



# JBoss<sup>®</sup> Portal



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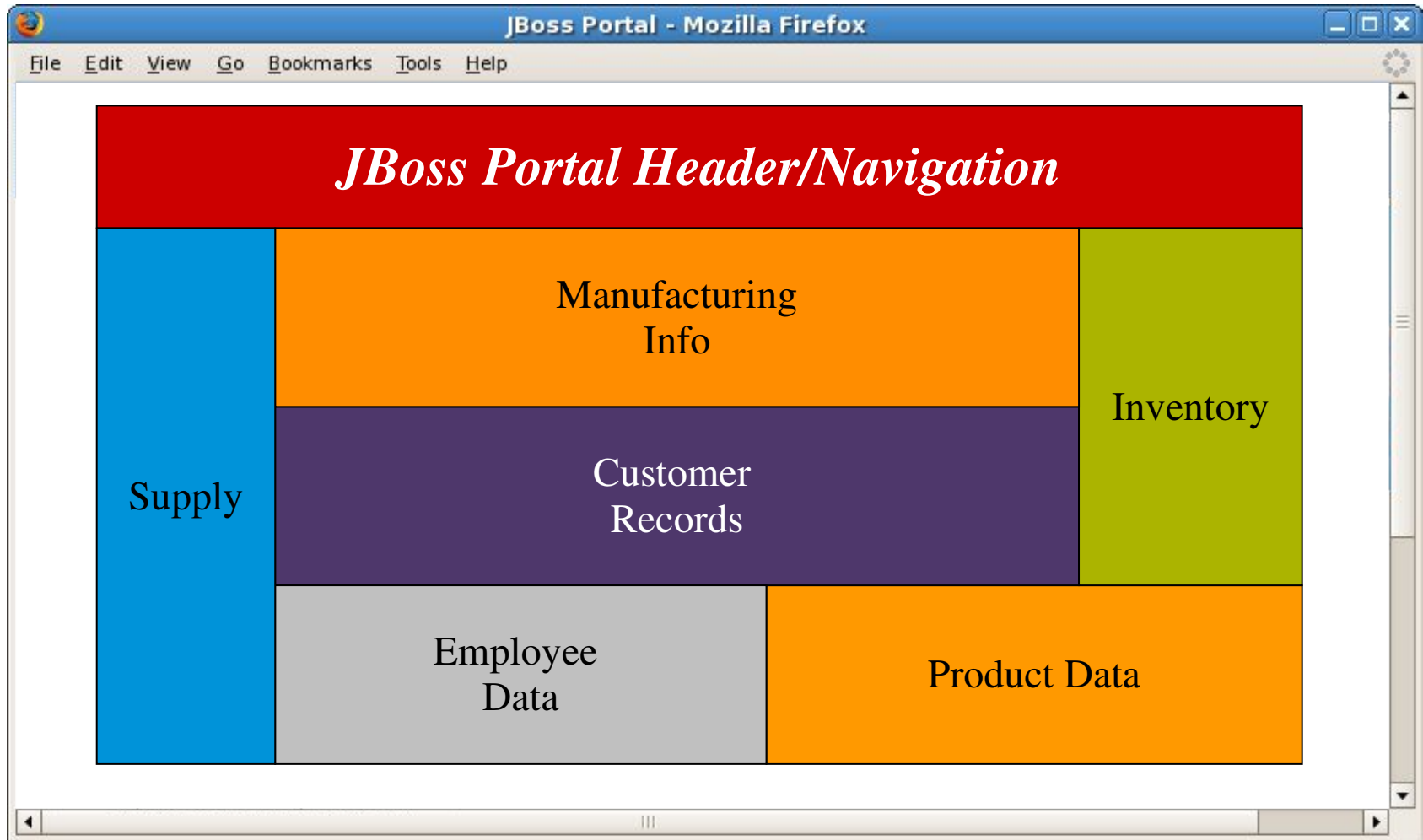
# Agenda

- What is a portal, do i need one ?
- What's in JBoss Portal
- Around JBoss Portal
- JBoss Portlet Bridge
- Portlet 2.0 and JBoss Portlet Container

