IBM WebSphere Enterprise Service Bus Registry Edition V7.5 enhances SOA platform flexibility and visibility

Table of contents

At a glance

WebSphere® Enterprise Service Bus[1] Registry Edition V7.5 enhances SOA[2] platform flexibility and visibility combining WebSphere ESB V7.5 with WebSphere Service Registry and Repository V7.5 with widgets that can be shared into a common Business Space for SOA users.

This package provides the robust, scalable, and flexible infrastructure for service mediation, hosting, visibility, and control. It permits you to leverage existing service enablement, and create new services, to quickly and dynamically connect service providers with service consumers, and to visualize the impact of your SOA efforts fostering reuse to accelerate broad adoption

For ordering, contact your IBM® representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

1 WebSphere ESB

2 Service-oriented architecture

Overview

WebSphere ESB Registry Edition V7.5 enhances SOA platform flexibility and visibility. It combines WebSphere ESB V7.5 with WebSphere Service Registry and Repository V7.5 with widgets that can be shared into a common Business Space for SOA users.

This getting-started package for SOA solutions provides the robust, scalable, and flexible infrastructure for service mediation, hosting, visibility and control. You can leverage existing service enablement, and create new services, to quickly and dynamically connect service providers with service consumers, and to visualize the impact of your SOA efforts fostering reuse to accelerate broad adoption.

WebSphere ESB Registry Edition V7.5 is composed of:

- WebSphere ESB V7.5
- WebSphere Service Registry and Repository V7.5

The declarative development and test environment is provided by IBM Integration Designer V7.5, also including WebSphere Adapters V7.5.

This is a comprehensive package for easy-to-use SOA platform solutions:

- Enables you to discover what services are running in your environments, increases the visibility of the exposed service interfaces, promoting controlled reuse of service assets across multiple service implementations, thereby enhancing developer productivity.
- Exposes existing applications and data as new business services without impact to the current IT environment.
- Dynamically connects service providers with service consumers, with the ability to leverage common connectivity patterns such as simple proxy, service gateway, service translation, service selection to accelerate integration development.
- Decouples complex integration logic from each application with a central connectivity solution, eliminating point-to-point programming and providing policies to dynamically control the connectivity logic.
- Extends integration reach with extensive support for a wide range of open standards, communication protocols bindings, message format bindings, and application adaptors.
- Allows you to track service reuse by consumers, monitor service traffic and system health, and visualize the business impact of your SOA efforts. Enables you to store, catalog, flexibly organize assets and services, and enforce guidelines to prevent uncoordinated or unapproved changes with adverse effects.
- Provides governance of the service consumers to track service usage and risk control.
- Provides Service Federation Management for reuse of selected service across domains, technologies, and organizational boundaries.
- Allows you to create open, standardized services and reuasable assets that can be used by multiple business lines.
- Integrates seamlessly with existing WebSphere Application Server, SOA, and business process management (BPM) environments for an integrated SOA platform.

Key prerequisites

IBM Integration Designer V7.5 is supported on Windows®, AIX®, HP-UX, Solaris, Linux® (IBM System x®, IBM System p® IBM System i®, and IBM System z®) platforms.

Note: The same capabilities are also available on z/OS®, with Integrated Workload pricing options for WebSphere Service Registry and Repository for z/OS, V7.5, promoting co-location with CICS® and IMS™ transactions for extension with flexible SOA platform connectivity to any application.

Planned availability date

- June 3, 2011: Electronic availability
- June 17, 2011: Media availability

Description

An SOA is the next evolutionary step to help IT organizations meet their ever-more-complex challenges while supporting business growth, flexibility, and innovation. Materializing this potential depends on broad-scale connectivity and how well they manage service reuse throughout their environment.

WebSphere ESB Registry Edition V7.5 combines flexible connectivity infrastructure for hosting and integrating services provided by WebSphere ESB V7.5 with the visibility and governance capabilities of WebSphere Service Registry and Repository V7.5.

