

**Maintenance /  
Development**

**Visual Design**

**Source Control**

**Multi Language**

**Modernization**  
Upgrade – Forms / Reports  
3,4,5... 6i... 11g

**Modernization**  
Migration  
ADF / JEE – PL/SQL 2 Java

**Modernization**  
Migration  
APEX

**Application  
Engineering**

**Application  
Analysis**

# Forms 11g, ADF & APEX Co-existence in Enterprise Applications

**The Future of Forms SIG Meeting**

**May 15, 2012**

**AMIS, Edisonbaan 15, Nieuwegein, Holland**

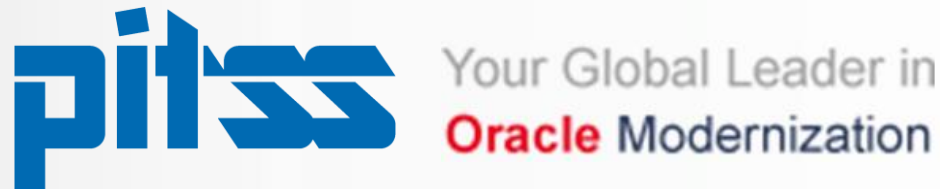
**Magdalena Serban**  
**Product Manager**  
**PITSS**

professional  
it software &  
services **pitss**

**ORACLE** Gold  
Partner

Copyright 2012 PITSS GmbH [www.pitss.com](http://www.pitss.com)

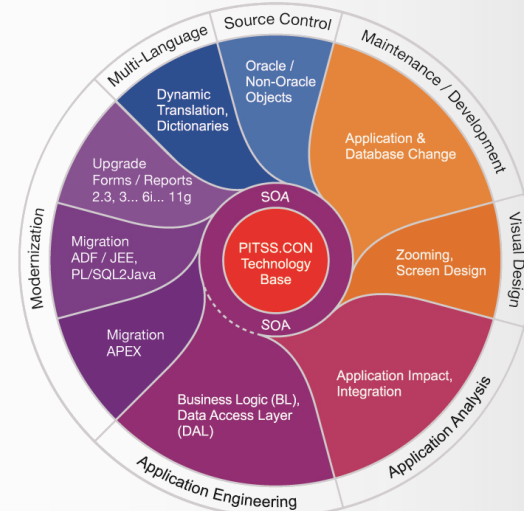
# Forms 11g, ADF & APEX: Co-Existence in Enterprise Applications



- More than 15 years experience with Oracle technology
- Oracle Gold Partner
  - Member of Oracle Modernization Alliance
  - Oracle Forms Migration Partner
- Customer references around the world

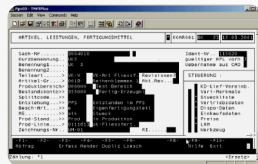
Madi Serban  
Product Manager  
[mserban@pitss.de](mailto:mserban@pitss.de)

Pitss GmbH  
[www.pitss.com](http://www.pitss.com)



## Oracle Database Application Road

**Unsupported**



**Upgrade**

Forms 2.3, 3.0,  
4.5, 5.0, 6.0,  
6i, 9i

**Supported**

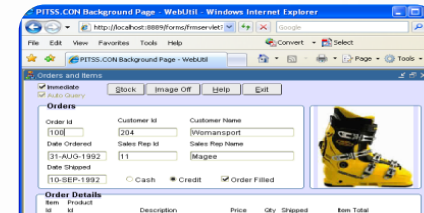


**Maintain**

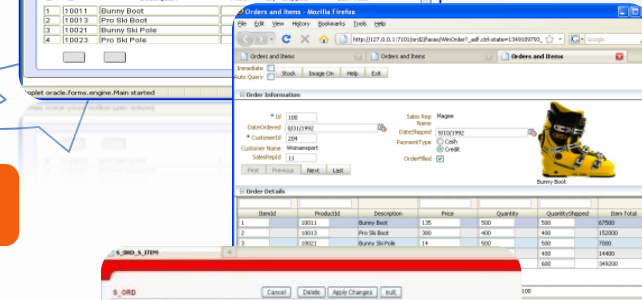
Web Deployment  
Forms 10g, 11g

**Evolve**

**Future Architecture**



**Forms 11g**



**ADF**



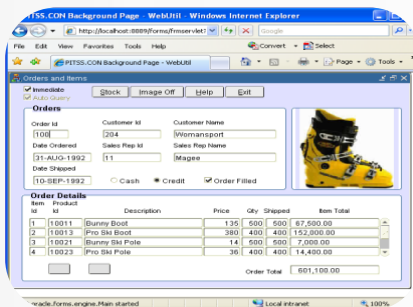
**APEX**

# The Technology Choice Challenge

## Decision factors

- \* Business needs
- \* Application complexity
- \* Skills

## Forms11g



Quick development

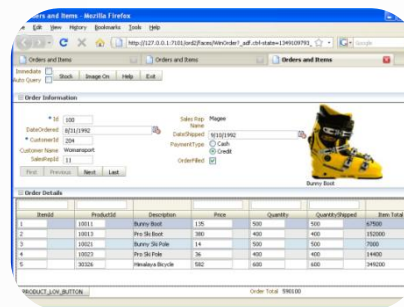
tested technology

low-risk

SQL, PL/SQL

Forms, Weblogic

## ADF, Java



Fusion, open standards

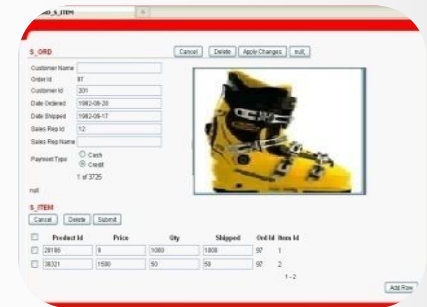
DB independent

Rich User Interface

Java, XML, SQL PL/SQL

ADF, JDeveloper, JavaScript

## APEX



tightly integrated: Oracle DB

huge community

Freeee

SQL, PL/SQL

HTML, JavaScript, CSS



# So: Should we stay or should we go?

## Stay with Forms when

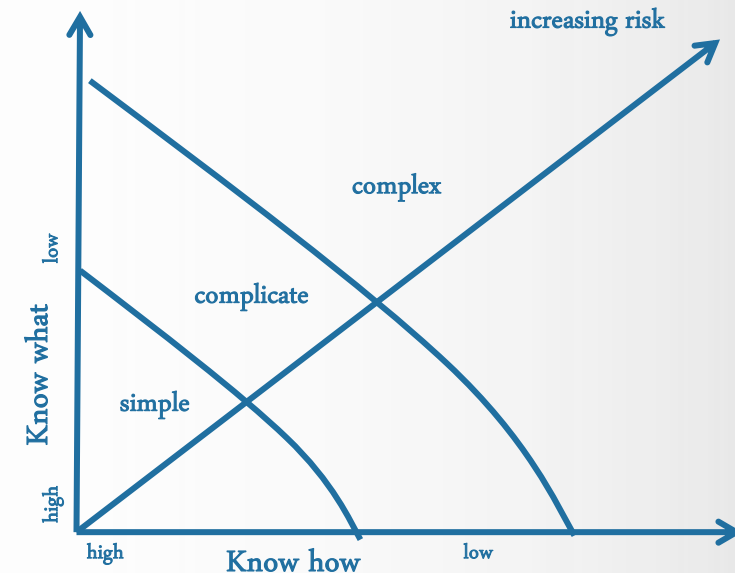
- ✓ Our application complies with the business requirements
- ✓ We have mainly PL/SQL and Forms Skills
- ✓ We need a cost-effective, low-risk solution

## Leave Forms when

- ✓ We definitely need no applet
- ✓ We find no Forms developers
- ✓ We have a strategy towards Java/ JEE or other programming environments

