



**THE WORLD'S
OPEN SOURCE
LEADER**

What's new in JBoss, BRMS

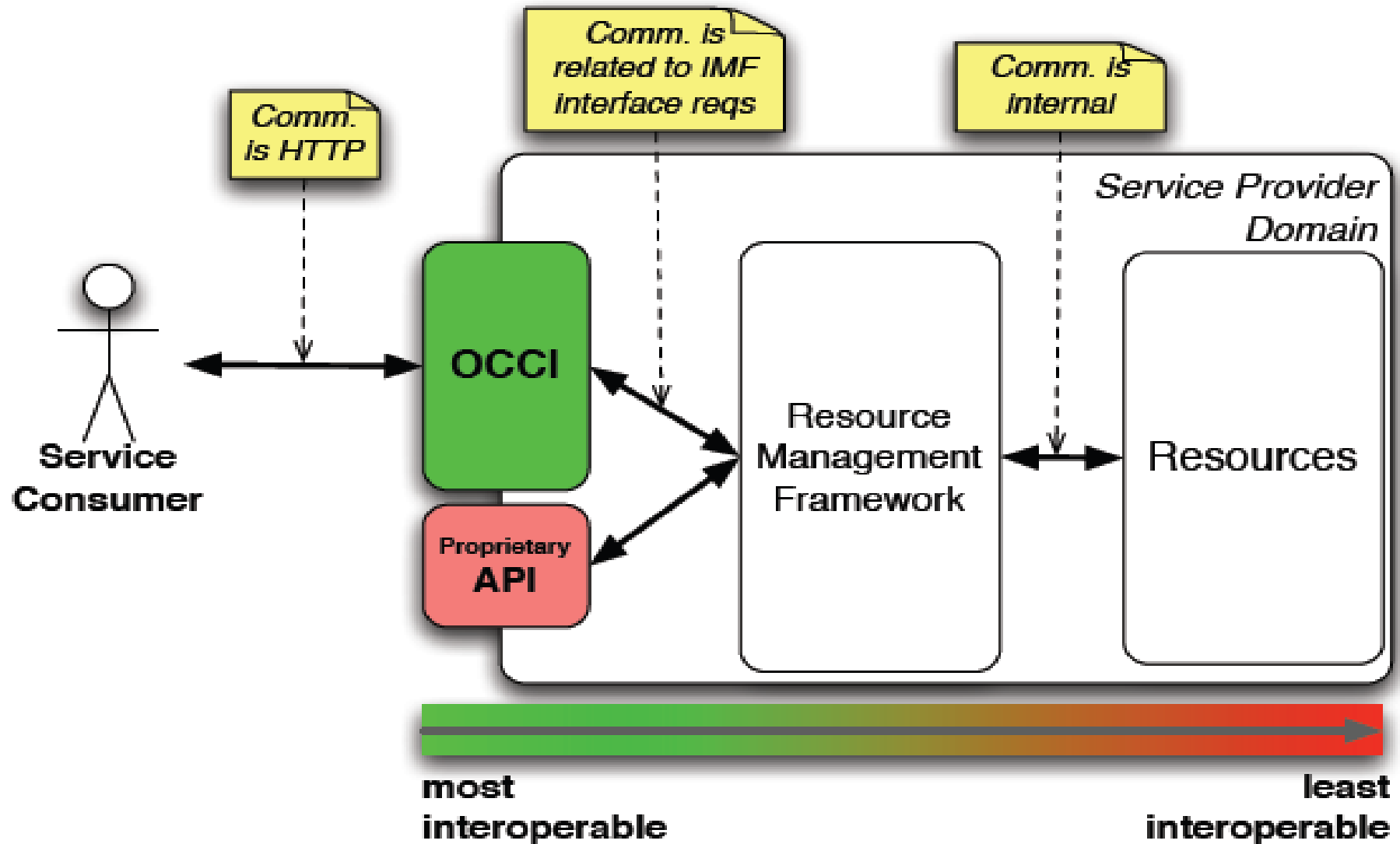
**Wiesław Pilarczyk
07.02.2012**

WELCOME

Agenda

- JBoss platform products in the cloud
- JBoss Enterprise Application Platform components
- JBoss AS7
- Infinispan, Hibernate, Seam
- BRMS

OCCI from OGF

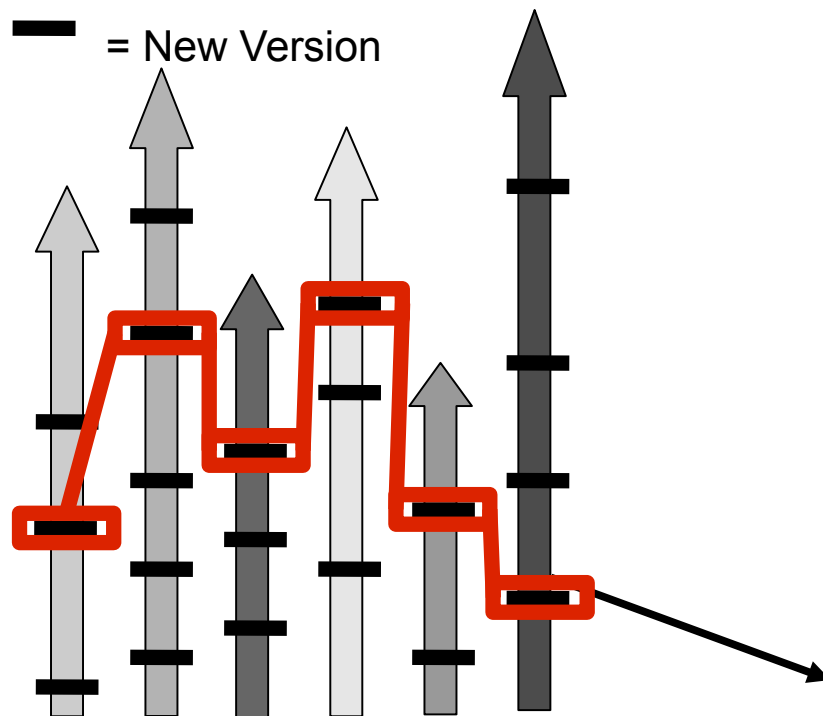


JBoss Enterprise Middleware



Enterprise Open Source

JBoss Enterprise Platforms: Innovation with Stability



- ✦ Integration & Certification
- ✦ Extensive Hardening and Q/A Process
- ✦ Full Support
- ✦ Documentation
- ✦ Secure, Production-level Configurations
- ✦ Multi-year Update Policy

= JBoss Enterprise Platform
A single, integrated distribution

JBoss Enterprise Platforms combine multiple JBoss.org projects into a single integrated & supported enterprise distribution

JBoss Enterprise Platform Components

- AS7
- Hibernate 4
- Infinispan 5
- HornetQ 2
- JBDS 5
- JON 3

AS 7

- Java EE 6 application server
- Spring
- OSGi
- Ruby, Groovy
- Data grid
- PaaS
- SCA
- ...

