



# ***A Taxonomy of Variability in Web Service Flows***

***Sergio Segura, David Benavides, Antonio Ruiz-Cortés and P. Trinidad***

***Department of Computer Languages and Systems  
University of Seville, Spain***

UNIVERSIDAD DE SEVILLA

## *The Path*

- Introduction
- Web Service Flows
- Variability points in WS-Flows
- Conclusions and Future Work

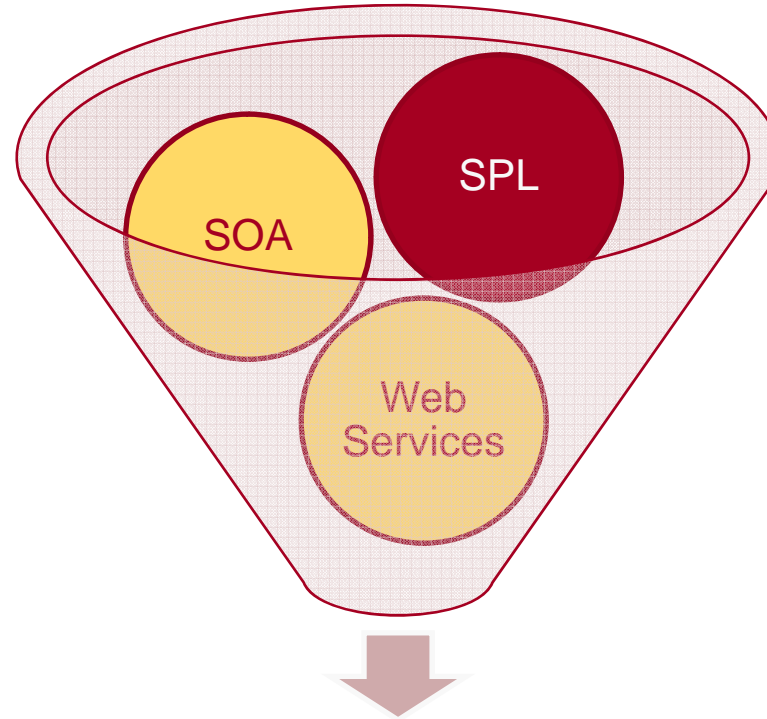


# *The Path*

- **Introduction**
- Web Service Flows
- Variability points in WS-Flows
- Conclusions and Future Work



