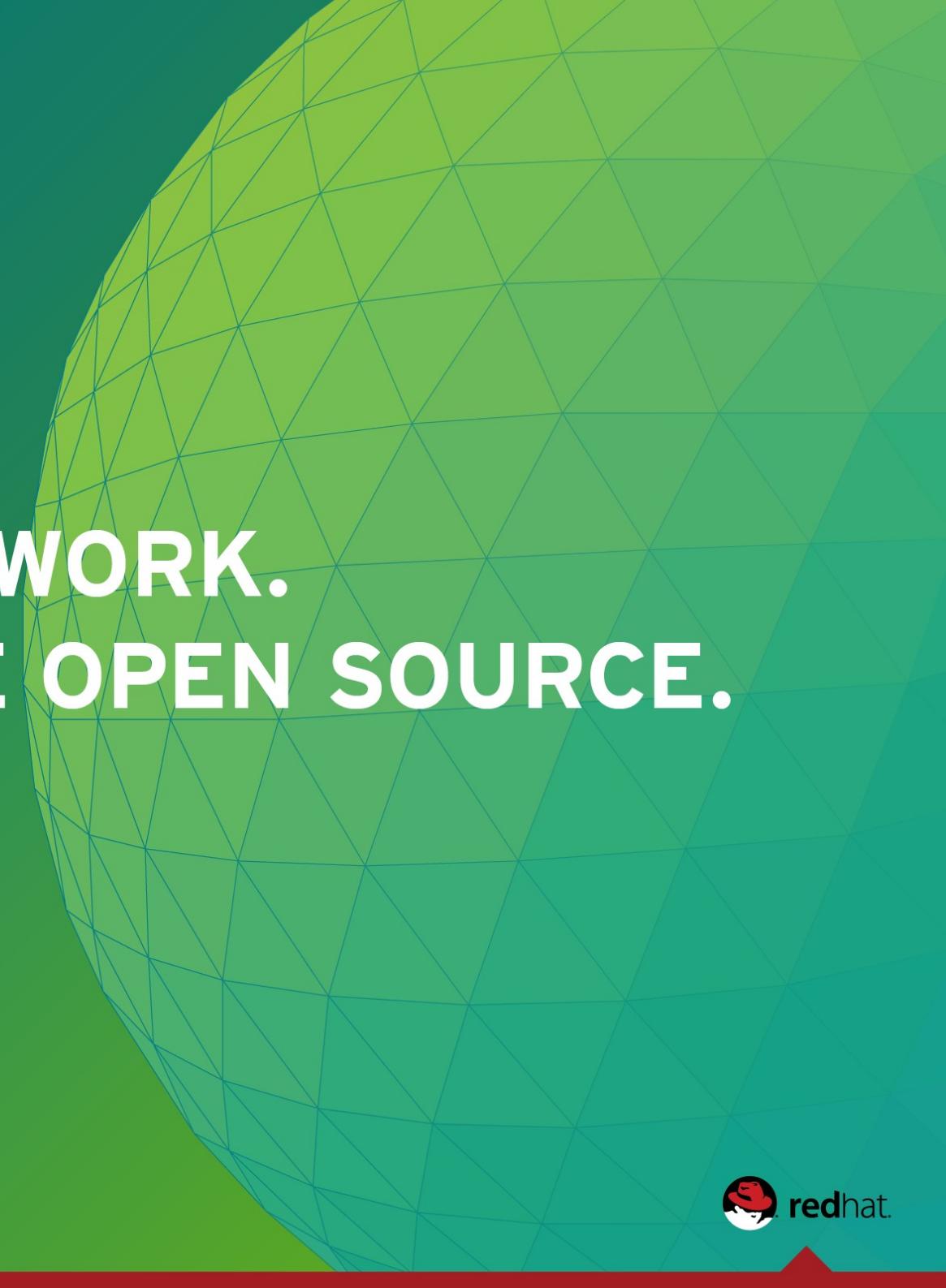


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Middleware Platforms for Application Development: A Product Comparison

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Today's session

- Red Hat JBoss Middleware focus on application development
 - Red Hat JBoss Web Server
 - Red Hat JBoss Enterprise Application Platform
 - Red Hat JBoss Data Grid
- Content is based on publicly available material

But first... some competitive points across the Red Hat JBoss Middleware portfolio

- Open source!
- Total cost of acquisition consistently favors Red Hat for the platforms discussed today
- Red Hat subscription can be re-sized annually
- Red Hat subscription cost does not vary based on CPU

More competitive points across the Red Hat JBoss Middleware portfolio

- Developers are easily enabled
- Robust support for virtualization & growing cloud support
- Competitive briefs are available for download

“Why Choose Red Hat JBoss Middleware over ...”

