

1. Introduction to portals and portlets
2. Portlet Development with Spago
3. Guidelines
4. Developing Portlet With Eclipse, Spago & Exo Platform (demo)

"A portal is a web application that commonly provides personalization, single sign on, content aggregation from different sources, and hosts the presentation layer of information systems. Aggregation is the act of integrating content from different sources within a web page." (JSR-168)

- Portlet Container
 - Controls the lifecycle of portlets.
 - Responsible for initializing and destroying portlets, passing user request to it and collecting responses
- Content Aggregator
 - Aggregate Contents generated by various portlet applications
- Common Services
 - Single Sign On
 - Personalization

"Portlets are web components--like servlets--specifically designed to be aggregated in the context of a composite page. Usually, many portlets are invoked to in the single request of a portal page. Each portlet produces a fragment of markup that is combined with the markup of other portlets, all within the portal page markup." (JSR-168)

“A portlet application is a web application, as defined in *Servlet Specification 2.3*, S containing portlets and a portlet deployment descriptor in addition to servlets, JSPs, HTML pages, classes and other resources normally found in a web application. A bundled portlet application can run in multiple portlet containers implementations.”

Portlet Servlet Similarities

1. Portlets are managed by a specialized container.
2. Portlets generate dynamic content.
3. A portlet's life cycle is managed by the container.
4. Portlets interact with web clients via a request/response paradigm

Portlet Servlet Differences

1. Portlets only generate markup fragments.
2. Portlets are not directly URL addressable.
3. Portlets cannot generate arbitrary content, since the content generated by a portlet is going to be part of a portal page.

1. Portlet Modes

“A portlet mode indicates the function a portlet is performing”.

- VIEW
- EDIT
- HELP

3. Window State

“Is an indicator of the amount of portal pagespace that will be assigned to the content generated by a portlet”.

- NORMAL (May share space with other portlets)
- MAXIMIZED (May be the only portlet in page)
- MINIMIZED (Should render minimal or no output)

1. Portlet Preferences (persistent storage)

- `javax.portlet.PortletPreferences`
- Stored in a persistent data store.
- User independent Preferences (declared in portlet deployment descriptor, readonly)
- User dependent preferences (Can be normally changed by the user in EDIT MODE)