For more information on each of the bundled product releases, visit

- WebSphere ESB V7.5

  http://www.ibm.com/software/integration/wsesb
- WebSphere Service Registry and Repository V7.5

  http://www.ibm.com/software/integration/wsrr/

WebSphere ESB

WebSphere ESB provides flexible service mediation and hosting for integrating applications and data as services, designed to enable the development of a SOA. Built on top of WebSphere Application Server for an integrated SOA platform, WebSphere ESB helps you create services from existing assets and connect service providers with service consumers to create new business systems. It can connect virtually any business application, and supports common connectivity patterns such as simple proxy, service gateway, service translation and service selection as well as mediation policies for dynamic SOA solutions. It integrates well with WebSphere Service Registry and Repository, supporting a common business space environment for web-based widgets to SOA users. WebSphere ESB brings consistency to point-to-point connectivity diversity, reducing IT complexity while improving business agility. You can focus on your core business, rather than on your IT.

WebSphere ESB is ideal if you have other solutions on WebSphere Application Server, WebSphere Portal, WebSphere Commerce, or the BPM platform. You may achieve efficiencies in skills, cost, and time-to-value across middleware products by adding WebSphere ESB to your Java-based IT environment, especially in the areas of common cell administration, operation, tuning, clustering, high-availability configurations. Built as a service bus that extends the service integration technologies of WebSphere Application Server, WebSphere ESB is packaged both as part of IBM Business Process Manager and as a stand-alone product. It allows you to run mediation modules, which are Java™ EE applications.

WebSphere ESB:

- Brings consistency to point-to-point connectivity
- Provides smart connectivity on internet-standard application infrastructure, to connect any application or data
- Supports a broad range of native bindings and adapters for service-oriented integration, including. web services, MQ and JMS messaging, HTTP, EJB, databases, files. file transfer, email, Lotus® Domino®, System i (RPG programs), CICS, IMS, SAP, Oracle, Siebel, PeopleSoft, and JDEdwards.
- Integrates seamlessly with the industry-leading WebSphere software platform for streamlined IT operations
- Extends easily to IBM Business Process Manager Advanced for service orchestration and BPM
- Tightly integrates with WebSphere Service Registry and Repository for SOA solutions
- Leverages declarative IBM Integration Designer for visual programming and testing
- Provides an integrated solution for both service mediation and service hosting

WebSphere ESB is easy to use from both a tools and a run-time perspective. IBM Integration Designer, the development tool of choice for WebSphere ESB, delivers an integrated, interactive, and visual development experience that requires minimal programming skills. You can get up and running quickly with a compelling out-of-the-box experience that is supported by easy-to-understand samples and comprehensive documentation.

New features in WebSphere ESB V7.5

- Enhanced developer productivity:
  - Simplified mediation flow format eases team-based development and increases developer choice
  - Consistent and simplified failure handling through operation level error flows
  - Development Guide provides cohesive explanation of programming model and guides choice of product features
  - Enhanced service invocation mediation primitive simplifies message augmentation scenarios
  - Improved catch-all fault processing for mediation flows
- Enhanced integration with WebSphere Service Registry and Repository:
  - Endpoint resolution based on a service level agreement established in WebSphere Service Registry and Repository with the Governance Enablement Profile
  - Policy resolution support extended to cover all SCA binding types and manual endpoints configured in WebSphere Service Registry and Repository
  - Common Business Space user interface for WebSphere ESB and WebSphere Service Registry and Repository
- Enhanced transformation standards support: More powerful transformations through support for XSLT 2.0
- Enhanced performance:
  - Increased responsiveness of initial invocations through pre-compilation of XSL transformations and XPath queries
  - Improved handling of large objects provided by the business object lazy parsing mode
- Enhanced serviceability: Improved mediation flow diagnostics captured on first occurrence of failures
- Platform support:
  - New operation system support for AIX 7.1 and Red Hat Enterprise Linux 6 (on System z and System x)
  - New database support for Microsoft® SQL Server 2008 R2, DB2® z/OS 10

For details on hardware and software requirements for WebSphere ESB, refer to the Hardware requirements and Software requirements sections.

For updates, visit

http://www.ibm.com/software/integration/wsesb/sysreqs

For detailed descriptions of IBM Integration Designer V7.5 and IBM WebSphere Adapters V7.5, refer to Software Announcement 211-092, dated April 5, 2011.

WebSphere Service Registry and Repository

For full details of what is new in WebSphere Service Registry and Repository, refer to Software Announcement 211-084, dated April 5, 2011.

