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An Overview of JBoss EAP 5.0

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September 2009

<http://blog.softwhere.org>

@richsharples @JBossNews

Agenda

First Some Context. Platforms :

What are they ?

How are they made ?

EAP, EWP, EWS, WFK, WTF ?

JBoss EAP 5.0

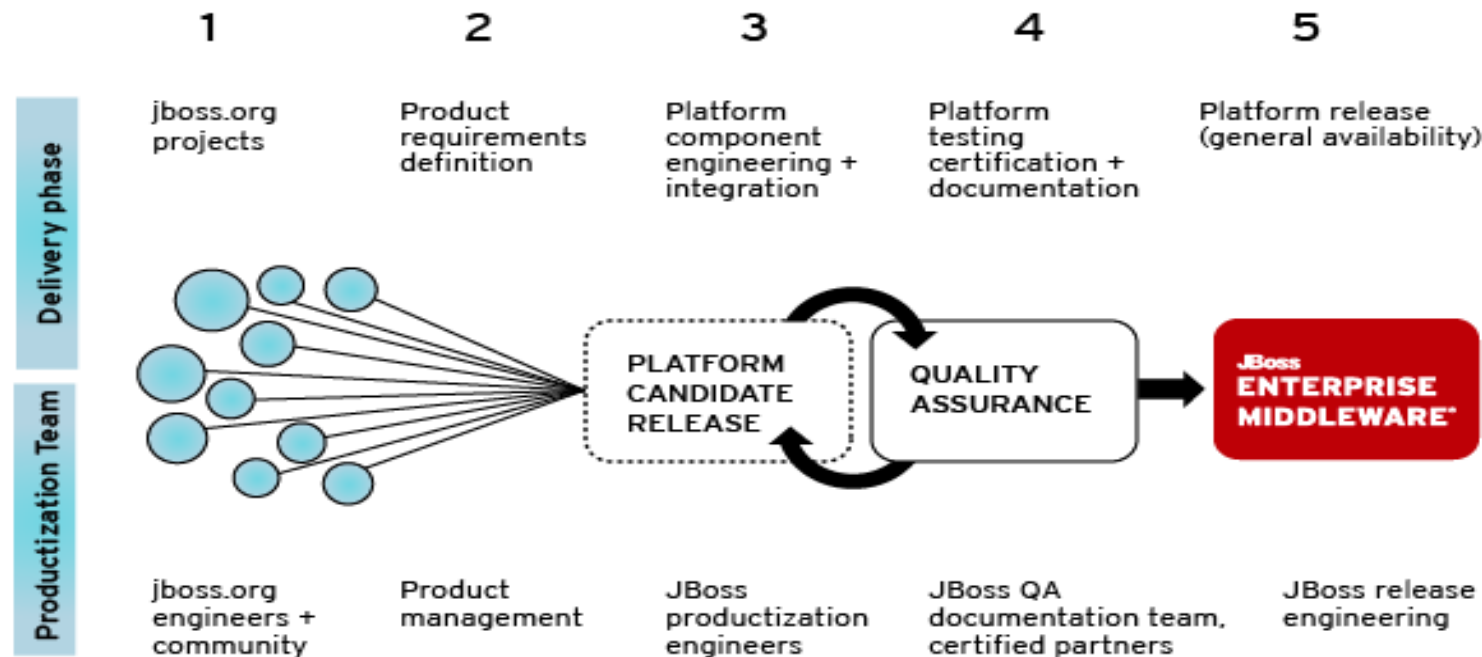
JBoss EAP Next

Questions ?

