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**Bernd Trops**

Principal Sales Consultant

Business Unit ApplicationServer

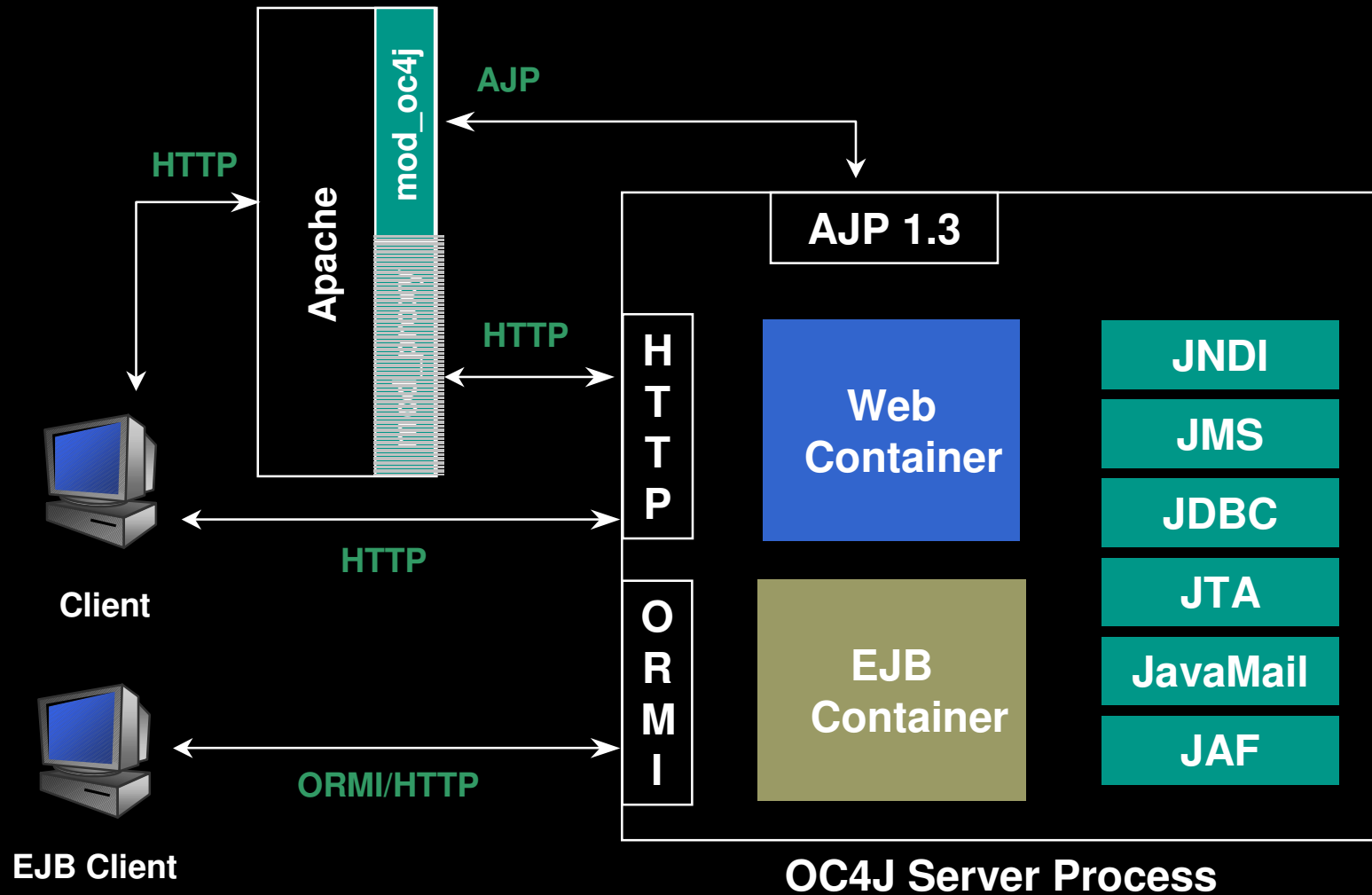
Oracle GmbH Deutschland

ORACLE

**Service-orientierte  
Anwendungsentwicklung  
mit dem  
Application Development  
Framework (ADF)**

*Productivity with Choice*

# Oracle Container for Java (OC4J) Architektur



# OracleAS 10g Java Edition

Oracle9i Application Server Editions				
	Java Edition \$5K/CPU	Standard Edition \$10K/CPU	Enterprise Edition \$20K/CPU	Enterprise Edition Options \$10K/CPU
<b>Oracle9i JDeveloper (5x)</b>	*	*	*	
Oracle9iAS Containers for J2EE	*	*	*	
Oracle9iAS TopLink	*	*	*	
Oracle HTTP Server	*	*	*	
Oracle Enterprise Manager	*	*	*	
Oracle9iAS Portal		*	*	
Oracle Content Management SDK		*	*	
Oracle9iAS WebCache			*	
Oracle9iAS Integration			*	
Oracle9iAS Single Sign On			*	
Oracle Internet Directory			*	
Oracle9iAS Discoverer			*	
Oracle9iAS Reports Services			*	
Oracle9iAS Forms Services			*	
Oracle9iAS Wireless				*
Oracle9iAS Personalization				*

Nur Entwicklung für den Einsatz auf iAS

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[http://www.oracle.com/ip/deploy/ias/features/index.html?java\\_edition.html](http://www.oracle.com/ip/deploy/ias/features/index.html?java_edition.html)

# Java IDE Historie



## Stage 1 – 1997

- Editor
- Compiler
- Debugger

## Stage 2 – 2000

- GUI Editor
- Editor v2
- Compiler
- Debugger
- Deployment
- Standards

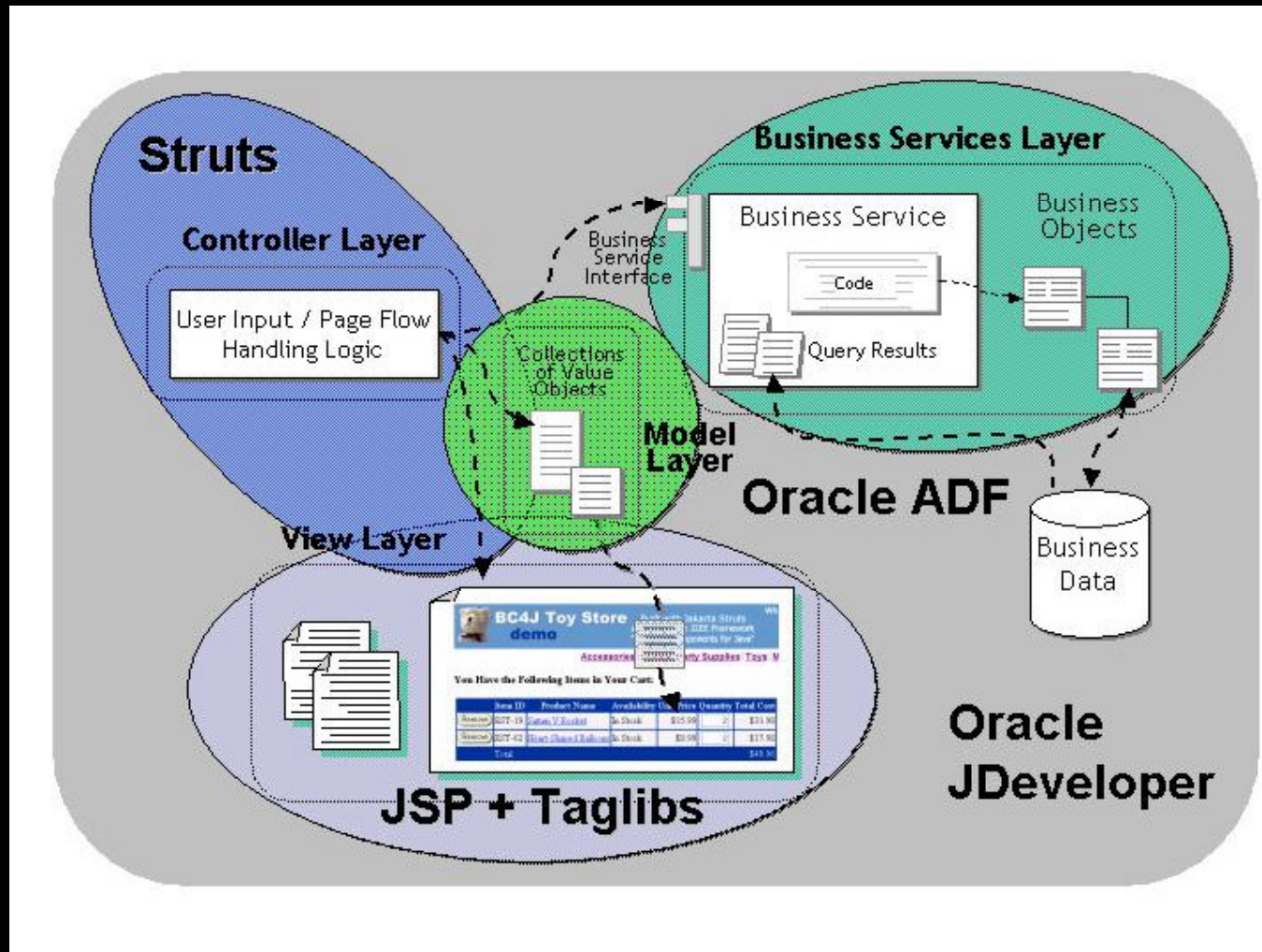
## Stage 3 – now

- UML
- GUI Editor v2
- Editor v3
- Compiler v2
- Debugger
- Deployment v2
- Profiling
- Audit/Metrics
- Standards
- Extensibility
- SCM Integration

# Die NEUE Generation von J2EE Werkzeugen

- Erreichen eine größere Anzahl von Entwickler
  - Beschleunigt die J2EE Entwicklung
- Erhöht die Produktivität
  - Visuelles und deklaratives Entwickeln
  - Weniger Codierung, mehr Wiederverwendung
- Verringert die J2EE Lernkurve
  - Bildet eine Abstraktionsschicht überhalb von J2EE

