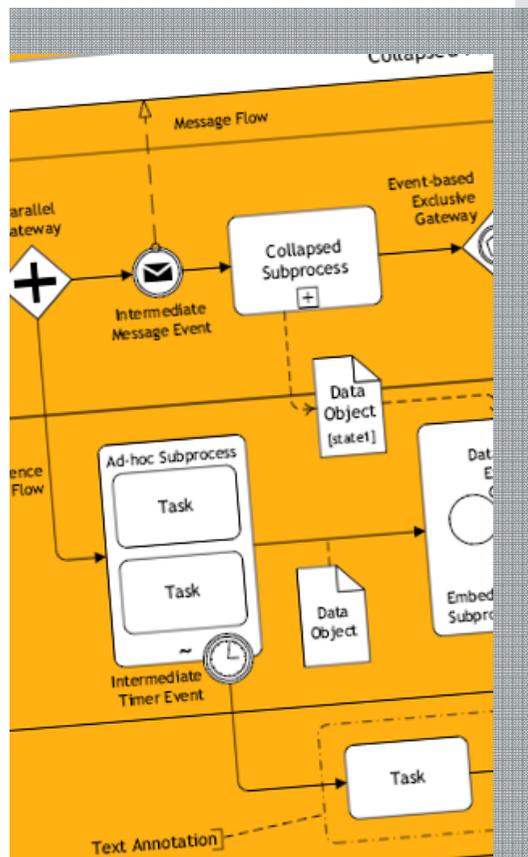




**Hasso  
Plattner  
Institut**

IT Systems Engineering | Universität Potsdam



## BPMN 2.0 Conformance Level & BPEL Alignment

Matthias Weidlich

Business Process Technology  
Hasso Plattner Institut, Universität Potsdam

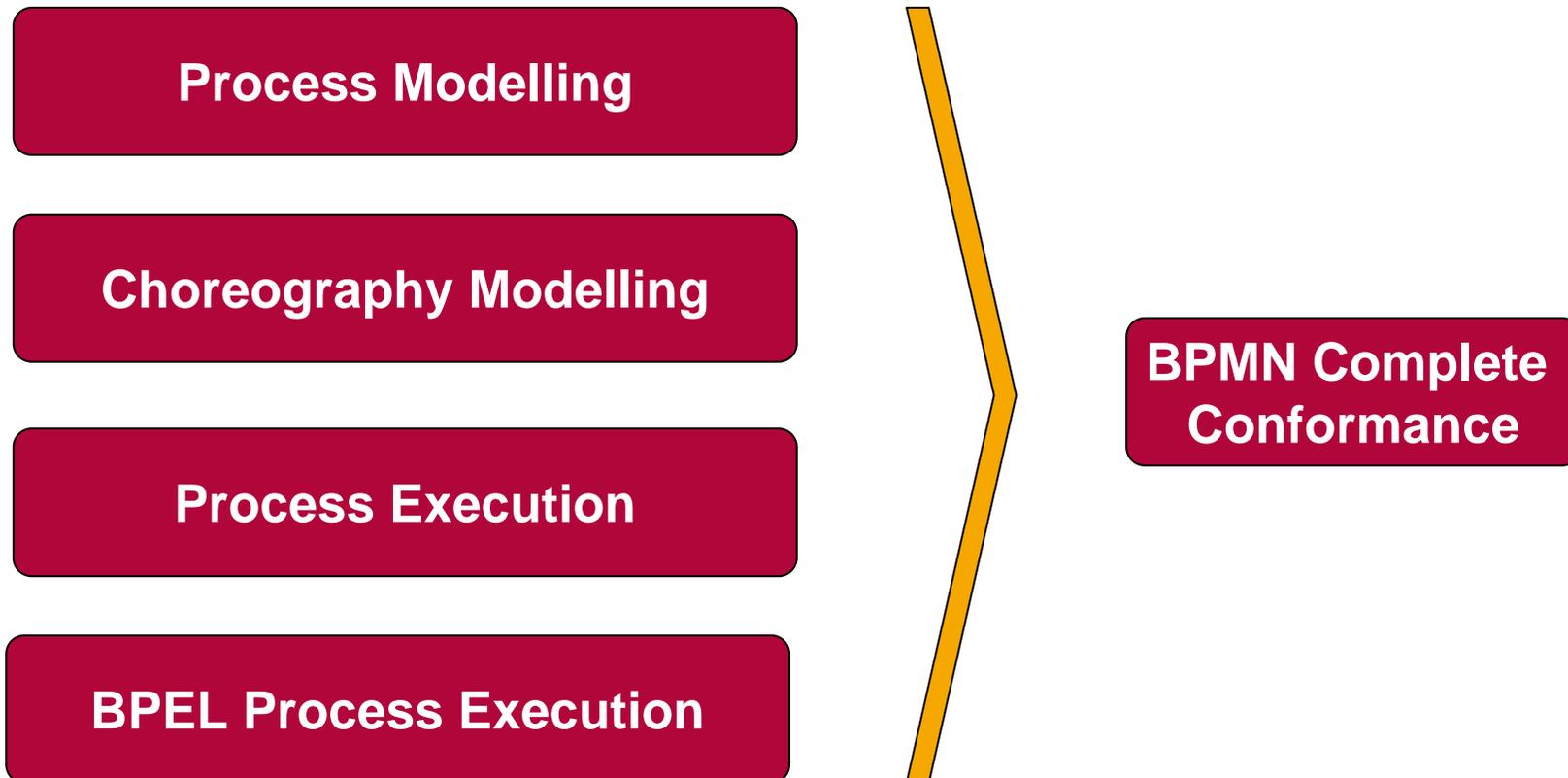
*Unser Tool bietet  
nahtloses **BPMN 2.0 –  
BPEL Roundtripping!***

