

Architecting the Web Layer: Putting your JSP and Servlets together

O'Reilly Conference on Java
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Santa Clara, California

This was an informal BOF with plenty of audience participation. Thanks to everybody who came

Architecting the Web Layer: Putting your JSP and Servlets together

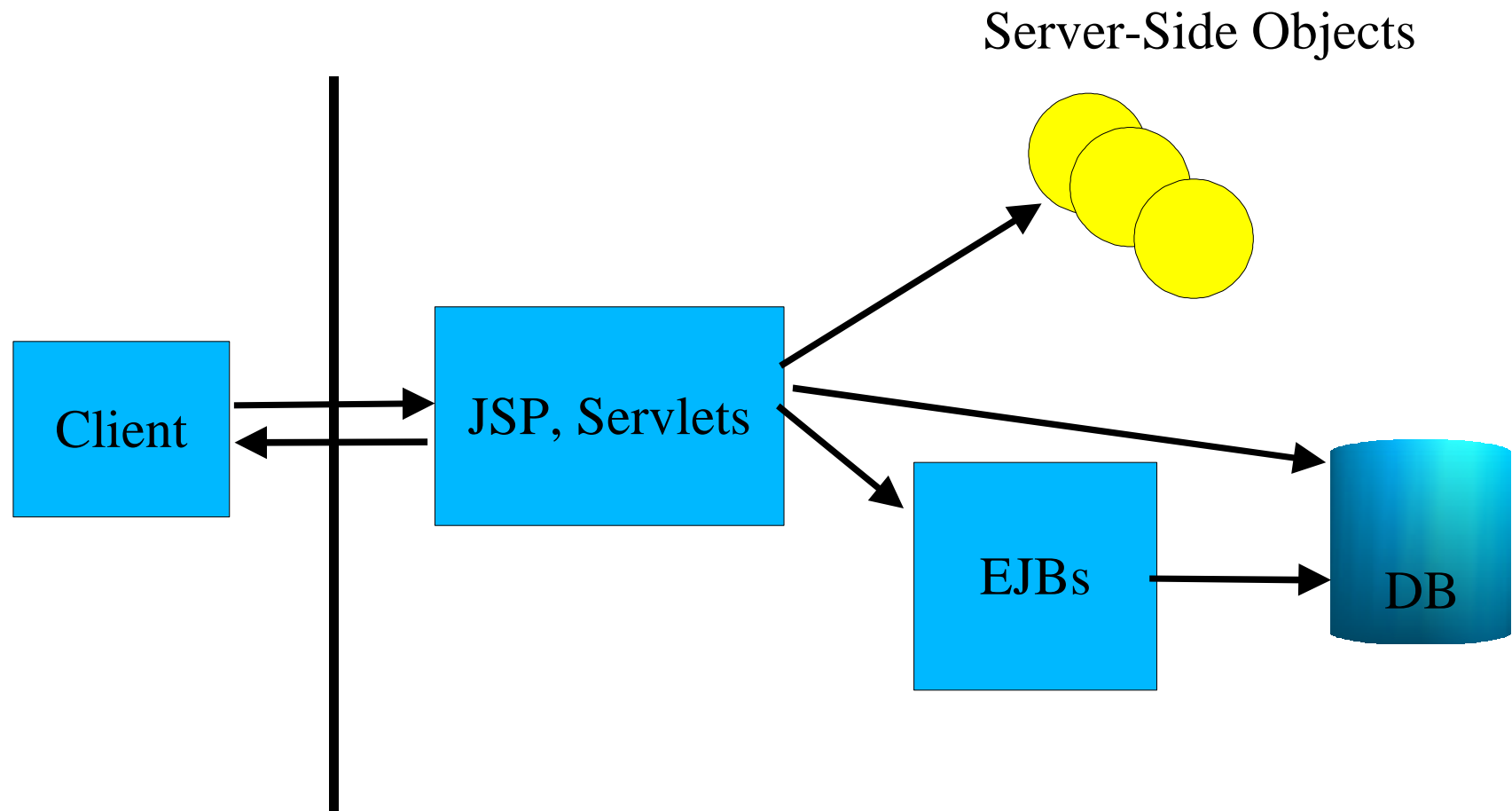
- " Danny Coward - Servlet spec lead
- " Craig McClanahan - Tomcat lead
- " Eduardo Pelegri-Llopart - JSP spec lead
- " You!

