.26 or Version 2.0 for AIX, Solaris, Windows NT, Windows 2000 and Red Hat Linux on Intel and Red Hat Linux on zSeries

e business software