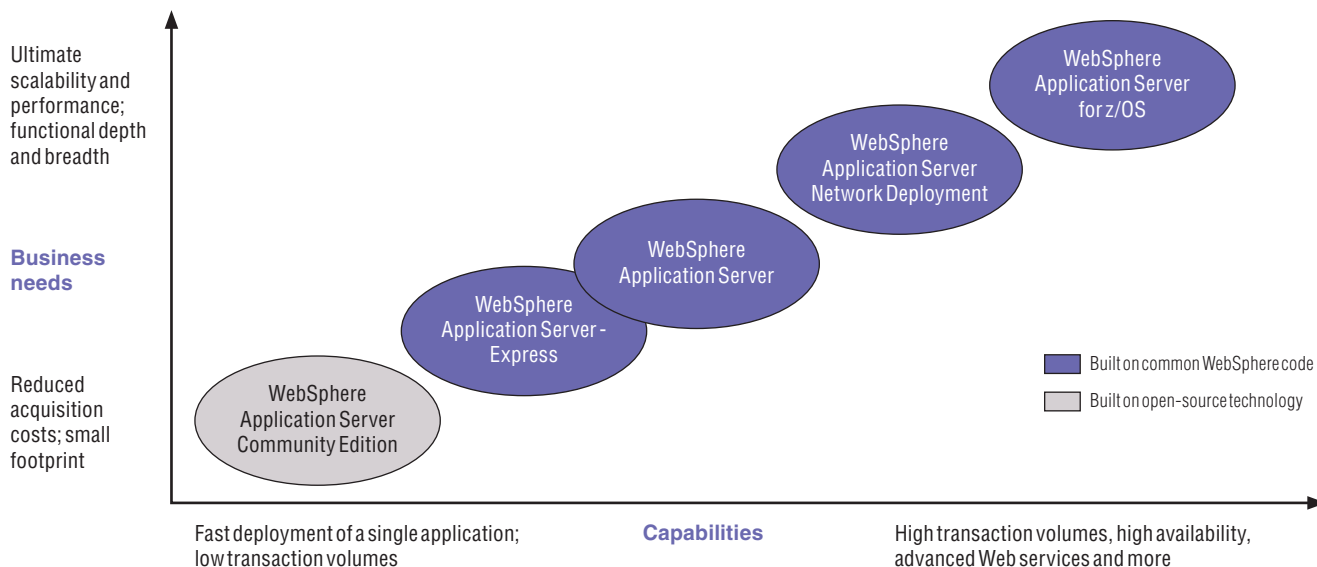


# IBM WebSphere Application Server, Version 6.1 and IBM WebSphere Application Server Network Deployment, Version 6.1

## Highlights

- *Delivers a high-performance transaction engine that can help you build, run, integrate and manage dynamic business applications*
- *Helps reduce development cycle time and ease deployment through an integrated, open-standards-based development environment*
- *Delivers security-rich infrastructure that is extensible through a pluggable architecture*
- *Supplies full J2EE, Version 1.4 compatibility, and supports J2SE, Version 5.0 across all configuration options and the broadest range of platforms in the industry*
- *Provides near-continuous application availability with sophisticated clustering and load-balancing, as well as a high-availability manager*
- *Enhances flexibility by making application services more reusable and accessible to new users, in new ways*
- *Deploys robust Web services and messaging applications through extensive support for key Web services standards and an integrated JMS provider*
- *Delivers simple, unified Web browser-based administration across all configuration options*



The WebSphere Application Server family is designed to address a variety of business needs.

To remain successful in a volatile, intensely competitive marketplace, you need an IT infrastructure that can cope with constant change. Your business can only be as flexible as the IT systems that support it. To extend your market reach and maximize your return on investment (ROI), you have to be able to integrate new applications with existing data stores, other applications and Web services that exist in heterogeneous environments and on different sides of firewalls. To achieve this, you need a flexible, reliable infrastructure that can provide a sound foundation for service oriented architecture (SOA).

IBM WebSphere® Application Server, Version 6.1 is a comprehensive Java™ 2 Platform, Enterprise Edition (J2EE), Version 1.4 application server that provides a scalable, security-rich deployment environment for SOA.

