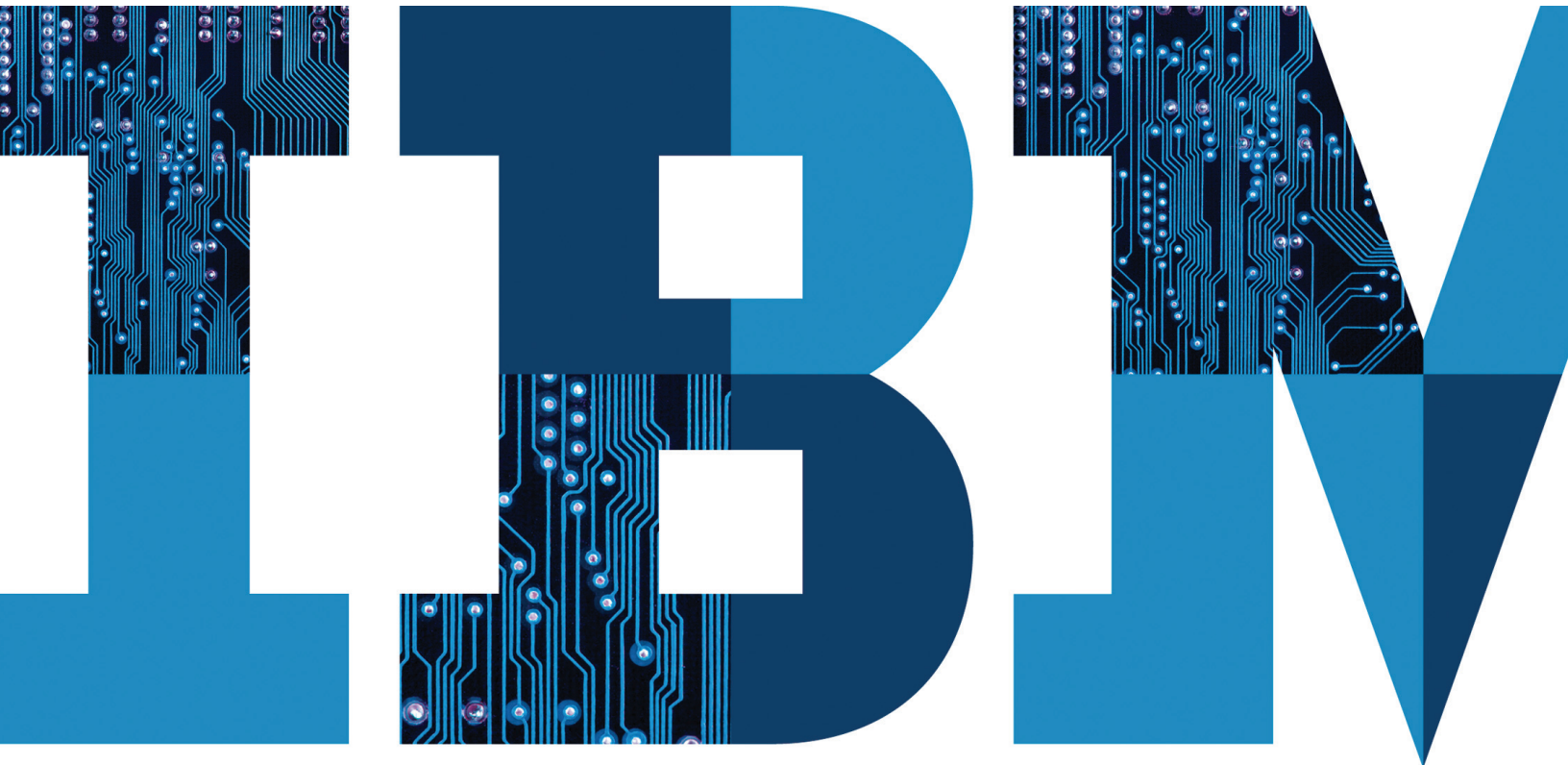


# IBM WebSphere Application Server v7 versus Oracle WebLogic 11g

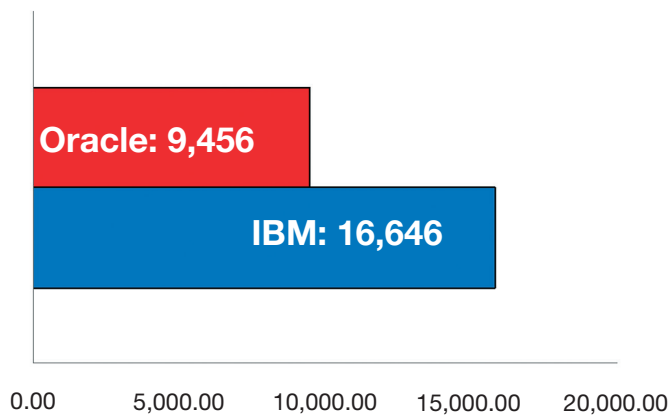
*Competitive positioning*



This document covers key differences between IBM® WebSphere® Application Server and Oracle WebLogic Server. While both products are of high quality and will perform well even in demanding mission-critical environments, there are still some differences in their efficiency and resulting total cost of ownership. In this document, we will briefly compare the following capabilities:

- Performance
- Administrative and management tools
- License and support costs
- Licensing policies
- Virtualization and cloud support
- Standards support
- Operating system and DBMS support

SPECjEnterprise2010: EjOPS per second, single node



## Performance

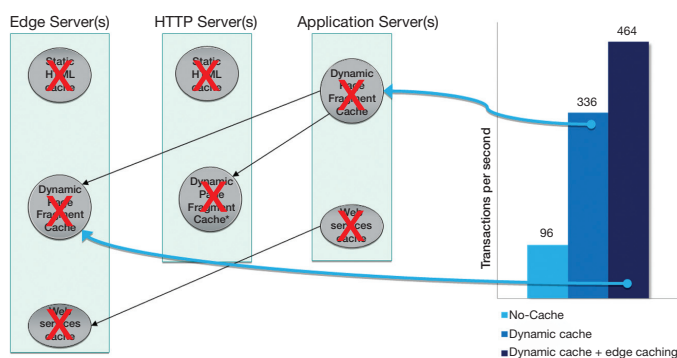
IBM has a long history of performance leadership with our application server. Here are a few examples:

- In January 2010, IBM was the first vendor to publish for the SPECjEnterprise2010 benchmark. It took Oracle more than seven months to publish any result—and still they could not surpass IBM in per core performance, overall throughput/scalability and cost for performance.
- IBM continues to enhance performance: the new JPA enhancements in the Feature Pack for Java® Persistence API 2.0 helped IBM increase its leading SPECjEnterprise2010 benchmark by 73 percent on a single server node. IBM has continued to make performance advancements in both hardware and software to achieve the current record single node score of 16,646 EjOPS (Enterprise jAppServer Operations Per Second).<sup>5</sup>
- IBM was also the first to publish a SPECjAppServer2004 result. It took BEA more than a year to publish their first result and took Oracle two-and-a-half years to publish theirs.
- IBM was first to publish results to the SPECj2001 and SPECj2002 benchmarks and we led those benchmarks for significant periods of time.
- IBM was the first and only company to publish a SPECj2002 distributed result, which included distributed transactions. No other vendors have published a result in this category to date.

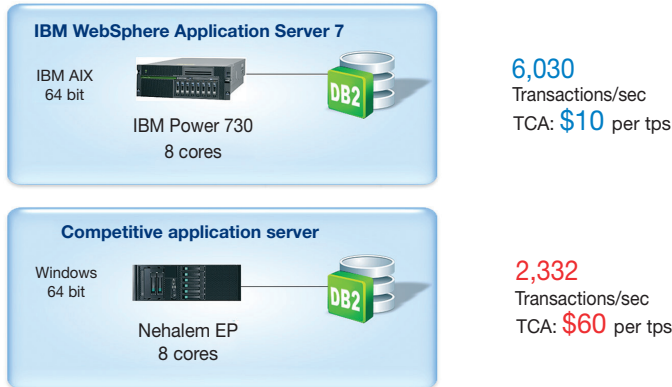
- WebSphere Application Server includes a unique Dynacache capability that makes possible very flexible HTML, Servlet, JSP and SOAP/HTTP (using parts of the SOAP header and body) caching without modifications to the source application. This cache can also be dynamically replicated to the edge of the network using WebSphere Edge Services (included at no additional charge with WebSphere Application Server). WebLogic Server has limited caching available and requires manual editing of the source code to put in JSP tags. This editing requires designers of the applications to be overtly aware of the cache. In WebSphere Application Server, it is a purely administrative task and developers do not have to do anything special to enable it. Customer and internal IBM tests demonstrated that the IBM WebSphere Dynacache can help significantly improve performance of some web applications.

IBM has tens of thousands of customers running WebSphere Application Server in production with hundreds of customers running high volume websites. WebSphere Application Server is used by over 19,000 customers and is used by 90 percent of the Fortune Global 100 companies.

More often than not, WebSphere Application Server wins customer performance tests against WebLogic. Quite often, the performance advantage of WebSphere Application Server is well over 20 percent.<sup>1</sup> There are several factors contributing to this, including the IBM Java Runtime which is optimized for different hardware architectures with special optimizations done for the latest IBM POWER7® platform; fast web services stack and XML processing; caching at every level of processing; special optimizations performed for IBM DB2® connectivity and session persistence; and finally highly optimized application server runtime and persistence engines.