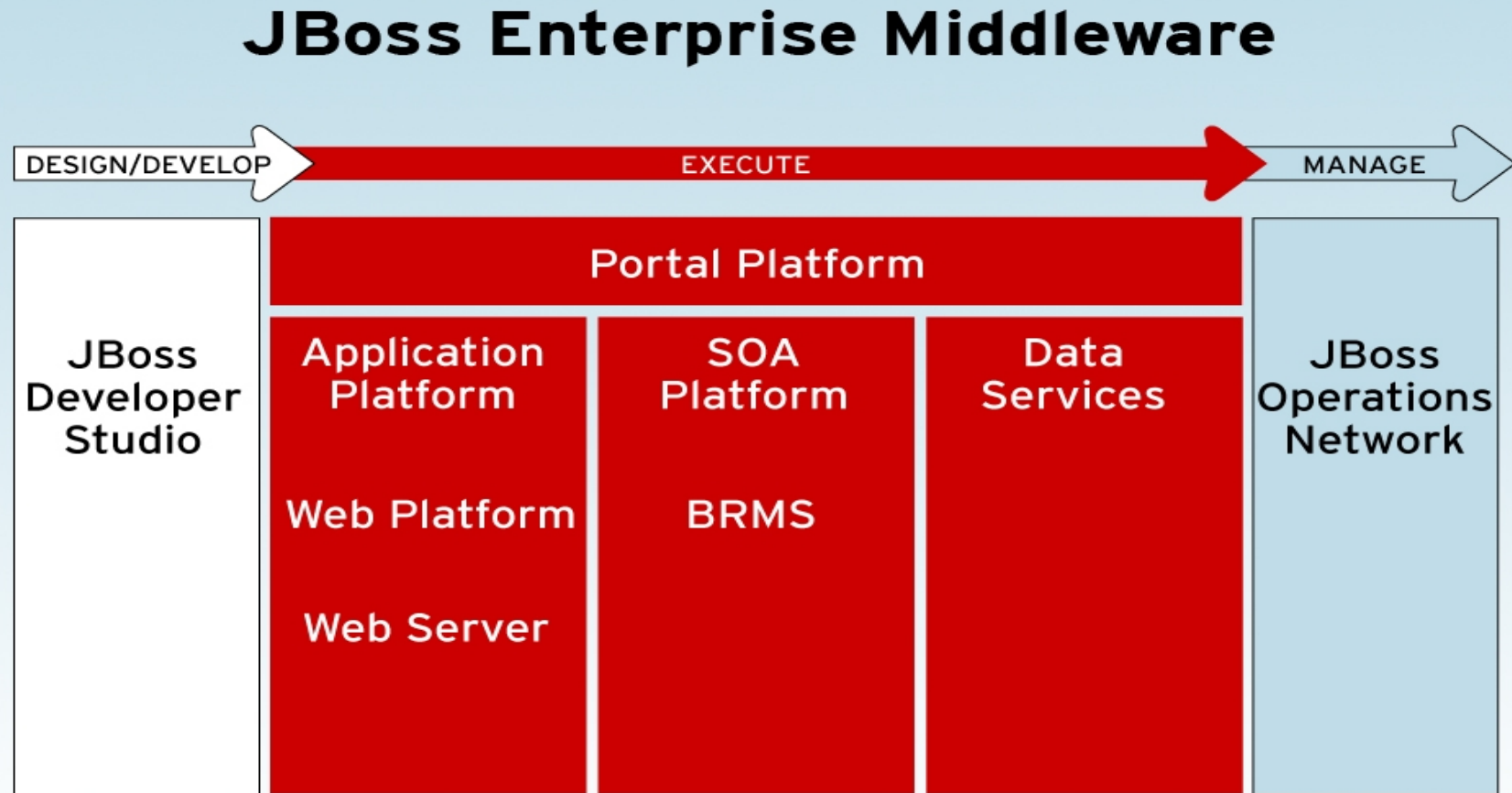
JBoss Enterprise Middleware

What makes up a certified platform?

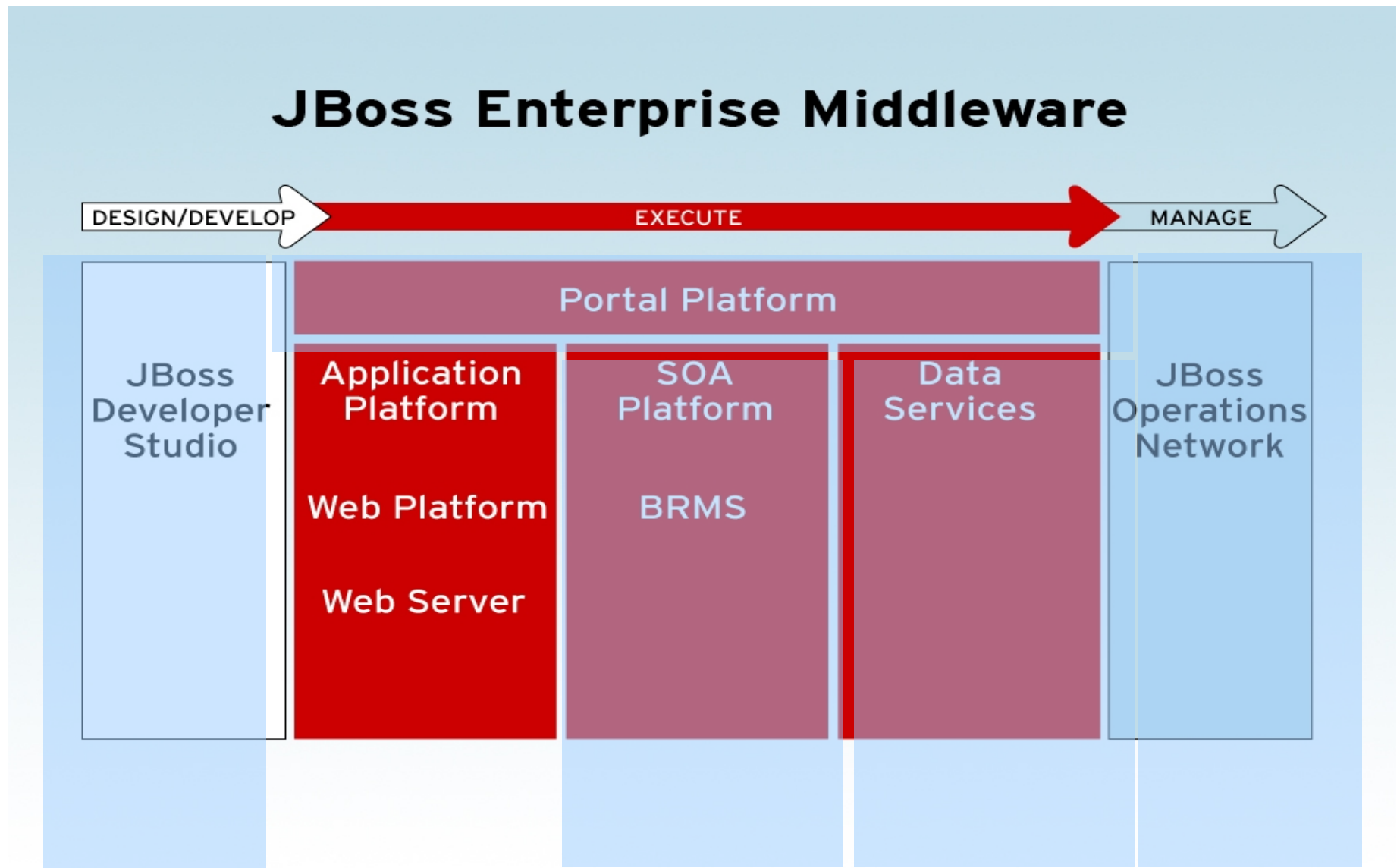
Each JBoss Enterprise Middleware platform goes through a 5 phase delivery methodology in its software development lifecycle:



JBoss Platforms Overview



JBoss Platforms Overview



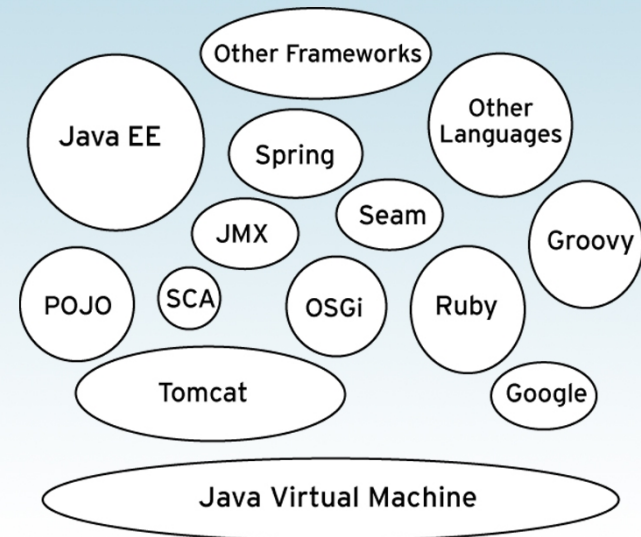
Enterprise Java – Changing Landscape



Enterprise Java Yesterday

Java EE

Enterprise Java Today & Tomorrow

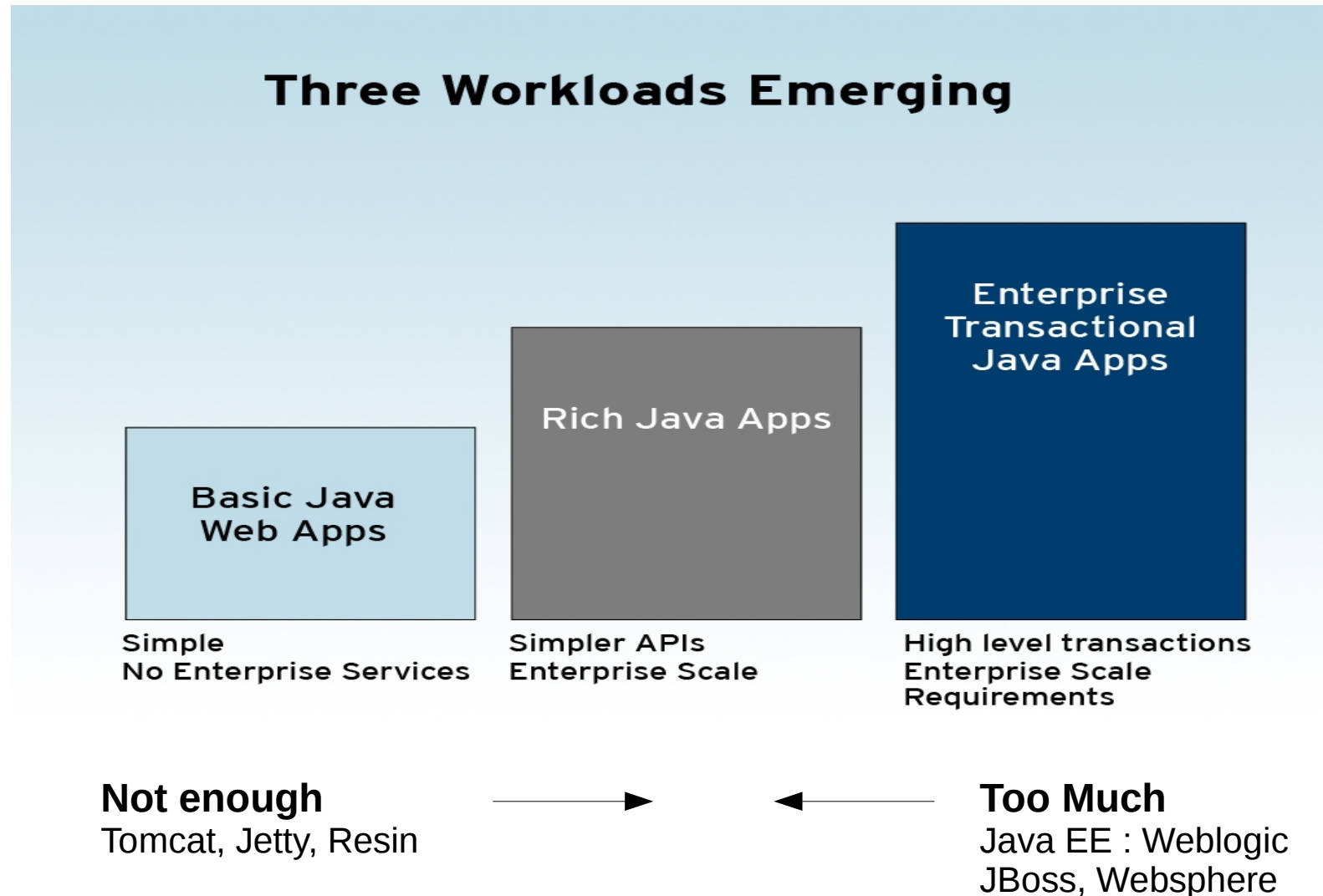