# ADF – a service oriented architecture

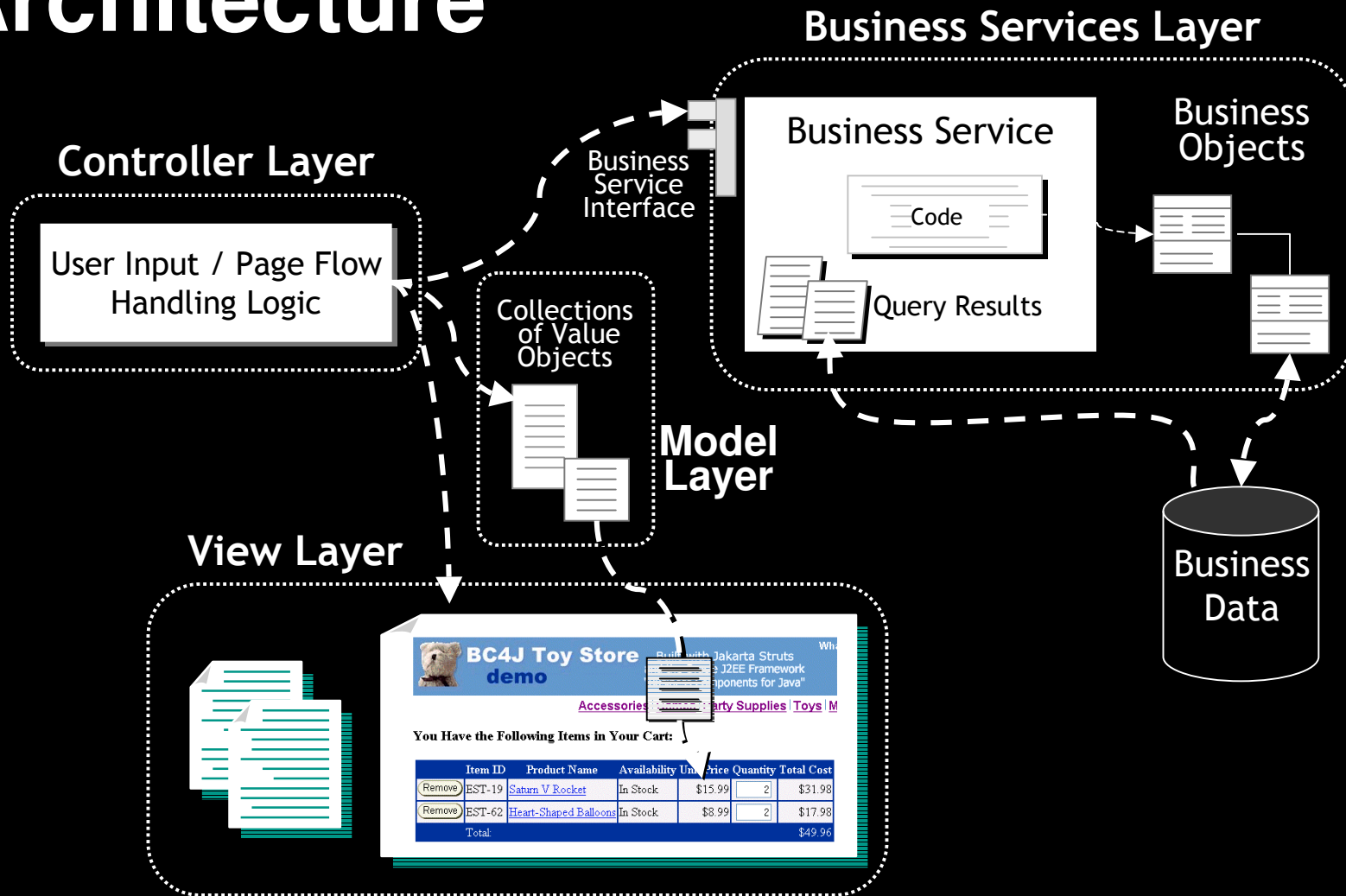




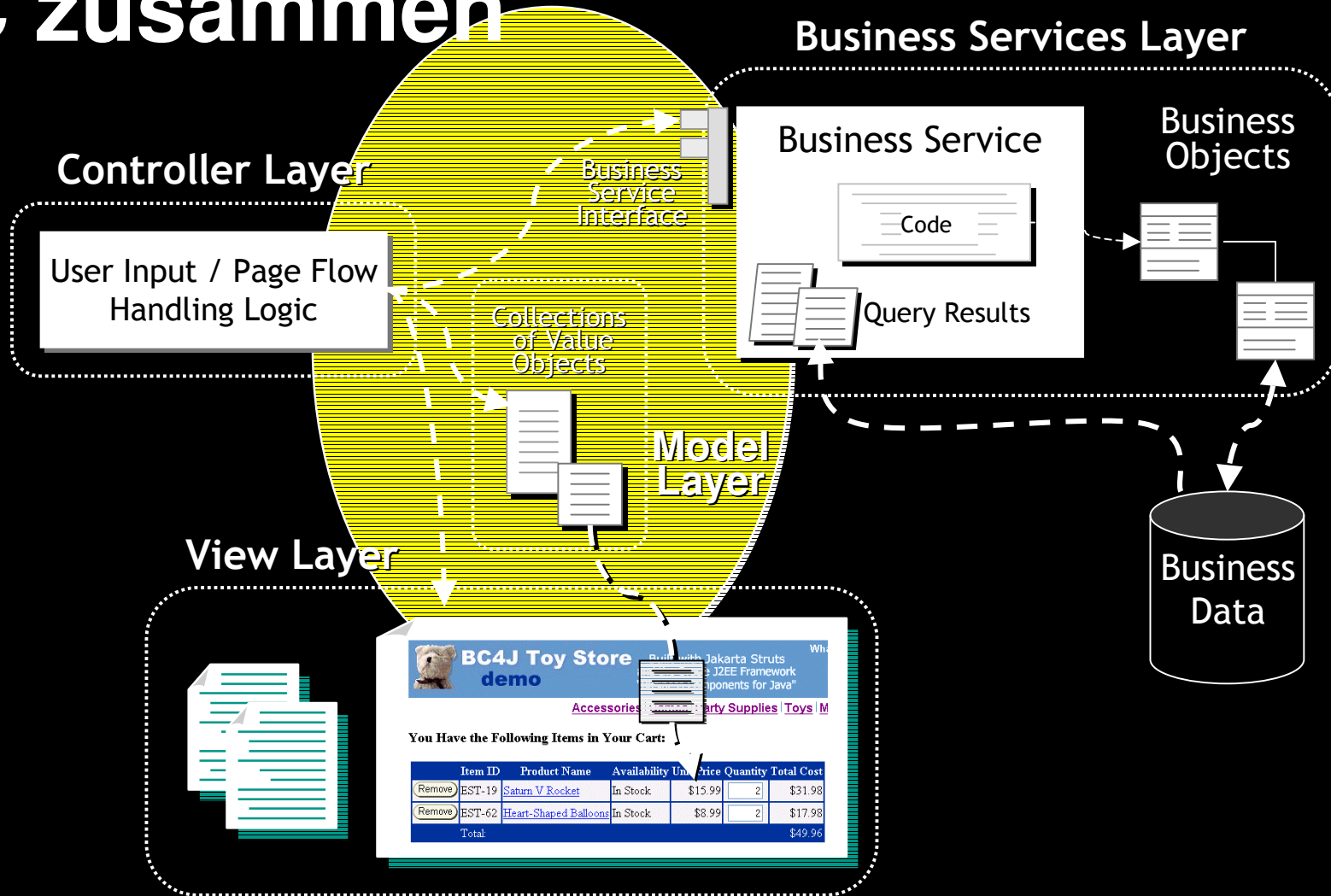
# Finishing Faster

- Vermeiden von doppelten Kodieren
  - Identifizieren von allgemeinen Funktionalitäten, suchen nach generischen Ansätzen
- Kein erneutes erfinden des Rad's
  - Basieren auf vorgefertigten Blöcken
- Nutzen von Visuellen Werkzeugen
  - kodieren macht Spass, rechtzeitig fertig werden ist wichtiger
- Nutzen einer IDE die den vollen Lifecycle unterstützt
  - Alles was man benötigt unter einem Dach