## Which technology is better?

Both Ways = Co-Existence

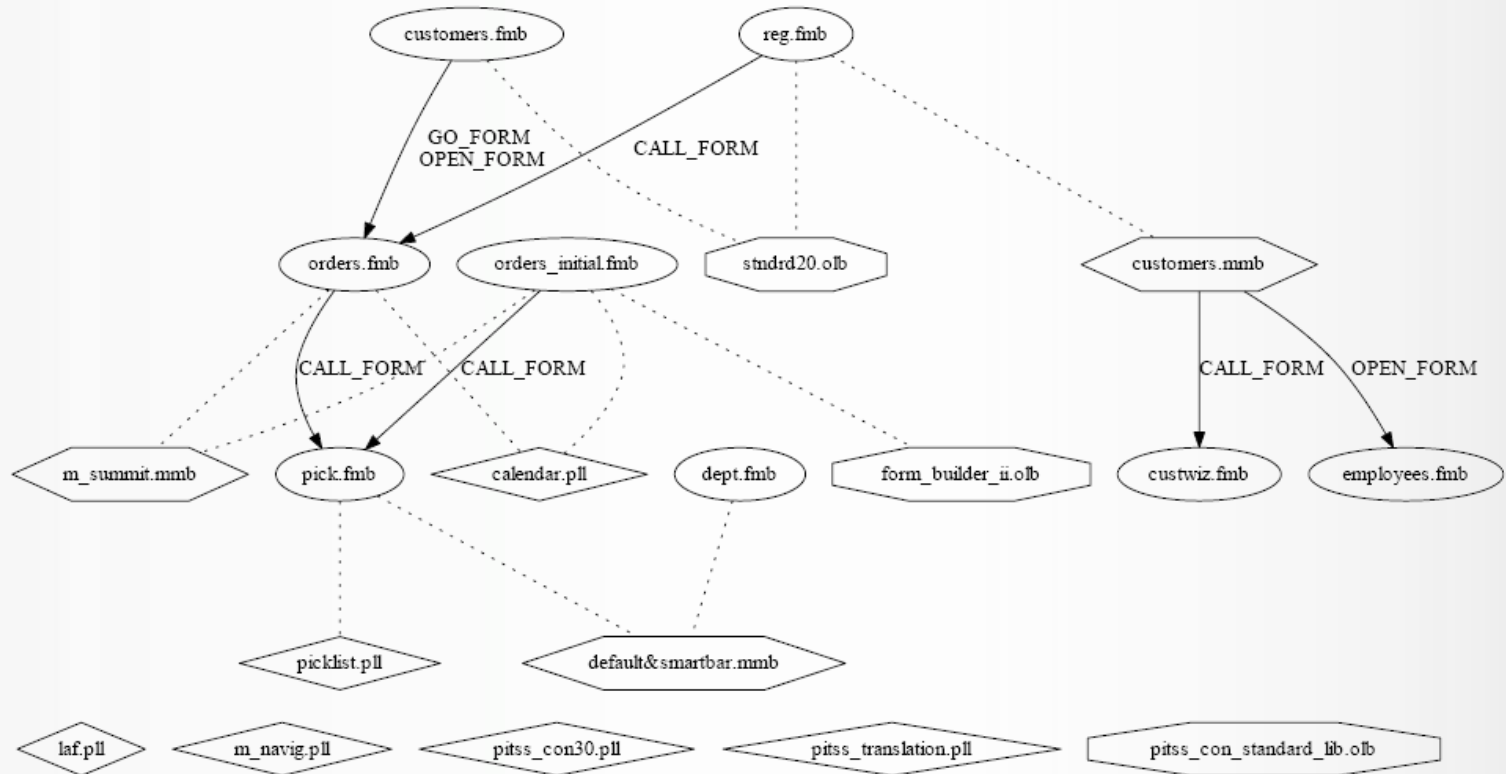


-> Reducing Complication

# Complexity Analysis: Forms Flow Graph

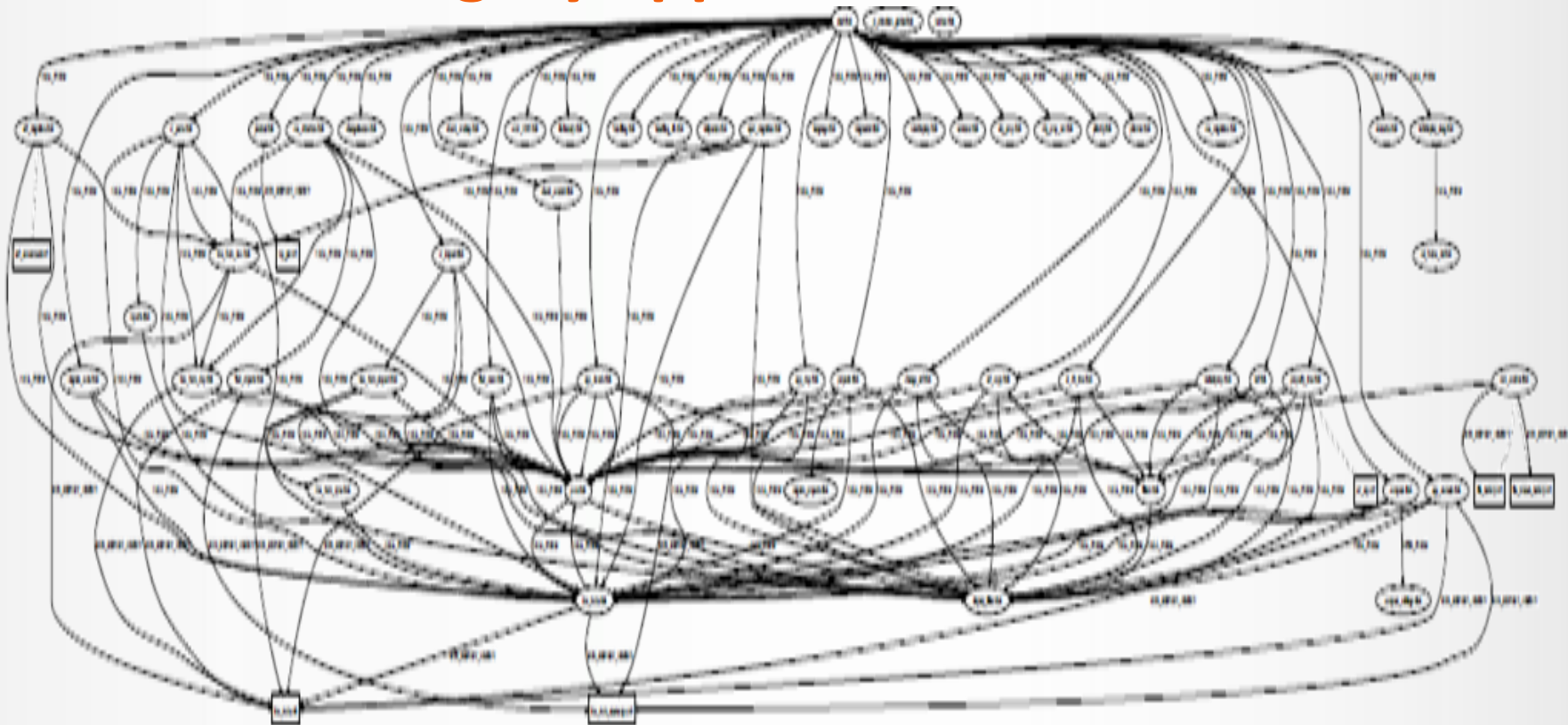
## For a demonstration application

Forms Flow Graph



# Complexity Analysis: Forms Flow Graph

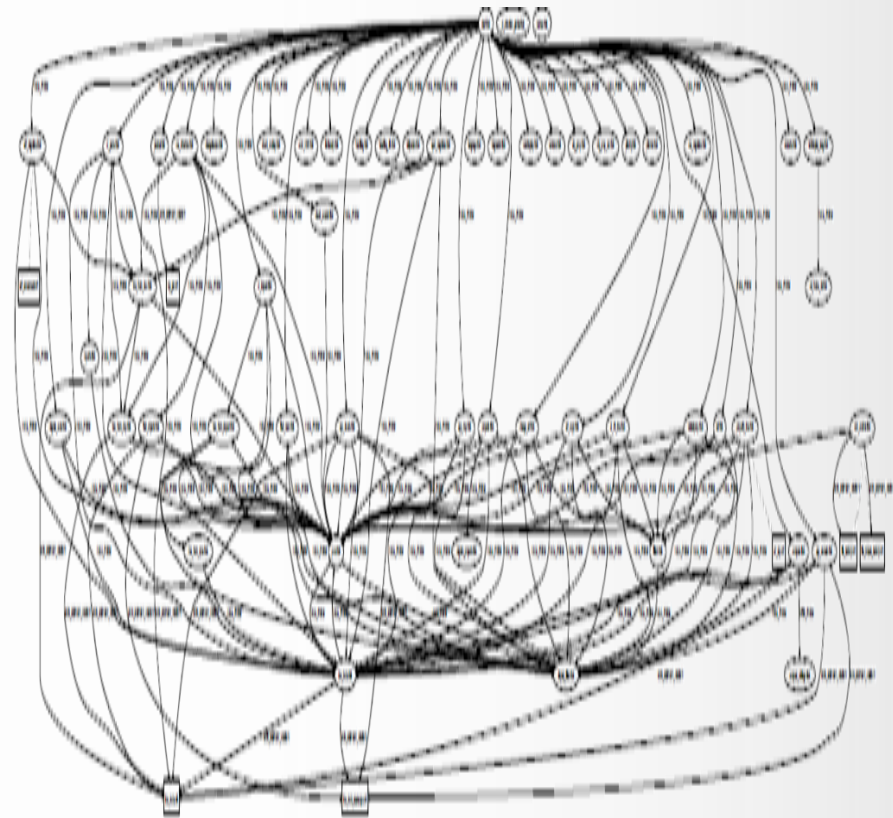
## For a small legacy application...