The Evolution of Java EE



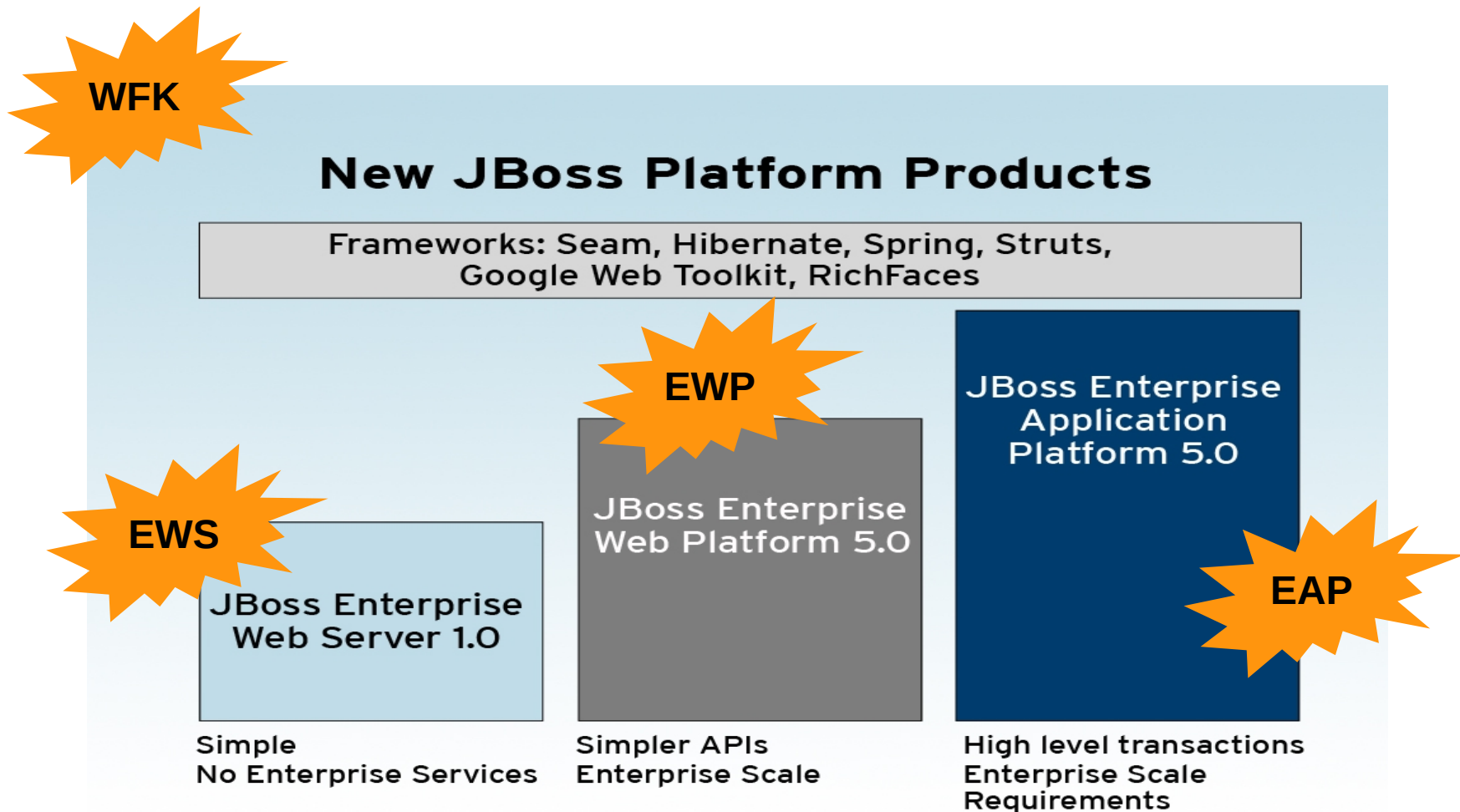
	J2EE 1.2	J2EE 1.3	J2EE 1.4	Java EE 5	Java EE 6 (Web Profile)
Released	1999	2001	2003	2006	2009 ?
Vendors	18	22	18	13	5 ?
Pages in Spec.	140	174	246	222	236 (20)
Refd. Specs.	10	13	20	28	35 (6)

