IBM WebSphere Service Registry and Repository for z/OS, V7.5 delivers advanced capabilities necessary to drive the success of your SOA deployments

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At a glance

WebSphere® Service Registry and Repository V7.5 delivers innovations in user experience, with new and improved integrations and licensing allowing for deployment into IBM® WebSphere Integration Developer’s unit test environments.

Through visibility and control, WebSphere Service Registry and Repository helps to maximize and measure the business value of your service-oriented architecture (SOA). This industry-leading solution enables you to publish, find, enrich, manage, and govern services and policies in your SOA.

Overview

WebSphere Service Registry and Repository for z/OS® delivers the following new features and benefits:

- New and enhanced Business Space widgets simplify the publication and governance of your services and increase visibility.
  - The new Service Registry Navigator widget gives users the ability to quickly browse registry content visually giving a one-upstream and one-downstream view of related content.
  - The Collection View widget is enhanced to allow the creation of new views that you configure with a wizard. You specify a single query or an aggregation of multiple queries to create different Watch Lists, which can appear on your space as separate widgets or in the view menu of a single Collection View widget.
  - The Collection View widget now has an icon mode that enables you to browse the collection of result by icons, enabling quicker recognition of the content type for which you are looking.
  - The Service Registry Actions widget now enables you to configure your own actions, allowing your governance process to be more prescriptive for your user.
  - The Details widget has many enhancements. You can use this to configure user visibility of properties for each registry type and group those properties into custom sections. You can determine which classification taxonomies should be displayed to the user. The visibility of relationships can also be configured, and custom queries can be included as relationships. You can also determine if a property is visible on creation. This allows you to have focused content for each user role.
- The Service Registry Graphical Explorer widget gives impact analysis of the registry content in visual form with icons that represent the different types of content that exists in the registry repository. This allows for rapid understanding of all the relationships.
- The new Activity widget offers an efficient way to keep track of the changes that have been made and who made the changes.
- Extensive enhancements have been made in the WebSphere Service Registry and Repository's report hosting capabilities. A new reporting servlet enables reports to be hosted in the Business Space website widget, allowing you to quickly view your reports in the context of your WebSphere Service Registry and Repository Business Space. You are also able to view reports outside the context Business Space.
- The new space templates for Business Space give a preconfigured roles-based starting point for your governance process. You can use these space templates as is, extend, or modify them to suit your users' needs.
- WebSphere Registry and Repository V7.5 extends its search capabilities to include full text search with the ability to enhance the precision of the search with such things as conditional terms and ranges.
- Governance processes are unique to a company's structure and the processes change over time as a company changes. Because of this, WebSphere Service Registry and Repository is flexible and configurable to handle these changes. WebSphere Service Registry and Repository V7.5 has focused on the ease to which companies can tailor their service governance with improvements to WebSphere Service Registry and Repository Studio.
- The new Access Control Editor in WebSphere Service Registry and Repository Studio makes it easier to define roles and permissions for those roles.
- Major enhancements to governance policy authoring include click-to-assign life cycles to entities modeled in WebSphere Service Registry and Repository Studio and a WebSphere Service Registry and Repository Role Assertion wizard to help assign assertions to life-cycle transitions. In addition, a new Governance Policy Editor allows for the graphical construction of Policy Rules.
- The upgrade and migration functionality has been improved, allowing for smooth upgrades from WebSphere Service Registry and Repository V6.3 and WebSphere Service Registry and Repository V7.0, and enables data manipulation from one WebSphere Service Registry and Repository V7.5 instance to another. The improvements include a web UI which displays feedback on how the upgrade is progressing.
- WebSphere Service Registry and Repository V7.5 introduces SCA Service Endpoints to represent governable non-web services export bindings; these appear, and are controlled, in the same way as SOAP Service Endpoints. It also introduces the ability to override the values of SCA exposed endpoints directly from the web UI to allow for easier promotion to run-time environments. Additionally, the 7.5 InfoCenter features a new tutorial explaining how to govern SCA objects using the Governance Enablement Profile both from the service provider's and service consumer's viewpoint.
- The subscription notification framework, previously only available for "email" type notifications, has been enhanced with support for the following new features:
  - Http POST endpoint notifications allows a post to user defined web servlets.
  - Enhanced subscription matching capabilities enable matching subscription targets by XPath, related objects, attached policies, and saved searches.
  - Custom notifier plugin capability gives users the ability to create their own type of notifier. For example SMS message notifier to alert when a service needs approval.