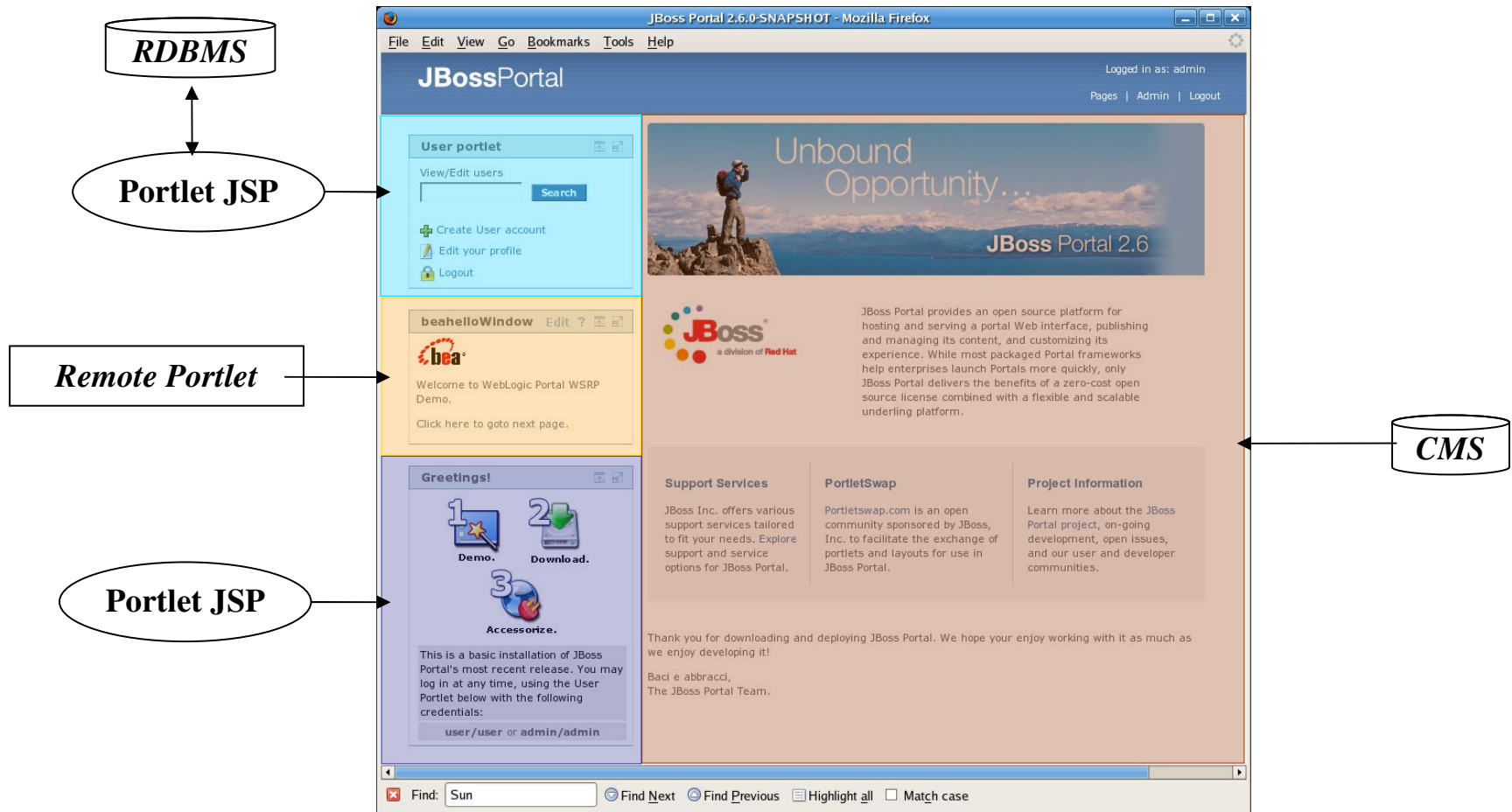


# What is a portal ?

# Portals provide **INTEGRATION and AGGREGATION**



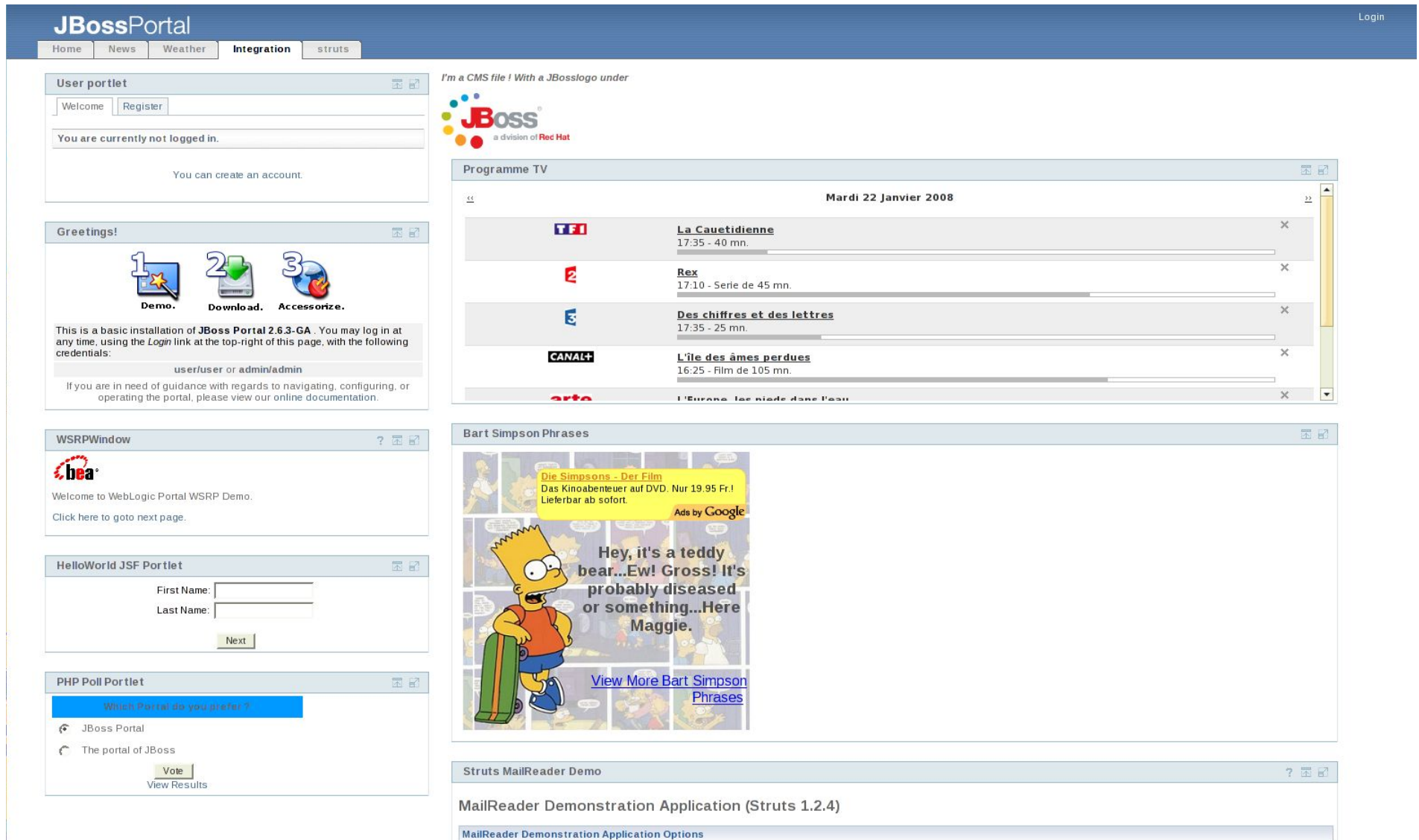
# Portal Consumption



# Why use a portal ?

- Why not **just** use a 'regular' web framework ?
  - ✓ Requires all components to be written using the same technology
  - ✓ Enterprise environments, soon or later, deal with multiple technologies
  - ✓ Some web frameworks have support for portals
- Speed up deployment of a portal
  - ✓ Existing standard portlets


# Integration of different technologies



The screenshot displays the JBossPortal web application interface. The top navigation bar includes links for Home, News, Weather, Integration, and struts, along with a Login link. The main content area is divided into several portlets:

- User portlet:** A login and registration area with a "Welcome" button, a "Register" button, and a message stating "You are currently not logged in." and "You can create an account."
- Greetings!:** A section with three numbered icons: 1. Demo (with a star), 2. Download (with a green arrow), and 3. Accessorize (with a red apple). Below the icons, it says "This is a basic installation of JBoss Portal 2.6.3-GA. You may log in at any time, using the Login link at the top-right of this page, with the following credentials: user/user or admin/admin. If you are in need of guidance with regards to navigating, configuring, or operating the portal, please view our online documentation."