# Introduction



**Discoverability**

**Reusability**

**Quality**

**Time-to-market**

**Productivity**

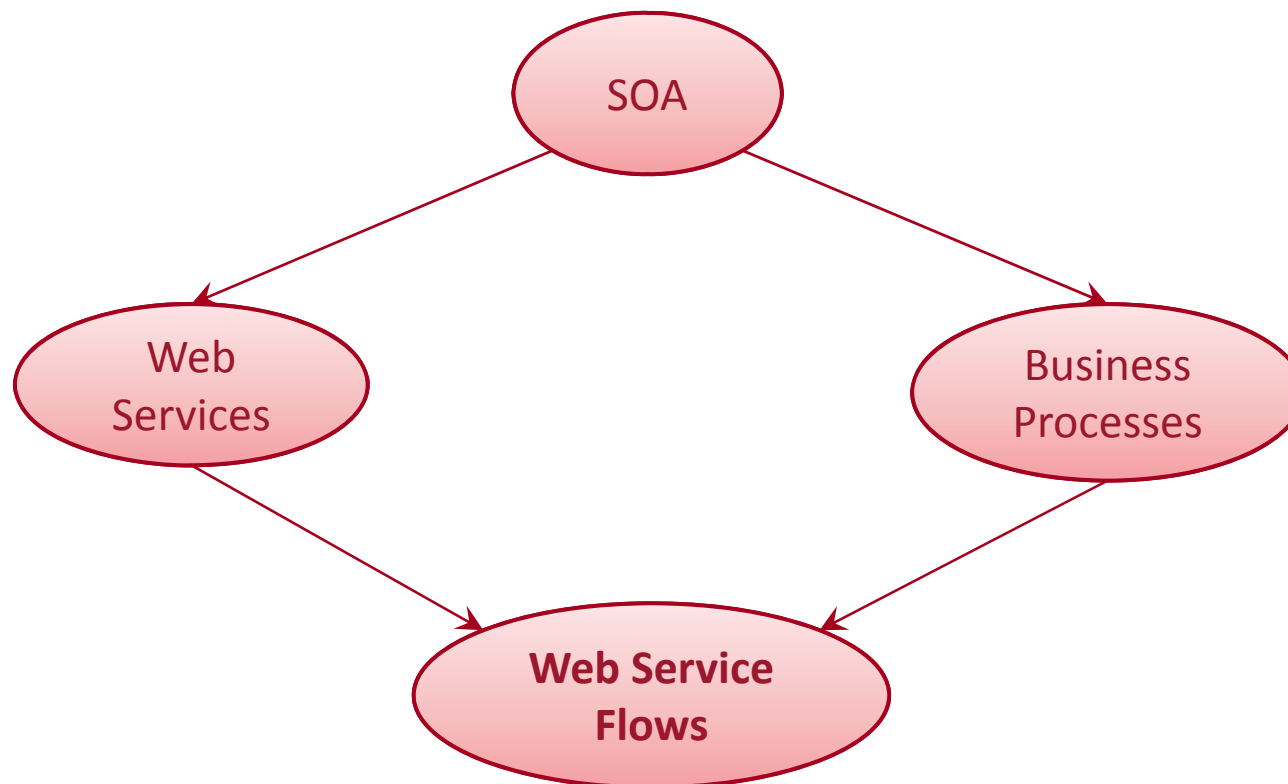
**Loose Coupling**

**Stateless**



# Introduction

How handling variability through services?



# ***Introduction***

## **A taxonomy of variability in Web Service Flows**

- Starting point for a base of knowledge about variability in WS-flows that can be later used for both:
  1. Evaluating the different mechanisms for implementing variability in WS-flows.
  2. Identifying factors that affect the selection of such variability mechanisms.



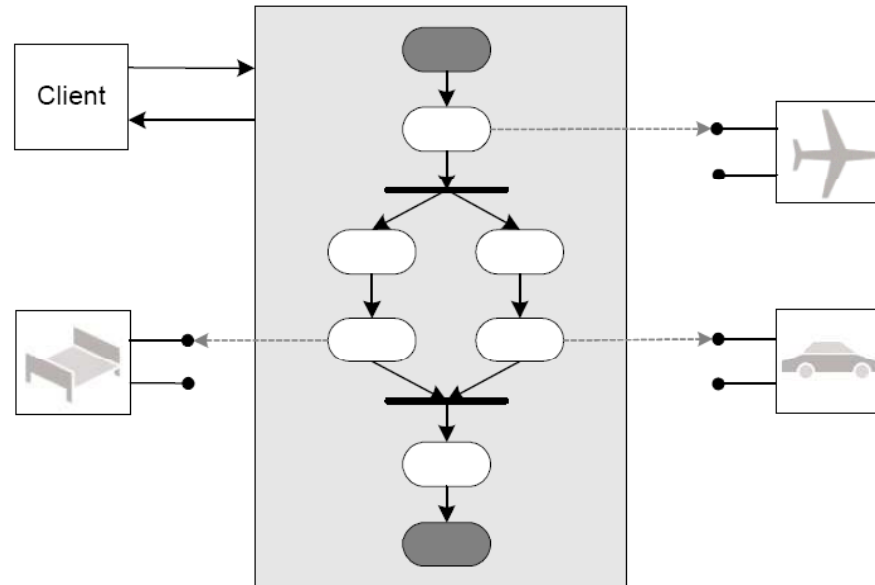
# *The Path*

- Introduction
- **Web Service Flows**
- Variability points in WS-Flows
- Conclusions and Future Work



# Web Service Flows

- A *Web Service Flow (WS-flow)* is as a composite Web service implemented using a process-based approach.
- Languages: WSCI, BPML, **BPEL**.