## So where is the complication?

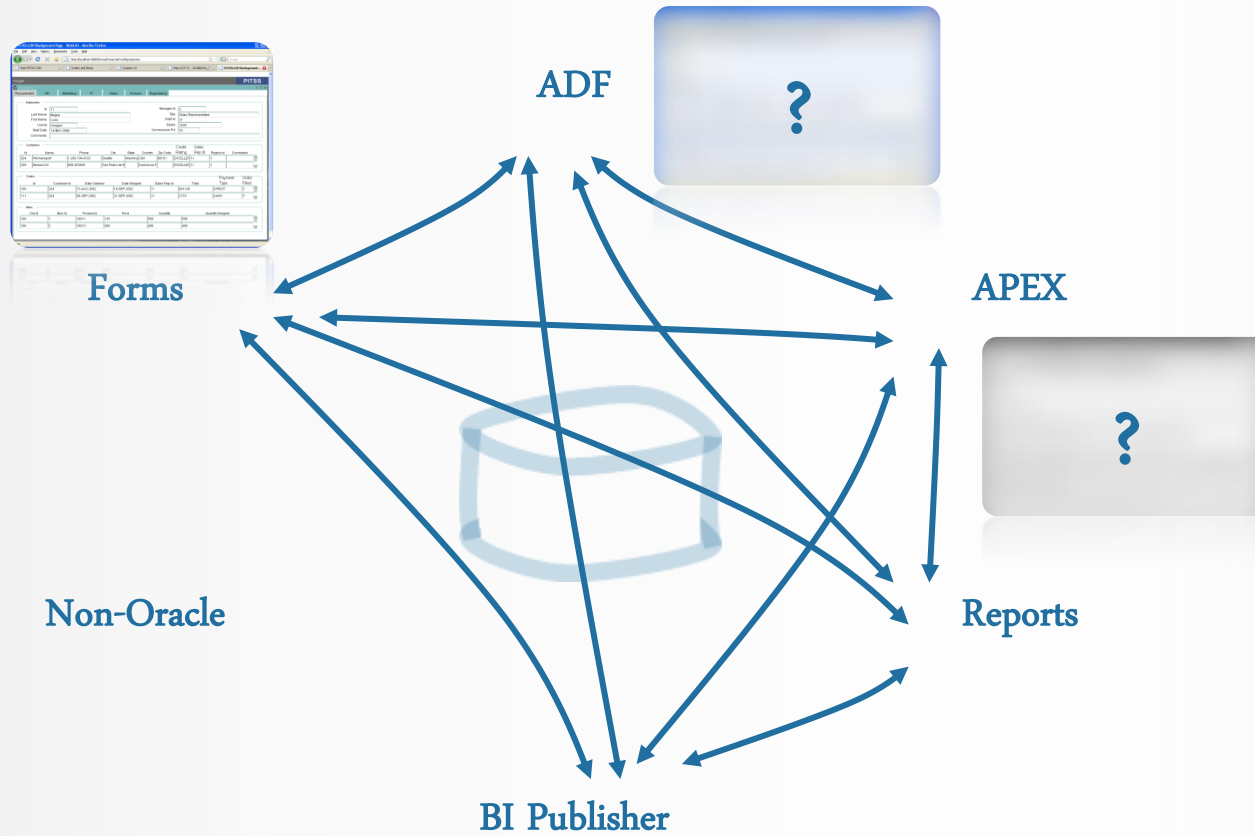
- ☐ The programming style?
- ☐ Forms?
- ☐ ADF?
- ☒ The 20 years maintenance?

**Any State-Of-The-Art application will be legacy in 10-20 years**





# Next Session: Migration and Co-Existence



A matter of

- Transaction management
- Functional flow
- Object reuse
- Investment protection