Outline

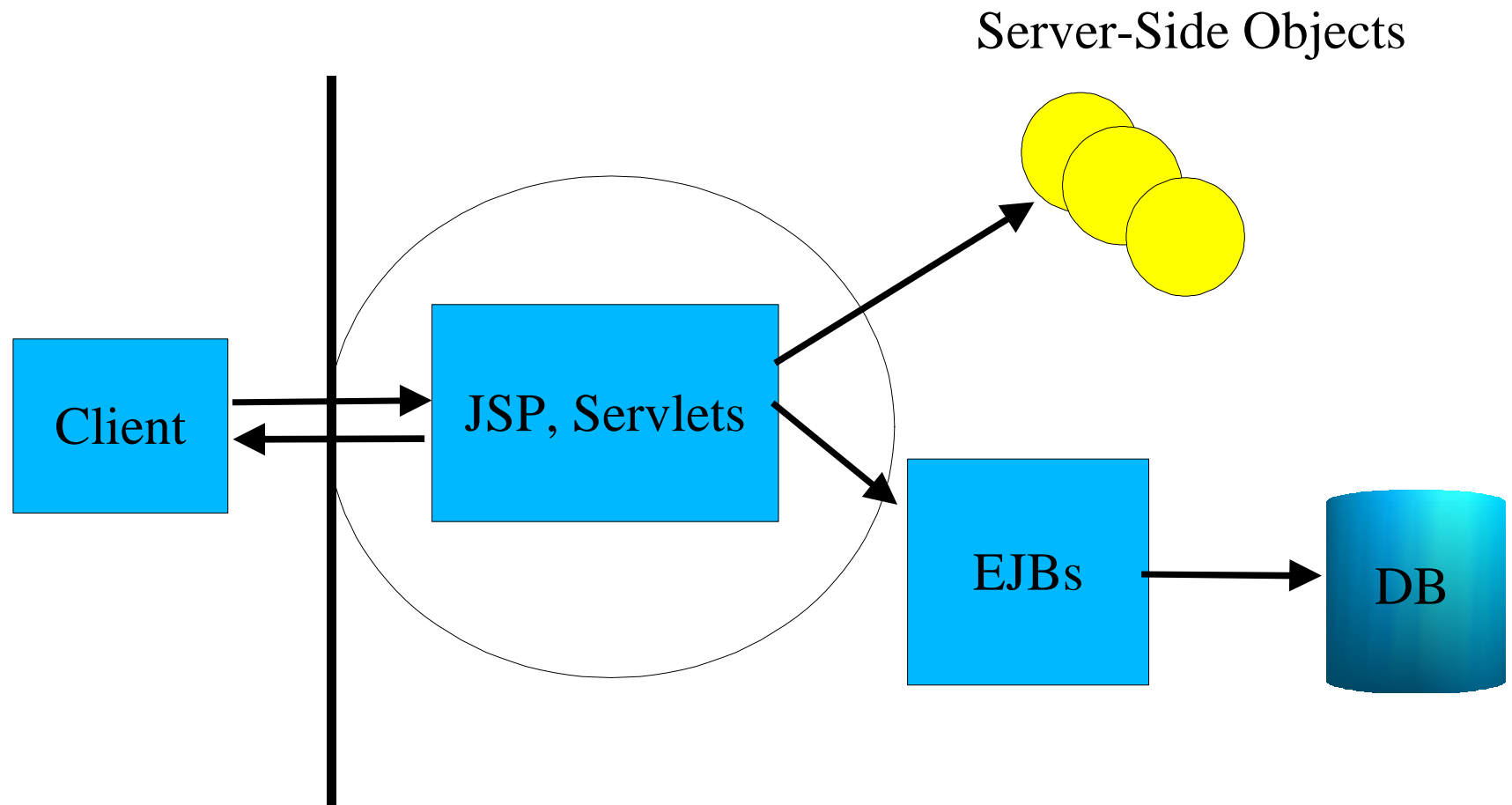
- “ One go around
- “ One round of follow-ups
- “ Audience participation
- “ Wrap-up

- “ JSP-interest@java.sun.com
- “ Servlet-interest@java.sun.com
- “ <http://archives.java.sun.com>

Big Picture



Big Picture



Java Servlets

- “ **Java Components that extend HTTP Server**
 - Generation of dynamic content
- “ **Managed by a Container**
- “ **Loaded on Demand**
- “ **Unloaded at Any Time**
- “ **Mapped to URLs**
- “ **Important abstractions**
 - Request, Response, Servlet Context, Sessions

JavaServer Pages

- “ **Builds on Servlets:**
 - “Inside-Out” Servlets
- “ **Benefits:**
 - Easier to Author
 - Easier for Tools (J2EE standard)
 - Designer-serviceable part
- “ **Exploits:**
 - Server-Side Scripting
 - Templates
 - Encapsulation of Functionality

Roles in Organizations

" **Developer**

- Writes Code
- Efficiency, Data Integrity, etc...