- WSRPWindow:** A portlet with the JBoss logo and the text "Welcome to WebLogic Portal WSRP Demo. Click here to goto next page."
- HelloWorld JSF Portlet:** A form with input fields for "First Name:" and "Last Name:", and a "Next" button.
- PHP Poll Portlet:** A poll titled "Which Portal do you prefer?" with two radio button options: "JBoss Portal" and "The portal of JBoss". A "Vote" button and a "View Results" link are also present.
- Programme TV:** A TV schedule for "Mardi 22 Janvier 2008" listing programs from various channels: TF1 (La Caueidienne, 17:35 - 40 mn.), 2 (Rex, 17:10 - Serie de 45 mn.), E (Des chiffres et des lettres, 17:35 - 25 mn.), CANAL+ (L'île des âmes perdues, 16:25 - Film de 105 mn.), and arte (L'Europe, les nids dans l'eau).
- Bart Simpson Phrases:** A portlet featuring a cartoon of Bart Simpson and a Google Ad for "Die Simpsons - Der Film" (The Simpsons Movie) with the text "Hey, it's a teddy bear...Ew! Gross! It's probably diseased or something...Here Maggie." and a "View More Bart Simpson Phrases" link.
- Struts MailReader Demo:** A portlet titled "MailReader Demonstration Application (Struts 1.2.4)" with a sub-section for "MailReader Demonstration Application Options".

# Integration of different technologies



The screenshot displays the JBossPortal interface with a navigation bar at the top containing 'Home', 'News', 'Weather', 'Integration', and 'struts'. A 'Login' link is visible in the top right corner. The main content area is divided into several sections:

- User portlet:** A simple form with 'Welcome' and 'Register' buttons, and a message: 'You are currently not logged in. You must have an account.'
- MyFaces JSF Portlet:** A 'Greetings!' section with three numbered icons: 1. Demo (star), 2. Download (green arrow), 3. Accessorize (globe).
- JSP Portlet:** A section titled 'This is a basic installation of JBoss Portal 2.6.3-GA. You may log in at any time, using the Login link at the top-right of this page, with the following credentials: user/user or admin/admin. If you are in need of guidance with regards to navigating, configuring, or operating the portal, please view our online documentation.'
- WSRPWindow:** A section with the 'bea' logo and text: 'Welcome to WebLogic Portal WSRP Demo. Click here to goto next page.'
- HelloWorld JSF Portlet:** A form with 'First Name:' and 'Last Name:' input fields and a 'New' button.
- PHP Poll Portlet:** A poll titled 'Which Portal do you prefer?' with two radio button options: 'JBoss Portal' and 'The portal of JBoss', and a 'Vote' button with a 'View Results' link below.
- Programme TV:** A section titled 'I'm a CMS file! With a JBosslogo under' featuring the JBoss logo and a list of TV programs for 'Mardi 22 Janvier 2008':
  - 1. La Caueidienne (17:35 - 40 mn.)
  - 2. Rex (17:10 - Serie de 45 mn.)
  - 3. Des chiffres et des lettres (17:35 - 25 mn.)
  - 4. L'île des âmes perdues (16:25 - Film de 105 mn.)
  - 5. L'Europe, les nids dans l'eau
- Bart Simpson Phrases:** A section featuring a cartoon of Bart Simpson and a quote: 'Hey, it's a teddy bear...Ew! Gross! It's probably diseased or something...Here Maggie.' It includes an advertisement for 'Die Simpsons - Der Film' and a link to 'View More Bart Simpson Phrases'.
- Struts MailReader Demo:** A section titled 'MailReader Demonstration Application (Struts 1.2.4)' with a sub-section for 'MailReader Demonstration Application Options'.

# Portals and SOA

- Split your services
  - ✓ Maintenance
  - ✓ Lifecycle
  - ✓ Technology independent
- Split your web applications
  - ✓ Maintenance
  - ✓ Lifecycle
  - ✓ Technology independent
- Don't split the UI !
  - ✓ The user doesn't like to have to deal with multiple applications
- A portal is a window on the services



# JBoss Portal in general

# JBoss Portal State of the Union

- Focus on core portal functionality
  - ✓ Aggregation
    - ✓ Provides a standards-based environment for serving a portal's web interface and publishing/managing portal applications and content
    - ✓ Consistent look and feel
  - ✓ Performance and scalability
  - ✓ Centralized security
    - ✓ Single Sign On across elements of the portal
    - ✓ Identity manager
  - ✓ Presentation framework (Portal vs Portlet level)

# Standards based

- JSR-168: Portlet Specification
  - ✓ Final release: Oct 27th, 2003
- JSR-286: Portlet Specification 2.0
  - ✓ Proposed Final Draft: Dec 13th, 2007
  - ✓ Red Hat Middleware LLC represented by:
    - ✓ Julien Viet (JBoss Portal project leader)
- JSR-301: Portlet Bridge Specification for JavaServer™ Faces
  - ✓ Early Draft Review 2: Sep 10th, 2007
  - ✓ Red Hat Middleware LLC represented by:
    - ✓ Julien Viet (JBoss Portal project leader)
    - ✓ Wesley Hales (JBoss Portal)
    - ✓ Stan Silvert (JSF expert)

## Standards based

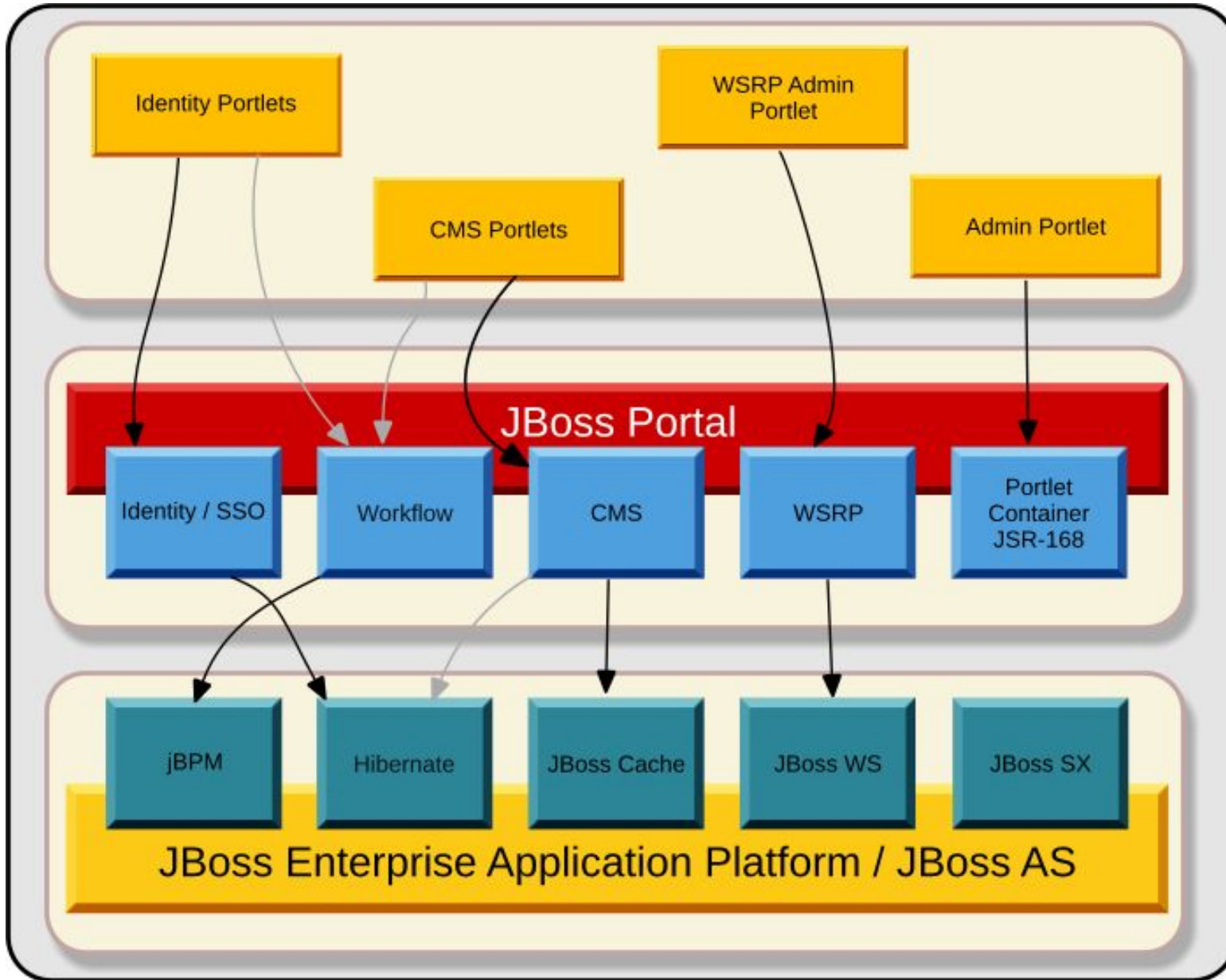
- JSR-170: Content Repository for Java technology API
- OASIS WSRP v1.0