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

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 ESB, and Microsoft.Net platforms, allowing you to keep an accurate record of deployed services in your SOA. (For a list of supported platforms, refer to the WebSphere Service Registry and Repository Information Center.) 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 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 an 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 lifecycle 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 lifecycle**

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

- **Service Consumer lifecycle**

  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 a 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 a SOA. WebSphere Service Registry and Repository provides robust reporting capabilities built on top of Eclipse 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 lifecycle 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. The *Web Services Description Language* document entries (that are 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 lifecycle 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 lifecycle 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 lifecycle.

- **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 lifecycle 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 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 ESB Registry Edition V7.5 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

Product positioning

The WebSphere portfolio delivers several software products to meet your diverse integration needs as they span varying programming models, qualities of service, and multiple data types. Whether you are looking to create a single application or implement an enterprise-wide SOA, IBM designs WebSphere software to meet your evolving needs.

WebSphere ESB Registry Edition is an integrated solution of an ESB and a registry repository to enable an agile connectivity infrastructure which can reduce operational cost and easily react to changes while providing governance of services and high-value applications.

WebSphere Service Registry and Repository is an integrated SOA Foundation product that lets you publish, find, enrich, manage, and govern services in the SOA.

WebSphere ESB delivers web services connectivity, JMS messaging, and service-oriented integration for fast implementation and deployment of an ESB with minimal need for programming.

Program number

```
Program                 Program
number        VRM       name

 5725-B48     7.5.0     WebSphere Enterprise Service Bus Registry
                          Edition
```

Education support

Training is available for

- WebSphere ESB
- 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/

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

Offering Information

Product information is available via the Offering Information website

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

Also, visit the Passport Advantage® website

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

Publications

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

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

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries, free of charge.

Technical information

Specified operating environment

Hardware requirements
WebSphere ESB V7.5

- Minimum 1 GB physical memory; 2 GB recommended
- DVD/CD-ROM drive

- One of the following:
  - AIX on IBM POWER systems: Any system from the IBM POWER family of processors
  - HP-UX on IA64 systems: Intel® Itanium® 2 processor
  - HP-UX on PA-RISC systems: PA-RISC processor
  - Linux on x86 systems: Intel Pentium® at 3 GHz for single-core system, 2.4 GHz for dual cores, or faster; Intel EM64T or AMD Opteron (32-bit kernel support only)
  - Linux on x86-64 systems: AMD Opteron or Intel EM64T (64-bit kernel support)
  - Linux on POWER systems: Any system from the IBM POWER family of processors
  - Linux on System z: System z processor
  - Solaris on SPARC systems:
  - Sun Solaris operating environment compatible SPARC at 440 MHz, or faster
  - Solaris on x86-64 systems: AMD Opteron or Intel EM64T (64-bit kernel support)
  - Microsoft Windows on x86 systems: Intel Pentium at 500 MHz, or faster; Intel EM64T or AMD Opteron (32-bit kernel support only)
  - Microsoft Windows on x86-64 systems: AMD Opteron or Intel EM64T (64-bit kernel support)

WebSphere Service Registry and Repository

- **AIX**
  - IBM POWER family of processors
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **HP-UX Intel Itanium**
  - Intel Itanium 2 processor
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **Linux on x86-64**
  - Intel EM64T or AMD Opteron. (64-bit kernel support only)
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **Linux on Power®**
  - IBM POWER family of processors
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **Linux on IBM System z**
  - IBM System z processor
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **Sun Solaris SPARC**
  - Sun Solaris operating environment-compatible SPARC workstation
  - Minimum 2 GB physical memory, 3 GB recommended

- CD-ROM drive
  - DVD-ROM drive
- **Microsoft Windows (supported with 32-bit WebSphere Application Server)**
  - Intel Pentium (or equivalent) processor at 1 GHz, or faster
  - Intel EM64T or AMD Opteron
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive
- **Microsoft Windows (supported with 64-bit WebSphere Application**
  - Intel EM64T or AMD Opteron
  - Minimum 2 GB physical memory, 3 GB recommended
  - CD-ROM drive
  - DVD-ROM drive

Any hardware that is explicitly compatible and fully capable of running the specified operating system, all the corresponding supporting software, and any associated applications unmodified. The responsibility to provide a statement of full compatibility between machines lies with the original equipment provider (if not IBM).

Software requirements

For customers moving from WebSphere ESB Registry Edition V7.0, please note that the following databases are no longer supported with WebSphere ESB V7.5 as the system database, i.e. for storage and management of information generated by the product. These databases are still supported for storage of application data through the JDBC interface.