**Maintenance /  
Development**

**Visual Design**

**Source Control**

**Multi Language**

**Modernization**  
Upgrade – Forms / Reports  
3,4,5... 6i... 11g

**Modernization**  
Migration  
ADF / JEE – PL/SQL 2 Java

**Modernization**  
Migration  
APEX

**Application  
Engineering**

**Application  
Analysis**

# Forms 11g, ADF & APEX Co-existence in Enterprise Applications – PART 2

The Future of Forms SIG Meeting

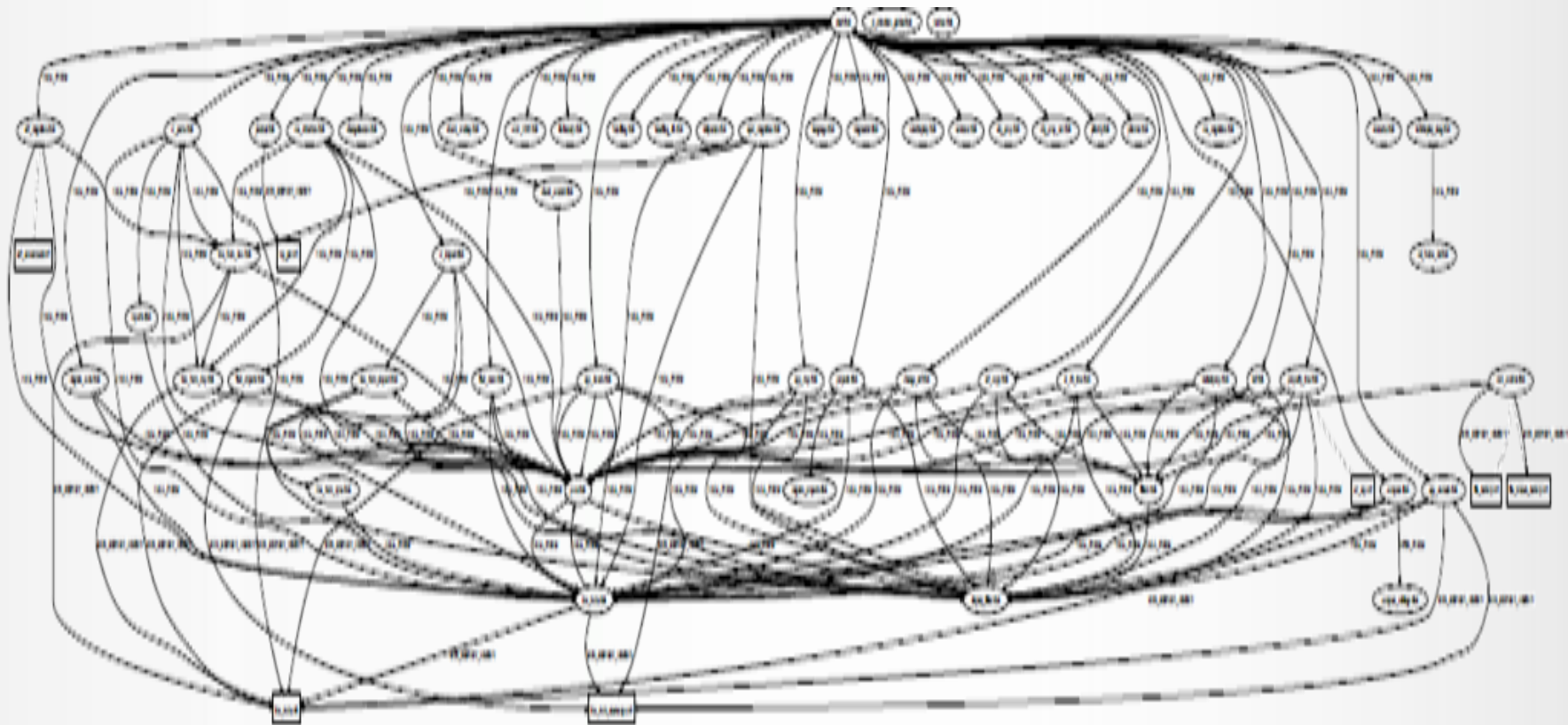
May 15, 2012

AMIS, Edisonbaan 15, Nieuwegein, Holland

**Magdalena Serban**  
**Product Manager**  
**PITSS**

professional  
it software &  
services **pitss**

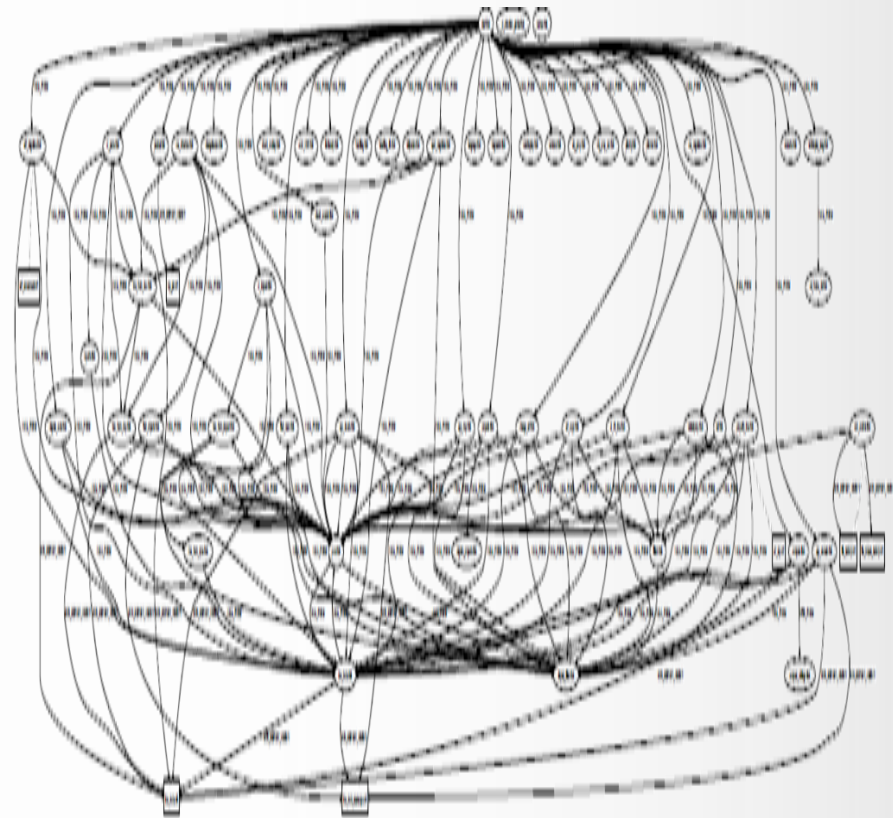
# Where Were We? Complexity Analysis



# Where Were We? Complexity Analysis

- ☐ The programming style?
- ☐ Forms?
- ☐ ADF?
- ☒ The 20 years maintenance?

**Any State-Of-The-Art  
application will be legacy  
in 10-20 years**

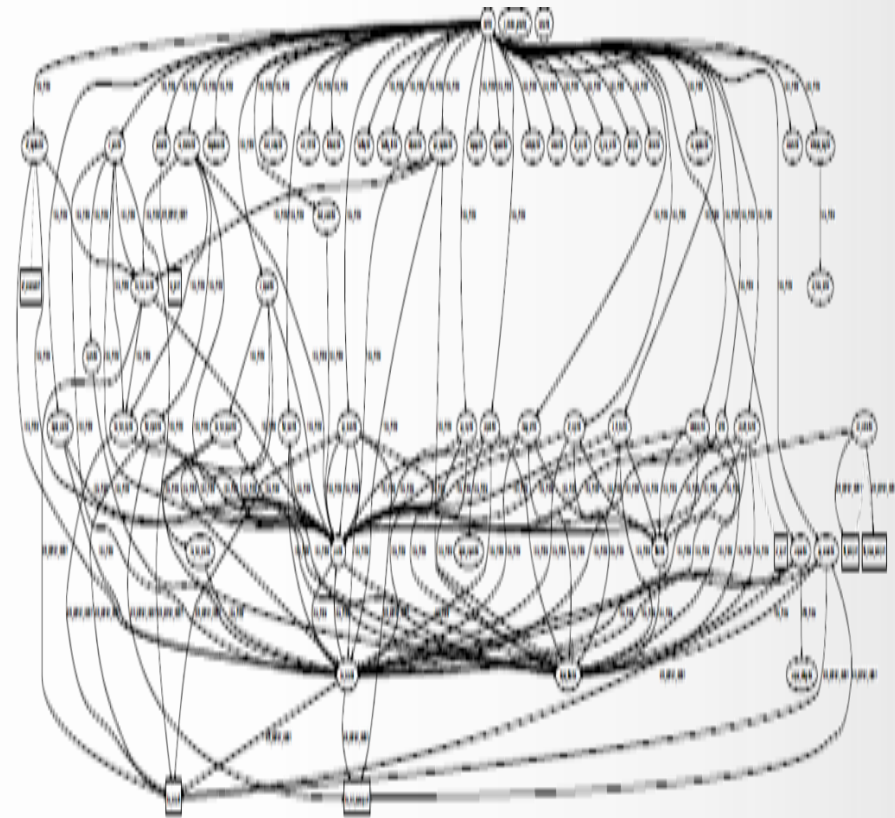




# Where Were We? Complexity Analysis

## Agenda

1. Simplify, de-clutter
2. Evaluate application
3. Take decisions: where to go
4. Learn: how to do it
5. Migrate
6. Integrate