For example, the figure below shows the results of a recent performance test comparing the total cost of acquisition for a combination of hardware and software using the WebSphere Application Server JEE5 application server versus the competition.



### License and support costs

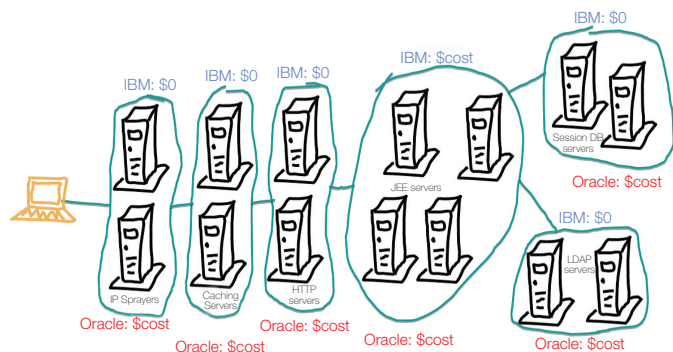
IBM WebSphere Application Server license and support costs are lower than Oracle WebLogic Server—and IBM terms and conditions allow greater flexibility during deployment. The license terms and conditions discussed below apply in general to all IBM versus Oracle software products, not only to the application server (except where specific examples use prices):

- First year license and support cost of WebLogic Server can be up to 57 percent higher than WebSphere Application Server.<sup>6</sup>
- IBM software comes with a year of support included with the initial license purchase. For Oracle software, the first year of support is an additional cost above the license cost.

- IBM WebSphere Application Server support is 20 percent of the license cost versus Oracle WebLogic Server at 22 percent.
- IBM support cost is calculated based on the entitled PPA price and IBM automatically discounts support at the same rate as license costs. Oracle customers must negotiate to get a discount on support, and it typically grows back to 22 percent of the list price as four to six percent per year automatic “cost of living” increases.<sup>2</sup>
- WebSphere Application Server Network Deployment includes the HTTP server that can be installed on separate hardware with no additional licensing costs. Oracle requires all products to be installed on one machine (otherwise additional licenses must be purchased).
- At no additional cost, WebSphere Application Server Network Deployment includes IBM Tivoli® LDAP server, a caching and load balancer called Edge Services and the DB2 database for non-application data. Oracle customers have to buy CISCO or another load balancer, and pay extra for the database and LDAP servers.
- Oracle charges the full license cost for “warm” and “hot” backup servers. IBM charges only for “hot” backup servers (i.e., the servers used when transactions are replicated and the backup server is doing the work).
- Oracle charges full license costs for “cold” backup servers in a disaster recovery setup and when total failover is longer than ten days in a calendar year. “Cold” backup licenses are free with IBM WebSphere.

- Oracle does not provide special licensing when partitioning using VMware or other virtualization software (except for Oracle VM). So customers must pay for the entire set of CPUs—no matter how few are actually running the workload. With IBM sub-capacity licensing, you only pay for what you use. For example, if you have six sockets in the server and run a virtual machine with the Java workload on one socket, with WebSphere Application Server, you only pay for **one** license. With Oracle, you'd pay for **six** WebLogic Server licenses.

Let us consider the following configuration:



Note: For simplicity of drawing the virtualized and backup servers are not shown on the diagram.

The resulting cost difference, depending on your environment, could be very significant as illustrated in the chart below (assuming four machines for application server, two Nehalem CPUs per machine, four cores per socket, 50 percent machine virtualization):

IBM product				Oracle product			
	# of machines in hot code	List price (100 PVU)	Sub-total		# of machines in hot code	List price (100 PVU)	Sub-total
WebSphere Application Server ND	4	2240	\$17,900	WebLogic Server Enterprise Edition	4	2	\$25,000
WebSphere Edge Cache (free with WAS ND)	2	1120	\$0	Oracle Web Cache (Oracle Web Tier)	2	1	\$5,000
WebSphere Edge WLM (free with WAS ND)	2	1120	\$0	3rd party load balancer (hw based)	2	1	\$10,000
DB2 UDB EE (free with WAS ND for session)	2	1120	\$0	Oracle DB Enterprise (for session replication)	2	0	\$47,500
IBM HTTP Server (free with WAS ND)	2	1120	\$0	Oracle HTTP Server (Oracle Web Tier)	2	1	\$5,000
Tivoli Directory (free with WAS ND)	2	1120	\$0	Oracle Directory Services	2	1	\$35,000
<b>Subtotal - license (list price):</b>			<b>\$400,900</b>	<b>Subtotal - license (list price):</b>			<b>\$6,100,000</b>
<b>Support for years 1-5:</b>			<b>\$320,768</b>	<b>Support for years 1-5:</b>			<b>\$1,355,200</b>
<b>Subtotal for support years 1-5:</b>			<b>\$320,768</b>	<b>Subtotal for support years 1-5:</b>			<b>\$6,778,000</b>
<b>Subtotal - license (discouned):</b>			<b>\$400,900</b>	<b>Subtotal - license (discouned):</b>			<b>\$6,100,000</b>
<b>Total:</b>			<b>\$721,728</b>	<b>Total:</b>			<b>\$12,878,000</b>