Continuing IBM's commitment to an open-standards-based approach, WebSphere Application Server, Version 6.1 helps you to:

- *Build and deploy applications quickly and easily.*
- *Run services in a highly secure, scalable and available environment.*
- *Reuse software assets and extend their reach.*
- *Manage applications effortlessly.*
- *Grow as needs evolve, using core assets and skills.*

Multiple configuration options let you choose the level of capability best suited to your current needs — with the option to expand as your business needs evolve. In this way, the WebSphere Application Server family of products supports a wide range of scenarios, from open-source projects with no up-front budget, to simple administration of a single-server environment to a clustered, highly available, high-volume environment with edge-of-network services. These specialized configuration options give you the flexibility to respond to an ever-changing marketplace— without the cost of rebuilding your applications as your business needs evolve.

The newest member of the WebSphere Application Server family — IBM WebSphere Application Server Community Edition — is designed to help further accelerate development and deployment efforts. Built on open-source technology and available for use at no charge, it delivers a lightweight J2EE platform for developing and deploying Java applications, while providing a clear path to the more-advanced capabilities of the other WebSphere Application Server configurations.

### **Delivering business value to support SOA**

As the foundation of the WebSphere software platform and the core J2EE and Web services configuration, WebSphere Application Server, Version 6.1 is optimized to ease administration in a scalable, single-server deployment environment. This configuration is recommended for organizations that need to build and

deploy stand-alone, departmental applications and Web services, but that don't require failure bypass or workload-distribution options. This configuration is also available with a restricted, development-only license to allow enterprises using development tools from other vendors to effectively build and test applications for WebSphere Application Server.

Advanced management and automated performance optimization make IBM WebSphere Application Server Network Deployment, Version 6.1 the next level in application serving. To provide a more-robust foundation for SOA, WebSphere Application Server Network Deployment adds features such as world-class clustering, caching and high availability; advanced Web services that can operate across disparate application frameworks; and extended Web services-management capabilities. With WebSphere Application Server Network Deployment, you can handle high transaction volumes and extend your reach to more-diverse environments to improve your organization's flexibility and responsiveness.

### **Quick and easy development and deployment**

WebSphere Application Server, Version 6.1 helps you improve time to value and make the most of existing technology skills, with easy-to-use features designed to get you to production quickly. Features include:

- *IBM Installation Factory for WebSphere Application Server, Version 6.1, which uses self-managing autonomic technology to make WebSphere Application Server installation and deployment easy, reliable and repeatable. By streamlining the up-and-running process to just one simple step, IBM Installation Factory for WebSphere Application Server can help save you valuable time and enable you to become effective faster.*
  - *The Application Server Toolkit, which provides basic tools for creating, deploying and debugging Web applications. It includes wizards and tools that enable you to create new Web applications, Web services, portlets and Enterprise JavaBeans (EJB), as well as new automation tools that enable you to take advantage of Eclipse development-tool expertise to develop and debug automation scripts.*
  - *Close interoperability with IBM Rational® tools, which provide a tightly integrated Java development environment based on open Eclipse workbench technology to help maximize productivity.*
- *JavaServer Faces (JSF) components that enable you to build dynamic Web user interfaces with drag-and-drop development capabilities. A new JSF widget library provides a set of prebuilt functions to help save development time and expense. You can add features like graphs, data grids and calendar date-pickers quickly and with minimum effort to make your Web user interfaces richer.*
  - *Open-standard Service Data Objects (SDOs) that help you save development time and reduce maintenance costs through the use of a unified programming model for data retrieval and representations. This data programming architecture (along with application programming interfaces [APIs]) unifies data programming across data source types; provides robust support for common application patterns; and enables applications, tools and frameworks to more easily query, view, bind and update data on Java platforms.*
  - *Support for the portlet programming model, Java Specification Request (JSR) 168, which enables portlet applications to be portable across the WebSphere stack.*
  - *A rapid-deployment feature that provides an easy-to-use framework to reduce the complexity of building, assembling and deploying J2EE applications.*

### **Rich J2EE implementations**

WebSphere Application Server, Version 6.1 configurations are compatible with J2EE, Version 1.4 and now support Java 2 Platform, Standard Edition (J2SE), Version 5.0 as the first step towards Java Platform, Enterprise Edition 5 (Java EE 5) compliance. IBM's implementation of J2SE, Version 5.0 provides an industry-leading development environment that helps increase application programmer productivity, improve portability across other Java Development Kit (JDK), Version 5.0 platforms, and deliver top-quality performance and scalability. Improvements help eliminate the need to write custom code, enabling you to use Java technology to develop, test and deploy more-demanding business applications with less time and effort.