AS7 Advantages

- Unparalleled Speed
- Blazing fast start-up
 - Services started concurrently
 - Passive and on-demand services
 - Caches and indexed metadata for subsequent boots
- Quicker turnaround
- Modular Design
- No more jar hell
- Goodbye to parent delegation model
- Dependencies defined explicitly

AS7 Advantages

- Exceptionally Lightweight
 - MSC – Modular Services Container
- Elegant Administration
 - DMR – Detyped Management Repository
 - CLI, Java API, HTTP API, Console
- Strict Compliance
 - Java EE 6 full profile
- Easily Testable
 - Arquillian

First class, modern components

 Hibernate Core

 Transactions

 Infinispan

 IronJacamar

 RESTEasy

 Weld

 HornetQ

 JGroups

 Mojarra

 Apache CXF

 Arquillian

and more...

JBoss Modules

Small, lightweight, and efficient

- O(1) Dep resolution
- Concurrent class loading (lockless on most VMs)
- 207k JAR

“Pure” modular class loading

- Modules only see what they import (includes JDK classes!)

External module definitions

- Don't have to break open the JAR

Dynamic

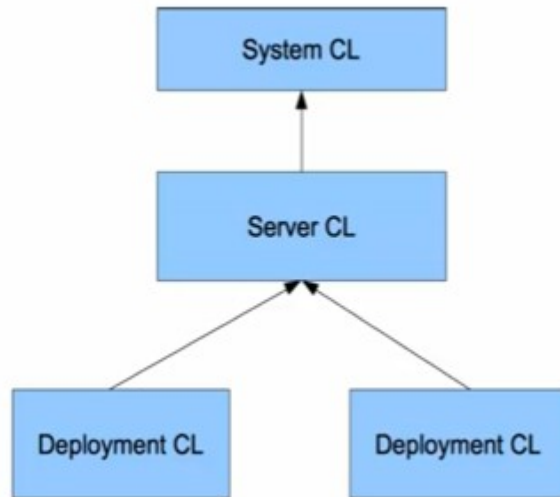
- Modules can be redefined

Extensible

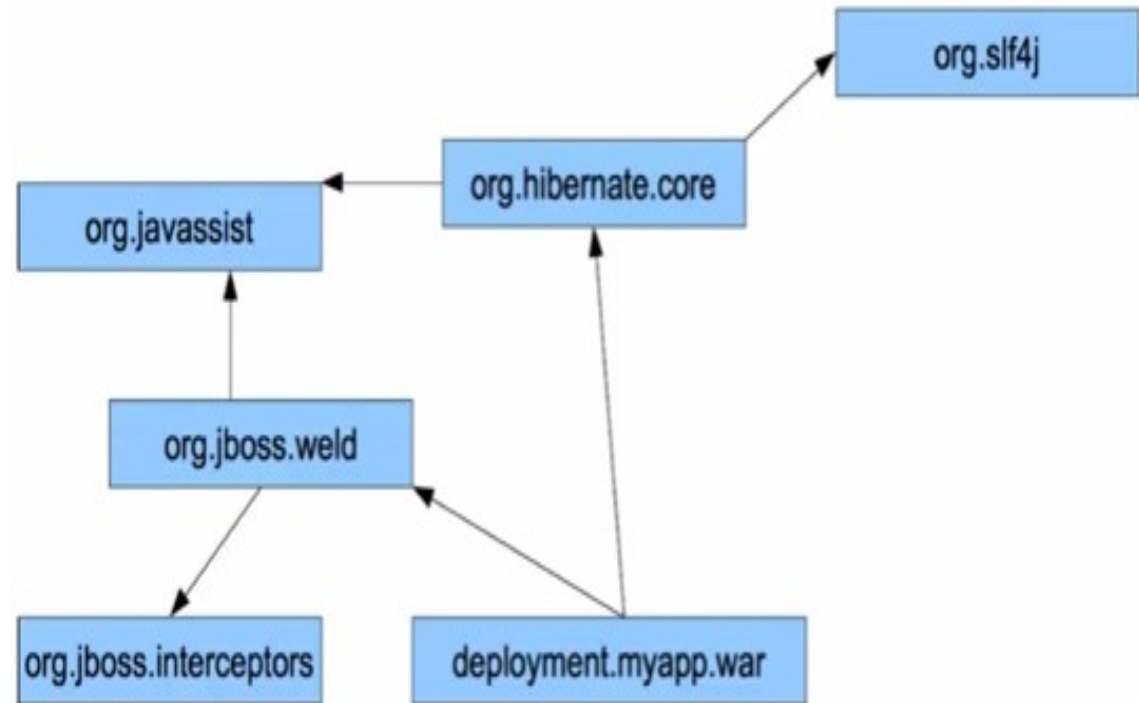
- JBoss OSGi implemented on modules

Classpath is dead

Hierarchical



Modular



What is a service?

- Has a lifecycle (start/stop)
- Has a name
- Has relationships to other services that can affect its lifecycle
 - AKA dependencies
- Fundamental building block of all EE components

Key MSC Attributes

Small, lightweight, and efficient

- 216K JAR
- Tiny memory overhead

Highly concurrent & scalable state machine

- State transitions are “tasks”

Services are primarily interface based

- No reflection or XML required!

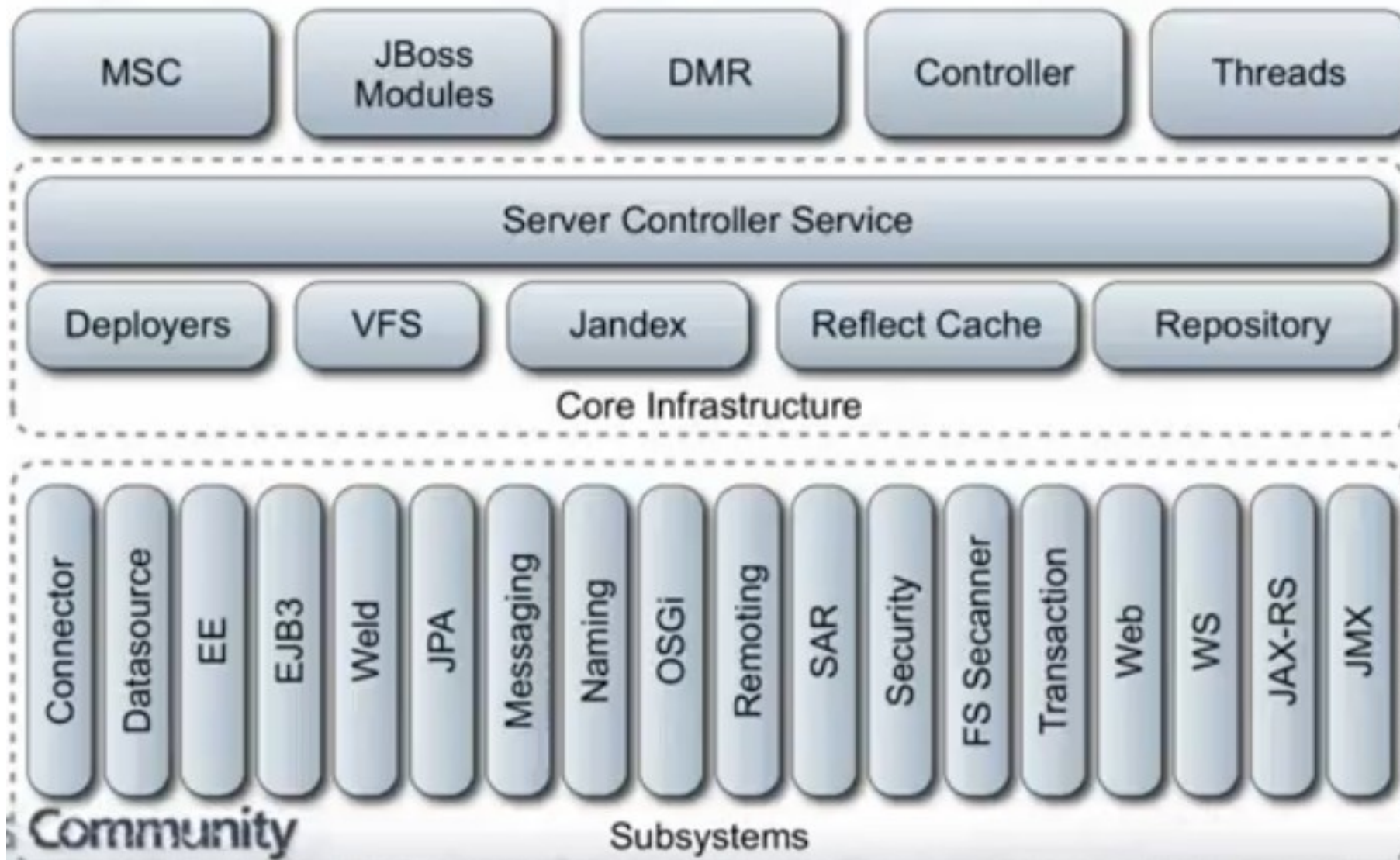
Only two non-error, non-transition states