WebSphere Service Registry and Repository V7.5 provides the following new features and benefits for integration:

- The approval process solution enhancements in WebSphere Service Registry and Repository V7.5 enlist the power of WebSphere Business Process Management (BPM) portfolio to provide advanced, flexible, and configurable approval workflows based on majority voting pattern. Enhanced integration provides the capabilities of multiple groups participating in governance decisions for
approvals. Integration with an existing WebSphere Business Monitor enables various human-centric, approval-related key performance indicators (KPIs). Work Basket based assignment support can classify governance approvals into logical worklists to enable collaborative decision making.

- The new WebSphere Message Broker policy analytics provide metrics on policy set enforcement outcomes. This data provides customers with a detailed inspection of the distribution of WS-Security policy enforcement outcomes across their deployed broker runtime systems.

- WebSphere Service Registry and Repository V7.5 can now author and attach policies to services that exploit IBM's elastic caching for connectivity products, WebSphere eXtreme Scale and WebSphere DataPower® XC10 Appliance. A very significant part of our Caching in the SOA Connectivity initiative is a policy-driven cache management system supporting improved response times for our clients' SOA Connectivity solutions.

- WebSphere Service Registry and Repository V7.5 license has been extended to include the ability to install WebSphere Service Registry and Repository into the IBM WebSphere Integration Developer Unit Test Environments to allow unit testing with WebSphere Enterprise Service Bus and WebSphere Process Server.

**Key prerequisites**

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

**Planned availability date**

June 17, 2011

**Description**

An SOA is the next evolutionary step to helping IT organizations meet their increasingly complex challenges. SOA has the potential to drive business flexibility, performance, and innovation by better aligning your information technologies to your business objectives. Maximizing this potential depends on how well you govern the services in your SOA throughout the life cycle. It also depends on the ability to measure your success.

**Store, access, and manage information to support a successful SOA**

Then report on the success. WebSphere Service Registry and Repository V7.5 delivers management and governance capabilities that allow you to get the most business value from your SOA with the ability to measure success. It facilitates storing, accessing, and managing service information, called service metadata, along with service consumer information to easily select, invoke, govern, reuse, and report your services. WebSphere Service Registry and Repository has tight integration with IBM SOA Foundation, an integrated, open standards-based set of software, best practices, and patterns for SOA.

WebSphere Service Registry and Repository is an industrial-strength tool that helps you achieve tangible business value from your SOA by enabling better control and governance of services.

**Publish, find, enrich, manage, and govern**

**Encourage reuse.** The publish and find capabilities of WebSphere Service Registry and Repository promote service reuse in SOA projects by allowing greater visibility of and easier access to existing services. The service discovery engine discovers services on WebSphere Application Server and other Application platforms, WebSphere Process Server, WebSphere Enterprise Service Bus, and Microsoft®.Net platforms, providing an accurate record of deployed services in your SOA. (Refer to the WebSphere Service Registry and Repository Information Center for the full list of supported platforms). Faceted search provides a natural and user-friendly way to...
WebSphere Service Registry and Repository helps in quickly creating or modifying business processes using existing services. A powerful query mechanism allows you to search and find the services that best fit the requirements of a given process.

**Enhance connectivity.** The enrich capability enables dynamic and efficient access to services information by runtime applications and processes that facilitate better connectivity and efficiency. WebSphere Service Registry and Repository increases runtime flexibility of applications via enterprise service bus (ESB) by enabling selection of services based on service metadata.