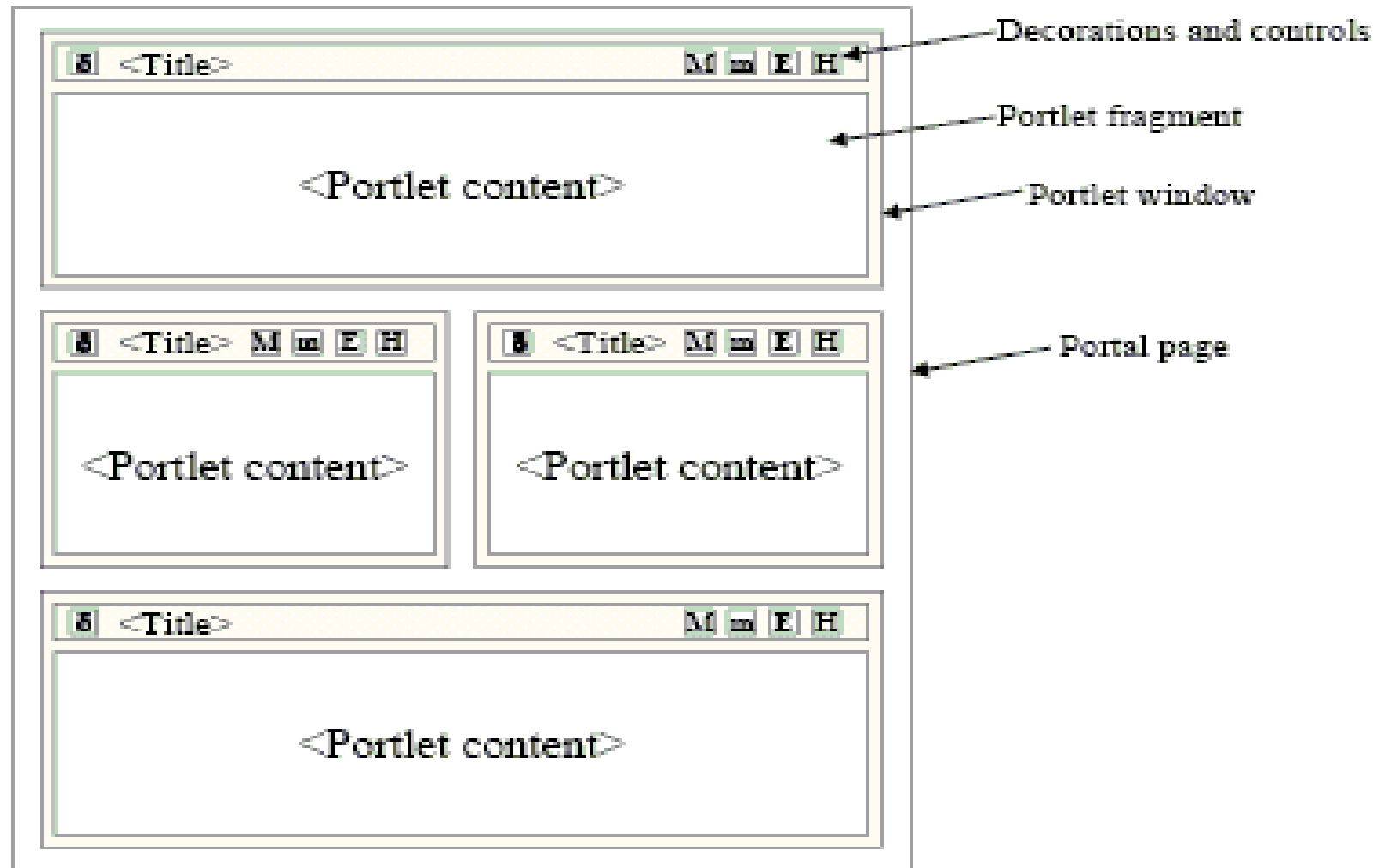
1. Refined request processing

A portlet may get a request when a user takes some action on it (a state called *action phase*), or because the user took action on some other portlet and the page needs to be refreshed (*render phase*).