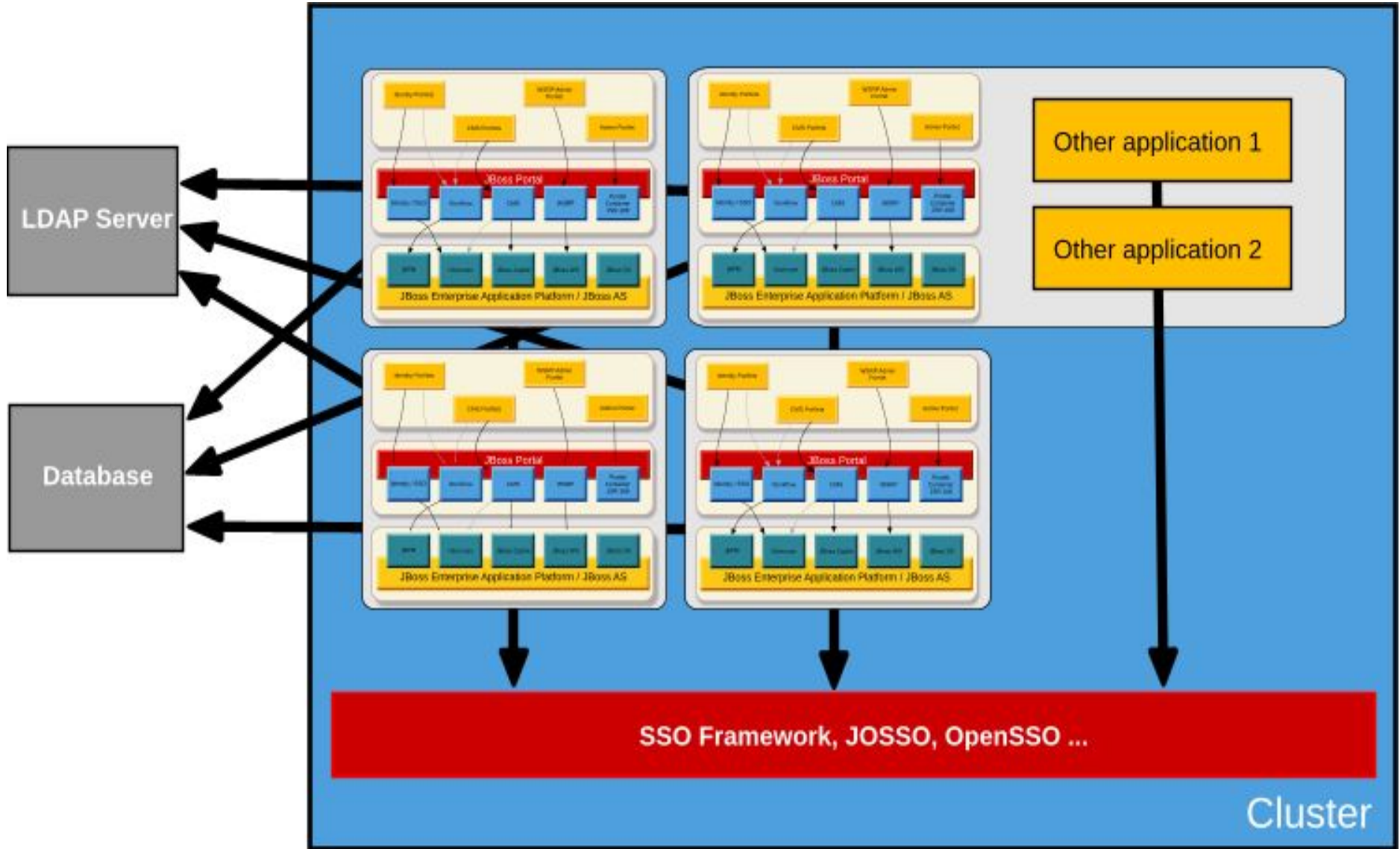
# Leverages other JEMS components

- JBoss SX
  - ✓ JAAS based domain security subsystem
- JBoss Cache
  - ✓ Performance
  - ✓ Fault tolerance
- Hibernate
  - ✓ database independence
- jBPM
  - ✓ Business process
  - ✓ Better flexibility
- JBoss Web Services
  - ✓ WSRP

