



New and enhanced IBM WebSphere Application Server Hypervisor Edition V7.0 offerings add Red Hat Enterprise Linux for IBM System z , x86 Linux 64-bit support, and enhanced management

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At a glance

New for WebSphere® Application Server Hypervisor™ Edition V7.0

- Support for Red Hat Enterprise Linux® in IBM® z/VM® environments
- x86 Linux 64-bit image formats for VMware ESX environments

WebSphere Application Server Hypervisor Edition V7.0

- Optimizes WebSphere Application Server for virtualized environments, enabling higher hardware utilization, while allowing you to spend less time on installation and configuration, and more time on strategic initiatives
- Manages installation and deployment of WebSphere Application Server and the associated operating system in conjunction with IBM Workload Deployer and WebSphere CloudBurst Appliance

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 enables you to get more value from your virtualized WebSphere Application environments:

- Lowers the total cost of ownership and increases the overall quality of service
- Allows seamless upgrades of applications without any single user experiencing an outage
- Provides the capability to dynamically adjust the server resource applied to workloads in a shared environment based upon service-level agreements
- Removes the need to provision for peak utilization for every application in siloed fashion
- Provides the ability to detect potentially dangerous scenarios and take preemptive action before an outage occurs
- Provides application virtualization for your cloud environment
- Supports automated elasticity of environments in which IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack is leveraged
- Supports the tenets of autonomic computing: self-managing, self-healing, and self-optimizing
- Comes as a supplemental product to be used in conjunction with WebSphere Application Server Hypervisor Edition and IBM Workload Deployer

For ordering, contact Your IBM representative or an IBM Business Partner. For more information contact the Americas Call Centers at 800-IBM-CALL. Reference: YE001

Overview

New and enhanced WebSphere Application Server Hypervisor Edition V7.0 offerings give you more deployment options and enhanced management capabilities for server virtualization environments. The new offerings are:

- WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z® - Separate Red Hat subscription required
- WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required
- IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required
- IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required
- WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0

In addition, WebSphere Application Server Hypervisor Edition V7.0, beginning with V7.0.0.17, now supports x86 linux 64-bit image formats for VMware ESX environments.

WebSphere Application Server Hypervisor Edition V7.0 support for Red Hat Enterprise Linux on IBM System z and x86 Linux 64-bit images

WebSphere Application Server Hypervisor Edition includes all the robust features of WebSphere Application Server and is optimized to run in server virtualized environments. Designed to reduce installation and configuration time, WebSphere Application Server Hypervisor Edition helps you rapidly deploy WebSphere-based applications. Each WebSphere Application Server Hypervisor Edition offering is a preconfigured package that integrates WebSphere Application Server and associated feature packs, IBM HTTP Server, and an operating system compatible with each supported hypervisor. The new WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z offering is optimized for the IBM z/VM environment.

A corresponding offering, IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z, is also available to give you flexible deployment options. This offering lets you to deploy the IBM HTTP Server component and the Red Hat Enterprise Linux for IBM System z operating system on a standalone node without paying for a full WebSphere Application Server Hypervisor Edition for Red Hat Enterprise Linux on IBM System z license.

The IBM HTTP Server for WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z is an entitlement-only offering. The IBM HTTP Server code is included in the WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux on IBM System z package.

WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z, IBM HTTP Server for WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z, and the new x86 Linux 64-bit image formats for ESX environments are only supported for use with IBM Workload Deployer. Although the Hypervisor Edition offerings are sold separately from the appliance, the Hypervisor Edition images are preloaded on the IBM Workload Deployer for convenience.

WebSphere Application Server Hypervisor Edition and IBM HTTP Server for WebSphere Application Server Hypervisor Edition now support the following environments:

- Red Hat Enterprise Linux 64-bit in IBM z/VM environments (new)
- Red Hat Enterprise Linux (32- and 64-bit) in VMware ESX environments
- AIX® 64-bit in IBM PowerVM™ environments
- Novell SUSE Linux Enterprise Server 64-bit in IBM z/VM environments
- Novell SUSE Linux Enterprise Server (SLES) (32- and-64 bit) in VMware ESX environments

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0

The WebSphere Application Server Hypervisor Edition Intelligent Management Pack provides dynamic runtime management of WebSphere application environments deployed by IBM Workload Deployer or WebSphere CloudBurst Appliance. Specifically, it supports application edition management to orchestrate the rollout of new application versions, policy-based management in the form of health management, and service policy management to reduce risk of downtime and make fine-grained resource allocation decisions based on observed demand and configured policy.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 offers exciting new capability:

- Usability
 - Fine-grained security support
 - Simple Network Management Protocol (SNMP) trap generation
 - On demand router (ODR) maintenance mode
 - Centralized logging
- High availability
 - ODR health monitoring
 - ODR dynamic clusters
 - ODR OutOfMemory prevention
 - Health management Performance Monitoring Infrastructure (PMI) enhancements
 - Excessive memory health policy enhancements
 - Segregating HTTP traffic by ODR cluster
- Performance management
 - AIX workload partitions (WPARs)
 - Multi-cell performance management
 - Application placement controller consolidation mode
 - Application placement controller parallel start
 - Rate-based autonomic request flow manager (ARFM)
 - Service policies without response time goals

WebSphere Application Server Hypervisor Edition Intelligent Management Pack 7.0 enhancements are supported for use with WebSphere Application Server environments deployed by IBM Workload Deployer V3.0.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 is included in WebSphere Application Server Hypervisor Edition 7.0, beginning with 7.0.0.17. However, its product license must be purchased separately.

Key prerequisites

WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z

- IBM Workload Deployer V3.0
- z/VM V5.3 or 5.4
- Red Hat subscription for Red Hat Enterprise Linux 5.5 on IBM System z (required for 5725-D29)

IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z

- IBM Workload Deployer V3.0
- z/VM V5.3 or 5.4
- WebSphere Application Server Hypervisor Edition V7.0 for Red Hat Enterprise Linux on IBM System z
- Red Hat subscription for Red Hat Enterprise Linux 5.5 on IBM System z (required for 5725-D30)

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 and WebSphere Application Server Hypervisor Edition V7.0 x86 Linux 64-bit image formats

- IBM Workload Deployer V3.0
- WebSphere Application Server Hypervisor Edition V7.0.0.17 or later

Planned availability date

June 15, 2011

- WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z (with WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0) - electronic distribution
- IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z (entitlement only)
- WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 (entitlement only)

Description

WebSphere Application Server Hypervisor Edition V7.0 adds support for Red Hat Enterprise Linux on IBM System z and x86 Linux 64-bit images

The new WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z offering supports deployment of WebSphere Application Server virtual images into IBM z/VM environments. This offering is a combination of WebSphere Application Server and the Red Hat Enterprise Linux operating system optimized for IBM z/VM environments. It can take the form of a single application server, a member of a cluster of application servers, or an IBM HTTP server instance. It includes Red Hat Enterprise Linux 5.5 for IBM System z. By deploying and running WebSphere Application Server Hypervisor Edition in virtualized environments, you can better utilize hardware, which ultimately helps reduce hardware, power, cooling, and real estate costs. Increased hardware utilization results from virtualization allowing a single machine to be carved into multiple smaller "virtual machines," each of which may run an instance of WebSphere Application Server Hypervisor Edition.

A corresponding offering, IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 for Red Hat Enterprise Linux on IBM System z, supports deployment of the IBM HTTP server component and operating system virtual image on a standalone node in z/VM environments, without requiring the you to pay for the full WebSphere Application Server Hypervisor Edition license. IBM HTTP Server for WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z is an entitlement-only offering. The IBM HTTP Server code is included in the WebSphere Application Server Hypervisor Edition package.

Note: In scenarios where the IBM HTTP Server component is deployed on the same node with WebSphere Application Server Hypervisor Edition, a separate IBM HTTP Server for WebSphere Application Server Hypervisor Edition license is not needed or useful. This usage is covered by the entitlement to WebSphere Application Server Hypervisor Edition. It is only beneficial when IBM HTTP Server and its supporting operating system is deployed on a node separate from WebSphere Application Server Hypervisor Edition, and would otherwise require a full WebSphere Application Server Hypervisor Edition entitlement.

In both deployment scenarios, the IBM HTTP Server component may only be used in support of the WebSphere Application Server Hypervisor Edition Program.

WebSphere Application Server Hypervisor Edition V7.0 also now supports x86 SUSE Linux 64-bit images and x86 Red Hat Enterprise Linux 64-bit images in addition to 32-bit for ESX environments.

