



IBM WebSphere Application Server for z/OS, V7.0 delivers an agile, solid foundation for SOA to align the advancements of business and IT

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At a glance

WebSphere® Application Server is the visionary platform for SOA, advancing the alignment of business and IT for 10 years as the industry's runtime platform of choice. Version 7.0 enhancements include:

- Java™ EE 5 certification, JAXB and JAX-WS 2.1 support, EJB 3.0 support, and Java Persistence API (JPA), offering simplified programming models for building reusable persistent objects as well as Java Development Kit (JDK) 6.0, and Web services enhancements.
- Expanded Web services support, including support for W3C's SOAP 1.2, MTOM, and XOP specifications as well as OASIS's WS-ReliableMessaging, WS-Trust, WS-SecureConversation, WS-Policy, and Kerberos Token Profile specifications.
- Web 2.0 Feature Pack support that leverages existing SOA and Java EE assets to deliver rich user experiences through an open Asynchronous JavaScript™ and XML (AJAX) development framework.
- New security management and auditing improvements with new tools and capabilities that deliver greater granularity and management security controls.
- New Flexible Management and administration options to help reduce cost and increase flexibility. New runtime provisioning selects only the needed function for memory and startup improvements.
- Leveraging and integration with unique z/OS® platform strengths to deliver industry-leading SOA implementations.

For ordering, contact your IBM® representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: LE001).

Overview

Your business requires an agile, flexible, solid foundation for SOA to align the advancements of business and IT. In WebSphere Application Server for z/OS, V7.0 you have a visionary platform for SOA that is an IT-centric entry point to SOA implementations. WebSphere Application Server technology enables reuse and creation of applications and services that promote business agility -- anticipating and adjusting to the mission-critical issues that help businesses win in the marketplace. WebSphere Application Server offers the industry's broadest range of choice to support every size business, including advanced management, to help decrease costs and grow your businesses.

Designed to improve efficiency, reduce risk, and cut cost, WebSphere Application Server is the IBM entry strategy to SOA through service creation and reuse. It can help you to:

- Reduce the amount of new code that must be created for business initiatives
- Lower maintenance cost by eliminating redundant systems
- Expedite the rollout of new business functions by creating composite function from within your applications
- Integrate tasks performed by your legacy applications into broader business functions to establish a simple and effective means to enhance usefulness of mainframe-based systems

WebSphere Application Server for z/OS, V7.0 expands on previous versions by delivering complete Java EE 5 support and certification, Web services enhancements, Enterprise JavaBeans™ (EJB) 3.0, and Web 2.0 Feature Pack support, plus a range of features that can help you:

- Improve time to value and make the most of existing technology skills with simplified application development for improved ROI
- Benefit from ease of use and flexible consumability delivered through enhancements to the system administrative console, including a new Flexible Management option
- Reduce the application server footprint and administrative overhead through intelligent provisioning
- Be confident that applications and data are secure and that you can eliminate lost business opportunities with a more scalable, secure, highly available SOA runtime environment
- Minimize the cost of managing your environment with effective application management tools
- Maximize developer productivity by using the optional IBM Rational® Application Developer for WebSphere V7.5 to help deliver higher quality, mission-critical applications for WebSphere Application Server

While delivering all of the WebSphere application programming capabilities for the z/OS application, WebSphere Application Server for z/OS, V7.0 offers enhanced performance, availability, and consumability by taking advantage of z/OS facilities and services:

- Improved performance and reduced response time for requests that have cached responses with support for z/OS Fast Response Cache Accelerator (FRCA)
- Reduced overhead for the High Availability Manager with the use of the Parallel Sysplex® cross system coupling facility (XCF)
- Improved fail-over, recovery, reliability, and performance with new thread hang recovery
- Expanded reporting sufficient to do meaningful charge-back, including information on zAAP consumption with reduced SMF overhead
- Improved consumability with a more unified installation

WebSphere Application Server for z/OS, V7.0 is integrated into the fabric of the z/OS operating environment for a common programming model with secure, resilient, and scalable execution.

For clients who need to develop, deploy, and manage secure, portable applications that run on a multitude of mobile, server, and desktop systems, WebSphere Application Server is the SOA runtime platform of choice. WebSphere Application Servers have delivered the solid foundation your business has depended on for 10 years.

Key prerequisites

WebSphere Application Server for z/OS, V7.0 requires z/OS V1.7, or z/OS.e V1.7, or later. For details, refer to the [Hardware requirements](#) and [Software requirements](#) sections.

Planned availability date

September 26, 2008

Description

WebSphere Application Server for z/OS, V7.0 is the visionary platform for SOA, advancing the alignment of business and IT for 10 years as the industry's runtime platform of choice. It offers the industry's broadest range of choices, from open source to advanced management, to decrease costs and grow businesses. The WebSphere Application Server technology enables the creation and reuse of applications and services that keep your business agile -- anticipating and adjusting to the mission-critical issues that help businesses win in the marketplace.

Standards

WebSphere Application Server for z/OS is fully enhanced and integrated with the Java EE 5 standards, including Web services and EJB 3.0 functions that were previously available as feature packs in Version 6.1. WebSphere Application Server for z/OS V7 provides feature packs as a way for customers to optionally adopt new technologies. The Feature Pack for Web 2.0 is available for WebSphere Application Server immediately. Refer to the [Statement of direction](#) section for information on the Feature Pack for SCA. Feature packs help you maximize flexibility while allowing IBM to continue its long-running leadership in industry standards. New features in Version 7.0 include:

- Java EE 5 certification: Version 7.0 builds on top of the EJB 3.0 and Web services feature packs previously made available for Version 6.1 to deliver a fully certified Java EE 5 implementation. Java EE 5 delivers significant productivity improvements including:
 - Support for EJB 3.0
 - Exploitation of the annotation support added in Java SE 5 to reduce the number of artifacts required to build business applications
 - Integration with the latest Web services standards
 - Enhanced support for new Web applications

Version 7.0 is designed to deliver support beyond the Java EE 5 specification with enhancements in EJB deployment, automatic default bindings and reference resolution, and a new XML-based binding file format.