## *The Path*

- Introduction
- Web Service Flows
- **Variability points in WS-Flows**
- Conclusions and Future Work



# *Variability in WS-Flows*

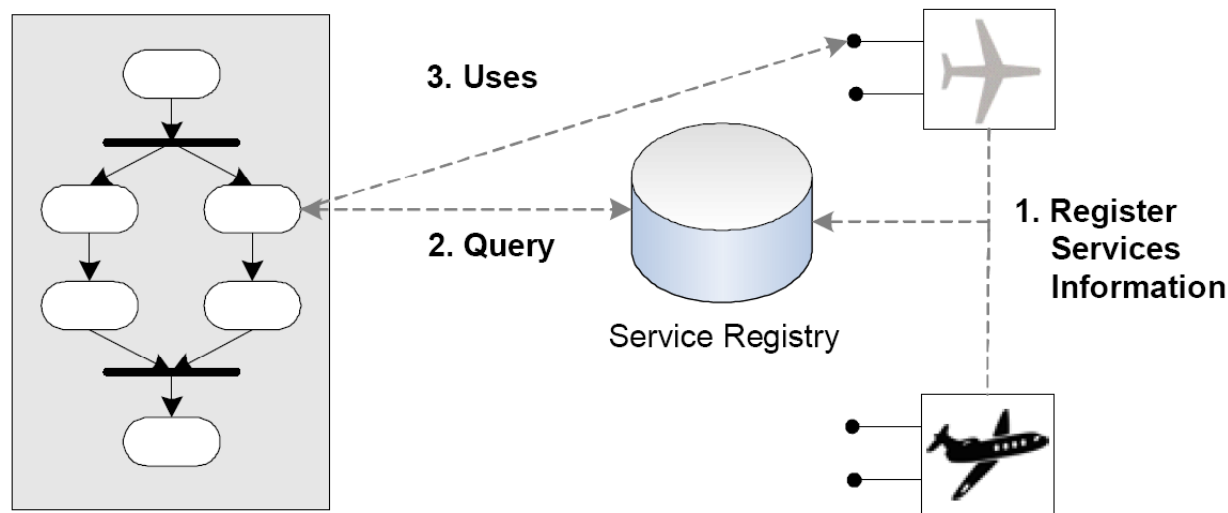
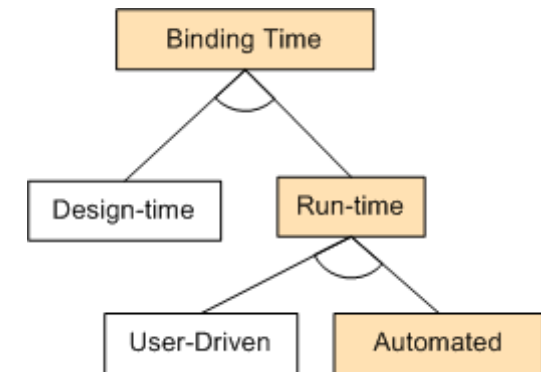
*Service Invocation*

