

Multi-Client Development with JSF and ADF Faces

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Oracle JDeveloper - JSF & ADF Faces

Agenda

- JSF Introduction
 - Why JSF
 - Architecture
 - JSF Technology
- JSF and Oracle
 - JDeveloper
 - ADF Faces
 - Future

What is JavaServer Faces?

- Standard J2EE Web UI framework
- Developed through Java Community Process (JCP) as JSR-127, JSR-252
- Nickname: Faces
- Started: May 2001
- First release: March 2004
- Oracle is a primary contributor

Role of Faces

- Focus on components, not markup
- Automatic event and state handling
- Designed to be leveraged by tools

Goal is to simplify J2EE web
application development

Evolution of J2EE web tier

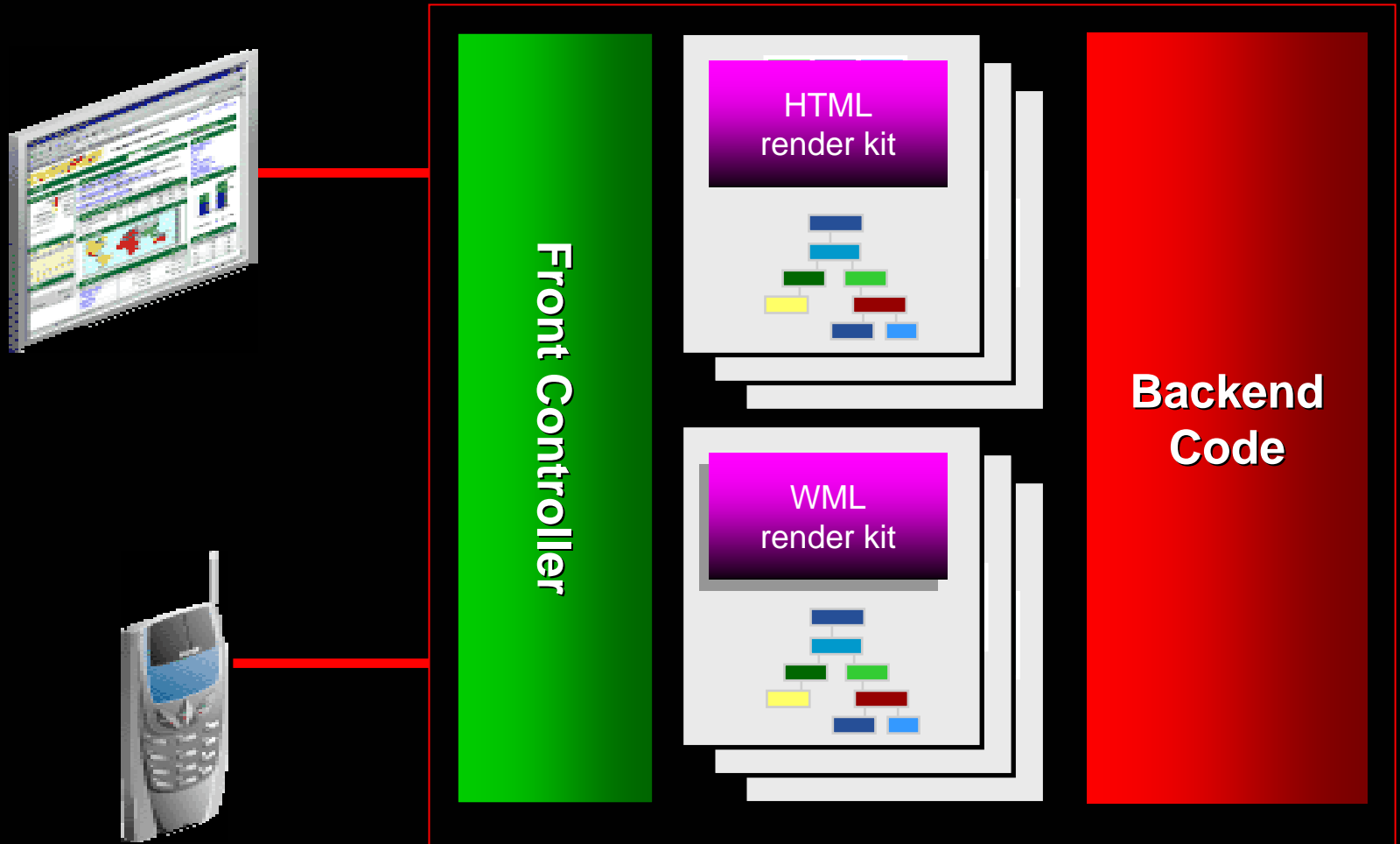


- Each is built on the previous layer
- Progressive levels of abstraction
- Higher level programming

