IBM WebSphere Service Registry and Repository for z/OS , V7.0 delivers advanced capabilities necessary to drive the success of your SOA deployments

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At a glance

WebSphere® Service Registry and Repository helps maximize 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.

WebSphere Service Registry and Repository V7.0 delivers updated capabilities and associated benefits to provide service visibility and governance:

- Make smarter investment decisions by tracking return on investment (ROI) of service investments. Better business-level information empowers business users to better align IT decisions and offerings.
- Accelerate SOA adoption with the seamless integration of services life cycle with IT operations life cycle and process management. Empower decision makers with information for smarter capacity/resource planning and change management by federating service life cycle and IT service management life cycle with change and configuration management.
- Track, measure, and improve compliance with organizational and industry policies. SOA policy monitoring analytics for service life cycle governance and runtime metrics such as SLA and contracts ensure that the information flowing through processes is in compliance with organizational policies and goals.
- Better manage visibility of service across SOA domains. By using the Service Federation Management console to simplify the process of sharing business services between service domains, you can improve the connections within an organization, and increase reuse of services and information by extending the reach of existing assets across the organization and beyond.
- Achieve faster time to market of new applications with lower costs to meet customer needs: Faster time to market with new ATOM feeds enabling Web 2.0 style interactions in a REST fashion.

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

Overview

WebSphere Service Registry and Repository delivers the foundation for enabling service life cycle governance as part of the IBM SOA governance. As customers adopt effective SOA solutions, the need to proactively govern the service life cycle through prescriptive capabilities offered by WebSphere Service Registry and Repository becomes important. Additional capabilities in the area of associating

policies with services becomes an essential part of service life cycle management and governance. WebSphere Service Registry and Repository integrates and complements numerous solutions from IBM as well as external solutions from Business Partners, including:

- Enhanced connectivity by increasing runtime flexibility of applications integrated using the Enterprise Service Bus (ESB)-related products, including WebSphere DataPower®, WebSphere Enterprise Service Bus, and WebSphere Message Broker
- Optimized use of services in SOA by exchanging rich service information with runtime monitoring tools and operational data stores, including IBM Tivoli® Composite Application Manager (ITCAM) for SOA, and IBM Tivoli Change Configuration Management Database (CCMDB).
- Enabled governance and life cycle management of customer high-value applications such as WebSphere MQ and CICS®.
- Enabled policy management across the SOA lifestyle, spanning various domains of policies, including runtime policies as well as service policies.
- The Service Federation Management console simplifies the process of sharing business services between service domains.
- Integrate across Business Process Management solution as a foundation for service governance and metadata.

A key part of this updated release of WebSphere Service Registry and Repository is to deliver the advanced capabilities necessary to leverage the solution as an enterprise Service Registry and Repository in driving the success of your SOA deployments.

WebSphere Service Registry and Repository performs critical functions in the area of SOA governance and service life cycle management.

WebSphere Service Registry and Repository V7.0 delivers updated capabilities and associated benefits to provide service visibility and governance. WebSphere Service Registry and Repository helps manage service interactions and dependencies by handling policies, versioning, classification, and usage throughout the life cycle of the service to promote optimal interaction of services in the SOA. WebSphere Service Registry and Repository enables management and governance capabilities for you to get the most business value from your SOA. It facilitates storing, accessing, and managing service information (service metadata), enabling service consumers to easily select, invoke, govern, and reuse their services.

WebSphere Service Registry and Repository delivers visibility and control of the services in the SOA. It helps drive business flexibility by managing the services that align IT with business objectives.

With these capabilities, WebSphere Service Registry and Repository throughout the SOA life cycle (model, assemble, deploy, and manage) helps govern access, monitor service vitality, manage policies for publishing, and use and retire services.