" **Author**

- Writes Pages
- Usability, Clarity, etc...

" **Tag Libraries**

- Encapsulation of knowledge for Authors

What Is Industry Doing?

" **Developer Tools**

- Servlet Development
- Tag Library Development

" **Authoring Tools**

- Page Creation
- Site Creation / Management

" **Containers**

- JSP/Servlet Containers
- J2EE Containers

Tools

(partial - all disclaimers apply)

" **Developer-Centered Tools**

- Visual Cafe, Visual Age, Forte for Java, JBuilder, Jdeveloper...

" **Author-Centered Tools**

- Adobe GoLive, WebSphere Studio, NetObjects Authoring Server, WebGain Studio, Macromedia Drumbeat 2000...

" **Platforms**

- A bunch; some with their own integration

Typical Product Family

" **Base Development Tools**

- Forte for Java, Community Edition
- Basic Development
- Free, ubiquity, many are Open Source.

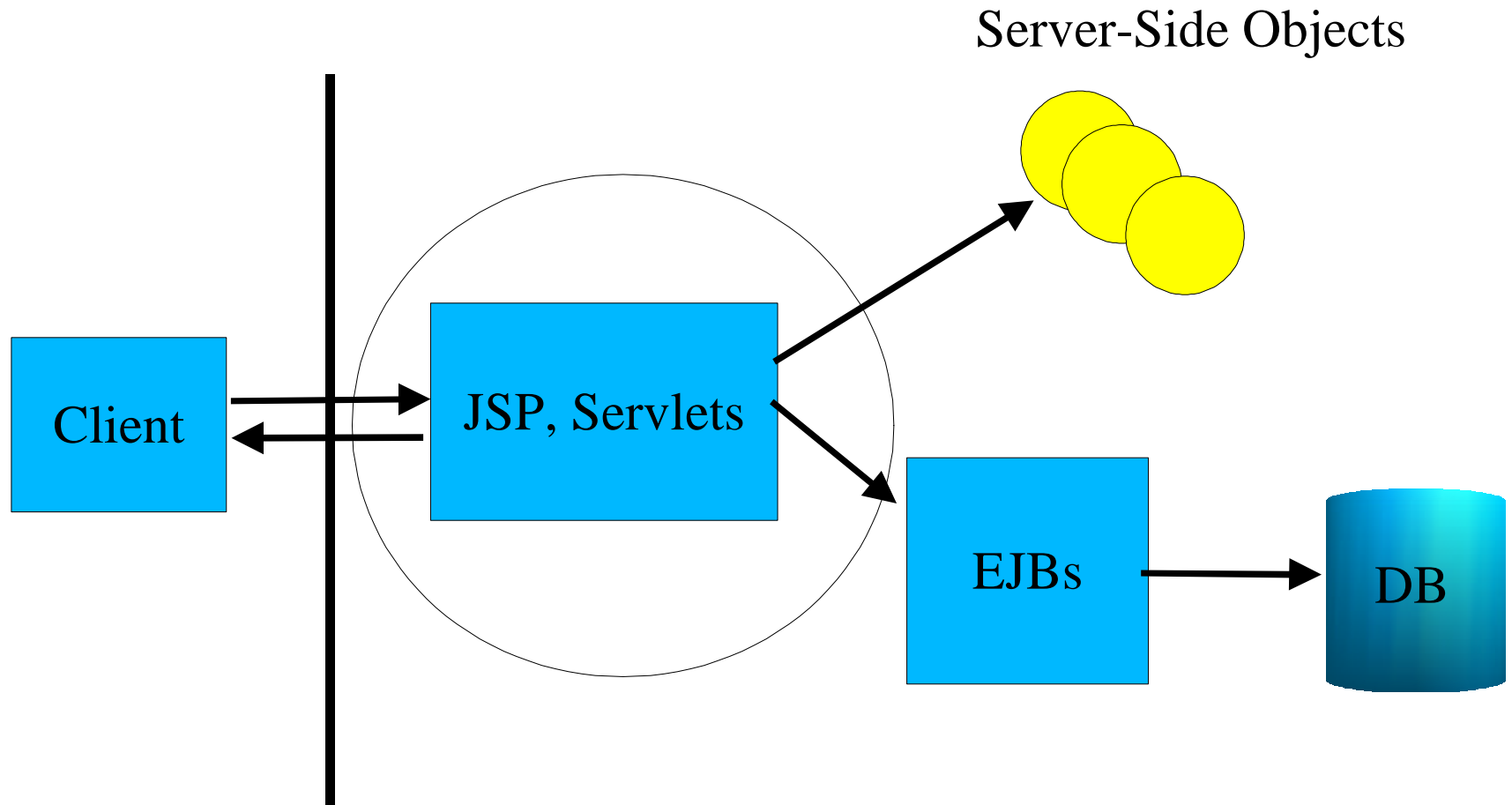
" **Web Layer Tool**

- Forte for Java, Internet Edition
- JSP/Servlets, includes tag libraries
- Ubiquity / Some Income generation