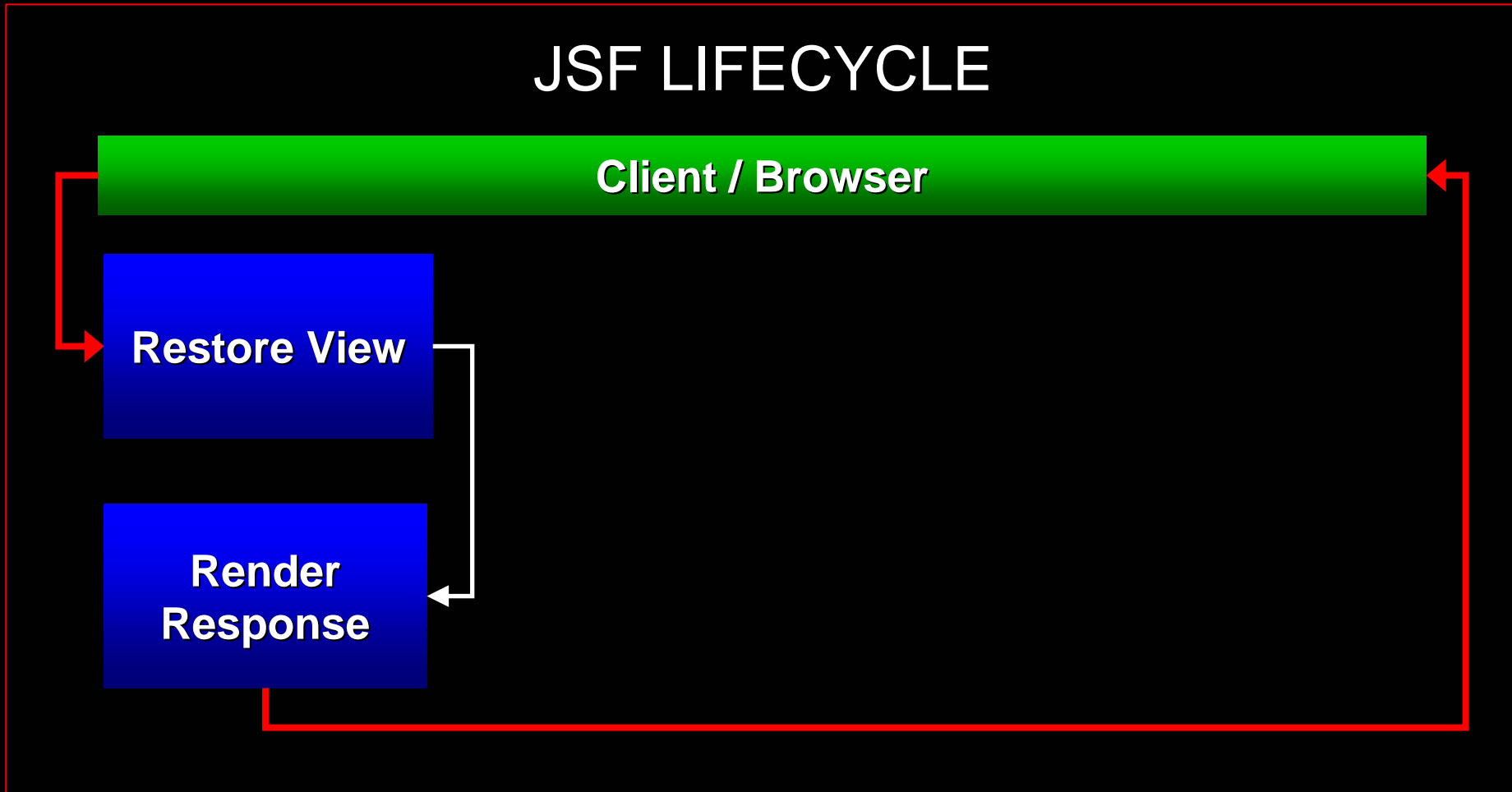
JSF Architecture

- Abstracts away from HTTP
 - Developers don't need to understand request-response cycle
- Abstracts away from HTML
 - Developers work with components, not markup
 - Developers don't need to decode requests