# Modularized

- Deploy/Undeploy components
- Light bare portal
- Soft dependency between elements
- Identity portlets does not necessarily require the workflow service
  - ✓ Depends on your needs





# Identity Server integration

- A set of interfaces to integrate with any identity server
  - ✓ Red Hat Directory Server
  - ✓ OpenLDAP
  - ✓ OpenDS
  - ✓ Sun Directory Server
  - ✓ Microsoft Active Directory
  - ✓ ...

# Single Sign On integration

- Several applications, a unique login challenge to the user
- A set of interfaces to integrate with any SSO framework
  - ✓ CAS
  - ✓ JOSSO
  - ✓ Open SSO
  - ✓ ...



# Around JBoss Portal

# Community

- A large base of users
  - ✓ Active forums
  - ✓ Multiple environments, OS, database...
  - ✓ User input and early feedback
  - ✓ Helps us anticipate needs before final releases
- 10,000 downloads a month

## Strong points given by our users

- Modularity
- Seamless integration
- Reduced costs
- Scalable architecture
- Professional support quality

## Related projects

- JBoss Wiki
  - ✓ Wiki portlet
- JBoss Forums
  - ✓ Forums portlet
- More portlets on portletswap.com (being revamped)
- Increasing number of portlets available globally

# JBoss Portal as a product

- Open Source with LGPL license
- Backed by up to 24x7 “Support from the Source”
- JBoss certified partners (HP, Cap Gemini, Alfresco, Atos Origin, Unisys...)

# Installation Overview

- JBossAS/Portal Bundle
  - ✓ Zero Installation Required
    - ✓ Start Server
    - ✓ Go to <http://localhost:8080/portal>
- Standalone JBoss Service Archive (SAR)
  - ✓ jboss-portal.sar – Core framework code
    - ✓ portal-core.war – stores layouts/themes
    - ✓ portal-server.war – portal server root context
    - ✓ ...
  - ✓ Hibernate DDL/DML executed on initial startup
  - ✓ HSQL embedded (Not for production)

# Future

- Server agnosticism
  - ✓ Run everywhere
- Federated search
- WSRP 2.0
- New presentation framework
- Improved content framework
- <-- Your needs



# JBoss Portlet Bridge

# Introducing JBoss Portlet Bridge

- Grown from the JBoss RichFaces project
- A JSR-301: Portlet Bridge implementation
  - ✓ Link between:
    - ✓ JSR-168: Portlet 1.0
    - ✓ JSR-252: JavaServer Faces 1.2
- Deploy in a portal environment
  - ✓ JSF applications
  - ✓ JSF Rich Faces applications
  - ✓ JSF Seam application
  - ✓ JSF Rich Faces + JSF Seam applications

# JBoss Portlet Bridge

- A separate project:
  - ✓ <http://labs.jboss.com/portletbridge>
- A joint effort between multiple teams
  - ✓ RichFaces (Alex Smirnov)
  - ✓ Seam (Pete Muir)
  - ✓ JBoss Portal (Wesley Hales)

# Status

- JBoss Portlet Bridge 1.0 Beta2 is out !
- Supports
  - ✓ RichFaces 3.2.0
  - ✓ JBoss Seam 2.0.2.CR1
  - ✓ JBoss Portal 2.6.4.GA
- JSR-301 specification based

# Specifications dreamland

- Supposedly works on any JSR168/JSR286 compliant portlet container
  - ✓ Opensource
  - ✓ ... or not
- Supposedly works with any JSF implementation
  - ✓ MyFaces
  - ✓ Sun RI
- Upfront testing on JBoss Portal and embedded JSF implementation
- Community based support and testing for other combinations



# JBoss Portlet Bridge Demo



# Portlet 2.0

# Portlet Container

- A service deployed in a runtime such as an application server
- Manages a portlet component
  - ✓ Implements a component model
  - ✓ Defined by the portlet specification (JCP)
- Interacts with a portal in a various manner
  - ✓ Portlet description
  - ✓ Portlet state management
  - ✓ Portlet runtime interactions
  - ✓ Defined by the Web Service for Remote Portlet specification (Oasis)

# Public render parameters

- A very powerful feature
  - ✓ Easy to use
  - ✓ Flexible
  - ✓ Allows the caching of fragments
- A portlet exposes its render parameters
  - ✓ The developer declares the public parameters in the deployment descriptor of the portlet
  - ✓ The scope of sharing is determined by the portal : page, site, ...

