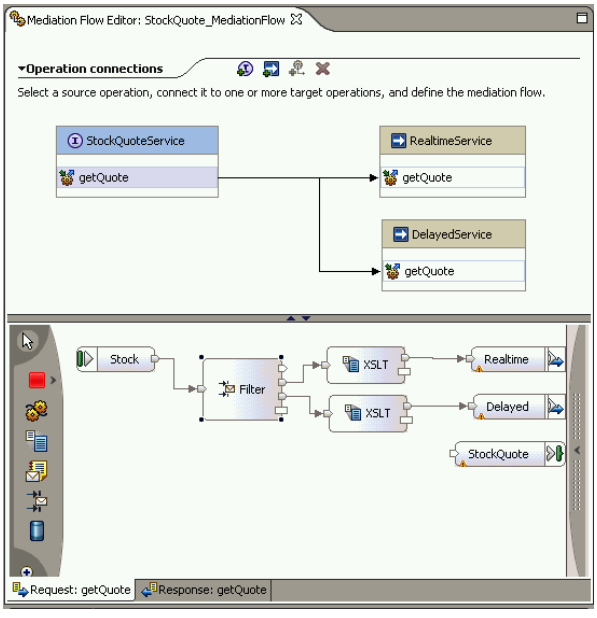
WebSphere software

IBM WebSphere Enterprise Service Bus, Version 6.0.1

Highlights

- ***Supports a variety of messaging standards including JMS, Version 1.1***
- ***Uses a broad range of interaction models to meet your requirements***
- ***Offers advanced Web services support to incorporate leading-edge SOA capabilities***
- ***Provides a comprehensive client package that enables C++ and Microsoft .Net programmers to interact with JMS messaging, and provides C and C++ programmers with Web services client capability***
- ***Minimizes disruption by using a prebuilt mediation function to handle integration logic***
- ***Requires minimal programming skills***
- ***Supports a wide range of ISV and WebSphere Adapter solutions***
- ***Integrates seamlessly with WebSphere Integration Developer, which provides an integrated interactive and visual development environment***
- ***Enables seamless integration with products across the WebSphere software portfolio***



The WebSphere Integration Developer mediation flow editor enables integration developers to locally test and debug mediated interactions before deploying them in the WebSphere ESB runtime

Most companies have an IT infrastructure that is the result of years of adding and subtracting components to meet changing business needs — and it's no longer effective. Each business unit maintains its own data about its products and services. Employees have to reenter information as it moves from department to department — potentially creating delays and errors. Each time you have to make changes, the time and expense to develop and maintain the custom links between applications increase.

You recognize the need to connect applications using reliable delivery mechanisms, and to help ensure that the data being exchanged is delivered in the right format to the right application at the right time. Combining all of your IT resources can help maximize operating efficiencies and provide consistent, accurate information to your customers, trading partners and suppliers. Through an effective enterprise service bus (ESB), you can integrate your assets more easily — and potentially get more for your money from the applications you're currently running.

The heart of your SOA

IBM WebSphere® Enterprise Service Bus (ESB) is a flexible connectivity infrastructure designed to help you integrate applications and services as part of your service oriented architecture (SOA). WebSphere ESB can power an SOA by reducing the number and complexity of interfaces, so that you can focus on your core business, rather than on your IT.

WebSphere ESB allows companies to maximize flexibility as an integrated, On Demand Business by:

- *Routing messages between services*
- *Converting transport protocols between requester and service*
- *Transforming message formats between requester and service*
- *Handling business events from disparate sources*
- *Improving time to value through seamless integration with the interactive and visual development environment provided by IBM WebSphere Integration Developer, which helps reduce the need for programming skills*

A core component of your ESB

In an SOA, the ESB optimizes information distribution between service requesters and service providers. Your organization needs to deploy its own unique ESB, reflecting how many of your applications conform to common standards and how many have not yet been made into services. As a key part of the WebSphere software portfolio, WebSphere ESB can provide integration capabilities that enable you to begin reaping the benefits of an SOA by deploying end-to-end environments that deliver the benefits of an ESB across your entire IT infrastructure today.

