

WEB SERVICE ORCHESTRATION

What is

And

How to do it

Thiago Rodrigues Colucci

IME-USP, Brazil

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First things first:

Web Services

Web Services

What???

Web Services

Why?

Web Services

Why?

- *Interoperability

Web Services

Why?

- *Interoperability

- *Reusable application-components

Web Services

Why?

- * Interoperability

- * Reusable application-components

- * Connect existing software

Web Services

How?

Web Services

How?

*XML + HTTP

Web Services

How?

*XML + HTTP

*SOAP

Web Services

How?

*XML + HTTP

*SOAP

*UDDI

Web Services

How?

*XML + HTTP

*SOAP

*UDDI

*WSDL

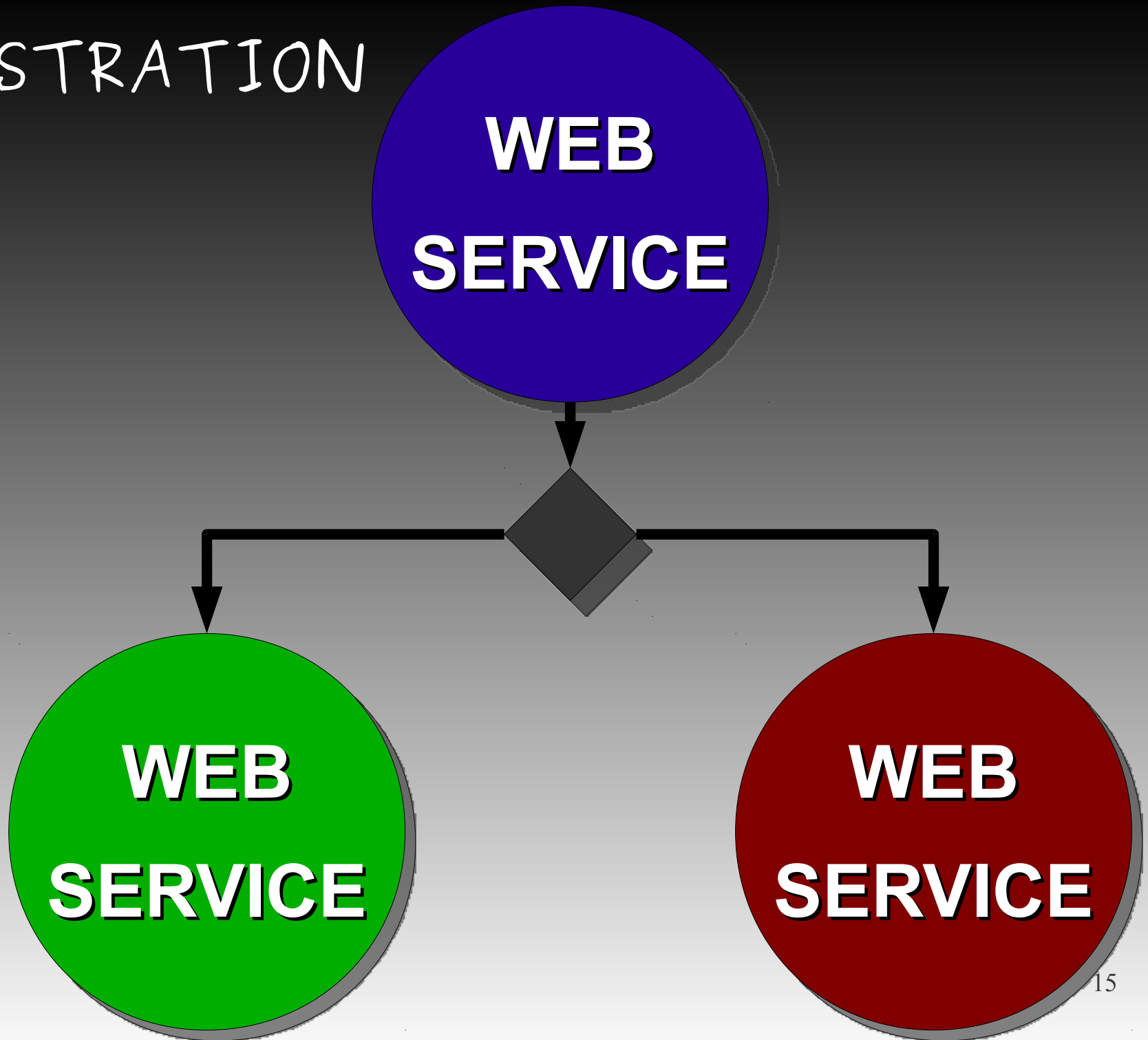
Finally:

Web Services Orchestration

Web Services Orchestration

What???

