GET YOUR JAVA EE APPS READY FOR THE CLOUD WITH RED HAT JBOSS EAP 7 AND OPENSSHIFT BY RED HAT

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Agenda

- Application development, evolved
- Java in the cloud
- OpenShift by Red Hat
- JBoss EAP on OpenShift
- Demo
- Wrap up
Application development is evolving
Transform the business, transform application development

DIFFERENTIATE (INNOVATION)

FAST TO MARKET (AGILITY)

RUN THE BUSINESS (EFFICIENCY)
SOFTWARE IS THE DIFFERENCE

“The scope [of IT] has totally changed.”
“...you have to almost think about how do we [leverage IT] to help our customers...”

“Now, we really have to think more about the revenue side”
IT is struggling to evolve

MONOLITHIC

DEVOPS

CONTAINERS

MICROSERVICES

CLOUD
DevOps

- Process
- People
- Culture
- Technologies
Monolithic architecture

- Single package
- Easy to test
- Straightforward to develop

- Often becomes large and complex
- Required to deploy as single package – even for small updates
  Difficult to push updates out fast
Microservices architecture

- Application becomes independant services
- Fast to update, replace, deploy, scale
- Requires mature CI/CD pipeline (DevOps)
- Complex coordination, management
- New skills needed
Why Java in the cloud?
Why Java?

- Standardized, open platform built by collaboration
- Large existing skill sets
- Choice (Hardware, OS and vendor)
- Ease of development
- Maturity
Why Java and cloud?

- Extend Java knowledge and expertise to the cloud
- Modernize for web-scale, highly transactional apps
- Scaling, provisioning, standardized environment
- Containers & orchestration
- Deliver faster, with automation
OpenShift
by Red Hat
OpenShift is Red Hat’s Container Application Platform

- Built for both traditional and cloud-native applications.
- An integrated hybrid cloud application platform for application development and deployment.
- Develop, build, and manage container based applications.
- Easily turn source code into running applications with source-to-image capabilities.
JBoss EAP 7 and Openshift. A great combination
JBoss MIDDLEWARE ON OPENSHIFT

**Application Container Services**
- JBoss Enterprise Application Platform
- JBoss Web Server (Tomcat)
- JBoss Data Grid
- JBoss Developer Studio

**Integration Services**
- Fuse
- A-MQ
- Data Virtualization *

**Business Process Services**
- Business Process Management *
- Business Rules Management System

**Mobile Services**
- Red Hat Mobile / FeedHenry

* Coming Soon
OPENSHIFT ENTERPRISE

Container JBoss EAP Container JBoss Data Grid Container JBoss Fuse JBoss A-MQ JBoss BRMS Container

RHEL RHEL RHEL

ORCHESTRATION

OPENSHIFT ENTERPRISE

#redhat #rhsummit
JBoss Enterprise Application Platform

- The most popular open source Java EE application server
- Lightweight dynamic architecture
- Choice of programming models - Java EE, Spring
- Supports full spectrum of Java workloads
- Optimized for modern IT infrastructure
WHAT ARE THE SIMILARITIES?

● Still configurable:
  ○ Security (HTTPS, JGroups, etc)
  ○ Database connection pools
  ○ JMS Queues/Topics
● Custom configuration
● Custom modules
● Persistent file data
WHAT ARE THE DIFFERENCES?

- No web-based Management Console
- JBoss CLI is available from within the container
- No Domain mode. Not needed either when running on OpenShift!
- HornetQ for internal messaging. A-MQ for external
- Default ROOT page is disabled. Deploy your own application!
- Clustering is supported through Kubernetes discovery mechanisms and in future DNS discovery
## APPLICATION SUITABLE FOR OPENSHIFT

<table>
<thead>
<tr>
<th>Type of workload</th>
<th>EAP 7</th>
<th>EAP 7 on OpenShift</th>
<th>12-factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stateless web application</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Stateless web application with HA and Scaling</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Stateful web application with HA and Scaling</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Applications using JMS</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Applications using Enterprise Java Beans</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Batch Applications (JSR-352)</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Application Clients using RMI</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Application Clients using CORBA</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Application that require native libraries other than RHEL</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>
Demo
DEPLOYMENT PIPELINE

dev → source repository → CI/CD engine → container → target environment
BLUE-GREEN DEPLOYMENT

- Reducing downtime and risk associated with release
- Two identical environments in containing two different releases (Blue and Green)
- After validating new release, can switch all traffic to new version
- Quickly roll application back if you find issues
Wrap up
Learning more at Red Hat Summit
Related Sessions

**Orchestrate JBoss middleware with Ansible Tower**
Marc Zottner, Patrick Steiner

**Building Red Hat JBoss EAP microservices on OpenShift Enterprise by Red Hat**
Babak Mozaffari

**Java EE and NoSQL using JBoss EAP 7 and OpenShift Enterprise by Red Hat**
Arun Gupta

**From 6 weeks to 6 minutes! - Dienst Uitvoering Onderwijs's migration to Red Hat**
Jan-Taeke Schuilenga (DUO), Roeland van de Pol

**Migration to Red Hat JBoss Middleware—easy, predictable, proven**
Brad Davis, Tobias Hartwig

**Modernizing your enterprise application architecture**
John Clingan, Bruno Georges

**Modernize your Java EE applications with Red Hat JBoss EAP 7**
Thomas Qvarnstrom, Marc Zottner
Like a sports car, JBoss EAP 7 is fast, agile, lightweight, and secure.

To celebrate the JBoss EAP 7 launch, you can register to win the cash to buy the car!

Visit display at Moscone West lobby to learn how.
POWER UP and PARTY DOWN with Red Hat Mobile, Middleware and OpenShift.

Wednesday evening 9PM – 12AM

Pick up your invitation for the party that beats all parties at: Mobile, Middleware or OpenShift demo pods in the Red Hat Booth, Partner Pavilion.
Questions ?