- Java SE V6 support adds the ability to invoke the Java compiler from within the Java Virtual Machine (JVM) and includes scripts to access APIs within the JVM. Numerous components were added or upgraded in the areas of JMX, Java Web Start, JDBC 4.0, and new Web services.
- EJB 3.0 makes the programming model simpler by using Plain Old Java Objects (POJO). This enables unit testing of business logic using a JVM instead of needing a full application server -- freeing developers to focus on business logic within their applications instead of the ultimate execution environment. When you are ready to run in the EJB container, the POJO can be annotated with markers that tell the container what services to apply to the bean. In WebSphere Application Server, the EJB container dynamically applies those services at run time, thus vastly simplifying the entire deployment process. The Java Persistence APIs (JPA) provided by WebSphere Application Server are based on the Apache Open JPA project and enable simpler entities to be created using the annotated POJO model.
- Web services (WS): New Web services standards deliver new capabilities for developing and deploying SOA-centric Web applications. Version 7.0 integrates support previously included in the Web services feature pack and extends it with new support for:
 - Technologies introduced and defined within the WS-I profiles: WS Reliable Secure Profile and Basic Profile 1.2 and 2.0
 - New Java EE 5 WS components focused on application portability:
 - JAX-WS 2.1 for simplified Web service development and now a standardized programming model for programming using WS-Addressing
 - JAXB 2.1 for simpler XML to Java mappings, including improved support for XML type substitution
 - StAX 1.0 for parsing high-performance streaming
 - SAAJ 1.3 for enhancements in support SOAP 1.2
 - JSR 109 1.2 for supporting a declarative model to enhance or override the annotation-based programming model for Web services

- New Web services standards focused on providing interoperability:
 - OASIS WS-ReliableMessaging for allowing heterogeneous nodes to be able to send messages interoperably and reliably
 - OASIS WS-SecureConversation for an interoperable, efficient, and secure pipeline between services to exchange application messages
 - OASIS WS-Trust for providing a standard interoperable mechanism to be able to obtain security tokens for Web services
 - OASIS WS-Transaction for providing standardized transactional Web services for those cases where transactional capabilities are required
 - OASIS WS-SecurityPolicy for exposing in an interoperable, standard way to define and declare security capabilities and constraints to a service
 - OASIS Kerberos Token Profile for using Kerberos as part of Web services requests
 - W3C WS-Policy for providing a standard language for exposing a service's constraints and capabilities
 - W3C WS-Addressing Metadata for declaring interoperability and the need to use WS-Addressing in a standardized fashion
 - W3C SOAP 1.2 for using the latest standards for Web services and interoperability with vendors such as Microsoft
 - W3C MTOM and XOP for interoperable and efficient exchange of binary data between services
 - WS-MetadataExchange for a standard mechanism for exposing a way to retrieve metadata about the service
- Web services performance improvements
- Simplified administration of Web services and the qualities of service associated with them via policy administration.
- Version 7.0 delivers numerous new programming model enhancements:
 - Session Initiation Protocol (SIP) high availability options designed to improve performance, reduce cost, and improve availability of SIP implementations.
 - JAX-WS 2.1 delivers the successor to JAX-RPC and helps to simplify the creation of new Web services.
 - JAXB 2.1 support helps to simplify access to XML documents by Java programs.
 - Portlet specification 2.0, Java Specification Requests (JSRs) 286 delivers the next level of the portlet programming model. Among other enhancements, portlets can send and receive events to perform changes to the portlet state and share session attributes with servlets and JavaServer Pages (JSP) located within the same Web applications.
- The Feature Pack for Web 2.0 extends an SOA by connecting external Web services, internal SOA services, and Java EE objects into highly interactive Web application interfaces. To help reduce IT costs and speed time to market, Web 2.0 support includes a supported AJAX development toolkit.

AJAX is an open technique for creating rich user experiences in Web-based applications that does not require additional browser plug-ins. AJAX interfaces result in increased customer satisfaction and line-of-business productivity by streamlining end-user interaction with Web-based applications. Web 2.0 Feature Pack highlights include:

- Web 2.0-to-SOA connectivity for enabling connectivity from AJAX clients and mashups to external Web services, internal SOA services, and Java EE assets. This connectivity also extends enterprise data to customers and partners through Atom Syndication Format (ATOM) and Really Simple Syndication (RSS) Web feeds.
- AJAX Messaging for connecting AJAX clients to real-time updated data such as stock quotes or instant messaging.
- AJAX Development Toolkit for WebSphere Application Server based on Dojo with IBM extensions.

Web 2.0 support is offered by the WebSphere Application Server Feature Pack for Web 2.0, an optional product extension for WebSphere Application Server V7.0.

Systems management

WebSphere Application Server addresses the management challenges associated with mission-critical SOA implementations. From dynamic runtime componentization options, to flexible

management of large geographically dispersed deployments, or fine-grained options for individual server implementations, Version 7.0 delivers enhancements designed to improve the effectiveness and reduce the cost of systems management.

- Flexible Management can dramatically reduce the overhead of administration in large and distributed WebSphere Application Server environments. An Administration agent within the base and Express editions can:
 - Reduce the server footprint associated with administration
 - Simplify administration of multiple base application servers instances
 - Work with the new Job Manager function of WebSphere Application Server Network Deployment to centralize the distribution of applications, application updates, or application server configuration updates across a large number of WebSphere administrative domains (cells)

Flexible Management delivers a loosely coupled management model based on an asynchronous implementation that dramatically increases the scale of administration for application server implementations.

Job Manager augments the Deployment Manager of WebSphere Application Server Network Deployment.

- New Runtime Provisioning Service commissions only those components that are required for a given set of applications. At application server startup, you can configure Version 7.0 to start only the runtime components needed to support the application portfolio for a given application server. At application installation time, WebSphere Application Server examines the application and creates an application-specific "activation plan." This added granularity in application runtime component selection can significantly reduce the application server footprint and resources needed for a given application portfolio.
- Administration console now supports WebSphere DataPower® SOA Appliance (WebSphere DataPower). Administrative integration with WebSphere DataPower helps to simplify the environment and reduce administrative costs for customers who augment their WebSphere Application Server implementation with WebSphere DataPower appliances. This also addresses the requirement for managing WebSphere DataPower boxes.
- Fine-grained administration security can now be enforced through the administration console. Access can be restricted based upon the administrators' role at the cell, node, cluster, or application level, enabling fine-grained control over administrator scope. This capability is especially valuable in large-cell implementations where multiple different administrators are responsible for subsets of the application portfolio running on the cell.
- Support for simple properties file-based configuration now enables you to extract a WebSphere Application Server configuration from one environment into a properties file and apply it to same or other environments while parameterizing platform-specific configuration.
- Administrative scripting for wsadmin is further enhanced in WebSphere Application Server for z/OS, V7.0 with the extension of Command Assistant to an even greater number of administrative screens, and with the availability of an extended sample script library to accelerate automation implementations.

Application development and management

WebSphere Application Server for z/OS, V7.0 delivers the tooling support you need to leverage the latest standards and new virtualized application packaging that can help to reduce the cost of managing your application environment.