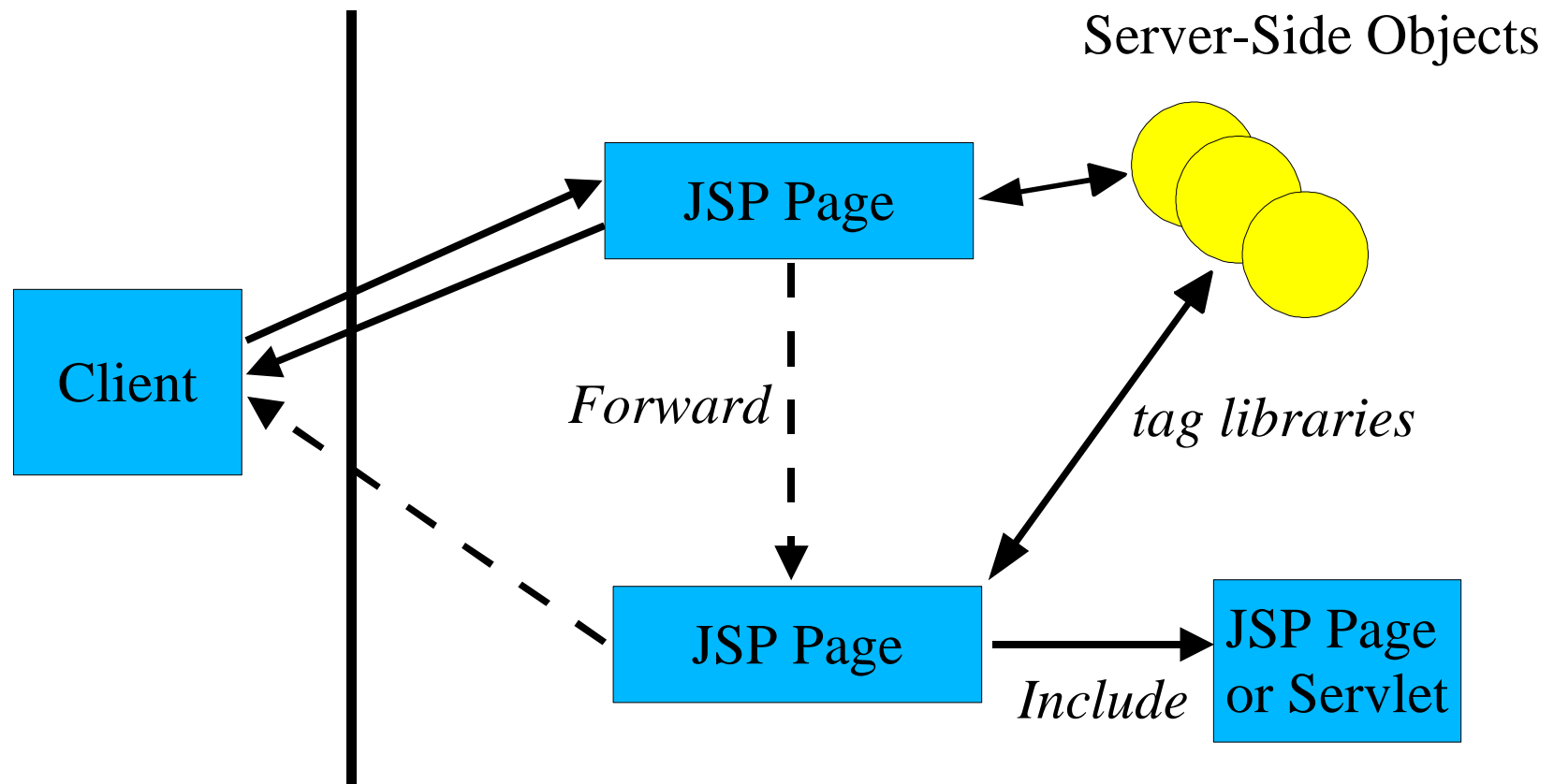
" **Enterprise Tool**

- Forte for Java, Enterprise Edition
