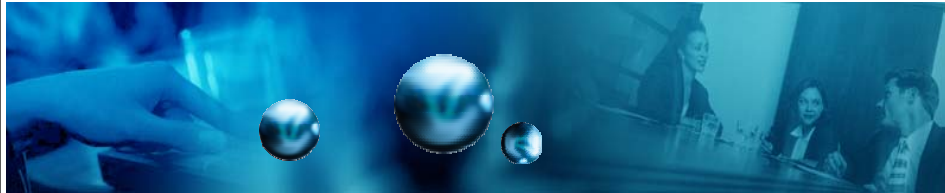


Case study concerning architecture development



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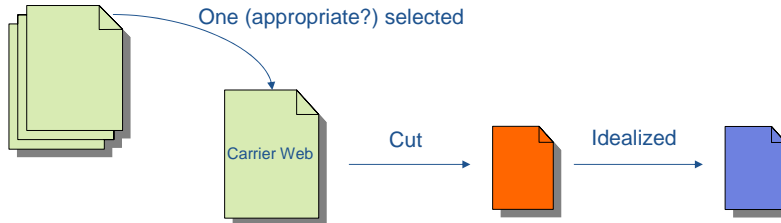
The idea

- The main idea – to prepare a case study for building software architectures
- To use a real project for this case study, which demonstrates the reverse engineering of a software architecture
- In each step of the explanation to put a problem and show a solution



A set of real projects

A set of real projects,
developed for
Deutsche Telekom



What we have at the beginning

- A huge database, unknown type
- Application, written in 70's in COBOL, only way to access the database
- The database and the application are not available on the side of the developers
- Necessity of modern tools for accessing the business logic of this application



What we must have at the end

- Thin client for access to the system (browser)
- Multilingual:
 - User interface
 - Help system
 - Error messages
- Simulator of the COBOL application for the period of the development



How to realize it?



User

?

