IBM WebSphere Extended Deployment Compute Grid for z/OS, V8.0 enables concurrent online transaction processing and entry, execution, and management of Java batch jobs

At a glance

WebSphere® Extended Deployment Compute Grid for z/OS®, V8.0 provides an end-to-end managed batch execution experience by combining enterprise-strength qualities of service with developer and data center productivity tools to bring time-to-value benefits into a pre-integrated framework for batch workload execution. WebSphere Extended Deployment Compute Grid for z/OS V8.0 offers the ability to develop, deploy, and manage batch jobs (applications) executing in several execution environments from a central console.

In addition to a Java™ batch programming model and container services (provided by a job dispatcher and a batch container), WebSphere Extended Deployment Compute Grid for z/OS, V8.0 supplies:

- The ability to manage Java batch applications deployed to non-Java EE execution environments such as z/OS, CICS®, and more
- The ability to call COBOL modules within a Java application
- Enhanced performance throughput exploiting multithreading within a single Java Virtual Machine (JVM)
- Calendar and clock scheduling of jobs
- Integration with enterprise scheduler
- Usage reporting including Service Management Facility (SMF) records on z/OS
- Workload management transaction classification by job
- Application quiesce and update
- Job pacing and job execution throttling
- Parallel job management and dispatching

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

Overview

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 offers a managed batch execution environment that enables the entry, execution, and management of Java batch processing on mainframe or in distributed environments. It provides an infrastructure for batch processing to allow sharing of business logic with
online transaction processing (OLTP) applications as well as applications written in traditional languages. This helps to lower cost by reducing risk and management effort, supplies an "always-on" business experience by eliminating offline batch windows, and delivers enterprise qualities of service required by mission-critical batch applications. With WebSphere Extended Deployment Compute Grid for z/OS, V8.0, batch jobs and online transaction processing can execute concurrently.

Benefits of WebSphere Extended Deployment Compute Grid for z/OS, V8.0 include:

- End-to-end batch management of jobs running across disparate execution environments, such as WebSphere Application Server and CICS
- An optimal OLTP uptime experience through continuous interleaving of batch and interactive (OLTP) processes
- Parallel processing using Parallel Job Manager, where large problems can be partitioned, governed, and processed in parallel across a collection of server resources while hiding the complexities of multithreading and management
- Near real-time batch processing with ad-hoc and event-driven batch invocation, in addition to scheduled batch invocation
- Reuse of assets written in Java, COBOL, PL/I, C/C++, and more
- An architectural framework in support of changes to business processes
- The ability to shift batch workloads to new languages and runtime environments, leveraging existing assets where appropriate

**Key prerequisites**

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 requires:

- IBM z/OS V1.10, or later
- IBM WebSphere Application Server for z/OS, V7.0.0.15
- IBM WebSphere Application Server for z/OS, V8.0

For details, refer to the Hardware requirements and Software requirements sections.

**Planned availability date**

June 17, 2011

**Description**

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 is a pre-integrated application framework to develop, deploy, and manage batch jobs executing across disparate execution environments and thereby providing an end-to-end batch management experience. It helps increase developer productivity, developer efficiency, and operational efficiency. It enables gradual migration of legacy batch applications by simplifying application integration of Java assets with large COBOL batch library routines, allowing reuse of existing COBOL modules during the migration period.

**Batch applications overview**

Batch processing is a fundamental component of enterprise application infrastructure. Batch transactions do not interact with the end user. In contrast, OLTP is typically driven by user interaction. The focus of Java EE and other transaction processing technologies has been to address OLTP needs. However, the adoption of these newer middleware technologies has caused batch processing applications to be left behind, such that batch and OLTP have split into silos.

A key concept of service-oriented architecture (SOA) is to reuse assets across the enterprise, which is composed of both OLTP and batch workloads. The challenge is
cost-effectively bringing these disparate environments back together to deliver an agile, efficient, and high-performance middleware infrastructure that reincorporates the cost savings of batch processing into today's transaction environment.