The new WebSphere Application Hypervisor Edition offerings for Red Hat Enterprise Linux for IBM System z and the x86 Linux 64-bit image formats are supported for use with IBM Workload Deployer V3.0. Although the products are sold separately, WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z is preloaded on the IBM Workload Deployer for convenience.

IBM Workload Deployer V3.0, previously known as WebSphere CloudBurst Appliance, manages IBM products in a cloud environment. It dispenses patterns of virtual images into a pool of virtualized resources running a supported hypervisor. The optimization for deployment speed and agility enables an entirely new usage paradigm for WebSphere Application Server built around rapid setup and teardown. Test cases can be based upon a standardized deployment that is destroyed and reinstalled after each execution.

For more information on IBM Workload Deployer, refer to Hardware Announcement [111-073](#), dated April 5, 2011.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 provides dynamic runtime management of WebSphere application environments deployed by IBM Workload Deployer. Specifically, it supports application edition management to orchestrate the rollout of new application versions, policy-based management in the form of health management, and service policy management to reduce risk of downtime and make fine-grained resource allocation decisions based on observed demand and configured policy. WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 is included in WebSphere Application Server Hypervisor Edition V7.0. However, its product license must be purchased separately.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack Version 7.0 includes the following new features:

Fine-grained security support

In WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, the panels in the administrative console are filtered to appropriately govern access to the product resources based upon the administrator's roles. WebSphere Application Server V7.0 is now more fine-grained, meaning that access can be

granted to each user per resource instance. Previously, users who were granted administrative roles could administer all of the resource instances in the cell.

Simple Network Management Protocol (SNMP) trap generation

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 can generate SNMP Version 1 traps for health events and dynamic cluster start and stop application server events. Sending an SNMP trap is one of the actions that can be performed when a health policy is triggered. The SNMP trap contains the name of the health policy that was triggered, when the health policy was triggered, and where the health policy was triggered. In the case of dynamic cluster events, when the application placement controller starts or stops an application server, the controller can send an SNMP trap notifying an SNMP management endpoint.

On demand router (ODR) maintenance mode

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 supports both node and server maintenance modes for ODRs. Node maintenance mode can be used to perform node-level maintenance for the ODR nodes just as node-level maintenance could previously be performed for the application server nodes. Similarly, server maintenance mode can be used for the ODRs and the application servers.

Centralized logging

The centralized logging feature can be used to easily enable required traces, perform a per-request trace analysis, and follow the flow of a request through both the ODR and application server tiers. Tracing can be enabled based on the type of problem that is experienced, for example, HTTP 503 response codes. In previous releases of WebSphere Application Server Hypervisor Edition Intelligent Management Pack, particular sets of required traces, such as Dynamic Workload Management (DWLM) traces, were commonly requested by IBM Support teams. However, obtaining those traces required knowledge of the trace settings. Now, with centralized logging, specific types of traces can be identified by pre-defined strings. Some examples of pre-defined required traces include application editioning, 404 error and 503 response codes, health monitoring, and more.

ODR health monitoring

Health monitoring is now extended to the ODR tier, which means the ODR can be set as a target of health policies, thus detecting and automatically correcting ODR health issues. As a result, the environment is more highly available.

ODR dynamic clusters

Dynamic clusters of ODRs can be created, which means that the application placement controller selects the best node on which to start the minimum number of ODRs. If an ODR stops for any reason, the application placement controller will then start a new instance. A dynamic cluster isolation policy can be configured to prevent ODRs from running on the same node with application servers. An ODR dynamic cluster will not currently grow beyond the minimum number of instances.

ODR OutOfMemory prevention

Because the ODR is completely asynchronous, it can scale to an extremely high number of concurrent connections. If application server threads begin to slow down or hang due to some condition, such as a slow database, the number of concurrent requests through a single ODR can increase dramatically. In order to prevent the ODR from running out of memory due to the large number of connections that can accrue, the ODR automatically starts rejecting requests, and thus closing connections, when the heap utilization exceeds a maximum threshold.

Health management Performance Monitoring Infrastructure (PMI) enhancements

A custom health policy can be created and used to configure any PMI metric. Prior to WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, the number of PMI metrics available through health management was limited to the metrics provided in the administrative console.

Excessive memory health policy enhancements

Prior to WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, the excessive memory health policy calculated the amount of heap used by a Java™ virtual machine (JVM) by periodically sampling the amount of free heap. V7.0 provides the option of only sampling the amount of free heap after a full garbage collection.