- UP & DOWN
- N-State systems are implemented with N services

Profile

- Module – class-loading space, no implied service model
- Extension – component contributing services, uses modules
- Subsystem – configured extension
- Profile – set of subsystems with deployment repository reference

AS7 Architecture



New Possibilities

- Execute an entire Java EE container in a unit test!
- Use an appserver VM per Application!
- Run in constrained environments (light cloud, plug computers, mobile devices)
- Develop faster than you ever have before!
- Run multiple staging servers on your laptop!

Two Operational Modes

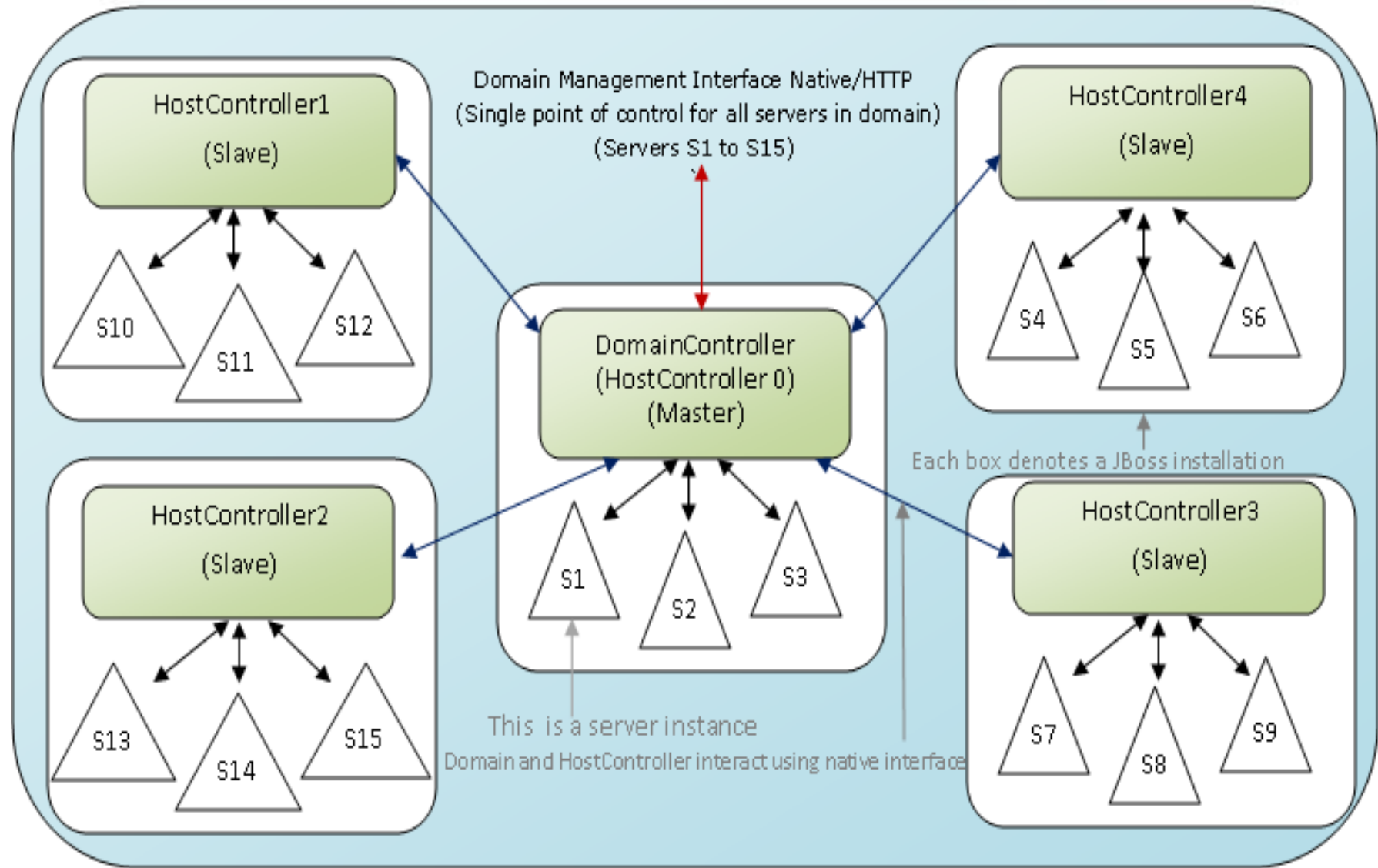
Standalone

- Traditional JBoss single JVM server
- Management facilities IN-VM
- No lifecycle management (only shutdown)

Domain

- Multi-JVM, multi-server model
- Management coordinated by Domain Controller Process
- Multiple server instances (JVMs) per Host
- Full lifecycle managed by Process Controller