Highlights of the enhancements delivered in WebSphere Extended Deployment Compute Grid for z/OS, V8.0 include:

- Support for IBM WebSphere Application Server V8.0
- COBOL container support for interoperability between Java and COBOL on z/OS including DB2® connection sharing and transaction support
- A stub generator utility in support of clients who are integrating large COBOL batch library routines
- Parallel Job Manager enhancements providing higher throughput for small jobs by taking advantage of multithreading within a single JVM
- Fine-grained security for enhanced job management
- Enhanced security with role-based authorization and OSGi bundle support
- Job log enhancements and job console enhancements for operational efficiency and ease of troubleshooting
- Programming model enhancements for developer productivity and operational efficiency
- IBM Installation Manager (IM)-based installation across all supported WebSphere Application Server environments

Comparison of WebSphere Extended Deployment Compute Grid V6.1.1 and V8.0

<table>
<thead>
<tr>
<th>Key features</th>
<th>V6.1</th>
<th>V6.1.1</th>
<th>V8.0</th>
</tr>
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<tbody>
<tr>
<td>Simplified programming model</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Native execution endpoints and applications</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>External workload scheduler integration</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Job Management console for batch job management</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Batch data stream (BDS) framework</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>that includes prebuilt code to work with popular streams such as text, byte, database, datasets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scripting interface for batch job administration without administrative console</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Parallel Job Manager to split batch processing to run in parallel across multiple JVMs for faster processing</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Support for running 64-bit batch jobs on z/OS</td>
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<td>X</td>
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<td>Calendar and clock scheduling of jobs</td>
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<td>X</td>
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</tr>
<tr>
<td>Integration with Enterprise Monitoring products</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Out-of-the-box integration with enterprise schedulers</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Job pacing and job execution throttling to provide control to mix batch with OLTP within common Java execution environment</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
and manage to batch execution completion goals

Integration with workload management classification capabilities of WebSphere Application Server for z/OS to better manage mixed batch and OLTP to business goals

Application quiesce and update to enhance manageability and availability

Rational tooling support for Java batch programming model

Interoperability between Java and COBOL on z/OS

Nondisruptive batch application update and endpoint quiesce

Disaster recovery with operational state transfer

Integration with WebSphere Virtual Enterprise for goal-oriented job placement

Support for WebSphere Application Server V8.0

Enhanced support for interoperability between Java and COBOL on z/OS including DB2/System z connection sharing and transaction support

Utility to create wrapper code in support of customers integrating with standard COBOL

Support for multithreading within a single JVM to improve performance of batch jobs

Improved administrative security for group-based security authorization in addition to role authorization for job management

Job log enhancements and job console enhancements for operational efficiency and ease of application trouble shooting

OSGi application support

Ability to customize Job Management Console

Unified installation across distributed and z/OS operating systems based on Installation Manager

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**Accessibility by people with disabilities**

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


**Section 508 of the US Rehabilitation Act**

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 is capable as of June 17, 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.

**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 website


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**

WebSphere Extended Deployment Compute Grid for z/OS, V8.0, in combination with WebSphere Application Server, 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 Feature Pack for Modern Batch and WebSphere Application Server V8.0

With WebSphere Application Server V7.0 Feature Pack for Modern Batch, IBM introduced a batch programming model and batch container services support in a standardized WebSphere integrated fashion. Support for a batch programming model and batch container services is now integrated with WebSphere Application Server for z/OS, V8.0.

