



New IBM WebSphere Application Server V7 Feature Pack for OSGi Applications and Java Persistence API (JPA) 2.0 and WebSphere Application Server V7 Feature Pack for Service Component Architecture (SCA) V1.0.1.5 promote efficient development and management of enterprise applications

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At a glance

The WebSphere® Application Server Feature Pack for OSGi Applications and JPA 2.0 combines the developer productivity and time to value benefits of Java™ Enterprise Edition (EE) 6 persistence and OSGi enterprise standards into a pre-integrated framework for enterprise application development. The WebSphere Application Server V7 Feature Pack for SCA V1.0.1.5 update adds support for composing OSGi applications with heterogeneous assets in support of the concepts of service-oriented architecture (SOA).

Specific highlights include:

- The OSGi Release 4 Version 4.2 Blueprint component model for declarative assembly and simplified unit test including composition with heterogeneous assets using SCA
- A Java EE 6 JPA 2.0 compliant implementation for management of persistence and object relational mapping for WebSphere Application Server applications
- Leverage the modularity and versioning benefits of OSGi infrastructure technology in enterprise applications

Overview

The WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 promotes efficient development and management as well as providing highly effective performance attributes. Efficient development is achieved by providing a simplified component model based on the OSGi Blueprint Container standard and persistence layer productivity with an implementation of the Java Enterprise Edition (EE) 6 JPA 2.0 specification. Efficient management happens through the ability to assemble, deploy, and manage applications as a collection of versioned OSGi bundles. Highly effective performance is achieved through an increase in persistence layer performance(1) and improved integration with IBM® portfolio products WebSphere eXtreme Scale and IBM Data Studio pureQuery Runtime.

The updated **WebSphere Application Server V7 Feature Pack for SCA V1.0.1.5** further supports efficient development by providing a coarse grained programming model for composing OSGi components with heterogeneous assets in support of the principles of SOA.

Elements of these feature packs may be used together for combined benefits as a pre-integrated framework or used independently.

Highlights include:

- **Simplified component model:** Delivers dependency injection simplicity, including unit test of business components outside the server, but governed by OSGi standards and integrated with proven Java EE technologies. Allows you to compose OSGi components in SOA-based composite applications involving heterogeneous components using SCA.
- **Persistence layer productivity and performance:** The IBM JPA 2.0 implementation, based on Apache OpenJPA, improves persistence layer performance¹ and includes important standards-based features to help improve developer time to value.
- **OSGi modularity and versioning benefits for enterprise applications:** You can deploy OSGi applications and Web applications as OSGi bundles in the OSGi bundle repository increasing reuse, modularity, and decreasing application memory and disk footprint.

The WebSphere Application Server feature packs are optional product extensions for WebSphere Application Server.

¹ IBM submitted multiple SPECjEnterprise2010 results showing improvement from 7.0.0.9 to the Feature Pack for OSGi Applications and JPA 2.0. For results, visit <http://www.spec.org/jEnterprise2010/results/jEnterprise2010.html>

Key prerequisites

The WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 and WebSphere Application Server V7 Feature Pack for SCA V1.0.1.5 both require WebSphere Application Server V7.0.0.9, or higher.

Planned availability date

May 28, 2010

- WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 V1
- WebSphere Application Server V7 Feature Pack for SCA V1.0.1.5

Description

The feature pack for OSGi Applications and JPA 2.0 delivers a pre-integrated application framework to help increase developer productivity and time to value. Through this feature pack, organizations can realize many of the benefits found in other non-standard open source frameworks in a standardized, WebSphere Application Server integrated fashion. Specifically, the feature pack delivers open community and standards-based implementations of the OSGi Blueprint Container specification and Java EE 6 JPA 2.0 along with the ability, optionally, to assemble, deploy, and manage applications as a collection of versioned OSGi bundles. Common Web application requirements for modular design, simple POJO³-based components and efficient data access can be addressed by using both the OSGi applications and JPA 2.0 components of this feature pack together. Alternatively, for greatest flexibility, the two features may be installed and used independently.