- DB2 for i V5R4
- DB2 for i V6R1
- IBM Informix® Dynamic Server V10.00.xC6
- IBM Informix Dynamic Server V11.10.xC1
- IBM Informix Dynamic Server V11.50.xC1

WebSphere ESB V7.5

- AIX on IBM Power Systems™ (32- and 64-bit): AIX 5L™ V5.3, AIX V6.1, and AIX V7.1
- HP-UX on IA64 and PA-RISC systems (64- and 32-bit, respectively)
  - HP-UX 11iv2 (11.23) with Standard Patch Bundle, dated December 2007
  - HP-UX 11iv3 with Standard Patch Bundle dated September 2007
- Linux on x86 systems (32-bit)
  - Red Hat Enterprise Linux (RHEL) 4.0 (Update 6), and AS/ES/WS
  - Red Hat Enterprise Linux (RHEL) 5.0 (or Update 1), Advanced Platform, Server, and Desktop
  - Red Hat Enterprise Linux (RHEL) 6.0 AS/ES/WS

    Note: Red Hat Linux WS is only for application design, development, and testing. It is not supported for production.

  - Novell SUSE Linux Enterprise Server (SLES) 10.0 Service Pack 1
  - SUSE Linux Enterprise Server (SLES) 11.0
- Linux on x86-64 systems (32- and 64-bit)
  - Red Hat Enterprise Linux (RHEL) 4.0 (Update 6), AS/ES
  - Red Hat Enterprise Linux (RHEL) 5.0 (or Update 1)

- Red hat Enterprise Linus (RHEL) 6.0 AS/ES
- Novell SUSE Linux Enterprise Server (SLES) 10.0 Service Pack 1
- Novell SUSE Linux Enterprise Server (SLES) 11.0
- Linux on POWER systems (32- and 64-bit)
  - Red Hat Enterprise Linux (RHEL) 4.0 (or Update 6) AS
  - Red Hat Enterprise Linux (RHEL) 5.0 (or Update 4) AS
  - Novell SUSE Linux Enterprise Server (SLES) 10.0 Service Pack 1
  - Novell SUSE Linux Enterprise Server (SLES) 11.0
- Linux on System z systems: Operating systems (31- and 64-bit)
  - Red Hat Enterprise Linux (RHEL) 4.0 (Update 6)
  - Red Hat Enterprise Linux (RHEL) 5.0 (or Update 1) Advanced Platform
  - Red Hat Enterprise Linux (RHEL) 6.0 AS
  - Novell SUSE Linux Enterprise Server (SLES) 10.0 Service Pack 1 (64-bit kernel support only)
  - Novell SUSE Linux Enterprise Server (SLES) 11.0
- Solaris on SPARC systems (32- and 64-bit): Sun Solaris 10 with the latest Patch Cluster, dated January 1, 2008
- Sun Solaris on x86-64 systems (64-bit): Sun Solaris 10 x86-64 with the latest Patch Cluster, dated January 7, 2008
- Windows on x86 systems (32-bit)
  - Microsoft Windows Server 2003 R2 Datacenter/Enterprise/Standard 32 Edition Service Pack 2
  - Microsoft Windows Server 2008 Datacenter/Enterprise/Standard Edition
  - For application development and test only:
    -- Microsoft Windows XP Professional Service Pack 2
    -- Microsoft Windows Vista Business/Enterprise/Ultimate
    -- Microsoft Windows 7 Enterprise/Professional/Ultimate
- Microsoft Windows on x86-64 systems (64-bit)
  - Microsoft Windows Server 2003 R2 Datacenter/Enterprise/Standard x64 Edition Service Pack 2
  - Microsoft Windows Server 2008 Datacenter/Enterprise/Standard Edition

Required on any of the above:

- WebSphere Application Server Network Deployment V7 (included)
- Supported databases
  - DB2 Enterprise/Workgroup Server Edition V9.5, minimum FixPack 1
  - DB2 Enterprise/Workgroup/Express Server Edition V9.7, minimum FixPack 4
  - DB2 pureScale Feature for Enterprise Server Edition 9.8, minimum FixPack 3
  - DB2 for z/OS, V9.1
  - DB2 for z/OS, V10
  - Oracle 11g Enterprise/Standard Edition Release 1 - 11.1.0.6
  - Oracle 11g Enterprise/Standard Edition Release 2, also supporting Oracle Real Application Cluster (RAC)
  - Microsoft SQL Server Enterprise Edition 2005, 2008, and 2008 R2