Without proactive service life cycle governance and management of service metadata in an SOA, it is difficult to optimize business results of SOA that indicate challenges in managing and a general lack of control over your services. Management challenges typically include:

- Tracking and managing SOA services and business-critical documents
- Providing reliable SOA services for business applications and processes
- Reducing complexity and costs of securing services and applications
- Greater sharing to increase return on existing assets

Key prerequisites

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

Planned availability date

December 11, 2009

Description

An SOA is the next evolutionary step to help IT organizations meet their ever more-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.

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

WebSphere Service Registry and Repository V7.0 delivers management and governance capabilities that allow you to get the most business value from your SOA. It facilitates storing, accessing, and managing service information, called *service metadata*, to easily select, invoke, govern, and reuse 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, allowing you to keep an accurate record of deployed services in your SOA. Faceted search provides a natural and user-friendly way to find services by allowing you to progressively refine search results using attributes, document types, and classification.

WebSphere Service Registry and Repository helps to quickly create or modify 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 by an ESB by enabling selection of services based on service metadata.

Optimize service usage. The manage capability enables management of service metadata, as well as service interactions, dependencies, and 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 allow you 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.
- **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.

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 lets you 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 the 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 life

cycle 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 forms the core that feeds the overall SOA governance technology, which underpins the SOA framework. 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 U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

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

Section 508 of the U.S. Rehabilitation Act

Features of WebSphere Service Registry and Repository for z/OS®, V7.0 that support use by people with disabilities include:

- Ability to use assistive technologies such as screen readers and screen magnifier software
- Features to customize display attributes such as color, contrast, and font size
- Capability of operating using only the keyboard

The product documentation is provided in HTML format as part of the WebSphere Service Registry and Repository Information Center.

Value Unit-based pricing

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

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

identified by a three-digit code and referred to using the nomenclature VUExxx, where xxx is the three-digit code.

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

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

- Determine the required license capacity, in MSUs

- Aggregate the MSUs across the enterprise

- Convert the total MSUs to Value Units, using the applicable Value Unit Exhibit

- Multiply the price per Value Unit by the total number of Value Units to determine the total cost

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

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

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

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

Product positioning

WebSphere Service Registry and Repository for z/OS, V7.0 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 runtime 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, V7.0 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, V7.0 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.

Program number

Program number	VRM	Program name
5655-W17	7.0.0	WebSphere Service Registry and Repository for z/OS

Product identification number

Program PID number	Subscription and Support PID number
5655-W17	5655-R42

Business Partner information

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

https://www.ibm.com/partnerworld/mem/sla.jsp?num=209-295

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 Web site

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

The IBM WebSphere Education team delivers a comprehensive portfolio of education services to help customers and IBM Business Partners successfully deploy SOA and integrate IBM WebSphere middleware products to achieve the maximum benefit.

Education is a key component to ensuring software success. A case study by the IBM WebSphere Support Team has showed lack of training as the third most common cause of deployment issues for three years running. Our curriculum provides a unique training value built on exclusive product knowledge direct from IBM Developers cemented with expert instructors and flexible time and cost-saving

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

With over 200 courses across eight curriculums, WebSphere Education provides training that spans the spectrum of skills needs from introductory product overviews to advanced programming and administration. Hands-on labs let you work with fully functional versions of the software you are studying to round out your training experience. Several training options are available, including classroom, private customized courses, or instructor-led or self-paced online learning letting you train from your office without travelling.

Call IBM training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Offering Information

Product information is available via the Offering Information Web site

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

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/v7r0/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 U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Technical information

Specified operating environment

Hardware requirements

For details, visit

http://www-1.ibm.com/support/docview.wss?rs=3163&uid=swg27012652

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 or 1.10
- Operating systems supported with 64-bit WebSphere Application Server -- IBM z/OS V1.9 or 1.10
- Databases:

  - z/OS -- DB2 Universal Database™ for IBM z/OS, V9.1
  - z/OS V1.8 -- DB2 Universal Database for IBM z/OS, V8.1

For details, visit:

http://www-1.ibm.com/support/docview.wss?rs=3163&uid=swg27012652

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, or V6.3, to V7.0 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, or V6.3 as appropriate. For information, visit the WebSphere Service Registry and Repository product support site

http://www-306.ibm.com/software/integration/wsrr/support/

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, V7.0. 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.