## PITSS.CON Modernization Process

Quality Assurance

Documentation

Re-Engineering

Analysis

Cleaning  
Dead Code  
Redundancy

SOA

BL 2 DB

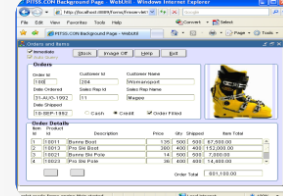
SOA

Migration

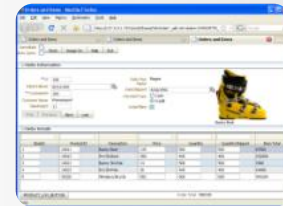
Iterations

Co-Existence of Technologies/ Partial Projects

Forms 11g



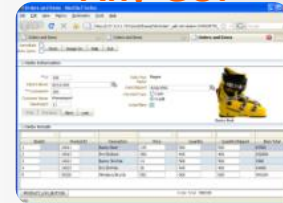
ADF



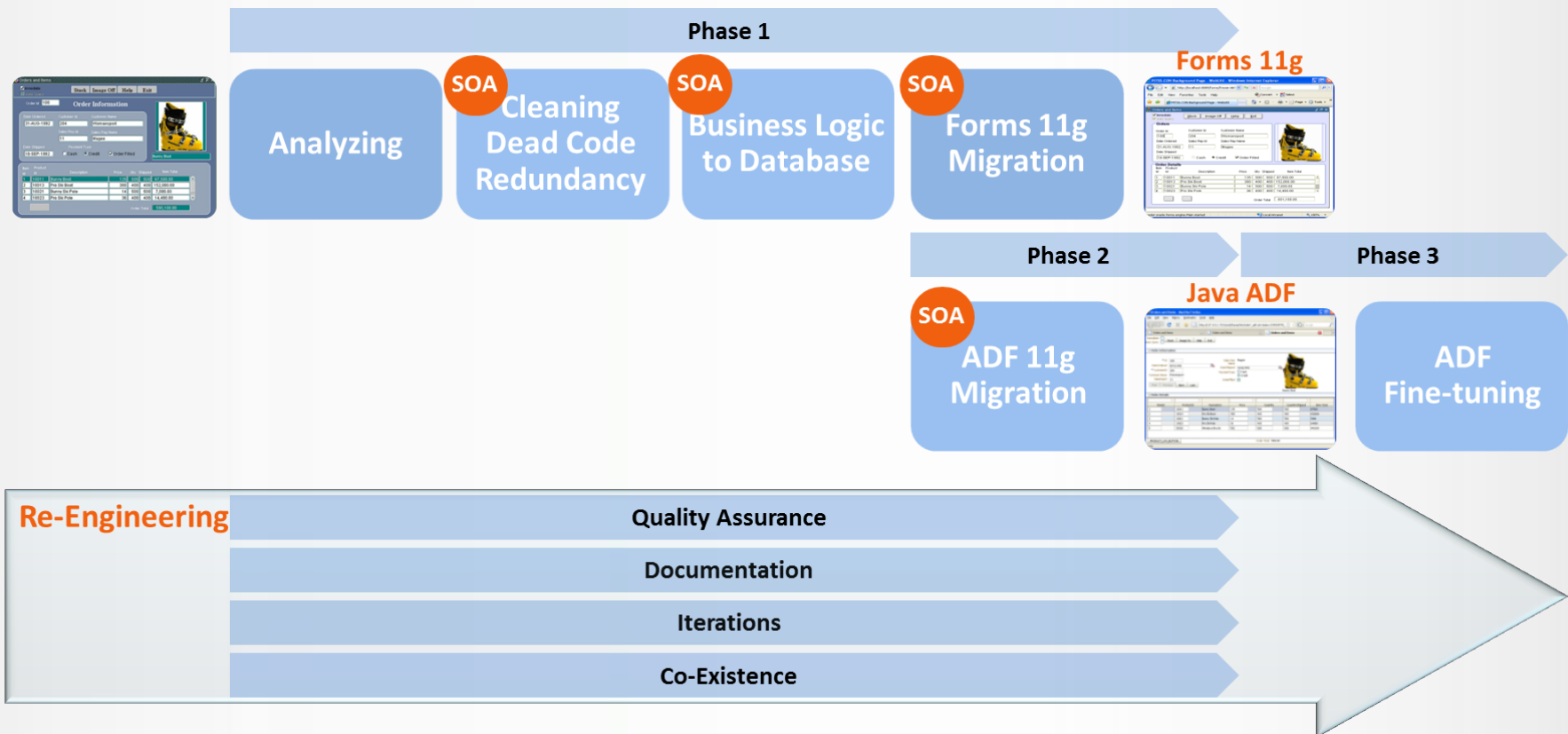
APEX



Any-GUI



## PITSS.CON Modernization Process in ADF Projects



## PITSS Recent ADF Projects

→ Boeing, US

→ Airas Intersoft, UK

600 Forms 10g to Forms 11g and ADF 11g

Designer-generated, very complex UI

→ ADF Migration Days Germany

→ US Health Care Provider

ADF 10g to 11g Migration

→ USSOCOM

400 Forms 10g to ADF 11g

→ US Health Care Provider

Forms 6i to ADF 11g

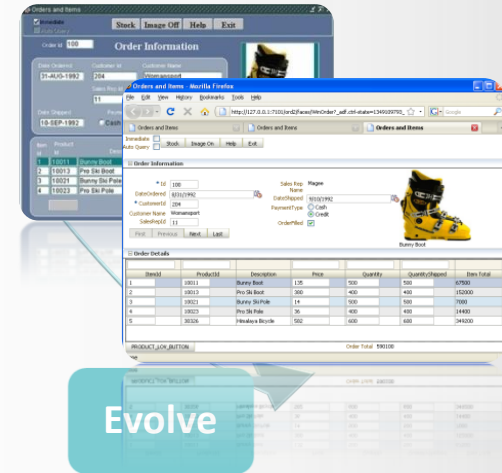
Complex UI, Webutil, LDAP security, Reports

in progress

2 x Year  
completed

in progress

completed





## 1. Application Analysis

**How to estimate the efforts down to each individual module?**

All application components are important:

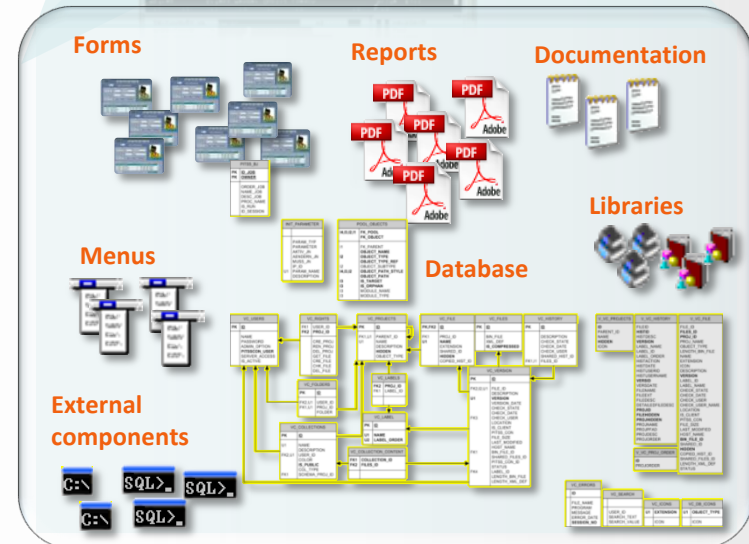
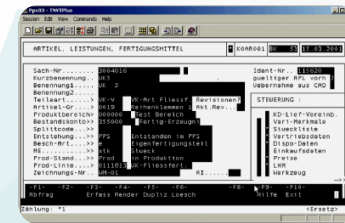
**FMB, MMB, PLL, OLB, DB, ...**

⇒ **Dependency Analysis**

⇒ **Forms Flow Analysis**

⇒ **Application**

**Assessment Report**



## 1. Application Analysis

How to estimate the efforts down to each individual module?

All application components are important:

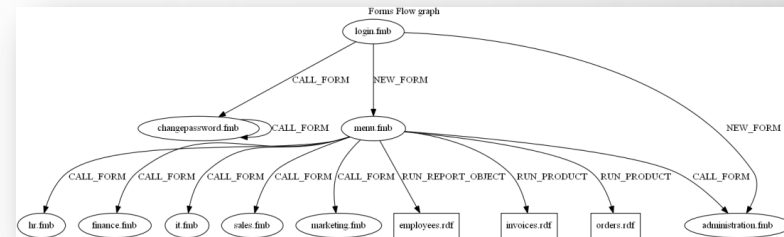
FMB, MMB, PLL, OLB, DB, ...

⇒ Dependency Analysis

⇒ Forms Flow Analysis

⇒ Application

Assessment Report



### Analysis Report

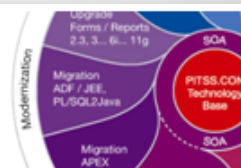
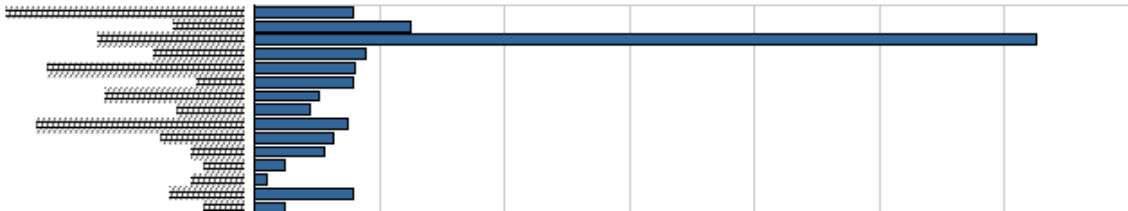
PITSS.CON User  
PITSS.CON Module

XXXXXXXXXX  
ADF Assistant

Report

Application Assessment Report

#### Summary



## 2. Cleaning

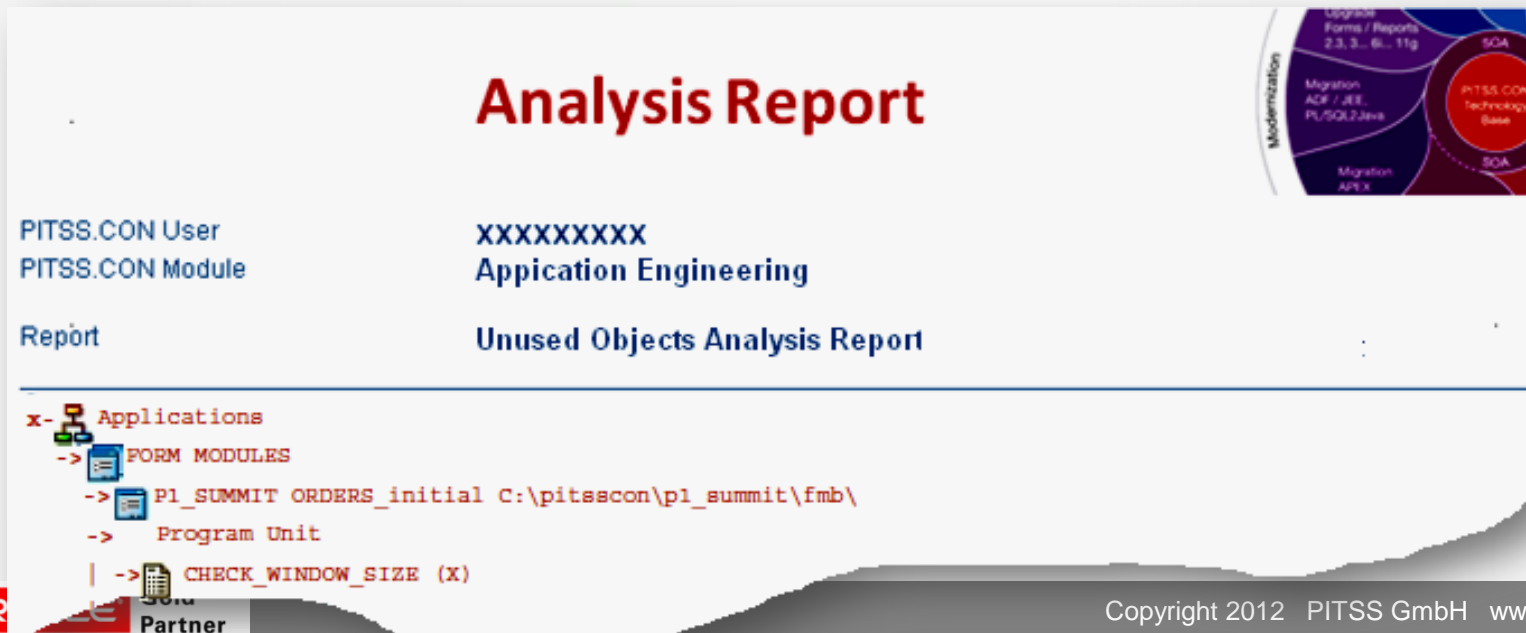
**How to eliminate safely the unused or redundant objects**