# Model / View / Controller Architecture



# Data Binding bindet M, V, und C zusammen



# JSR 227: Bindings & Data Controls

UI Control

€ 5008,00

Control Binding

salary

Data Control

yourDC

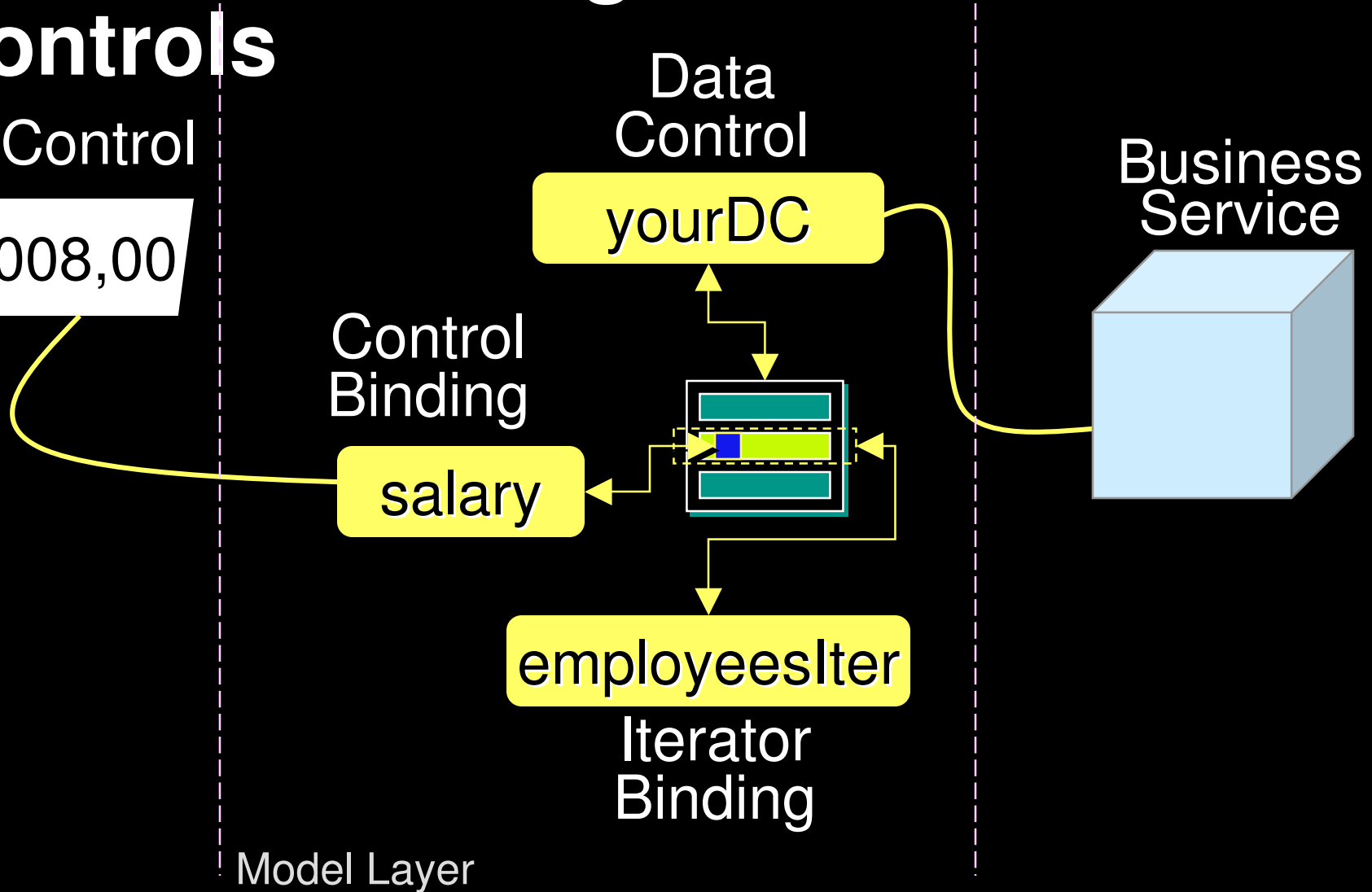
employeesIter

Iterator Binding

Business Service

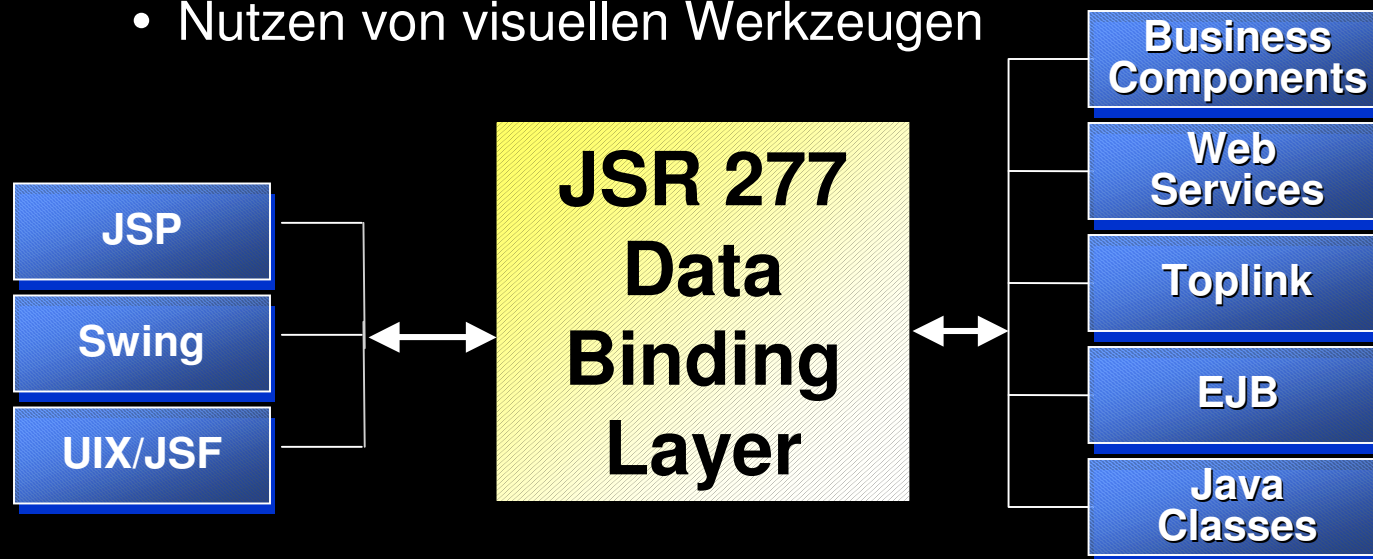
Model Layer

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# JSR 227: Bindings & Data Controls

- Was ist der Model Layer?
  - "Glue,, zwischen View, Controller und Business Services
  - Warum einen deklarativen, warum einen Standard Ansatz?
    - Vermeiden von unnötigen Code
    - Nutzen von visuellen Werkzeugen



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D E M O N S T R A T I O N

# End to End Development

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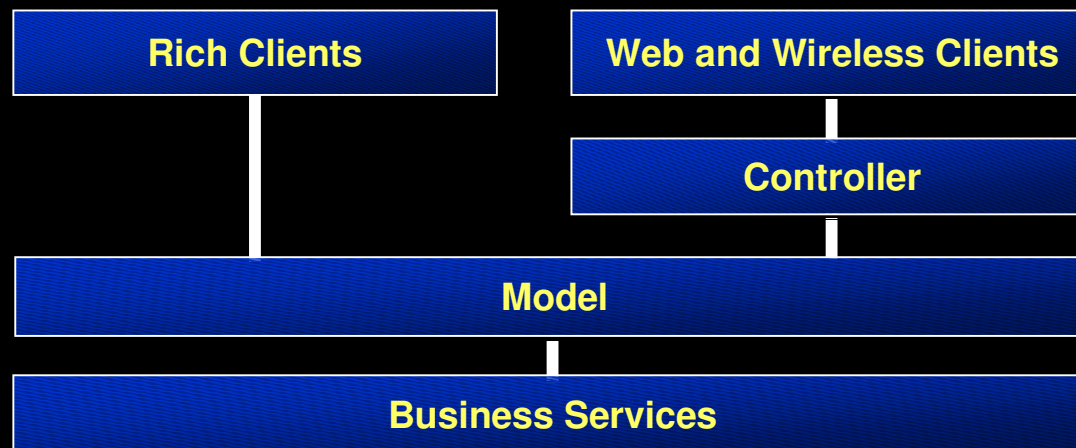
# Oracle JDeveloper 10g

- **Vollständig und integriert**
  - vollständige Abbildung des Entwicklung Zyklus
  - Ein Werkzeug für Java, XML, & PL/SQL
- **Standardbasierend und Erweiterbar**
  - Unterstützung der aktuellen J2EE Spezifikation
  - Open Extension API (JSR 198)
  - MyJDeveloper
- **Einfache Nutzung und Produktivität**
  - Erhöht die Entwicklungsproduktivität
  - Visuelles und deklaratives entwickeln
  - Oracle Application Development Framework (ADF)

# Oracle ADF

## *End-to-end J2EE Framework*

- Implementiert Standard J2EE best practices
- Model-View-Controller (MVC) design pattern
- Konsolidierung und Weiterentwicklung bestehender Frameworks



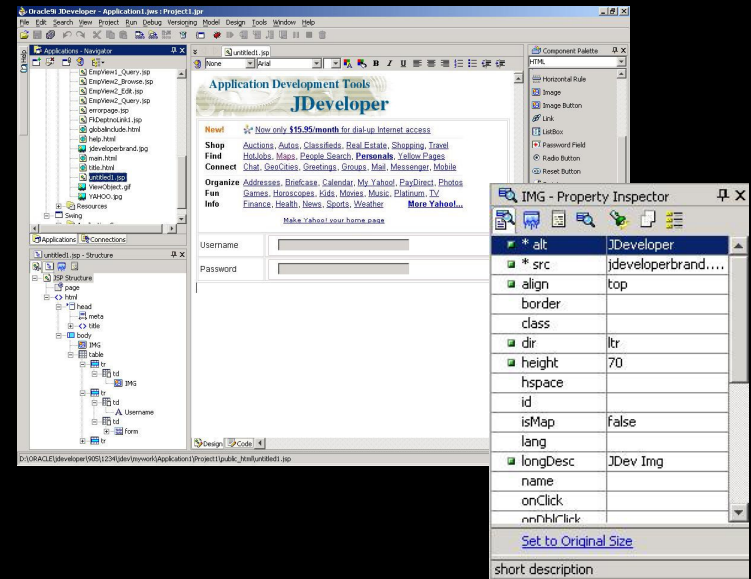
- Konzentration auf die Applikation, nicht auf die Technik



# Oracle ADF

## Visuelles und deklarative Entwicklung

- End-to-end Applikations Entwicklung
  - J2EE & Services
- Visual
  - WYSIWYG editors
  - UML modelers
  - Structure pane
- Declarative
  - Structure pane
  - Property inspector
- Code View/Design View Synchronization
  - Kein separater Generierungslauf – alles ist immer synchron
  - Der entstehende Code ist immer im Zugriff