*Process Workflow Structure*



# Variability in WS-Flows *Service Invocation*

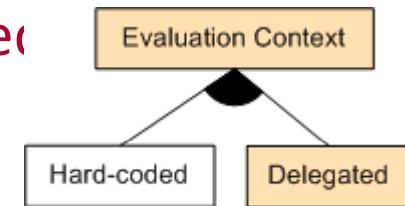
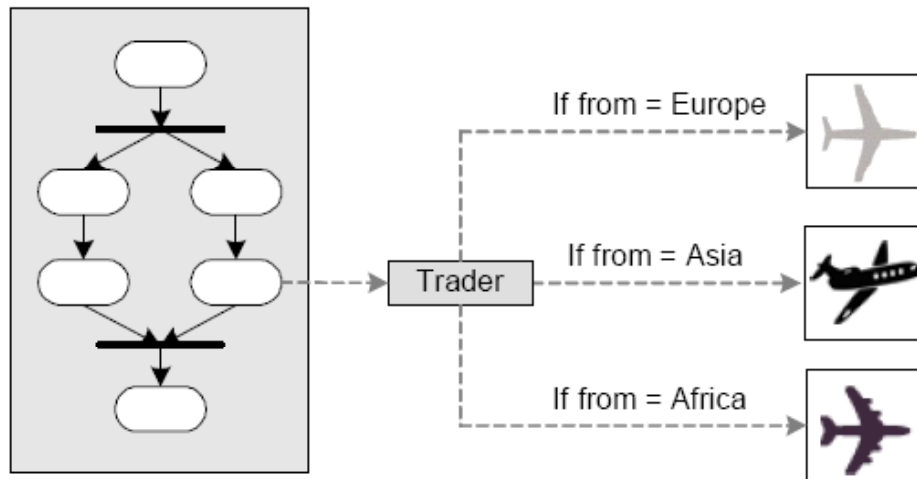
- **Partner Selection. Design-time VS Run-time**



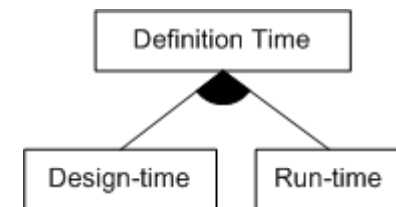
# Variability in WS-Flows *Service Invocation*