COBOL Application

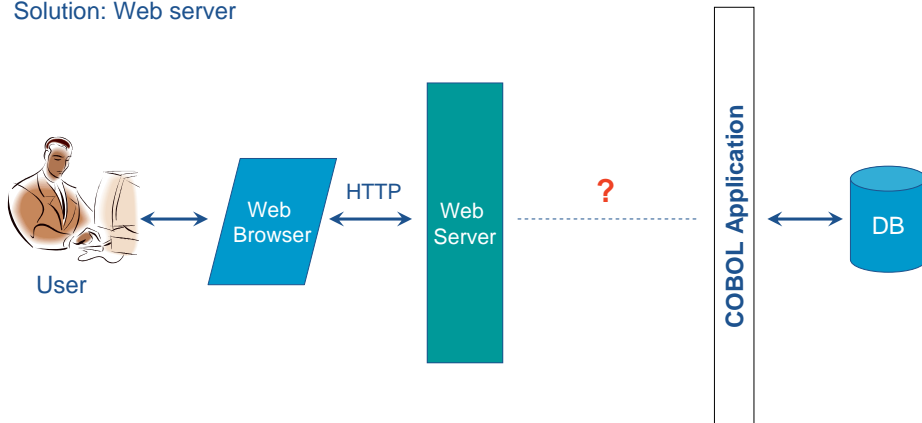


Database



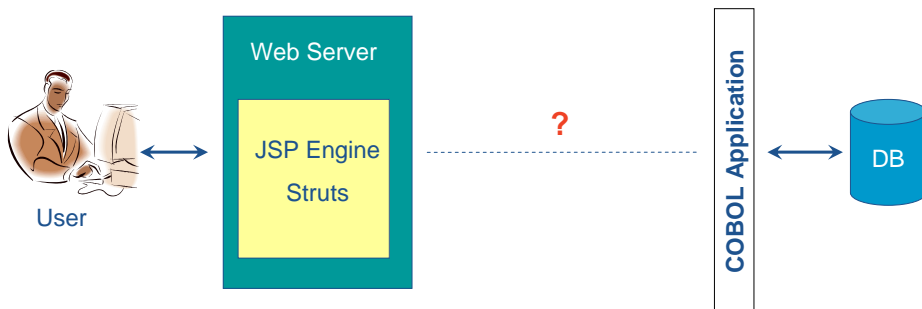
Problems and Solutions

Problem: Thin client
Solution: Web server



Problems and Solutions

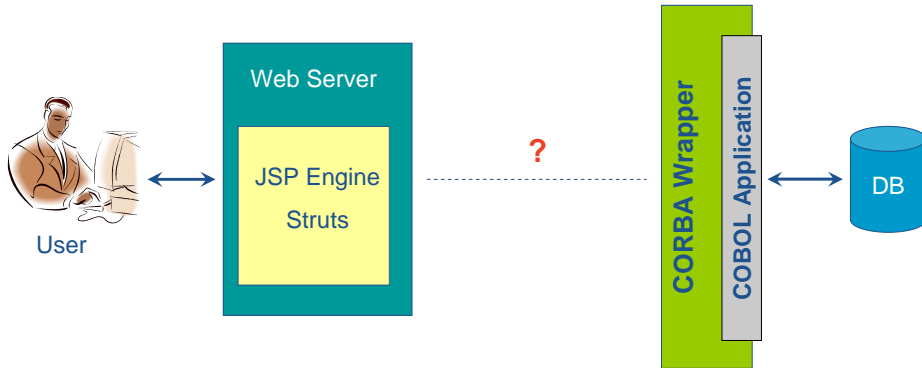
Problem: Multilingual user interface
Solution: Dynamic web application, using Struts framework





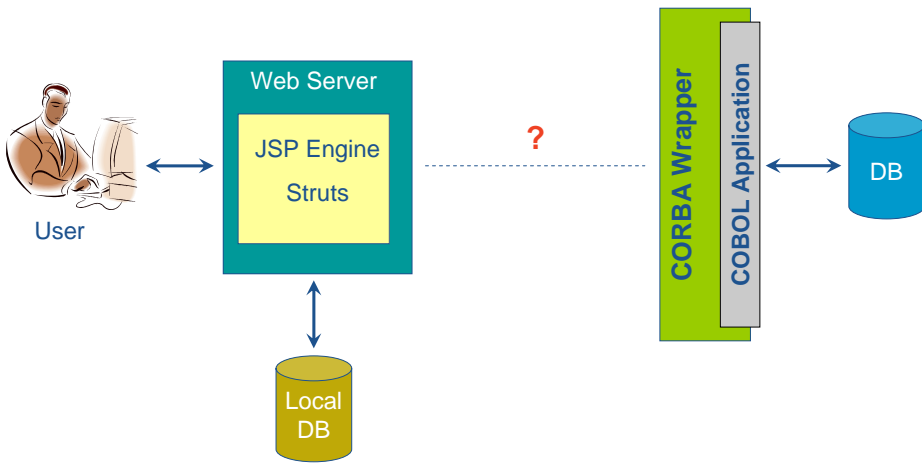
Problems and Solutions

Problem: Access to the COBOL application using Java
Solution: CORBA



Problems and Solutions

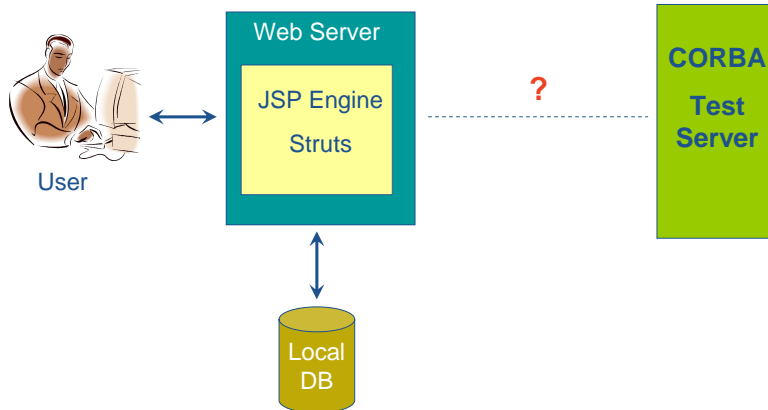
Problem: Multilingual help system and error messages
Solution: Mappings in local database