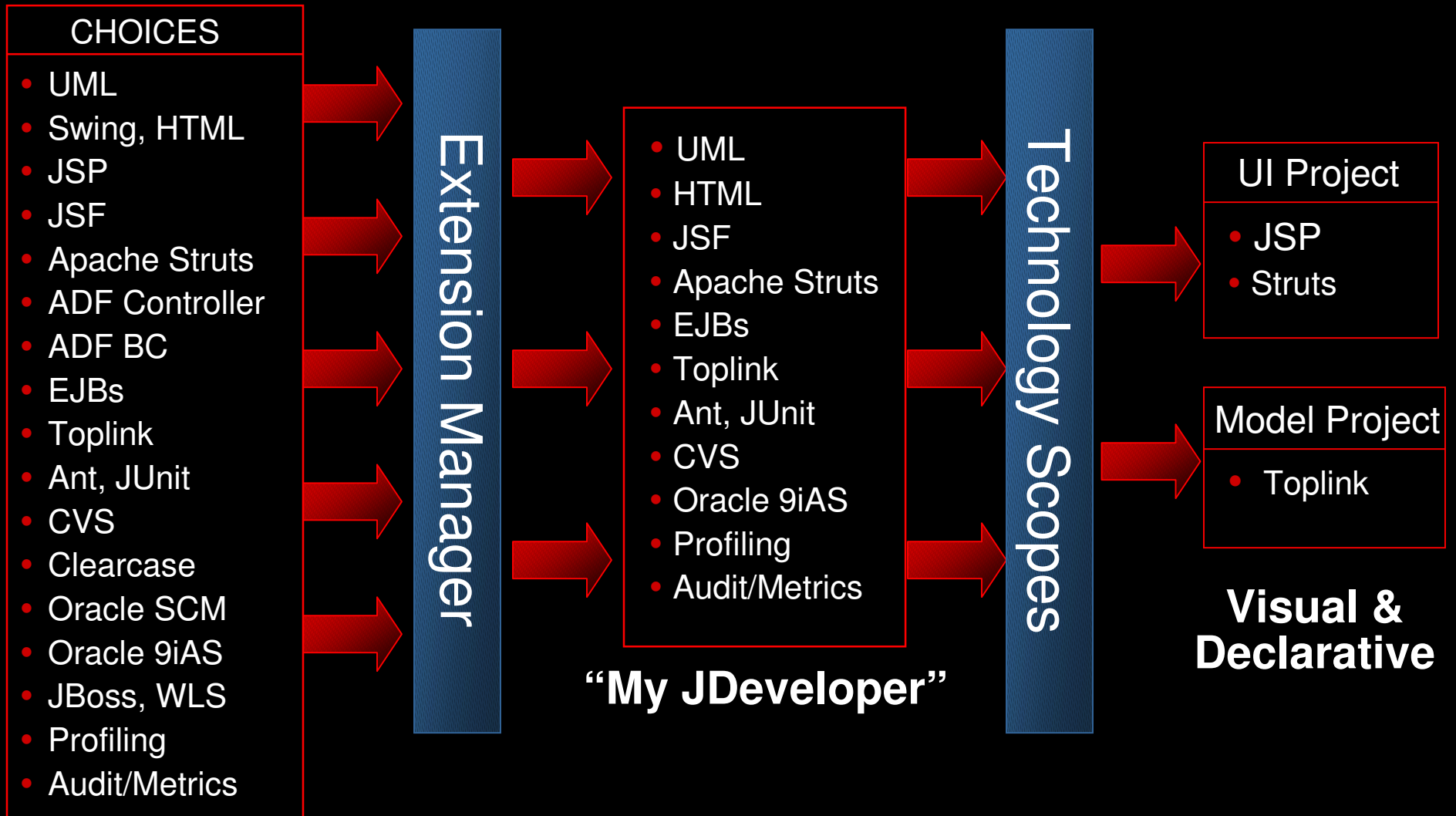


# Neuer Entwicklungsansatz

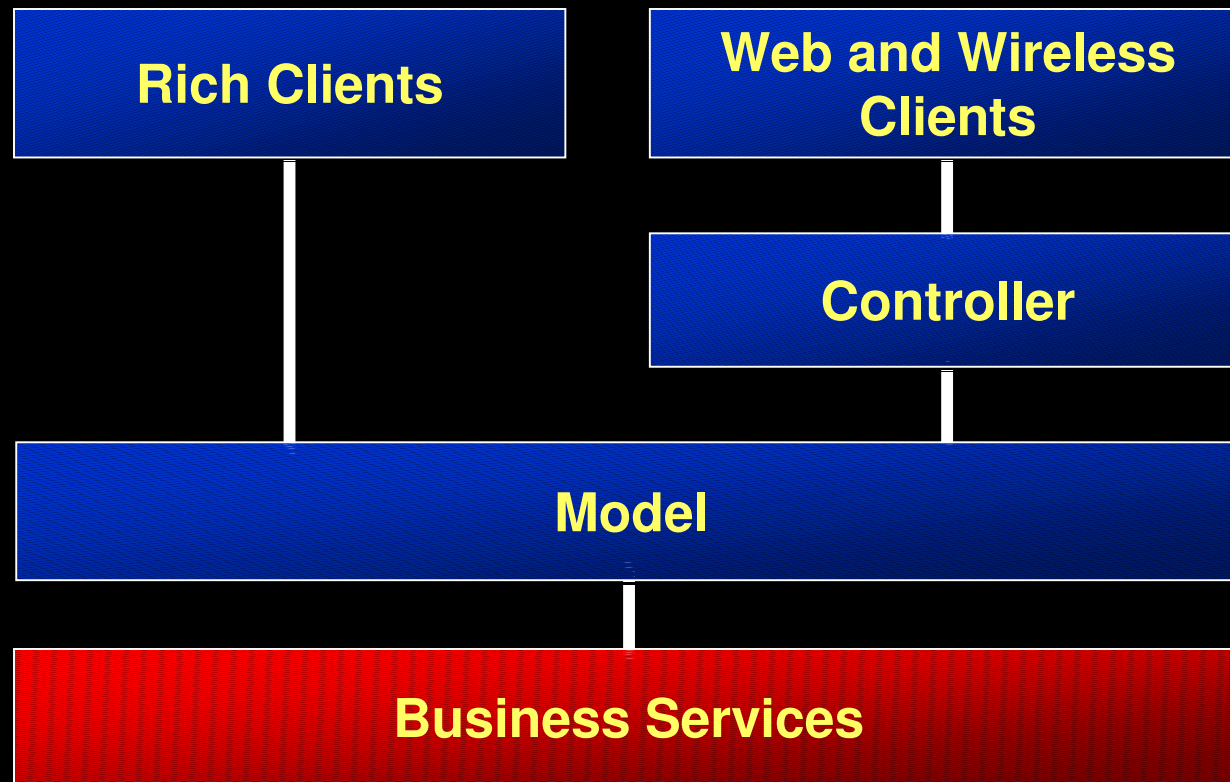
## *Productivity with Choice*

- Wählen Sie Ihren Entwicklungsansatz
  - UML Modellierung, Kodierung, deklarative Entwicklung
- Wählen Sie Ihre Deployment Umgebung
  - Jeden J2EE Application Server
  - Jede SQL92 Datenbank
- Wählen Sie Ihre Technologie
  - MyJDeveloper
  - Technologien Scope

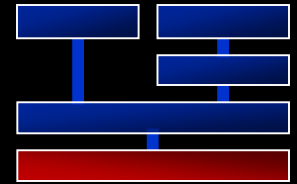
# Simplifying Choice



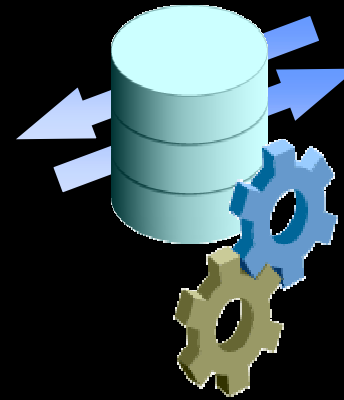
# ADF Architektur Übersicht



# Business Services

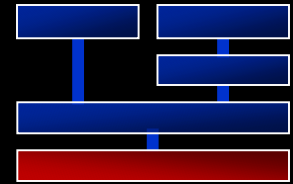


- **Manages Persistence**
  - O/R mapping
  - Queries/DML
- **Performs Validierung**
  - Daten Validation
  - Business logic
- **Choices of Implementierung**
  - EJB, ADF Business Components, Toplink, Web Services, Java classes

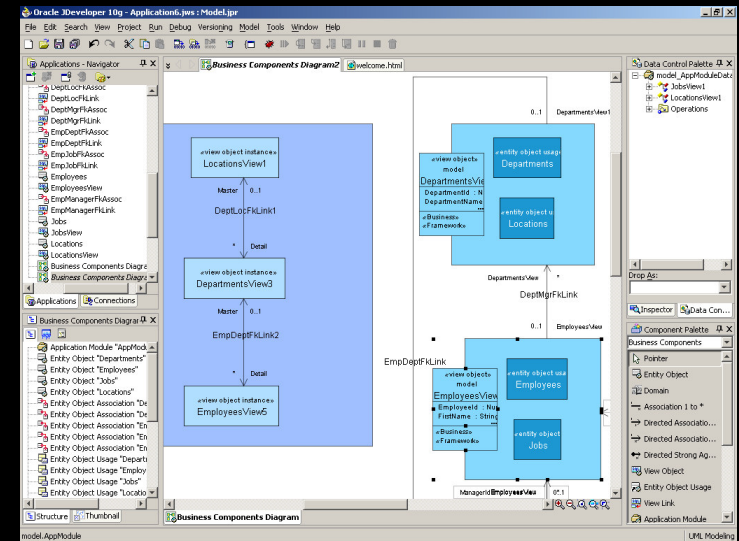


# Business Services

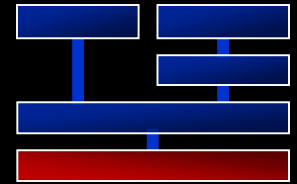
## Design Time



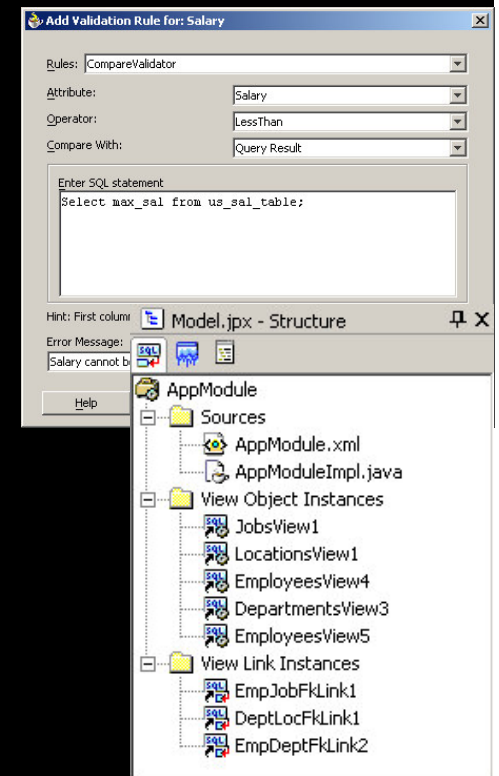
- UML Modelers, Wizards, Code Editors
  - ADF Business Components
  - Enterprise JavaBeans
  - TopLink
  - Database Schema
  - Web Services
  - Java Classes
- Integrierter J2EE Server (OC4J) zur Beschleunigung des develop-run-debug Zyklus.