Advanced connectivity for SOA end points

WebSphere ESB supports advanced interactions between service end points on three levels: standards-based connectivity, spectrum of interaction models, and quality-of-interaction service and mediation capabilities.

Standards-based connectivity

WebSphere ESB enables you to connect interaction end points using a variety of interaction protocols and application programming interfaces (APIs). It supports interactions using Java™ Message Service (JMS), Version 1.1, as well as SOAP over HTTP Secure (HTTPS) and SOAP over JMS. WebSphere ESB also interoperates with other products from the WebSphere software portfolio, and can use WebSphere Adapter solutions to capture and disseminate business events. The message clients for C/C++ and for Microsoft® .NET enable non-Java applications to connect to the ESB. The Web services client is similar to a Java application programming interface for XML-Remote Procedure Call (JAX-RPC) Web services client for C++. It enables you to connect to Web services hosted on WebSphere ESB from within a C++ environment. You can use these features to perform basic protocol transcoding between interaction end points where the protocol used by requesters to dispatch their requests (for example, SOAP over HTTP) is different from that of the service providers that are to handle those requests (for example, SOAP over JMS).

Spectrum of interaction models

WebSphere ESB supports a range of interaction models including request-reply, point-to-point and publish-subscribe interactions. It also supports Web services standards such as WS-Security and WS-Atomic Transactions, and includes a Universal Description, Discovery and Integration (UDDI), Version 3.0 service registry that you can use to publish and manage service end-point metadata.

Mediation services

WebSphere ESB supports mediation of interactions between end points beyond protocol transcoding; it enables handling of integration logic processing in the ESB instead of in the interacting end points. This capability includes support for content- and context-based routing of messages that are exchanged using the ESB, as well as other operations on those messages, such as logging or transformation. Prebuilt mediation functions enable you to visually compose mediations using WebSphere Integration Developer. These functions also include message transformation, message logging, message routing and database lookup. You can augment the function provided by the supplied primitives by programming your own, customized primitives.

Robust development capabilities with minimal programming skills

WebSphere ESB delivers an ESB that can connect applications with standards-based interfaces to power your SOA. WebSphere Integration Developer works with WebSphere ESB, to provide integrated, interactive and visual development capabilities that require minimal programming skills to model, test, configure and deploy ESB-based applications.

Get up and running quickly with comprehensive documentation, easy-to-understand samples and a compelling out-of-the-box experience. Develop integration applications quickly and easily with capabilities that simplify the task of declaring interaction end points, and that provide graphical modeling tools (from WebSphere Integration Developer) that you can use to describe the envisioned interconnections between service requesters and providers, as well as the message flows between them. Assemble mediation flows from a set of predefined mediation templates that are configured to perform the required message routing, enrichment and transformation operations. Unit-test mediated interactions in the WebSphere Integration Developer environment before deploying them in the WebSphere ESB runtime environment.

The WebSphere ESB administration console enables solution administrators to manage WebSphere ESB deployments with new, role-based administration support that provides a simplified user experience as well as full access to the underlying WebSphere administration capabilities through progressive disclosure of functions.

Improving time to value

As a cost-effective solution for services integration, WebSphere ESB enables you to use your SOA IT investments by quickly building a flexible integration infrastructure that can extend the value of your existing investments, regardless of vendor. The product's extensive business and IT standards provide greater interoperability and portability, enabling you to take advantage of the first-class support available for hundreds of independent software vendor (ISV) solutions, as well as extensive support for WebSphere Adapter solutions, including new Java 2 Platform, Enterprise Edition (J2EE) Connector Architecture (JCA) technology-based adapters.

You can dynamically reconfigure WebSphere ESB managed interactions to meet changing business-processing loads. This is accomplished by modifying interconnections and message-flow interaction logic in WebSphere Integration Developer or to some degree in the WebSphere ESB administration console. You can also dynamically add or replace interaction end points without affecting the rest of the ESB-based applications.