- IBM Rational Application Developer (RAD) for WebSphere is available concurrent with WebSphere Application Server for z/OS, V7.0. The tooling you need to exploit the new application development features delivered with WebSphere Application Server is available from day one, enabling you to get started quickly.
- The RAD Assembly and Deploy function replaces the former Application Server Toolkit (AST) function of the application server. Assembly and Deploy, licensed as part of the WebSphere Application Server, is a superset of the older AST functionality and is fully integrated within the RAD tooling environment. The remaining RAD for WebSphere Application Server functions are included on a trial basis and can be purchased through a downloadable license key.
- WebSphere Business Level Applications expand the notion of "application" beyond Java EE 5, enabling new formats for deployment packages, a new way of representing applications. WebSphere Business Level Applications can comprise any application elements hosted by

the application server. This allows the creation of a new logical application that represents a meaningful business function. Full lifecycle management functionality is enabled: install, distribute, activate, monitor, update, and remove. WebSphere Business Level Applications can significantly improve the management of multiformat applications.

Security

WebSphere Application Server for z/OS, V7.0 extends its security-rich features with greater granularity management security controls, expanding Kerberos Single Sign-on Technologies, enhancing secure Proxy, and offering new audit and control features to meet your business needs.

- The WebSphere Secure Proxy offers a new DMZ Hardened Proxy profile option. The DMZ Hardened Proxy improves security by minimizing the number of external ports opened, loading only signed JARs, and runs as an unprivileged user when binding to well-known ports. Both static and dynamic routes are supported.
- WebSphere Security Domains deliver improved granularity management security controls and offer flexibility in configuring security under centralized management. WebSphere Security Domains is designed to allow for a separation of WebSphere Application Server administrative security and your business application security. For example, you can configure business applications to use "external" user population LDAP registry while the WebSphere Application Server administration can use "internal" user population using a completely different LDAP registry. Granularity can be further expanded between business applications by enabling a separate security configuration between business applications using the new security configuration application scoping to a cell, a cluster, or application server level. This new level of security granularity adds significant flexibility in the security mechanism implemented across various application portfolios.
- New security auditing capabilities offer enhanced compliancy and auditing. They enable you to track a number of security-related events, such as security configuration changes, key and certificate management, and access control policy changes. Business applications can be audited to record authentication or authorization attempts. Security logging and auditing ensures accountability for administrative actions. In addition, it offers a tamper-proof event log as well as a report that captures auditing events. An auditor can optionally restrict access to the security auditing records. Administrators cannot view or change the auditing records or policy, and auditors cannot change the WebSphere Application Server configuration or runtime state.
- Kerberos Authentication and Single Sign-on expands the WebSphere Application Server V7.0 SPENGO support by further integrating the existing SPENGO support and expanding the Kerberos offering by providing interoperability and identity propagation with other applications (such as .NET and DB2®) that support Kerberos authentication. It enables single sign on (SSO) end-to-end interoperable solutions and preserves the original requester identity.
- Common Criteria Evaluation Assurance Level 4 (EAL4) certification can give you the confidence that products will be effective in delivering security functions such as identification, authentication, and user data protection. Common Criteria is a scheme for independent assessment, analysis, and testing of IT products to a set of security requirements, to give you the assurance that products will be effective in satisfying your security objectives. WebSphere Application Server V7.0 can help you maintain EAL4 certification, which should follow after general availability.

z/OS platform integration and differentiation

WebSphere Application Server on z/OS offers the same functional capabilities to the application programmer available on every other environment supported by the WebSphere Application Server portfolio. On z/OS, the Application Server goes further by taking advantage of the z/OS Sysplex qualities of service, which include scalable performance, high availability, and enterprise-class security. This greatly enhances the runtime experience for applications deployed on WebSphere Application Server for z/OS.

With WebSphere Application Server for z/OS, V7.0, the z/OS integration is enhanced to deliver an even better exploitation of z/OS unique capabilities. Highlights include:

- Significant improvement in response time for static and dynamic content by leveraging the Fast Response Cache Acceleration (FRCA) capability in z/OS 1.9. The Application Server's Dynacache facilities can exploit the z/OS FRCA capabilities to delivery enhanced response time.

- Significant reduction in overhead of High Availability Manager function by using Cross-System Coupling Facility (XCF). By using the XCF communication functions instead of the traditional heartbeat techniques, the High Availability Manager can detect outages sooner while using less system resource, freeing those resources for performing the company's business.
- Improvement in server reliability and performance by recovering from conditions resulting in time-outs. Sometimes applications will get into trouble and stop doing useful work while hanging onto precious system resources. WebSphere Application Server V7.0 enhances thread management capabilities that enable it to detect these situations faster and automatically recover.
- Reduced overhead and consolidation of data needed for effective chargebacks. With more diverse work running in the WebSphere Application Server for z/OS environment, it is important to accurately capture information on the specific resources being consumed by each business application. Version 7.0 offers significant improvements in the information collected on the work running in the server and the efficiency of how it is collected.
- Improved consumability and manageability by moving load modules into the file system.

Accessibility by people with disabilities

The following features support use by people with disabilities:

- Operation by keyboard alone
- Optional font enlargement and high-contrast display settings
- Screen readers and screen magnifiers tested for use by people with visual impairment

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on the products accessibility compliance can be requested at

http://www-03.ibm.com/able/product_accessibility/index.html

Section 508 of the U.S. Rehabilitation Act

WebSphere Application Server for z/OS, V7.0 is capable as of September 26, 2008, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Value Unit-based pricing

Value Unit pricing for eligible IBM System z™ IBM International Program License Agreement (IPLA) programs enables a lower cost of incremental growth and enterprise aggregation. Each System z IPLA product with Value Unit pricing has a single price per Value Unit and a conversion matrix, called Value Unit Exhibit, for converting from some designated measurement to Value Units. Most commonly, Millions of Service Units (MSUs) is the measurement designated by IBM to be converted to Value Units. Some other measurements are engines or messages. Since MSUs are the most common measurement, that measurement will be used for the remainder of this description.

Value Unit pricing offers price benefits for you. For each System z IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the *required license capacity*. Each of the various Value Unit Exhibits stipulate that the larger your required license capacity, the fewer Value Units per MSU you will need. Value Unit Exhibits are uniquely identified by a three-digit code and referred to using the nomenclature VUExxx, where xxx is the three-digit code.

Subsequent acquisitions of Value Unit priced programs offer additional price benefits. The quantity of each System z IPLA program that you have acquired is referred to as *entitled license capacity*. If you wish to grow your entitled license capacity for a System z IPLA program, the calculation to determine additional needed Value Units is based upon the number of Value Units already acquired.