**Optimize service usage.** The manage capability enables management of service metadata, service interactions, service dependencies, and service redundancies. You can classify services based on business objectives, manage policies for services usage, and monitor how services are changed and versioned. Also, you can link related documents (such as PDF files) to service metadata. This capability helps you optimize the use of services in an SOA by exchanging rich service metadata with runtime monitoring tools and operational data stores.

**Enable SOA governance**

Enables SOA governance in the service life cycle by providing:

- **Access control.**
  Control the visibility and access to service metadata for sharing and reuse by using role-based access. Using the access-control editor, you can easily set up access-control rules that align with your business.

- **Classify service.**
  Classify services and related metadata into groups that are meaningful in the domain of your organization and that align with your business needs. Using the classification editor, productivity can be improved by easy setup and modifications to your classification schemas.

- **Impact analysis.**
  By maintaining relationships, WebSphere Service Registry and Repository has extensive support for analyzing the impact of service introduction, deletion, or alteration. Graphical views can be used to intuitively understand the service relationships and dependencies.

- **Service life cycle.**
  By creating user-definable entities and customizing the service life cycle, you can configure WebSphere Service Registry and Repository precisely according to your business needs. You can implement best practices for service life-cycle management with the ability to promote services and life-cycle validations. Using customizable validators, you can guard transitions in the life-cycle states of services.

- **Service consumer life cycle.**
  Governing the service consumers is just as important - if not more important - than governing the service itself. Consumers have versions just as services have versions. Governing the consumers provides you the means to measure your SOA’s success; this becomes critical when managing an SOA. WebSphere Service Registry and Repository has a well-defined model for governing the service consumer in the Governance Enablement Profile. This profile can be customized to fit your business needs.

- **Governance profile.**
  To get you started easily and quickly, WebSphere Service Registry and Repository provides a well-defined service model that includes templates, associated life cycles, governance policies with a generic validator, a classification system, roles, and perspectives.
• Reporting.
  Reporting becomes key in managing and measuring an SOA. WebSphere Service Registry and Repository provides robust reporting capabilities built on top of Eclipse Business Intelligence and Reporting Tools (BIRT).

SOA policy management

WebSphere Service Registry and Repository enables policy management across the life cycle spanning all domains of policy. Better policy management with WebSphere Service Registry and Repository gives you the ability to track and govern your runtime policies while establishing contractual and enforceable relationships between various runtime policies and associated services. You can consistently enforce the most current policies in your SOA. These policies are discovered and interpreted dynamically during run time. By helping to ensure that your contractual obligations are strictly followed, you will benefit by mitigating the risk of lost revenue and customer dissatisfaction, and achieving higher levels of service quality and responsiveness.

• Govern the life cycle of SOA policies
  – Validate, audit, and report changes to policy
  – Ensure web services interoperability compliance
  – Enforce service governance policies
• Use policy authoring tools to easily create new policies
  – Associate policies to services to create an authoritative source of services and related metadata
  – Store and associate policies of any domain
• Apply prescriptive approach to governance with new policy libraries, improving time-to-value
  – Templates for operational policies
  – Policies that capture governance best practice
• Distribute SOA policies to enable enforcement by ESBs and other SOA products

Federate with other SOA repositories: WebSphere Service Registry and Repository federates with other SOA repositories to enable governance and management of the complete service life cycle. At the model and assemble phases, WebSphere Service Registry and Repository is complemented by repositories that specialize in managing SOA development artifacts.

In the deploy and manage phases, WebSphere Service Registry and Repository can work with configuration management databases to acquire and manage operational details of your IT infrastructure. Integration with IBM Tivoli® Change and Configuration Management Database (CCMDB) provides governance and impact analysis capabilities across services and the underlying infrastructure.

Synchronization with Universal Description, Discovery, and Integration (UDDI) registries allows entries created via a UDDI V3-capable product to be synchronized with entries in WebSphere Service Registry and Repository. Web Services Description Language document entries (that have been created in UDDI following Best Practice: "Using Web Services Description Language in a UDDI Registry" or Technical Note: "Using Web Services Description Language in a UDDI Registry, V2.0.2") can be mapped, created, and maintained including their metadata. Policy documents stored in UDDI can also be mapped in WebSphere Service Registry and Repository. The support is bidirectional, meaning that documents created in WebSphere Service Registry and Repository can be mapped into UDDI and documents created in UDDI can be mapped into WebSphere Service Registry and Repository.