Direct customer support

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

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

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

http://www.ibm.com/support

Packaging

The WebSphere Service Registry and Repository for z/OS, V7.0 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)
- WebSphere Service Registry and Repository Studio and Client DVD (LCD7-1788)

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

Security, auditability, and control

WebSphere Service Registry and Repository for z/OS, V7.0 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.

Software Services

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

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

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

Ordering information

Charge metric

Program name	Part number or PID number	Charge metric
IBM WebSphere Service Registry and Repository for z/OS, V7.0	5655-W17	Value Unit
IBM WebSphere Service Registry and Repository	5655-R42	Value Unit

```
for z/OS,
Subscription
 & Support
```

The charge units used for WebSphere Service Registry and Repository for z/OS,
V7.0 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.

Value unit transferability

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

Resource Value Unit (RVU)

RVU is the unit of measure by which this program is licensed. RVU entitlements are
based on the quantity of a specific designated measurement for the given program.
A Proof of Entitlement (PoE) must be obtained for the appropriate number of RVUs
required for your environment as defined by the specific program terms. The RVU
entitlements are specific to the program and may include, but are not limited to
the following: client devices, data source records, messages, and servers, and may
not be exchanged, interchanged, or aggregated with RVU entitlements of another
program. To understand these benefits of RVU licensing and to determine how many
RVUs to obtain for the program, contact your IBM representative.

The program in this announcement has Value Unit-based pricing.

```
Program
number    Program name                        Value Unit Exhibit

5655-W17  WebSphere Service Registry and      VUE007
            Repository for z/OS, V7.0
```

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

```
          MSUs     MSUs
          minimum  maximum  Value Units/MSU

Base        1        3      1
Tier A      4       45      0.45
Tier B     46      175      0.36
Tier C    176      315      0.27
Tier D    316        +      0.2
```

Value Units for mainframes without MSU ratings:

```
 Hardware    Value Units/machine

MP3000 H30    6
MP3000 H50    8
MP3000 H70   12
ESL models    2
```

Ordering example

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

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

```
Translation from MSUs to Value Units

          MSUs    *  Value Units/MSU = Value Units
Base          3  *  1.00             =    3.00
Tier A       42  *   .45             =   18.90
Tier B      130  *   .36             =   46.80
Tier C      140  *   .27             =   37.80
Tier D    1,185  *   .20             =  237.00

Total     1,500                         343.50
```

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

Ordering z/OS through the Internet

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

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

Basic license

On/Off Capacity on Demand

WebSphere Service Registry and Repository for z/OS, V7.0 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, V7.0
Program PID    5655-W17

Entitlement                              License Option /
Identifier        Description            Pricing Metric

S015NHB           WebSphere Service      Basic OTC, Per MSU-day TUC
                  Registry and
                  Repository
                  for z/OS, V7.0
```

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

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

Value Unit pricing

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, V7.0
Program PID    5655-W17
```

```
Entitlement                              License Option /
Identifier       Description             Pricing Metric

S015NHB          WebSphere Service       Basic OTC, Value units
                 Registry and Repository
                 for z/OS, V7.0
```

```
Orderable Supply ID     Language         Distribution medium

S015NH6                 U.S. English     3480 uncomp tape cartridge
```

Note: Additional media type selections (3480 compressed, 3490E, 3590, 3592) are offered during Custom Build Offering ordering.

```
Subscription and Support PID   5655-R42
```

```
Entitlement                              License Options /
Identifier       Description             Pricing Metrics

S013HV6          WebSphere Service       Basic ASC, Value Units SW S&S
                 Registry and
                 Repository z/OS,
                 - Subscription          Decline SW S&S (no charge)
                 and Support             Per MSU SW S&S Registration
```

```
Orderable Supply ID     Language         Distribution Medium

S013HV8                 U.S. English     Hardcopy pub
```

Subscription and Support

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

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

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

- Includes and extends the support services provided in the base support to include technical support via telephone during normal business hours.
- Entitles customers to future releases and versions at no additional charge. Note that the customer is not entitled to new products.