ORCHESTRATION



Web Services Orchestration

Why?

Web Services Orchestration

How???

Web Services Orchestration

Standards

Web Services Orchestration

Standards

A little bit of

History

Web Services Orchestration

Standards

A little bit of History

*BPEL4WS

Web Services Orchestration

Standards

A little bit of History

*BPEL4WS

*WSCI

Web Services Orchestration

Standards

A little bit of History

- *BPEL4WS

- *WSCI

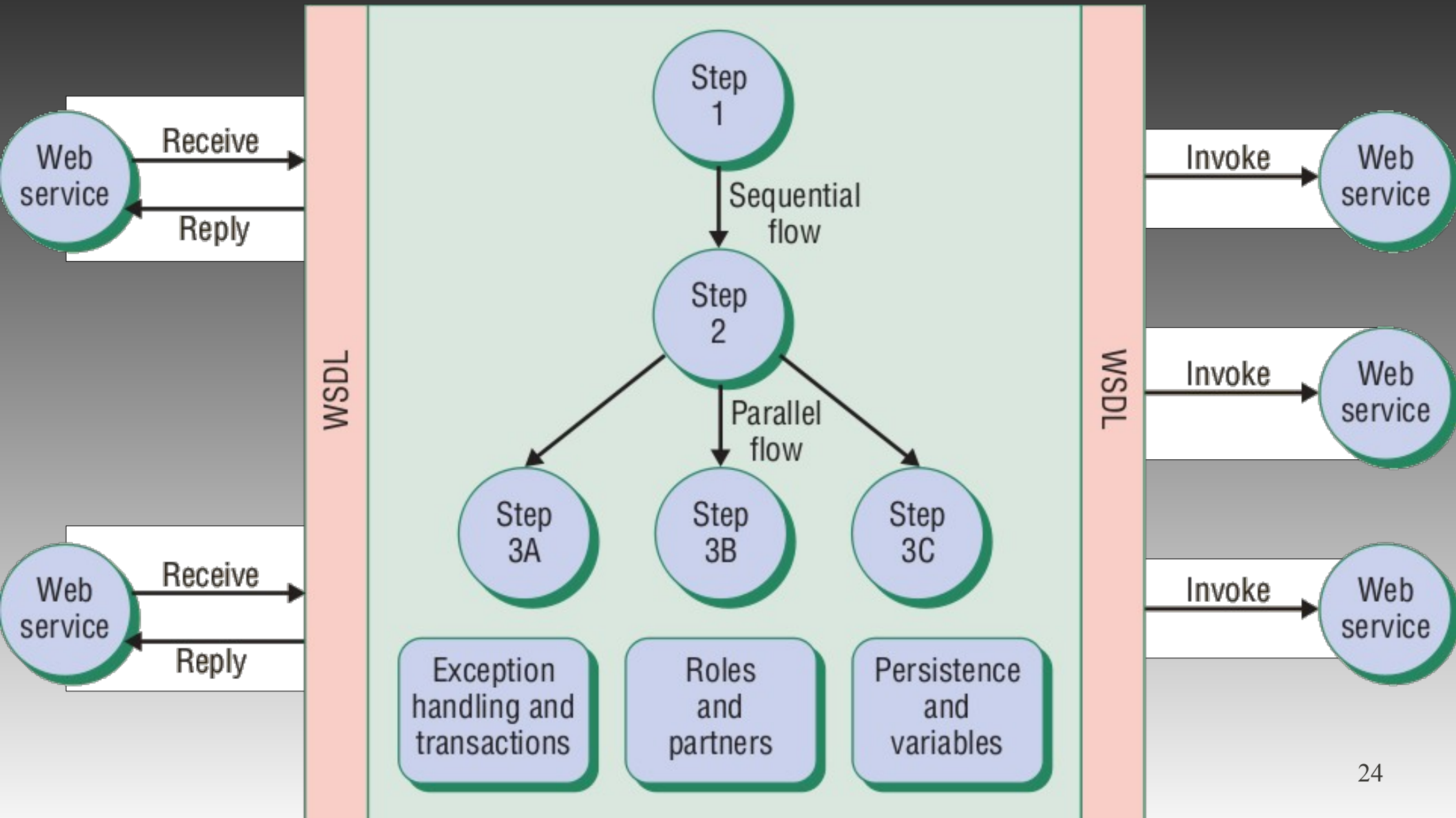
- *BPML

Web Services Orchestration

Standard

WS-BPEL

BPEL PROCESS FLOW



Web Services Orchestration

BPEL Concepts

Basic activity

Structured Activity

Variable

Partner Link

Scope Tag

```
<receive  
  partnerLink="client"  
  portType="trv:TravelApprovalPT"  
  operation="TravelApproval"  
  variable="TravelRequest"/>
```

```
<invoke  
  partnerLink="Status"  
  portType="emp:StatusPT"  
  operation="Status"  
  inputVariable="StatusRequest" />
```