Enable governance and life-cycle management of high-value applications: WebSphere Service Registry and Repository helps your high-value applications to participate fully in enterprise SOA. Service-enabled applications from WebSphere MQ and CICS® can be published in WebSphere Service Registry and Repository enabling
you to reuse, classify, describe, and govern these services like any other in your SOA.

WebSphere Service Registry and Repository can be a critical deployment component of SOA projects because it enables you to:

- **Get clear visibility into service associations and relationships.** Better align IT to meet business needs by outlining business tasks and the corresponding IT services. WebSphere Service Registry and Repository supports service life-cycle management and governance to provide better control of SOA environment.

- **Share your services.** You can identify common services to avoid duplication and foster reuse. WebSphere Service Registry and Repository supports discovery and reuse of services and the associated metadata and artifacts.

- **Deliver services interoperability.** Make the most of existing investments and infrastructure. With the support of Web Services Description Language, XML, XML Schema Definition (XSD) Language, Service Component Architecture (SCA), and other standards including UDDI, WebSphere Service Registry and Repository delivers true interoperability.

- **Provide SOA governance.** SOA governance is a catalyst for optimizing SOA deployments in meeting the IT business objectives. Your SOA can be more tightly aligned to business objectives because it is organized by business-oriented services and if needed, also by IT function. Better governance of an SOA means better business results.

- **Unlock the value of mainframe applications and databases.** Mainframe applications and database interactions that are exposed as services can be published to WebSphere Service Registry and Repository and accessed by both the mainframe and non-mainframe applications without invasive programming at the API level.

- **Enforce best practices.** WebSphere Service Registry and Repository includes functions and flexibility to help IT groups institute standards and best practices in their SOA deployments.

- **Incrementally adopt SOA.** The scalable nature of WebSphere Service Registry and Repository enables you to start your SOA small and grow as needed. You can incrementally deploy SOA alongside existing assets and processes.

**Play a vital role in IBM SOA Foundation**

WebSphere Service Registry and Repository plays a major role in the SOA life cycle.

- **Model.** During service modelling, you can use WebSphere Service Registry and Repository to create or reuse service descriptions, classifications, and XML schemas. It also interacts with the service development life cycle with standard asset management solutions.

- **Assemble.** During service development or assembly, you can use WebSphere Service Registry and Repository to locate services for reuse and to enable service composition, such as creating new composite applications. Because the lifecycle of services is managed and governed in WebSphere Service Registry and Repository, it forms the authoritative source of service metadata.

- **Deploy.** As part of the service deployment process, you can publish service endpoint information to WebSphere Service Registry and Repository. It augments any service descriptions that already exist from development or other tools, which helps by enriching the service interaction from run times.

- **Manage.** To manage services that leverage system-management practices (such as Information Technology Infrastructure Library (ITIL®) processes, and Change and Configuration Management Database (CCMDB) for storing information about service interactions such as mediations), you can use WebSphere Service Registry and Repository to capture and assess the performance of services against business and operational performance objectives. WebSphere Service Registry and Repository federates service information with operational system management utilities.

WebSphere Service Registry and Repository enables Service Governance needs of an enterprise. Its robust, industrial-strength capabilities help you efficiently manage access to, and governance of, services. Standard registry and repository functions
for the entire software life cycle, well integrated with IBM SOA Foundation and other complementary third-party software solutions, make WebSphere Service Registry and Repository a valuable component of your SOA. Regardless of the level of SOA maturity in your enterprise, WebSphere Service Registry and Repository brings immediate benefits that can help accelerate your adoption of an SOA approach.

Accessibility by people with disabilities

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


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

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

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

To determine the required license capacity for the System z IPLA program you selected, refer to the **Terms and conditions** section.
Product positioning

WebSphere Service Registry and Repository for z/OS, V7.5 is an integrated SOA Foundation product that enables you publish, find, enrich, manage, and govern the services in the SOA.

