

*Advanced Topics in the  
Semantic Web:  
Semantic Services for Business  
Process Management*  
**- Overview -**

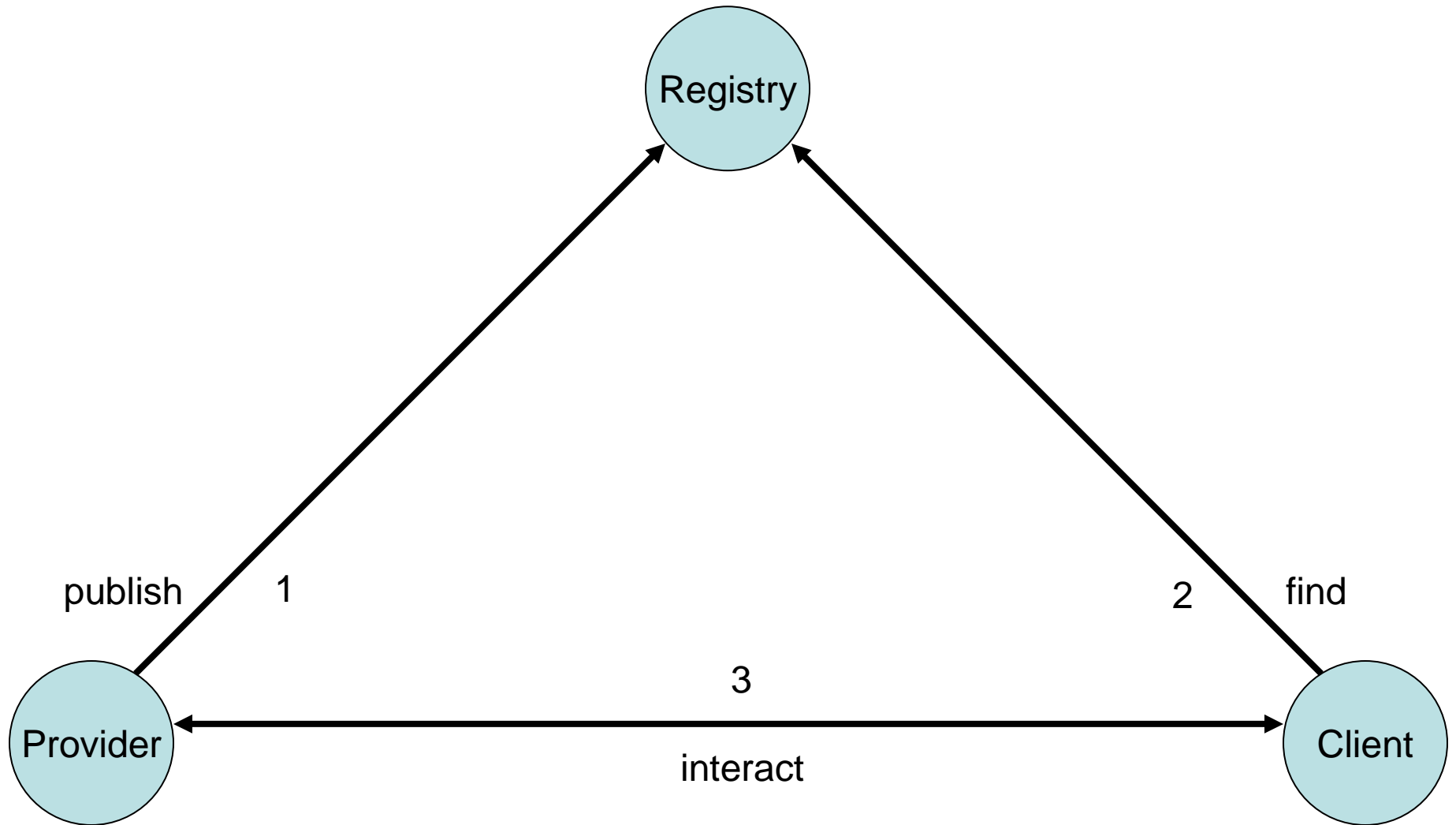
[Harold Boley](#)