- J2EE, Content Management, taglib creation
- Income

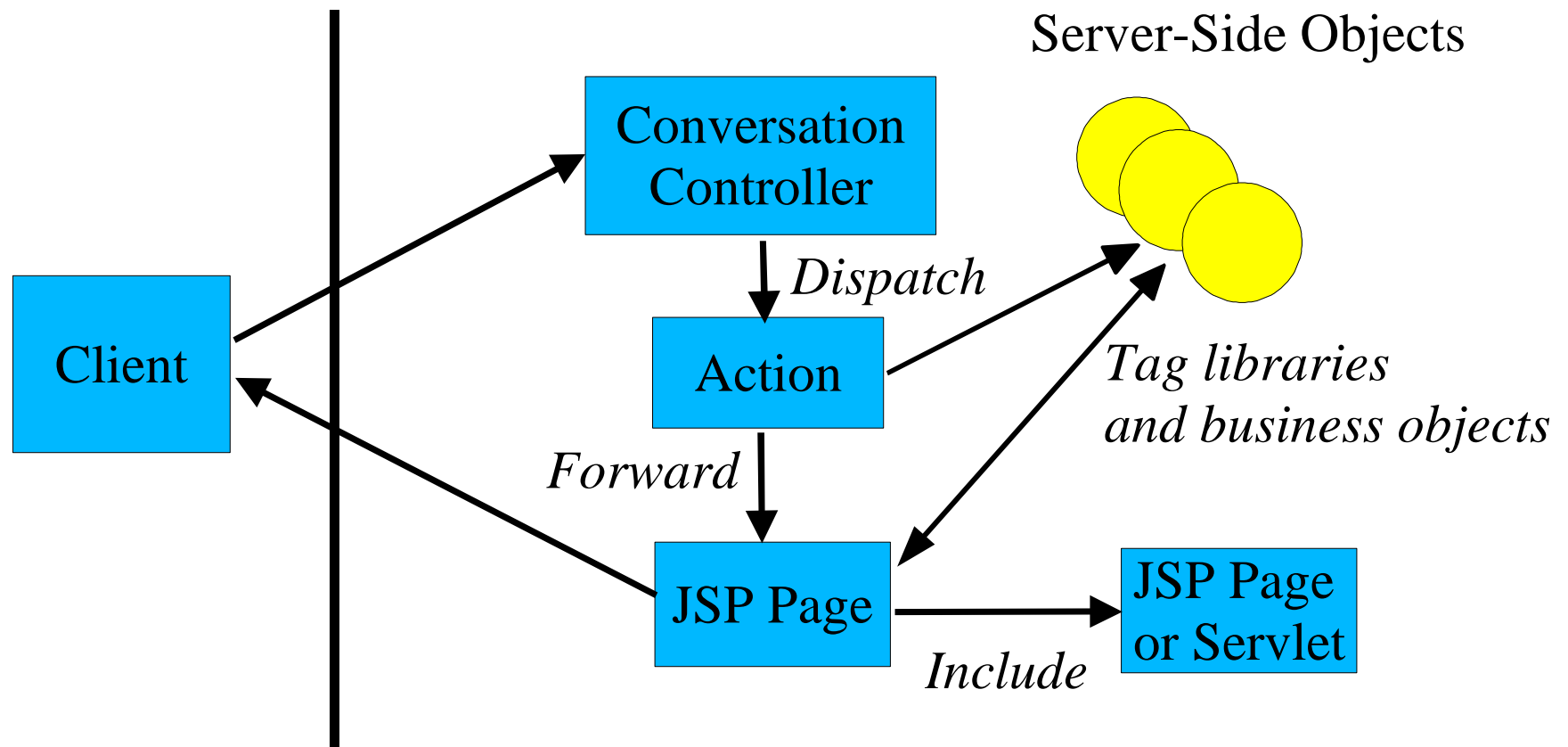
"Big Picture"