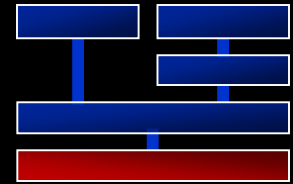
# ADF Business Components



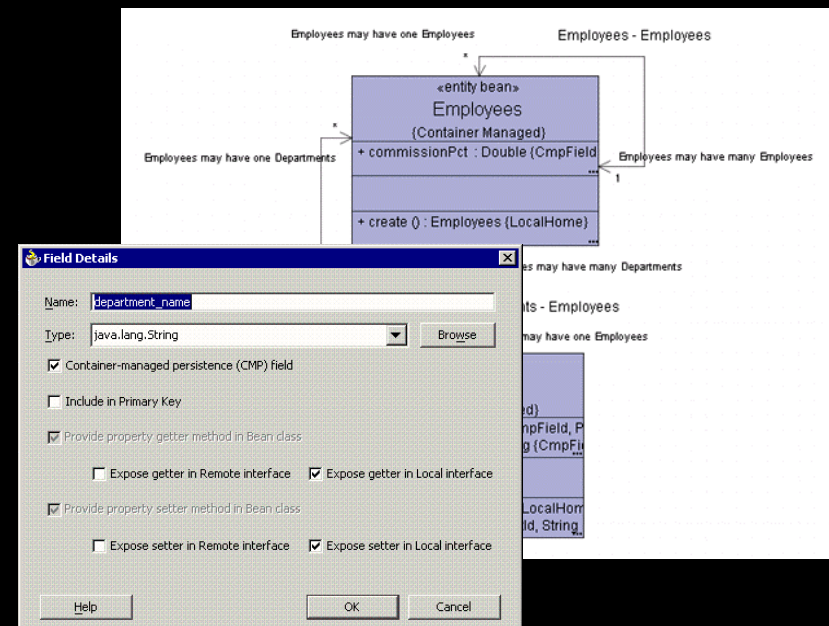
- Vollständiges Business Tier Entwicklungs Framework
- Implements J2EE design patterns
- Best practice Lösungen für:
  - Business logic Implementierung
  - Skalierbarkeit and Performance
  - Optimierte Datenbank Interaktion



# Enterprise JavaBeans (EJB)

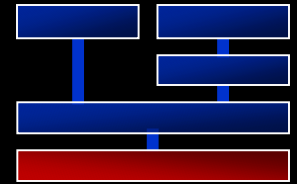


- Integrierte Umgebung für die Modellierung, Kodierung, Test, und Debug von EJBs
- Produktive Erzeugung von EJBs
  - EJB 1.1 und 2.0 Editor
  - Design patterns support
    - Data Transfer Object
    - Session Façade
  - EJB Verifier

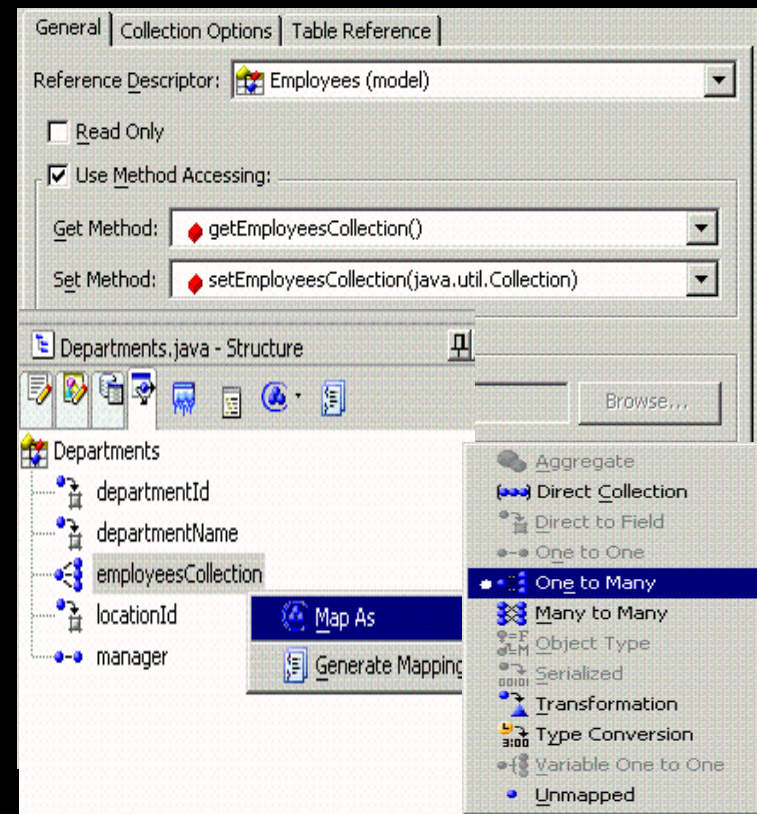




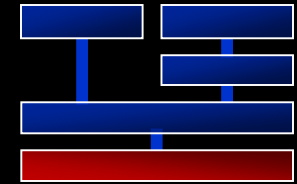
# TopLink



- Object-Relational Persistence Architektur
  - Java Classes – “POJO”
  - CMP 2.0 Entity Beans  
OracleAS, BEA, IBM
- TopLink Mapping Editor
- Mappings checker
- Vollständige Mappings
- Intelligente Caching
  - Strategien

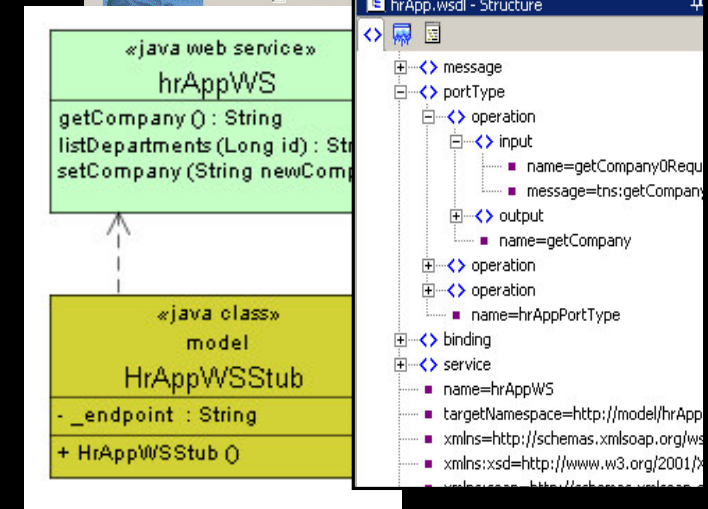
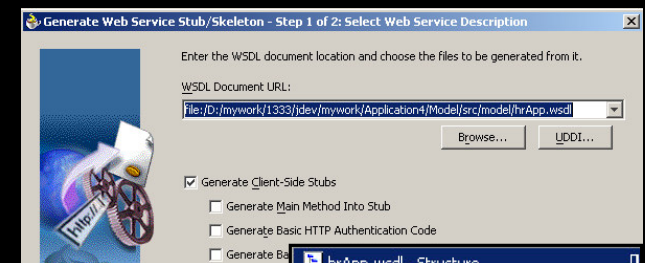


# Web Services

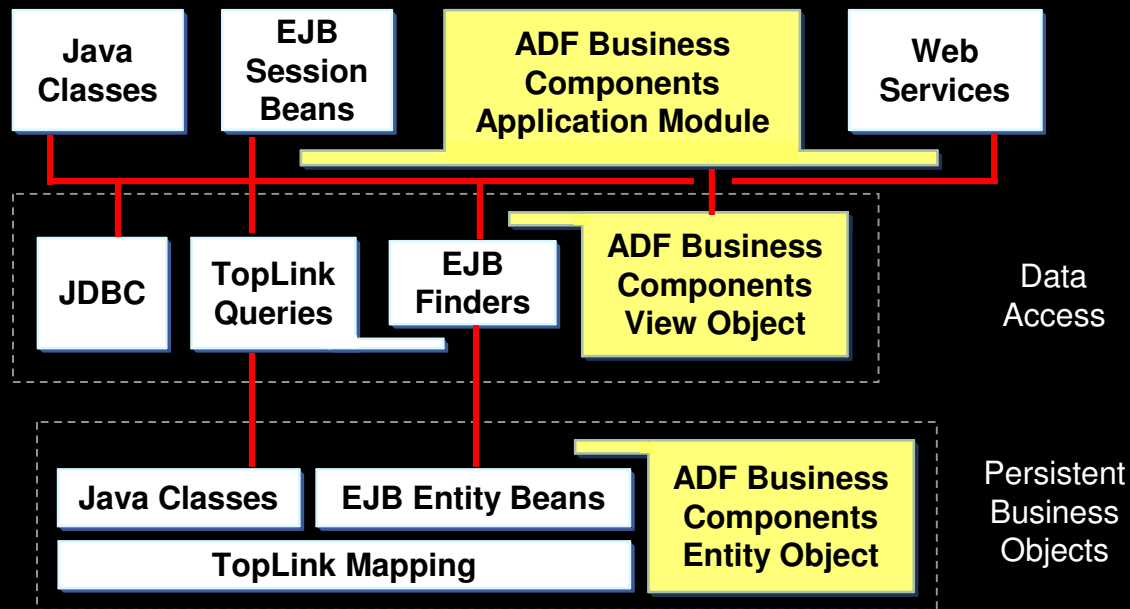
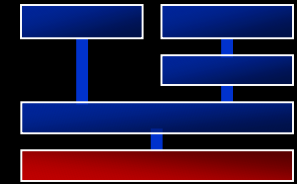