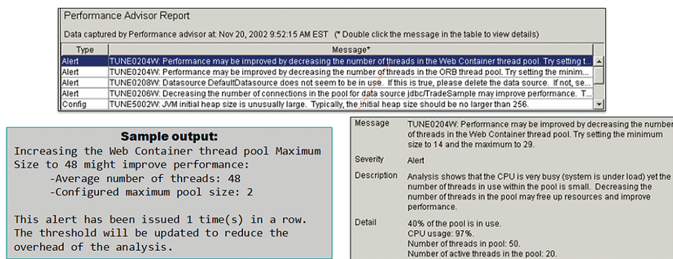
## Administration and management

WebSphere Application Server supports important capabilities which help enable efficient management by customers—capabilities that WebLogic Server is missing. Here are a few examples of how IBM innovation has outpaced Oracle:

- WebSphere Application Server network deployment allows management of a mixed version environment from a single administrative console (i.e., WebSphere Application Server v5, v6 and v7 in the same domain). Oracle does not.
- WebSphere Application Server provides an “Installation Factory” and “Central Installation Manager” (CIM) to speed up installation and update of multiple servers with similar configurations. WebLogic Server does not offer similar capabilities.

The WebSphere Application Server Administrative GUI provides a “Performance Tuning Advisor” (and has since 2002). It monitors the workload of the production system and makes recommendations for the administrator on how to change the system configurations to improve performance by tuning JDBC and JMS connection pools, threads, memory size, cache sizes and much more.

Below you can see examples of the performance advice. The best practices for performance tuning over many years are thus codified in this tool (as can be seen in the picture below) and are made available to all WebSphere administrators.



- WebLogic only tunes thread pool size and overall requires higher administrative skills to maintain the system in good working order. It does not provide the extensive tuning adviser illustrated above.

- WebSphere Application Server supports dynamic application profiles for controlling transaction locking and isolation levels “on the fly.” IBM recognizes that different client requests are likely to impose vastly different demands upon the downstream resources. Distributed components which are hosted by WebSphere Application Server dynamically receive instructions at runtime concerning how to access data. The same component can behave differently depending on the application that calls it. In this way, strategies about concurrency, update intent, use of collections and pre-populating component state and data buffers can be carefully optimized to each application’s needs without impacting the application source code or requiring redeployment. Oracle WebLogic Server does not offer these capabilities and treats all client requests in the same manner. Server resources, resource managers, resource adapters, etc. all take action on behalf of one client’s request in the same fashion as they do any other. Custom coding is required to optimize performance with Oracle WebLogic Server.

## Management of large distributed configurations

WebSphere Application Server has a unique capability called “flexible management” that allows you to submit administrative jobs asynchronously for application servers registered as administrative agents of the deployment manager. Jobs can be submitted to one or more servers, including geographically dispersed servers. The administrative job manager can queue

administrative jobs directed at the standalone application server nodes or clustered domains. The job manager can asynchronously administer job submissions and can complete tasks such as:

- Set the job submission to take effect or to expire at a specified time.
- Specify that the job submission occurs at a specified time interval.
- Notify the administrator through email that the job has completed.

Oracle WebLogic Server does not have comparable functions. This function can reduce off-hours work required by administrators and can also be used to avoid potentially expensive site visits at remote offices. Here are several scenarios in which the WebSphere job manager would be useful.

#### Branch office environment

- A business has a thousand stores geographically dispersed throughout a continent. Each store contains either a few application servers, or a small network deployment cell consisting of two or three machines. Each store is managed locally for daily operations. However, each store is also connected to the data center at the company headquarters, potentially thousands of miles away. Some connections to the headquarters site are at modem speeds. The headquarters site uses the job manager to periodically submit administrative jobs for the stores.

#### Environment consisting of hundreds of application servers

- An administrator sets up hundreds of low-cost machines running identical clones of an application server. Each application server node is registered with the job manager. The administrator uses the job manager to aggregate administrative commands throughout all the application servers, for example, to create a new server or to install or update an application.