Domain



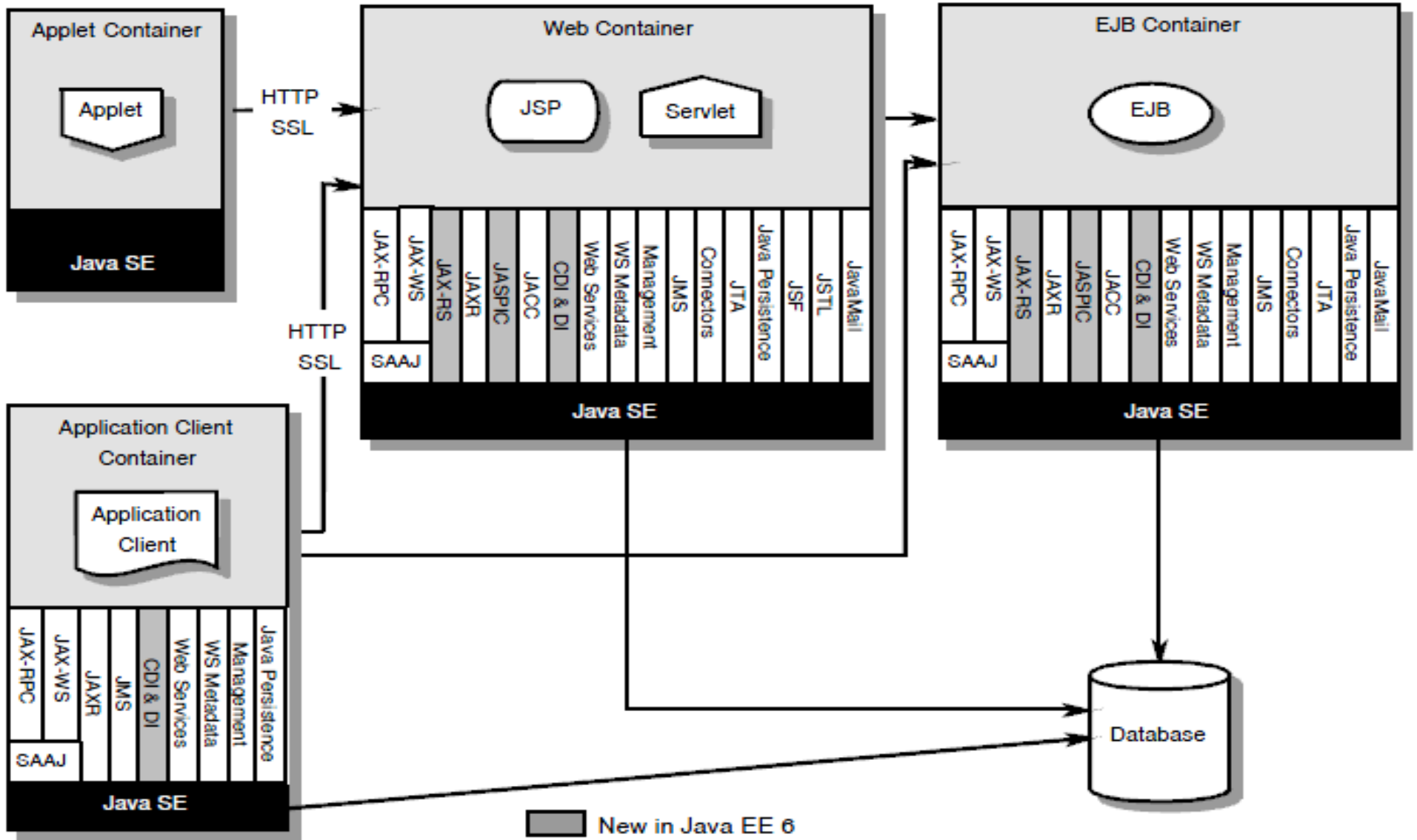
JBoss AS7 Management

- AS7 offers a set of features to make management easier
- **One** configuration file (standalone.xml / domain.xml)
- **Management API** that allows for **persistent changes** to the configuration
- Management API can manage all servers in the **domain**
- Management **console** to provide user friendly management in a web browser
- **Command line tool** for use in scripts

Management

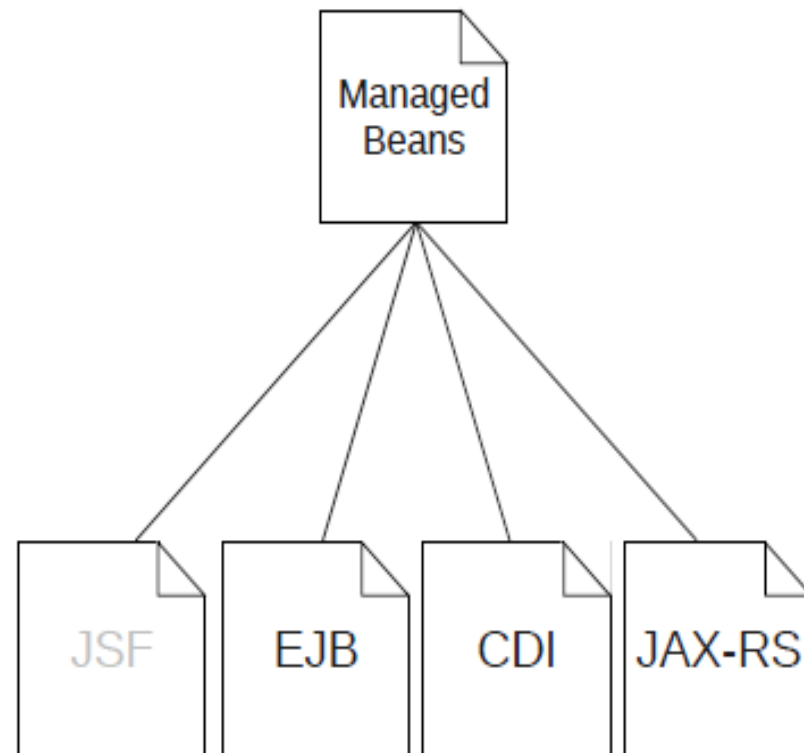


Java EE 6



Managed bean specification

- Common bean definition
- Instances managed by the container
- Common services
 - Lifecycle callbacks
 - Resource injections
 - Interceptors
- Foundation spec



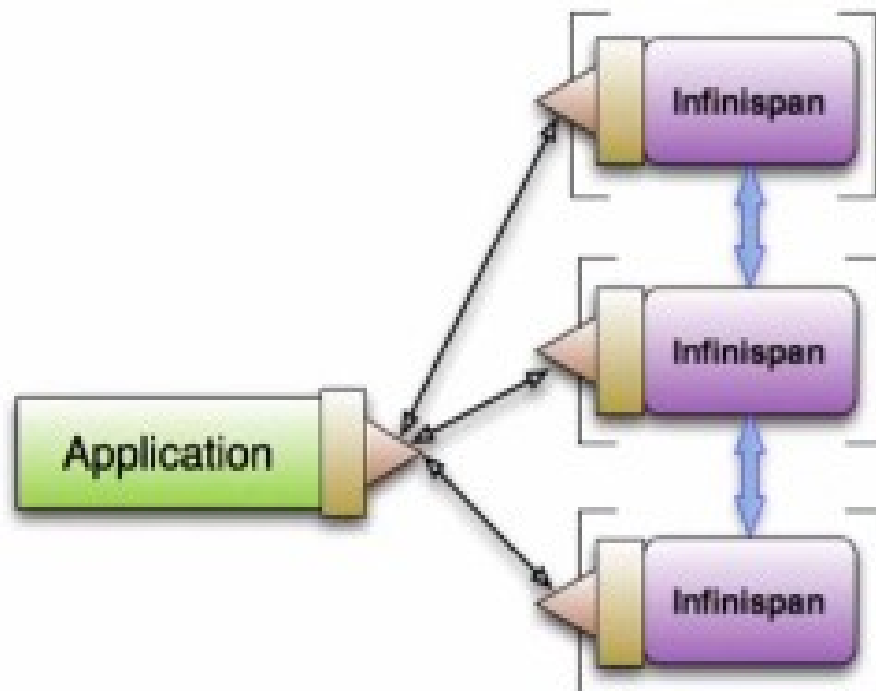
Java EE 6 Required Components

EJB 3.1	JACC 1.4
Servlet 3.0	JASPIC 1.0
JSP 2.2	JSP Debugging 1.0
EL 2.2	JSTL 1.2
JMS 1.1	Web Services Metadata 2.1
JTA 1.1	JSF 2.0
JavaMail 1.4	Common Annotations
Connector 1.6	Java Persistence 2.0
Web Services 1.3	Bean Validation 1.0
JAX-RPC 1.1	Managed Beans 1.0
JAX-WS 2.2	Interceptors 1.1
JAX-RS 1.1	Contexts and Dependency Injection for Java EE1.0
JAXB 2.2	Dependency Injection for Java 1.0
JAXR 1.0	
Java EE Management 1.1	
Java EE Deployment 1.2c	

What is Infinispan?