Reaching an average of 30% less objects

⇒ PITSS.CON Application Engineering

⇒ Unused Objects Analysis

Modernization Process



**Analysis Report**

PITSS.CON User  
PITSS.CON Module

XXXXXXXXXX  
Application Engineering

Report  
Unused Objects Analysis Report

x- Applications  
-> FORM MODULES  
-> P1\_SUMMIT ORDERS\_initial C:\pitsscon\p1\_summit\fmb\  
-> Program Unit  
| -> CHECK\_WINDOW\_SIZE (X)

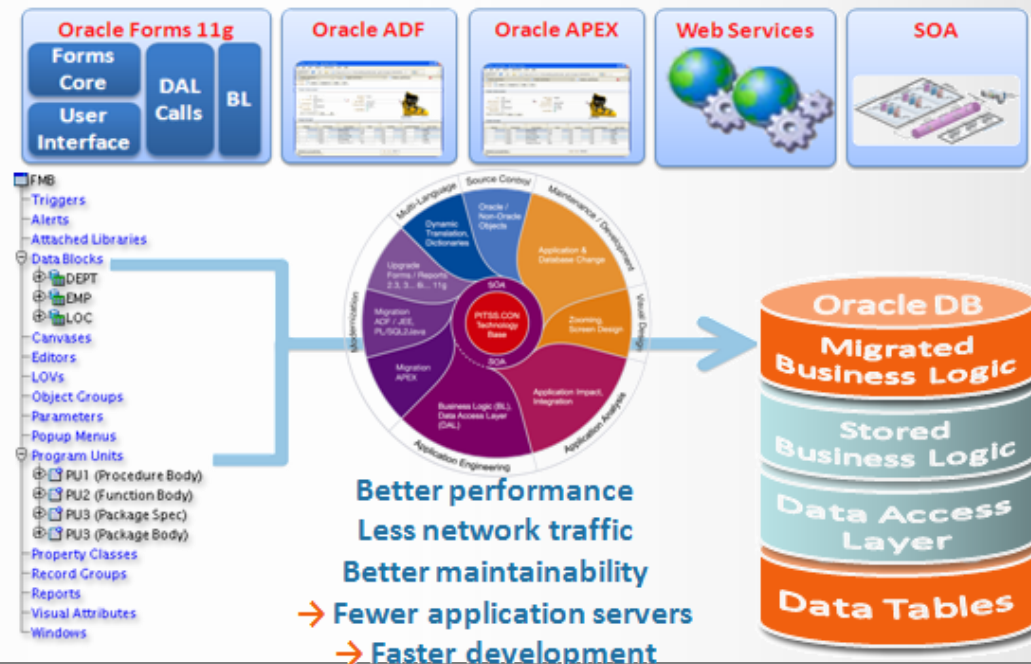
Copyright 2012 PITSS GmbH www.pitss.com

## 3. Migrating the Business Logic

**How to preserve the business logic investment?**

- ⇒ PITSS.CON Application Engineering
- ⇒ Business Logic Assistant
- ⇒ ADF Assistant PL/SQL2Java

Modernization Process





# Forms 11g, ADF & APEX: Co-Existence in Enterprise Applications

A screenshot of a legacy Forms 11g application window. It displays a complex data entry form with multiple tabs and fields. The form is titled 'ARTIKEL, LEISTUNGEN, FERTIGUNGSMITTEL' and contains various input fields for product details, pricing, and customer information. The interface is typical of older Oracle Forms applications, with a dense layout of text boxes and buttons.

A screenshot of an ADF (Oracle ADF) application window. It displays an 'Order Information' form. The form includes fields for 'Order Id', 'Date Ordered', 'Customer Id', 'Customer Name', 'Sales Rep Id', 'Sales Rep Name', 'Date Shipped', and 'Payment Type'. Below these fields is a table listing items with columns for 'Item Id', 'Product Id', 'Description', 'Price', 'Qty', 'Shipped', and 'Item Total'. A product image of a 'Bunny Boot' is displayed on the right side of the form.

Item Id	Product Id	Description	Price	Qty	Shipped	Item Total
1	10011	Bunny Boot	135	500	500	67,500.00
2	10013	Pro Ski Boot	380	400	400	152,000.00
3	10021	Bunny Ski Pole	14	500	500	7,000.00
4	10023	Pro Ski Pole	36	400	400	14,400.00
Order Total						590,100.00

A screenshot of an APEX (Oracle APEX) application window. It displays an 'Orders and Items' form. The form includes fields for 'Order Id', 'Date Ordered', 'Customer Id', 'Customer Name', 'Sales Rep Id', 'Sales Rep Name', 'Date Shipped', and 'Payment Type'. Below these fields is a table listing items with columns for 'Item Id', 'Product Id', 'Description', 'Price', 'Quantity', 'Quantity Shipped', and 'Item Total'. A product image of a 'Bunny Boot' is displayed on the right side of the form.

Item Id	Product Id	Description	Price	Quantity	Quantity Shipped	Item Total
1	10011	Bunny Boot	135	500	500	67,500.00
2	10013	Pro Ski Boot	380	400	400	152,000.00
3	10021	Bunny Ski Pole	14	500	500	7,000.00
4	10023	Pro Ski Pole	36	400	400	14,400.00
5	30326	Himalaya Bicycle	582	600	600	349,200.00
Order Total						590,100.00

→ Decision Time

# Redesign Decision

## Full Rewrite or Tool-supported?

### Decision factors

- \* Business needs
- \* Application complexity
- \* Skills

```
if Rewrite then read_first (  
    „How To Survive a Software Rewrite*“);  
  
elsif Tool then check_tool (  
    „Manage Entire Application: fmb,mmb,pll,olb,DB,etc“ ,  
    „No Forms Engine in ADF“ ,  
    „No Proprietary Components Inside“);  
  
end if;
```

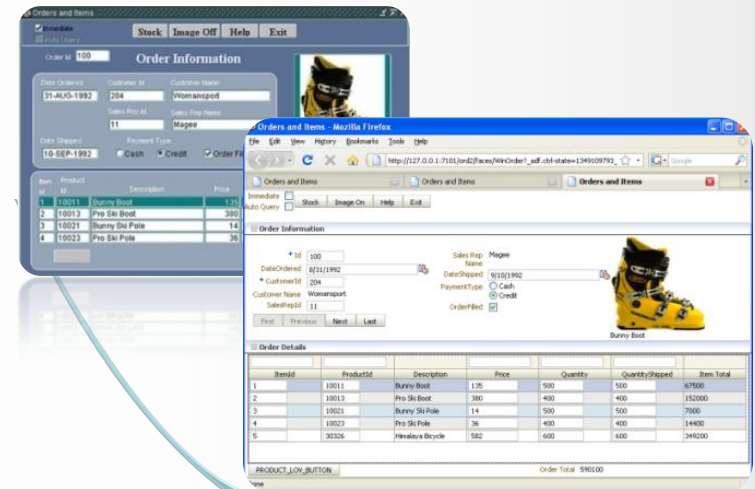
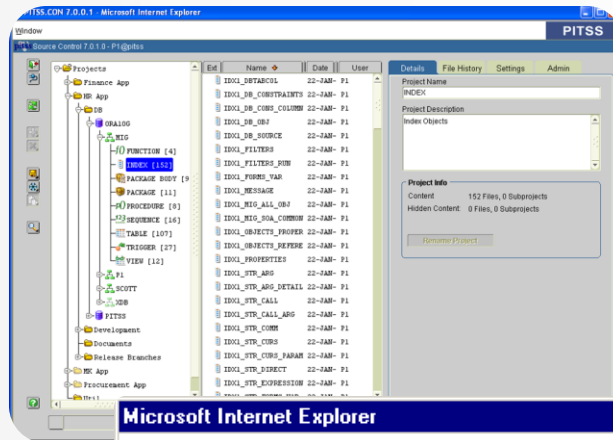
\* <http://jamesshore.com/Blog/How-to-Survive-a-Rewrite.html>