For optional functions

- Java application development: IBM Java SDK V6.0 plus Service Refresh 7
- WebSphere Service Registry and Repository V6.2, V6.3, V7.0, and V7.5
- Java Database Connectivity (JDBC) Drivers
  - DB2 Driver for JDBC and SQLJ (type 2/4) V3.4.65

- DB2 Universal JDBC Provider (type 2/4) V2.10.72
- Data Direct Connect for JDBC V4.0 (type 4)
- Application Connectivity to DB2 for z/OS, Feature
- Data Server Driver for JDBC and SQLJ (type 3) V3.51
- Data Server for JDBC and SQLJ (type 4) V4.1
- IBM Toolbox for Java/JTOpen JDBC Driver V6.0 (type 4)
- IMS JDBC Connector 9
- IMS JDBC Connector 10
- Informix JDBC Driver V3.00 JC3 (type 4)
- Informix JDBC Driver V3.10 JC1 (type 4)
- Informix JDBC Driver V3.50.JC1
- Microsoft SQL Server 2005 JDBC Driver 1.2
- Microsoft SQL Server JDBC Driver 2.0
- Microsoft SQL Server JDBC Driver 3.0
- Oracle JDBC Driver 11g 11.1.0.6
- Oracle JDBC Driver 11g 11.2.0.1

- Security
  - WebSpher Application Server ND user registry (included)
  - LDAP v3 (rfc 2251) compliant Directory servers, such as
    -- IBM Tivoli Directory Server V6.1, V6.2, and V6.3
    -- IBM Lotus Domino Enterprise Server V7.0.2 and V8.0
    -- Microsoft Windows Active Directory 2003 and 2008
    -- Novell eDirectory 8.7.3 and 8.8.1
    -- Sun Java Directory Server 6.0 and 6.1
    -- IBM z/OS Security Server as available for z/OS operating system versions supported
    -- IBM Tivoli Access Manager for e-Business V6.0 and V6.1, for z/OS

- JMS providers
  - WebSphere Application Server ND V7 default messaging provider (included), or equivalent
  - WebSphere MQ V6.0. minimum FixPack 2 and MQ V7.0
  - WebSphere MQ for z/OS, v6.0 and v7.0

- Mainframe Transaction Connectivity
  - IBM CICS Resource Adapter (included) for CICS Transaction Gateway V7.0 and V8.0
  - IBM IMS TM Resource Adapter V9.1.0.2 and V10

- Transaction Managers
  - CICS Transaction Server for z/OS, V2.3, V3.1, and V3.2
  - IMS V9 and V10

- License use management (required only to support optional functions): Tivoli License Compliance Manager V2.2

WebSphere Adapters V7.5 can be deployed on WebSphere ESB V7.5. An application-specific prerequisites:

- Any SAP system based on the ABAP application server (3.1H or higher)
  - Oracle E-Business Suite 11.5.X, 12, and 12.1
  - Siebel Business Applications - 7.0.5, 7.5.x, 7.7.x, 7.8.x, 8.0, 8.1, or 8.1.1
- JD Edwards - EnterpriseOne Tools 8.97 or 8.98 (This is compatible with any version of JD Edwards EnterpriseOne supported by EnterpriseOne Tools.)

- For application development and testing only: JD Edwards EnterpriseOne Tools 8.9 SP1, 8.9 SP2, 8.93, 8.94, 8.95, and 8.96

For latest details, visit

http://www.ibm.com/software/integration/wsesb/sysreqs

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.

WebSphere Service Registry and Repository

- **AIX**
  - Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - Operating systems supported with 32-bit WebSphere Application Server

    -- AIX 7.1, with Service Pack 7100-00-01

    -- AIX 6.1 TL1, with Recommended Maintenance package 6100-00-04

    -- AIX 5.3 TL7, with Service Pack 5300-07-01 (32- and 64-bit kernel support)
  - Operating systems supported with 64-bit WebSphere Application Server

    -- AIX 7.1, with Service Pack 7100-00-01

    -- AIX 6.1 TL1, with Recommended Maintenance package 6100-00-04

    -- AIX 5.3 TL7, with Service Pack 5300-07 (64-bit kernel support)
  - Database requirements

