



WebSphere® software

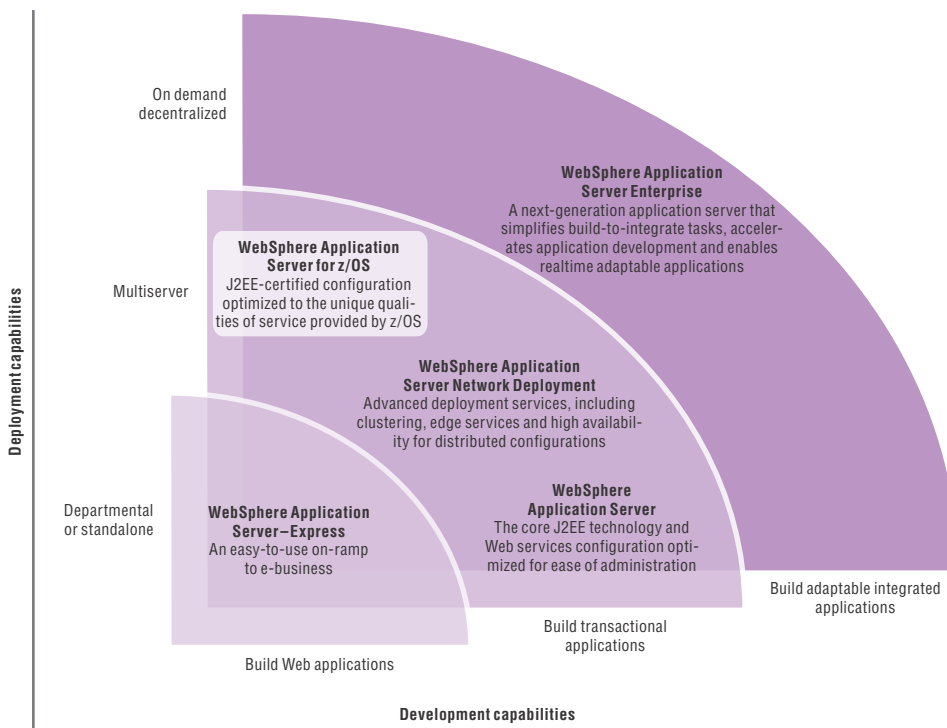
IBM WebSphere Application Server for z/OS, Version 5.0

Highlights

- Provides an affordable, fast path to e-business on the z/OS operating system
- Utilizes zSeries processes and procedures to leverage existing hardware and IT resources
- Deploys robust Web services through integrated support for key Web services open standards
- Simplifies deployment and management functions to help provide a more flexible environment
- Provides full J2EE 1.3 compatibility to enhance flexibility

Building an agile e-business on demand™ that can increase your market reach and maximize your return on investment (ROI) means more than simply extending host systems to the Web. To participate in the next stage of e-business, it is vital to leverage existing investments and make administrative resources more productive.

IBM WebSphere® Application Server for z/OS, Version 5.0 provides the environment you need to handle high-volume, Web-based transaction processing. A comprehensive Java™ 2 Platform, Enterprise Edition (J2EE) 1.3 and Web services technology-based application server, WebSphere Application Server for z/OS is specifically designed to leverage the unique qualities of service provided by IBM @server™ zSeries® hardware and the IBM z/OS® operating system. Through a rich e-business application deployment environment, you can build, manage and deploy e-business applications, integrate existing resources and extend host systems to the Web.



WebSphere Application Server for z/OS, Version 5.0 provides maximum performance in a high-volume, Web-based transaction processing environment.

Optimized for the z/OS operating system

WebSphere Application Server for z/OS combines the integrated, open standards-based J2EE environment of WebSphere Application Server with the reliability and availability of the z/OS operating system. As a result of this advanced design, WebSphere Application Server for z/OS provides an efficient environment to help you maximize staff and system resources by optimizing your existing capacities. Designed to provide application programming consistency with IBM WebSphere Application Server Network Deployment, Version 5.0, WebSphere Application Server for z/OS gives you greater application development flexibility and simplified management capabilities, while maintaining the tight integration and optimization of the z/OS and zSeries programs and products.

WebSphere Application Server for z/OS leverages the industry-leading availability and advanced clustering capabilities of IBM Parallel Sysplex® environments, with dynamic workload management, physical resource balancing of processors and data sharing across multiple virtual servers. Parallel

Sysplex environments can host large-scale e-business applications and back-end data—processing complex database queries and transactions—to support the growth of your business.

Maximize ROI with Web services

WebSphere Application Server for z/OS 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, Java Message Service (JMS) or Remote Method Invocation Internet Inter-ORB Protocol (RMI/IIOP).