WebSphere Application Server support for J2EE, Version 1.4 and J2SE, Version 5.0 helps simplify enterprise applications by basing them on standardized, modular components. Comprehensive services handle many details of application behavior automatically,

with little complex programming required. J2EE, Version 1.4 and WebSphere Application Server can also simplify business integration through connectors and Java Message Service (JMS) support.

Besides providing support for J2EE, Version 1.4 and J2SE, Version 5.0, all WebSphere Application Server, Version 6.1 configurations\* are built on a common Java programming model and deliver a range of programming-model extensions that can help improve development cycle times. These extensions include last-participant support, internationalization services, work-area services, activity-session services, extended Java Transaction API (JTA) support, timer services (scheduler services), object pools, dynamic query capabilities and application-profiling capabilities.

### **Make the most of existing software assets**

It's more important than ever to take full advantage of your existing IT resources — from hardware to personnel. Through open standards and extensible connectivity features, WebSphere Application Server can greatly improve your ability to make the most of these vital assets. The

integrated development and deployment platform of WebSphere Application Server also optimizes development resources through its ability to reuse CORBA, C++, Java and core assets.

Application adapters quickly and easily extend enterprise applications so that you can use current resources. WebSphere Application Server is designed to reduce the risk, complexity and cost of using and deploying application adapters through its advanced support for J2EE Connector Architecture (JCA). JCA provides a consistent way of connecting to, and communicating with, a wide range of enterprise systems and applications — without the need for advanced programming skills or extensive coding. You can reuse and integrate disparate systems and applications, while allowing broad, cross-platform support, and unparalleled connectivity and integration with a variety of back-end systems.

### **Increase business flexibility with extensive communication services**

WebSphere Application Server enables dynamic application interaction through an integrated, high-performance JMS provider and support for EJB, Version 2.1 within J2EE, Version 1.4. The JMS API increases productivity by defining a common set of messaging concepts and programming strategies. JMS further simplifies development by enabling loosely coupled, reliable, asynchronous interactions among J2EE components and core systems capable of messaging. The messaging resources of WebSphere Application Server, Version 6.1 interoperate seamlessly with IBM WebSphere MQ. As a result, you can combine these products to form a powerful enterprise service bus (ESB) that can integrate the most-diverse applications and environments.

EJB, Version 2.1 message beans help save valuable programming time and skill by enabling requests to be processed without requiring code to check for messages when they arrive. And developers can easily incorporate new behavior in a J2EE application with existing business events by adding a new message-driven bean to operate on specific business events.

For a new communications experience, Session Initiation Protocol (SIP) servlet support is integrated within WebSphere Application Server, Version 6.1. SIP is being used in Internet Protocol (IP) telephony—the next-generation telecommunications network—as well as in instant messaging and IP television (IPTV) to allow new and existing applications to interact with, or provide infrastructure for, those environments. With the converged servlet engine, you can easily enable converged HTTP and SIP interactions, providing portlets, HTTP servlets and SIP servlets. SIP tooling is also provided in the Application Server Toolkit to help you more easily build SIP applications.

### **Maximize ROI with Web services**

WebSphere Application Server extends the J2EE, Version 1.4 programming model by providing a comprehensive infrastructure to support the production-ready deployment of Web services-based applications. It allows you to build, publish and manage integration-ready application services that can be used by other internal or external organizations or platforms. Create new business opportunities and help reduce costs by finding the least-expensive trading partners and sharing applications electronically with other organizations.