Help save time and development costs by using prebuilt mediation functions

Mediations operate on messages or events as they are passed between service requesters and service providers, for both one-way and request-response interactions. WebSphere ESB provides prebuilt mediation primitives that are ready to go out of the box. Developers using the WebSphere Integration Developer product can compose these functions into a mediation flow to create a mediation layer. You can visually compose mediations, such as XML transformation, message logging, message routing and database lookup. Customized mediations can also be developed as service component architecture (SCA) components, and a Java system programming interface (SPI) is also provided for more advanced programmers, enabling them to create highly customized mediation primitives.

Take advantage of seamless integration with the WebSphere platform

To help maximize the capabilities of your ESB, WebSphere ESB software seamlessly integrates with products throughout the WebSphere software stack, enabling you to move up the stack to solve more-complex business problems. Because WebSphere ESB is built on the market-leading IBM WebSphere Application Server product, it inherits WebSphere Application Server qualities of service, workload-balancing, clustering, failover, systems-management, high-availability, security and scalability features. Because WebSphere ESB offers a service-hosting and a services-mediation environment in one package, it provides more-robust manageability, availability and simplicity compared to competing ESB offerings. Integration with WebSphere Application Server also enables integration with IBM Tivoli® security, directory and systems-management offerings. WebSphere ESB includes IBM Tivoli Access Manager (for optional use to deliver security-rich, unified and personalized capabilities that can help manage growth and complexity), IBM Tivoli Directory (for optional use as an Lightweight Directory Access Protocol [LDAP] server) and IBM Tivoli Composite Application Manager for SOA (for added monitoring and management capabilities).

You can use WebSphere ESB in combination with an existing IBM WebSphere MQ messaging installation to integrate new environments in an open-standards-based way. WebSphere ESB interoperates with IBM WebSphere Message Broker, which you can use to implement complex topologies, with WebSphere ESB handling standards-based Web services interactions, and WebSphere Message Broker taking care of non-Web services application integration. Common tooling and administration means the move from WebSphere ESB to IBM WebSphere Process Server is painless. Because WebSphere ESB shares development and administration tools with WebSphere Process Server, it is easy to start building your SOA infrastructure on WebSphere ESB and add more-advanced service composition and orchestration capabilities supported in WebSphere Process Server as your business needs evolve.

A robust ESB solution

WebSphere ESB provides an easy-to-use, robust ESB that can reliably deliver information to the right place, in the right format, at the right time. You can connect and extend new and existing systems by simplifying your SOA integration deployment using open-standards-based connectivity between applications and heterogeneous systems. Improve time to value with an easy-to-learn, cost-effective solution that is simple to install, configure, build and manage. And gain business flexibility by taking advantage of a responsive connectivity infrastructure that can adapt to business change quickly and easily.

For more information

To learn more about IBM WebSphere Enterprise Service Bus, Version 6.0.1, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/integration/wsesb

IBM WebSphere Enterprise Service Bus, Version 6.0.1 at a glance

Hardware requirements

For IBM AIX®

- IBM @server® pSeries® or IBM @server iSeries™ system at 375MHz or faster
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 512MB physical memory; 1GB recommended
- CD-ROM drive

For HP-UX

- PA-RISC processor at 440MHz or faster
- Minimum 512MB physical memory; 1GB recommended
- Minimum 1.5GB (1550MB) available disk space for installation (includes Software Developer Kit [SDK])
- Approximately 600MB of temporary space during installation
- CD-ROM drive

For Linux® on iSeries

- iSeries models that support logical partitioning (LPAR) (64-bit kernel support only) with a minimum of 450 client performance workload (CPW) in the Linux partition
- Minimum 16GB available disk space for the IBM OS/400® partition; minimum 2.5GB for the Linux partition; minimum 1.3GB (1350MB) for installation
- Approximately 600MB of temporary space during installation
- Minimum 512MB physical memory; 1GB recommended for the OS/400 partition
- CD-ROM drive