For each System z IPLA program with Value Unit pricing, you should:

- Determine the required license capacity, in MSUs

- Aggregate the MSUs across the enterprise
- Convert the total MSUs to Value Units, using the applicable Value Unit Exhibit
- Multiply the price per Value Unit by the total number of Value Units to determine the total cost

To simplify conversion from the designated measurement to Value Units or vice-versa, use the Value Unit Converter Tool. For additional information or to obtain a copy of the Value Unit Converter Tool, visit the Value Unit Converter Tool Web site

<http://ibm.com/zseries/swprice/vuctool>

Note that Value Units of a given product cannot be exchanged, interchanged, or aggregated with Value Units of another product.

To determine the required license capacity for the System z IPLA program you selected, refer to the [Terms and conditions](#) section.

Product positioning

The WebSphere Application Server family offers multiple configuration options and support for multiple business models and deployment platforms. It also supports a wide range of scenarios, from open source projects with no up-front budget, to simple administration of a single server environment, to a clustered, highly available, high-volume environment with edge-of-network services.

WebSphere Application Server V7.0 configurations are built on a common server foundation that delivers the same full Java EE 5 support, including Web services enhancements and Enterprise JavaBeans 3.0 support, Web 2.0 Feature Pack support extending SOA, and new management and administration core application server functionality across the configurations. This offers unparalleled flexibility to grow applications without the cost of re-architecting, reprogramming, and migrating to different technology bases.

Configuration options include:

- **WebSphere Application Server - Express V7.0**

An affordable, ready-to-go solution for developing, and running dynamic Web sites and applications. WebSphere Application Server - Express deployment environment offers outstanding capabilities for secure transaction management. It supports the full Java EE 5 programming model and includes Web 2.0 Feature Pack and Web services support. It also includes an easy-to-use integrated wizard and samples to get started quickly. WebSphere Application Server - Express is limited to single server implementations and up to a maximum of 240 Processor Value Units per server and includes a set of integrated applications, wizards, and samples to help you get up and running quickly.

- **WebSphere Application Server V7.0**

Optimized to ease administration in a scalable, single-server deployment environment, it supports the full Java EE 5 programming model, Web 2.0 Feature Pack and Web services support, and provides a secure, high-performance transaction engine for dynamic applications. Perfect for stand-alone servers, departmental applications, and Web services, WebSphere Application Server offers unlimited CPUs per server and unbeatable platform coverage.

- **WebSphere Application Server for Developers V7.0**

The functional equivalent of the core WebSphere Application Server configuration (licensed for development use only), WebSphere Application Server for Developers is an easy-to-use development environment to build and test applications for your SOA.

- **WebSphere Application Server Network Deployment V7.0**

For enterprises that need near continuous availability, advanced management, and automated performance optimization for their mission-critical applications, WebSphere Application Server Network Deployment delivers an environment that is highly available, dynamically scalable, and easily managed. Building on the core WebSphere Application Server configuration, WebSphere Application Server Network Deployment offers:

- World-class clustering and high availability manager to help eliminate the cost of system downtime.
- Edge Components that deliver sophisticated load balancing, caching, and centralized security for enhanced performance at the edge of the network.
- Advanced Web services capabilities to enable you to connect to systems outside the firewall and across disparate application frameworks.
- Extended Web services management and advanced remote administration to make management of more complex environments less time- and resource-consuming.
- **WebSphere Application Server for z/OS, V7.0**
 Delivers a Java EE 5 application server optimized to use the unique qualities of service offered by IBM System z hardware and the z/OS operating system. With the same full Java EE 5 programming model as WebSphere Application Server Network Deployment, WebSphere Application Server for z/OS brings qualities like close proximity to enterprise data, prioritized workload management, complex transactional integrity, intense scalability, and rich mainframe security to Java and Web services applications. WebSphere Application Server for z/OS is integrated into the fabric of the z/OS operating environment for a common programming model capability with a secure, resilient, and scalable execution.

Related products

- **WebSphere Application Server Community Edition V2.1**
 Delivers a lightweight Java EE 5 application server built on open source Apache Geronimo technology. WebSphere Application Server Community Edition V2.1 is backed by world-class support from IBM (purchased separately), ensuring customers of reliable assistance and timely problem resolution from IBM's team of expert support professionals and developers.
- **IBM Rational Application Developer for WebSphere**
 Delivers a comprehensive, Java EE integrated development environment for WebSphere Application Server V7.0, with graphical tools to help accelerate development and unit testing to ensure delivery of higher quality applications. Aligned with WebSphere Application Server, IBM Rational Application Developer for WebSphere Software offers proven tools for teams leveraging emerging trends of Web 2.0, Agile, and SOA development, which help accelerate software delivery and facilitate adoption. Rational Application Developer for WebSphere Software empowers novice to senior developers to quickly build applications that work. Developers can put their time, energy, and creativity into delivering innovative business solutions in a shorter amount of time with automation of routine coding tasks and graphical construction tools.

Statement of direction

IBM currently intends to deliver the following items for WebSphere Application Server V7 as future enhancements.

- **IBM Tivoli® Federated Identity Manager V6.2 for WebSphere Application Server Network Deployment or WebSphere Application Server for z/OS V7**
 This application would provide a standards-based Web single sign-on using the Security Assertion Markup Language (SAML) protocol. It would feature the ability to configure a WebSphere Application Server cell as both identity-provider and/or service-provider and establish federation with an external partner. An identity provider would be able to authenticate users and generate SAML security tokens to establish secure trust between two partners. A service-provider would be able to validate incoming SAML tokens and secure user access to its business applications. (Target availability is first half of 2009.)
- **IBM WebSphere Application Server V7.0 Feature Pack for Service Component Architecture (SCA)**
 This feature pack would deliver an open SOA programming model that would simplify service composition and assembly for Java applications. Service composition is core capability required for application developers who need to combine and reuse service assets from across the enterprise in composite applications. (Target availability is first quarter of 2009.)

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

Reference information

- For information on WebSphere Application Server V7.0 for non-System z environments, refer to Software Announcement [208-266](#), dated September 09, 2008.
- For information on WebSphere Application Server Community Edition V1.0.1, refer to Software Announcement [206-070](#), dated April 04, 2006.
- For information on the WebSphere Application Server Family, visit <http://www.ibm.com/software/info1/websphere/index.jsp?tab=products/appserv>
- For specific information on the IBM WebSphere Application Server for z/OS, visit http://www.ibm.com/software/webservers/appserv/zos_os390/
- The WebSphere Application Server zone of Developer Domain has valuable V6.1 information. Visit <http://www7b.boulder.ibm.com/wsdd/zones/was/>
- The Washington Systems Center Techdocs site has valuable information. Visit <http://www.ibm.com/support/techdocs/atmastr.nsf/Web/Techdocs>
- For information on the z/OS and OS/390® Internet libraries, visit <http://www.ibm.com/servers/eserver/zseries/zos/bkserv/>
<http://www.ibm.com/s390/os390/bkserv/>
- For a wide range of z/Series and S/390® On Demand Business Internet information, including the latest announcements, customer success stories, and technical information, visit <http://www-03.ibm.com/systems/z/>