Segregating HTTP traffic by ODR cluster

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 provides a service to automatically regenerate and propagate the Web server plug-in configuration file each time a change is made, which should affect how the plugin routes. This service can now cause the web server plug-in to route traffic by application, deployment target, or node group to a specific ODR cluster.

Automated elasticity of environments

When WebSphere Application Server Hypervisor Edition is deployed with the Intelligent Management Pack enabled, the Intelligent Management Pack can call back to IBM Workload Deployer and request additional resources to be made available. This is accomplished using the same dynamic workload management technology that allows the Intelligent Management Pack to allocate additional Java virtual machines (JVMs) to an application within a dynamic cluster.

AIX Workload Partitioning (WPARs)

AIX supports multiple levels of virtualization. Each physical machine can contain multiple Logical Partitions (LPARs), and each LPAR can contain multiple WPARs. WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 supports sharing CPU between WPARs, however, there must be no sharing of CPU resources at the LPAR level.

Multi-cell performance management

With multi-cell performance management, multiple cells are managed as a unit, because they are sharing common resources. From a functional perspective, the product's performance management, such as dynamic clusters, overload protection, and more, works on multiple cells of the same hardware in the same way as it does in a single cell. This has often been referred to as multi-cell placement, however, this feature also applies to the autonomic request flow manager (ARFM), or more generally, to how the product manages the performance of multiple cells. In this topology, a single cell is designated as the master cell while the other cells are designated as worker cells. The master cell can also perform work, such as contain ODRs and application servers, but only the master cell makes autonomic decisions to start or stop application servers. Note that this topology applies to server virtualized environments such as AIX LPARs and WPARs, Linux on System z, or VMWare. The topology also applies to a non-server virtualized environment in which multiple cells share the same physical hardware.

Application placement controller consolidation mode

The new consolidation mode adds additional logic that causes the application placement controller to minimize the number of nodes that are used while still meeting service policy goals. The application placement controller calls the custom script specified in the custom property. This will be particularly useful on Linux on System z operating systems in order to minimize the number of virtual machines that are active and thus minimize the resource usage. The new consolidation mode

also adds additional logic for when the application placement controller recognizes that a particular dynamic cluster is not meeting service policies and has started all possible servers, the controller calls the custom script that is specified in the custom property.

Application placement controller parallel start

The parallel start feature can be used to allow the application placement controller to send start requests simultaneously for any number of instances for a particular node. By doing so, the default behavior of starting one instance at a time for a particular node can be overridden. Prior to WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, when instances are started on a particular node, the instances are started in a series to limit the amount of CPU usage that is required for starting a Java virtual machine (JVM). This feature can be used to minimize the amount of time that is required to start the environment.

Rate-based autonomic request flow manager (ARFM)

ARFM controls the flow of requests for HTTP and SIP traffic through the ODR and for IIOF and MDB traffic from within the application server. In previous releases, ARFM enforces a concurrency limit, such as the maximum number of requests that can be outstanding, on a per resource basis. In WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, ARFM uses a rate-based algorithm that results in more consistent loading and protecting of application server resources by ARFM.

Service policies without response time goals

To aid in the ease of use of the product, performance management without response time goals is supported in WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0. Providing correct response time goals requires performing load testing to determine a reasonable value. This feature eliminates the need for performance testing. Instead, the product simply uses the importance of a service policy to manage performance.

For information on WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z and WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0, visit

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

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

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

Section 508 of the U.S. Rehabilitation Act

WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z is capable as of June 15, 2011, 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.

Reference information

For more information on WebSphere Application Server Hypervisor Edition for Novell SUSE Linux Enterprise Server, refer to Services Announcement [609-029](#), dated April 13, 2009.

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

For more information on WebSphere Application Server Hypervisor Edition for Novell SLES on System z, refer to Software Announcement [210-071](#), dated March 29, 2010.

For more information on WebSphere Application Server Hypervisor Edition for Red Hat Enterprise Linux Server, refer to Software Announcement [210-137](#), dated April 30, 2010.

For more information on IBM HTTP Server for WebSphere Application Server Hypervisor Edition for Red Hat Enterprise Linux Server x86, Novell SUSE Linux Enterprise Server on x86, Novell SLES on System z, and IBM AIX, refer to Software Announcement [210-368](#), dated October 26, 2010.