*Semantic Web Laboratory*  
NRC-IIT and UNB-CS  
Fredericton, NB, Canada

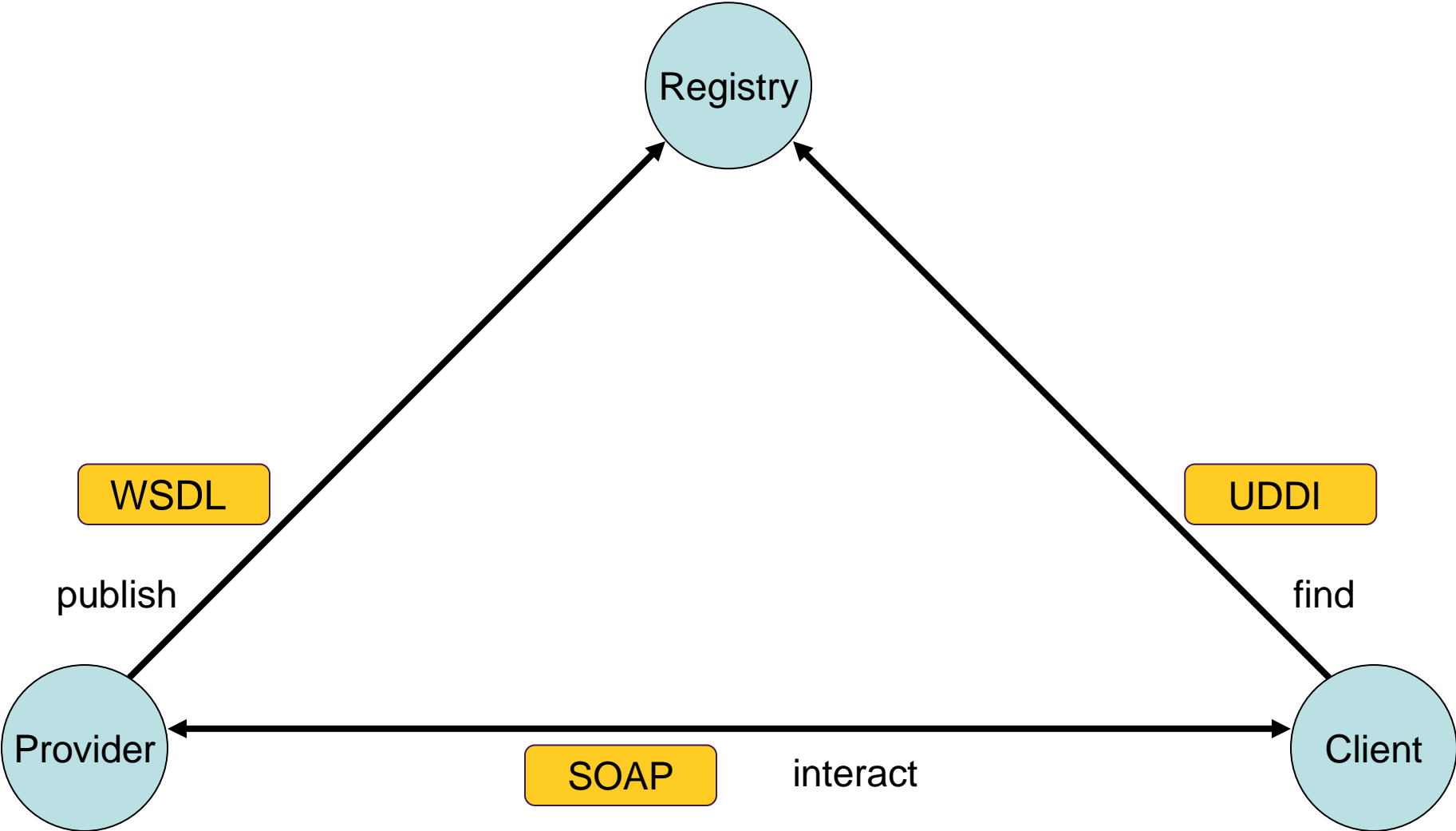
Course at the University of Vienna

11-15 June 2007

# Web Service Triangle: Roles



# Web Service Triangle: Roles and Core Languages



# Web Service Stack: Layers

Business  
Processes

Description