The potential benefits of this feature pack include:

- Improved developer efficiency by introducing innovation in processing large volumes of data
- Improved developer productivity with the ability to share services between OLTP and batch applications, leveraging Java skill sets
- Improved IT productivity with container-managed services for checkpoint and restart in addition to reliable, highly available, secure, and scalable run time

Key capabilities of this feature include:

- Pre-integrated application framework, Java batch programming model, and tools to improve developer productivity during the batch application life cycle
- Container-managed services for checkpoint and restart capabilities of batch workloads to minimize manual intervention and total cost of ownership
- Integrated administration of OLTP applications and batch jobs and integration with the WebSphere Administrative Console to reuse administrator skills and lower costs
- Reduced infrastructure costs through concurrent execution of batch and OLTP workloads using shared business logic on a shared WebSphere Application Server infrastructure
- Higher throughput and lower resource consumption for Java batch processing on IBM z/OS when collocated with data subsystems

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 is IBM's comprehensive batch platform. It includes all of the capabilities and benefits of the Feature Pack for Modern Batch. In addition to the features and functions provided by this feature pack, WebSphere Extended Deployment Compute Grid provides enterprise-strength functionality for enterprise Java batch management, such as:

- Calendar and clock scheduling of jobs
- Integration with enterprise scheduler
- Usage reporting with SMF records
- Workload management transaction classification by job
- Application quiesce and update
- Job pacing and job execution throttling
- Parallel job management and dispatching
- COBOL container support

Clients who need these additional qualities of service can migrate their applications developed using the Modern Batch programming model V8.0 to WebSphere Extended Deployment Compute Grid for z/OS, V8.0 without making any application changes.

Batch modernization

Batch modernization is about bringing business processes and data together in the context of business efficiency. Batch is a workload pattern where work is data intensive and business logic is repetitive. Automating work can quickly bring efficiencies of bulk processing to a business bottom line. These workloads are processed during a dedicated time window, also known as "batch window." During this batch window, all IT resources are taken offline and not available for business processes until all batch jobs are completed. Today's globally integrated
business requires 24x7 uptime of IT resources for OLTP processes, but this "batch window" paradigm cannot support the 24x7 always-on uptime requirement for OLTP applications. To address this issue, IBM has created an architectural framework that provides a platform for meaningful integration between OLTP and batch applications. This approach allows continuous batch execution using shared business logic on a shared infrastructure between batch and OLTP applications without impacting response time requirements for OLTP applications.

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 is an integral part of this architectural framework, offering a consistent and systematic integration strategy across multiple components of your business. Use of WebSphere Extended Deployment Compute Grid for z/OS, V8.0 for batch modernization enables continuous batch processing, enables SOA transformation through reuse of services, leverages in-house Java skills for batch modernization projects, helps reduce cost through use of specialty processors, and helps improve hardware efficiency by utilizing unused capacity during OLTP processing for batch windows.

### Availability of national languages

<table>
<thead>
<tr>
<th>Description</th>
<th>Availability date</th>
<th>Language</th>
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<td>WebSphere Extended Deployment Compute Grid for z/OS, V8.0</td>
<td>June 17, 2011</td>
<td>English</td>
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### Program number

<table>
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<tr>
<td>5655-V62</td>
<td>V8.0.0</td>
<td>WebSphere Extended Deployment Compute Grid for z/OS</td>
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<tr>
<td>5655-V63</td>
<td>V1.1.0</td>
<td>WebSphere Extended Deployment Compute Grid for z/OS - Software Subscription and Support</td>
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### Product identification number

<table>
<thead>
<tr>
<th>Program PID number</th>
<th>Subscription and Support PID number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-V62</td>
<td>5655-V63</td>
</tr>
</tbody>
</table>

### 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).


### Offering Information

Product information is available via the Offering Information website

http://www.ibm.com/common/ssi
The latest product documentation for WebSphere Extended Deployment Compute Grid for z/OS, V8.0 can be found in the online information center on the library web page at

http://www14.software.ibm.com/webapp/wsbroker/redirect?version=compgrid8&product=was-nd-mp&topic=cg80_library

Help for the administrative console and the job management console is shipped with this product.

A PDF version of the program directory is available on the library web page as well as from the IBM Publications Center at

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

A PDF version of the *Program Directory* for IBM Installation Manager for z/OS V1.4.3 is also available on the IBM Publications Center.