## The Browser Challenge

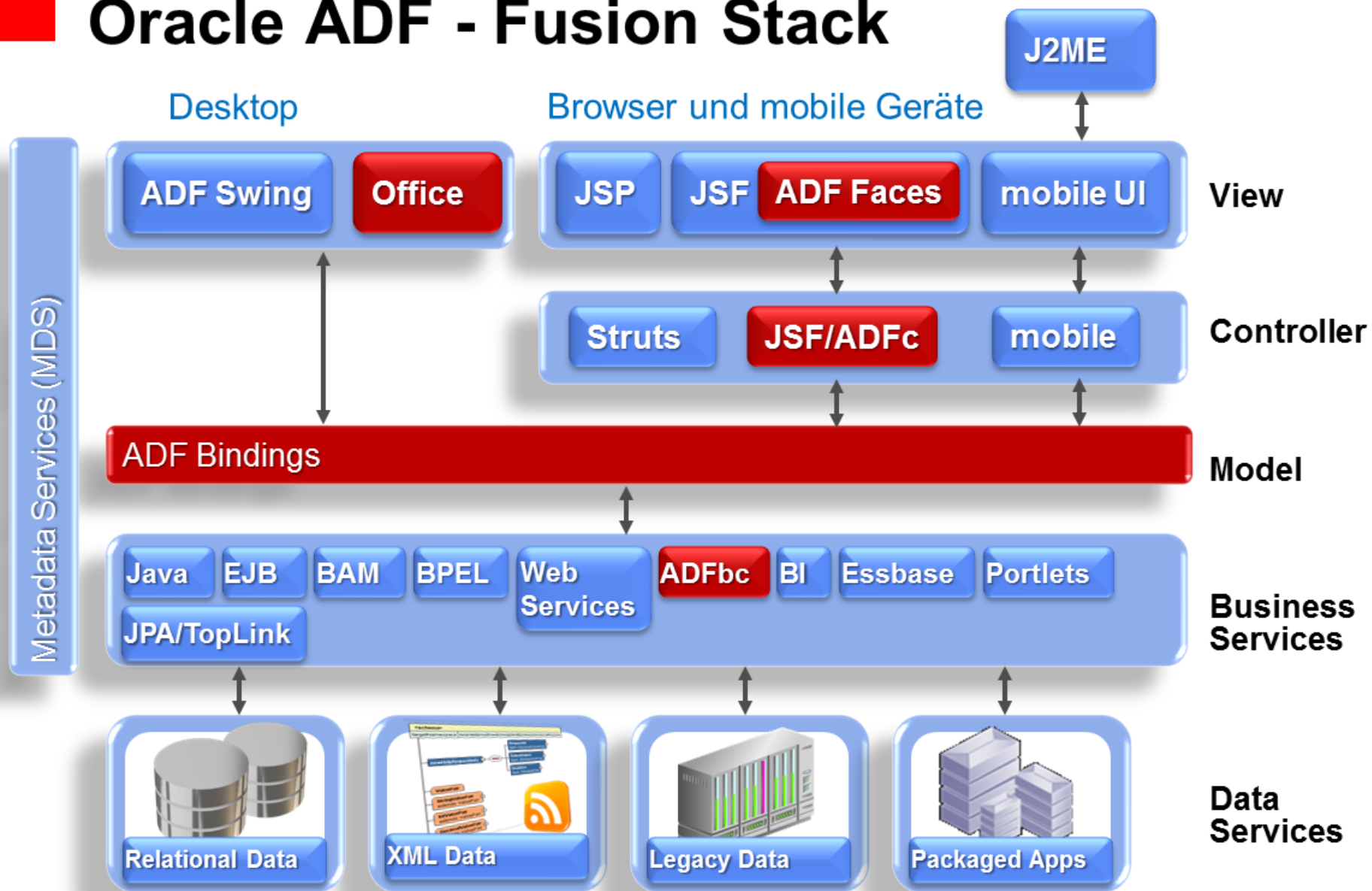
**No Applet? Redesign UI to meet Browser Standards:**

→ No 100+ fields or records

→ No pixel-based UI



# Oracle ADF - Fusion Stack





# Forms 11g, ADF & APEX: Co-Existence in Enterprise Applications

ARTIKEL, LEISTUNGEN, FERTIGUNGSMITTEL

Sach-Nr. .... 1001100  
 Kurzbezeichnung: ...  
 Bezeichnung: ...  
 Teilart: ...  
 Produktbereich: ...  
 Bestandskonten: ...  
 Sollkonto: ...  
 Entschädigung: ...  
 Besch-Nr.: ...  
 Prod-Stand: ...  
 Prod-Linie: ...  
 Zeichnungs-Nr.: ...

Ident-Nr. .... 11000  
 gültiger WZ: vom ...  
 Übernahme aus: ...  
 STÜBERUNG: ...  
 AD-LIST-Verförm: ...  
 Vertriebsstellen: ...  
 Verkaufsdaten: ...  
 Preise: ...  
 LHM: ...  
 Werkzeuge: ...

Order Information

Order Id: 100

Date Ordered: 31-AUG-1992

Customer Id: 204

Customer Name: Womansport

Sales Rep Id: 11

Sales Rep Name: Magee

Date Shipped: 10-SEP-1992

Payment Type: ☒ Cash ☐ Credit ☐ Order Filled

Item Id	Product Id	Description	Price	Qty	Shipped	Item Total
1	10011	Bunny Boot	135	500	500	67,500.00
2	10013	Pro Ski Boot	380	400	400	152,000.00
3	10021	Bunny Ski Pole	14	500	500	7,000.00
4	10023	Pro Ski Pole	36	400	400	14,400.00
Order Total:						590,100.00

Bunny Boot

Order Information

Order Id: 100

Date Ordered: 31-AUG-1992

Customer Id: 204

Customer Name: Womansport

Sales Rep Id: 11

Sales Rep Name: Magee

Date Shipped: 10-SEP-1992

Payment Type: ☒ Cash ☐ Credit ☐ Order Filled

Item Id	Product Id	Description	Price	Quantity	Quantity Shipped	Item Total
1	10011	Bunny Boot	135	500	500	67500
2	10013	Pro Ski Boot	380	400	400	152000
3	10021	Bunny Ski Pole	14	500	500	7000
4	10023	Pro Ski Pole	36	400	400	14400
5	30326	Himalaya Bicycle	582	600	600	349200
Order Total:						590100

Bunny Boot

→ Modernisation Demo

Migrate and Integrate

Forms 11g, ADF, APEX, Reports, ....

# Forms 11g, ADF & APEX: Co-Existence in Enterprise Applications

PITSS.CON Background Page - WebUtil - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://localhost:8889/forms/firmservlet?config=pitsscon

Start PITSS.CON Orders and Items Complex UI

Fenster

Complex UI

Procurement HR Marketing IT Sales Finance Engineering

Employees

Id 11 Manager Id 3  
 Last Name Magee Title Sales Representative  
 First Name Colin Dept Id 31  
 Userid cmagee Salary 1400  
 Start Date 14-MAY-2090 Commission Pct 10  
 Comments

Customers

Id	Name	Phone	City	State	Country	Zip Code	Credit Rating	Sales Rep Id	Region Id	Comments
204	Womansport	1-206-104-0103	Seattle	Washing	USA	98101	EXCELLEN	11	1	
209	Beisbol Sil	809-352689	San Pedro de M		Dominican F		EXCELLEN	11	1	

Orders

Id	Customer Id	Date Ordered	Date Shipped	Sales Rep Id	Total	Payment Type	Order Filled
100	204	31-AUG-2092	10-SEP-2092	11	601100	CREDIT	Y
111	204	09-SEP-2092	21-SEP-2092	11	2770	CASH	Y

Items

Ord Id	Item Id	Product Id	Price	Quantity	Quantity Shipped
100	1	10011	135	500	500
100	2	10013	380	400	400