Enterprise Java – Changing Landscape



JBoss Application Platforms

Red Hat's Answer – “Open Choice”



JBoss EWS, EWP and EAP Comparison

Capabilities	JBoss EWS	JBoss EWP	JBoss EAP	Java EE 6 Web Profile
Scheduler	✗	✗	✓	✗
Session Replication	✗	✓	✓	✗
Admin Console	✗	✓	✓	✗
Caching / Pooling	✗	✓	✓	✗
Multi-platform Support	✓	✓	✓	✗
OS Native Extensions	✓	✓	✓	✗
APIs / Standards				
Messaging (JMS)	✗	✗	✓	✗
Transactions (JTS / WS-TX)	✗	✗	✓	✗
CORBA	✗	✗	✓	✗
Connectors	✗	✗	✓	✗
Transactions (JTA)	✗	✓	✓	✓
Web Services (JAX-WS/RS)	✗	✓	✓	✓
Seam Framework	✗	✓	✓	✗
EJB 3.0	✗	✓	✓	✓
Persistence (JPA)	✗	✓	✓	✓
Servlet / JSP	✓	✓	✓	✓

JBoss EAP 5.0 – What's New

Java EE 5.0 Certified

Micro-container 2.0

Security

Embedded Console – Management, Monitoring

JBoss Messaging 1.4 (and 2.0 **Tech Preview**)

JBoss WS-CXF (**Tech Preview**)

JBoss Native 2.0 – OS Specific Binaries / Libraries

mod-cluster 1.0 - Intelligent HTTP Load Balancing

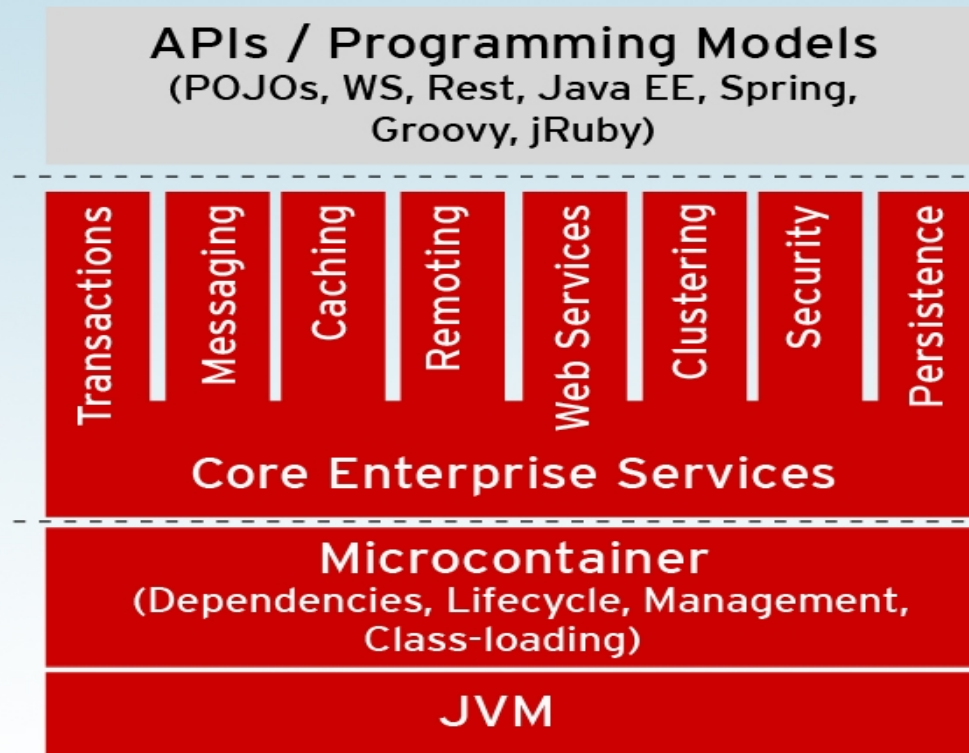
RestEasy 1.1 – JAX-RS RestFul Web Services