JSF Architecture

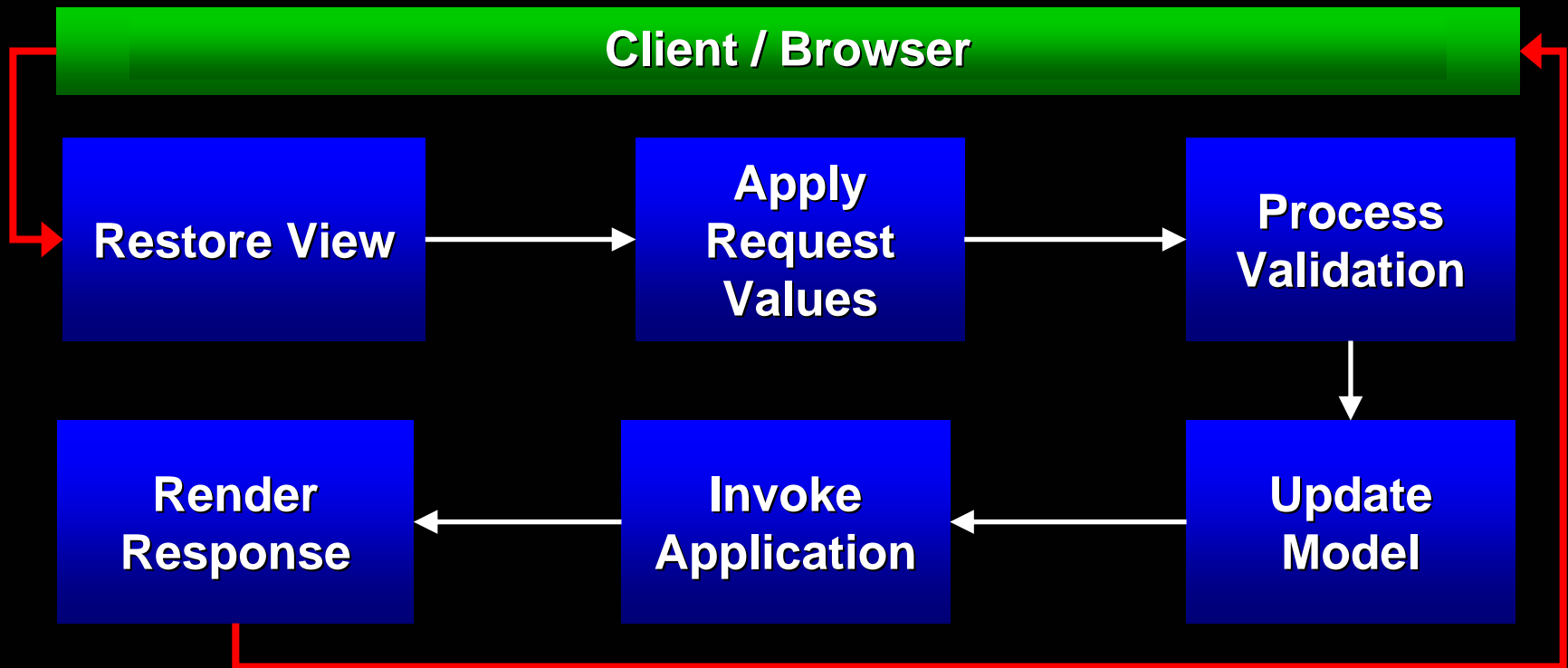


Formal Phases – Initial Request



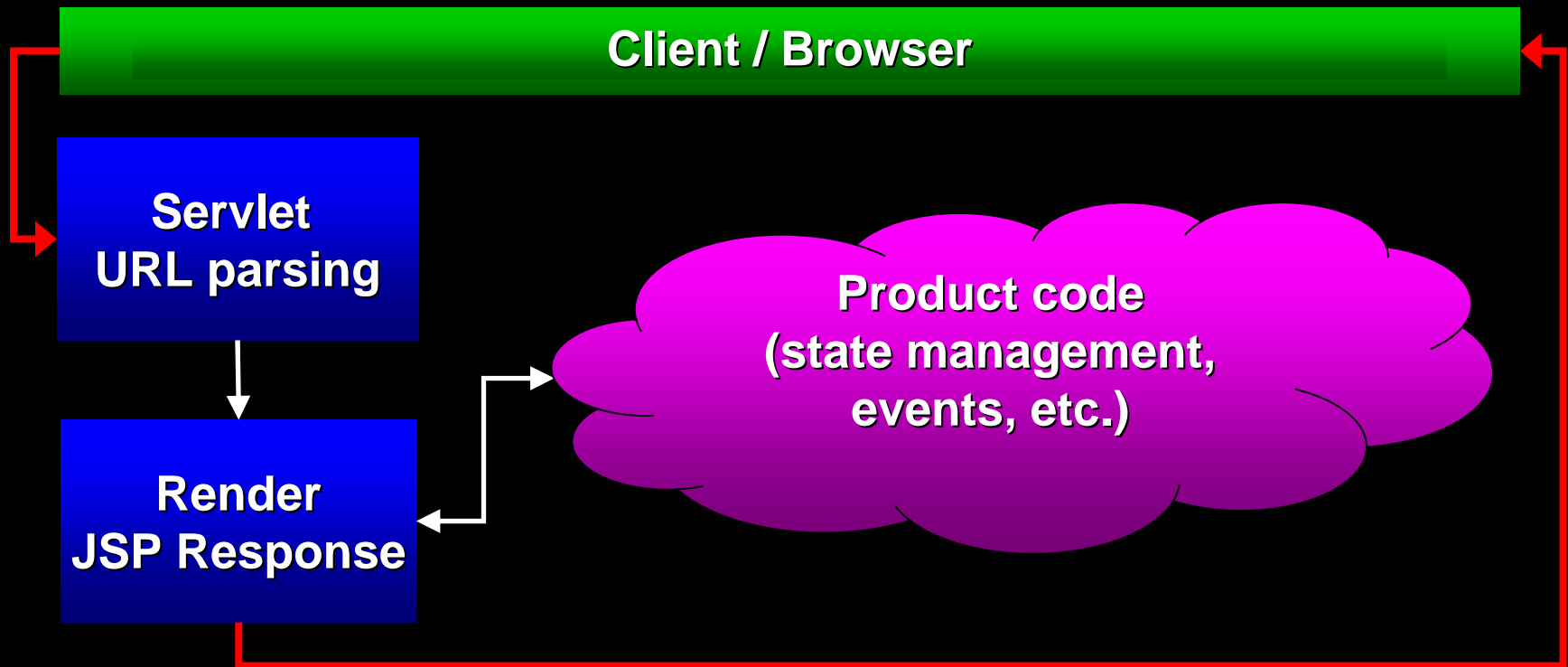
Formal Phases - Postback

JSF LIFECYCLE



Formal Phases (cont.) - JSP

JSP LIFECYCLE



JavaServer Faces and JSP

- JSF is specified to support JSP
 - But need not always utilize it
 - Can build your own ViewHandler
- JSF JSP support comes with a set of Base UI Component libraries
 - Core – For application tasks
 - Validation, Datatype conversion
 - HTML – For rendering basic HTML
 - Input fields, menus, tables button

JSF vs. Traditional JSP

	JSP	JSF
Developer	Lower Level	Ease of Development
Events	Http Requests	Java
UI	Markup	UI Components
Product	Pages	Applications

JSF Components

- Basic building blocks of a JSF application
- Simple to complex UI components from a button to a complete page
- Uses Value Binding to associate Model objects
- Fully Extendable
- Components include “Helper objects”
 - Validators, Converters, PhaseListeners...

JSF Components

The term “JSF Component” generally consists of:

- UIComponent
 - Functionality, definition, or behavior
- Renderer
 - Handle client side markup
 - Bundled in RenderKit
- UI Component Tag Handler (for JSP)
 - Allows usage of JSF component in JSP
 - Associates Renderer with UI Component

JSF Application

A typical JSF application consists of:

- JSP pages
 - With JSF components wrapped as JSP tags
- Navigation Model
 - Defined in the Faces configuration file
- Managed Beans
 - Application logic
- Faces configuration - faces-config.xml

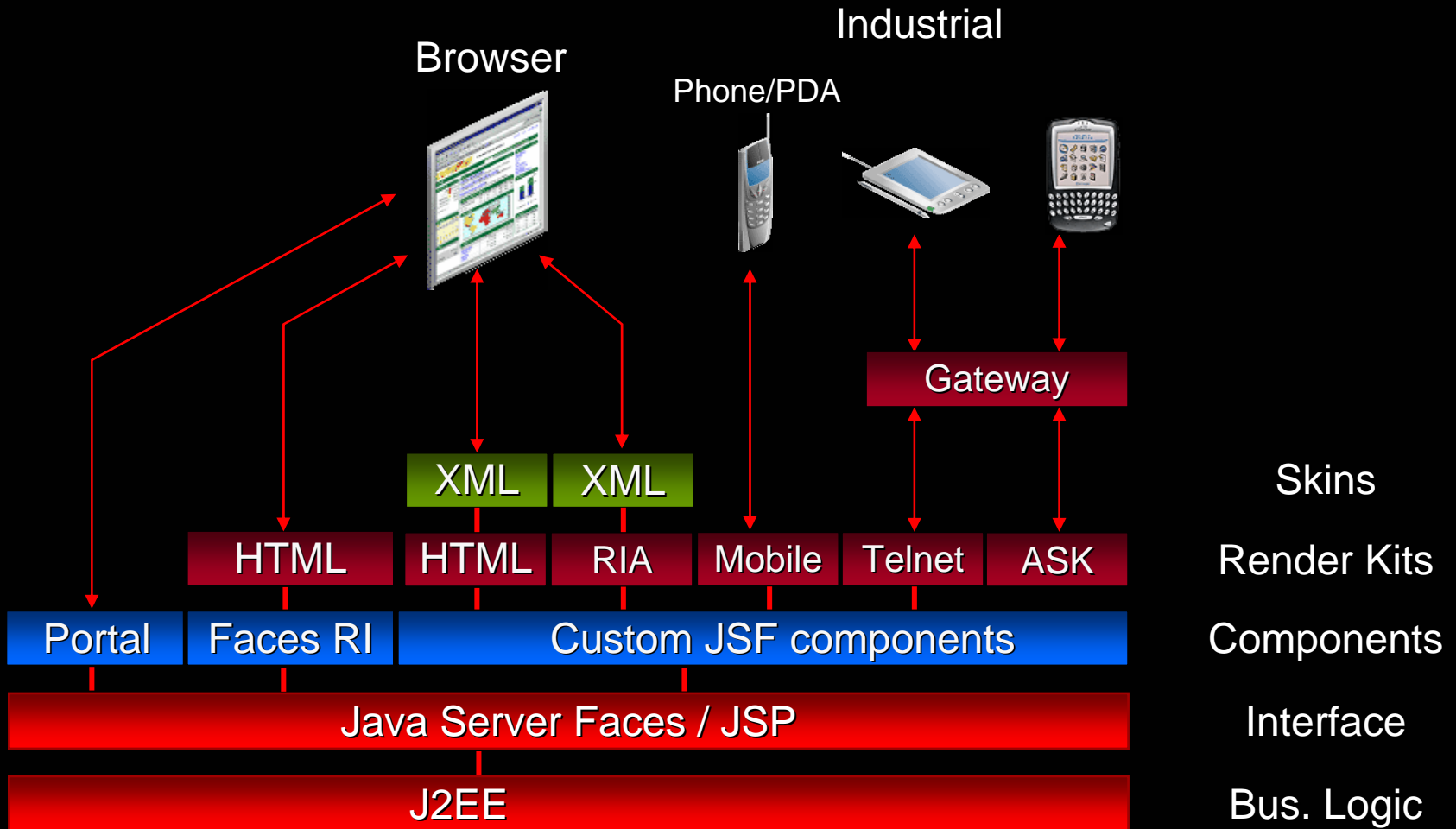
JavaServer Faces - Key Points

- Framework for both Corporate Developers and Component Developers
 - Simple yet fully extendable
- Fundamental unit is the Component
- Built in event and state management
- Component sets can be provided by any vendor
- Closer to Swing or ASP.Net development
- Choice of UI technology
 - Scale up (rich clients)
 - Scale down (mobile devices)

The Top Three

- Component Based model
 - Markup vs. Components
- Consistent Programming Model
 - JSP & Java
- Clear separation of Presentation and Behavior on components