- **Partner Selection Criteria**

- a) **Evaluation Context. Hard-coded VS Delegated**

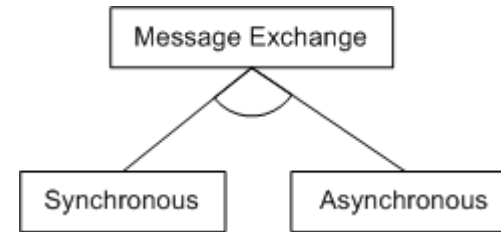


- b) **Definition Time. Design-time VS Run-time**

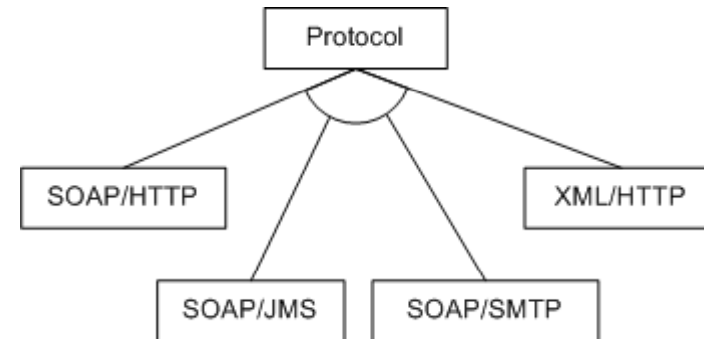


# Variability in WS-Flows *Service Invocation*

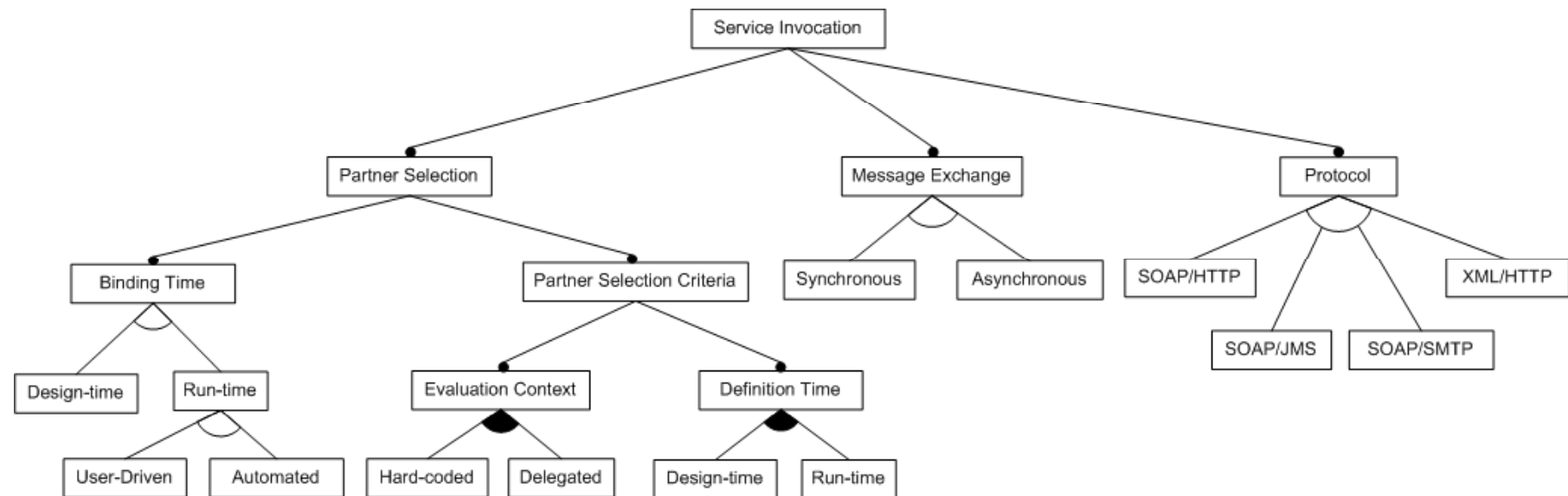
- **Message Exchange**
  - Synchronous VS Asynchronous



- **Protocols**
  - SOAP/HTTP
  - SOAP/JMS
  - XML/HTTP



# Variability in WS-Flows *Service Invocation*



# ***Variability in WS-Flows*** *Process Workflow Structure*

- **Control Flow.**
  - Task to be executed.
  - Execution order.
  
- **Data Flow**
  - Exchange of data between services.



## *The Path*

- Introduction
- Web Service Flows
- Variability points in WS-Flows
- **Conclusions and Future Work**



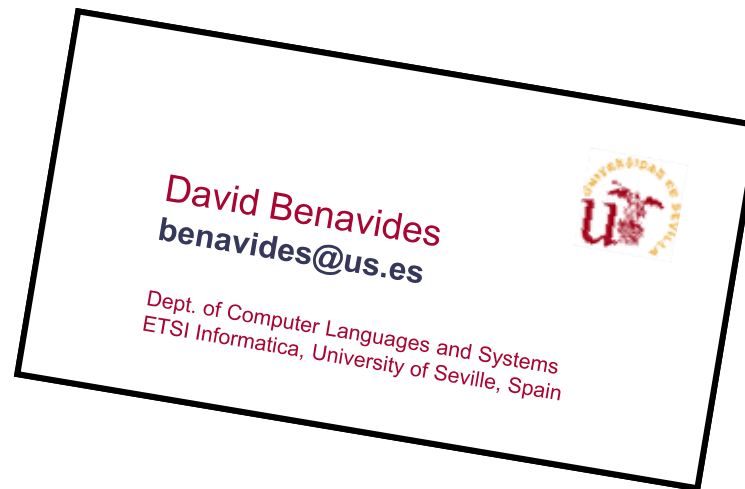


## *Conclusions and future work*

- A starting point for a base of knowledge about variability in WS-flows.
- We focus on service invocation and workflow structure.
- Next step: Implementation technologies
- Toward service-based implementation of business driven SPLs.



**Thanks!**



**Can we improve this talk?**

Contact us at **benavides@us.es**

Drop by our e-page at **www.lsi.us.es**