# Public render parameters

- Use cases
  - ✓ Several portlets on the same page share the same zipcode, and are able to display informations related to the geographic location
    - ✓ Weather
    - ✓ Map
    - ✓ Etc...
  - ✓ Contextualization of a portlet by the portal
    - ✓ Pages could have properties bound to portlets public render parameters

# Public render parameters use case

```
<portlet-app>
  <portlet>
    <portlet-name>GoogleMap</portlet-name>
    ...
    <supported-public-render-parameter>zipcode</supported-public-render-parameter>
    ...
  </portlet>
  <public-render-parameter>
    <identifier>zipcode</identifier>
    <qname xmlns:g='urn:google'>g:zipcode</qname>
  </public-render-parameter>
</portlet-app>
```

# Public render parameters use case

```
public void render(RenderRequest req, RenderResponse resp)
{
    String zipcode = req.getParameter("zipcode");
    render(zipcode, resp);
}

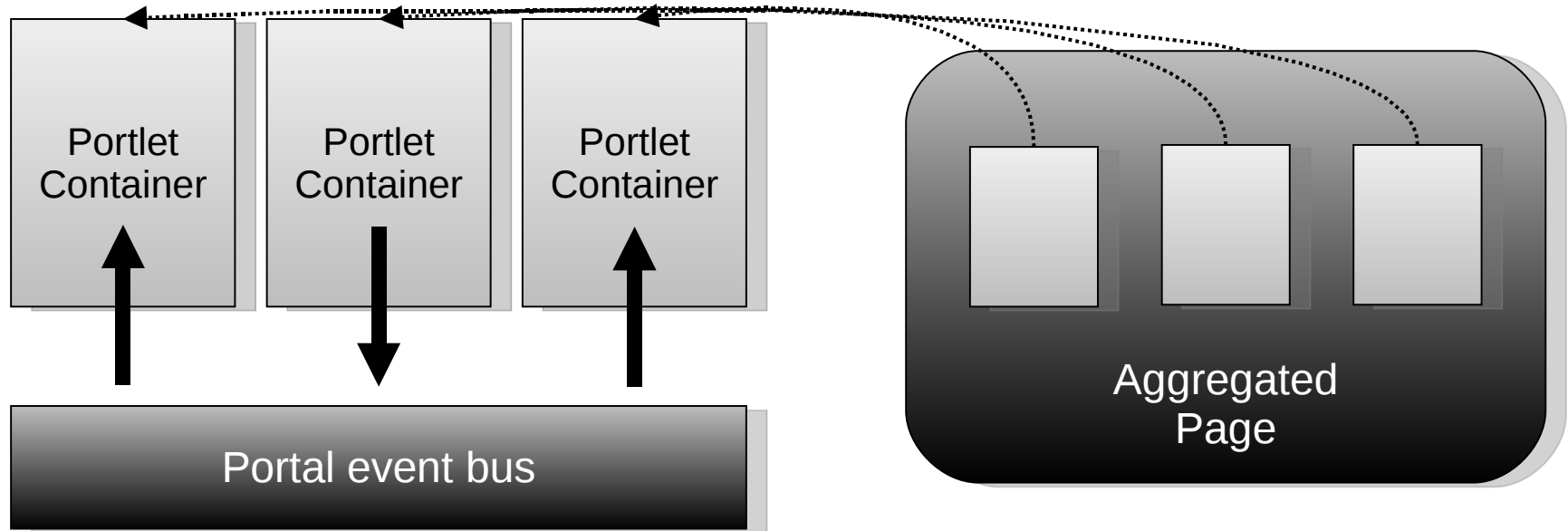
public void processAction(ActionRequest req,
ActionResponse resp) {
    String newZip = req.getParameter("zipcode");
    resp.setRenderParameter("zipcode", newZip);
}
```

## Portlet coordination via events

- Really coordination events
  - ✓ not business events (use JMS instead)
  - ✓ not reliable, e.g no guarantee of delivery
- Declarative
  - ✓ What I can process
  - ✓ What I can publish
- Event routing is mediated by the portal
- Used in different life-cycle phases
  - ✓ Action phase can publish events
  - ✓ A new event phase can process/publish events