Availability of national languages

Description	Availability date	Language
webSphere Application Server for z/OS, v7.0	September 26, 2008	English/Japanese

Product identification number

Program PID number	Subscription and Support PID number
5655-N02	5655-F81

Program number

Program number	Program name
5655-N02	webSphere Application server for z/OS, v7.0

Services

WebSphere Architecture and Design Workshop for z/OS

This is a five-day workshop where IBM consultants will work with customer's architects and subject-matter experts to develop a conceptual model for a solution based on an integrated WebSphere architecture. For more information, visit

<http://www.software.ibm.com/wsdd/services/services.html#z>

IBM Implementation Services for WebSphere Application Server for z/OS:

IBM Implementation Services for WebSphere Application Server for z/OS is designed to provide a quick implementation of WebSphere Application Server in a z/OS or S/390 business environment. Installation, configuration, customization, and basic instruction on operation and management of the WebSphere Application Server is also provided for your customer's staff. This service offers customers who need a competitive On Demand Business solution a quick, cost-effective efficient way to capitalize on Internet business growth.

Performance and testing services

Helps to optimize the performance and availability of a customer's IT infrastructure. For more information, visit

<http://www.ibm.com/services/ism/pmts>

WebSphere Proof of Concept for z/OS

The objective of this offering is to rapidly build and demonstrate a limited working prototype of an e-business solution based on a real customer e-business problem. For more information, visit

<http://www.software.ibm.com/wsdd/services/services.html#z>

For information on the following offerings visit

<http://www.software.ibm.com/wsdd/services/services.html#z>

WebSphere z/OS V6.1 Application Migration

This offering's objective is to migrate applications from previous versions of WebSphere Application Server for z/OS to V7.0, or from WebSphere Application Server distributed to WebSphere Application Server for z/OS, V7.0

WebSphere for z/OS High Availability Design Workshop

This offering creates a detailed plan to help optimize availability for your 7 x 24 Web-serving environment. Consultants explore workload balancing and backup and recovery, and design an environment to maximize your capabilities. A detailed workbook is created for implementing recommendations.

WebSphere for z/OS High Availability Health Check

This workshop offers a chance to have your design and implementation reviewed by experts who make recommendations to help improve the availability of your network and Web applications.

WebSphere for z/OS Infrastructure Security Design Workshop

This offering creates a detailed plan for your operating system, network, and application for end-to-end security. The consultants explore all options, share best practices, and create a detailed workbook to implement recommendations.

WebSphere for z/OS Infrastructure Security Health Check

The Security Health Check helps assess if your z/OS network has the best currently available security measures in place and makes recommendations for improvements where necessary.

WebSphere for z/OS Professionals

This training capitalizes on your investment in z/OS development, programming, or operations by introducing you to the WebSphere product.

Education support

IBM delivers a comprehensive portfolio of education services to help customers successfully deploy and integrate IBM's WebSphere Application and Integration middleware products to their maximum potential.

Education is a key component to ensuring software success. The IBM education team is committed to providing the highest quality education available to help your company prosper in today's competitive marketplace. We take pride in our ability to deliver successful education programs that provide your people with the skills necessary to make your business profitable using IBM software.

The IBM education team works closely with IBM product developers and IBM services organizations to ensure that the courses we offer provide the most up-to-the-minute technical and product information. Our courses place an emphasis on the advanced knowledge and insight that only these sources can provide. We draw from a deep pool of IBM technical experience in the development of our courses, and pass that knowledge on to our students.

For more information about available education offerings, refer to the Web site and search on the product name

<http://www.ibm.com/software/education>

Skill-based roadmaps can be found at

[http://www.ibm.com/developerworks/websphere/education/enablement/road maps/](http://www.ibm.com/developerworks/websphere/education/enablement/road_maps/)

IBM Global Services, IT Education Services, provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM IT Education Services Web site

<http://www-03.ibm.com/services/learning/>

Refer to the IBM IT Education Services Web site for information on course locations and availability dates.

Call IBM Global Services, IT Education Services at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Offering Information

Product information is available via the Offering Information Web site

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

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=208-208>

Publications

The primary delivery and latest product documentation for IBM WebSphere Application Server for z/OS, V7.0 can be found in the online information center available from the Library Web page at

<http://www.ibm.com/software/webservers/appserv/was/library/>

PDF versions of the documentation are also available from the preceding Library Web page as well as from the IBM Publications Center at

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

Title	Order number
webSphere Application Server for z/OS, v7.0 Migrating, coexisting, and interoperating	GA32-0603-00
webSphere Application Server for z/OS, v7.0 Migrating webSphere applications	GA32-0604-00
webSphere Application Server for z/OS, v7.0 Installing your application serving environment	GA32-0601-00
webSphere Application Server for z/OS, v7.0 Setting up the application serving environment	GA32-0602-00
webSphere Application Server for z/OS, v7.0 Setting up intermediary services	GA32-0605-00
webSphere Application Server for z/OS, v7.0 Administering applications and their environment	SA23-2249-00
webSphere Application Server for z/OS, v7.0 Administering webSphere applications	SA23-2253-00
webSphere Application Server for z/OS, v7.0 Scripting the application serving environment	SA23-2254-00
webSphere Application Server for z/OS, v7.0 Establishing high availability	SA23-2255-00
webSphere Application Server for z/OS, v7.0 Securing applications and their environment	SA23-2250-00
webSphere Application Server for z/OS, v7.0 Securing webSphere applications	SA23-2256-00
webSphere Application Server for z/OS, v7.0 Developing and deploying applications	SA23-2251-00
webSphere Application Server for z/OS, v7.0 Developing webSphere applications	SA23-2257-00
webSphere Application Server for z/OS, v7.0 Monitoring	SA23-2258-00
webSphere Application Server for z/OS, v7.0 Tuning guide	SA23-2252-00
webSphere Application Server for z/OS, v7.0 Troubleshooting and support	GA32-0606-00
webSphere Application Server for z/OS, v7.0 Troubleshooting webSphere applications	GA32-0607-00

The Publications Center is a worldwide central repository for IBM product publications and marketing material. Payment options for orders are accepted with a credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries free of charge.

News of many publications may be subscribed to through Mysupport.