    -- DB2 Workgroup Server Edition for Linux, UNIX®, and Microsoft Windows, V9.7 with fix pack 1, or later

    -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later

    -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later

    -- Oracle 11g Standard and Enterprise Editions Release 1 and 2

    -- Oracle 10g Standard and Enterprise Editions Release 2

- **HP-UX on Itanium**
  - Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - Operating systems supported with 64-bit WebSphere Application Server:

    -- HP-UX 11i v3 IA64 with patch bundle, dated September 2007 (64-bit kernel support)

    -- HP-UX 11i v2 IA64 with patch bundle, dated December 2007 (64-bit kernel support)
  - Database requirements

    -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later

    -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later

    -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later

    -- Oracle 11g Standard and Enterprise Editions Releases 1 and 2

    -- Oracle 10g Standard and Enterprise Editions Release 2

- **Linux on x86**
  - Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - Operating systems supported with 32-bit WebSphere Application Server

- -- Red Hat Enterprise Linux 6.0 Server/Advanced
- -- Red Hat Enterprise Linux 5.0 Server/Advanced Update 1
- -- Red Hat Enterprise Linux 4.0 AS/ES Update 6
- -- SUSE Linux Enterprise Server 11.0
- -- SUSE Linux Enterprise Server 10.0 with Update 1
- -- SUSE Linux Enterprise Server 9.0 SP4
  - – Database requirements
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later
    - -- Oracle 11g Standard and Enterprise Editions Releases 1 and 2
    - -- Oracle 10g Standard and Enterprise Editions Release 2

- **Linux on x86-64**
  - – Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - – Operating systems supported with 32-bit WebSphere Application Server
    - -- Red Hat Enterprise Linux 6.0 Server/Advanced
    - -- Red Hat Enterprise Linux 5.0 Server/Advanced Update 1
    - -- Red Hat Enterprise Linux 4.0 AS/ES Update 6
    - -- SUSE Linux Enterprise Server 11.0
    - -- SUSE Linux Enterprise Server 10.0 with Update 1
    - -- SUSE Linux Enterprise Server 9.0 SP4
  - – Operating systems supported with 64-bit WebSphere Application Server
    - -- Red Hat Enterprise Linux 6.0 Server/Advanced
    - -- Red Hat Enterprise Linux 5.0 Server/Advanced Update 1
    - -- Red Hat Enterprise Linux 4.0 AS/ES Update 6
    - -- SUSE Linux Enterprise Server 11.0
    - -- SUSE Linux Enterprise Server 10.0 with Update 1
    - -- SUSE Linux Enterprise Server 9.0 SP4
  - – Database requirements
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later
    - -- Oracle 11g Standard and Enterprise Editions Release 1 and 2
    - -- Oracle 10g Standard and Enterprise Editions Release 2

- **Linux on POWER systems**
  - – Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - – Operating systems supported with 32-bit WebSphere Application Server
    - -- Red Hat Enterprise Linux 6.0 Server/Advanced
    - -- Red Hat Enterprise Linux 5.0 Server/Advanced Update 1
    - -- Red Hat Enterprise Linux 4.0 AS/ES Update 6
    - -- SUSE Linux Enterprise Server 11.0
    - -- SUSE Linux Enterprise Server 10.0 with Upadte 1

-- SUSE Linux Enterprise Server 9.0 SP4

– Operating Systems supported with 64-bit WebSphere Application Server

-- Red Hat Enterprise Linux 6.0 Server/Advanced

-- Red Hat Enterprise Linux 5.0 Server/Advanced Update 1

-- Red Hat Enterprise Linux 4.0 AS/ES Update 6

-- SUSE Linux Enterprise Server 11.0

-- SUSE Linux Enterprise Server 10.0 with Update 1

-- SUSE Linux Enterprise Server 9.0 SP4

– Database requirements

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later

-- Oracle 10g Standard and Enterprise Editions Release 2

- **Linux on IBM System z**

– Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release

– Operating systems supported with 64-bit WebSphere Application Server:

-- Red Hat Enterprise Linux 6.0 Server/Advanced

-- Red Hat Enterprise Linux 5.0 Update 1

-- Red Hat Enterprise Linux 4.0 AS Update 6

-- SUSE Linux Enterprise Server 11.0

-- SUSE Linux Enterprise Server 10.0 with Update 1

-- SUSE Linux Enterprise Server 9.0 SP4

– Database requirements

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later

-- DB2 Universal Database™ Enterprise Server Edition V9.7

- **Sun Solaris SPARC**

– Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release

– Operating systems supported with 32-bit WebSphere Application Server: Sun Solaris 10 with patch cluster, dated July 01, 2008, or later (32- and 64-bit kernel support)