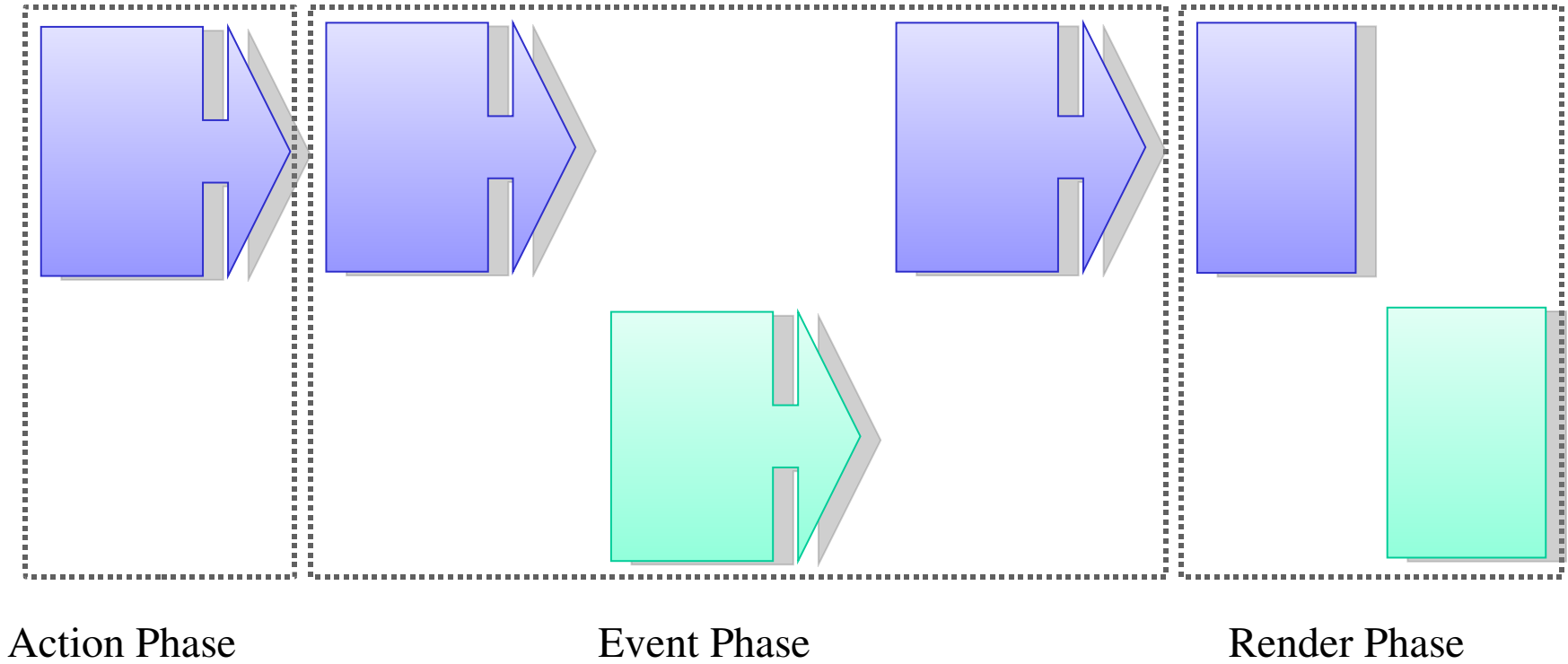
# Portlet event routing is orchestrated by the portal



```
<portlet-app>
  <event-definition>
    <name>product-selected</name>
    <value-type>com.myshopping.Item</value-type>
  </event-definition>
</portlet-app>
```



# Portlet event routing is orchestrated by the portal



# Portlet publishing event

```
public void processAction(ActionRequest req,  
ActionResponse resp) {  
  
    Item item = getClickedItem(req);  
    resp.setEvent("product_selected", item);  
  
}
```

```
<portlet>  
    <supported-publishing-event>  
        <name>product_selected</name>  
    </supported-publishing-event>  
</portlet>
```

# Portlet processing event

```
public void processEvent(EventRequest req, EventResponse
resp) {

    Event event = req.getEvent();
    Item item = (Item)event.getPayload();
    ShoppingCart cart = getShoppingCart(req);
    cart.addItem(item);

}
```

```
<portlet>
  <supported-processing-event>
    <name>product_selected</name>
  </supported-processing-event>
</portlet>
```

# Portlet events

- Use cases
  - ✓ Decoupling of different applications that need to communicate
  - ✓ You are already using an application that can generate events, and you want to integrate it with that application
  - ✓ Communication between the portal and the portlet
    - ✓ Login/Logout
    - ✓ Activities
- Antipatterns
  - ✓ Event usage for updating render parameters
    - ✓ Use public render parameters instead
  - ✓ Do not abuse
    - ✓ A carefully designed application can avoid to use events
  - ✓ Event cascading cycling forever
  - ✓ Not a messaging system

# Other features that matter

- Resource serving
  - ✓ The portlet can serve directly content
- Full request/response header access
  - ✓ Page headers allow to inject headers in the page
  - ✓ Read/write HTTP headers
  - ✓ Read/write cookies
- Portlet filters
  - ✓ Just like servlet filters
- Caching improvements
  - ✓ Resource caching
  - ✓ Cache re-validation

# Other features that matter

- Window ID available in the portlet request
  - ✓ Can be used to perform per portlet window caching
- More powerful request dispatching to servlets
  - ✓ Targeted for bridge development
  - ✓ Extended to all phases
  - ✓ Allows scoping of session to application or portlet
- Next possible modes
  - ✓ The portlet can specify the next possible modes available

# JBoss Portlet Container 2.0

- JBoss implementation of the Portlet 2.0 spec
  - LGPL license
  - Candidate 2 released
  - Final version targetted for end of March
- Provides also a simple out of the box portal to quickly build portal pages
  - You only get the portlet container
  - Defines a flexible JSP taglib to build pages

```
<html><body><portal:page>
  <portal:portlet name="MyPortlet" applicationName="in_my_war_file">
    <portal:portlettitle/>
    <portal:portletmarkup/>
  </portal:portlet/>
</portal:page></body></html>
```



# JBoss Portlet Container 2 Demo



# Questions ?

[theute@redhat.com](mailto:theute@redhat.com)

<http://www.jboss.org/jbossportal>

<http://blog.jboss-portal.org>