



# BPEL Orchestration Roadmap

**Fulvio Frati**

*fulvio.frati@unimi.it*

**Sesar Lab**

*<http://ra.crema.unimi.it>*

# Example Description

- A simple travel agency proposes to customers a choose between two airlines company (West and East Airlines) and two hotels groups (BestWestern and HolidayInn).
- The business process takes in input:
  - name of the customer
  - source and destination
  - number of days and passengers
- The process of reservation asks first if Alfa has availability of a flight and, if it doesn't, to Beta. Then, it calls in parallel the hotel booking services and reserves the room in the cheaper hotel.

# 1<sup>st</sup> step: Web Application

- Creation of the web application
- Configuration of web services
  - Definition of operations parameters
  - Operations implementation
- Testing

## 2<sup>nd</sup> step: Orchestration Parameters

- Definition of XSD schema describing process input, output, and fault messages
- Creation of process WSDL

# 3<sup>rd</sup> step: BPEL Diagram

## ■ Creation of BPEL diagram

- Partner links
- Activities
- Control Structures
- Variables

## 4<sup>th</sup> step: Composite Application

- Creation of a Composite Application
- Importing of business process
- Testing of the business process

# 5<sup>th</sup> step: Process Enrichment

- Travel Agency Homepage Creation
- Simplified fault handling
- Bug? Substitute the HTTPDefaultPort parameter in WSDL file – *SOAP:Address tag*
  - Retrieve it in Glassfish Startup log (default 9080)

# [Exercise]

- Create 4 new Web Services for car rentals:
  - FirstRental-Roma and FirstRental-NewYork
  - Cars-Roma and Cars-NewYork
- Call in parallel the two rental companies, differentiating for destination
- Rent the cheaper car

# Suggested books

- David Salter, and Frank Jennings. Building SOA-Based Composite Applications Using NetBeans IDE 6. *Packt Publishing*.
- Judith Hurwitz, Robin Bloor, Carol Baroudi, and Marcia Kaufman. Service Oriented Architecture for Dummies. *Wiley Publishing, inc.*
- Thomas Erl. SOA: Principles of Service Design. *Prentice Hall*.
- SOA Tutorials: <http://www.netbeans.org/kb/trails/soa.html>

# Contact

- Sesar Lab

<http://sesar.crema.unimi.it>

- Email

[fulvio.frati@unimi.it](mailto:fulvio.frati@unimi.it)