For more information on IBM Workload Deployer V3.0, refer to Hardware Announcement [111-073](#), dated April 5, 2011.

Program number

Program name	Program number
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D29
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D31
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D30
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D32
IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0	5725-A27

Offering Information

Product information is available via the Offering Information website

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

Also, visit the Passport Advantage® website

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

Publications

No publications are shipped with these programs.

The IBM Publications Center

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

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via 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.

Technical information

Specified operating environment

Hardware and software requirements

WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z and WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 require IBM Workload Deployer V3.0.

Each provisioned instance of WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z requires 18 GB of disk space.

Software requirements

WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z software requirements

- z/VM V5.3 or V5.4 (5741-A05), including:
 - Directory Manager (DIRM)
 - Resource Access Control Facility (RACF®)

There are no unique hardware or software requirements for IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z. It is included in WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 software requirements:

- WebSphere Application Server Hypervisor Edition V7.0.0.17, or later

There are no other unique software requirements for the WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0. WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 is included in WebSphere Application Server Hypervisor Edition V7.0, beginning with V7.0.0.17. For the system requirements for WebSphere Application Server Hypervisor Edition V7.0.0.17 for each of the supported hypervisors, visit

<http://www-01.ibm.com/support/docview.wss?rs=4008&uid=swg27015835>

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.

Planning information

Direct customer support

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>

Packaging

IBM HTTP Server for WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z is an entitlement-only offering to allow customers to deploy the IBM HTTP Server component and underlying operating system on a standalone node. The IBM HTTP Server and operating system code is included in WebSphere Application Server Hypervisor Edition on Red Hat Enterprise Linux for IBM System z.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack is an entitlement-only offering to give customers enhancement management capabilities for their virtualized server environments. The product code is included in WebSphere Application Server Hypervisor Edition.

This program, when downloaded from a website, 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.

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

This product is only available via Passport Advantage. It is not available as shrinkwrap.

Product group: webSphere

Product Identifier Description	Program number
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D29
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D31
IBM HTTP Server for webSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D30
IBM HTTP Server for webSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D32

IBM WebSphere Application Server 5725-A27
Hypervisor Edition Intelligent
Management Pack v7.0

Product category: Application Integration Middleware Other

Charge metric

Program name	Program number	Charge unit description
IBM WebSphere Application Server Hypervisor Edition v7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D29	Processor Value Unit
IBM WebSphere Application Server Hypervisor Edition v7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D31	Processor Value Unit
IBM HTTP Server for WebSphere Application Server Hypervisor Edition v7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D30	Processor Value Unit
IBM HTTP Server for WebSphere Application Server Hypervisor Edition v7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D32	Processor Value Unit
IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack v7.0	5725-A27	Processor Value Unit

Processor Value Unit

Processor Value Unit (PVU) is a unit of measure by which the program can be licensed. The number of processors made available to the program and the number of PVU entitlements required is based on the processor technology (defined within the PVU Table by Processor Value, Brand, Type and Model Number at

http://www-01.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip. A dual-core processor chip, for example, has two processor cores.

Licensee can deploy the program using either Full Capacity licensing or Virtualization Capacity (Sub-Capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms (see web page below). If using Full Capacity licensing, Licensee must obtain PVU entitlements sufficient to cover all activated processor cores* in the physical hardware environment made available to or managed by the program, except for those servers from which the program has been permanently removed. If using Virtualization Capacity licensing, Licensee must obtain entitlements sufficient to cover all activated processor cores made available to or managed by the program, as defined according to the Virtualization Capacity License Counting Rules at

http://www-01.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html

* An Activated processor core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor

core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Notes

Some programs may require licenses for the program AND what is being managed. In that case, the following applies: In addition to the entitlements required for the program directly, Licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.

Some programs may be licensed on a managed basis ONLY. In that case, the following applies: Instead of the entitlements required for the program directly, Licensee must obtain PVU entitlements for this program sufficient to cover the processor cores managed by the program.

A few programs on an exception basis may be licensed on a referenced basis. In that case, the following applies: Rather than obtaining entitlements for the activated processor cores available to the program, Licensee must obtain PVU entitlements for this program sufficient to cover the environment made available to the Referenced program as if the program itself were executing everywhere the Referenced program was executing, independent of the basis on which the Referenced program is licensed.