– Operating systems supported with 64-bit WebSphere Application Server: Sun Solaris 10 with patch cluster, dated July 01, 2008, or later (64-bit kernel support)

– Database requirements

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later

-- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later

-- DB2 Universal Database Enterprise Server Edition V9.7

-- Oracle 11g Standard and Enterprise Editions Releases 1 and 2

-- Oracle 10g Standard and Enterprise Editions Release 2

- **Microsoft Windows**
  - Application server: WebSphere Application Server Network Deployment V7.0 with most current fixpack at the time of release
  - Operating systems supported with 32-bit WebSphere Application Server
    - -- Microsoft Windows Server 2008 Standard Edition x86 SP1 and x64 SP1 and R2
    - -- Microsoft Windows Server 2008 Enterprise Edition x86 SP1 and x64 SP1 and R2
    - -- Microsoft Windows Server 2003 Standard Edition x86 SP2 and R2, and x64 SP2 and R2
    - -- Microsoft Windows Server 2003 Enterprise Edition x86 SP2 and R2, and x64 SP2 and R2
    - -- Microsoft Windows 7 Ultimate x86 and x64
    - -- Microsoft Windows 7 Enterprise x86 and x64
    - -- Microsoft Windows 7 Professional x86 and x64
    - -- Microsoft Windows Vista Ultimate
    - -- Microsoft Windows Vista Ultimate SP1
    - -- Microsoft Windows Vista Enterprise
    - -- Microsoft Windows Vista Business
    - -- Microsoft Windows XP Professional with SP2
  - Operating systems supported with 64-bit WebSphere Application Server
    - -- Microsoft Windows Server 2008 Standard Edition x64 SP1 and R2
    - -- Microsoft Windows Server 2008 Enterprise Edition x64 SP1 and R2
    - -- Microsoft Windows Server 2003 Standard Edition x64 SP2 and R2
    - -- Microsoft Windows Server 2003 Enterprise Edition x64 SP2 and R2
    - -- Microsoft Windows 7 Ultimate x64
    - -- Microsoft Windows 7 Enterprise x64
    - -- Microsoft Windows 7 Profesional x64
  - Database requirements
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.7 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.5 with fix pack 1, or later
    - -- DB2 Workgroup Server Edition for Linux, UNIX, and Microsoft Windows, V9.1 with fix pack 4, or later
    - -- Oracle 11g Standard and Enterprise Editions Releases 1 and 2
    - -- Oracle 10g Standard and Enterprise Editions Release 2
    - -- Microsoft SQL Server Enterprise 2008
    - -- Microsoft SQL Server Enterprise 2008 R2
    - -- Microsoft SQL Server Enterprise 2005 SP2

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

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 ESB Registry Edition.

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.

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

IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (Software Maintenance) can be extended by the purchase of a renewal option, if available.

Packaging

The package contains:

- WebSphere Enterprise Server Bus V7.5 CDs
- WebSphere Service Registry and Repository V7.5 CDs
- Quick Start CD
- Printed Quick Start Guide

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 ESB Registry Edition, use the security and auditability features of the server operating system, and or the host software.

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

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

```
Product Identifier Description (PID)
WebSphere Enterprise Service    5725-B48
 Bus Registry Edition
```

Charge metric

WebSphere ESB Registry Edition is a bundle made up of the following two components:

- WebSphere ESB V7.5 (5724-I82)

- WebSphere Service Registry and Repository V7.5 (5724-N72)

Each of which have (a) to be separately installed, and (b) their own license terms to be accepted.

```
                Part number or
Program name    PID number          Charge metric

IBM WebSphere   5725-B48            Value Unit
ESB
Registry
Edition V7.5
```

Every Processor Value Unit (PVU) of WebSphere ESB Registry Edition entitles customers to one PVU of WebSphere ESB, plus one PVU of WebSphere Service Registry and Repository, with the flexibility to deploy on either the same hardware, or on adjacent servers.