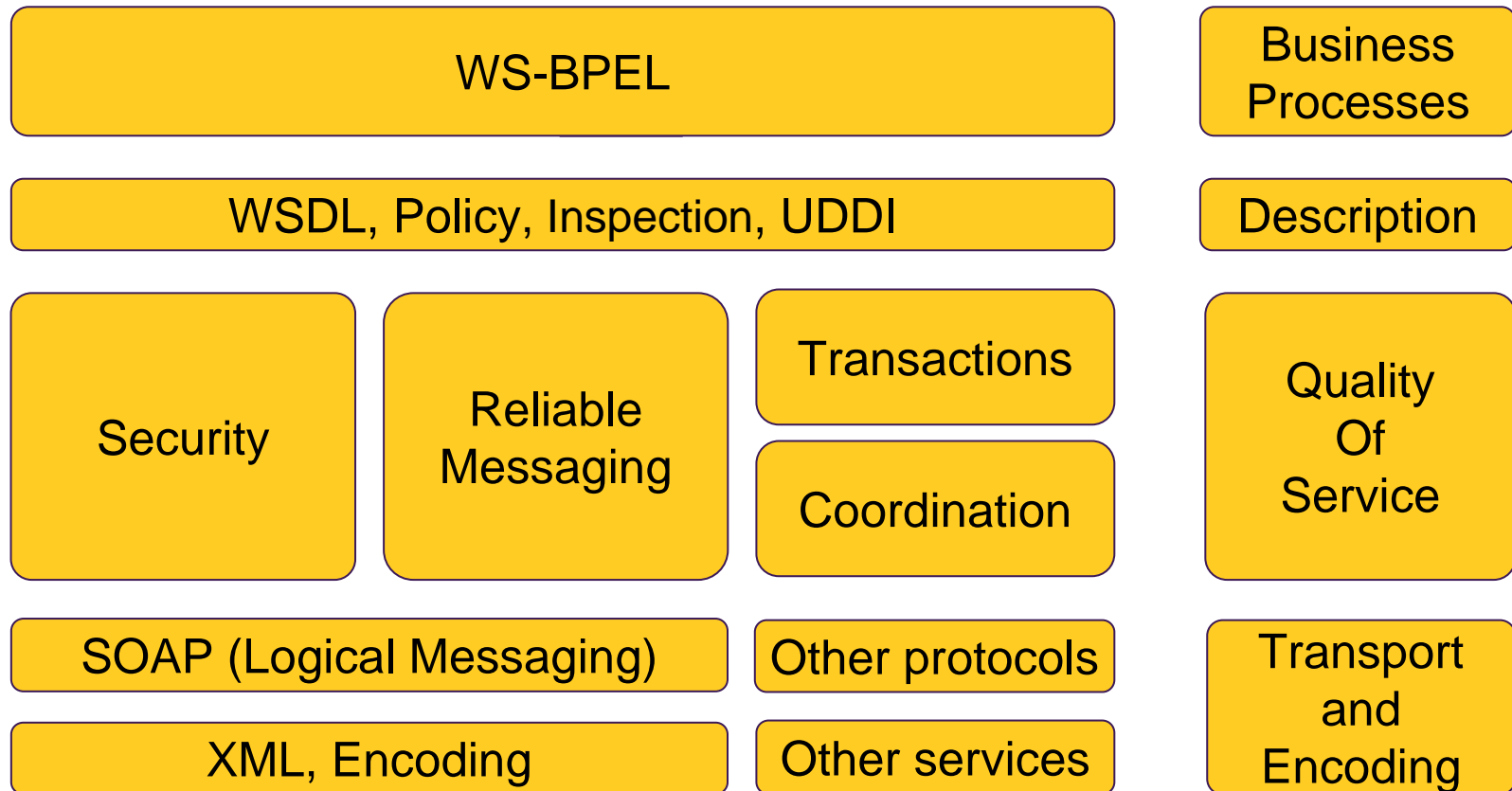
Quality  
Of  
Service

Transport  
and  
Encoding

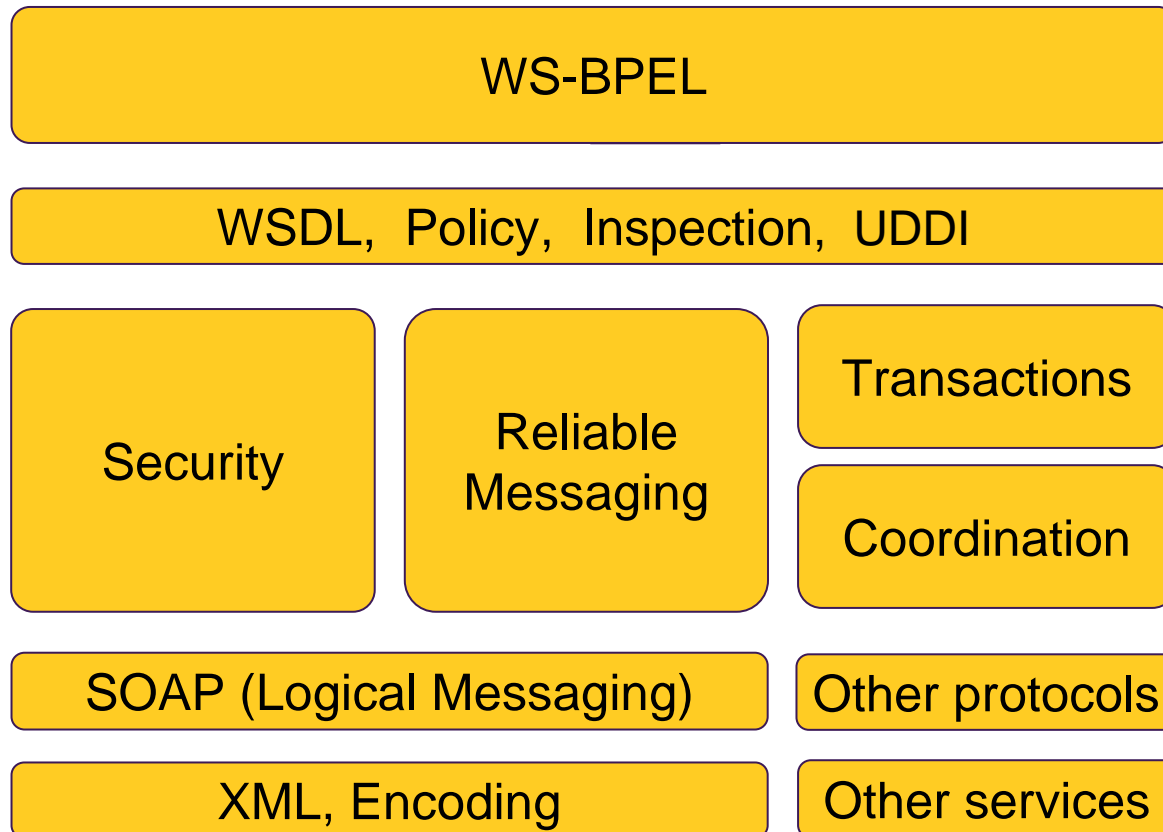
# Web Service Stack: Language Standards for Layers

Adapted from OASIS Open Standards Day Talk by Dieter König, IBM:  
Web Services Business Process Execution Language (WS-BPEL)