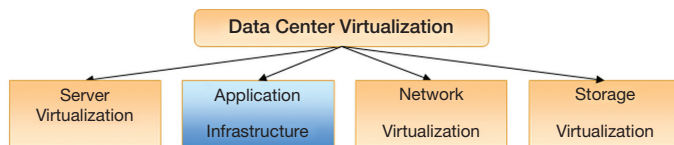
#### Environment consisting of dozens of deployment manager cells

- An administrator sets up hundreds of application servers, which are divided into thirty different groups. Each group is configured within a cell. The cells are geographically distributed over five regions, consisting of three to seven cells per region. Each cell is used to support one to fifteen member institutions, with a total of 230 institutions supported. Each cell contains approximately thirty applications, each running on a highly available cluster of two for failover purposes, resulting in a total of 1800 application servers. The administrator uses the job manager to aggregate administrative commands throughout all the cells, for example, to start and stop servers, or to install or update an application.

Managing Oracle WebLogic Server in these kinds of environments may become very difficult without investing significant resources to build a custom “home-grown” management framework to obtain capabilities similar to what IBM provides “out-of-the-box” in WebSphere Application Server.

## Application virtualization

IBM has virtualization and cloud support to allow our customers to improve the efficiency of their IT staff, reduce hardware and software costs and maintain higher quality of services in their systems. Application infrastructure virtualization complements server, storage and network virtualization. It is a fourth category of virtualization in the data center (See figure below.) that can enable your business to push the boundaries of its IT infrastructure further for greater agility, cost savings, operational efficiency, economy and manageability. Oracle does not have comparable functions for supporting very large environments.



WebSphere Virtual Enterprise provides virtualization at the application level. In addition, it can be combined with server virtualization (like VMware, PowerVM™, etc.) so that you can take full advantage of the strengths of both approaches to lower operational and energy costs and better manage your enterprise applications and service-oriented architecture (SOA) environment. The history of WebSphere Virtual Enterprise began in 2003 and today it has successful customers and mission-critical deployments throughout the world.

In 2009, Oracle promoted the WebLogic Operations Control product for application virtualization. However, in June 2010, Oracle shipped two new products and no longer offers the WebLogic Operations Control product:

- The first product Oracle shipped in June 2010 was the Oracle Virtual Assembly Builder. This product provides provisioning of the virtual appliances into the Oracle VM environment. We will discuss this product in the “Cloud support” section below.
- The second product is called the Oracle WebLogic Suite Virtualization Option. This product is the successor to the unsuccessful and discontinued BEA WebLogic Virtual Edition. Oracle WebLogic Suite Virtualization Option allows WebLogic Server to run directly on the Oracle VM hypervisor without the need for a guest operating system. This is done with JRockit Virtual Edition which is a JVM that works with hypervisor software to provide a set of operating system features (such as TCP/IP, hardware device interaction, file I/O and process scheduling). IBM doesn’t believe Oracle’s JRockit JVM implementation of system level services can be more efficient than a proven Linux® kernel.

Furthermore, customers should consider the availability of skills and tools to troubleshoot and secure this kind of “one-off” environment. Oracle claims performance benefits for this “native” configuration, but IBM believes that any theoretical “performance gains” will be far outweighed by the additional skills and home-grown tools which will need to be built for this rigid, non-standard approach—not to mention that the list price for this product is \$55,000 per CPU, multiplied by number of cores on the socket, multiplied by the Oracle core-factor. As you can see, this gets expensive quickly.



Oracle WebLogic Suite, Oracle WebLogic Suite Virtualization Option and Oracle Virtual Assembly Builder have the following limitations compared to IBM WebSphere Virtual Enterprise:

- WebSphere Virtual Enterprise supports IBM WebSphere Application Server, Process Server, ESB, Portal and Commerce. Oracle virtualization offerings are limited to the WebLogic Server only, with no support for Oracle BPM, ESB, Portal or other platform products.
- Oracle lacks support for robust application edition management. WebLogic Server allows only two versions of the same application to co-exist for a short time of transition. WebSphere Virtual Enterprise makes it possible for virtually an unlimited number of application editions to co-exist indefinitely with the ability to revert back, or forward, to a certain version—at any time. WebSphere Virtual Enterprise supports interruption-free application rollout, testing and coexistence within the same administrative domain. This can greatly reduce hardware requirements and complexity of upgrades.
- Unlike Oracle, WebSphere Virtual Enterprise has the ability to prioritize requests based on administrator-defined rules to adjust server response times according to Service Level Agreements (SLAs) and application priority. These rules can use information about the protocol, application version, URI, cookie, client IP, time of day, SLA, form data and multiple other system, session and request parameters. Request prioritization and routing are not provided by Oracle. WebLogic Server and its add-ons cannot throttle requests according to SLAs between the HTTP server, load balancer and application server. WebSphere Virtual Enterprise can throttle and prioritize HTTP, JMS and IIOP requests. Oracle WebLogic Server can only do limited prioritization of HTTP requests within a single application server JVM.
- The WebSphere Virtual Enterprise request prioritization and throttling with SLA monitoring can also be applied to non-IBM products. For example, WebSphere Virtual Enterprise can perform these functions to improve the quality of service for PHP servers, .NET, Apache Tomcat, JBoss, Geronimo, WebSphere Application Server Community Edition, WebLogic Server and other web and application servers communicating over HTTP or HTTPS protocols.
- WebSphere Virtual Enterprise supports many more operating systems and platforms compared to Oracle's limited support for Red Hat Enterprise Linux, Microsoft Windows, Solaris and Oracle Linux.
- Unlike Oracle products, WebSphere Virtual Enterprise can dynamically provision and can start or stop new instances of application server JVMs in the cloud. This is called “dynamic clustering” and provides the ability to meet Service Level Agreements when multiple applications compete for resources. WebSphere Virtual Enterprise can dynamically stop less important applications and start new instances of more important ones. The boundaries of the dynamic cluster for any particular application within a cloud can be computed “on the fly” based on the rules defined by the system administrator.
- WebSphere Virtual Enterprise performs proactive application and server health management, detects issues (such as memory conditions, storm drains, connection errors and response time deviation) and takes actions to correct them. The declarative nature of WebSphere Virtual Enterprise health management allows administrators to improve infrastructure reliability—helping minimize potential downtime. Oracle does not provide similar capabilities.
- Oracle WebLogic Suite Virtualization Option and Oracle Virtual Assembly Builder do not support non-Oracle virtualization software. The only supported hypervisor is Oracle VM. In contrast, WebSphere Virtual Enterprise integrates well with VMware, IBM PowerVM, IBM z/VM® and can support application server deployments running in any other virtualized environment.