Hibernate Search 3.1

JBoss EAP 5.0 – What's New

Microcontainer 2.0

JBoss Open Choice Architecture



- Next generation app server architecture
- Extreme configurability
- Minimalist micro-kernel - separates core middleware services - modularity
- Micro-kernel support many components models
 - JMX
 - OSGi
 - POJO
- Common management infrastructure

JBoss EAP 5.0 – What's New

Security

Password Masking – all XML config

JBoss Negotiation

Web and Windows Desktop SSO

Based on SPNEGO, Integrates with JAAS, LDAP, Kerberos

Pluggable Access Control for Web & EJB

Support for XACML V2.0

Security Audit for Web and EJB Containers

Instance-based Access Control

JBoss EAP 5.0 – What's New

Management, Configuration and Monitoring

The screenshot displays the JBoss AS Administration Console interface. On the left is a tree view of the system structure, including JBossAS Servers, JBoss EAP 5 (all), Service Binding Manager, Service Binding Sets, JBoss Caches, Applications, and Resources. The right pane shows the configuration and monitoring details for JBoss EAP 5 (all). It includes tabs for Summary, Configuration, Metrics, Control, and Content. The Summary tab is active, showing General Properties, Traits, and Numeric Metrics.

JBoss AS Administration Console

localhost.localdomain : JBossAS Servers : JBoss EAP 5 (all)

JBoss EAP 5 (all)

Summary | Configuration | Metrics | Control | Content

General Properties

Name: JBoss EAP 5 (all)
Version: 5.0.0.BETA
Description: JBoss Enterprise Application Platform (EAP)

Traits

Server Name: all
Server Home Dir: /home/sharps/EnterprisePlatform-5.0.0.BETA/jboss-as/server/all
Version Name: EAP
Build Date: 20090730
Start Date: Sun Aug 09 20:06:26 GMT-05:00 2009

Numeric Metrics

Name	Value	Description
Active Thread Count	141	The current number of active threads for this app server in
JVM Free Memory	912.1MB	The amount of free memory for the JVM this app server in
JVM Total Memory	1.3GB	The amount of total memory for the JVM this app server in

JBoss EAP 5.0 – What's New

Management, Configuration and Monitoring

Embedded Console (Embedded Jopr)

Same technology as JBoss ON

Plugs into AS 5.x Profile Service

Replacement for JMX and JBoss Web Console (both deprecated in EAP 5.0)

First version

- Single instance

- Basic configuration / monitoring

- More to come

JBoss EAP 5.0 – What's New

Intelligent HTTP Load Balancing with mod_cluster

Intelligent software HTTP load balancer

Based on mod_proxy, mod_ajp

Load-balancing logic uses App. Server generated Metrics / Events

Memory Usage, active sessions, application disabled, server shutdown, etc.