- **Enterprise-Class J2EE Web Services**

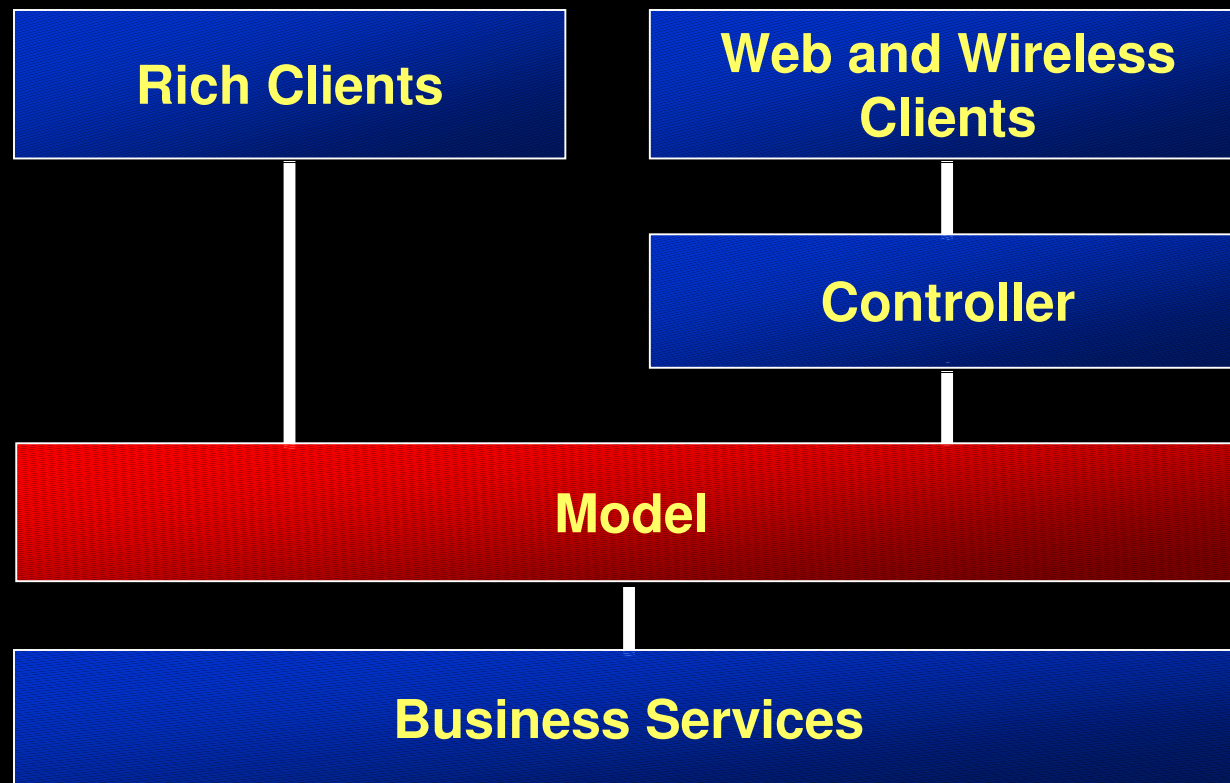
- Asynchrone Konversation
- Interoperabilität mit .NET Web Services
- Entwicklungs-Produktivität
  - UML Modeler
  - TCP packet monitor
  - PL/SQL Web Service wizard
  - WS-I compliance tester
  - ADF Data Control Binding



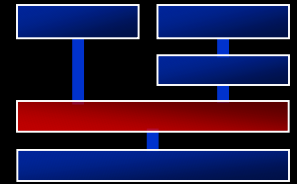
# Productivity with Choice



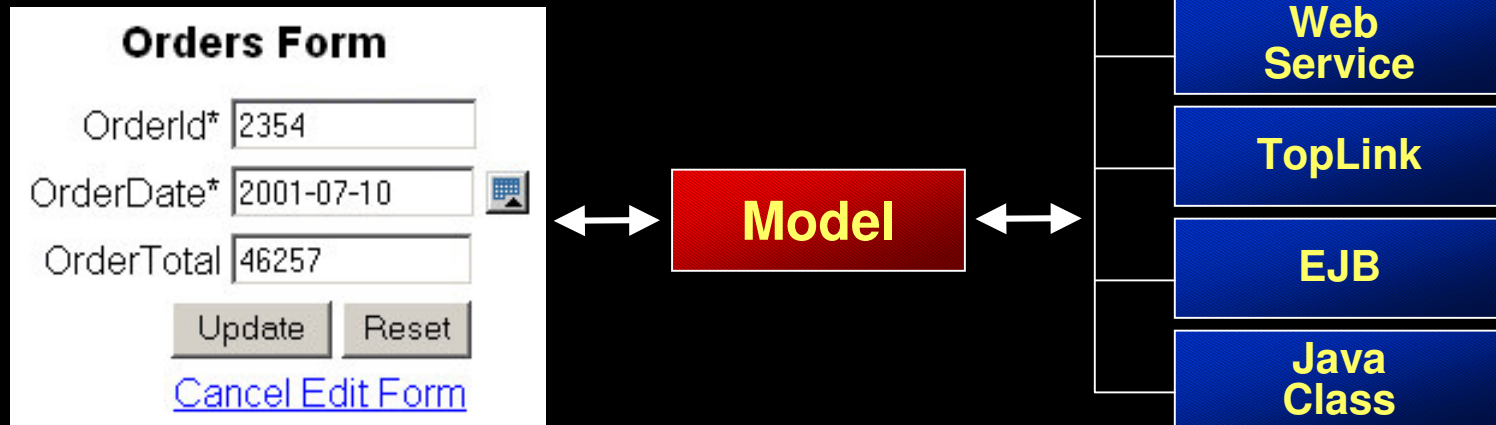
# ADF Architecture Overview



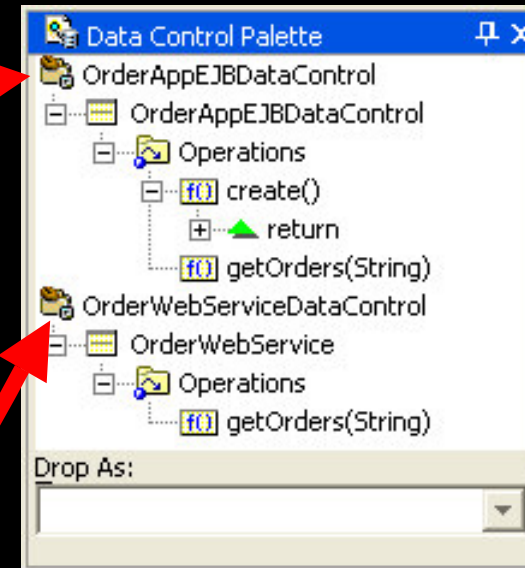
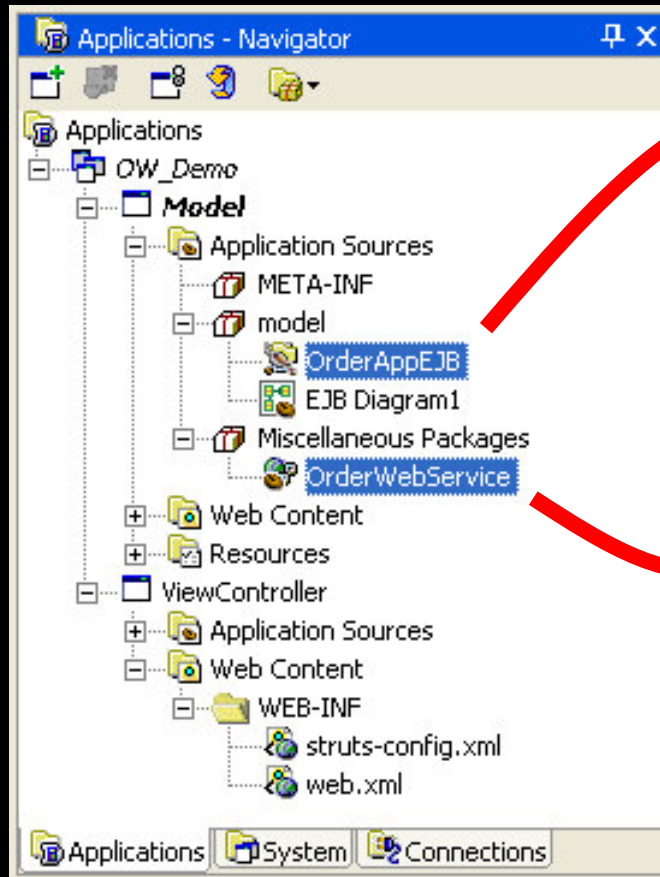
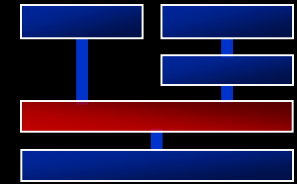
# ADF Model



- Data Controls
- Data Binding
- JSR-227: “A Standard Data Binding & Data Access Facility for J2EE”