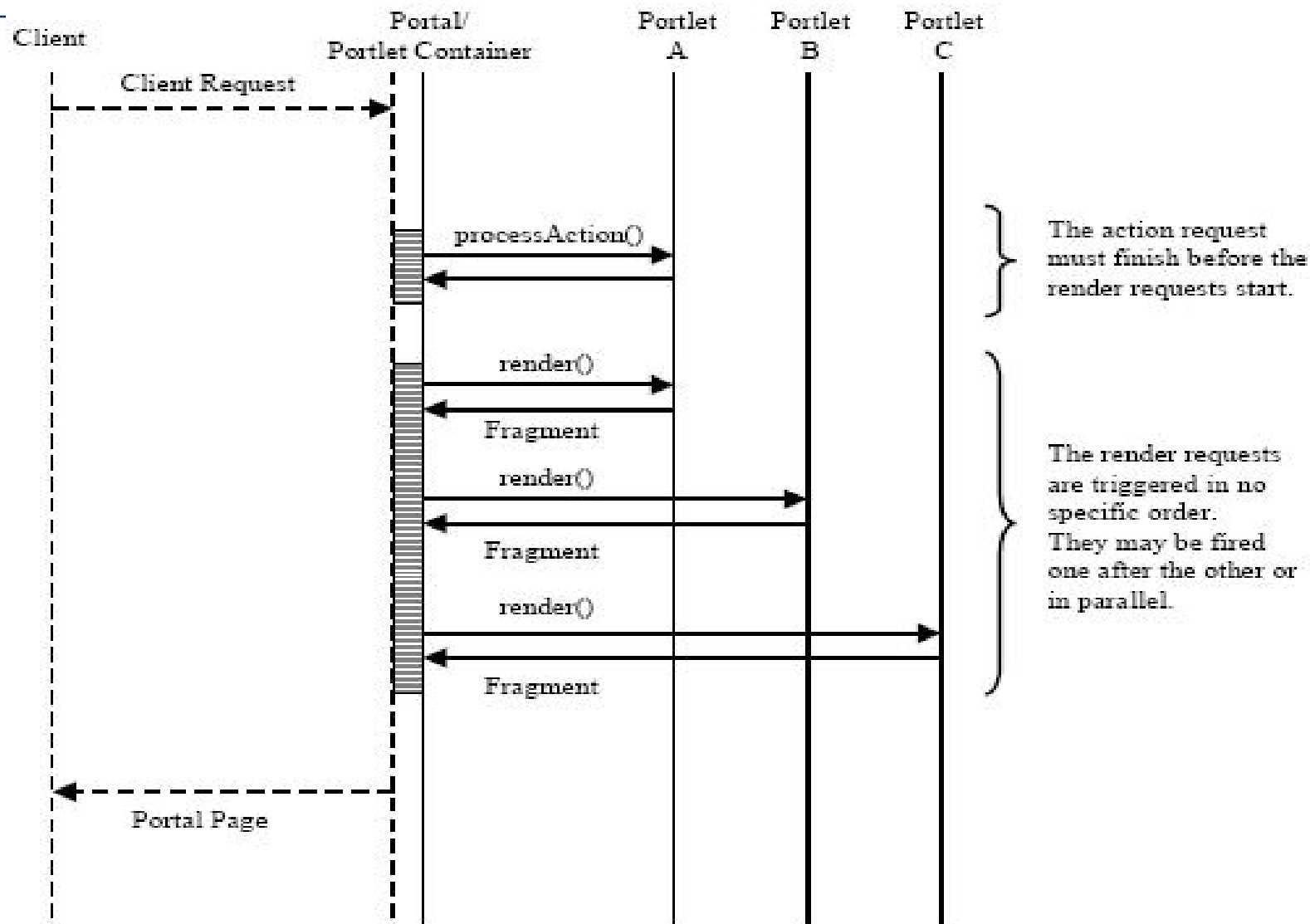
3. Concept of User Attributes

Access to “user attributes” via PortletAPI. Users don’t worry about physical mappings (LDAP, DB)

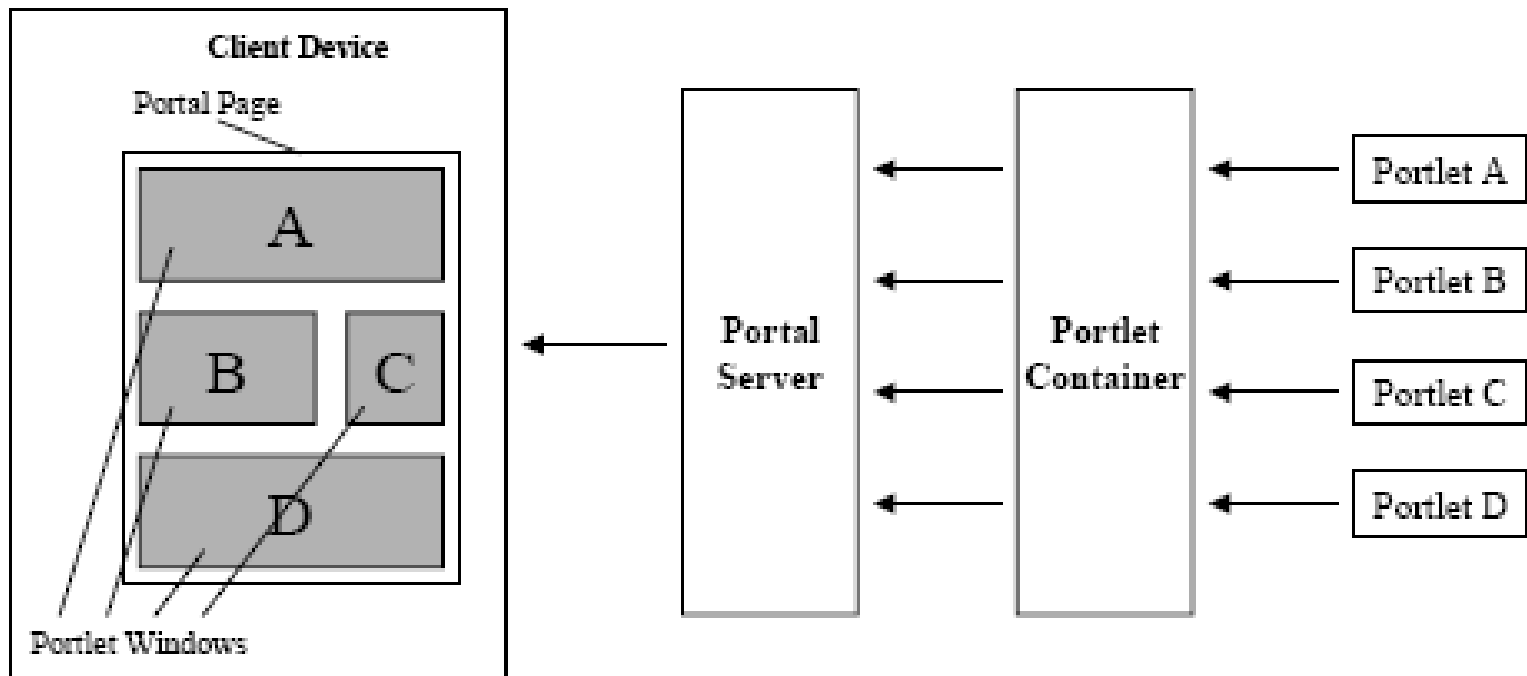
1. Each portlet application has a `PortletSession` object per user session
2. Introduce two scopes for storing objects
 - `APPLICATION_SCOPE`
 - `PORTLET_SCOPE` (Default)