All WebSphere Application Server, Version 6.1 configurations support key Web services open standards. With this release, new Web services standards have been added to help you more securely extend your reach to new environments. These enhancements provide better application portability and control, as well as faster performance:

- *Web Services Notification (WS-N) helps standardize the way Web services interact using notifications or events. It provides a publish-subscribe programming model for Web services applications to help you align Java and non-Java environments.*
- *Web Services Interoperability Basic Security Profile (WS-I BSP) helps you use Web services security standards and technology in developing interoperable Web services.*
- *Web Services Business Activity (WS-BA) provides a framework through which application code can be automatically invoked to compensate for a transaction that has already been committed, if the wider scope of work is deemed to have failed. This capability enables traditional two-phase transactions to be completed in a timely manner, while still providing a way for applications to logically undo work if necessary. The ability to perform this task could become increasingly important as Web service requests begin to span trust boundaries.*

With WebSphere Application Server, you can deploy and consume Web services with a variety of communications protocols, including SOAP and HTTP, JMS or Remote Method Invocation over Internet InterORB Protocol (RMI/IIOP). You can also administer virtually any Web service, whether developed with Java technology or Microsoft®.NET.

WebSphere Application Server Network Deployment provides extended Web services support through a Web services gateway. This gateway helps reduce development costs by making selected services available to different divisions or teams within an enterprise, or to customers and trading partners who use different protocols or are outside the firewall. Using the Web services gateway, developers and IT managers can safely externalize a Web service so that users can invoke it from outside the firewall.

### **Instill confidence with security-rich applications**

In today's business environment, it's crucial that you provide your employees, trading partners and customers with the most-advanced levels of security. WebSphere Application Server offers a sophisticated, security-rich infrastructure and extensive support of open-standards-based Java specifications, including:

- *Java Authentication and Authorization Service (JAAS), to authenticate new principals and manage privileged information for a principal*
- *Java 2 Platform Security model, to help secure system resources*
- *Java Secure Socket Extension (JSSE), to help secure communications channels based on transport-level security (Transaction Layer Security [TLS] and Secure Sockets Layer [SSL])*
- *Java Cryptography Architecture, to provide Java cryptographic extensibility, as with public key infrastructure (PKI) integration*
- *Java Cryptography Extension (JCE), to provide a framework for security encryption and message authentication*
- *Common Secure Interoperability (CSI), Version 2 to support secure interoperability between application services*

Because WebSphere Application Server, Version 6.1 supports Common Criteria Assurance Level 4, you can be confident that it can meet your security requirements. Also, a default user registry is now integrated with the product for better identity management. This capability provides a common identity-management programming interface. And with default security configurations out of the box, you can be assured that your applications and data are safe.

You can also implement sophisticated enterprise topologies and infrastructures through the WebSphere Application Server pluggable security architecture. These include:

- *Pluggable user registries to enable you to use Lightweight Directory Access Protocol (LDAP) or custom registries*
- *Web single sign-on exclusively provided with WebSphere software or through integration with front-end authentication end points with trust association interceptor (TAI) technology*
- *Highly secure access to enterprise information systems (EISs) through a pluggable principal- and credential-mapping facility*

## **Meet the changing demands of On Demand Business**

Dependable system availability can help you avoid costly downtime and, in turn, build customer loyalty. But as volume increases, it becomes more difficult to maintain high levels of performance. WebSphere Application Server can help you handle unpredictable volumes — without degrading user experience. Its consistent, leading-edge performance and scalability help maintain high responsiveness to constantly changing environments. Take advantage of new levels of scalability, reliability and performance to help enable continuous operation of critical enterprise Java applications.

WebSphere Application Server Network Deployment distributes workloads across multiple servers through sophisticated load-balancing and clustering capabilities. These capabilities include automatic failover and content-based routing to deliver more-effective session management, and enhanced, edge-based caching capabilities. Sophisticated load-balancing and edge-of-network components are designed to provide

a scalable solution for load-balancing requests between HTTP-, FTP- or other TCP-based servers. You can define rules and requirements that can be incorporated to help the load balancer reroute requests intelligently. And you can use custom advisors to balance requests based on specific application and platform criteria.

To help avoid costly system downtime, WebSphere Application Server Network Deployment is designed to eliminate single points of failure using a high-availability framework that provides peer-to-peer failover for applications and processes running within a WebSphere environment. The built-in high-availability manager helps simplify the configuration of high-availability systems, and provides quicker failure detection along with faster recovery times. You can also integrate WebSphere Application Server Network Deployment into an environment that might be using other high-availability frameworks, such as IBM High-Availability Cluster Multi-Processing (IBM HACMP™) to manage non-WebSphere resources. And with near-continuous uptime for critical applications, WebSphere Application Server Network Deployment, Version 6.1 can help you eliminate lost business opportunities.