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

Single version charging

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

Customized Offerings

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

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

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

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

- CBPDOs - 3480, 3480 Compressed, 3490E, 3590, 3592[1]
- ServerPacs - 3480, 3480 Compressed, 3490E, 3590, 3592[1]
- SystemPacs - 3480, 3480 Compressed, 3490E, 3590, 3592[1]

[1] 3592 is highest density media. Selecting 3592 will ship the fewest number of media.

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

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

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after inclusion in ServerPac.
- SystemPac shipments will begin four weeks after inclusion in SystemPac due to additional customization and data input verification.

Terms and conditions

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

Licensing

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

Agreement for Acquisition of Software Maintenance

The following agreement applies for 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, V7.0: License Information (GC34-7110)

The program's License Information L-SBRY-7UEJS6 will be available for review on the IBM Software License Agreement Web site

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

Limited warranty applies

Yes

Limited warranty

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

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

   http://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.

Authorization for use on home/portable computer

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

Volume orders (IVO)

No

Passport Advantage applies

No

Usage restriction

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

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

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

IBM Operational Support Services - SoftwareXcel

Yes

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

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

Sub-capacity terms and conditions

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

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

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

```
Program
number      Program name        Terms

5655-W17    IBM WebSphere       Execution-based
            Service Registry
            and Repository for
            z/OS, V7.0
```

Full-capacity mainframes

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

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

For more information on mainframe MSU-rated capacities, visit

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

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

Sub-capacity mainframes

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

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

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

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

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

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

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

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

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

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

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

- That meets the criteria defined in 198-001, dated January 13, 1998
- Where MLC pricing is aggregated across the sysplex

Sub-capacity eligibility

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

- All instances of the OS/390® operating system must be migrated to the z/OS 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 Web site

http://ibm.com/zseries/swprice

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

- The complete terms and conditions of sub-capacity WLC are defined in the IBM Customer Agreement - Attachment for System z Workload License Charges (Z125-6516).
- The complete terms and conditions for sub-capacity EWLC are defined in the IBM Customer Agreement - Attachment for IBM 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 Customer Initiated Upgrade and IBM eServer™ On/Off Capacity on Demand - Software (Z125-6611) 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

Information on charges is available at

http://www.ibm.com/support

Choose the option entitled Purchase/upgrade tools.

```
Program name:  WebSphere Service Registry and Repository
               for z/OS, V7.0
Program PID:   5655-W17
```

Entitlement identifier	Description	License option/ Pricing metric
S015NHB	WebSphere Service Registry and Repository for z/OS, V7.0	Basic OTC, Per MSU-day TUC
S015NHB	WebSphere Service Registry and Repository for z/OS, V7.0	Basic OTC, Value units

```
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

Passport Advantage

For Passport Advantage information and charges, contact your IBM representative or authorized IBM Business Partner for Software ValueNet®. Additional information is also available at

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

Extended support attachments:

Information on charges is available at

   http://www.ibm.com/support

Choose the option entitled Purchase/Upgrade tools

Order now

To order, contact the Americas Call Centers or your local IBM representative, or your IBM Business Partner.

To identify your local IBM representative or IBM Business Partner, call 800-IBM-4YOU (426-4968).

```
Phone:      800-IBM-CALL (426-2255)
Fax:        800-2IBM-FAX (242-6329)
For IBM representative: callserv@ca.ibm.comFor IBM Business Partner: pwswna@us.ibm.com
Mail:       IBM Teleweb Customer Support
            ibm.com® Sales Execution Center, Americas North
            3500 Steeles Ave. East, Tower 3/4
            Markham, Ontario
            Canada
            L3R 2Z1
```

Reference: LE001

The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

Note: Shipments will begin after the planned availability date.

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