<table>
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<tr>
<th>Title</th>
<th>Order number</th>
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<tr>
<td>Program Directory for IBM WebSphere Extended Deployment Compute Grid for z/OS, V8.0</td>
<td>GI10-9849-00</td>
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<tr>
<td>Program Directory for IBM Installation Manager for z/OS, V1.4.3</td>
<td>GI11-9852-00</td>
</tr>
</tbody>
</table>

**Technical information**

**Specified operating environment**

**Hardware requirements**

For z/OS (31- and 64-bit WebSphere Compute Grid)

- Any hardware that supports z/OS
- Minimum 3.5 GB (web installation) of available disk space
- Minimum 7 GB (local installation using Installation Manager) to 9 GB (local installation using SMP/E deliverables) of available disk space
- Minimum 1 GB of central storage; 1 GB per running application server recommended

**Software requirements**

**Operating system**

- z/OS V1.12 System z (31- and 64-bit)
- z/OS V1.11 System z (31- and 64-bit)
- z/OS V1.10 System z (31- and 64-bit)

**Virtualization**

- IBM PR/SM™ any version.
- IBM z/VM® Hypervisor™ V5.1.
- IBM z/VM Hypervisor V5.2.
- IBM z/VM Hypervisor V5.3.
- IBM z/VM Hypervisor V5.4.
- IBM PowerVM™ Workload Partitions Manager™ for AIX® V1.2.
- IBM PowerVM Workload Partitions Manager for AIX V1.2.1.
- IBM PowerVM VIOS any version.
- VMware ESXi V3.5.
- VMware ESXi V4.0.
- IBM z/VM Hypervisor V6.1.
- VMware ESX V3.5.
- VMware ESXi V4.0 and future releases, modification levels, and fix packs.
- IBM z/VM Hypervisor V6.1 and future releases, mod levels, and fix packs.
- IBM PR/SM any version and future releases, modification levels, and fix packs.
- IBM PowerVM Hypervisor (LPAR, DPAR, Micro-Partition) any supported version.
- Live Application Mobility (LAM) for Workload Partition (WPAR) AIX V6.1 and future releases, modification levels, and fix packs. Minimum level of AIX V6.1 TL4 SP2.
- Application Workload Partition (WPAR) AIX V6.1 and future releases, modification levels, and fix packs. Minimum level of AIX V6.1 TL4 SP2.
- VMware ESX 4.0 and future releases, modification levels, and fix packs.

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**

**Packaging**

Program components are delivered on 3590 tape cartridge.

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**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/](http://www.ibm.com/software/sw-services/)

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**Ordering information**

**Charge metric**

<table>
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<tr>
<th>Program name</th>
<th>Part number or PID number</th>
<th>Charge metric</th>
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</thead>
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<tr>
<td>WebSphere Extended Deployment Compute Grid for z/OS V8.0</td>
<td>5655-V62</td>
<td>Value Unit</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>MSUs</th>
<th>MSUs</th>
<th>Value Units/MSU</th>
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<tbody>
<tr>
<td>Base</td>
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<tr>
<td>Tier A</td>
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<td>Tier B</td>
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<td>Tier C</td>
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<tr>
<td>Tier D</td>
<td>316</td>
<td>+</td>
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</table>

Value Units for mainframes without MSU ratings:

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<td>MP3000 H50</td>
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<td>MP3000 H70</td>
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<td>ESL models</td>
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</table>

**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**

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
<th>Value Units</th>
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<tr>
<td>Base</td>
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<td>Tier C</td>
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<td>Tier D</td>
<td>1,185</td>
<td>.20</td>
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</tbody>
</table>

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 US 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 website at


5655-V62 - WebSphere Extended Deployment Compute Grid for z/OS, V8.0
5655-V63 - WebSphere Extended Deployment Compute Grid for z/OS - Software Subscription and Support

Basic license

On/Off CoD

WebSphere Extended Deployment Compute Grid for z/OS, V8.0 is eligible for On/Off CoD with a temporary use charge calculated based on MSUs per-day usage.