## **Help reduce costs with simplified management and administration features**

WebSphere Application Server provides a central and open management interface, along with agile setup options and administration features. These features help you deploy and manage multiple applications and components from the same environment, while lowering the complexity of application and systems management. With WebSphere Application Server Network Deployment, these capabilities are extended to help manage configurations that include large numbers of servers. And automated application-server management functions help enhance productivity and help reduce administrative costs. As your business needs change, WebSphere Application Server can help you quickly and easily move from one configuration to another by providing a single Web browser-based administration across all deployment options.

To enable you to effectively manage your operations and applications, WebSphere Application Server provides installation and administration capabilities through exposed Java Management Extension (JMX) interfaces and an extended command-line interface. Support for JMX allows other products (like IBM Tivoli® software) to read and manage WebSphere software in a standardized way.

WebSphere Application Server, Version 6.1 administration is even simpler with a new console-command assistant that automatically creates reusable scripting commands from actions taken in the administrative console, and enhancements like improved resource management and a cluster-creation wizard. Also, enhancements in JDK, Version 5 for profiling and debugging accelerate problem diagnosis, and with the IBM Support Assistant included with WebSphere Application Server, Version 6.1, self-help and problem reporting are more effective. The service component of the IBM Support Assistant enhances submission of IBM service requests by collecting and adding the system data that IBM technical support needs to analyze

the software problem. This capability helps you to resolve software challenges more quickly and minimize the business impact of any problem.

### **A flexible On Demand Business infrastructure**

IBM WebSphere Application Server, Version 6.1 provides flexible options and a smooth migration path to help you develop and maintain complete solutions. WebSphere Application Server is designed to help you reach your business objectives — wherever your organization is on the path to becoming an On Demand Business.

Choose the level of capability best suited for today's needs and expand as your business needs change.

Offerings include:

- IBM WebSphere Application Server Community Edition. *A lightweight J2EE application server based on open-source technology from the Apache Software Foundation.*
- IBM WebSphere Application Server - Express. *An easy-to-use, cost-effective solution to develop and deploy dynamic Web applications. WebSphere Application Server - Express provides the full J2EE programming model coupled with visual development tools, integrated applications and wizards to help get you up and running quickly and easily.*

- WebSphere Application Server. *The core J2EE, Version 1.4 compatible application server. Optimized to ease administration in a scalable, single-server deployment environment.*
- WebSphere Application Server for Developers. *The functional equivalent of the core configuration, providing an easy-to-use development environment to build and test business applications (licensed for development use only).*
- WebSphere Application Server Network Deployment. *An extension of the core configuration through the addition of advanced deployment services such as clustering, edge-of-network services and high availability for distributed configurations.*
- WebSphere Application Server for z/OS. *The WebSphere Application Server Network Deployment configuration optimized to run on IBM System z™ servers and take advantage of the qualities of service of the IBM z/OS® operating system.*

**For more information**

WebSphere Application Server provides flexible options and a smooth migration path to help you develop and maintain complete solutions. It is designed to help you reach your business objectives — wherever your organization is on the On Demand Business path. Choose the level of capability best suited for today's needs and expand as your business needs change. Building on this robust platform, you can integrate your current investments and use existing skills as a critical part of your SOA strategy.

To learn more about IBM WebSphere Application Server, contact your IBM representative or IBM Business Partner, or visit:

[ibm.com/software/webservers/appserv/was](http://ibm.com/software/webservers/appserv/was)

To learn more about how the WebSphere software platform can help you succeed in On Demand Business, contact your IBM representative or IBM Business Partner, or visit:

[ibm.com/websphere](http://ibm.com/websphere)

To order IBM WebSphere Application Server, contact your IBM representative or IBM Business Partner, call 1 800 IBM-CALL, or visit:

[ibm.com/shop](http://ibm.com/shop)

To join the Global WebSphere Community, visit:

[www.websphere.org](http://www.websphere.org)