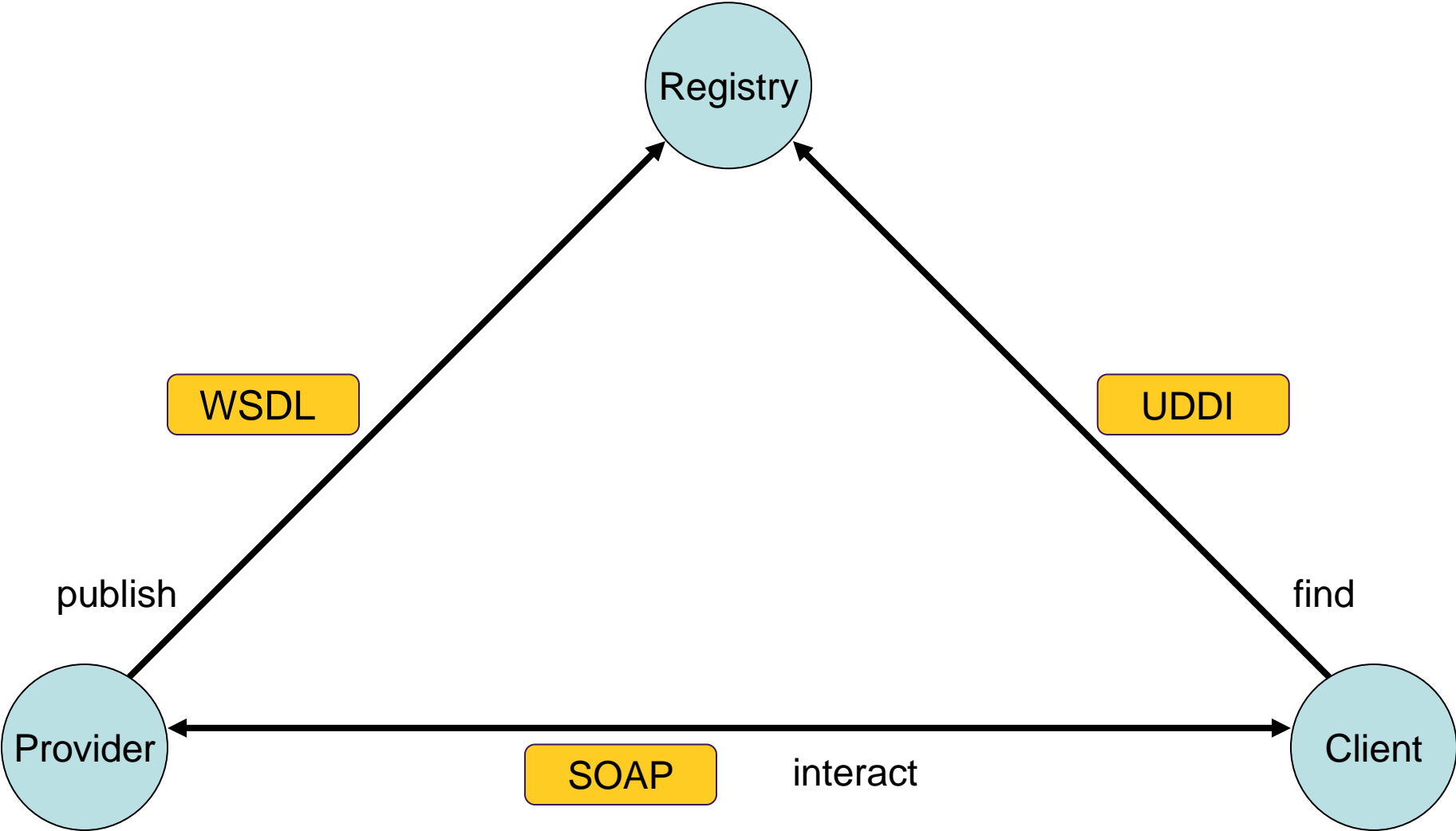
[www.oasis-open.org/committees/download.php/13044/Xtech%20bpel%20presentation%20May%202024%202005.ppt](http://www.oasis-open.org/committees/download.php/13044/Xtech%20bpel%20presentation%20May%202024%202005.ppt)