Problems and Solutions

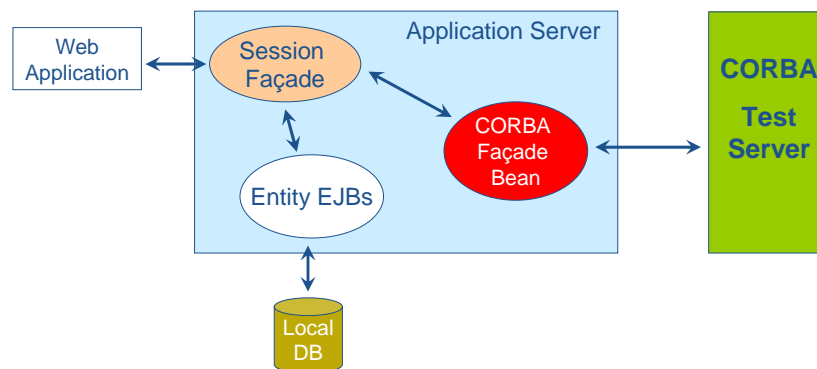
Problem: The COBOL application is not available during the development lifecycle
Solution: Development of own CORBA test server, considering the IDLs, given by the developers of the original CORBA wrapper.

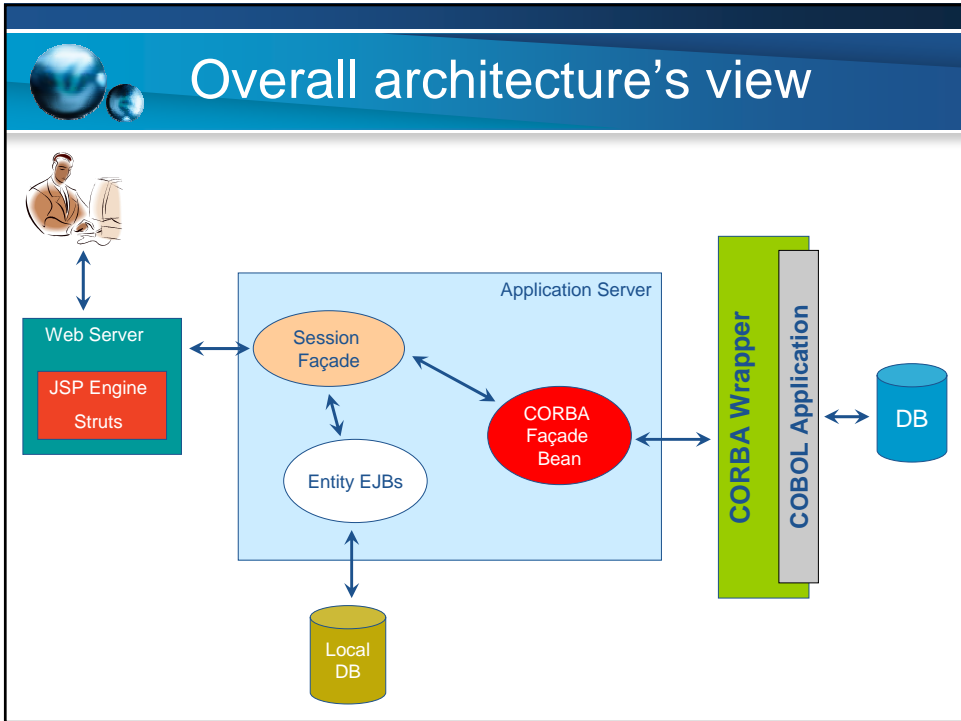


Problems and Solutions

Problem: Accessing CORBA and database server from web application
Solution: Putting the business logic in an application server

Note: Session Façade is used as a pattern.





The topics, distributed in lections

Topic	Lection
Servlets and JavaServer Pages, Enterprise Java Beans	Environments and architectures for Internet based development
CORBA	Enterprise applications integration and web services
Frameworks and patterns	Elective course



Used software

- *Local DB – Oracle*
- *Application Server – IBM Web Sphere*
- *ORB – Orbix/Visibroker*
- *JSP Engine – Tomcat*
- *Frameworks – Apache Struts*