## IBM WebSphere Application Server, Version 6.1 at a glance

	WebSphere Application Server, Version 6.1	WebSphere Application Server Network Deployment, Version 6.1
<b>Java programming model</b>		
Full J2EE, Version 1.4 support and J2SE, Version 5 support	X	X
Programming model extensions	X	X
Support for JavaServer Pages (JSP), Version 2.0 and Java servlets, Version 2.4	X	X
Support for JSF technology	X	X
Full XML support including Java API for XML-based RPC (JAX-RPC), XML Signature, and XML Encryption	X	X
<b>Web services</b>		
Full Web services support, including SOAP; Universal Description, Discovery and Integration (UDDI); Web Services Description Language (WSDL); SOAP with attachments API for Java (SAAJ); Web Services Invocation Framework (WSIF); JAX-RPC, Web Services (WS-) standards such as WS-Security; WS-I BSP, WS-N, WS-BA	X	X
Private UDDI-registry support	X	X
Web services gateway		X
<b>Database support and connectivity</b>		
Java Database Connectivity (JDBC) and connection management for access to IBM DB2® Universal Database™, Microsoft SQL Server 2000, Oracle, IBM Informix® and Sybase <sup>1</sup>	X	X
JDBC for access to DB2 Universal Database for i5/OS	X	X
Restricted DB2 licenses	X	X
<b>Application development</b>		
Sample applications	X	X
Application Server Toolkit included	X	X
<b>Web server support</b>		
IBM HTTP Server included	X	X
Web server plug-ins	X	X

## IBM WebSphere Application Server, Version 6.1 at a glance (continued)

	WebSphere Application Server, Version 6.1	WebSphere Application Server Network Deployment, Version 6.1
<b>Security</b>		
Basic authentication and authorization for security-rich access to Web resources	X	X
Enhanced authentication and authorization through CSI, Version 2.0, single sign-on and support for LDAP	X	X
Advanced authentication and authorization, such as JAAS and JCE for enhanced security	X	X
<b>Platform support</b>		
Broad platform support for rapid implementation on Microsoft Windows® 2000, <sup>2</sup> Microsoft Windows 2003, Microsoft Windows XP, <sup>3</sup> Linux®, IBM OS/400®, IBM i5/OS®, IBM AIX® systems, Sun Solaris operating environment and HP-UX	X	X
Support for Linux on System z	X	X
Support for selected 64-bit platforms	X	X
<b>Application connectivity</b>		
Integrated JMS messaging engine	X	X
Microsoft component object model architecture to Enterprise ActiveX client and server resources <sup>4</sup>	X	X
<b>Performance support</b>		
Enhanced features for performance, such as dynamic caching, IBM Tivoli Performance Viewer software and integration with vendor tools	X	X
<b>Administration and workload management</b>		
Web browser-based remote administration	X	X
Convenient administration through an embedded administrative console	X	X
Java Proxy Server included		X
Intelligent workload distribution across a cluster		X
Failure bypass		X
Clustering support		X
Simple failover and load balancing	X	X
<b>Migration support</b>		
Migration documentation	X	X
Migration tools and assistance	X	X

**Notes:**

1. Not supported for IBM System i5™ models.

2. Supported for application design, development and testing only; no support for production use.

3. Supported for application design, development and testing only; no support for production use.

4. Not supported for System i5.

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## IBM WebSphere Application Server, Version 6.1 at a glance (continued)

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### Hardware requirements

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*For AIX (32 bit WebSphere Application Server)*

- Any system from the IBM POWER™ family of processors
  - Minimum 1112MB available disk space for installation (includes software development kit [SDK])
  - Minimum 512MB physical memory; 1GB recommended
  - CD-ROM drive
- 

*For AIX (64 bit WebSphere Application Server)*

- Any system from the POWER family of processors
  - Minimum 1112MB available disk space for installation (includes SDK)
  - Minimum 1GB physical memory recommended
  - CD-ROM drive
- 

*For HP-UX (32 bit WebSphere Application Server)*

- PA-RISC processor
  - Minimum 1368MB available disk space for installation (includes SDK)
  - Minimum 512MB physical memory; 1GB recommended
  - CD-ROM drive
- 

*For HP-UX (64 bit WebSphere Application Server)*

- Intel® Itanium 2 processor
  - Minimum 1368MB available disk space for installation (includes SDK)
  - Minimum 1GB physical memory recommended
  - CD-ROM drive
- 