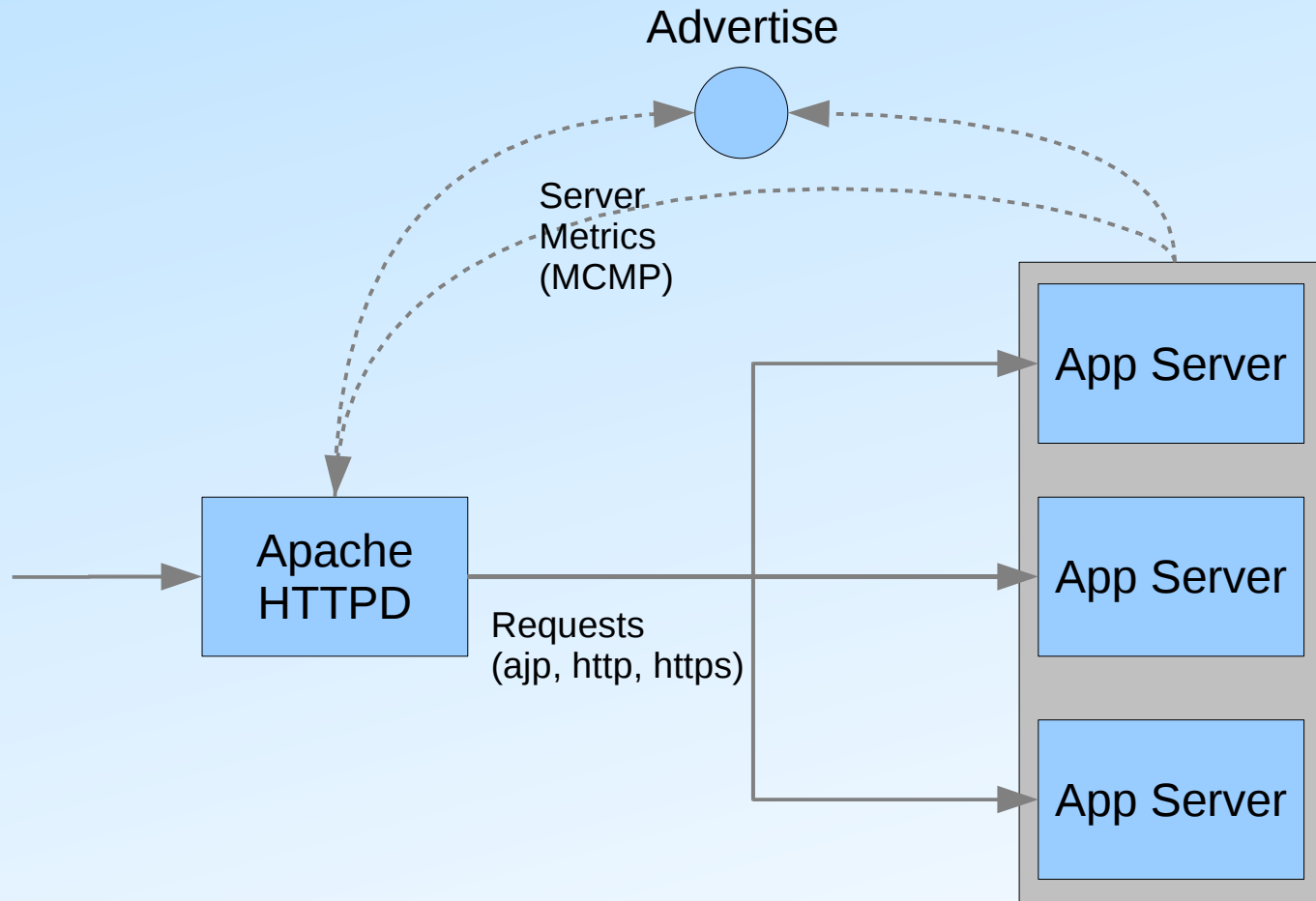
8 Standard Metrics provided, write your own

Uses MCMP (Mod Cluster Management Protocol)

Uses Discovery to reduce static dependencies

JBoss EAP 5.0 – What's New

Intelligent HTTP Load Balancing with mod_cluster



JBoss EAP 5.0 – What's New

Intelligent HTTP Load Balancing with mod_cluster

Standard Server-side Metrics

JBossWeb

ActiveSessionsLoadMetric

BusyConnectorsLoadMetric

RequestTrafficLoadMetric

ReceiveTrafficLoadMetric

System / JVM

AverageSystemLoadMetric

SystemMemoryUsageLoadMetric

HeapMemoryUsageLoadMetric

Other

ConnectionPoolUsageMetric

JBoss EAP 5.0 – What's New

JAX-RS - RESTful Web Services

JSR-311, JAX-RS – RESTful Web Services for Java

Annotation-based API for creating RESTful Java Web Services over HTTP

Simple, POJO-based

Included in Java EE 6

```
@Path("/library")
public class Library {
    @GET
    @Path("/books")
    public String getBooks() {...}

    @GET
    @Path("/book/{isbn}")
    public String getBook(@PathParam("isbn") String id) {}
}
```

```
GET http://localhost/services/library/books
GET http://localhost/services/library/book/0120790629
DELETE http://localhost/services/library/book/0120790629
```

JBoss EAP 5.0 – What's New

JBoss RESTEasy

Includes client framework

Integrates with EJB 3.0, Spring and Seam

Pluggable Providers

Fastinfoset, JSON, Multi-part, XML, Atom, YAML

Support for GZIP content-encoding

Cache control annotations

Asynchronous Request Processing (Comet)

@Suspend

Asynchronous Jobs, oneway,

JBoss EAP 5.0 – What's New

Hibernate Search

RDBMS / SQL not designed for *free-text* queries

No standard way to support word-stemming, sounds-like, synonyms, term-vectors, queries inside BLOBs