Complex UI - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://127.0.0.1:7101/rest15/faces/adf.task-flow?adf.tfId=complexinterface-flow&adf.tfti

Start PITSS.CON Orders and Items Complex UI

Procurement HR Marketing IT Sales Finance Engineering

Employees

\* Id 11  
 \* Last Name Magee  
 First Name Colin  
 Userid cmagee  
 Start Date 14.05.2090  
 Comments  
 Manager Id 3  
 Title Sales Representative  
 Dept Id 31  
 Salary 1400  
 Commission Pct 10  
 First Previous Next Last

Items

Ansicht Zuordnung aufheben

Ord Id	Item Id	Product Id	Price	Quantity	Quantity Shipped
100	1	10011	135	500	500
100	2	10013	380	400	400

Orders

Ansicht Zuordnung aufheben

Id	Customer Id	Date Ordered	Date Shipped	Sales Rep Id	Total	Payment Type	Order Filled
100	204	31.08.2092	10.09.2092	11	601100	CREDIT	Y
111	204	09.09.2092	21.09.2092	11	2770	CASH	Y

Customers

Ansicht Zuordnung aufheben

Id	Name	Phone	City	State	Country	Zip Code	Credit Rating
204	Womansport	1-206-104-0103	Seattle	Washington	USA	98101	EXCELLENT
209	Beisbol Sil	809-352689	San Pedro de Ma		Dominican Repub		EXCELLENT

## Where to Start? Pilot projects

- 1-2 Forms modules of middle complexity
- migrate to Forms11g, APEX, ADF
- typical duration: 1-2 weeks

### Re-Engineering

Analyzing

Cleaning  
Dead Code  
Redundancy

SOA

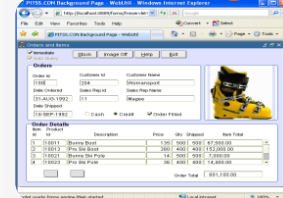
BL 2 DB

SOA

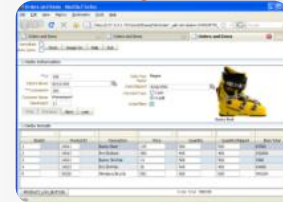
Modernizing

- ⇒ avoid big-bang projects risks
- ⇒ be confronted with 80% of the future project challenges
- ⇒ make accurate estimations
- ⇒ take decisions based on FACTS

### Forms 11g



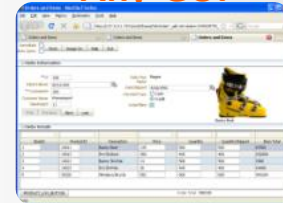
### ADF, Java



### APEX



### Any-GUI



## Challenge us!

- ✓ Upgrade to Forms 11g
- ✓ Migration to ADF, APEX or Any-GUI
- ✓ Pilot/ Full migration projects

PITSS International

[www.pitss.com](http://www.pitss.com)

### To Do

- \* Download JDeveloper
- \* Start learning
- \* Write how it worked



Source Control

Multi Language

**Modernization**  
Upgrade – Forms / Reports  
3,4,5... 6i... 11g

**Modernization**  
Migration  
ADF / JEE – PL/SQL 2 Java

**Modernization**  
Migration  
APEX

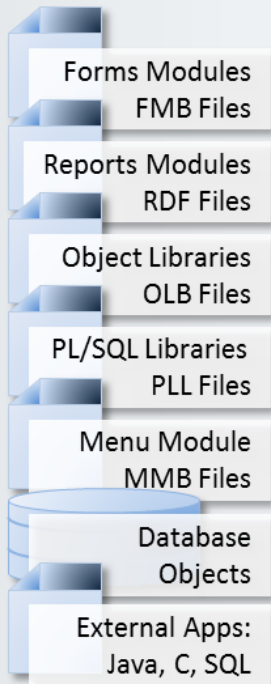
Application  
Engineering

Application  
Analysis

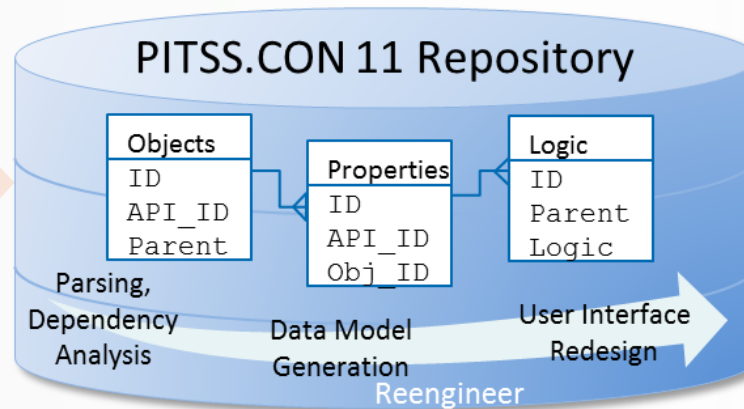


# Forms 11g, ADF & APEX: Co-Existence in Enterprise Applications

## Original: Any Version

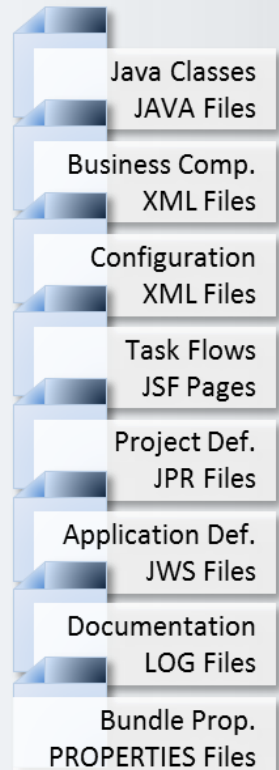


De-Compose  
using Forms API,  
Reports XML



Re-Build  
using  
Java API

## Target: ADF 11g



Object	Converted
Blocks Master-Detail Relations	<b>Yes</b> , all data sources <b>Yes</b> , any depth
Items: Text, Display, Button, Check Box, List, Radio Group, Tree, Image	<b>Yes</b> , except Java Beans (most are obsolete in ADF)
Alerts	<b>Yes</b>
Canvases	<b>Yes</b>
Editors	<b>Under development</b>
LOVs	<b>Yes</b>
Popup Menus	<b>Under development</b>
Windows	<b>Yes</b>

Conversion Degree		
Data Model	95%	'Hand-made' architecture basis for the entire application.
User Interface	75%	Only relevant objects will be converted.
Business Logic	55%	30-50% PL/SQL code eliminated during the unused/ redundancy analysis. Optional migration of PL/SQL to DB, Java or manual redesign.

- ✓ Pure ADF constructs
- ✓ No proprietary code

## ADF is flexible and can

- 
- The screenshot displays the SAP SD 7.40 interface. The top bar shows the system name 'SAPSD 7.40' and the user 'KORRIG'. The main window is titled 'Sales Order' and shows the following details:
- Order ID:** 1000000001
  - Customer:** KORRIG
  - Date:** 31-10-2002
  - Product:** Bunny Boot
- The 'Sales Order Details' table is visible, showing the following items:
- | Item | Product | Description    | Price | Quantity | Quantity/Chopped | Item Total |
|------|---------|----------------|-------|----------|------------------|------------|
| 1    | 10001   | Bunny Boot     | 175   | 500      | 500              | 87500      |
| 2    | 10003   | Pro Skiboot    | 385   | 400      | 400              | 154000     |
| 3    | 10002   | Bunny SkiPole  | 14    | 500      | 500              | 7000       |
| 4    | 10002   | Pro Skistoke   | 36    | 400      | 400              | 14400      |
| 5    | 10024   | Hindes Bicycle | 562   | 400      | 400              | 224800     |
- A large blue arrow points from the 'Bunny Boot' item in the Sales Order Details table to the 'Bunny Boot' product image in the Sales Order Information section.

## Next Steps

### ✓ Free PITSS Webinars and Online Trainings

6 Mar 2012	<a href="#">EN</a> <a href="#">DE</a>	APEX in 60 Minutes for Forms Developer
27 Mar 2012	<a href="#">EN</a> <a href="#">DE</a>	Upgrade and Modernize to Forms 11g
24 Apr 2012	<a href="#">EN</a> <a href="#">DE</a>	Oracle Forms Application Engineering

### ✓ Meet PITSS at Oracle Conferences

### ✓ Pilot projects: Challenge Us!!!

### ✓ Books + [Oracle Technology Network](#)



### To Learn

- \* Java
- \* JDeveloper
- \* ADF
- \* XML, HTML
- \* JavaScript
- \* Groovy