## Cloud support

According to an IBM study, the WebSphere CloudBurst™ Appliance can reduce software labor hours by up to 80 percent compared to manual deployment. Historically, the task of deploying a software stack as a VM image onto a virtualized server has been a highly labor-intensive task. For example, one must first deploy and configure the OS along with all requisite patches. After that, the administrator has to install and configure the application server and all its constituent components (HTTP server, etc.) along with patches and other fixes. For applications requiring a database, that becomes yet another piece of middleware that needs to be installed and configured.

Then there is the application itself. Collectively, deploying and testing a complete application manually can require days or weeks to accomplish, depending upon its overall complexity. In a private cloud environment, this kind of turnaround is untenable. The WebSphere CloudBurst Appliance is specifically designed to address this problem. Available as a hardware appliance, it makes the most of more than ten years of best practices in WebSphere Application Server deployments and encapsulates them into pre-defined, customizable images that can be dispensed to a variety of hypervisors used in virtualized servers. Its use of scripting and automation techniques greatly reduces the labor required to perform deployment tasks. The WebSphere CloudBurst Appliance works very well with WebSphere Virtual Enterprise, and both can provide significant value to WebSphere customers. This is supported with the “Intelligent Management” pack that can be added on to CloudBurst deployments.

Following the IBM lead, Oracle is now just starting to move in a similar direction. In June 2010, Oracle announced the Oracle Virtual Assembly Builder. This product provides provisioning of the virtual appliances into the Oracle VM

environment. Other than overall lack of product maturity, there are a number of significant limitations with this new Oracle Virtual Assembly Builder product:

- Consider the appliance form factor and the ease of use with the IBM WebSphere CloudBurst Appliance versus the labor-intensive process of installing, configuring and securing Oracle Virtual Assembly Builder.
- The IBM WebSphere CloudBurst Appliance has been available on the market for more than a year and can document production deployments and successful customers since 2009. In contrast, the Oracle Virtual Assembly Builder product was shipped in June 2010 and has no known successful track record at the time of this writing.
- The IBM WebSphere CloudBurst Appliance is built on the IBM DataPower® platform with a high degree of security as a major design objective. It appears that the current release of the Oracle Virtual Assembly Builder is not production-ready, as it has a number of security issues as identified in the Oracle documentation: *“This release of Oracle Virtual Assembly Builder is a Developer-centric release (versus an Enterprise release) from a security perspective... In this release, users cannot replace the self-signed root certificate created by default by Oracle Virtual Assembly Builder with their own production-quality certificates... The communication between Oracle Virtual Assembly Builder and the Oracle VM Server when Oracle VM Server retrieves templates is not secure. If sensitive data has been introspected, then it might be visible to an attacker who has access to the network. The attacker might be able to access that sensitive data in the template.”*<sup>3</sup>
- The IBM WebSphere CloudBurst Appliance supports major virtualization platforms, including VMware, PowerVM and z/VM. IBM will add more hypervisors to the supported list as time goes on. The market share of these hypervisors is well over 80 percent. At the same time, Oracle Virtual Assembly Builder only supports Oracle VM, which is believed to have a significantly smaller market share than IBM’s hypervisors. Oracle has not announced intent to support non-Oracle hypervisors.