- Promotes reuse and eliminates redundancies
  - Publishes and finds services and related metadata through all stages of SOA
  - Integrates and federates with other standard registries and repositories
  - Creates new business processes using existing services published in WebSphere Service Registry and Repository

- Enriches SOA run-time interaction
  - Enables optimized access to service metadata
  - Manages service interactions and policies
  - Enhances business services by providing rich service metadata stored with the corresponding IT services

- Enables better control of SOA with governance
  - Facilitates service life cycle with guards for state transactions
  - Analyzes impacts of service introduction, deletion, or alteration by maintaining relationships
  - Manages role-based access to services, changes, versioning, and service retirement
  - Facilitates policy support for instituting best practices and enforcing policies associated with services in SOA deployments
  - Offers strong backing by IBM SOA governance practice, methods, best practices, and tools

WebSphere Service Registry and Repository enables management and governance capabilities to get the most business value from your SOA. It facilitates storing, accessing, and managing service information (service metadata) so you can easily select, invoke, govern, and reuse your services.

- Ensures security, scalability, and manageability for growth

When deployed on z/OS, WebSphere Service Registry and Repository inherits the strengths of the System z platform to provide a centralized and highly available solution, ensuring your core SOA information is secure and shareable across the enterprise.

Deployed on the same platform as the one you use to host your core business applications, WebSphere Service Registry and Repository for z/OS, V7.5 lets you build a highly available, secure, reliable, scalable, and cost-efficient infrastructure for services reuse and governance.

Implementing WebSphere Service Registry and Repository for z/OS, V7.5 offers a unique opportunity to take advantage of its capabilities as part of a complete SOA implementation on the System z platform. It ensures that as your SOA implementation grows, you have a secure and scalable way of managing the many services your business applications rely on.

Availability of national languages

English and translated machine-readable material is available with the base product deliverables.
Program number

<table>
<thead>
<tr>
<th>Program number</th>
<th>VRM</th>
<th>Program name</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-W17</td>
<td>7.5.0</td>
<td>WebSphere Service Registry and Repository for z/OS</td>
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Product identification number

<table>
<thead>
<tr>
<th>Program PID number</th>
<th>Subscription and Support PID number</th>
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<tbody>
<tr>
<td>5655-W17</td>
<td>5655-R42</td>
</tr>
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</table>

Education support

Training is available for:

- IBM WebSphere Service Registry and Repository

IBM training provides education to support many IBM offerings. Descriptions of courses for IT professionals and managers are on the IBM training website

  http://www.ibm.com/services/learning/

Contact your IBM representative for course information.

Offering Information

Product information is available via the Offering Information website

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

Publications

Product documentation for WebSphere Service Registry and Repository can be obtained from the IBM Publications Center. Visit

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

For the WebSphere Service Registry and Repository Information Center, visit

  http://publib.boulder.ibm.com/infocenter/sr/v7r5/index.jsp

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 US) 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 requirements**

**Server requirements:** Any server capable of running one of the z/OS releases.

**Software requirements**

- Application server
  - WebSphere Application Server for z/OS, V7.0
- Operating systems supported with 31-bit WebSphere Application Server -- IBM z/OS V1.9, 1.10, 1.11, or 1.12
- Operating systems supported with 64-bit WebSphere Application Server -- IBM z/OS V1.9, 1.10, 1.11, or 1.12
- Databases:
  - DB2 Universal Database™ for IBM z/OS, V10.1
  - DB2 Universal Database for IBM z/OS, V9.1

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**

Support for Migration from WebSphere Service Registry and Repository V6.0.2, V6.1, V6.2, V6.3, or V7.0 to V7.5 is provided. In order to migrate, customers will need to apply the latest Fix Pack Level available for WebSphere Service Registry and Repository V6.0.2, V6.1, V6.2, V6.3 or V7.0 as appropriate. For information, visit the WebSphere Service Registry and Repository product support site


**Customer responsibilities**

You must provide at least the minimum hardware and software environments in which the licensed programs operate.