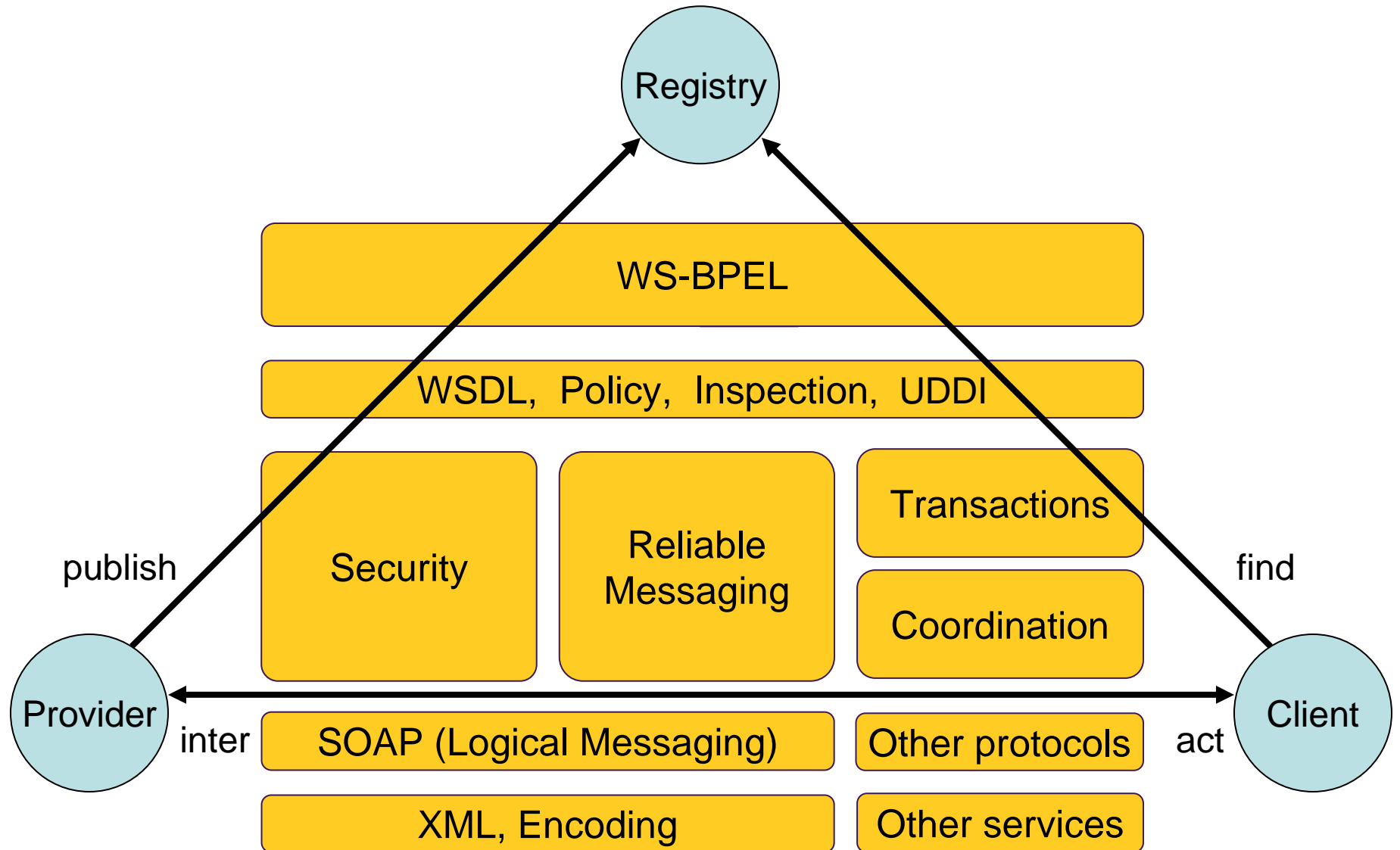
# Web Service Stack: Languages