- The IBM WebSphere CloudBurst Appliance supports provisioning of SuSe Linux, RHEL, IBM AIX®, z/VM® and will support more operating systems in the future. Oracle Virtual Assembly Builder is limited to Red Hat EL and Oracle Enterprise Linux only.
- The IBM WebSphere CloudBurst Appliance lets you design and deploy patterns consisting of WebSphere Application Server, WebSphere Virtual Enterprise (using the Intelligent Management Pack), IBM HTTP Server, WebSphere Portal, DB2 and WebSphere Process Server and ESB, with more products “on the roadmap” and the ability to add almost any third party software or application using scripting packages. Oracle Virtual Assembly Builder only supports WebLogic Server, Oracle DB (single instance), Oracle HTTP server and web cache.
- The IBM WebSphere CloudBurst Appliance provides a self-service portal with a Web 2.0 interface enabling authorized users to create new patterns, to deploy instances, to generate reports on the usage of the software, to remove instances and more. Oracle Virtual Assembly Builder does not provide similar capabilities, forcing users to contact system administrators the “old fashioned” way.
- The IBM WebSphere CloudBurst Appliance can not only deploy instances, but can also patch existing systems. Oracle Virtual Assembly Builder can’t patch existing systems.
- There are many other advantages of the WebSphere CloudBurst Appliance over Oracle Virtual Assembly Builder (such as REST support, user and roles management, import and export, license tracking, SNMP, Tivoli integration, automated firmware updates, configuration editor, scripting packages, security, ease of use, performance and flexibility). To experience some of these advantages, see the [online demos](#) of the IBM WebSphere CloudBurst Appliance on [YouTube](#)
- Finally, the cost of the IBM WebSphere CloudBurst Appliance for a medium-sized deployment is less than one-third of the Oracle Virtual Assembly Builder cost.

### Standards support

WebSphere Application Server supports important standards that WebLogic Server does not:

- The Feature Pack for OSGi Applications and Java Persistence API 2.0 makes WebSphere Application Server the first application server that exposes the OSGi Enterprise programming model to customers in a Java EE environment. This allows developers to build applications that make the most of the modularity and “versioning” of the OSGi service platform, facilitating the use of shared libraries and reusable components. Oracle WebLogic Server offers no equivalent support for user applications today. Also, IBM is contributing to the open source community to bring similar OSGi capabilities to Apache Geronimo and WebSphere Application Server Community Edition in the near future.

- WebSphere Application Server includes “out of the box” support for SIP (Session Initiation Protocol) and Portlets (JSR 268). With Oracle, you have to purchase a separate Oracle Communications Converged Application Server (formerly WebLogic SIP Server) and Oracle WebCenter Portal to get these capabilities. These additional products introduce significant additional complexity and cost. Additionally, the WebSphere Application Server Feature Pack for Communications Enabled Applications (CEA) helps developers add communications capabilities to their applications without requiring detailed knowledge of SIP. Oracle provides no similar capability.
- WebSphere Application Server supports several important Web Services standards missing in WebLogic Server, namely WS-Notification, WS-Resource Framework, JAX-RS for RESTful Web Services and so on.
- Perhaps even more important: IBM is commonly ahead of Oracle in supporting the latest WS-I.org interoperability profiles, including Basic Profile, Security Profiles and other profiles. And this helps IBM customers create web services that have a better ability to interoperate.

- The Web 2.0 Feature Pack for WebSphere Application Server introduced Ajax Messaging to enable a “publish and subscribe” model whereby the server can stream data updates, messages and events in real time to the client. The package includes server- and client-side Ajax components that communicate using Ajax-friendly JSON-based messages. WebLogic Server does not provide this capability “out of the box” and requires the addition of third-party libraries.

### **Platforms and OS support**

IBM certifies WebSphere Application Server on more platforms, operating systems and databases than any other vendor. Platforms supported by WebSphere Application Server and not supported by WebLogic Server include Asianux Linux, RedHat Linux on IBM Power, SuSe Linux on IBM Power, RedHat Linux and SuSe Linux on IBM System z® and IBM System i®. Almost all of the platforms supported by WebSphere Application Server are generally available on Day One of the General Availability (GA) release. Oracle tends to delay support for certain platforms (AIX, SuSe, and so on). Sometimes, it takes a year after an initial GA release of a product for these platforms to be supported by Oracle. For example, as of March 2011 WebLogic Server still does not support SuSe 11 and Windows 7.

