

The 6th Israeli **JBoss** User Group **5.7.2007**



What's New In JBoss AS ?

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Agenda

- ▶ New Development, Distribution and Support Model
- ▶ JBoss 5 and JBoss 4.2 – What matters ?
- ▶ What is new in JEMS ?

JBoss Single Branch Model

- ▶ Previous “single branch model” created a natural tension between the community and the business.
 - » Role of the community is to innovate, develop new features and release early.
 - » Role of the business is to support existing installations with minimal disruption, providing backward compatible fixes and this over a long period of time.
- ▶ Became complex to support all possible project releases with all possible permutations of JEMS.

New “Double Branch” Model

- ▶ JBoss.com (Enterprise releases):
 - » Source code is freely accessible
 - » Binaries – “*build-it-our-own*” or *subscription*
 - » Full Support (*5 years*), bi-annual updates
- ▶ JBoss.org (community release):
 - » Focus on innovate.
 - » Source code and binary will continue to be available
 - » Support – Only with dev subscription. **NOT** the same SLA as in the enterprise SLA support.

Enterprise Distribution

- ▶ The “Enterprise” software will ***NOT*** be a “blended” community version with non-open source features.
- ▶ A “product team” will branch that code base
 - » Sanitization: Remove the features that the customers should be using in production.
 - » Productization: Fine-tune and improve the usability so that it matches the expectations of our customers.
 - » Aggregation/Packaging – All components guaranteed to work together seamlessly out of the box

JBoss 4.2 And JBoss 5.0

- ▶ JBoss 5 beta 2 AS was released on April 2007
- ▶ JBoss 4.2 AS was released on May 2007
- ▶ Which specifications is each version compliant with ?
- ▶ Why do we need yet another 4.x version of JBoss after 5.x series has been launched?

JBoss AS 5.0 Highlights

- ▶ JEE 5 compliance
- ▶ A lot of core architecture is being changed:
 - » Built on top of the new JBoss Microcontainer.
 - » Designed around the concept VDF
 - » Uses the ProfileService – Generalization of the JBoss 4.x server configuration notion.

What is JBoss Microcontainer ?

- ▶ Refactoring of JBoss's JMX Microkernel to support direct POJO deployment
- ▶ A lightweight IoC container (similar to Spring)
- ▶ Allows JEMS services (i.e. EJB3, Transactions, JMS etc) to run in non-JEE environments
 - » JUnit tests, Swing applications, Tomcat
 - » Other AS.
 - » The core for JBoss Embeddable EJB 3.0 container

JBoss Microcontainer Cont.

- ▶ Microcontainer features:
 - » Configure POJOs through XML.
 - » Provides lifecycle management for POJOs.
 - » IoC through property or constructor
 - » Supports declarative creation of lists, maps, and sets.
 - » Supports circular dependencies through a complete, pluggable state machine for beans.
 - » Supports FactoryBeans with factory methods



What is VDF ?

- ▶ An acronym for *Virtual Deployment Framework*
- ▶ Works to abstract deployments – Deployers don't have to deal with the physical structure/protocol of the deployments.
- ▶ VDF abstracts away:
 - » Packed/unpacked deployments
 - » Copying remote/nested deployments to a temp location
 - » Supplying logical urls for users/config/codebase–protectiondomain/etc
 - » Supplying physical urls for classloading/debugging/etc



ProfileService Overview

- ▶ A collection of named profiles similar to the server/xxx configuration directories
- ▶ Extends the configuration in the following ways:
 - » A profile contains deployments, but they may not be active – May be disabled or start on demand
 - » A deployment has a management interface that can be queried and updated by admin tool with versioning.
 - » Deployments can be added and removed, as well as edited without the full server running.



JBoss 4.2 GA

- ▶ Strictly speaking, JBoss AS 4.2 *is NOT* a Java EE 5.0 AS – it is *J2EE 1.4 AS*.
- ▶ ...But it has the important pieces for JEE5:
 - » EJB3
 - » JSF 1.2 support.
 - » Tomcat 6.0, with support for JSP 2.1 and Servlet 2.5
 - » Support for Hibernate 3.2.3 – JPA compliance.
 - » JBoss Transactions (Arjuna) as the default transaction.