Consistent Programming Model



Demo: JSF potential

Agenda

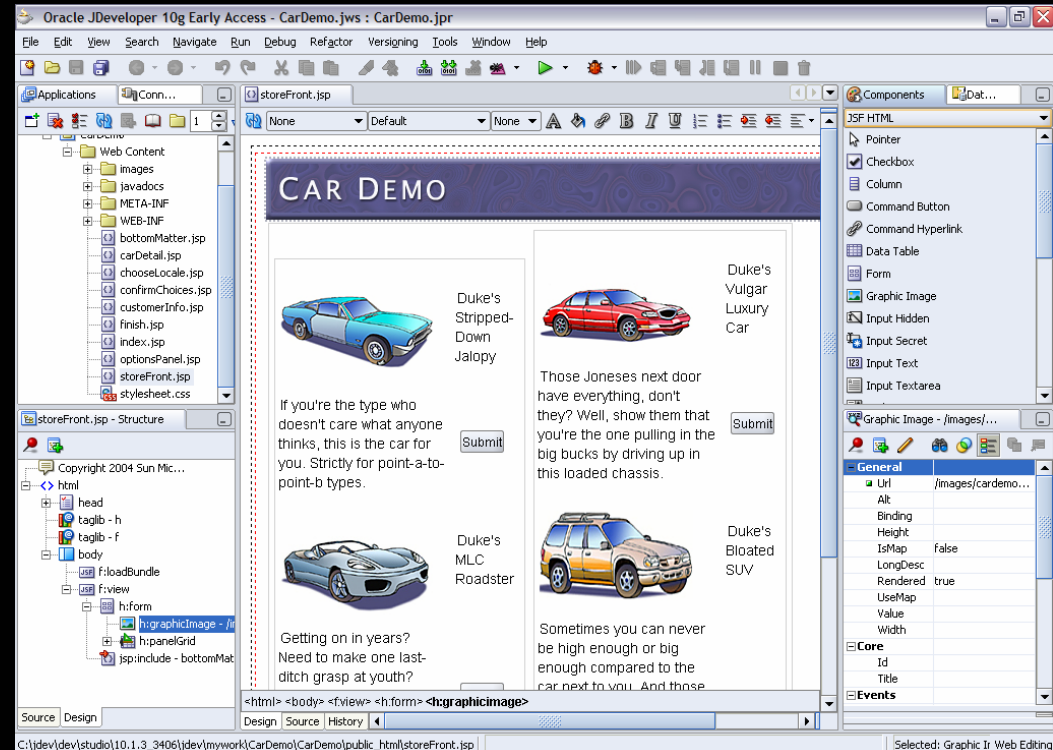
- JSF Introduction
 - Why JSF
 - Architecture
 - JSF Technology
- JSF and Oracle
 - JDeveloper
 - ADF Faces
 - Rich Web Clients

Oracle and JSF

- JSF Development in JDeveloper 10.1.3
 - Complete visual development environment for JSF
- Oracle ADF Faces
 - Oracle's complementary library of JSF Components

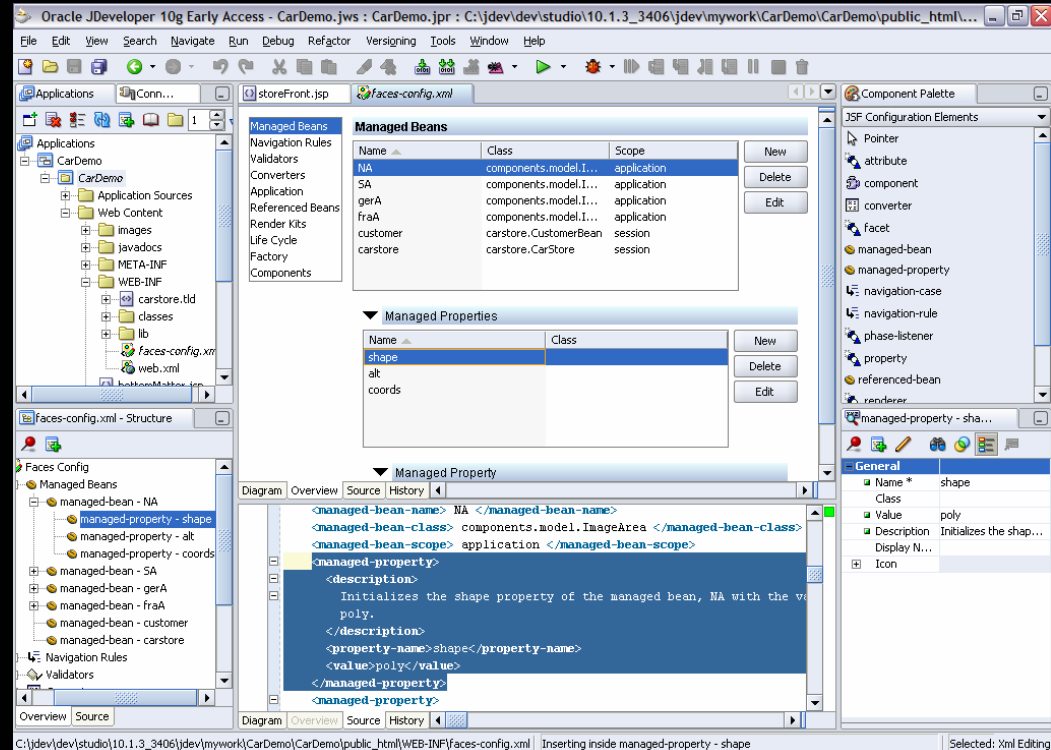
JSF and JDeveloper 10.1.3

- JSF Visual Editing
 - JSF UI Component visual editing
 - Provides backend code generation (double-click)
 - Mobile WYSIWYG



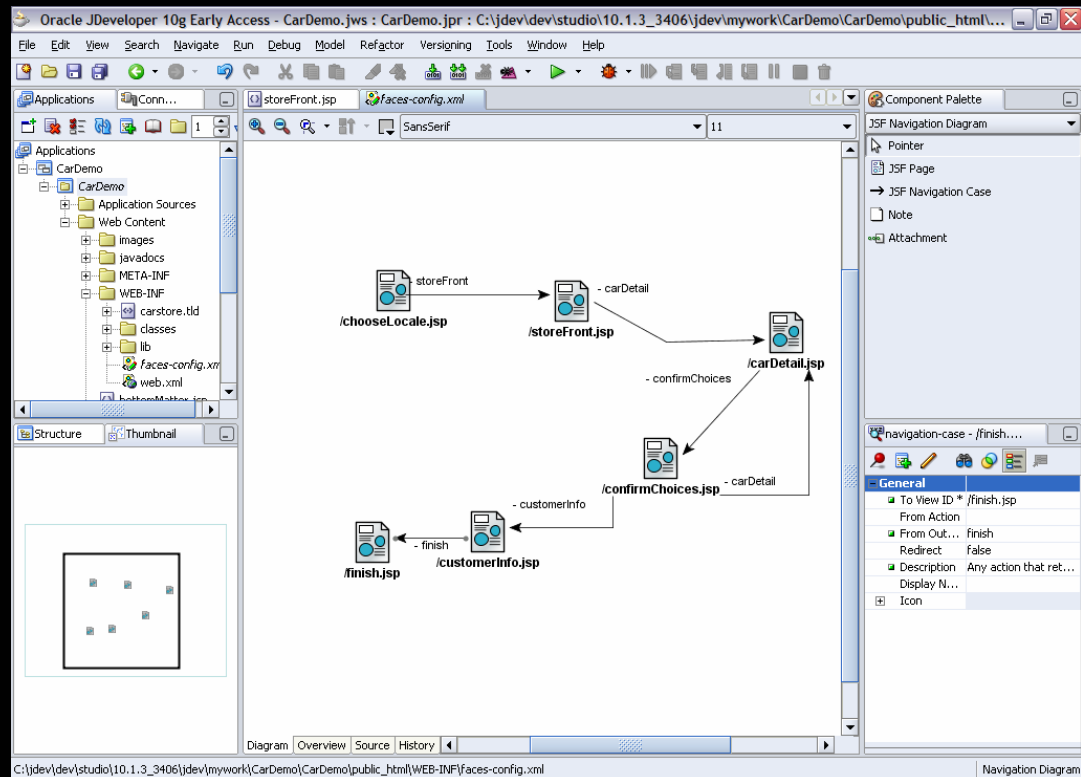
JSF and JDeveloper 10.1.3

- Faces Config Editing Console
 - Console for productive editing of faces-config.xml