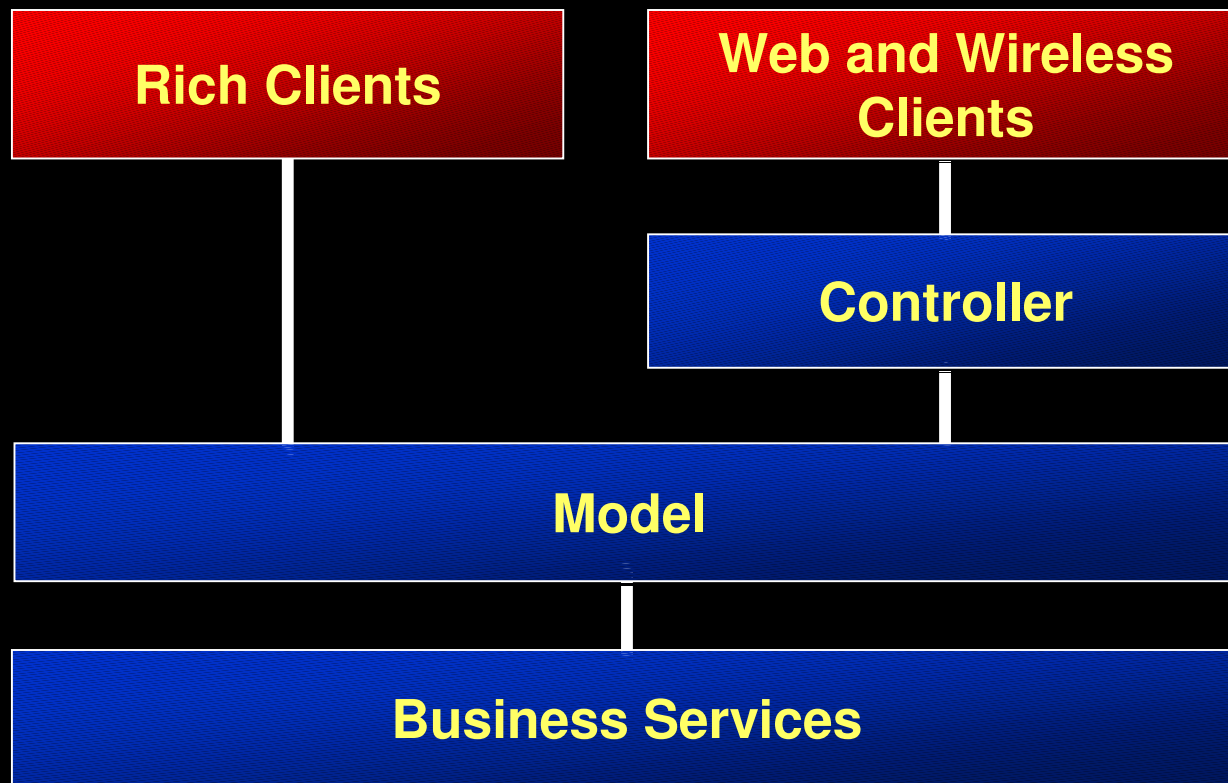
# Drag-and-Drop Binding



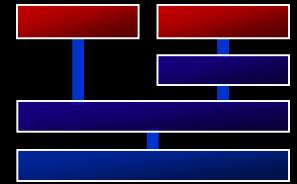
## Data Control Palette

- Zugriff auf jeden "business service"
- Verfügbar von jedem Client

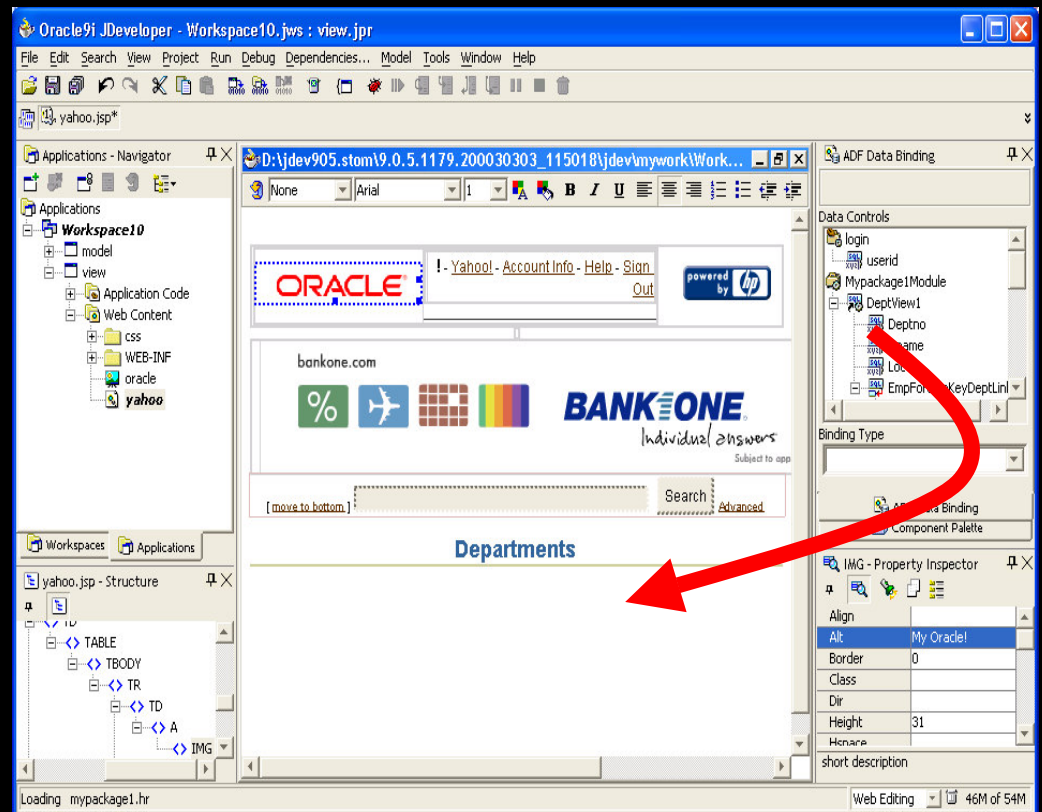
# ADF Architecture Overview



# UI Entwicklung

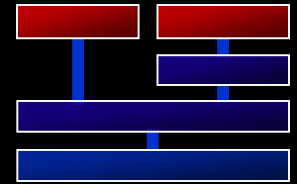


- Visuelle Editoren
  - JSP und HTML
  - JavaServer Faces
  - ADF UFX
  - Swing (ADF JClient)
- Komponenten
  - Palette
- Common binding
- Property inspector
- Structure pane





# Design and Code Sync



- Design View / Code View
  - Verfügbar für alle Komponenten
  - Vollständig in Synch mit dem Code

Structure Pane

HTML Structure

- html
  - head
    - title
    - link
    - meta
  - body
    - a
    - img
    - table
    - tr

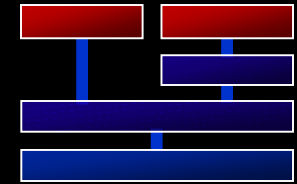
Application Development Tools  
JDeveloper

img - Property Inspector

* alt	JDeveloper Logo
* src	welcomeImages/oracle...
align	
border	0
class	
dir	
height	70
hspace	
id	
isMap	false
lang	
longDesc	JDev Img
name	
onClick	

```
<IMG height="70" width="330" src="jdeveloperbrand.jpg"
align="top" dir="ltr" longdesc="JDev Img" alt="JDeveloper"/>
```

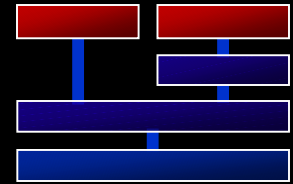
# JSP Visual Design



- Synchronisierte JSP Visual Design mit
  - Code Editor
  - Structure Pane
  - Property Inspector
  - Data Control/Component Palette
- Integriert mit JSTL/EL & Struts
  - Taglibs angebunden an Component Palette
  - Intuitive tag und EL Rendering
  - Synchronisiert mit Struts Page Flow
- Universal ADF Databinding
  - Toplink, EJB, BC4J
  - Web Services
  - Drag and drop UI Komponenten



# ADF UIX



- XML Meta data basierende View-Technologie
- Designed als Basis für JavaServer Faces Standard (JSR-127)
- Unterstützt verschiedene Clients
  - HTML-compliant browsers
  - mobile devices
- Viele UI Komponenten, Layouts und Render Kits
- Powerful Runtime Features
  - Partial page rendering
  - Automatic sorting
  - Look and feel customization

Details	Name	Age
Hide	Sally	24

**Detailed Information**

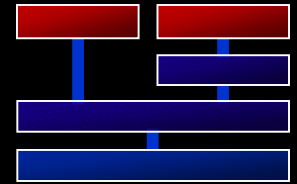
Name Sally  
Age 24  
Title Doctor  
Patients 30  
Hospital UCSF

Show Willy  
Show Kelly

Canvas Mode: Add  
Diagram Navigator: Graph X

```
graph LR; Start((Start)) --> StepX[Step X]; StepX --> ParallelBranch((Parallel Branch)); ParallelBranch --> StepY((Step Y)); ParallelBranch --> StepZ[Step Z]; StepY --> StepA[Step A]; StepZ --> StepA; StepA --> Stop((Stop));
```

# ADF JClient

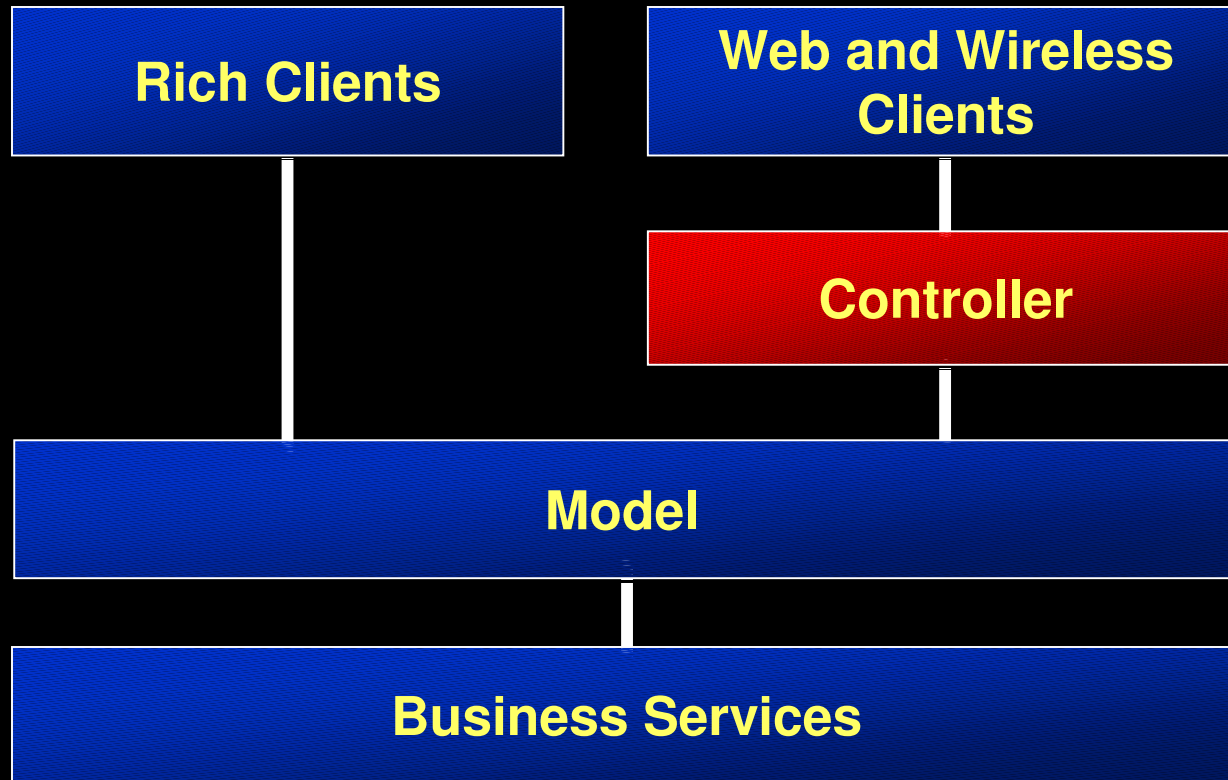


- Rich Client Benutzer Interface (JFC/Swing)
- Allgemeines data binding
  - ADF Business Components
  - TopLink
  - Enterprise Java Beans
  - Webservices
  - Java Beans
- WYSIWYG Editor
- UI Debugging

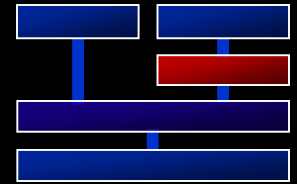
The screenshot displays the Oracle JDeveloper IDE interface for developing an ADF JClient application. The main workspace shows a login form titled "WELCOME TO VSM ADMINISTRATION" with fields for "User Name" and "Password", and "Login" and "Reset" buttons. The left pane shows the "Applications - Navigator" with a tree view of the project structure, including "VSM-BC4J", "Project1", and "VSM-JClient". The right pane shows the "Component Palette" with various Swing containers and components. The bottom pane shows a "Database" window with a table of employee data and a bar chart.