- An open source data grid platform
- Written in Java and Scala
 - Not just for the JVM though
- Distributed key/value store
 - Transactional (JTA)
 - Low-latency (in-memory)
 - Optionally persisted to disk
 - Feature-rich

Client/Server Architecture



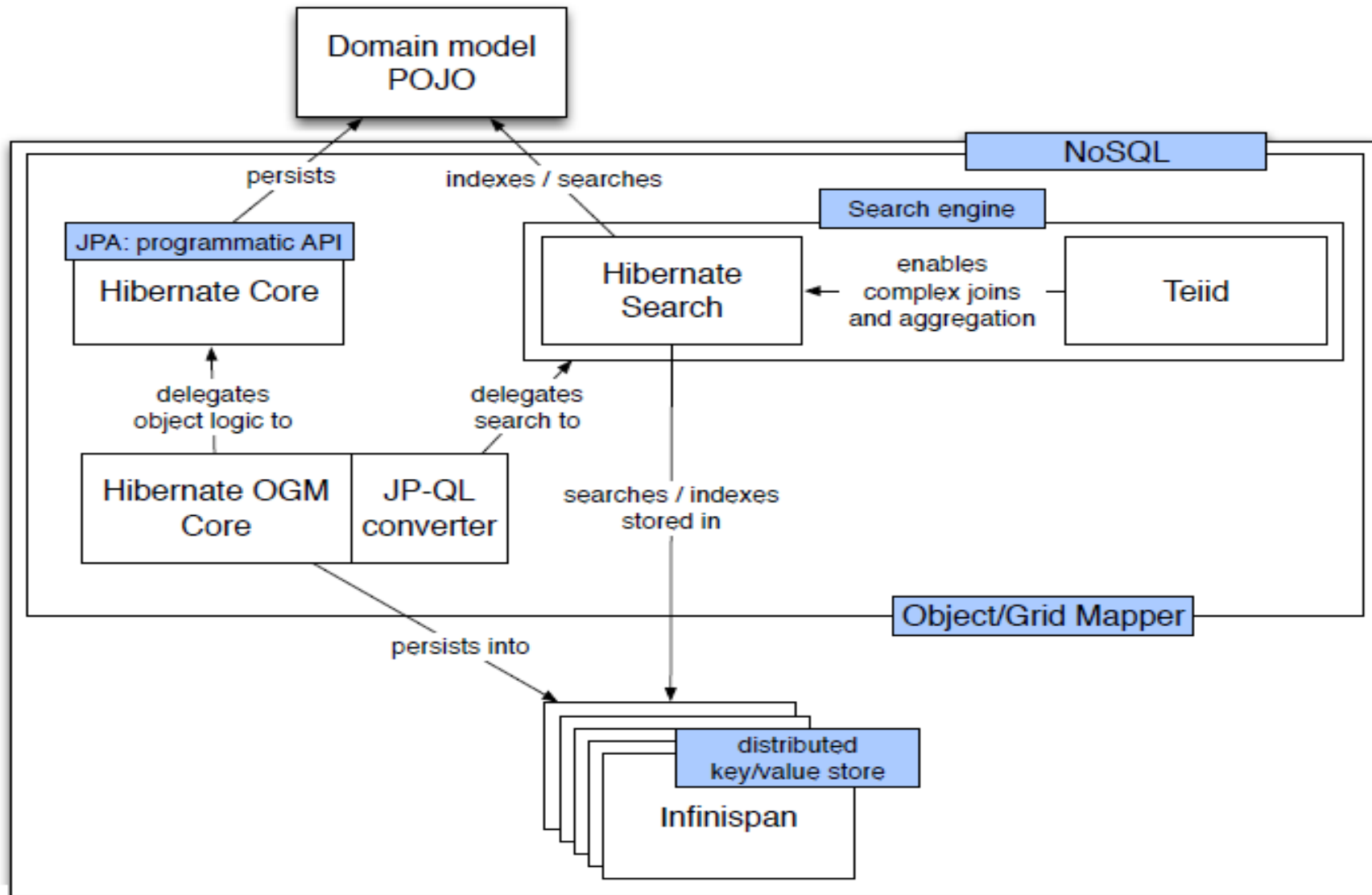
Supported Protocols

- REST
- Memcached
- Hot Rod

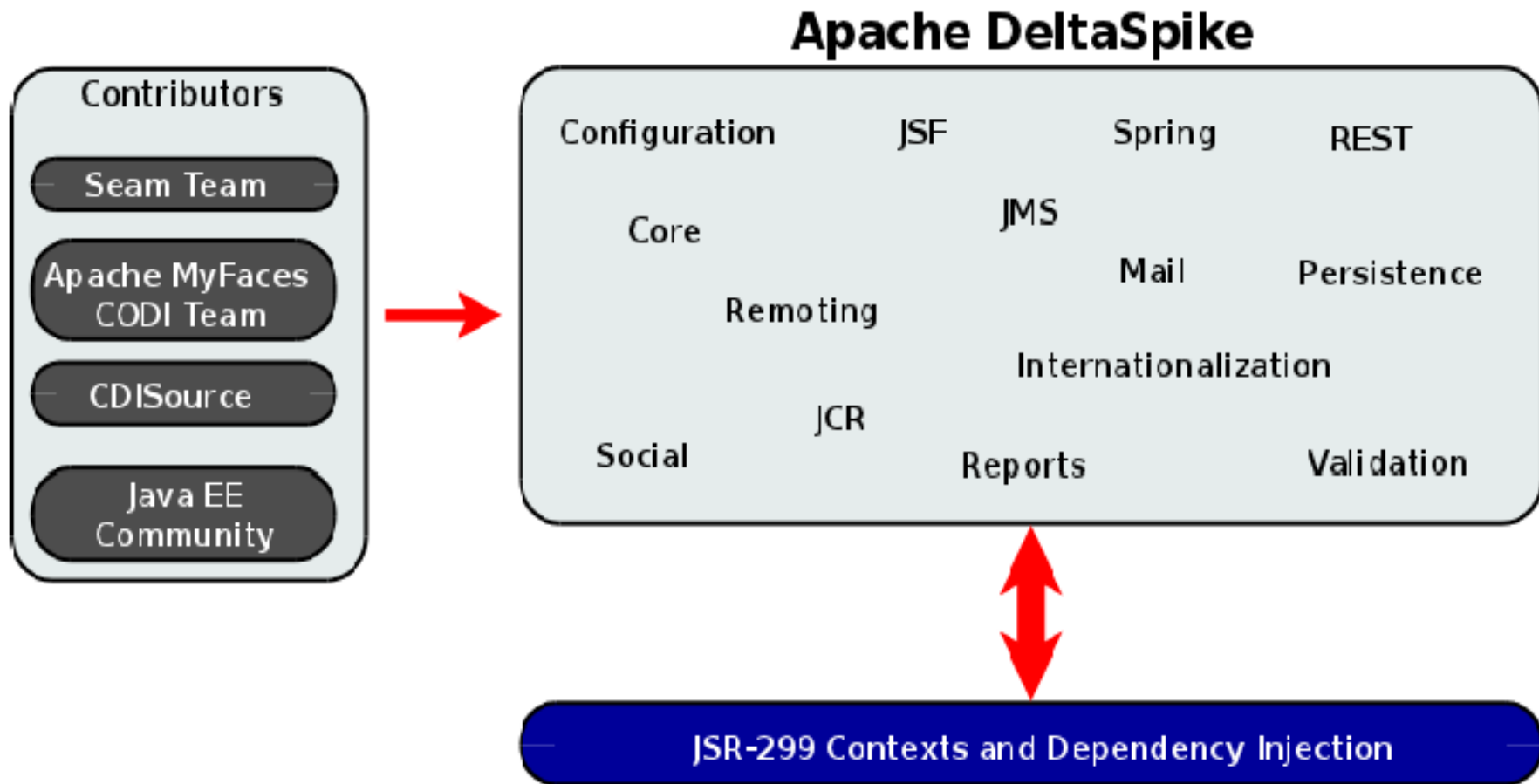
Hibernate 4

- Services
- New metamodel
- Consolidated Session creation options
- Multi-tenancy support
- Packaging changes
- Getting Started Instantly: 5 minute evaluation attention span (hello world tutorials, examples, etc)
- Keyed/in logging

Hibernate OGM



Seam 3.1, Apache DeltaSpike JBoss Developer Framework