- Oracle - https://engage.redhat.com/forms/jb_oracle_fusion_competitive_sheet
- IBM - <https://engage.redhat.com/forms/jboss-v-websphere>

Red Hat JBoss Web Server

- Red Hat offers a tested and supported alternative to “free” Apache Tomcat
- Entry level application deployment
 - HTTP
 - Tomcat
 - Hibernate
 - Spring
 - Struts
 - Google Web Toolkit

What about Pivotal tcServer? (formerly VMWare vFabric Server)

- Challenging comparison at times with the transfer of tcServer ownership to Pivotal
 - Product within Pivotal Application/Cloud Fabric but “contact sales” link points back to VMware web site
- tcServer traditionally targets Spring users in a VMware virtual environment
- JBoss Web Server has spring support
 - 2.5.6.SEC03, 3.1.2.RELEASE

What about IBM Liberty Core?

- A new IBM WebSphere application server edition
 - Liberty Core is a subset of liberty profile
- For web applications and an alternative to Tomcat
- Red Hat JBoss Web Server is just 9.52% to 10.02% the cost of IBM Liberty Core Edition!

2-years of JBoss Enterprise Web Server subscription costs		
	JBoss Enterprise Web Server with Management, 16 Core Premium	JBoss Enterprise Web Server with Management, 64 Core Premium
Annual Subscription	\$2,500	\$9,500
2-years of annual subscription	\$5,000	\$19,000
Saving versus IBM (USD)	\$44,920.00	\$180,680.00

Red Hat JBoss Enterprise Application Platform

- JEE 6 application platform
- Designed to be modular and easier cloud usage
- Widely accepted and used by customers of all sizes
- Based on the WildFly community project
- Download for development today!
<http://www.jboss.org/products>

Red Hat JBoss Enterprise Application Platform

- Give developers the type of application platform they want!
- Rebel Labs and Zero Turnaround
“The Great Application Server Debate”

<http://zeroturnaround.com/rebellabs/the-great-java-application-server-debate-with-tomcat-jboss-glassfish-jetty-and-liberty-profile/>

- Report covered Tomcat, Jetty, GlassFish, WebSphere Liberty Profile 8.5, JBoss AS
- JBoss AS 7.1.1.FINAL [aka WildFly] Wins!
 - “JBoss consistently performs very well in each category which is why it also shines in the developer profiles exercise.”



Red Hat JBoss Enterprise Application Platform

- Competitive briefs available on RedHat.com
 - Compared to Oracle WebLogic Server Enterprise Edition
<https://engage.redhat.com/forms/eap-v-weblogic>
 - Compared to IBM WebSphere Application Server Network Deployment Edition
<https://engage.redhat.com/forms/eap-v-websphere>
- Total Cost of Acquisition (2-year TCA)
 - 7.8% the cost of Oracle WebLogic Server Enterprise Edition
 - 6.2% the cost of IBM WebSphere Application Server Network Deployment Edition
- Common J2EE 6 certification
 - More than 40 major technologies and features in common
 - Web and Full profile certified

Red Hat JBoss Enterprise Application Platform

- Managed subscription includes JON
 - Exceeds out-of-the-box graphical management capabilities from both IBM & Oracle
- JBoss Development Studio provides a consistent environment
 - Oracle JDeveloper is not certified with WebLogic 12c
 - IBM Rational developer tools must be licensed
 - not for IBM SOA and BPM work
- Fast start-up
 - <https://vimeo.com/66404665>
- Full clustering and fail-over capabilities

What about IBM Liberty profile?

- Which version: WebSphere Base, ND, or z/OS?
 - Remember... different from IBM Liberty Core
 - Functionality varies by WebSphere edition
 - e.g. WebSphere ND or z/OS is required for collective controller functionality
 - Administration and deployment topology different from WebSphere Application Server
- License WebSphere Application Server editions to get access to liberty profile
 - You pay for the full edition capability to use the liberty profile subset of capabilities

Cost of IBM liberty profile with WebSphere Application Server Network Deployment Edition

Comparative Pricing Criteria

Two year list price acquisition and support costs for 16 cores of Intel x86 CPU's with cores rated by IBM at 100 PVU per core.