<https://www-1.ibm.com/support/mysupport/us/en/?OpenDocument>

The following publications are available with your order, through the IBM Publications Center, and on the Library Web page at

<http://www.ibm.com/software/webservers/appserv/was/library/>

Title	Order number
WebSphere Application Server for z/OS, V7.0 Program Directory	GI11-4295-00
IBM HTTP Server V7.0 Program Directory	GI11-4298-00
ITCAM WebSphere Application Server for z/OS, V7.0 Program Directory	GI11-8919-00

The following publication is available with your order and at

<http://www.ibm.com/software/sla/slabd.nsf>

Title	Order number
WebSphere Application Server for z/OS, V7.0 License Information	GA32-0595-00

Note: Carefully read the WebSphere Application Server for z/OS, V7.0 IBM International Program License Agreement (GA22-7908), a copy of which is included with the order (hardcopy or electronic format). It may contain terms that supersede the licensed terms included with this program component.

Technical information

Specified operating environment

Hardware requirements

For information on WebSphere Application Server for z/OS, visit

<http://www.ibm.com/support/docview.wss?rs=180&uid=swg27012284>

IBM System z Application Assist Processors (zAAP)

zAAPs are attractively priced specialty engines that provide a strategic z/OS Java execution and XML parsing environment on z/OS. zAAP can help you strategically integrate and run new Java and XML-based applications with core z/OS business applications and back-end database systems, increasing overall system productivity, and ultimately lower the overall cost of computing for running Java technology-based workloads on the platform.

Although not a hard requirement, WebSphere Application Server for z/OS V7.0 offers full support for zAAPs for its Java-based applications.

The IBM Java Virtual Machine (JVM) processing cycles can be executed on the configured zAAPs with no anticipated modifications to the Java applications. Execution of the JVM processing cycles on a zAAP is a function of the IBM Software Developer's Kit (SDK) for z/OS, z/OS, and Processor Resource/Systems Manager™ (PR/SM™).

When configured with general-purpose processors within logical partitions running z/OS, zAAPs may help increase general-purpose processor productivity and may contribute to lowering the overall cost of computing for z/OS Java technology-based applications. zAAPs are designed to operate asynchronously with the processors to execute Java programming under control of the IBM JVM. This can help reduce the demands and capacity requirements on general-purpose processors, which may then be available for reallocation to other mainframe workloads.

The amount of general-purpose processor savings varies based on the amount of Java application code executed by zAAP. This is dependent upon the amount of Java cycles used by the relevant applications and on the zAAP execution mode that you select.

IBM does not impose software charges on zAAP capacity. Additional IBM software charges apply only when additional general-purpose central processing capacity is used. You are encouraged to contact your specific ISVs/USVs directly to determine if your charges will be affected.

For more details, see the zAAP Redbook at

Software requirements

For information on WebSphere Application Server for z/OS, visit

<http://www.ibm.com/support/docview.wss?rs=180&uid=swg27012284>

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Limitations

WebSphere Application Server for z/OS, V7.0 does not include the WebSphere Connect JDBC driver that had been provided in WebSphere Application Server for z/OS, V6.1. To replace the functionality provided by the WebSphere Connect JDBC driver, WebSphere Application Server for z/OS, V7.0 is tested with the DataDirect Connect for JDBC driver and the Microsoft® SQL Server JDBC driver, which may be obtained from DataDirect Technologies or Microsoft.

Planning information

WebSphere Application Server for z/OS, V7.0 can be installed independently and will coexist with prior versions of WebSphere Application Server for z/OS.

Standby or backup systems

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm, and hot. In the cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire another license or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if they are running at another enterprise's location. As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes:

Cold

A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.

Warm

A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.

Hot

A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlements for this copy and there will generally be an additional charge.

Doing work, includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data, or other resources (for example, active linking with another machine, program, database, or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch over between programs, databases, or other resources to occur.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files or transactions, maintaining a "heartbeat," active linking with another machine, program, database, or other resource, and so on), the program is considered to be doing work in the hot situation and a license or entitlement must be purchased.

Direct customer support

Direct customer support is provided by IBM Operational Support Services - SoftwareXcel. This fee service enhances your productivity by providing voice and electronic access into the IBM support organization. IBM Operational Support Services - SoftwareXcel helps answer questions pertaining to usage and suspected software defects for eligible products.

Installation and technical support is provided by Global Services. For more information call 800-IBM-4YOU (426-4968).

For technical support or assistance, contact your IBM representative or visit

<http://www.ibm.com/support>

Contact your IBM representative for additional assistance at 800-IBM-SERV (800-426-7378), option #2 for software.

This product delivers functionality, Application Client Container, Application Server Tool Kit (AST), Tivoli Access Manager (TAM), WebSphere Edge, and Data Direct JDBC drivers on CD-ROM or DVD intended for deployment on distributed (non-z/OS) systems.

These applications are provided with entitlement for software defect support through a renewable support/subscription license for this product. Requests for defect service should be reported through the IBM Call Centers, specifying WebSphere for z/OS, V7.0. The Rational Application Developer (RAD) trial product is delivered on CD-ROM. It is intended for deployment on distributed (non-z/OS) systems. This application is provided as a trial program only. The following Web site describes trial support for Rational and what a customer must do in order to get through the voice leg of entitlement. Visit

http://www-106.ibm.com/developerworks/downloads/r/rad/support.html?S05AGX28&S_CMP=DLMAIN

Packaging

Program components are delivered by traditional z/OS fulfillment:

- CBPDO
- ServerPac

All formal publications are delivered via the Web.

WebSphere Application Server for z/OS customers will be given an option through ShopSystem z of how to receive the software. Choices include Internet delivery, or receiving 3490 tape cartridges and a choice of CDs or DVDs as boxed media. When electronic delivery is selected, the customer will have the same window of time, two weeks, in which to download the CD/DVD images as the electronic images of the z/OS components.

Packaging of the z/OS software is as follows:

WebSphere Application Server for z/OS - CD offering:

WebSphere Application Server for z/OS Supplements 32-bit

WebSphere Application Server for z/OS Supplements 64-bit

WebSphere Customization Tools

WebSphere Edge Components 32-bit

WebSphere Edge Components 64-bit

WebSphere Edge Components for IP V6 32-bit

WebSphere Edge Components for IP V6 64-bit

WorldType Fonts

Support Assistant Workbench

Tivoli Access Manager for e-business

WebSphere Application Server for z/OS - CD/DVD offering:

WebSphere Application Server for z/OS Supplements (32 and 64 bit) DVD

WebSphere Customization Tools CD

WebSphere Edge Components (32 and 64 bit) DVD

WebSphere Edge Components for IP V6 (32 and 64 bit) DVD

WorldType Fonts CD

IBM Support Assistant Workbench CD

IBM Tivoli Access Manager for e-business CD

For more information on each WebSphere Application Server offering, visit

<http://www.ibm.com/support/docview.wss?rs=180&uid=swg27012284>

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

Security, auditability, and control

WebSphere Application Server for z/OS, V7.0 provides automated authorization checking and a very strong security implementation for authentication and authorization. It is also designed to provide authentication and authorization service to clients, automatically checking security credentials of all clients accessing WebSphere Application Server for z/OS services. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Ordering information

Charge metric

Program name	Part number or PID number	Charge metric
webSphere Application Server for z/OS, V7.0	5655-N02	Value Unit

WebSphere Application Server for z/OS, V7.0 is priced per Value Unit.