OSGi applications overview

Since its founding in 1999, the OSGi Alliance was, is now, and will be in the future, associated with delivering standards that solve application development complexity, extensibility, and maintenance challenges. With the recent publication of the OSGi Service Platform Enterprise Specification Release 4, Version 4.2 now addresses enterprise application developers as well.

This feature pack adds open standards support for this ground breaking set of OSGi specifications to our proven Java EE runtime.

Starting with WebSphere Application Server V6.1, OSGi technologies were leveraged internally as an infrastructure foundation to build WebSphere as a componentized runtime. In order to bring OSGi infrastructure benefits to enterprise application developers in the form of an enterprise Java programming model, the OSGi Alliance Enterprise Expert Group (EEG) was formed in 2007. The EEG areas of focus included the specification of common Web applications technologies for an OSGi environment. This includes the Blueprint component model, which standardizes many of the simplicity and unit test benefits found in the open source Spring Framework and is now part of the OSGi Service Platform Release 4 Version 4.2 set of specifications.

Apache Aries is an open community project that brings the modularity, dynamism, and versioning of the OSGi service platform to enterprise application developers through implementation of the OSGi Alliance EEG specifications. Apache Aries delivers a simple-to-use, lightweight programming model for Web applications that combines the standard Blueprint component model with familiar Java enterprise technologies.

The feature pack for OSGi Applications and JPA 2.0 delivers tight integration of Apache Aries with WebSphere Application Server, leveraging WebSphere platform enterprise qualities of service to provide a complete and robust enterprise server for modular Web applications

Highlights of the OSGi applications support delivered in the feature pack include:

- OSGi Release 4 Version 4.2 Blueprint component model for declarative assembly, and simplified unit test
- Extensions to the Blueprint component model for declarative transactions, container-managed JPA, and resource reference configuration
- Isolated enterprise applications composed of multiple, versioned bundles with dynamic life cycle
- Integrated bundle repository and ability to configure the location of external repositories to support application provisioning
- Module sharing between applications
- Module versioning within and between applications
- Integrated administration of application bundles
- Federation of lookup mechanisms between local JNDI and the OSGi service registry
- Support for deploying existing Web Application Archives (WARs) as OSGi Web application bundles

JPA 2.0 overview

Object-relational persistence is a key developer requirement for many application developer scenarios. JPA is the Java EE standard for object-relational persistence and was first introduced as part of Java EE 5. As part of the Java EE 6 standards, JPA 2.0 (JSR-317) updates object-relational capabilities with important developer APIs and enhancements. The WebSphere Application Server JPA implementation is based on Apache OpenJPA, a leading open source Java persistence framework. This feature pack provides the IBM implementation of the JPA 2.0 specification based on Apache OpenJPA 2.0, plus IBM enhancements to benefit integration with WebSphere Application Server. Apache OpenJPA 2.0 includes improvements and benefits over previous releases and even beyond the JPA 2.0 specification.

Highlights of the JPA 2.0 implementation delivered in the feature pack include:

- Java EE 6, JPA 2.0 (Java Specification Request 317) specification compliant implementation
- Important new JPA 2.0 standards-based features to help improve developer time to value
- Achieve new levels of application performance with WebSphere Application Server V7¹
- Query language (JPQL) extensions and improvements
- Programmatic control of database access optimizations - fetch groups, fetch plans, and access intents
- Enhanced integration with WebSphere eXtreme Scale in order to help improve data access performance

¹ IBM submitted multiple SPECjEnterprise2010 results showing improvement from 7.0.0.9 to the Feature Pack for OSGi Applications and JPA 2.0. For results, visit

<http://www.spec.org/jEnterprise2010/results/jEnterprise2010.html>

² Plain Old Java Object

SCA overview

SCA simplifies development and management of composite applications by moving service details out of the application and into the middleware allowing the developer to focus on the business logic. This results in greater agility by allowing flexible composite applications and services that can quickly respond to changes in the environment.