Integrated Presentation and Business Logic (aka Model-1)



Separate Presentation and Business Logic (aka Model-2)

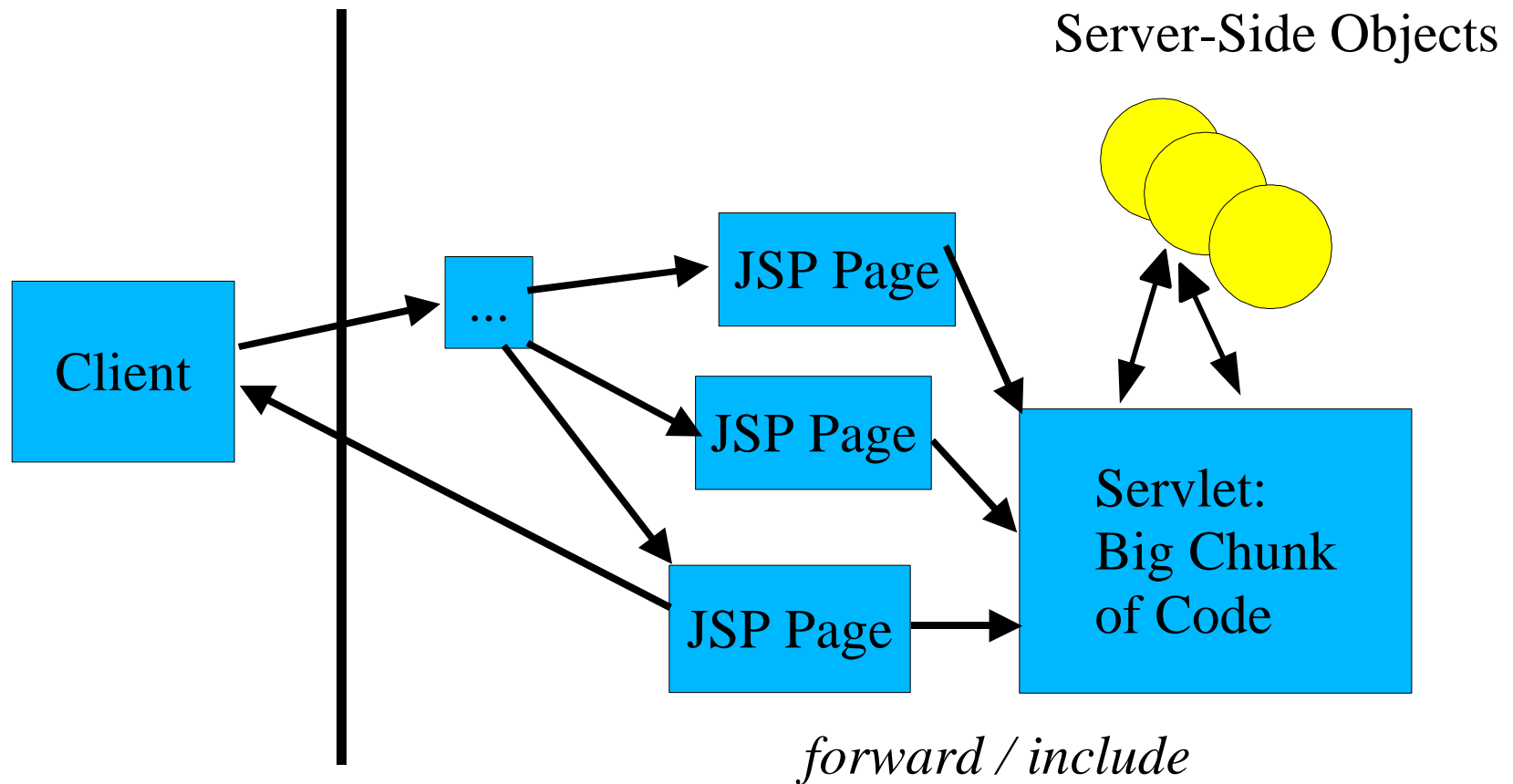


Describing Conversation Control

- " All embedded into a Servlet code
 - if ... else if ... else if ...
- " Unchanged Transition Engine + Description
 - transitions in XML data (known to authoring tool?)
 - transitions embedded into URI
- " Action may be in Action Class
 - look up action class based on request URI
 - Embedded into a JSP Page as tags or perhaps code