JBoss 4.2 GA Cont.

- ▶ Why adding JEE5 specs into JBoss 4.2 if JBoss 5.0 Beta2 is out?
 - » The 4.2 series does *not* have all of the pieces of a full JEE 5 stack to pass the JEE5 TCK.
 - » Make sure something usable out *NOW*, rather than forcing people to wait for JBoss 5 for JSF 1.2, EJB3, etc.
 - » JBoss 4.2 is a fully supportable runtime platform for Seam applications.

JEMS Services on JBoss AS

- ▶ We get the following services, *both* on JBoss 5.0 and on JBoss 4.2:
 - » EJB 3.0 – JBoss–EJB3 and Hibernate
 - » JSF 1.2 – SUN JSF implementation
 - » Seam – Supportable platform for Seam applications
 - » JMS 1.1 – JBoss Messaging
 - » JTA – JBoss Transactions
 - » JAX–WS – JBoss Web Services
 - » ...and many more
- ▶ Let's explore the most important ones...

EJB 3.0 – “JBoss EJB 3.0”

- ▶ EJB3 implementation is included with JBoss 5 and JBoss 4.2.
- ▶ A deep overhaul and simplification of the EJB spec.
- ▶ Hibernate 3.2 is now integrated with JBoss AS, providing developers with a JPA Persistence provider out of the box.

JSF

- ▶ Both JBoss AS 4.2 and 5.x ship with Sun's CDDL implementation of the JSF 1.2 spec.
- ▶ This replaces the “MyFaces Core” implementation.
- ▶ “MyFaces Components”–Tomahawk, Trinidad, and Tobago *still run* on JSF 1.2 and JBoss 4.2/5.x.
- ▶ Supports Resource Injection for Managed Beans

```
public class ExampleBackingBean {  
    @EJB private ExamleManagerBean;  
    ...  
}
```

Ajax4JSF & RichFaces

- ▶ Ajax4jsf extends JavaServer Faces to add AJAX capability to JSF applications without requiring the writing of any JavaScript

```
<f:view>
  <h:form>
    <h:panelGrid columns="2">
      <h:outputText value="Type the Text:" />
      <h:inputText value="#{bean.text}"
        <a4j:support event="onkeyup" reRender="repeater" />
      </h:inputText>
      <h:outputText value="Text in the AJAX Response:" />
      <h:outputText id="repeater" value="#{bean.text}" />
    </h:panelGrid>
  </h:form>
</f:view>
```