Apache Lucene – no domain model – just Document

Hibernate Search

Flexibility of *free-text* search

Power of Hibernate Domain model

Takes care of Index maintenance

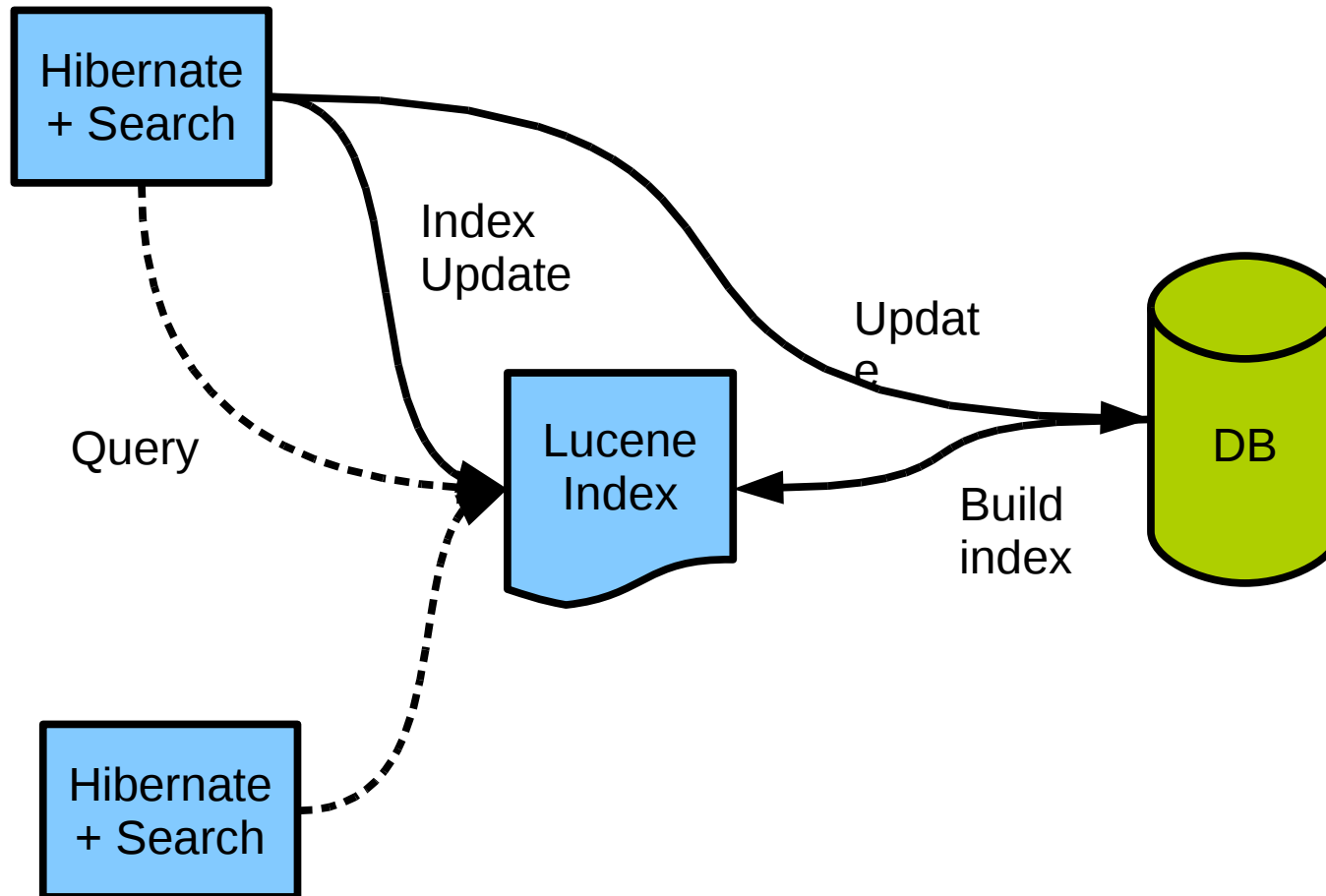
Supported Architectures

Shared Lucene Directory

Master / Slave using JMS

JBoss EAP 5.0 – What's New

Hibernate Search



Project “Andiamo”

Address Ease of Use for :

Developers

Startup-time, restart-time, deploy-time,
Embeddable, unit-testing

Production

Price / Performance, Scalability

L10n, i18n

Manageability

Common logging, pooling, configuration

Scriptability (CLI and Management API)

JBoss EWSP / EAP.Next

EAP / EWP 5.1 (Springtime / Snowbank)

Target – Q2 CY2010*

Performance, performance

Embedded Console Enhancements

Progress on Localization

Target for Common Criteria Certification, EAL-4

Possibly some Java EE 6 Technology Preview features

* Currently still in planning – dates and features can and will change

JBoss EWSP / EAP.Next

EAP / EWP 6.0 (Lancer / Eagle)

Target Q1 CY2011*

Performance, performance

Full task-based Console, domain-management

Management API and CLI

Embeddable

i18n, L10n Progress

Java EE 6.0 (including Web Profile)

* Currently still in planning – dates and features can and will change

QUESTIONS?

**TELL US WHAT YOU THINK:
[REDHAT.COM/JBOSSWORLD-SURVEY](https://redhat.com/jboss-world-survey)**