Express® and Workgroup programs may be licensed with maximum use terms. In that case, the following applies: The maximum authorized use terms and conditions for PVU licensed IBM Express and Middleware Programs can be found in the *IBM Express and Middleware Licensing Guide*.

Product description	Product number
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D29
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D31
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	5725-D30
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	5725-D32
IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0	5725-A27

Passport Advantage

Here is the complete listing of part numbers for WebSphere Application Server Hypervisor Edition V7.0 for Red Hat Enterprise Linux on IBM System z and IBM HTTP Server WebSphere Application Server Hypervisor Edition V7.0 for Red Hat Enterprise Linux on IBM System z.

Description	Part Number
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required Per Processor Value Unit (5725-D29)	
License + Software S&S 12 months	DOIJULL
Annual Software S&S Renewal 12 months	EOBQALL
Software S&S reinstatement 12 months	DOIJVLL

IBM WebSphere Application Server Hypervisor Edition
 V7.0 on Red Hat Enterprise Linux for IBM System z -
 Red Hat subscription not required
 Per Processor Value Unit (5725-D31)

License + Software S&S 12 months	D0IJPLL
Annual Software S&S Renewal 12 months	E0BQ9LL
Software S&S reinstatement 12 months	D0IJQLL

IBM HTTP Server for WebSphere Application Server
 Hypervisor Edition V7.0 on Red Hat Enterprise Linux
 for IBM System z - Separate Red Hat subscription
 required
 Per Processor Value Unit (5725-D30)

License + Software S&S 12 months	D0IJZLL
Annual Software S&S Renewal 12 months	E0BQBLL
Software S&S reinstatement 12 months	D0IK0LL

IBM HTTP Server for WebSphere Application Server
 Hypervisor Edition V7.0 on Red Hat Enterprise Linux
 for IBM System z - Red Hat subscription not
 required
 Per Processor Value Unit (5725-D32)

License + Software S&S 12 months	D0IK1LL
Annual Software S&S Renewal 12 months	E0BQCLL
Software S&S reinstatement 12 months	D0IK2LL

IBM WebSphere Application Server Hypervisor
 Edition Intelligent Management Pack V7.0
 Per Processor Value Unit (5725-A27)

License + Software S&S 12 months	D0CXGLL
Annual Software S&S Renewal 12 months	E08R6LL
Software S&S reinstatement 12 months	D0CXHLL

Passport Advantage customer: Media pack entitlement details:

The WebSphere Application Server Hypervisor Edition media packs now include the WebSphere Application Server Network Deployment product. For more information on the media pack part numbers, refer to Software Announcement [210-137](#), dated April 30, 2010.

Passport Advantage trade up

Below is a list of precursor products for which you must have already acquired a license, in order to be eligible to acquire equivalent licenses using the trade-up part numbers.

Precursor product	Trade-up product	Trade-up part number
WebSphere Application Server - Express	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription not required	D0IJRLL
WebSphere Application Server	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription not required	D0IJSLL

WebSphere Application Server Network Deployment	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription not required	D0IJTLL
WebSphere Application Server - Express	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription required	D0IJWLL
WebSphere Application Server	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription required	D0IJXLL
WebSphere Application Server Network Deployment	WebSphere Application Server Hypervisor Edition on Red Hat Linux for IBM System z - Red Hat subscription required	D0IJYLL

Consult your IBM representative if you have any questions.

Cross-platform product for use on System z Integrated Facility for Linux (IFL) engines

Order the part numbers that follow when the product is intended to run on the Linux operating system on System z IFL engines. If the product is not intended to run on the Linux operating system on System z IFL engines, order from the other set of part numbers in this announcement. This set of part numbers provides the identical supply and authorization as the other set in this announcement.

Program name/Description	Part number
IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack v7.0 for Linux on System z Per Processor Value Unit (5725-A27)	
License + Software S&S 12 months	D0CXILL
Annual Software S&S Renewal 12 months	E08R9LL
Software S&S reinstatement 12 months	D0CXNLL

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.

This product is only available via Passport Advantage. It is not available as shrinkwrap.

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License Information form number

Program name	LI number
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	L-SWIS-8EYXP
IBM WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	L-SWIS-8F9MBD
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Separate Red Hat subscription required	L-SWIS-8EYXP
IBM HTTP Server for WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux for IBM System z - Red Hat subscription not required	L-SWIS-8F9MBD
IBM WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0	L-SWIS-8F9PDN

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

<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.