Software Subscription and Support

The annual price of Software Subscription and Support for WebSphere Application Server for z/OS (5655-F81) depends on the number of Value Unit license entitlements purchased.

ServerPacs

WebSphere Application Server for z/OS, V7.0 can be ordered in ServerPac, which can include other software products, and WebSphere Application Server for z/OS, V7.0 can also be ordered in ServerPac alone, with no additional software products.

Production of WebSphere Application Server for z/OS, V7.0 orders will begin on the planned general availability date, September 26, 2008. Ship dates for orders will be based on order sequence, Customized Offering selected, production capability, and customer-requested arrival date. Due to the amount of customization of ServerPac orders, shipments will begin approximately two weeks after general availability. Due to the amount of additional customization of SystemPac® orders, shipments will begin approximately four weeks after order and data input verification. For CBPDO orders, shipments will begin one week after general availability. In all cases, no delivery commitments are to be made to the customer until confirmed arrival dates are in ESW.

The programs in this announcement all have Value Unit-Based pricing.

Program number	Program name	Value Unit Exhibit
5655-N02	websphere Application Server for z/OS, V7.0	VUE007

For each System z IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the "required license capacity." Your required license capacity is based upon the following factors:

- The System z IPLA program you select
- The applicable Value Unit Exhibit
- The applicable terms
- Whether your current mainframes are full-capacity or sub-capacity

Value Unit exhibit VUE007

	MSUs minimum	MSUs maximum	Value Units/MSU
Base	1	3	1
Tier A	4	45	0.45
Tier B	46	175	0.36
Tier C	176	315	0.27
Tier D	316	+	0.2

Value Units for mainframes without MSU ratings:

Hardware	Value units/machine
MP3000 H30	6
MP3000 H50	8
MP3000 H70	12
ESL models	2

Ordering example

The total number of Value Units is calculated according to the following example.

If your required license capacity is 1,500 MSUs for your selected System z IPLA product, the applicable Value Units would be:

Translation from MSUs to value units

	MSUs	*	Value Units/MSU	=	Value Units
Base	3	*	1.00	=	3.00
Tier A	42	*	.45	=	18.90

Tier B	130	*	.36	=	46.80
Tier C	140	*	.27	=	37.80
Tier D	1,185	*	.20	=	237.00
Total	1,500				343.50

When calculating the total number of Value Units, the sum is to be rounded up to the next integer.

Ordering z/OS through the Internet

ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at

<http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

Basic license

On/Off CoD

WebSphere Application Server for z/OS, V7.0 is eligible for On/Off CoD with a temporary use charge calculated based on MSUs per-day usage.

Program name: WebSphere Application Server for z/OS, V7.0
 Program PID: 5655-N02

Entitlement identifier	Description	License option/ Pricing metric
S0154R9	webSphere Application Server for z/OS, V7.0	Basic OTC, Per MSU-day TUC
Translation from MSUs to value Units		

	MSUs	Value Units/MSU
Base	1-3	1.00
Tier A	4-45	0.45
Tier B	46-175	0.36
Tier C	176-315	0.27
Tier D	316+	0.20

To order, specify the program product number and the appropriate license or charge option. Also, specify the desired distribution medium. To suppress shipment of media, select the license-only option in CFSW.

Program name: webSphere Application Server for z/OS, V7.0
 Program PID: 5655-N02

Entitlement identifier	Description	License option/ Pricing metric
S0154R9	webSphere Application Server for z/OS, V7.0	Basic OTC, per Value Unit

Orderable supply ID	Language	Distribution medium
S015462	English	3480 uncompressed
S015460	English	3480 uncompressed
Subscription and Support PID: 5655-F81		

Entitlement identifier	Description	License option/ Pricing metric
S00V3BC	webSphere Application Server for z/OS S&S	Basic ALC, per Value Unit SW S&S No charge, decline SW S&S Per MSU SW S&S registration

Orderable supply ID	Language	Distribution medium
S00V3BF	English	Hardcopy

Subscription and Support

To receive voice technical support via telephone and future releases and versions at no additional charge, Subscription and Support must be ordered. The capacity of Subscription and Support (Value Units) must be the same as the capacity ordered for the product licenses.

To order, specify the Subscription and Support program number (PID) referenced above and the appropriate license or charge option.

IBM is also providing Subscription and Support for these products via a separately purchased offering under the terms of the IBM International Agreement for Acquisition of Software Maintenance (IAASM). This offering:

- Includes and extends the support services provided in the base support to include technical support via telephone.
- Entitles you to future releases and versions, at no additional charge. Note that you are not entitled to new products.

When Subscription and Support is ordered, the charges will automatically renew annually unless cancelled by you.

The combined effect of the IPLA license and the Agreement for Acquisition of Software Maintenance gives you rights and support services comparable to those under the traditional ICA S/390 and System z license or its equivalent. To ensure that you continue to enjoy the level of support you are used to in the ICA business model, you must order both the license for the program and the support for the selected programs at the same Value Unit quantities.

Single version charging

To elect single version charging, you must notify and identify to IBM the prior program and replacement program, and the machine the programs are operating on.

Customized Offerings

Product deliverables are shipped only via Customized Offerings (for example, CBPDO, ServerPac, SystemPac).

CBPDO and ServerPac are offered for Internet delivery, where ShopzSeries product ordering is available. Internet delivery of ServerPac may help improve automation and software delivery time. For more details on Internet delivery, refer to the ShopzSeries help information at

<http://www.software.ibm.com/ShopzSeries>

Media type for this software product is chosen during the Customized Offerings ordering process. Based on your customer environment, it is recommended that the highest possible density tape media is selected. Currently offered media types are:

- CBPDOs - 3480, 3480 Compressed, 3490E, 3590, 3592*
- ServerPacs - 3480, 3480 Compressed, 3490E, 3590, 3592*
- SystemPacs - 3480, 3480 Compressed, 3490E, 3590, 3592*

*3592 is highest density media. Selecting 3592 will ship the fewest number of media.

Once a product becomes generally available, it will be included in the next ServerPac and SystemPac monthly update.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after inclusion in ServerPac.

- SystemPac shipments will begin four weeks after inclusion in SystemPac due to additional customization, and data input verification.

Terms and conditions

The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage® Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

Licensing

IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use.