Program name: WebSphere Extended Deployment Compute Grid for z/OS V8.0
Program PID: 5655-V62

<table>
<thead>
<tr>
<th>Entitlement Identifier</th>
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<tr>
<td>S016P72</td>
<td>Basic OTC, Per MSU-day TUC</td>
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Translation from MSUs to Value Units

<table>
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<th>MSUs</th>
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<td>4-45</td>
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<td>316+</td>
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</table>

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 Extended Deployment Compute Grid for z/OS V8.0
Program PID: 5655-V62

<table>
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<th>Entitlement Identifier</th>
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<tr>
<td>S016P72</td>
<td>Basic OTC, Value Units</td>
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Orderable supply ID: Language: 3590 tape cartridge uncomp

Subscription and Support PID: 5655-V63

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<tbody>
<tr>
<td>S016P73</td>
<td>Basic ALC, per Value Unit SW S&amp;S</td>
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<tr>
<td></td>
<td>No charge, decline SW S&amp;S</td>
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</table>

Orderable supply ID: Language: Hardcopy pub
**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. 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 CBPDO, ServerPac, and SystemPac®.

CBPDO and ServerPac are offered for Internet delivery in countries where ShopzSeries product ordering is available. Internet delivery reduces software delivery time and allows you to install software without the need to handle tapes. For more details on Internet delivery, refer to the ShopzSeries help information at [http://www.software.ibm.com/ShopzSeries](http://www.software.ibm.com/ShopzSeries)

You choose the delivery method when you order the software. IBM recommends Internet delivery. In addition to Internet and DVD, the supported tape delivery options for CBPDO, ServerPac, and SystemPac, include:

- 3590
- 3592

Most products can be ordered in ServerPac and SystemPac the month following their availability on CBPDO. z/OS can be ordered via all three offerings at general availability. 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 general availability.
- SystemPac shipments will begin four weeks after general availability 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 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 Software Subscription and Support (Software 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.

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

License Information form number

License Information form number: L-STHN-8EYK6H

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


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://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 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.

**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 website


**Software Subscription and Support (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 Software Subscription and Support (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 offerings, visit

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

**IBM Operational Support Services - SoftwareXcel**
Yes

**Other support**
SoftwareXcel

**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.

<table>
<thead>
<tr>
<th>Program number</th>
<th>Program name</th>
<th>Terms</th>
<th>Parent, if applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-V62</td>
<td>WebSphere Extended Deployment Compute Grid for z/OS, V8.0</td>
<td>Execution-based</td>
<td></td>
</tr>
</tbody>
</table>

**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


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 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 website

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

For additional information for products with reference-based terms, System z IPLA sub-capacity programs with reference-based terms add 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:

- 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 operating systems.
- Any licenses for the OS/390 operating system must be discontinued.
- All instances of the z/OS operating 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 website

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 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 System z 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.

IBM Getting Started Sub-capacity Pricing for z/OS IPLA Software applies.
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 Capacity on Demand (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 IBM System z On/Off Capacity on Demand (Z125-7883), must be signed prior to use.

Prices

Information on charges is available at

http://www.ibm.com/support

Choose the option entitled Purchase/upgrade tools.

Program name: WebSphere Extended Deployment Compute Grid for z/OS, V8.0
Program PID: 5655-V62

<table>
<thead>
<tr>
<th>Entitlement Identifier</th>
<th>Description</th>
<th>License option/Pricing metric</th>
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<tr>
<td>S016P72</td>
<td>WebSphere Extended Deployment Compute Grid for z/OS, V8.0</td>
<td>Basic OTC, per Value Unit</td>
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Subscription and Support PID: 5655-V63

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<th>Description</th>
<th>License option/Pricing metric</th>
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<td>WebSphere Extended Deployment Compute Grid for z/OS</td>
<td>Basic ALC, Value Units SW S&amp;S</td>
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<tr>
<td></td>
<td>- Subscription and Support</td>
<td>No charge, decline SW S&amp;S</td>
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<tr>
<td></td>
<td></td>
<td>Per MSU SW S&amp;S Registration</td>
</tr>
</tbody>
</table>

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