Web Services Orchestration

BPEL Concepts

Basic activity

Structured Activity

Variable

Partner Link

Scope Tag

```
<flow>
  <sequence>
    <invoke ... />
    <receive ... />
  </sequence>

  <sequence>
    <invoke ... />
    <receive ... />
  </sequence>
</flow>
```

Web Services Orchestration

BPEL Concepts

Basic activity

Structured Activity

Variable

Partner Link

Scope Tag

```
<variables>
  <variable
    name="TravelRequest"
    messageType="trv:TravelRequestMsg"
  </variable>
</variables>

<assign>
  <copy>
    <from
      variable="TravelRequest"
      part="employee"/>
    <to
      variable="StatusRequest"
      part="employee"/>
    </copy>
  </assign>
```

Web Services Orchestration

BPEL Concepts

Basic activity

Structured Activity

Variable

Partner Link

Scope Tag

```
<partnerLinks>
  <partnerLink
    name="client"
    partnerLinkType="trv:travelLT"
    myRole="travelService"
    partnerRole="travelService"/>
</partnerLinks>
```

Web Services Orchestration

BPEL Concepts

Basic activity

Structured Activity

Variable

Partner Link

Scope Tag

```
<scope isolated="yes">  
  <variables> ... </variables>  
  <faultHandlers> ... </>  
  <compensationHandler> ... </>  
  
  ...  
  
</scope>
```