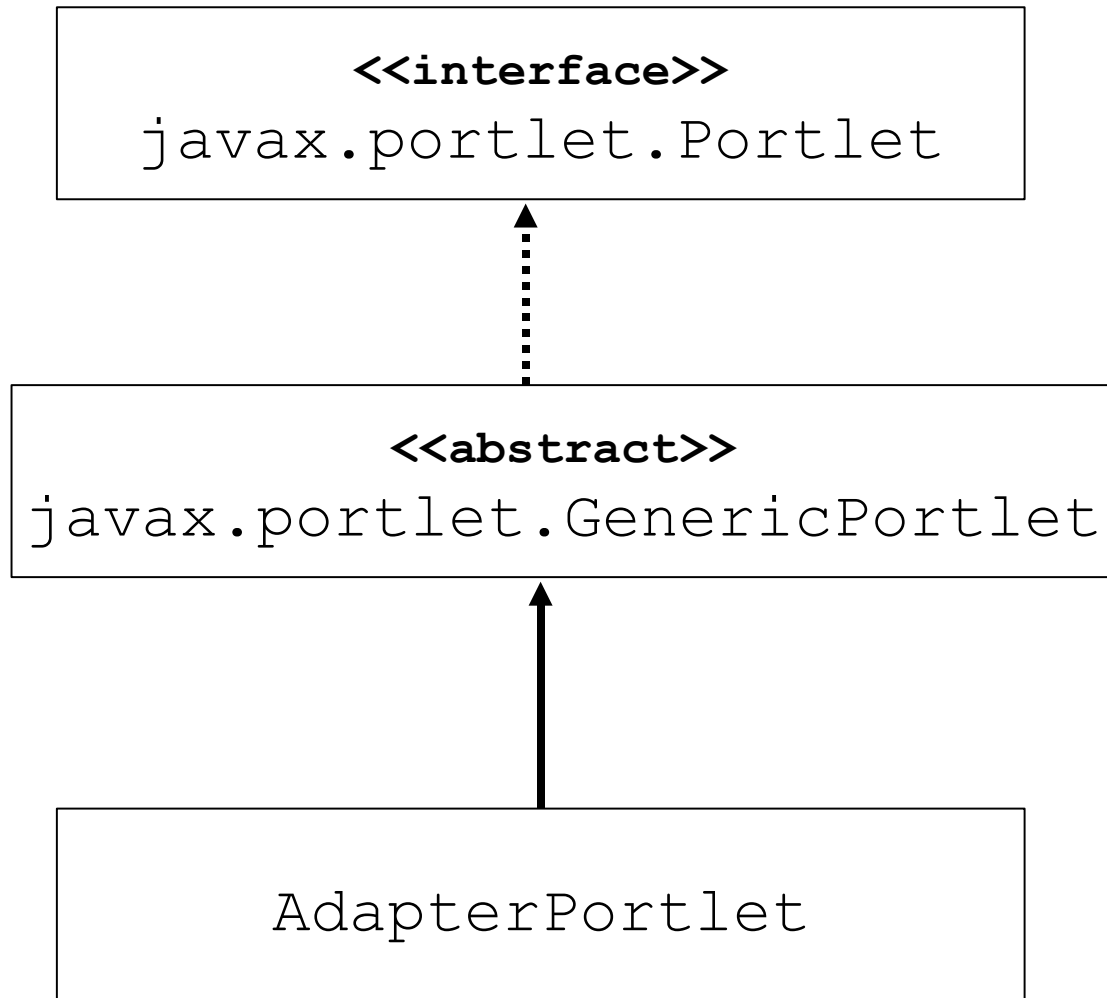


Portlet Request Lifecycle

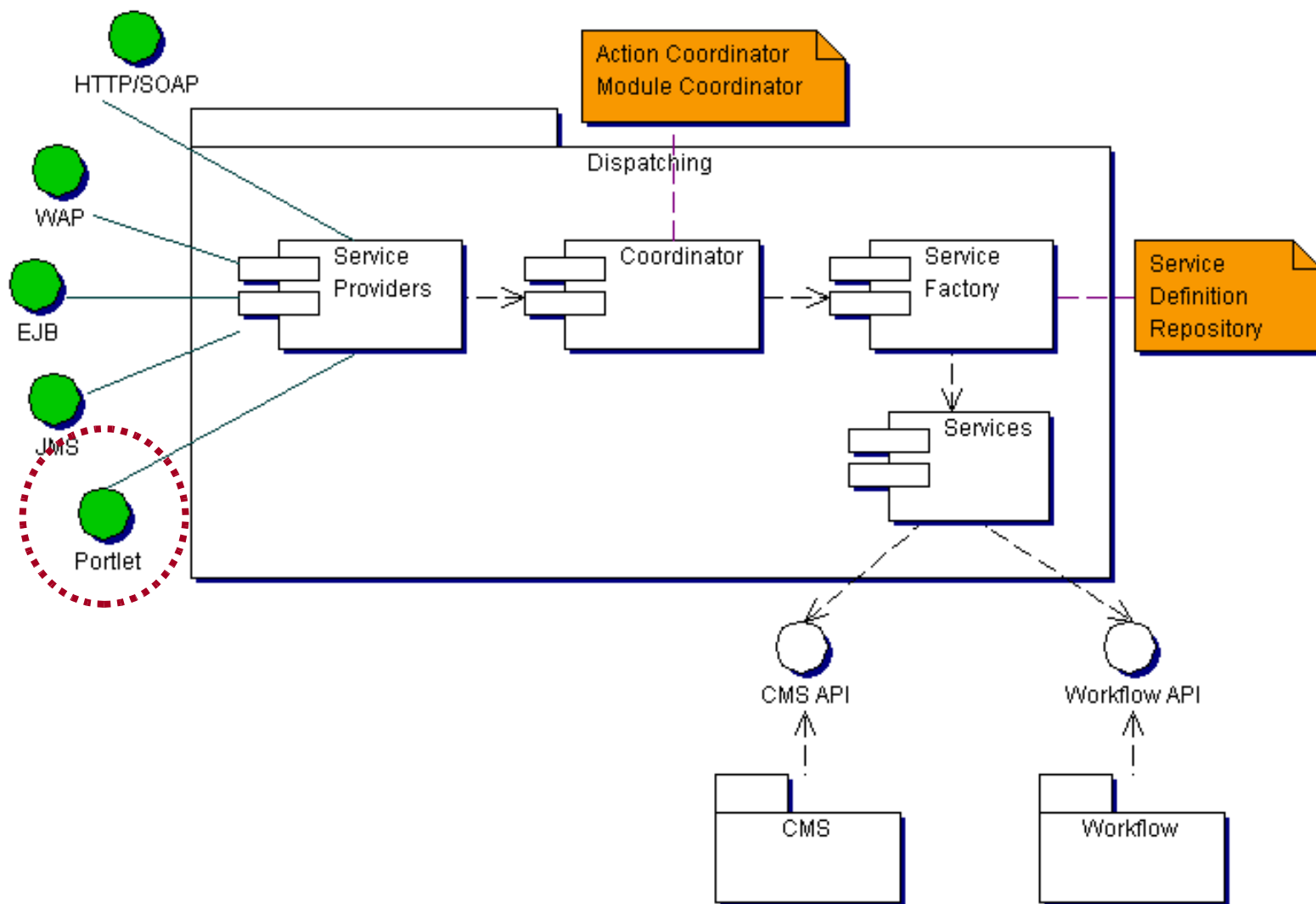


----- NOT DEFINED BY THE PORTLET SPECIFICATION





1. Based on the Spago Adapter Concept
2. Take advantage of Spago core services
(list detail, navigation)
3. Reuse all business logic coded in
existing Spago Applications
4. Only frontends (JSP) needs change



1. Portlets renders HTML FRAGMENTS

- `<HTML>`, `<HEAD>`, `<BODY>`,
`<FRAME>`, `<FRAMESET>`, `<TITLE>` must
not be used

2. Must include define objects directive:

- `<portlet:defineObjects/>`

3. Use POST method for forms.

1. PortletURLs

- “Portlets must create portlet URLs using PortletURL objects.” (JSR 168)

- `PortletURL url = renderResponse.createActionURL();`
- `PortletURL url = renderResponse.createRenderURL();`

2. Use JSR 168 CSS styles definitions

- Ensure uniform styles in portals, and portability

1. Access to static resources