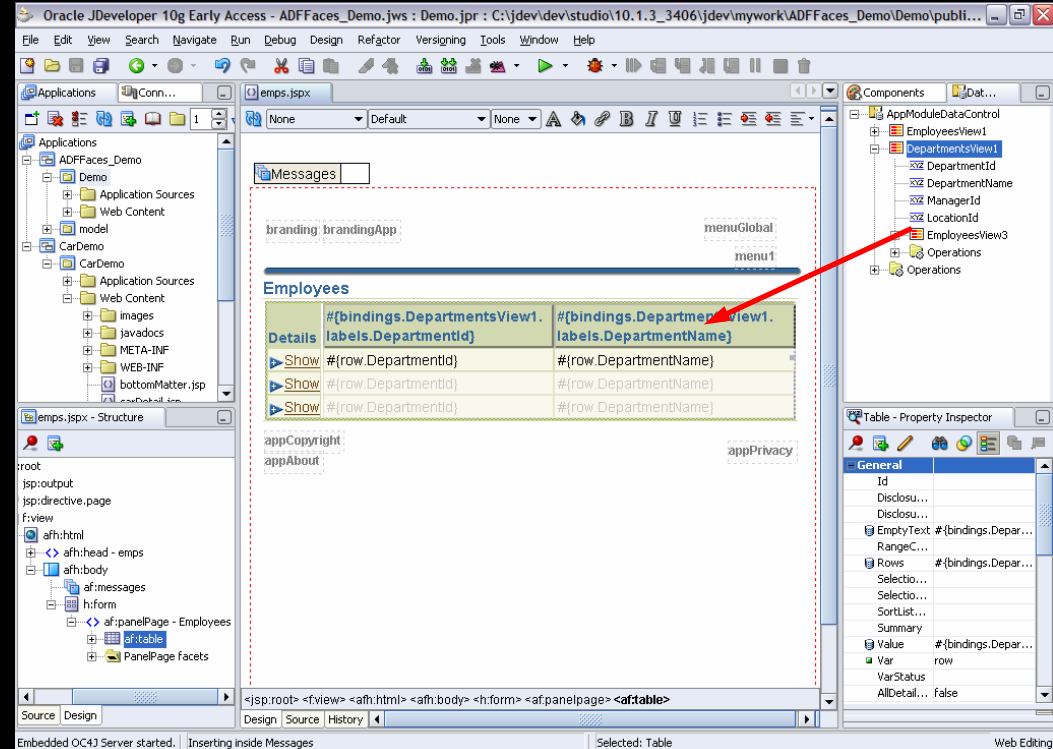
JSF and JDeveloper 10.1.3

- JSF Page Flow
 - Visually design Faces navigation model

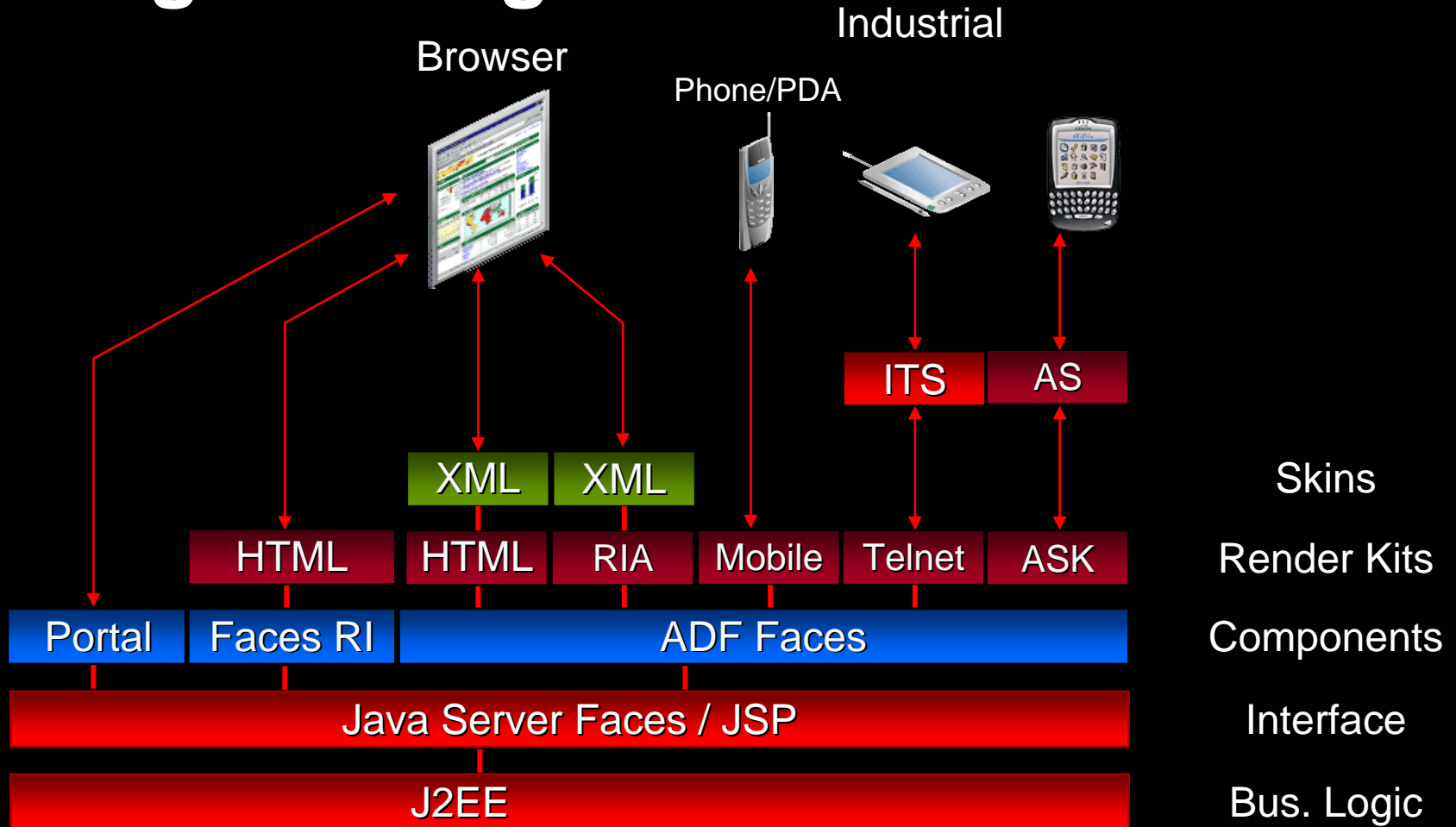


JSF and JDeveloper 10.1.3

- Declarative data binding – JSR 227
 - Drag and drop data binding support



ADF Faces - Consistent Programming Model



Oracle ADF Faces

- A set of standard JSF 1.1 components
- Runs on any compliant implementation of JSF
- Over 100 types of components
- PPR, scrollable and sortable table etc...
- Rich feature set for customizing applications
- ADF model support out-of-the-box
- Look and Feel Customization