Web Services Orchestration

Tools

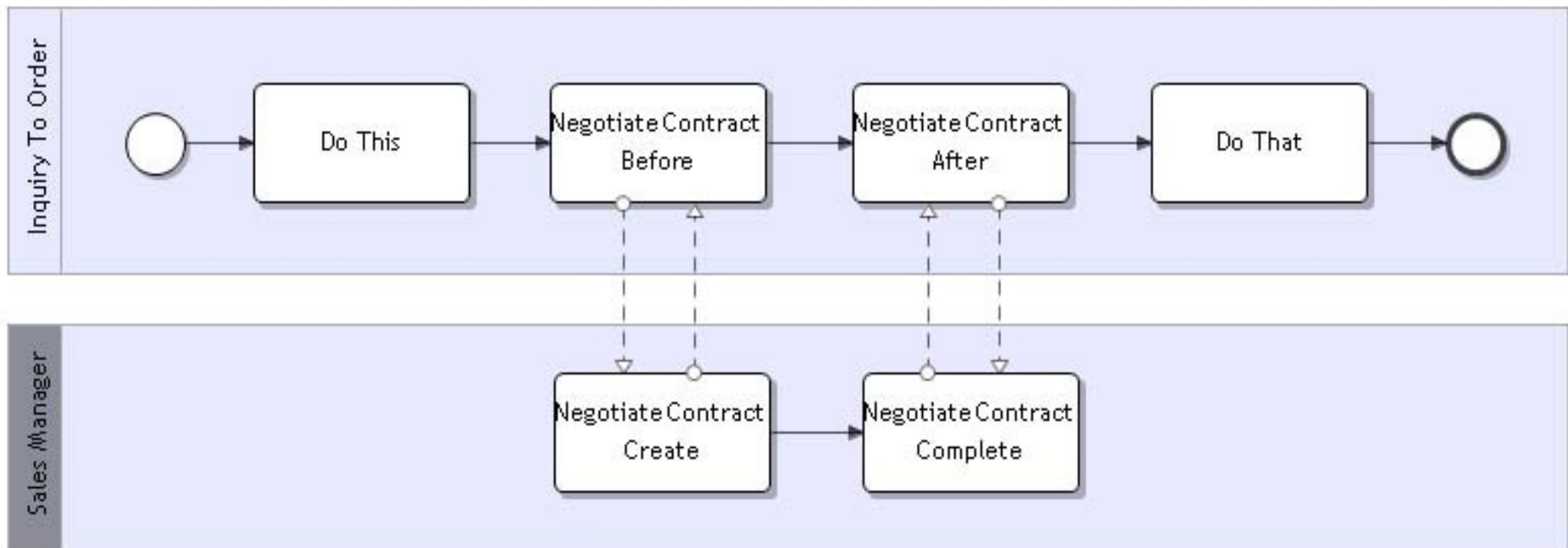
Web Services Orchestration

Tools

Apache ODE

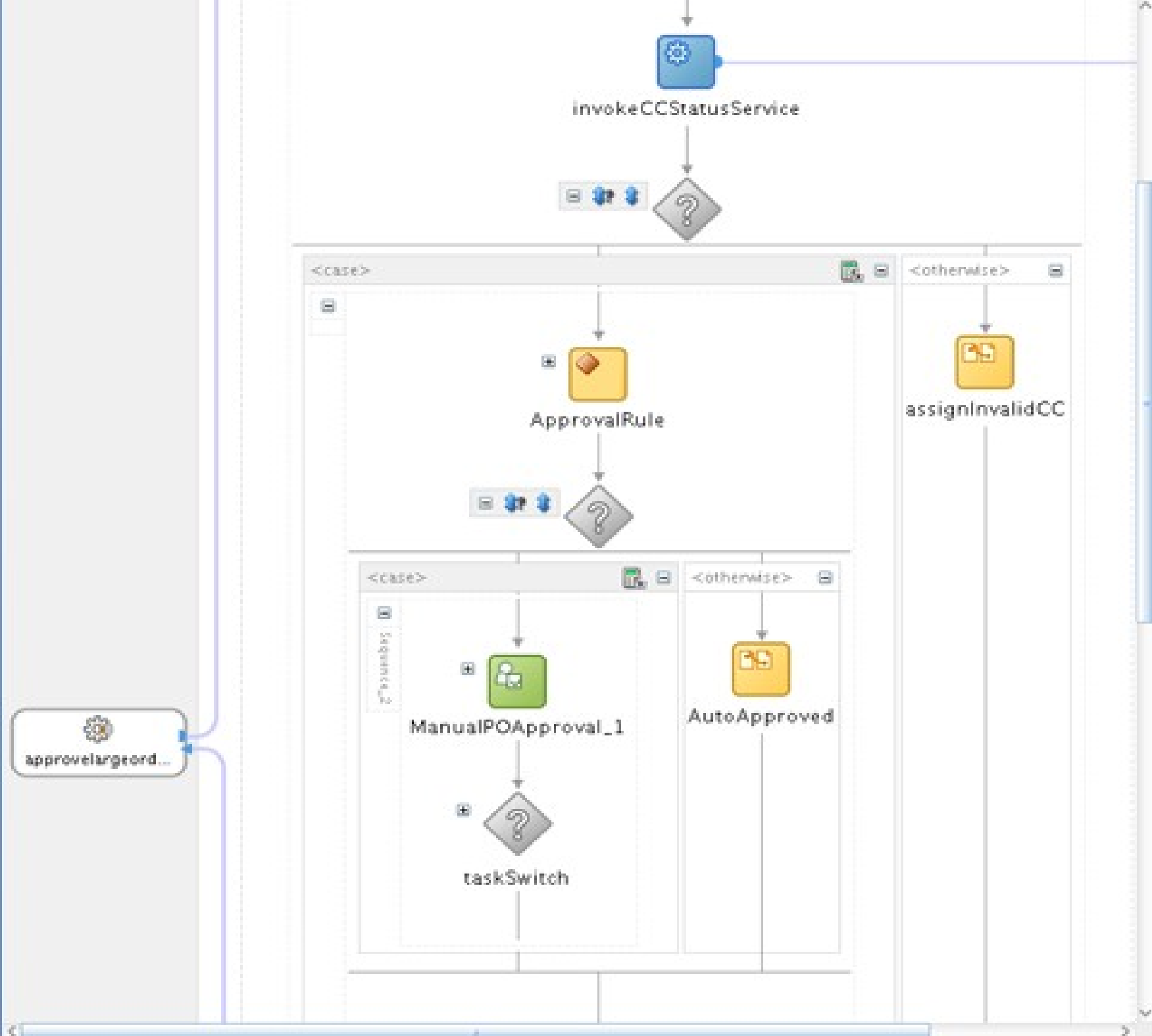
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Intalio Works



Web Services Orchestration Tools

ORACLE BPM



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BPEL

- <http://bpel.xml.org>

W3C

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- <http://www.internetnews.com/d>

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- <http://searchsoa.techtarget.com/news/interview/>

A Hands-on Instruction to BPEL

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- <http://www.oracle.com/technology/products/ias/bpel/ind>

Intalio Works

- <http://www.intalioworks.com/products/bpm/opensource-edition/#ov>

Apache ODE

- <http://ode.apache.org/>

Questions