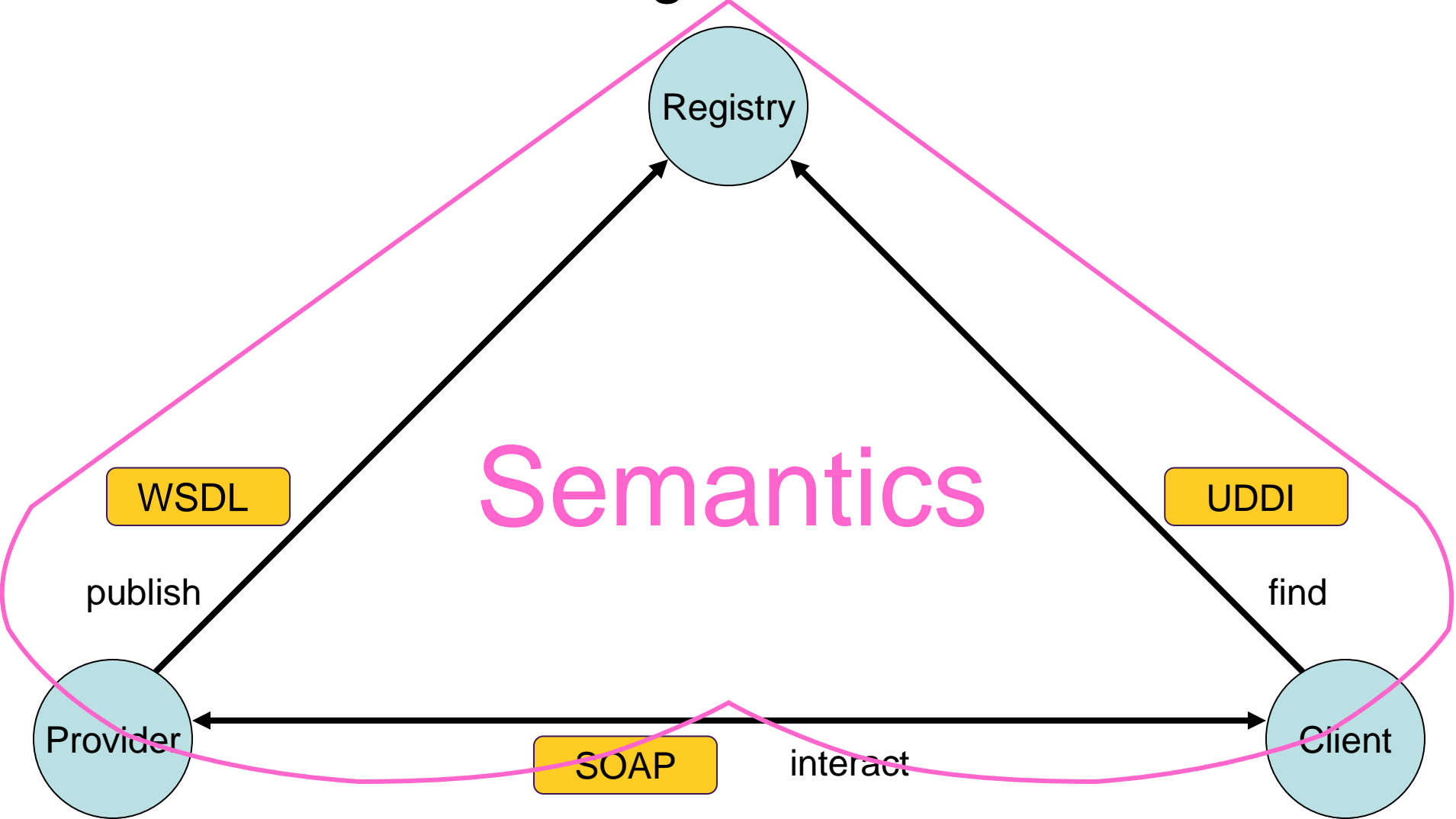
# Web Service Triangle: Roles and Core Languages