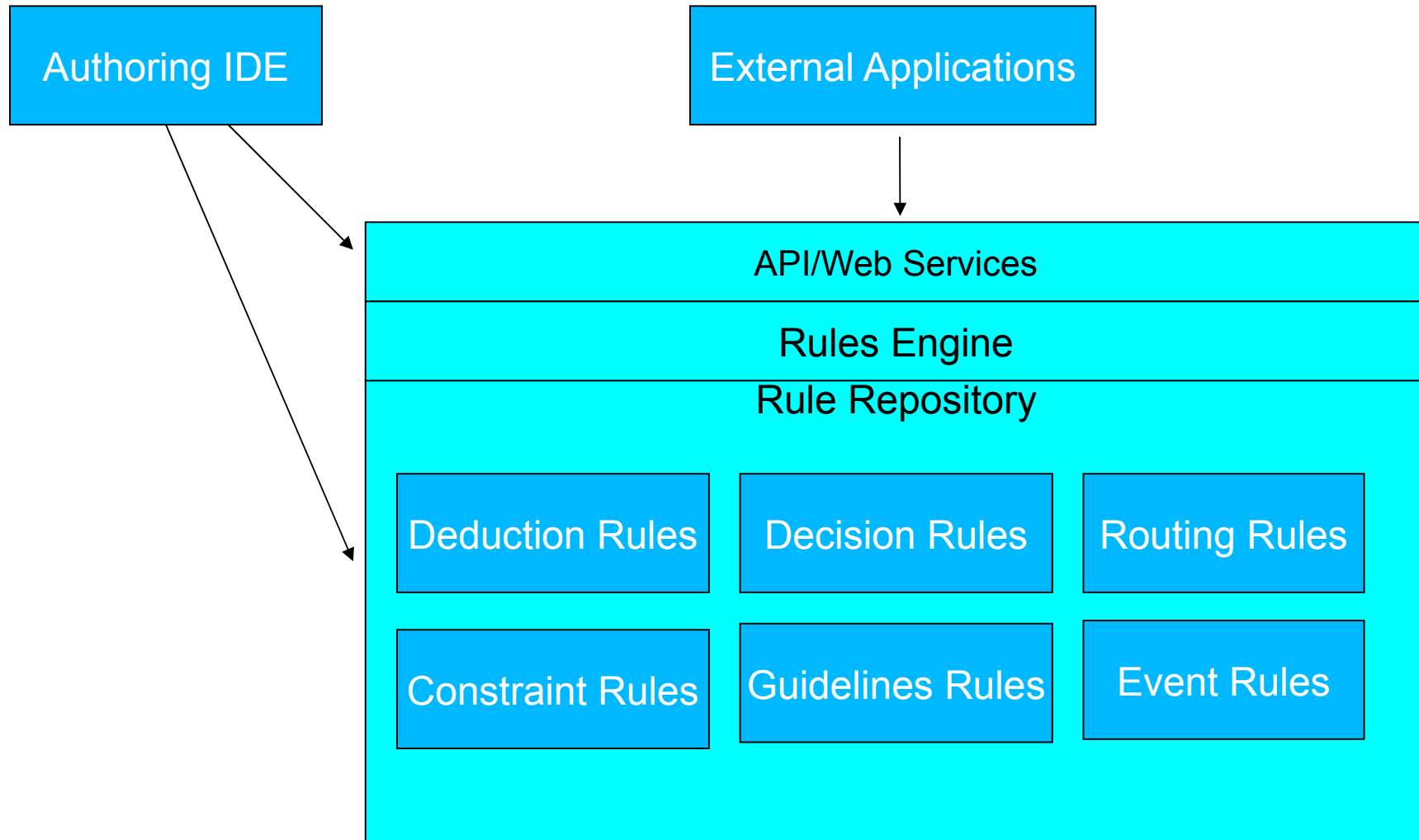


JBoss Developer Framework

- Tooling
 - Forge
 - Maven archetypes
 - JBoss Tools
 - Arquillian
- JBoss product integration
 - Drools, jBPM
 - Infinispan
 - Security – PicketLink CDI, PicketLink IDM 2.0
 - JSF, GWT via Errai, POH5, mobile

BRMS

Enterprise Decision Management



BRMS

The screenshot displays the JBoss BRMS web interface. The left sidebar shows a tree view under 'Knowledge Bases' with the following structure:

- Knowledge Bases
 - Create New ▾
 - Packages
 - biz
 - jbtravel
 - bags
 - Business rule assets
 - Technical rule assets
 - Functions
 - DSL configurations
 - Model
 - Processes
 - Enumerations
 - Test Scenarios
 - XML, Properties
 - Other assets, docume