JSP as front-end to Servlet

“ E.g. PerceptualRobotics



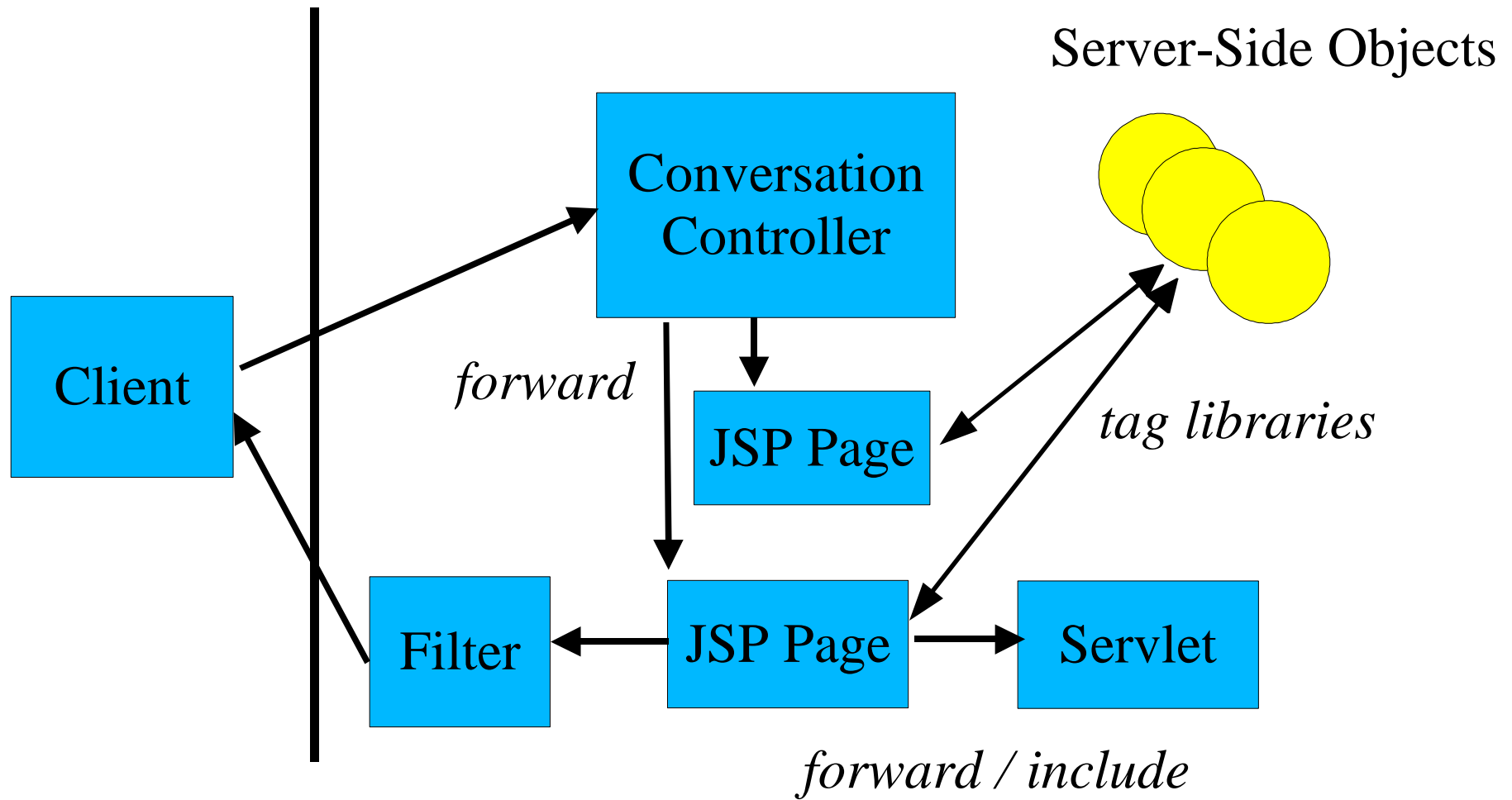
Embedded Code & Tag Libraries

- " Code in JSP page
 - "Drop in there"
 - Developer
 - Hard for tools
- " Tag Library in Page
 - More limited
 - Authors
 - Easier for tools
- " Most vendors are providing some tag library
- " Jakarta-taglibs
- " www.jsptags.com
- " Standard Tag Library (JSR-052)