# Web Services: Roles and Languages

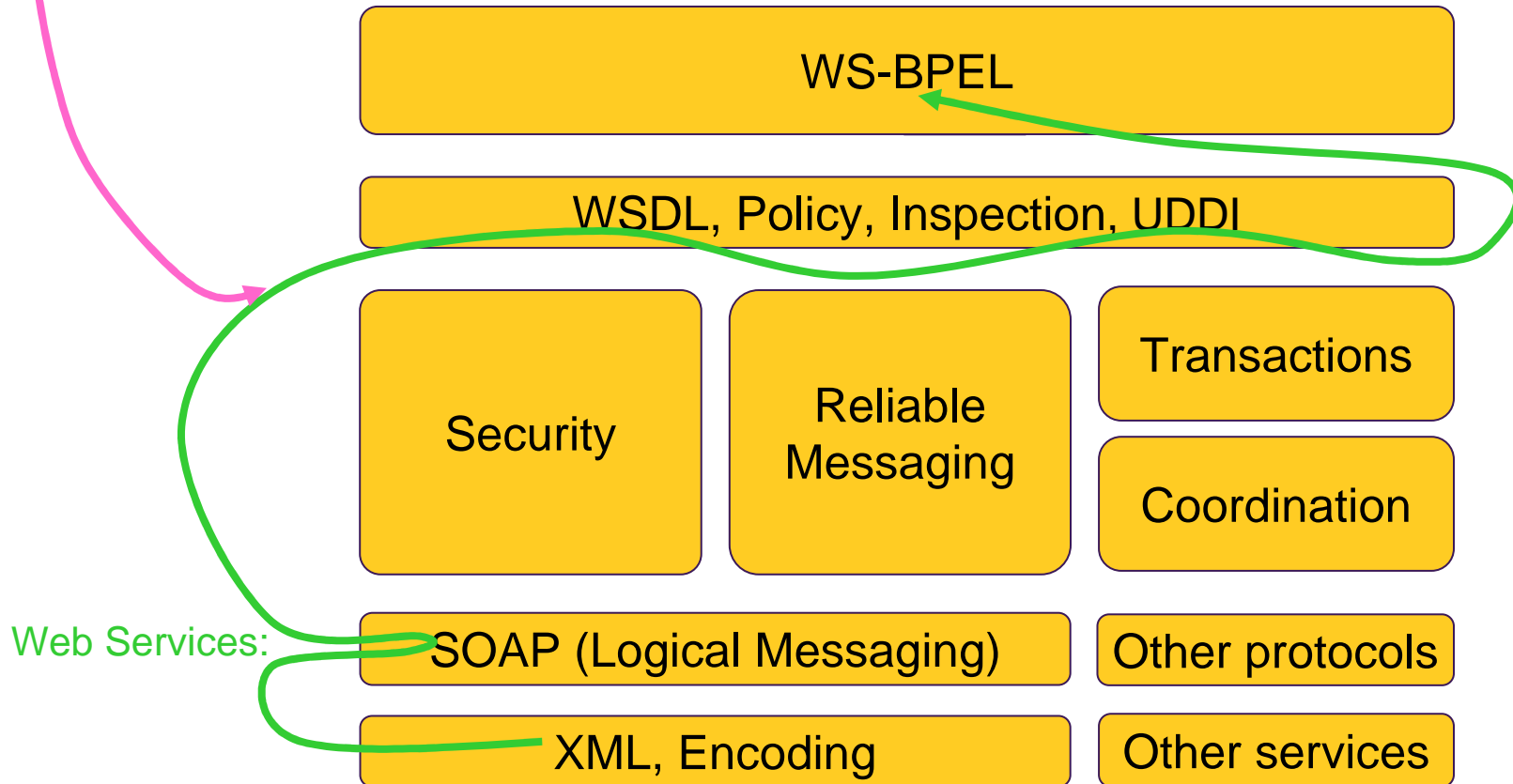


# Web Service Triangle: Need for Semantics



# Course: Towards Semantic Web Services

Semantic Web:  
RDF, OWL  
RIF, RuleML



# Course: Day 1

- **Overview: *These slides***
- Semantic Web Techniques (*parts on XML and on XML Namespaces*)  
<http://www.cs.unb.ca/~bspencer/cs6795swt/cs6795swt.ppt>
- Simple Object Access Protocol (SOAP)  
[http://colab.cim3.net/file/work/SOACoP/2007\\_05\\_0102/Tutorial2/08-SOAP.ppt](http://colab.cim3.net/file/work/SOACoP/2007_05_0102/Tutorial2/08-SOAP.ppt)
- **The Semantic Web in 10 Passages** (*parts on taxonomies' and on rules*)  
<http://www.dfki.uni-kl.de/~boley/sw10pass/sw10pass-en.htm>
- The RuleML Family of Web Rule Languages  
<http://www.ruleml.org/talks/RuleML-Family-PPSWR06-talk-up.ppt>

# Course: Day 2

- WSDL 2.0  
[www.ict.csiro.au/staff/Paul.Brebner/WSDL2.ppt](http://www.ict.csiro.au/staff/Paul.Brebner/WSDL2.ppt)
- **Semantic Annotation for WSDL**  
<http://knoesis.wright.edu/library/presentations/SAWSDL-STC07-May21.ppt>
- **Practicing Business Rules in RuleML  
(Controlled English or XML or Prolog-like Syntax)**  
<http://www.ruleml.org/0.91/exa/Datalog/discount.ruleml>

# Course: Day 3

- UDDI:  
[http://colab.cim3.net/file/work/SOACoP/2007\\_05\\_0102/Tutorial2/09-UDDI.ppt](http://colab.cim3.net/file/work/SOACoP/2007_05_0102/Tutorial2/09-UDDI.ppt)
