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Easing into JBoss Enterprise Application Platform Migrations

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Welcome to Easing into JBoss EAP Migrations

- In this session you'll learn
 - Migration Strategies
 - JBoss Tattletale
 - Background, Purpose
 - JBoss Cake by Red Hat Consulting
 - Background, Purpose
 - Red Hat Consulting
 - How can we help?

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JBoss EAP Migrations

- Migrations can entail moving from
 - Weblogic
 - Websphere
 - Tomcat
 - JBoss AS Community
 - JBoss EAP 4 or 5
 - Messaging

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JBoss EAP Migrations – Main Goals

- Non-proprietary code
- Platform agnostic
- Upgrade frameworks
- Increase speed and reliability
- Create standards to be implemented throughout the organization

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Migration Strategies – **Where to Start**

- Bring together your
 - Source code
 - EARs/WARs
 - Application architecture
 - Infrastructure architecture
 - Interfacing applications
 - Current app & web server architecture
 - Desired app & web server architecture
- Collecting this information will help get you to your end goal



Migration Strategies – Multi-Pronged Approach

- Analyze 1-2 of your
 - Largest, most convoluted applications
 - Average size applications
 - Smallest, most basic applications
- Why?
 - It will give you a good idea of your whole organization's ability to move to JBoss EAP

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Migration Strategies – Multi-Pronged Approach

- Create a spreadsheet to list
 - Each application
 - Rated Easy, Medium, Hard in terms of
 - Size
 - Proprietary code
 - Knowledge of code base
 - Testing ability
 - JBoss Cake LOE (Level of Effort)
 - Subject Matter Expert (SME) application contact
 - Testing team contact
 - Date of migration



Migration Strategies – **What you need to know**

- Current JDK versions
 - Java 1.4 more difficult than Java 5
- Messaging
 - Moving to HornetQ or JBoss Messaging?
- Interfacing Applications
 - Using Axis 1, Axis 2, CXF, EJBs, or Messaging?
 - Can you migrate to Apache CXF?
 - Will the interfacing apps be migrating in parallel?



Migration Strategies – **What you need to know**

- Are there Subject Matter Experts (SMEs) for each application?
 - If not, what's the next steps?
- Build Process
 - Are there a lot of application server-specific Ant build tasks?
 - Is there a standard way of building the application?
 - Is it a self-contained WAR or EAR (deployment artifact)?



Migration Strategies – **What you need to know**

- Testing
 - What are your current testing standards?
 - Is regression testing necessary?
 - Do you have JUnit or a similar testing platform?
 - What is the support's staff availability?



Migration Strategies – Spreadsheet

Application Name	Rating	SME	Testing Contact	Production Date	Comments
Retirement App	Easy	Last, First	Last, First	11/11/2011	Few JSPs, no frameworks, JDK5
Accounting App	Hard	Last, First	Last, First	11/11/2011	Custom Log Framework, JDK4, Large
Order System	Medium	Last, First	Last, First	11/11/2011	Axis2, JDK5, Hibernate, Log4j, Large
HR App	Hard	Last, First	Last, First	12/12/2012	IBM MQ APIs, JDK1.4, 50 MDBs
Website	Medium	Last, First	Last, First	12/12/2012	Axis2, Spring, JDK5, Large App
New Customer Web App	Easy	Last, First	Last, First	12/12/2012	Few JSPs, no frameworks, JDK5

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Migration Strategies – **Project Plan**

- Create a project plan based on spreadsheet
- After using JBoss Tattletale and JBoss Cake
 - Projections based on LOEs
 - Testing takes roughly the same amount of time
- Ensure all necessary resources will be available during this time



JBoss Tattletale – Background

- An open source tool that scans EARs/WARs for application dependencies
- Geared toward migration but can be used at any point in the application lifecycle
- Improve the quality of software
- Does not show the whole picture
- Main purpose is to show interdependent JARs to ensure consistent code



JBoss Tattletale – Features

- Helps eliminate ClassNotFoundException Errors
- Searches for duplicate class files
- Searches for inter-dependent JARs
- Lists JAR files without a version number
- Lists similar JAR files that have different version numbers
- Verifies the serialVersionUID of a class



JBoss Cake – What is it?

- Developed as an extension to JBoss Tattletale
- Shows a more holistic picture of the Level of Effort (LOE) needed to:
 - Migrate to JBoss EAP
 - Upgrade to JBoss EAP 5 or 6
- Still in the development phase
- Specifically a developer tool for estimation
 - A top down look to allow for better preparation
- Will be offered as a Software as a Service (SaaS) Solution



JBoss Cake – **Simplify Migrations**

- Show any possible issues:
 - App Server-specific code
 - Deprecated Java code
 - Non-JMS messaging code
 - Identify web services
 - Identify EJBs (2 or 3)
 - Necessary upgrades to Hibernate, Spring, Struts, etc
 - Malformed XML files
 - Does XSL transformations on XML files



JBoss Cake – **Simplify Migrations**

- Shows hints to help developers with “Blacklisted” classes and code lines
- Problem Code
 - ```
Connection connection =
 DriverManager.getConnection("jdbc:" +
 protocol + ":" + dbname, user, password);
```
- Hint:
  - Move to a JCA Connector unless this class is used for batch processes, then refactor as necessary.



# JBoss Cake – **As An LOE Tool**

- Estimates LOE in Hours Effort for:
  - XML
  - Java
  - JSP
- Counts total code changes for “problem” code AKA Blacklisted Classes
  - Only a rough estimate, not based on difficulty



# JBoss Cake

- Walkthrough will cover
  - Basic Reporting
  - Decompiled Classes
  - XSL Transformations
  - Pie Charts
  - LOE
  - Heat Map
  - Hints

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# Red Hat Consulting

- Currently Cake is only available through Red Hat Consulting
- We can help:
  - Read the report
  - Specify LOE by looking through the code
- Cake is only used as a compliment to looking through code to estimate LOE

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# **JBoss Cake – Software as a Service (SaaS)**

- Will be available on the Red Hat Customer Portal
- Downloadable Application
- After running, the report will be available online via the CSP
- Allows the user to never have to upload their application which increases security
- Available for all Red Hat customers

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# Feature Requests on the Horizon

- List JARs that will interfere with JBoss Classloading
- Specify if an EAR/WAR is malformed
- Create Profiles
  - Weblogic to JBoss EAP 5 or 6
  - Websphere to JBoss EAP 5 or 6
  - JDK1.4 to JDK6
  - Tomcat to JBoss Web
  - IBM MQ to HornetQ

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# Follow Up

- Email Me At: [emily.brand@redhat.com](mailto:emily.brand@redhat.com)
- More Information for JBoss EAP 6:
  - <http://www.redhat.com/resourcelibrary/datasheets/jb-ease-into-cloud-eap6>
- Look for Blog Posts on JBoss Cake

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