ADF Faces Components

- Accessibility and internationalization support across the board
- Framework features e.g. Dialog framework and support for processes

Client-side validation

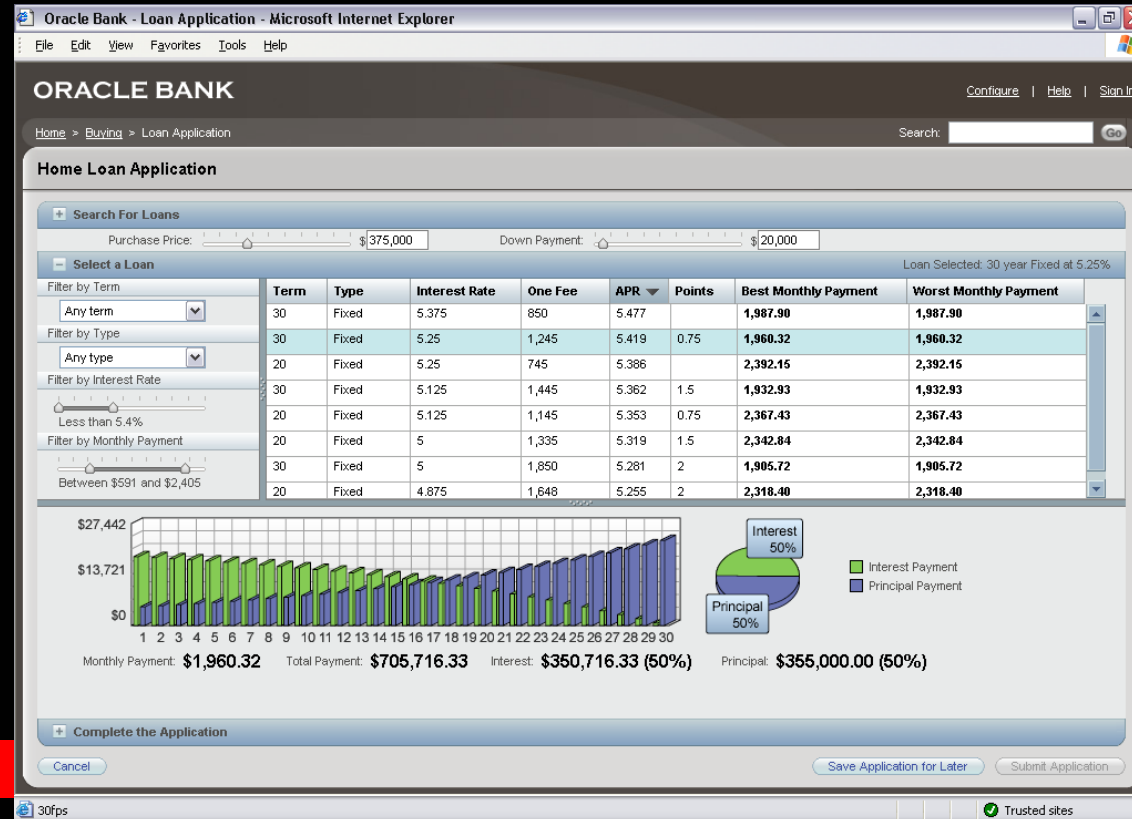
- A major missing feature of JSF
- ADF Faces supports
 - Server- and client-side validation/conversion from the same code
 - Use standard JSF converters and validators
 - (But you have to use our input components)

ADF Faces RIA

- RIA – Rich Internet Application
- A Rich Client combining:
 - Deployment benefits of a Thin Client application
 - Rich interaction of a desktop application

ADF Faces RIA

- Rich Internet JSF components
- Leveraging “Ajax” technologies
- JSF components with live updates in the Browser
- Popup menus, Trees, Splitters etc...



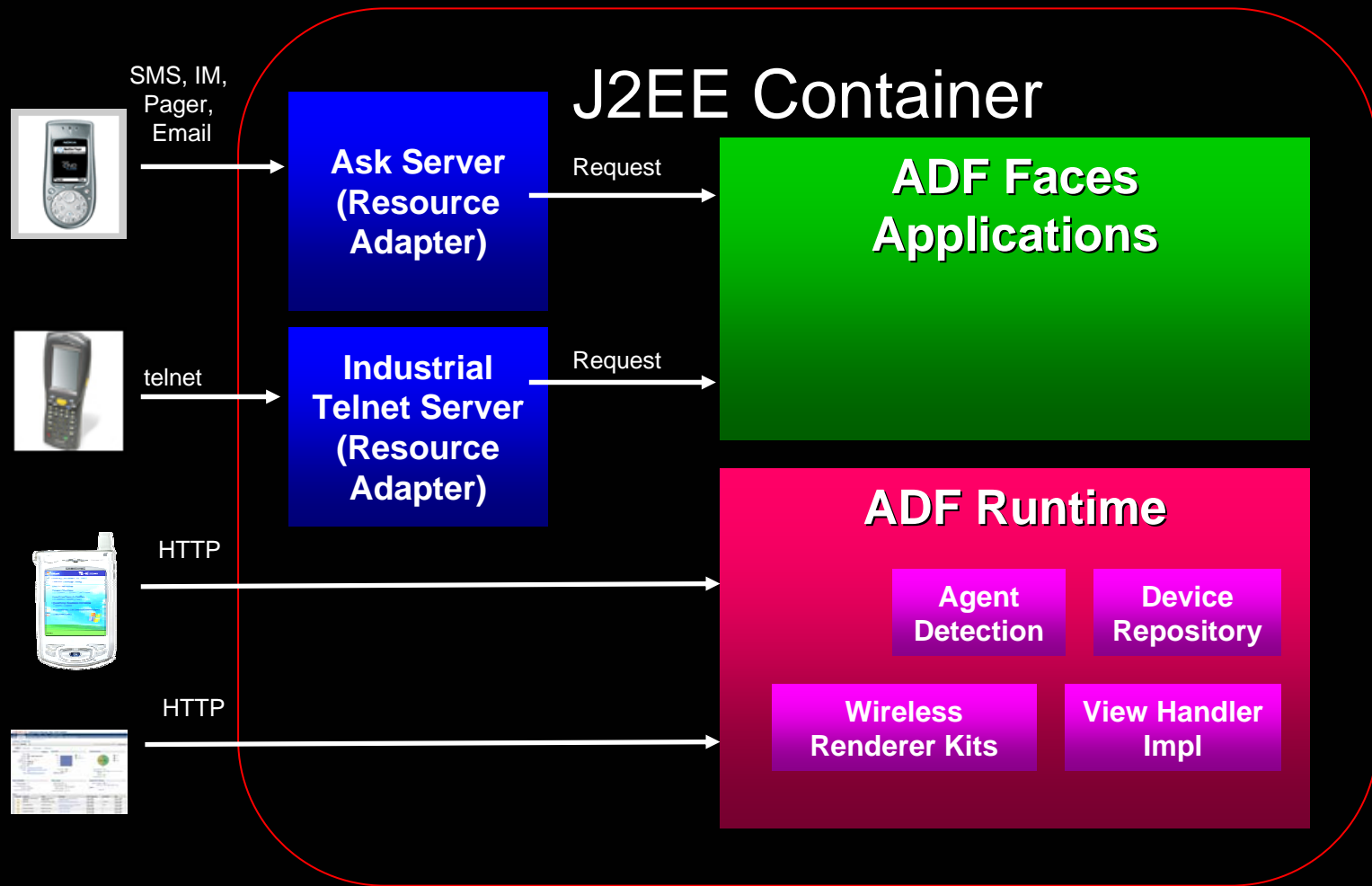
ADF Faces Mobile: Supported Devices

- Currently certified platforms
 - Windows Mobile 2003 (Pocket PC)
 - Palm Web Browser 3.0
 - Access NetFront 3.0/3.1
- Minimum browser requirements for other platforms
 - HTML 4.0
 - JavaScript 1.1
 - CSS Level 2