- **Semantic Web Services**  
<http://icec06.net/WorkshopsAndTutorials/SOATutorial/ICEC06-Tutorial-Semantic-Web-Services.pdf>
  - **Web++**
  - **RDF**
  - **Description Logic**
  - **OWL**
  - **OWL-S**
  - **WSMO**

# Course: Day 4

- **Practicing Business Ontologies in OWL Description Logic (Visual Syntax only)**
- **Web Services Business Process Execution Language (WS-BPEL)**  
[www.oasis-open.org/committees/download.php/13044/Xtech%20bpel%20presentation%20May%2024%202005.ppt](http://www.oasis-open.org/committees/download.php/13044/Xtech%20bpel%20presentation%20May%2024%202005.ppt)
- **Service-Oriented Processes: An Introduction to BPEL**  
<http://dme.uma.pt/jcardoso/Books/IDEA-SWTTA/Slides/Chap-08-Service-Oriented%20Processes%20An%20Introduction%20to%20BPEL.ppt>
- **Practicing XML Data Specification (EBNF or DTD or XML Schema Syntax)**

# Course: Day 5

- Recap / Question & Answer Session
- **Practicing OWL ABox and RDF Queries**
- Congo.com Example: Online Bookstore Web Service in OWL-S  
<http://www.sitepoint.com/article/semantic-web-services>
- Reaction RuleML: Active Rules for Semantic Web Services  
<http://2006.ruleml.org/slides/reaction-ruleml.pdf>
- Rule Responder: Distributed Querying over Enterprise Service Bus (with Online Demo)  
<http://responder.ruleml.org>