You must identify the machine on which you will install WebSphere Service Registry and Repository for z/OS, V7.5. Then identify the MSU tier in which it fits, and then calculate the number of Value Units for the required Use Authorization.

Before operating the system, you must confirm that they have sufficient Use Authorization to use the system.

You must purchase the appropriate number of Value Units before using the system.

Problem determination (PD) is a customer responsibility. PD is an assessment of whether a problem is caused by hardware or software. PD is complete only when the cause of the problem is identified. This assessment includes examination of available symptoms using the PD procedures documented in the product.

Problem source identification (PSI) is a customer responsibility. PSI begins when software is determined to be the source of the problem. PSI includes tracing the source of the program to a host system control program (SCP), an application program, or another source. Assisting the customer with PSI is an IBM service and support responsibility.
Packaging
The WebSphere Service Registry and Repository for z/OS, V7.5 is shipped via Customized Offerings, on 3480 1/2-inch tape cartridge.

Also shipped are:

- IBM Program License Agreement Booklet (IPLA) (Z125-3301)
- License Information (GC34-7110)
- Program Directory (GI13-0552) Softcopy format only
- WebSphere Service Registry and Repository Studio V7.5 Desktop Development Tooling Windows® (includes Studio and Client) DVD (LCD7-1788)
- WebSphere Service Registry and Repository Studio V7.5 Desktop Development Tooling Linux® (includes Studio and Client) DVD (LCD7-4461)

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.

Security, auditability, and control
WebSphere Service Registry and Repository for z/OS, V7.5 uses the security and auditability features of the server operating system.

The customer is responsible for evaluation, selection, and implementation of security features, administration procedures, and appropriate controls in application systems and communication facilities.

Ordering information

<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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<tr>
<td>IBM WebSphere Service Registry and Repository for z/OS, V7.5</td>
<td>5655-W17</td>
<td>Value Unit</td>
</tr>
<tr>
<td>IBM WebSphere Service Registry and Repository for z/OS, Subscription &amp; Support</td>
<td>5655-R42</td>
<td>Value Unit</td>
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</table>

The charge units used for WebSphere Service Registry and Repository for z/OS, V7.5 are based on Value Units, depending on the Millions of Service Units (MSU) level of the server on which the product is installed. MSU tiers are applied and the cumulative Value Unit/MSU rate determines the charge.

For information on Value Units, refer to the Ordering information section.
**Value Unit transferability**

Value Units purchased as a result of this announcement are intended to be used on z/OS only.

**Resource Value Unit**

Resource Value Unit (RVU) is a unit of measure by which the program can be licensed. RVU Proofs of Entitlement are based on the number of units of a specific resource used or managed by the program. Licensee must obtain sufficient entitlements for the number of RVUs required for Licensee’s environment for the specific resources as specified in the table below. RVU entitlements are specific to the program and the type of resource and may not be exchanged, interchanged, or aggregated with RVU entitlements of another program or resource. Refer to the program-specific Resource Value Unit table.

**Notes:**
- Some programs may require licenses for the resources available to and the resources being managed by the program. In that case, the following applies: In addition to the entitlements required for the resources used by the program directly, Licensee must obtain entitlements for this program sufficient to cover the resources 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 resources used by the program directly, Licensee must obtain entitlements for this program sufficient to cover the resources managed by the program.
- The program in this announcement has Value Unit-based pricing.

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Program Name</th>
<th>Value Unit Exhibit</th>
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<td>5655-W17</td>
<td>WebSphere Service Registry and Repository for z/OS, V7.5</td>
<td>VUE007</td>
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For each zSeries® 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 zSeries 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>Tier</th>
<th>MSUs minimum</th>
<th>MSUs maximum</th>
<th>Value Units/MSU</th>
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Value Units for mainframes without MSU ratings:

<table>
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<th>Value Units/machine</th>
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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>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>3 * 1.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Tier A</td>
<td>42 * 0.45</td>
<td>18.90</td>
</tr>
<tr>
<td>Tier B</td>
<td>130 * 0.36</td>
<td>46.80</td>
</tr>
<tr>
<td>Tier C</td>
<td>140 * 0.27</td>
<td>37.80</td>
</tr>
<tr>
<td>Tier D</td>
<td>1,185 * 0.20</td>
<td>237.00</td>
</tr>
<tr>
<td>Total</td>
<td>1,500</td>
<td>343.50</td>
</tr>
</tbody>
</table>

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

Basic license

On/Off Capacity on Demand

WebSphere Service Registry and Repository for z/OS, V7.5 is eligible for On/Off Capacity on Demand (On/Off CoD) with a Temporary Use Charge calculated based on MSUs-per day usage.

Program Name: WebSphere Service Registry and Repository for z/OS, V7.5
Program PID: 5655-W17

<table>
<thead>
<tr>
<th>Entitlement Identifier</th>
<th>Description</th>
<th>License Option/ Pricing Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S015NHB</td>
<td>WebSphere Service Registry and Repository for z/OS, V7.5</td>
<td>Basic OTC, Per MSU-day TUC</td>
</tr>
</tbody>
</table>

The following information is a summary of all license options and pricing metrics offered for the above PID number.

Translation from MSUs to Value Units

<table>
<thead>
<tr>
<th>MSUs</th>
<th>Value Units/MSU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>1-3</td>
</tr>
<tr>
<td>Tier A</td>
<td>4-45</td>
</tr>
<tr>
<td>Tier B</td>
<td>46-175</td>
</tr>
<tr>
<td>Tier C</td>
<td>176-315</td>
</tr>
<tr>
<td>Tier D</td>
<td>316+</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>0.20</td>
</tr>
</tbody>
</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 Service Registry and Repository for z/OS
Program PID: 5655-W17

<table>
<thead>
<tr>
<th>Entitlement Identifier</th>
<th>Description</th>
<th>License option/ Pricing metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>S015NHB</td>
<td>WebSphere Service Registry and Repository for z/OS, V7.5</td>
<td>Basic OTC, per Value unit</td>
</tr>
</tbody>
</table>
Subscription and Support PID: 5655-R42

Entitlement identifier | Description | License option/ Pricing metric
--- | --- | ---
S013HV6 | Websphere Service Registry and Repository for z/OS, Subscription and Support | Basic ASC, Value Units SW S&S, No charge, decline SW S&S, Per MSU SW S&S Registration

Orderable supply ID Language Distribution medium
S0166GP U.S. English 3590 1/2 inch DAT tape cartridge

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, 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
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 four 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 the IBM Agreement for Acquisition of Software Maintenance.

**Licensing**

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

**Agreement for Acquisition of Software Maintenance**

The following agreement applies for 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.

**License Information form number**

WebSphere Service Registry and Repository for z/OS, V7.5: License Information (GC34-7110)

The program’s License Information L-SBRY-8DPEJU 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

**IBM International Passport Advantage Agreement**

**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 offering, visit

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

**System i Software Maintenance applies**

No

**Variable charges apply**

No

**Educational allowance available**

15% to qualified educational 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-W17</td>
<td>IBM WebSphere Service Registry and Repository for z/OS, V7.5</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 adds value to the parent program across the environment, regardless of where in the environment the System z IPLA program executes.

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

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

- 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.

**IBM Electronic Services**

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

http://www.ibm.com/support/electronic

**Prices**

For all local charges, contact your IBM representative.
### AP distribution

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Announced</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP IOT</td>
<td></td>
</tr>
<tr>
<td>ASEAN*</td>
<td>Yes</td>
</tr>
<tr>
<td>India/South Asia**</td>
<td>Yes</td>
</tr>
<tr>
<td>Australia</td>
<td>Yes</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>Yes</td>
</tr>
<tr>
<td>Hong Kong S.A.R of the PRC</td>
<td>Yes</td>
</tr>
<tr>
<td>Macao S.A.R of the PRC</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
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<tr>
<td>New Zealand</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan IOT</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, and Vietnam
** Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and Afghanistan

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http://www.ibm.com/planetwide/