WebSphere Application Server for z/OS provides extended Web services support with a private UDDI registry. The IBM 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.

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 for z/OS greatly improves your ability to leverage those existing assets. Develop, test and deploy Java technology and Web services applications with easy access and minimal errors.

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 accommodating broad cross-platform support and connectivity, and integration with a variety of back-end systems.

Reduce costs with simplified deployment and administration features

For the first time, WebSphere Application Server for z/OS provides the same deployment and administration features as WebSphere Application Server on distributed platforms, reducing education and training costs. Deploy applications and transactions efficiently and effectively to increase productivity and reduce costs. WebSphere Application Server for z/OS 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

easily administer, deploy and manage applications. And automated application-server management functions help enhance productivity and reduce administrative costs.

To help you effectively manage your operations and applications, WebSphere Application Server provides installation and administration capabilities through exposed Java Management Extensions (JMX) interfaces and an extended command-line interface. Support for JMX allows third-party products to read and manage WebSphere software in a uniform way.

Meet the changing demands of e-business

Dependable system availability can help you avoid costly downtime and, in turn, build customer loyalty. The consistent, leading-edge performance and scalability of WebSphere Application Server for z/OS can help you maintain high responsiveness to constantly changing environments and reach new levels of reliability and performance. Through expanded database support and enhanced security, you can help ensure continuous operation of your critical enterprise Java applications.

WebSphere Application Server for z/OS is specifically optimized to leverage the unique clustering, workload management and security technologies built into the z/OS operating system and enhanced by the robust zSeries server platform. These proven technologies—refined over many years—excel in difficult and challenging e-business environments, which is why they have been an integral part of the WebSphere for z/OS infrastructure from the outset. WebSphere Application Server for z/OS leverages the autonomic capabilities of the z/OS infrastructure, including:

Self-healing

A self-healing system can consistently deliver high levels of performance, regardless of unanticipated spikes or failures in applications, system software or hardware. With WebSphere Application Server for z/OS deployment to a high-availability z/OS configuration, you can confidently establish service-level agreements with your users to provide virtually uninterrupted processing. WebSphere Application Server for z/OS uses workload isolation techniques to prevent failures and advanced Recovery Termination Management to prevent

small failures from growing into larger problems. In the event that software and hardware components do fail, WebSphere Application Server for z/OS can bypass, correct and automatically restore the failing components with virtually no loss of service.

Self-optimizing

The unpredictable nature of e-business applications can lead to capacity-constrained environments and unanticipated workload spikes. WebSphere Application Server for z/OS fully interacts with the z/OS workload management system, giving you the ability to specify high-priority workloads as defined by business needs. The z/OS Workload Manager (WLM) and WebSphere Application Server for z/OS work together to distinguish between high- and low-priority work running in the same system. Resources are adjusted constantly—and automatically—to ensure that goals are being met. When a spike in demand occurs or when system resources are constrained as a result of a failure, the high-priority work receives the processor resources needed to meet business goals.

Resource management is not confined to a single operating system image and can span up to fifteen distinct images on a single server. And through the Intelligent Resource Director (IRD), the advanced resource prioritization capabilities are extended to multiple systems in a Parallel Sysplex environment.

Self-protecting

WebSphere Application Server for z/OS can protect data, applications and systems at many levels. Internal protections can ensure that system-authorized staff and applications cannot exceed their authorization limits, and external protections can ensure that unauthorized users and applications cannot access your most critical business information. WebSphere Application Server for z/OS is designed to provide maximum isolation of applications and resources and is fully integrated with the z/OS security subsystems and tools.

Leverage zSeries capabilities

WebSphere Application Server for z/OS leverages zSeries, z/OS and Parallel Sysplex capabilities, including:

- *zSeries hardware cryptographic engines and z/OS support for Secure Sockets Layer (SSL) transactions to provide high-performance security processing*
- *IRD shifts capacity and resources from lower to higher priority partitions*
- *Capacity upgrade on demand to support nondisruptive capacity increase*
- *Capacity backup to support rapid, temporary, nondisruptive capacity additions*
- *Extended systems management facility recording*
- *Two-phase commit with Resource Recovery Service (RRS)—the native z/OS transaction manager—to facilitate deep integration with IBM CICS®, IBM IMS™ and IBM DB2® Universal Database™ systems to provide optimal performance, higher availability and faster recovery in rollback situations*

- *Efficient connectors that are fully integrated with z/OS RRS*
- *Asynchronous socket communication*
- *Parallel Sysplex transaction affinity, routing and dispatching*
- *IBM SecureWay® Security Server for z/OS and S/390 to support access control, authentication and auditing*
- *Reduced complexity with server consolidation onto a single platform*
- *Integrated J2EE technology-based workflow engine to support short- and long-running, flow-based processes*