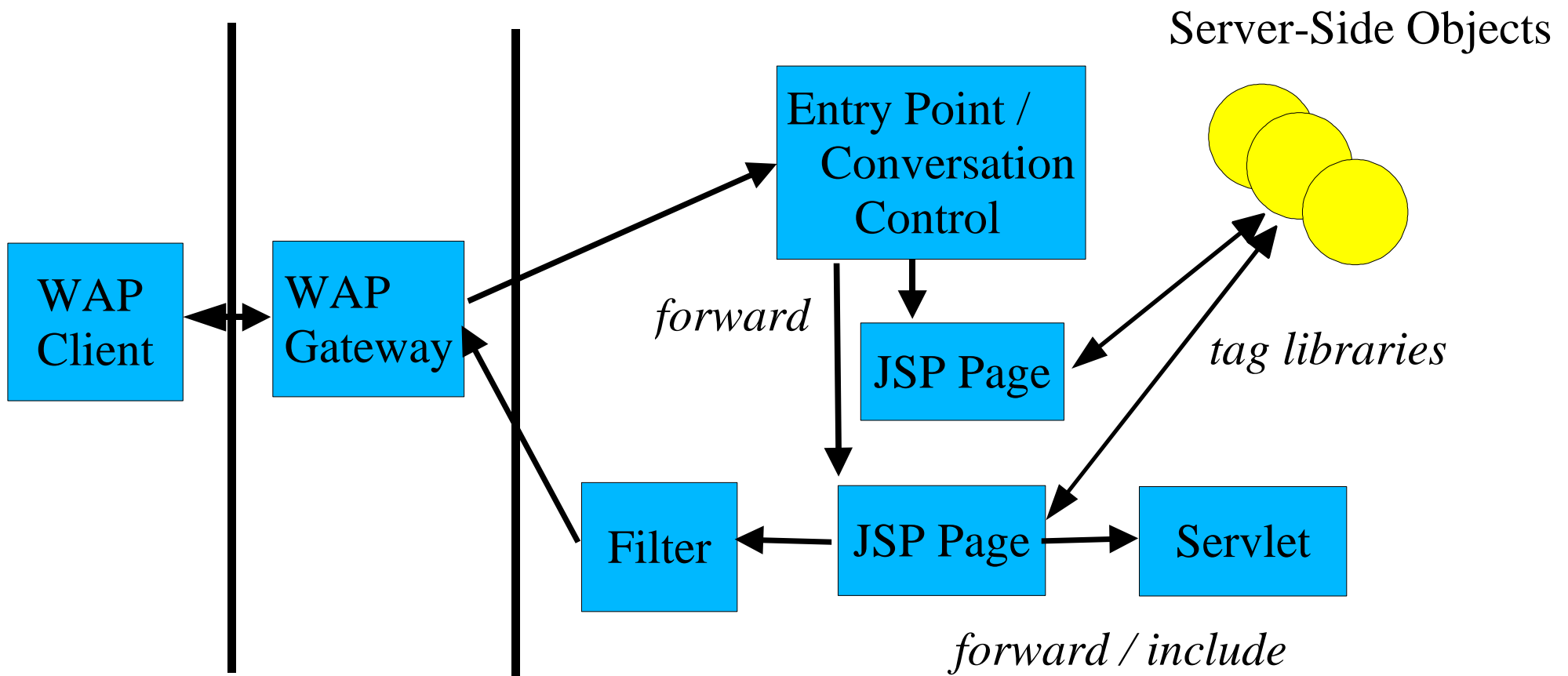
Data Conversion Pipelines

- " Data:
 - DB or other sources
 - EJB
- " Web Components
 - Merging data from different sources
 - Conversions to 'XML-flavor' formats
- " Applying filters on the way out/way in
 - Transcoders depending on client / Separate Paths
 - XSLT is current buzzword

Output Filter



WAP and VoiceXML gateways



Manipulating Structured Content (XML)

- " Write XML directly into JSP
- " Use tag libraries
 - For Xinclude, XSLT application
- " But still stream of characters; can do better.
- " Learning from other efforts:
 - Cocoon
 - XQL Pages

Audience Participation

Resources

- " <http://java.sun.com/products/jsp>
- " <http://java.sun.com/products/servlet>
- " <http://archives.java.sun.com>

- " jsp-interest@java.sun.com
- " servlet-interest@java.sun.com
- " webjava-announce@java.sun.com - tbd
- " webjava-wireless@java.sun.com
- " webjava-advanced@java.sun.com - tbd