a4j:support adds AJAX capability to existing components

Fires AJAX request on this event

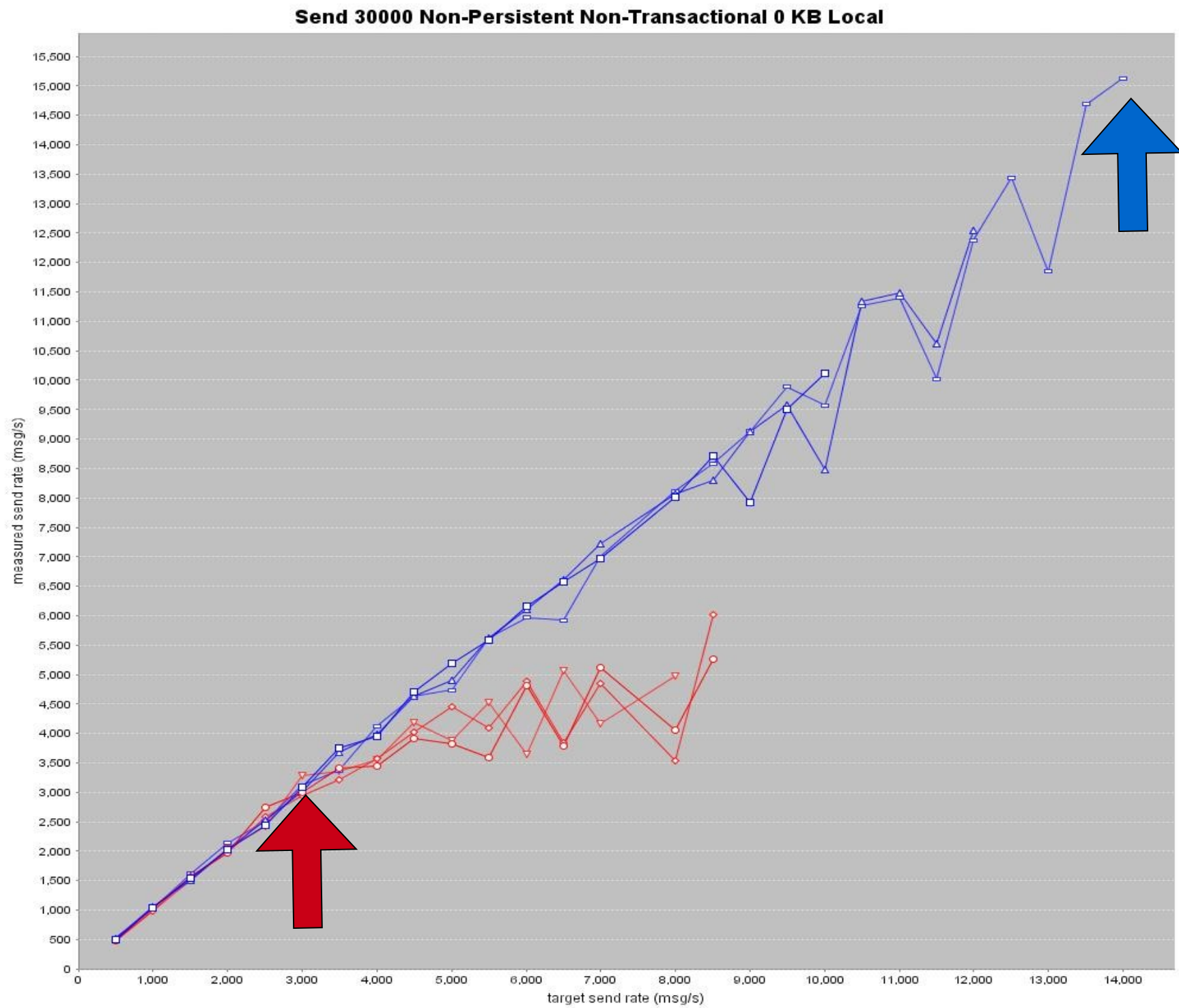
Points to component(s) to be re-rendered

- » JBoss Rich Faces is a set of ready-made AJAX components

JMS – “JBoss Messaging”