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

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

Program technical support

IBM supports each WebSphere Application Server Hypervisor Edition for the lifecycle of the corresponding WebSphere Application product version. WebSphere Application Server Hypervisor Edition V7.0 on Red Hat Enterprise Linux Server for IBM System z has the same End of Support date as the WebSphere Application Server V7.0 product.

WebSphere Application Server Hypervisor Edition Intelligent Management Pack V7.0 is included in WebSphere Application Server Hypervisor Edition V7.0. It is supported for use with WebSphere Application Server Hypervisor Edition V7.0 until the End of Support date for WebSphere Application Server Hypervisor Edition V7.0.

You are eligible to obtain technical support for the WebSphere Application Server Hypervisor Edition and WebSphere Application Server Hypervisor Edition Intelligent Management Pack during their support lifecycle, as long as your Software Subscription and Support (also referred to as Software Maintenance) is in effect.

The IBM HTTP Server for WebSphere Application Server Hypervisor Edition is an entitlement-offering only. The IBM HTTP Server component is included in and has the same end of support date as the WebSphere Application Server Hypervisor Edition V7.0 products.

You are eligible to obtain technical support for IBM HTTP Server for WebSphere Application Server Hypervisor Edition only when the IBM HTTP server component is used with the supporting program, WebSphere Application Server Hypervisor Edition. You must have an active Software Subscription and Support (also referred to as Software Maintenance) in effect.

WebSphere Application Server Hypervisor Edition, beginning with V7.0.0.13, includes entitlement for the WebSphere Application Server Network Deployment program. When using the WebSphere Application Server Network Deployment Program, you must have a separate license and support entitlement for the operating system. The operating system included in WebSphere Application Server Hypervisor Edition offering is restricted to support of the virtualized product edition.

This technical support allows you to obtain assistance (via telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Subscription and Support (Software Maintenance) also provides you with access to updates (modifications or fixes), releases, and versions of the program. You will be notified, via announcement letter, of discontinuance of support with 12 months' notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

Red Hat Enterprise Linux for IBM System z

IBM provides support for the Red Hat Enterprise Linux Server component included in the WebSphere Application Server Hypervisor Edition under the following conditions:

- The Red Hat Enterprise Linux component is used in conjunction with the WebSphere Application Server Hypervisor Edition
- The version of Red Hat Enterprise Linux Server is supported by Red Hat
- IBM may ask customers to move up to the latest Red Hat Enterprise Server support level. IBM, in turn, will upgrade the version of the underlying Red Hat Enterprise Linux Server during the WebSphere Application Server Hypervisor Edition support lifecycle to maintain the operating system support. Customers with active Passport Advantage subscription and support are entitled to this upgrade.

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

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For clarification, note that (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) 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.

Volume orders (IVO)

No

Passport Advantage applies

Yes, and through the Passport Advantage website at

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

Usage restriction

Yes. For information, refer to the License Information document that is available on the IBM Software License Agreement website

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

Software Subscription and Support (Software Maintenance) applies

Yes. Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and Technical Support are provided by the Software Subscription and Support (Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software and Technical Support provides voice and electronic access to IBM support organizations, worldwide.

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For additional information about the International Passport Advantage Agreement and the IBM International Passport Advantage Express Agreement, visit the Passport Advantage website at

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No

Other support

Passport Advantage

System i Software Maintenance applies

No

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No

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Not applicable.

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- OS/400® V5R1, or later, running on an IBM System i®
- Linux running in an LPAR under AIX 5L V5.1, OS/400 V5R1, or in a partition on an equivalent partition-capable operating system and server

Sub-capacity pricing for eligible products is based on the current program pricing methodology, but the number of processors will be determined based on the sum of processors for all partitions where the program is defined (used). To obtain pricing at less than full machine capacity for eligible products, you are required to:

- Install and use, when available, IBM's license use management program, which installs with eligible IBM programs.
- Install available updates to the operating system and eligible products such that license use can be accurately managed.
- Determine if the use of sub-capacity pricing terms results in a reduced requirement for entitlements; you can reallocate the entitlement difference by distributing entitlements across a larger or different set of systems, or reserve them for future growth. There will be no refunds for these freed up entitlements. Subscription, Software Maintenance and support volumes, and entitlements for existing contracts will continue at the same levels as the acquired licenses.

Prices

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