Highlights of the V1.0.1.5 update include the following capabilities:

- Compose OSGi Blueprint components with heterogeneous assets using SCA
- Expose OSGi services remotely via supported SCA bindings (for example, Web Services, EJB, SCA, JMS, and JSON-RPC)

For more information on SCA and existing features of the WebSphere Application Server V7 Feature Pack for SCA, refer to:

- For V1.0.0, Software Announcement [208-419](#), dated December 9, 2008
- For V1.0.1, Software Announcement [209-391](#), dated November 10, 2009

Entitlement, download, and support

For WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 and WebSphere Application Server V7 Feature Pack for SCA V1.0.1.5:

The proof of entitlement (PoE) for your WebSphere Application Server product includes this feature pack. Licensee must have a current Software Subscription and Support (Software maintenance) agreement to deploy the program into production for:

- WebSphere Application Server V7.0
- WebSphere Application Server Hypervisor™ Edition

How to obtain

To download WebSphere Application Server Feature Packs, visit

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

Your support authorization for any of the following, authorizes feature pack support:

- WebSphere Application Server V7.0
- WebSphere Application Server Hypervisor Edition

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 deliver the same full Java EE 5 support, including:

- Web services enhancements
- Enterprise JavaBeans™ (EJB) 3.0 support
- New management and administration core application functions across server configurations
- Feature packs available to extend SOA; deliver new standards support

This solution offers unparalleled flexibility to protect investments, allowing you to service-enable existing packaged and legacy applications, create new services, and extend your business applications to the Web.

Configuration options include:

- **WebSphere Application Server V7.0**

Optimized to ease administration in a scalable, single-server deployment environment, V7.0 supports the full Java EE 5 programming model and Web services. In addition to the feature pack for OSGi Applications and JPA 2.0, feature packs for XML, SCA, Web 2.0 and Communications Enabled Applications (CEA) are also available. V7.0 delivers 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 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:

- Clustering and high-availability management to help eliminate the cost of system downtime. Edge components, which offer sophisticated load balancing, caching, and centralized security for enhanced performance at the edge of the network.
- Advanced Web services capabilities let 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-consuming and resource-consuming.

- **WebSphere Application Server for z/OS® V7.0**

WebSphere Application Server for z/OS, which combines the industry-leading SOA runtime and z/OS to deliver superior customer value, is the ideal infrastructure for delivering business-critical applications. It offers the complete WebSphere Application Server common programming model in an integrated z/OS execution environment, which makes full use of the capabilities of the z/OS Sysplex.

It is well suited for large enterprises that can leverage the z/OS qualities of service to achieve optimized performance and continuous availability for their mission-critical applications.

- **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 services support and optionally installable feature packs.

Also included are easy-to-use integrated wizards and samples to get started quickly. WebSphere Application Server - Express is limited to single-server implementations up to a maximum number of Processor Value Units per server as referenced in the *IBM Express and Middleware Licensing Guide*.

<ftp://ftp.software.ibm.com/software/smb/pdfs/LicensingGuide.pdf>

WebSphere Application Server - Express additionally includes a set of integrated applications, wizards, and samples to help you get up and running quickly.

- **WebSphere Application Server Hypervisor Edition**

WebSphere Application Server Hypervisor Edition is a special edition of WebSphere Application Server that runs on top of a hypervisor, such as IBM PowerVM™ on AIX® and VMware ESX, and supports the Open Virtualization Format. Designed to reduce installation and configuration time, WebSphere Application Server Hypervisor Edition helps you rapidly deploy WebSphere-based applications in virtualized environments. WebSphere Application Server Hypervisor Edition supports both single server and cluster deployments, and works with WebSphere CloudBurst Appliance, sold separately. WebSphere CloudBurst offers enhanced value for managing patterns, standardizing a set of configurations for your data center, and managing the life cycle of your entire environment.

- **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 for Developer is production-ready and available at no charge without support for development use and testing on a developer's desktop. For information, visit

<http://www.ibm.com/developerworks/downloads/ws/wasdevelopers/>

A supported WebSphere Application Server for Developers is available for purchase.

Reference information

For information on WebSphere Application Server V7.0, refer to Software Announcement [208-266](#), dated September 9, 2008.

For information on WebSphere Application Server for z/OS V7.0, refer to Software Announcement [208-208](#), dated September 9, 2008.