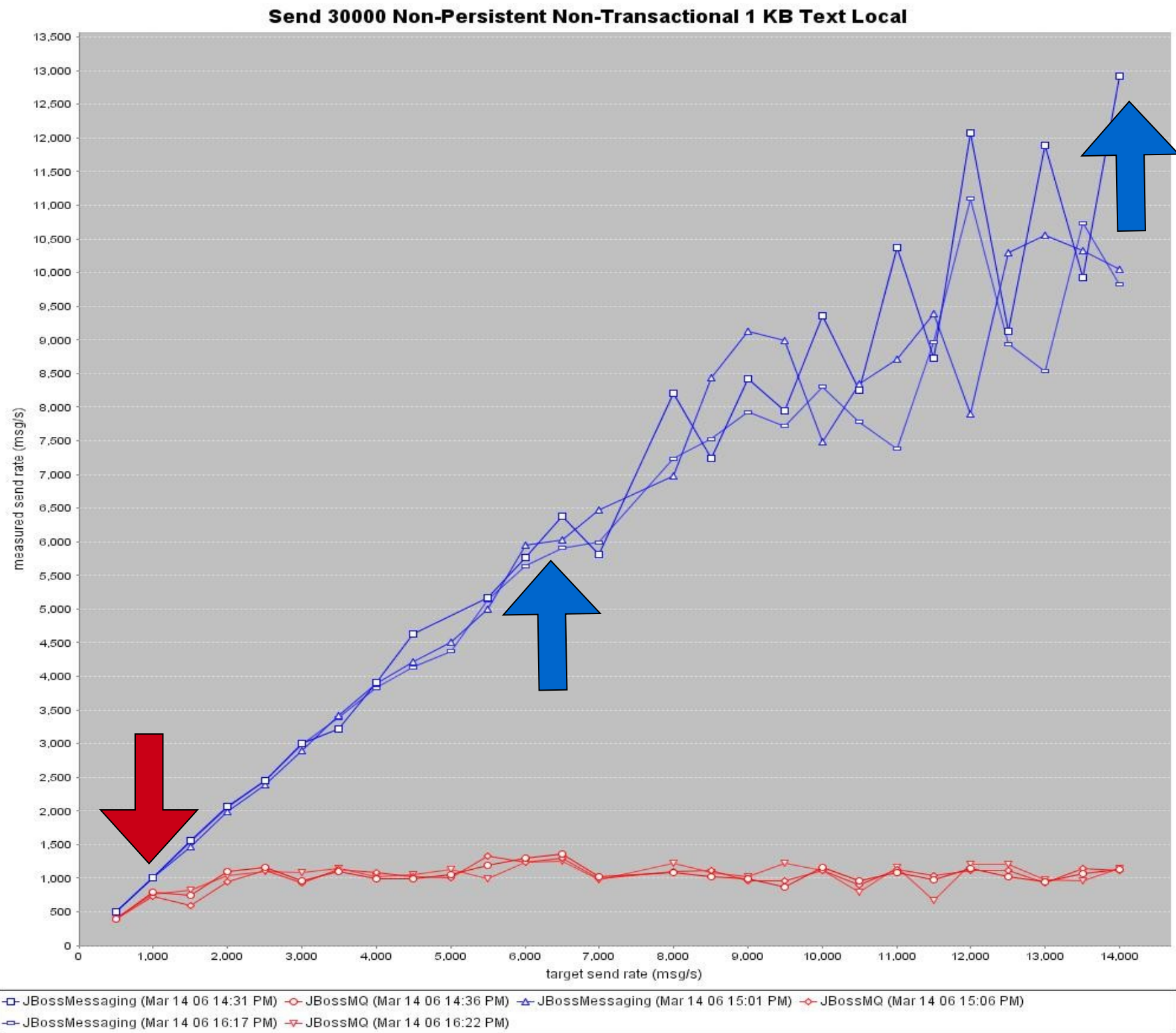
- ▶ A complete rewrite of JBossMQ, and the default JMS provider for the JBoss AS 5.x series (supported in JBoss 4.2).
- ▶ A high performance and high scalable JMS provider:
 - » Distributed queues and topics.
 - » High availability and seamless fail-over.
 - » The backbone of the JBoss ESB infrastructure.
 - » HTTP, SSL
- ▶ Lets examine a performance benchmark...

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JBossMessaging (Mar 13 06 17:38 PM) JBossMQ (Mar 13 06 17:42 PM) JBossMessaging (Mar 13 06 18:32 PM) JBossMQ (Mar 13 06 18:36 PM)
JBossMessaging (Mar 13 06 18:45 PM) JBossMQ (Mar 13 06 18:49 PM)

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Web Services – JBossWS

- ▶ Provide Java EE compatible web services, JAXWS-2.0 and JAXB-2.0.
- ▶ The JAX-WS programming model support the same set of annotations on SLSB and simple POJO.

```
@WebService
@SOAPBinding(style = SOAPBinding.Style.RPC)
public class MyBean {
    @WebMethod
    public String echo(String input) {
        ...
    }
}
```

Cluster – “JBoss Clustering”

- ▶ Re-architected to better conserve memory and resources while improving overall performance, scalability, reliability, network traffic and memory.
 - » Fine-grained replication – replicates only values changed within an object
 - » Buddy replication – replicates cached objects to specific servers within a cluster

JBoss Transactions – “Arjuna”

- ▶ The default transaction manager since JBossAS 4.2.
- ▶ Replaces the legacy JBossTM.
- ▶ Stable (18 years) leader in distributed transactions.
- ▶ Provides for fully recoverable transactions.
- ▶ JBPM transaction integration
- ▶ Supports Web Services transactions
- ▶ JSE, Spring Framework *but with GPL licence*

Summary

- ▶ JBoss moved to “double branch” development.
- ▶ JBoss 5 is the next generation of the JBoss Application Server build on top of the new JBoss Microcontainer.
- ▶ JBoss 4.2 makes sure we have something usable out NOW, rather than forcing us to wait for JBoss 5 for JSF 1.2, EJB3, etc.



Q&A



Thank You

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