Agreement for Acquisition of Software Maintenance

The following agreement applies for maintenance and does not require customer signatures:

- IBM Agreement for Acquisition of Software Maintenance (Z125-6011)

These programs are licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program. These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

S/390 and System z IBM Operational Support Services - SoftwareXcel is an option if you desire added services.

License Information form number

License form number L-EBAN-7FXR39

The program's License Information will be available for review on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/sladb.nsf>

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

<http://techsupport.services.ibm.com/guides/handbook.html>

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

Program support

Enhanced support, called Subscription and Support, includes telephone assistance, as well as access to updates, releases, and versions of the program as long as support is in effect. You will be notified of discontinuance of support with 12 months' notice.

Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

For clarification, note that for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Authorization for use on home/portable computer

You may not copy and use this program on another computer without paying additional license fees.

Volume orders (IVO)

No

Passport Advantage applies

No

Usage restriction

Yes

For additional information, refer to the License Information document that is available on the IBM Software License Agreement Web site

<http://www.ibm.com/software/sla/slabd.nsf>

The license information: GA32-0595-00 - WebSphere Application Server for z/OS, V7.0

Software Maintenance applies

No. For operating system software, the revised IBM Operational Support Services - SoftwareXcel offering will provide support for those operating systems and associated products that are not available with the newly announced Software Maintenance offering.

This will ensure total support coverage for your enterprise needs, including IBM and selected non-IBM products. For complete lists of products supported under both the current and revised offering, visit

<http://www.ibm.com/services/sl/products>

IBM Operational Support Services - SoftwareXcel

Yes

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Yes. A 15% education allowance applies to qualified education institution customers.

Sub-capacity terms and conditions

For each System z IPLA program with Value Unit pricing, the quantity of that program needed to satisfy applicable IBM terms and conditions is referred to as the required license capacity. Your required license capacity is based upon the following factors:

- The System z IPLA program you select
- The applicable Value Unit Exhibit
- The applicable terms
- Whether your current mainframes are full capacity or sub-capacity

For more information on the Value Unit Exhibit for the System z IPLA program you selected, refer to the [Ordering information](#) section.

Program number	Program name
5655 N02	websphere Application Server for z/OS, v7.0

Full-capacity mainframes

In cases where full capacity is applicable, the following terms apply.

Execution based, z/OS based, full machine based: The required capacity of a System z IPLA program with these terms equals the MSU-rated capacity of the machines where the System z IPLA program executes.

For more information on mainframe MSU-rated capacities, visit

<http://www-1.ibm.com/servers/eserver/zseries/library/swpriceinfo/>

Reference based: The required license capacity of a System z IPLA program with these terms equals the license capacity of the applicable monthly license charge (MLC) program. This MLC program is called the parent program.

Sub-capacity mainframes

In cases where sub-capacity is applicable, the following terms apply.

Execution based: The required capacity of a System z IPLA sub-capacity program with these terms equals the capacity of the LPARs where the System z IPLA program executes.

z/OS based: The required license capacity of a System z IPLA program with these terms equals the license capacity of z/OS (and z/OS.e) on the machines where the System z IPLA program executes.

Reference based: The required license capacity of a System z IPLA program with these terms equals the license capacity of the applicable monthly license charge (MLC) program. This MLC program is called the parent program.

Full-machine based: The required license capacity of a System z IPLA program with full-machine based terms equals the MSU-rated capacity of the machines where the System z IPLA program executes.

For more information on mainframe MSU-rated capacities, refer to *The IBM System z Machines Exhibit, Z125-3901*, or visit the Mainframes section of the System z Exhibits Web site

<http://ibm.com/zseries/library/swpriceinfo/>

For more information on sub-capacity System z IPLA terms and conditions, refer to Software Announcement [204-184](#), dated August 10, 2004.

For additional information for products with reference-based terms, System z IPLA sub-capacity programs with reference-based terms adds value to the parent program across the environment, regardless of where in the environment the System z IPLA program executes.

An environment is defined as either a single or stand-alone machine or a qualified Parallel Sysplex. You may have one or more different environments across the enterprise. To determine the required license capacity for each System z IPLA program with referenced-based terms, each environment should be assessed separately.

When a System z IPLA sub-capacity program with reference-based terms is used in a qualified Parallel Sysplex environment, the required license capacity of the System z IPLA program must equal with the license capacity of the parent program across the Parallel Sysplex. Qualified Parallel Sysplex refers to one:

- That meets the criteria defined in Hardware Announcement [198-001](#), dated January 13, 1998.
- Where MLC pricing is aggregated across the sysplex

Sub-capacity eligibility

To be eligible for sub-capacity charging on select System z IPLA programs, you must first implement and comply with all terms of either sub-capacity Workload License Charges (WLC) or sub-capacity Entry Workload License Charges (EWLC). To implement sub-capacity WLC or EWLC, a machine must be System z (or equivalent). On that machine:

- All instances of the OS/390 operating system must be migrated to the z/OS (or z/OS.e) operating systems
- Any licenses for the OS/390 operating system must be discontinued
- All instances of the z/OS operating (or z/OS.e) systems must be running in z/Architecture® (64-bit) mode

For that machine, you must create and submit a Sub-Capacity Report to IBM each month. Sub-Capacity Reports must be generated using the Sub-Capacity Reporting Tool (SCRT). For additional information or to obtain a copy of SCRT, visit the System z Software Pricing Web site

<http://ibm.com/zseries/swprice>

You must comply with all of the terms of the WLC or EWLC offering, whichever is applicable:

- The complete terms and conditions of sub-capacity WLC are defined in the IBM Customer Agreement - Attachment for System z Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for IBM eServer™ System z 890 and 800 License Charges (Z125-6587).

Additionally, you must sign and comply with the terms and conditions specified in the amendment to the IPLA contract - *Amendment for IBM System z9® and eServer zSeries® Programs Sub-Capacity Pricing* (Z125-6929). Once the amendment is signed, the terms in the amendment replace any and all previous System z IPLA sub-capacity terms and conditions.

Sub-capacity utilization determination

Sub-capacity utilization is determined based on the product's own execution as reported to IBM in accordance with the requirements for reporting sub-capacity utilization for products.

On/Off CoD

To be eligible for On/Off CoD pricing, you must be enabled for temporary capacity on the corresponding hardware, and the required contract, *Attachment for Customer Initiated Upgrade and IBM eServer On/Off Capacity on Demand - Software* (Z125-6611) must be signed prior to use.

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Program PID: 5655-N02

Entitlement Identifier	Description	License Option / Pricing Metric
S0154R9	websphere Application Server for z/OS, v7.0	Basic OTC, Value Units Basic OTC, per MSU-day TUC

Subscription and Support PID: 5655-F81

Entitlement Identifier	Description	License Option / Pricing Metric
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