For information on WebSphere Application Server Hypervisor Edition, refer to Software Announcement [209-145](#), dated June 2, 2009.

For information on WebSphere Application Server Hypervisor Edition for AIX, refer to Software Announcement [209-388](#), dated November 17, 2009.

For information on WebSphere Application Server V7 Feature Pack for Service Component Architecture V1.0, refer to Software Announcement [208-419](#), dated December 9, 2008.

For information on WebSphere Application Server V7 Feature Pack for SCA V1.0.1, refer to Software Announcement [209-391](#), dated November 10, 2009.

Program number

5724-J08	websphere Application Server V7.0
5724-I63	websphere Application Server - Express V7.0
5724-H88	websphere Application Server Network Deployment V7.0
5724-H89	websphere Application Server for Developers V7.0
5724-J08	websphere Application Server V7.0
5655-N02	websphere Application Server for z/os V7.0
5724-I63	websphere Application Server - Express V7.0
5724-H88	websphere Application Server Network Development V7.0
5724-H89	websphere Application Server for Development V7.0
5724-J08	websphere Application Server V7.0
5655-N02	websphere Application Server for z/os V7.0
5724-I63	websphere Application Server - Express V7.0
5724-H88	websphere Application Server Network Development V7.0
5724-H89	websphere Application Server for Development V7.0
5655-N02	websphere Application Server for z/OS, V7.0
5724-x89	websphere Application Server Hypervisor Edition
5724-x89	websphere Application Server Hypervisor Edition

Offering Information

Product information is available via the Offering Information Web site

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

Also, visit the Passport Advantage® Web site

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

Publications

For more information about the WebSphere Application Server V7 Feature Pack for OSGi Applications and Java Persistence API (JPA) 2.0, visit

<http://www.ibm.com/websphere/was/osgi>

For more information about the WebSphere Application Server V7 Feature Pack for Service Component Architect, visit

<http://www.ibm.com/websphere/was/sca>

Product documentation will be available at product availability.

Specified operating environment

Hardware requirements

WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 and WebSphere Application Server V7 Feature Pack for SCA are supported on the hardware and software configurations supported by the following product environments, except for IBM i. You can, however, run the WebSphere Application Server V7 feature packs on supported AIX and Linux® versions on Power® servers:

- WebSphere Application Server V7.0.0.9, or later
- WebSphere Application Server Network Deployment V7.0.0.9, or later
- WebSphere Application Server for z/OS V7.0.0.9, or later
- WebSphere Application Server Express V7.0.0.9, or later
- WebSphere Application Server for Developers V7.0.0.9, or later
- WebSphere Application Server Hypervisor Edition V7.0.0.9, or later

Detailed system requirements for all editions of WebSphere Application Server can be found online at

<http://www.ibm.com/support/docview.wss?rs=180&uid=swg27006921>

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.

Software requirements

WebSphere Application Server V7 Feature Pack for OSGi Applications and JPA 2.0 and WebSphere Application Server V7 Feature Pack for SCA are supported on the hardware and software configurations supported by the following product environments, except for IBM i. You can, however, run the WebSphere Application Server V7 feature packs on supported AIX and Linux versions on Power servers:

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- WebSphere Application Server Network Deployment V7.0.0.9, or later
- WebSphere Application Server for z/OS V7.0.0.9, or later
- WebSphere Application Server Express V7.0.0.9, or later
- WebSphere Application Server for Developers V7.0.0.9, or later
- WebSphere Application Server Hypervisor Edition V7.0.0.9, or later

Detailed system requirements for all editions of WebSphere Application Server can be found online at

<http://www.ibm.com/support/docview.wss?rs=180&uid=swg27006921>

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.

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Limitations

For additional information, refer to the [Technical information](#) section of this announcement, or to the license information document that is available on the IBM Software License Agreement Web site

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

Security, auditability, and control

Uses the security and auditability features of the host hardware or software. 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

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Ordering information

The ordering information is unaffected by this announcement.

Terms and conditions

The terms and conditions are unaffected by this announcement.

Prices

Prices are unchanged by this announcement.

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