*For Linux on x86 (32 bit WebSphere Application Server)*

- AMD Opteron or Intel Pentium® processor at 500MHz or faster, or Intel EM64T (32 bit kernel support only)
  - Minimum 1226MB available disk space for installation (includes SDK)
  - Minimum 512MB of physical memory; 1GB recommended
  - CD-ROM drive
- 

*For Linux on AMD Opteron and Intel EM64T (64 bit WebSphere Application Server)*

- AMD Opteron and Intel EM64T (64 bit kernel support only)
  - Minimum 1226MB available disk space for installation (includes SDK)
  - Minimum 1GB of physical memory recommended
  - CD-ROM drive
- 

*For Linux on IBM System z9™ and IBM @server® zSeries® (31 bit and 64 bit WebSphere Application Server)*

- zSeries processors (64 bit kernel support)
  - Minimum 1119MB available disk space for installation
  - Minimum 512MB of physical memory; 1GB recommended for 31 and 64 bit WebSphere Application Server
  - CD-ROM drive
- 

*For Linux on POWER*

- IBM System i™ (32 bit and 64 bit WebSphere Application Server)
    - System i models that support logical partitioning (LPAR) with minimum of 450 commercial processing workload (CPW) in the Linux partition
    - Minimum 16GB available disk space for the OS/400 partition; 2.5GB minimum for the Linux partition
    - Minimum 512MB of physical memory; 1GB recommended for 32 bit WebSphere Application Server
    - Minimum 1GB of physical memory recommended for 64 bit WebSphere Application Server
    - CD-ROM drive
  - IBM System p™, IBM @server OpenPower™ or IBM BladeCenter® JS20 (32 and 64 bit WebSphere Application Server)
    - Minimum 1231MB available disk space for installation (32 bit application server); 1262MB recommended for 64 bit application server
    - Minimum 512MB of physical memory; 1GB recommended for 32 bit WebSphere Application Server
    - Minimum 1GB of physical memory recommended for 64 bit WebSphere Application Server
    - CD-ROM drive
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## IBM WebSphere Application Server, Version 6.1 at a glance (continued)

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### Hardware requirements (continued)

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*For Sun Solaris operating environment (32 bit WebSphere Application Server)*

- Sun Solaris operating environment SPARC workstation at 440MHz, or faster
  - Minimum 1267MB available disk space for installation (includes SDK)
  - Minimum 512MB physical memory; 1GB recommended
  - CD-ROM drive
- 

*For Microsoft Windows (32 bit WebSphere Application Server)*

- AMD Opteron or Intel Pentium processor at 500MHz or faster
  - Intel EM64T (32-bit operating-system support only)
  - Minimum 1303MB available disk space for installation (includes SDK)
  - Minimum 512MB physical memory; 1GB recommended
  - CD-ROM drive
- 

*For Windows 2003 x64 (64-bit WebSphere Application Server)*

- AMD Opteron or Intel EM64T
  - Minimum 1162MB available disk space for installation (includes SDK)
  - Minimum 1GB of physical memory recommended
  - CD-ROM drive
- 

*For OS/400 and i5/OS operating systems*

- If your applications contain enterprise beans
    - IBM AS/400e™ model 170 with processor feature 2385
    - AS/400e model 720 with processor feature 2062
    - System i model 270 with processor feature 2250
    - System i model 820 with processor feature 2395
    - Minimum 750MB of physical memory, in addition to the memory required for any other applications running on your System i server
  - If your applications consist solely of servlets and JSP files
    - System i model 270 with processor feature 2250
    - System i model 820 with processor feature 2395
    - Minimum 750MB of physical memory, in addition to the memory required for any other applications running on your System i server
  - Available disk space requirements
    - WebSphere Application Server: 900MB
    - WebSphere Application Server samples: 80MB
    - Application client: 160MB
    - Web server plug-ins: 100MB
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## IBM WebSphere Application Server, Version 6.1 at a glance (continued)

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### Software requirements

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#### *For AIX operating systems*

- 32 bit (one of the following):
    - IBM AIX 5L™, Version 5.2 with 5200-07 recommended maintenance package
    - AIX 5L, Version 5.3 with Service Pack (SP) 5300-04-01
  - 64 bit (one of the following):
    - AIX 5L, Version 5.2 with 5200-07 recommended maintenance package
    - AIX 5L, Version 5.3 with SP 5300-04-01
- 