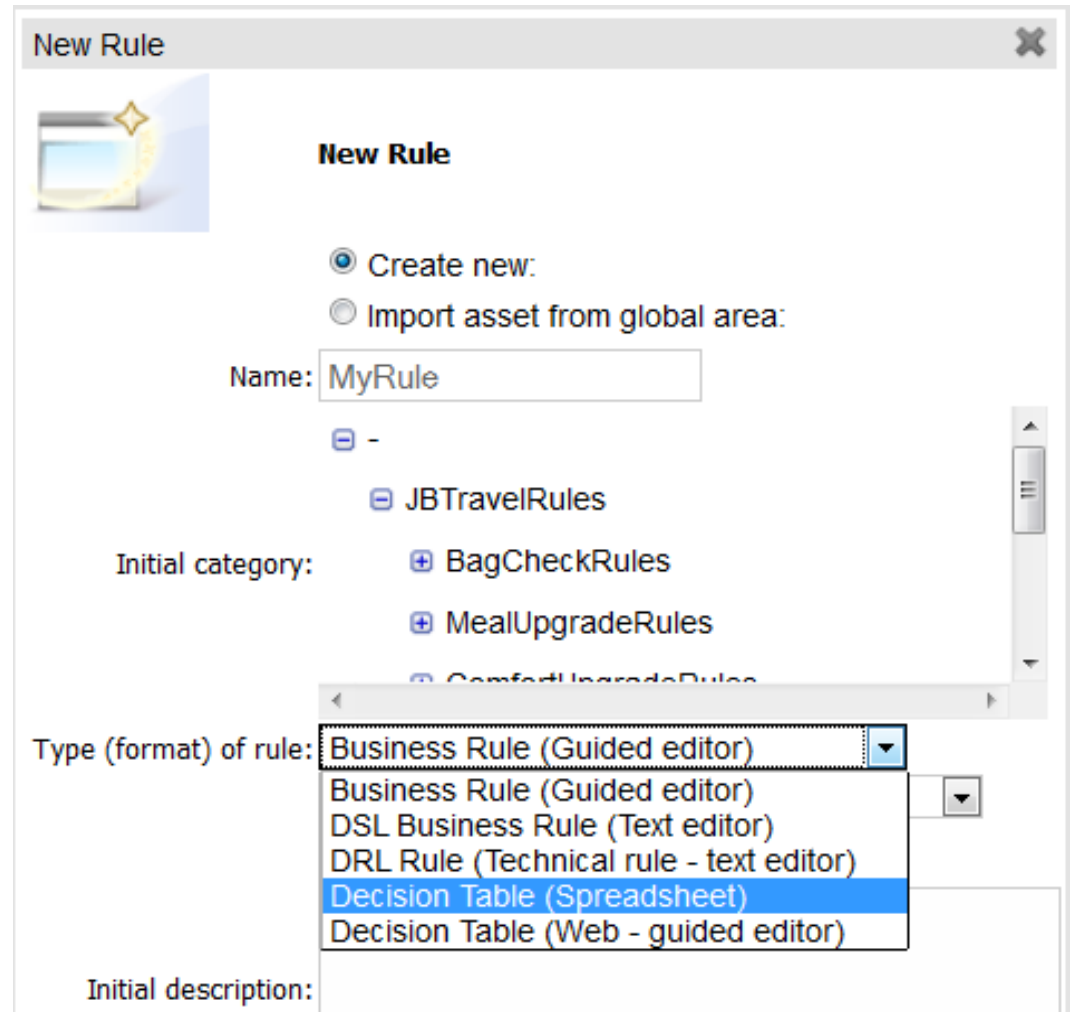
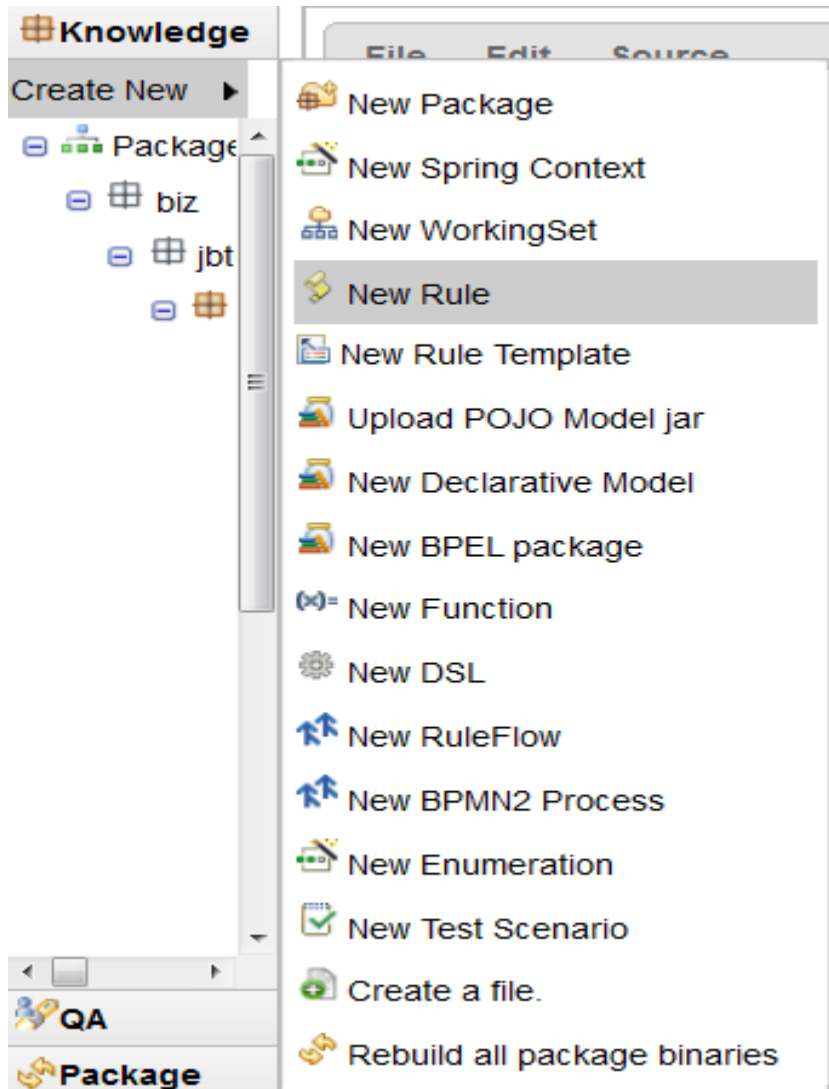
The main content area shows the 'Find' tab with the search criteria 'Business rule assets [biz.jbtravel.bags]' and the selected asset 'BagFeeDT'. The 'Attributes' tab is active, displaying the following metadata:

- Metadata
 - Title: **BagFeeDT**
 - Categories: JBTTravelRules/BagFeeRules
 - Last modified 2011-12-05 14:46 by: admin
 - Note:
 - Created on: 2011-12-05 14:16
 - Created by: admin
 - Format: **gdst**
 - Package: biz.jbtravel.bags
 - Is Disabled:
 - UUID: ac47abfa-52c6-4062-97cf-7fd16f5eea5f