For Linux on pSeries

- pSeries, IBM @server OpenPower™ or IBM @server BladeCenter JS20 models
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 512MB physical memory; 1GB recommended
- CD-ROM drive

For Linux on IBM @server zSeries®

- G5, G6 MP3000 processor (32-bit kernel support only), or zSeries processor (32 or 64-bit kernel support)
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 512 MB physical memory, 1GB recommended
- CD-ROM drive

For Linux on Intel

- Intel® Pentium® (or equivalent) processor at 1GHz or faster (32-bit kernel support only)
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 1GB of physical memory
- CD-ROM drive

For Sun Solaris operating environment

- Solaris SPARC workstation at 440MHz or faster
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 512MB physical memory; 1GB recommended
- CD-ROM drive

IBM WebSphere Enterprise Service Bus, Version 6.0.1 at a glance (continued)

Hardware requirements (continued)

For Microsoft Windows® 2000, Windows 2003 and Windows XP Professional

- Intel Pentium (or equivalent) processor at 1GHz or faster (32-bit operating system support only)
- Minimum 1.3GB (1350MB) available disk space for installation
- Approximately 600MB of temporary space during installation
- Minimum 1GB physical memory
- CD-ROM drive

Software requirements

For AIX

- Operating environments (one of the following)
  - IBM AIX 5L™, Version 5.2
  - AIX 5L, Version 5.3
- Supported databases (one of the following)
  - IBM DB2® Universal Database™ Enterprise Server, Version 8.1
  - IBM Cloudscape®, Version 5.1
  - IBM WebSphere Information Integrator Advanced, Version 8.1
  - IBM Informix® Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

For HP-UX

- Operating environment: HP-UX 11, Version 1 with Quality Pack of June 2005 with required HP-UX patches for Java
- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - WebSphere Information Integrator Advanced, Version 8.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

For Linux on iSeries and Linux on pSeries

- Operating environments (one of the following)
  - Red Hat Enterprise Linux (RHEL) AS, Version 3.0 with Update 6
  - SUSE LINUX Enterprise Server (SLES), Version 9.0 with Service Pack (SP) 2
- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

IBM WebSphere Enterprise Service Bus, Version 6.0.1 at a glance (continued)

Software requirements (continued)

For Linux on zSeries

- Operating environments (one of the following)
  - RHEL AS, Version 4
  - SLES, Version 9.0 with SP1
- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

For Linux on Intel

- Operating environments (one of the following)
  - RHEL AS, Version 3.0 with Update 6
  - RHEL ES, Version 3.0 with Update 6
  - RHEL WS, Version 3.0 with Update 6 (supported for application design, development and testing only; not supported for production use)
  - SLES, Version 9.0 with SP2
  - Red Flag Advanced Server, Version 4.1 with Fix Pack (FP) 1
- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - WebSphere Information Integrator Advanced, Version 8.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

For Sun Solaris operating environment

- Operating environment: Sun Solaris, Version 9 with Patch Cluster of September 2005
- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - WebSphere Information Integrator Advanced, Version 8.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

IBM WebSphere Enterprise Service Bus, Version 6.0.1 at a glance (continued)

Software requirements (continued)

For Windows 2000, Windows 2003 and Windows XP Professional

- Operating environments (one of the following)
  - Windows 2000 Advanced Server
  - Windows 2000 Professional
  - Windows 2003 Server Standard and Enterprise
  - Windows XP Professional

Note: Windows 2000 Professional and Windows XP are supported for application design, development and testing only; no support is provided for production use.

- Supported databases (one of the following)
  - DB2 Universal Database Enterprise Server, Version 8.1
  - Cloudscape, Version 5.1
  - WebSphere Information Integrator Advanced, Version 8.1
  - Informix Dynamic Server, Version 9.4
  - Oracle Enterprise Edition 9i
  - Oracle Enterprise Edition 10g
  - Microsoft SQL Server Enterprise 2000

For the latest hardware and software requirements for WebSphere Enterprise Service Bus, Version 6.0.1, visit ***ibm.com****/software/integration/wsesb/sysreqs.*

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