#### *For HP-UX operating systems*

- 32 bit: HP-UX 11i, Version 2 with Update 2
  - 64 bit: HP-UX 11i, Version 2 with Update 2
- 

#### *For OS/400 and i5/OS operating systems (one of the following)*

- OS/400, Version 5.3
  - OS/400, Version 5.4
- 

#### *For Linux operating environments on x86 processor-based systems*

- 32 bit (one of the following):
    - Red Hat Enterprise Linux (RHEL) AS, Version 3.0 with Update 5 or 6
    - RHEL AS, Version 4 with Update 2
    - RHEL ES, Version 3.0 with Update 5 or 6
    - RHEL ES, Version 4 with Update 2
    - RHEL WS, Version 3.0 with Update 5 or 6 (supported for application design, development and testing)
    - RHEL WS, Version 4 with Update 2<sup>1</sup>
    - SUSE Linux Enterprise Server (SLES), Version 9 with SP2 or 3
  - 64 bit (one of the following):
    - RHEL AS, Version 3.0 with Update 5 or 6
    - RHEL AS, Version 4 with Update 2
    - RHEL ES, Version 3.0 with Update 5 or 6
    - RHEL ES, Version 4 with Update 2
    - SLES, Version 9 with SP2 or 3
- 

#### *For Linux operating environments on System z servers*

- 31 bit (one of the following):
    - RHEL AS, Version 3.0 with Update 5 or 6
    - RHEL AS, Version 4 with Update 2
    - SLES, Version 9 with SP2 or 3
  - 64 bit (one of the following):
    - RHEL AS, Version 4 with Update 2
    - SLES, Version 9 with SP2 or 3
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## IBM WebSphere Application Server, Version 6.1 at a glance continued

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### Software requirements continued

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*For Linux operating environments on System i5 and System p servers*

- 32 bit (one of the following):
    - RHEL AS, Version 3.0 with Update 5 or 6
    - RHEL AS, Version 4 with Update 2
    - SLES, Version 9 with SP2 or 3
  - 64 bit (one of the following):
    - RHEL AS, Version 4 with Update 2
    - SLES, Version 9 with SP2 or 3
- 

*For Sun Solaris operating environment*

- 32 bit (one of the following):
    - Sun Solaris operating environment, Version 9 with the latest Patch Cluster
    - Sun Solaris operating environment, Version 10 with the latest Patch Cluster
- 

*For Windows operating systems*

- 32 bit (one of the following):
    - Windows 2000 Advanced Server with SP4
    - Windows 2000 Server with SP4
    - Windows 2000 Professional Server with SP4<sup>2</sup>
    - Microsoft Windows Server 2003, Datacenter with SP1
    - Microsoft Windows Server 2003, Enterprise with SP1
    - Microsoft Windows Server 2003, Standard with SP1
    - Microsoft Windows XP Professional with SP2<sup>3</sup>
  - 64 bit:
    - Microsoft Windows Server 2003 x64 Editions
- 

*Supported HTTP server environments*

- Apache Server, Version 2.0.54
  - IBM HTTP Server, Version 6.0.2
  - IBM HTTP Server, Version 6.1
  - IBM HTTP Server for System i5
  - Microsoft Internet Information Services, Version 5.0 or Version 6.0
  - IBM Lotus® Domino® Enterprise Server 6.5.4 or 7.0
  - Sun Java System Web Server, Version 6.0 with SP9
  - Sun Java System Web Server, Version 6.1 with SP3 (supported for HTTP server functionality, only for this server)
- 

*Supported Web browsers*

- Firefox, Version 1.5
  - Microsoft Internet Explorer for Microsoft Windows XP with SP2
  - Microsoft Internet Explorer, Version 6.0 with SP1 on Microsoft Windows
  - Mozilla, Version 1.7.8
- 

*Notes:*

- 1. Supported for application design, development and testing only; no support for production use.*
- 2. Supported for application design, development and testing only; no support for production use.*
- 3. Supported for application design, development and testing only; no support for production use.*

Hardware and software requirements are updated frequently. For the most current requirements, visit [ibm.com/support/docview.wss?rs=180&uid=swg27006921](http://ibm.com/support/docview.wss?rs=180&uid=swg27006921)



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\* Except WebSphere Application Server Community Edition, which is built on Apache Geronimo code.