Passport Advantage

```
                                                    Part
Program name/Description                            number

WebSphere Enterprise Service Bus Registry Edition V7.5
Windows ML Media Pack                               BA10KML

WebSphere Enterprise Service Bus Registry Edition V7.5
AIX ML Media Pack                                   BA10LML

WebSphere Enterprise Service Bus Registry Edition V7.5
Solaris ML Media Pack                               BA10MML

WebSphere Enterprise Service Bus Registry Edition V7.5
HP-UX ML Media Pack                                 BA10NML
```

```
WebSphere Enterprise Service Bus Registry Edition V7.5
Linux x86 ML Media Pack                               BA10PML

WebSphere Enterprise Service Bus Registry Edition V7.5
Linux POWER ML Media Pack                             BA10QML

WebSphere Enterprise Service Bus Registry Edition V7.5
Linux z ML Media Pack                                 BA10RML


WebSphere Enterprise Service Bus Registry Edition V7.5
per PVU License + SW S&S 12 months                    D0GALLL

WebSphere Enterprise Service Bus Registry Edition V7.5
per PVU Annual SW S&S Renewal                         E0AIXLL

WebSphere Enterprise Service Bus Registry Edition V7.5
per PVU Annual SW S&S Reinstate 12 months             D0GAMLL

WebSphere Enterprise Service Bus Registry Edition V7.5
PVU Linux z Licence + SW S&S 12 months                D0GB0LL

WebSphere Enterprise Service Bus Registry Edition V7.5
PVU Linux z Annual SW S&S Renewal                     E0AJ3LL

WebSphere Enterprise Service Bus Registry Edition V7.5
PVU Linux z SW S&S Reinstate 12 months                D0GB1LL
```

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are
entitled to receive the corresponding media pack.

```
Entitled maintenance offerings and media packs
description                                    Part number

WebSphere Enterprise Service Bus Registry      BA10KML
Edition V7.5 WIN ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10LML
Edition V7.5 AIX ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10MML
Edition V7.5 AIX Solaris ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10NML
Edition V7.5 AIX HP-UX ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10PML
Edition V7.5 AIX Linux x86 ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10QML
Edition V7.5 AIX Linux POWER ML Media Pack

WebSphere Enterprise Service Bus Registry      BA10RML
Edition V7.5 AIX Linux Z ML Media Pack
```

Terms and conditions

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

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

Licensing

WebSphere ESB Registry Edition V7.0 is composed of two components:

- WebSphere ESB V7.0 (program 5724-I82) and
- WebSphere Service Registry and Repository V7.0 (program 5724-N72)

IBM International Program License Agreement including the License Information documents and Proofs of Entitlement (PoE) govern your use of the two component programs specified above. PoEs are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

The two component programs specified above 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. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available. These programs each 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

This offering comprises the two component programs specified above, for which the respective License Information document form numbers:

- L-SBRY-8C7EWN (for program 5724-I82) and
- L-SBRY-8D8HV5(for program 5724-N72)

The above-referenced components' License Information documents are available for review on the IBM Software License Agreement website

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

Limited warranty applies

Yes

Limited warranty

IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation

of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

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 technical support

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

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 (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

Volume orders (IVO)

No

Passport Advantage applies

Yes, and through the Passport Advantage website at

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

Usage restriction

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

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

Software Subscription and Support (Software Maintenance) applies

Yes. Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and Technical Support are provided by the Software Subscription and Support (Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest versions and releases to

entitled software and Technical Support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support (Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (Software Maintenance) can be extended by the purchase of a renewal option, if available.

While your Software Subscription and Support (Software Maintenance) is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance via telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, 7 days a week. For additional details, consult your *IBM Software Support Handbook* at

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

Software Subscription and Support (Software Maintenance) does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under the applicable agreements.

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

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

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Not applicable.

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 current prices, visit

http://www.ibm.com/support

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)
Internet:   callserv@ca.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: YE001

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.

Trademarks

IMS, Power Systems, AIX 5L, DB2 Universal Database and Electronic Service Agent are trademarks of IBM Corporation in the United States, other countries, or both.

WebSphere, IBM, AIX, System x, System p, System i, System z, z/OS, CICS, Lotus, Domino, DB2, Tivoli, Passport Advantage, Power, Informix, Express and ibm.com are registered trademarks of IBM Corporation in the United States, other countries, or both.

Windows and Microsoft are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.

Intel, Itanium and Pentium are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

Terms of use

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at:

http://www.ibm.com/legal/us/en/

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

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