Employ.	FirstNa.	LastNa.	Email	Jobid	Salary
108	Nancy	Greenb.	NGRE..	FL_MGR	12000
109	Daniel	Favet	DFAVET	FL_ACC	8000
110	John	Chen	JCHEN	FL_EMP	9200
111	Ismael	Sciarra	ISCIAR	FL_ACC	7700
112	Jose M.	Urman	JMURM	FL_ACC	7800
113	Luis	Popp	LPOPP	FL_ACC	6900

# ADF Architecture Overview

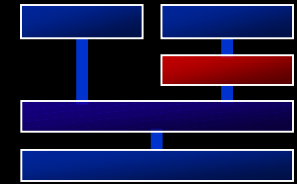


# Controller

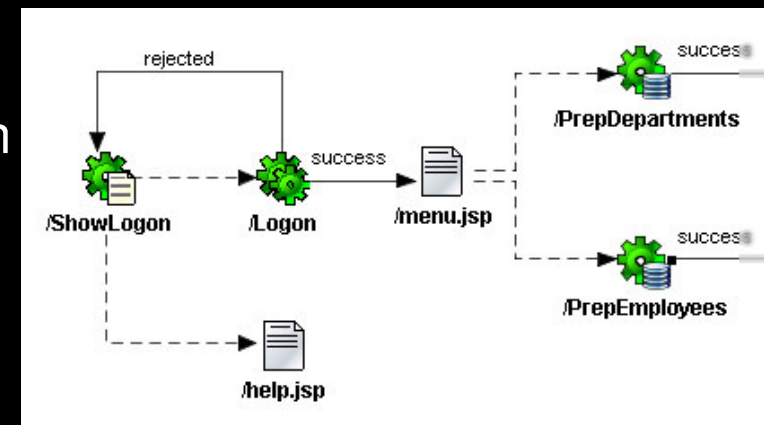


- Organisiert den Page Flow
  - Erlaubt Wiederverwendung durch Abstraktion
  - Erhöht Flexibilität und Wartbarkeit
- Ansatzpunkt zur Applikationserweiterung
  - Programatische Interaktion mit Model und Business Service
  - Applikation Aufgaben
    - Security
    - Input validation
    - State management

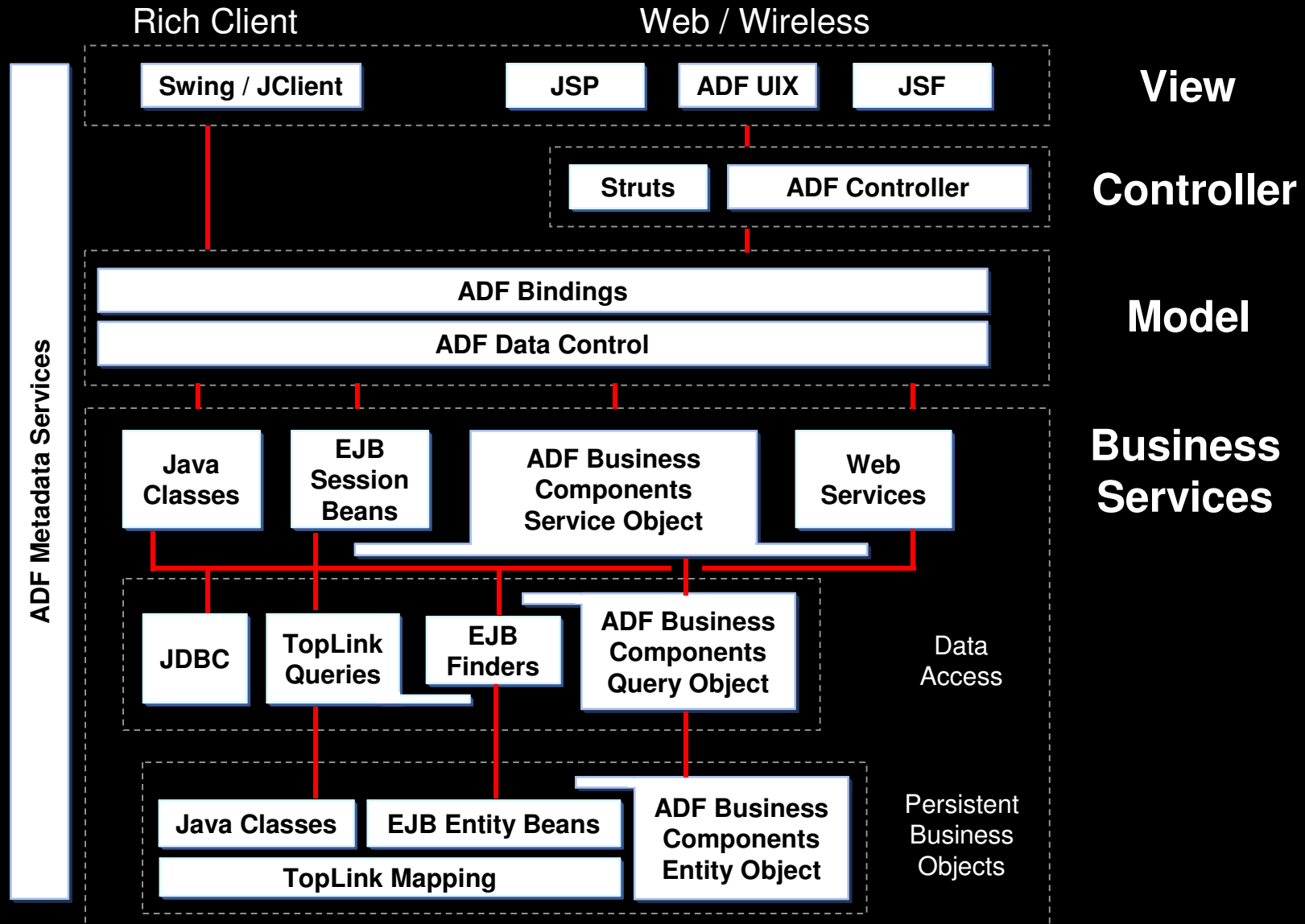
# Struts Page Flow



- Visuelle Entwicklung durch den “Page flow Modeler”
  - Erstellen des „page flows“
  - Synchronisierung mit Struts xml
  - Eintauchen bis zu Code & Seiten
- Deklarative
  - Structure Pane
  - Property Inspector
- ADF Data Action
  - Organisiert die Interaktion des Modells mit den Standard Struts Mechanismus
  - Es ist keine Kodierung notwendig



# ADF – Productivity With Choice





# JDeveloper 10g New Features

## Adf

- Ease of Development
  - Application Navigator
  - Technology Scoping
  - Application Template
- Model-view-controller (MVC) Pattern
- Integrated Environment for Business Services
  - EJB
  - Web Services
  - ADF Business Components
  - TopLink
  - Java Classes
- Common Databinding
  - JSR 227
  - Drag and Drop Binding for EJB, ADF Business Components, Web Services, TopLink
- Visual & Declarative Development of Clients
  - JSP/HTML Visual Editor
  - Data Binding Palette
  - Integrated Property Inspector
  - Tag Lib Development
  - ADF UIX
  - ADF JClient
- Visual Development for Struts & ADF Controller
  - Page Flow Modeler
  - Declarative Editing of Config Files

## J2EE & Web Services

- Import EJB Wizard
- Data Transfer Object generation
- JAX-RPC support
  - Generate JAX-RPC Web Service and Client for Java Classes
- WS-I Basic Profile Support
  - Monitor, Logger, Analyzer
- Web Services Modeling
  - Create JMS, PL/SQL Web services
- Enhancements to PL/SQL Web Services
  - Complex Data Types
- Deployment to Tomcat & JBoss
- Embedded OC4J Administration
- UML
  - XML Schema Modeler
  - Use Case Modeler
  - Auto Layout
  - Thumbnail View
- Database
  - Database Schema Modeling
  - Database Browser Filters
  - Offline Database Editing
  - Enhancements for Creating and Editing Database Objects

## IDE

- Improved Code Editor
  - Syntax and Semantic error Highlighting
  - Import Assistance
  - JavaDoc Popup
- Improved Window Management
  - Tabbed Editor
  - Window Docking
- Property Inspector and Structure Pane Enhancements
  - N views, Sorting, Toolbar, Freezing Panes
- Embedded HelpSystem
- IDE UI Consistency
- Extension manager
- Audit & Metrics Support
  - Define Audit Rules
  - View & Report Audit Violations
  - Measure Size and Complexity Attributes
- Debugging
  - HotSwap Debugging
  - JSR 45(JSP & SQLJ Debugging)

# Oracle JDeveloper 10g

## *Productivity With Choice*

- **Productive End-To-End Development**
  - Model/View/Controller
  - Visual
  - Declarative
- **Standard J2EE framework**
  - Implements J2EE best practices
  - Uses the latest standards
  - Provides architecture choices

# JDeveloper 10g Availability

- Production release
  - Beginning 2004 <http://otn.oracle.com>
  - <http://otn.oracle.com/products/jdev/index.html>
    - White Papers, Tutorials, Beispiele, HowTo's

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