```
<!-- Stylesheet-->
```

```
<LINK rel='StyleSheet'  
      href='<%=renderResponse.encodeURL(renderRequest.getContextPath()  
      + "/css/table.css")%>'  
      type='text/css' />
```

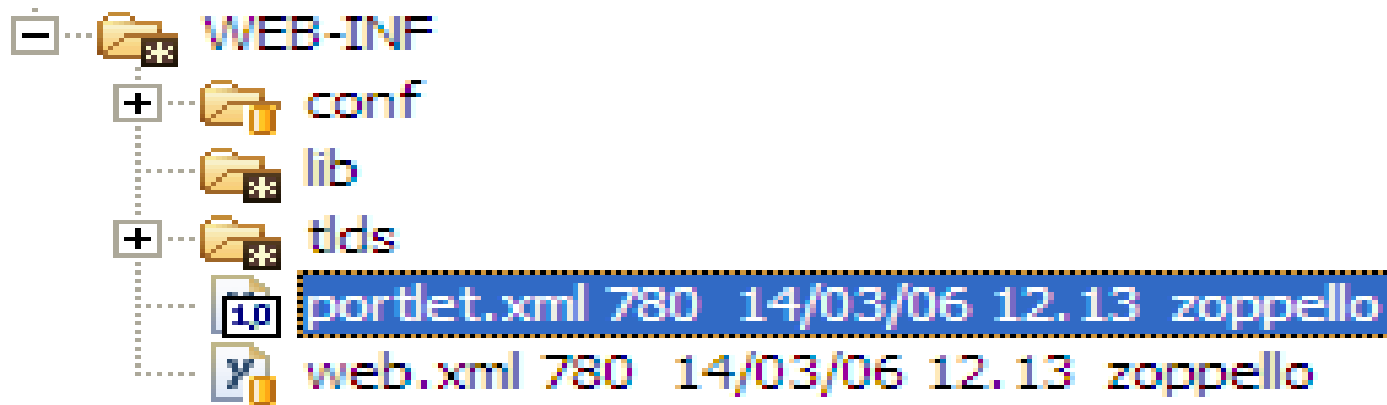
```
<!-- Images -->
```

```
<IMG class='imgclass'  
      title='imgtitle'  
      src='<%= renderResponse.encodeURL(renderRequest.getContextPath()  
      + "/img/save.png")%>'  
      alt='imgalt' />
```

```
<!-- Javascript -->
```

```
<SCRIPT language='JavaScript'  
      src='"+renderResponse.encodeURL(renderRequest.getContextPath() +  
      "/js/MyScript.js" )+"'></SCRIPT>
```

1. A Typical Web Application (war)
2. ... with the addition of portlet deployment descriptor (portlet.xml)



3. Portal Servers specific configuration

1. It has to be called portlet.xml (JSR 168)
2. Structure defined by JSR 168
3. Contains
 - Portlet Application Definition
 - Portlets Definition