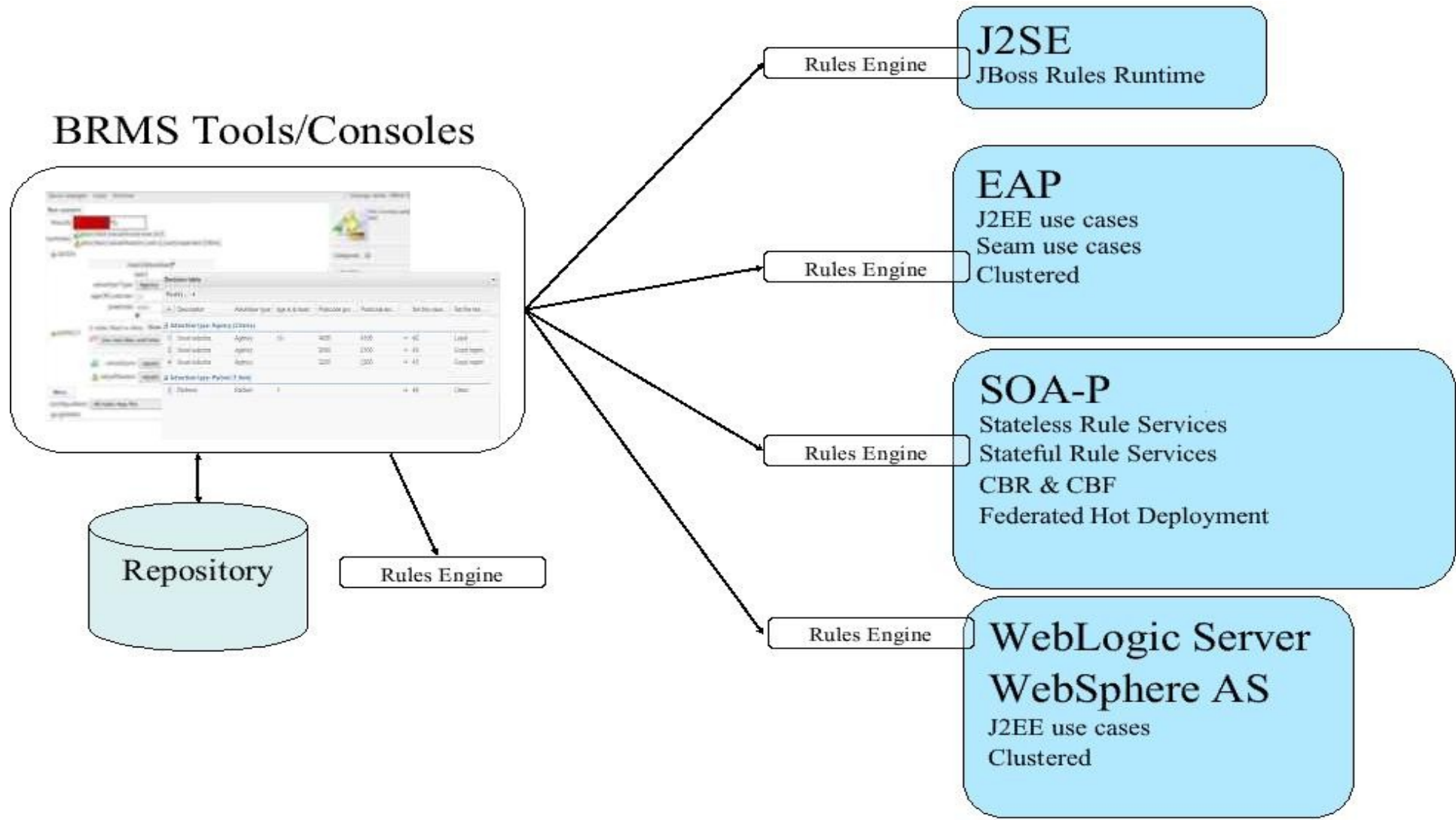
Below the metadata, there are expandable sections for:

- Other meta data ...
- Version history ...
- Description
- Discussion

Rules definition

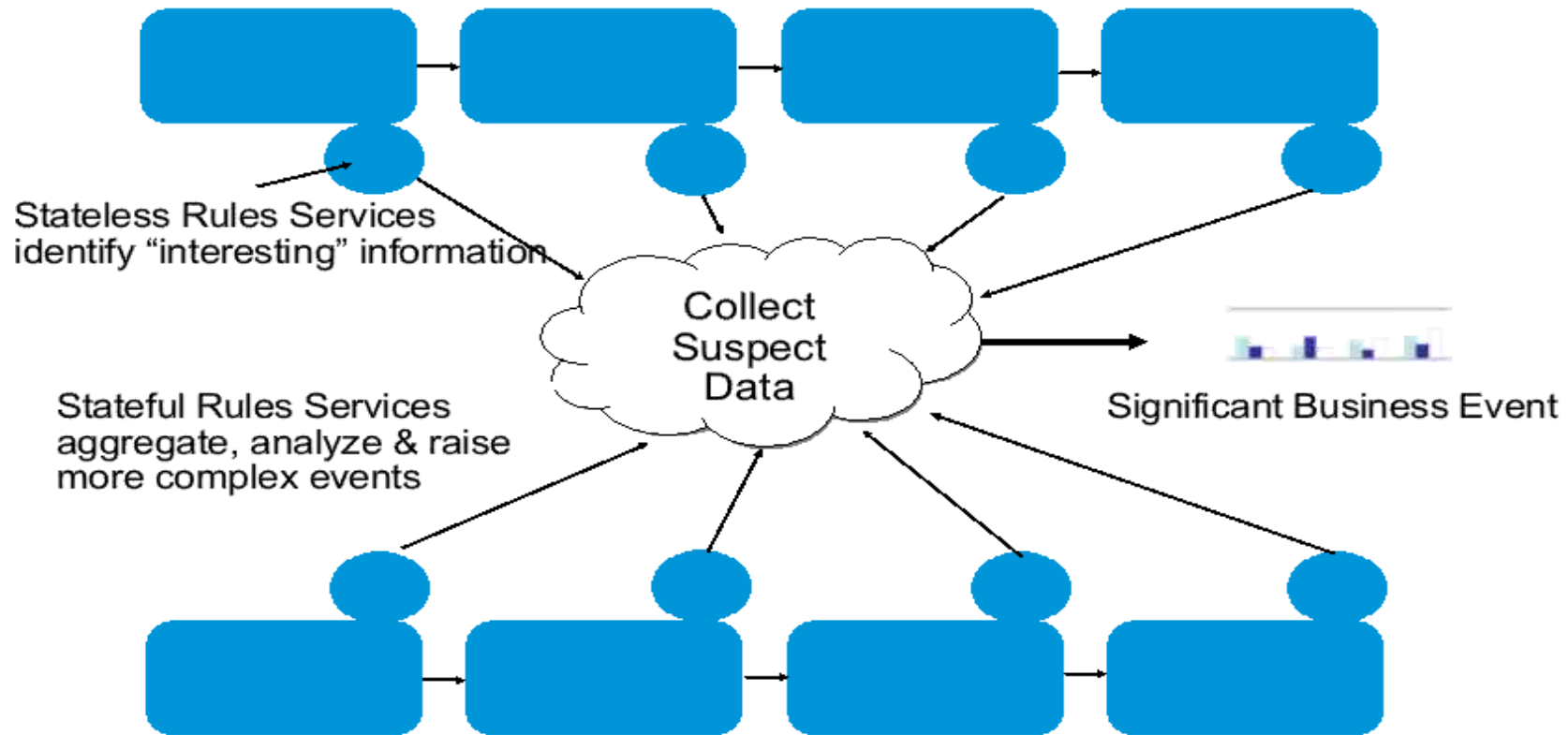


BRMS Deployments



Event Stream Processing

Your Processes: Order Fulfillment, Replenishment, Customer Service, Financial Analysis



Real-time measurement of available inventory, mean time to replenish, transportation requirements & timings, minimum reorder quantity, seasonal concerns, commodity price fluctuations, customer SLAs (fines), etc.



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THANK YOU