IBM Liberty Profile

Only available as part of a WebSphere Application Server base, ND, or z/OS Edition

WebSphere Application Server Network Deployment Edition (D55WJLL) best matches JBoss Enterprise Application Platform capabilities

16 (cores) X 100 (PVU) X [product price] =
Software Licensing Fee

16 X 100 X 196 = \$313,600 USD

Second year IBM subscription and support is calculated at 20% of license cost

$313600 * .20 = \$62,720 \text{ USD}$

\$376,320 USD

JBoss Enterprise Application Platform

JBoss Enterprise Application Platform with Management and Premium support

Annual list price subscription cost **\$11,250 USD**

Two year subscription cost
\$22,500 USD

- **JBoss EAP is less than 6% the cost of IBM**
- **From a different perspective, IBM is over 15x the cost!!**

If you must compare application platforms... some 'best fit' guidance

IBM WebSphere Application Server

Liberty Core Edition is **not a full JEE 6 platform** and is missing clustering abilities

Express Edition is **limited to single-server** implementations and up to a maximum of 480 Processor Value Units per server

Base Edition is web tier clustering and failover is limited to a **maximum of five application server instances**

WebSphere Application Server for z/OS is **for mainframe** usage

WebSphere Application Server Network Deployment Edition best matches JBoss Enterprise Application Platform capabilities

Oracle WebLogic Server

Oracle WebLogic Server Standard edition **lacks clustering and JMS failover** functionality

WebLogic Suite includes **more products than** the Oracle **WebLogic Server**

Oracle WebLogic Server Enterprise Edition best matches JBoss Enterprise Application Platform capabilities

Red Hat JBoss Data Grid

- In-memory data caching technology
 - Boost application performance
 - Share data between applications
 - Reduce load on systems using the cache
 - Very reliable with intelligent and distributed caches
- Consistent management using JBoss Operations Network
- Roots in the JBoss Infinispan project

Red Hat JBoss Data Grid

- Competitive briefs available on RedHat.com
 - Compared to Oracle - <https://engage.redhat.com/forms/data-grid-v-coherence-grid>
 - Terracotta BigMemory Max comparison coming soon!
- At least 45 features in common with Oracle Coherence Grid Edition
- Has more client connectivity options than Oracle and Terracotta
 - Java API, Hot Rod, Memcached, HTTP, RESTful services

Red Hat JBoss Data Grid – supports many use cases

Topology

Library Mode

Single Instance

Replicated

Distributed

Cache size

Eviction

Expiration

Passivation

Activation

Cache stores

File

JDBC

Custom

Terracotta Big Memory Max

- No library mode
- No ability to have data redundantly distributed over multiple client accessible nodes
- No ability to dynamically add or remove a stripe from a running cache

Red Hat JBoss Data Grid

- High performance serialization for storage of data
 - Terracotta BigMemory Max relies on standard Java serialization
- Uses heap storage for in-memory data and scales dynamically as servers are added
 - Terracotta promotes using off-heap storage for scaling in-memory data
- Non-blocking state transfer
- Cross-datacenter replication
 - Everything is included for this functionality
- Rolling upgrades
 - Zero downtime for data caches accessed exclusively using Hot Rod

Red Hat JBoss Data Grid

- Compare costs to Oracle Coherence editions

Two year list price acquisition and support costs for 16 cores of Intel x86 CPU's

- At least 45 features in common with Oracle Coherence **Grid Edition** for just 4% the cost (2-year TCA)

Lacks cross data center replication

Compare To Oracle Coherence (Grid)

2-years of Red Hat JBoss Data Grid subscription costs		
	Red Hat JBoss Data Grid, 16 Core Premium	Red Hat JBoss Data Grid, 64 Core Premium
Annual subscription	\$24,000	\$90,000
2-years of annual subscription	\$48,000	\$180,000
Saving versus Oracle (USD)	\$240,000	\$972,000
Red Hat cost as a percentage of Oracle	16.67%	15.63%

Compare To Oracle Coherence (Enterprise)

2-years of Red Hat JBoss Data Grid subscription costs		
	Red Hat JBoss Data Grid, 16 Core Premium	Red Hat JBoss Data Grid, 64 Core Premium
Annual subscription	\$24,000	\$90,000
2-years of annual subscription	\$48,000	\$180,000
Saving versus Oracle (USD)	\$84,480	\$349,920
Red Hat cost as a percentage of Oracle	36.23%	33.97%

Related session on Friday

- Middleware Platforms for Integration & BPM: A Product Comparison
 - Friday June 14th 11:00am – 12:00pm
- Topics
 - Red Hat JBoss BRMS
 - Red Hat JBoss A-MQ
 - Red Hat JBoss Fuse
 - Red Hat JBoss Data Services



Questions?

JBoss Enterprise Portal

- JBoss EAP customers - you already have access!
- Optimized to run on JBoss EAP
 - Long term stability means reduced operational risk
- Proven performance at scale in large, mission-critical deployments
- Perfect for lean portal deployments
- Very developer friendly tooling
 - i.e. PortletBridge which allows JSF and RichFaces to be run from inside a portlet