		<b>WebSphere Application Server V7.0</b>	<b>WebLogic Server 11g</b>
<b>x86</b>	Red Hat Ent. Linux 4, 5	✓	✓
	SuSe Linux ES 9, 10	✓	✓
	SuSe Linux ES 11	✓	
	Oracle Enterprise Linux 4, 5		✓
	Asianux Server 3	✓	
	Windows XP/Vista/2003/2008	✓	✓
	Windows 7	✓	
	HPUX 11i	✓	✓
	Solaris 10	✓	✓
<b>Risc</b>	Red Hat Ent. Linux 4, 5	✓	
	SuSe Linux ES 9, 10, 11	✓	
	IBM i 7.x, v5.x, 6.x	✓	
	AIX 5.x, 6.1	✓	✓
	HPUX 11i (PA-RISC)	✓	✓
	Solaris 9, 10 (SPARC)	✓	✓
<b>System z</b>	z/OS v1.7-v1.11	✓	
	Red Hat Ent. Linux 4, 5	✓	
	SuSe Linux ES 9, 10, 11	✓	

The databases supported in the current version of WebSphere Application Server and not supported by WebLogic Server include Sybase 12, DB2 for IBM iSeries®, DB2 for IBM z/OS®, IBM WS Information Integrator, IBM Informix® DS, IMS on z/OS, IBM CICS® and Apache Derby.

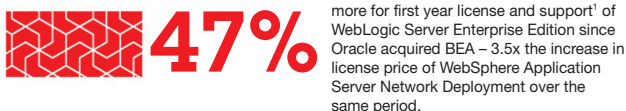
	<b>WebSphere Application Server V7.0</b>	<b>WebLogic Server 11g</b>
Oracle 10g, 11g	✓	✓
Microsoft SQL 2005, 2008	✓	✓
Sybase 12.x	✓	
Sybase 15.x	✓	✓
DB2 8.x	✓	
DB2 9.x	✓	✓
DB2 for iSeries 5.x, 6.x	✓	
DB2 for z/OS 8.x, 9.x	✓	
IBM WS II Advanced 8.x, 9.x	✓	
IBM Informix DS 10.x, 11.x	✓	
IMS 8, 9 on z/OS	✓	
Apache Derby 10.3	✓	
PointBase 5		✓
MySQL 5		No XA

## Conclusions

Comparisons of software often focus on the initial acquisition costs. Unfortunately, the long-term administration costs associated with WebLogic server are not factored into the equation. There are many more factors for organizations to consider in their selection process beyond initial acquisition costs. Our projections indicate that, as the size and complexity of a deployment and the supporting organization grows, the bulk of the cost shifts from product acquisition to administration and operational activities (which are much more costly over the life of the application).

Do not delay, migrate to WebSphere today. Why pay more...and get less?

### Oracle Charges More ...



Source: [Oracle technology global price list](#) Effective: 17 Dec 2009. Based on comparison of US Prices of single processor core, equivalent of 100 PVU's.

<http://www.ibm.com/software/webservers/appserv/whypaymore/>

IBM and IBM Business Partners have committed resources to ensuring a migration path from WebLogic Server to WebSphere Application Server and provide free migration tools and intellectual capital to assist in the process: [http://www.ibm.com/developerworks/websphere/downloads/migration\\_toolkit.html](http://www.ibm.com/developerworks/websphere/downloads/migration_toolkit.html)

## For more information

To learn more about the IBM WebSphere Application Server v7.0, please contact your IBM marketing representative or IBM Business Partner, or visit the following website: [ibm.com/software/webservers/appserv/whypaymore/](http://ibm.com/software/webservers/appserv/whypaymore/)

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit: [ibm.com/financing](http://ibm.com/financing)



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<sup>1</sup> Based on observed results from customer benchmarks comparing Oracle WebLogic Server to WebSphere Application Server

<sup>2</sup> Oracle Software Investment Guide:  
<http://www.oracle.com/corporate/pricing/sig.html>

<sup>3</sup> [http://download.oracle.com/docs/cd/E16104\\_01/doc.1111/e15836/toc.htm](http://download.oracle.com/docs/cd/E16104_01/doc.1111/e15836/toc.htm)

<sup>5</sup> Single system performance record based on SPECjEnterprise2010 results from [www.spec.org](http://www.spec.org) as of 2/10/2011 for WebSphere Application Server V7 on IBM Power 780 result of 15,885.09 EjOPS.

<sup>6</sup> Savings based on publicly available information as of 2/10/2011 comparing Oracle WebLogic Server Enterprise Edition to IBM WebSphere Application Server Network Deployment, both on an IBM Power 730 Express server (2 chips, 8 cores each).

<sup>4</sup> Performance comparison based on SPECjEnterprise2010 results from [www.spec.org](http://www.spec.org) as of 2/10/2011 and compares performance per core of the WebSphere Application Server V7 on IBM Power 730 Express and DB2 9.7 on IBM BladeCenter PS701 Express result of 4,062.38 EjOPS on 16 cores against Oracle WebLogic Server Standard Edition Release 10.3.3 on Oracle SPARC T3-4 score of 9,456.28 EjOPS on 64 cores. SPEC and SPECjEnterprise are registered trademarks of the Standard Performance Evaluation Corporation.



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