PDA Support- Future Direction

- Certification of more device platforms
 - Opera browser
 - Blazer
 - Blackberry
 - iMode
- Mobile Rich Client renderers
- Device Peripheral Integration Framework
 - Magnetic Swipe Cards
 - Barcode readers
 - RFID readers/writers

ADF Faces Mobile Architecture

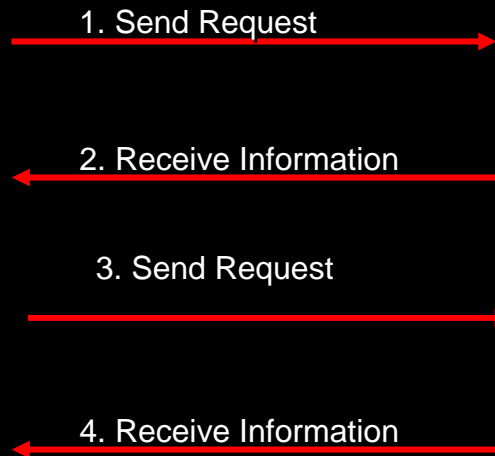
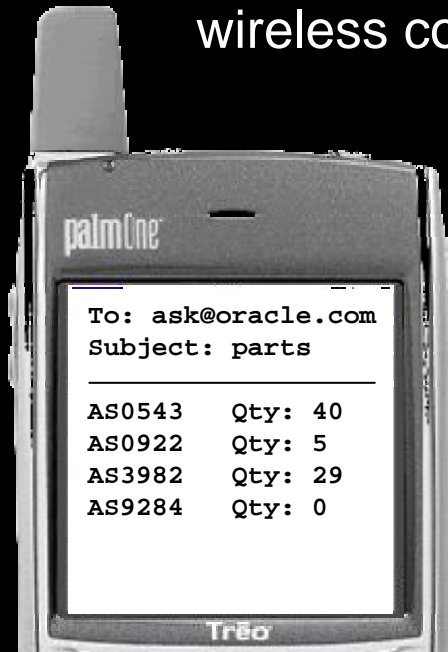


ADF Faces Mobile - Telnet Support

- ADF Telnet Render Kit provides:
 - ~ 35 core ADF Faces components
- Configuration
 - ITS configured with an “entry point” URI of the first page of the JSF application.

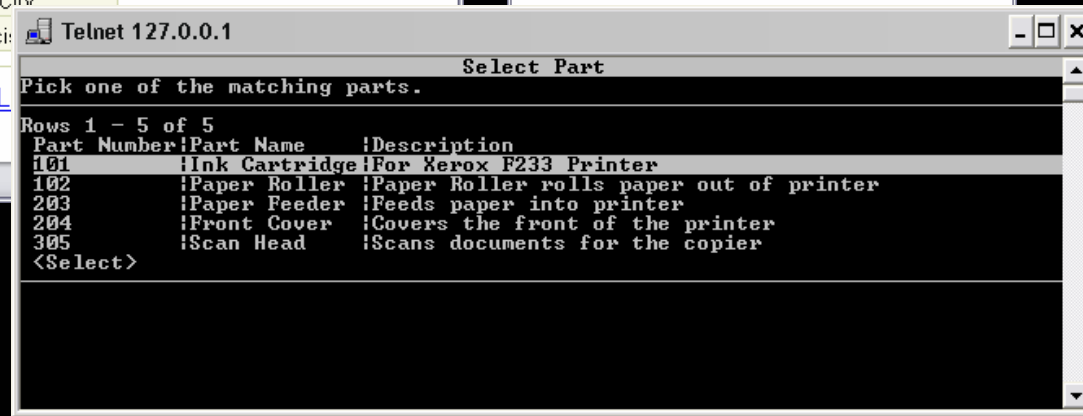
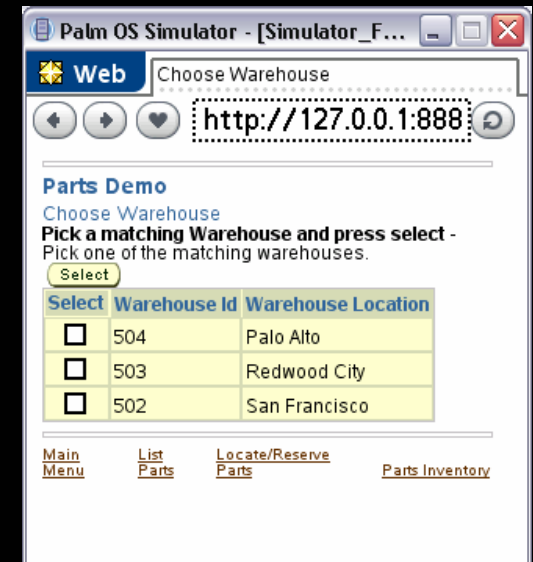
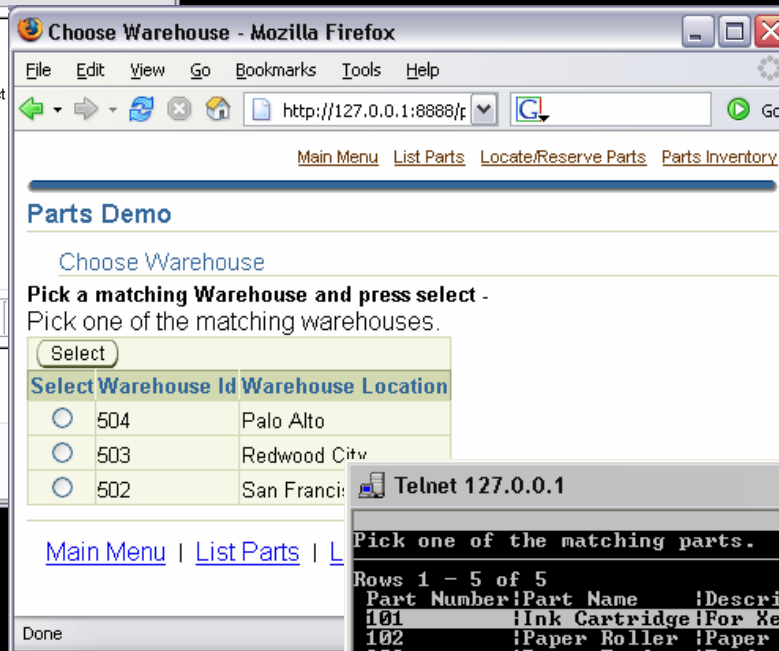
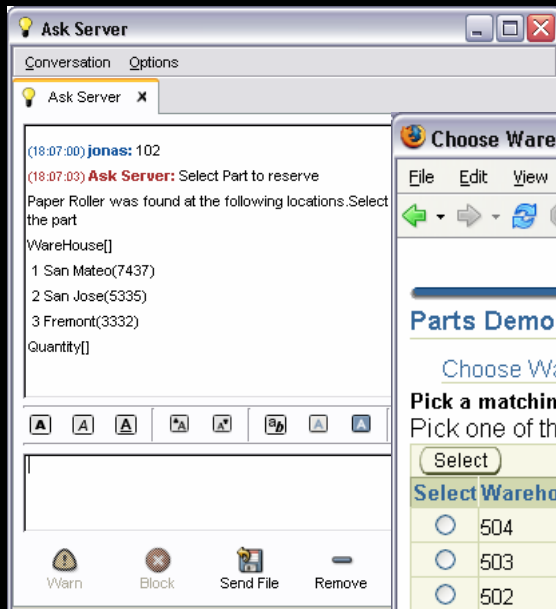
What is Ask – Ask information