For more information

To learn more about IBM WebSphere Application Server for z/OS, visit:

ibm.com/software/webservers/appserv/zos

IBM WebSphere Application Server for z/OS, Version 5.0 features

Java programming model

- Full J2EE 1.3 support
- XML support

Web services

- Full Web services support
- Support for private UDDI registries

Database support and connectivity

- Java Database Connectivity (JDBC) and Connection Management for access to IBM DB2®, SQL Server 2000 and Oracle 9i
- Extended JDBC support for access to IBM Informix® and Sybase

Web server support

- Extended IBM HTTP Server included

Security

- Enhanced authentication and authorization through Common Secure Interoperability (CSI), Version 2.0, single sign-on and embedded Lightweight Database Access Protocol (LDAP)
- Advanced authentication and authorization, including Java Authentication Authorization Service (JAAS) and Java Cryptographic Extension (JCE)

Application connectivity

- Full JMS support

Performance support

- Dynamic caching and integration with third-party tools
- Migration tools and assistance

Administration and workload support

- Browser-based administration for remote administration across firewalls
- Intelligent workload distribution across a cluster
- Failure bypass
- Clustering support

zSeries support

- Support for zSeries hardware and operating system
 - Server consolidation onto a single platform
 - zSeries Workload Manager
 - RRS for integration with CICS, IMS and DB2
 - zSeries IRD
 - Support for z/OS
 - Failover capabilities for z/OS
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IBM WebSphere Application Server for z/OS, Version 5.0 at a glance

Hardware requirements

- Any hardware that supports IBM OS/390®, Version 2.10, z/OS or z/OS.e operating systems
- Binary floating-point hardware, such as IBM S/390 Parallel Enterprise Server™ Generation 5 (G5) and higher

Software requirements

Operating systems

- IBM OS/390, Version 2.10, z/OS or z/OS.e operating systems
- The following z/OS elements, features and components must be installed, enabled and configured:
 - IBM Communications Server (TCP/IP) or equivalent
 - z/OS UNIX® System Services with Hierarchical File System (HFS)
 - IBM SecureWay Security Server (IBM RACF® or equivalent security management)
 - System logger
 - System SSL security required when using SSL
 - IBM Workload Manager for z/OS (WLM) in goal mode
 - Resource Recovery Service (RRS)
- The following z/OS elements, features and components are optional:
 - IBM HTTP Server for OS/390 or equivalent
 - LDAP server
 - For a DB2 database, DB2 Universal Database Server for OS/390 and z/OS, Version 7 is required (and may coexist with existing levels of DB2 programs used by other applications)
 - For a CICS application environment, IBM CICS Transaction Server for OS/390, Version 1.3 or higher¹
 - For an IMS application environment, IBM IMS, Version 5.1 or higher²
 - IBM Software Developer Kit, Java 2 Technology Edition, SDK, Version 1.3 with specific maintenance SR-17 (included with WebSphere Application Server for z/OS, Version 5.0 or higher)
- Application development and Web site development tools such as:
 - IBM WebSphere Application Server, Version 5.0 (distributed version)
 - IBM WebSphere Studio, Version 5.0

¹ If your application environment accesses CICS Transaction Server through the CICS Transaction Gateway (TG), then CICS Transaction Gateway, Version 5 with appropriate maintenance is required. For more information, visit ibm.com/cics/ctg.

² If your application environment accesses IMS through JDBC or through IMS Connect/Connector for Java, then IBM IMS, Version 8 or higher with appropriate maintenance is required. For more information, visit ibm.com/ims.

A total e-business on demand

WebSphere software—the leading platform for e-business on demand.

- *Deliver your products and services to meet individual customer demand fast—ahead of the competition. An integrated environment helps your developers get applications up and running quickly.*
- *Quickly respond to market fluctuations and new industry supply chain requirements—in realtime. A robust platform lets you easily adapt to new technologies and integrate your business with that of your partners.*
- *Improve operational efficiencies with dynamic and automated processes. Leading process integration software makes it easy to create, change and publish new business processes.*

- *Give everyone along your value chain access to the same view of information, applications and services on the fly—regardless of location or device. Sophisticated portal technology provides a single interface that simplifies information and application access.*
- *Use the business expertise and assets you already have. Modular, market-leading solutions let you start small and grow your business at a pace that suits your needs.*

With the WebSphere software platform, you can address your business challenges in entirely new ways. And create an on demand e-business—regardless of the business you're in.



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