- Interact with your application through e-mail interface, pager, SMS or Instant Messaging
- Asynchronous access not dependent on persistent wireless connectivity



Enterprise
Applications

Multi-client development



Mobile development in JDeveloper

- WYSIWYG editing for PDA and telnet applications
- Component filtering based on device classes
- Device-specific view port
- Capability-based content filtering wizard
- Mobile simulator registration and integration
- Deployment packaging wizard
- ASK design-time support in future release

JDeveloper Differentiators

- We are the only J2EE tools vendor with JSF Wireless design time support.

JDeveloper Mobile: Telnet Design-Time Support

The image shows the JDeveloper 10g interface with two windows open. The 'Create JSF JSP - Step 1 of 5: JSP File' dialog is in the foreground, and the 'ADF Faces Wireless.jws' project is in the background.

Create JSF JSP - Step 1 of 5: JSP File

Enter the name, directory, and choose a type for the JSP.

File Name: untitled1.jspx

Directory Name: idio\10.1.3_3330\jdev\mywork\ADFFaces

Type:

- ☐ JSP Page (*.jsp)
A JSP page is a text-based document that creates a response.
- ☐ JSP Document (*.jspx)
A JSP document is an XML representation of a JSP page.

Mobile:

- ☒ Add Mobile Support

Device Category: PDA (selected), Telnet

Oracle JDeveloper 10g - ADFFaces_Wireless.jws : view.jpr : C:\jdev\dev\studio\10.1.3_3330\jdev\mywork\ADFFaces_Wireless\view\public_html\pda.jspx

File Edit View Search Navigate Run Debug Design Refactor Versing Tools Window Help

Applications Connect... telnet.jspx Symbol...

Oracle ADF Faces Telnet solution

Username:
Password:
<login>

Design Source History

Structure

- jsp:root
 - af:document - Oracle ADF Faces
 - af:form
 - Document facets
 - DO NOT DELETE Device C...

General

Property	Value
Attri...	
Binding	
Defa...	
Id	
Parti...	
Targ...	
Uses...	false

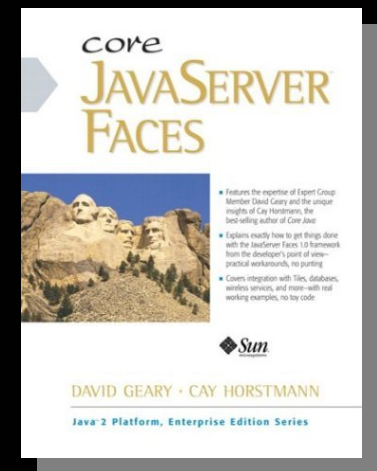
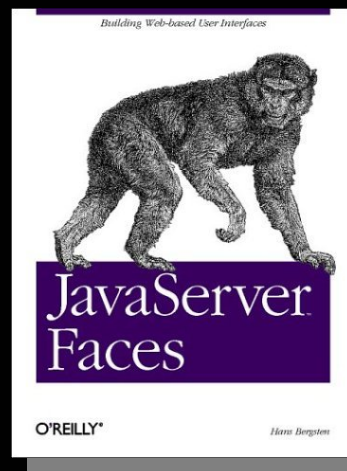
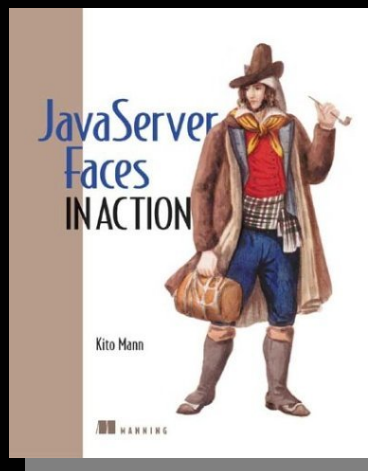
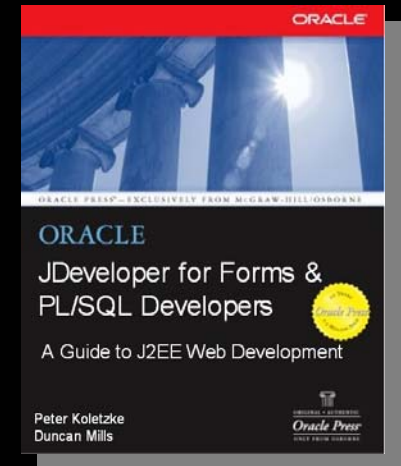
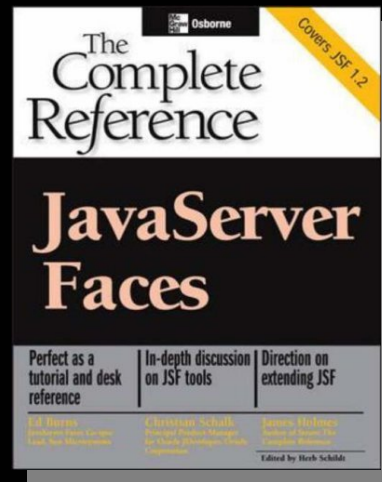
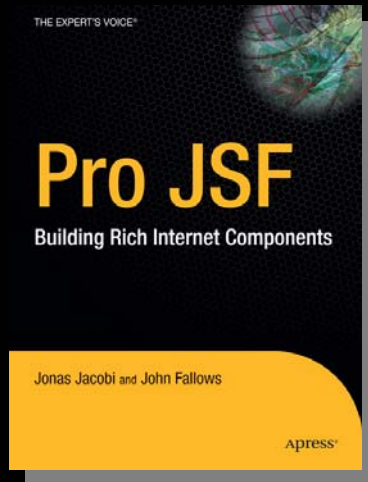
Core

Property	Value
Inlin...	
Rend...	true
Shor...	

Source Design

C:\jdev\dev\studio\10.1.3_3330\jdev\mywork\ADFFaces_Wireless\view\public_html\pda.jspx Inserting after Form Web Editing

Documentation



JSF Web Resources

- Oracle Technology Network JSF Resources
 - <http://otn.oracle.com/jsf>
- JSF Reference Implementation
 - <http://java.sun.com/j2ee/javaxserverfaces/>
- JSF Central – Most Popular Online JSF Community
 - <http://jsfcentral.com>

Summary

- Think components, not markup
- Not just for HTML
- Plenty of opportunities for all skill levels

A large, stylized graphic of the letters 'Q' and 'A' in a dark gray serif font, with a red ampersand between them, serving as a background for the title text.

QUESTIONS ANSWERS