*Unser Tool unterstützt  
den neuen **BPMN 2.0  
Standard!***

Objektive Beurteilung mittels  
**BPMN 2.0 Conformance Level**  
**BPMN 2.0 zu BPEL Mapping**

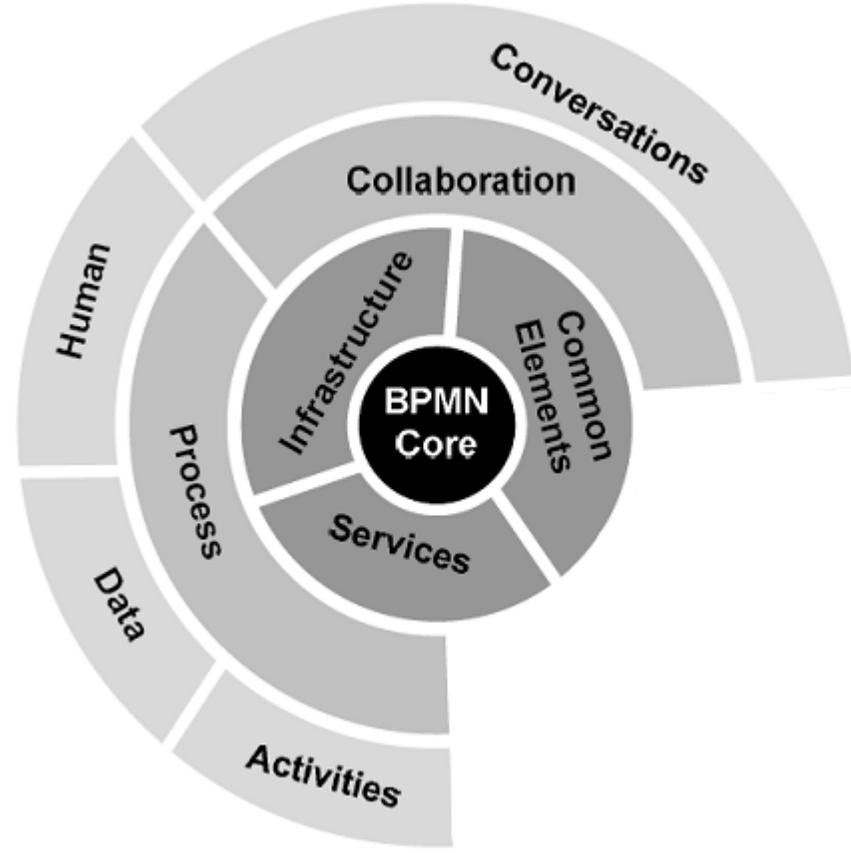
# Conformance Level

3



# Conformance Level

4



**Process Modelling**

# Conformance Level

5

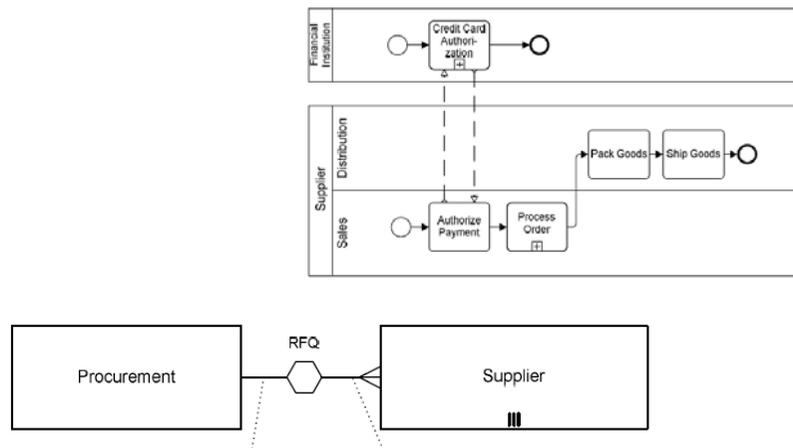


**Choreography Modelling**

# Conformance Level

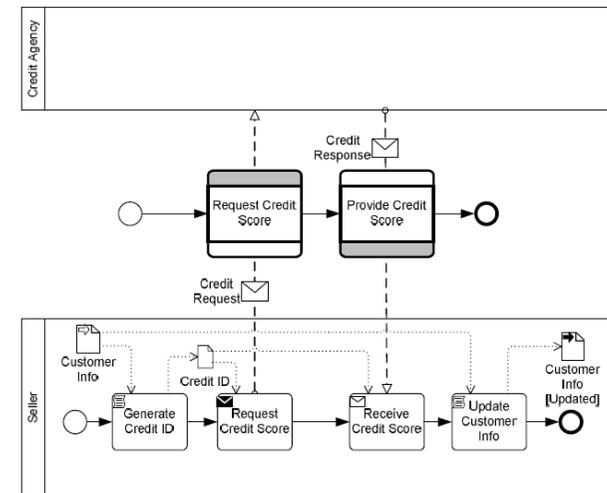
6

Prozessdiagramme  
 Kollaborationsdiagramme  
 Konversationsdiagramme



**Process Modelling**

Choreographydiagramme  
 Kollaborationsdiagramme



**Choreography Modelling**

## Conformance Level

7

Prozessdiagramme

Kollaborationsdiagramme

Konversationsdiagramme

Visualisierung

Strukturanforderungen

Attribute und Assoziationen

Austauschformat

**Process Modelling**

Choreographydiagramme

Kollaborationsdiagramme

Visualisierung

Strukturanforderungen

Attribute und Assoziationen

Austauschformat

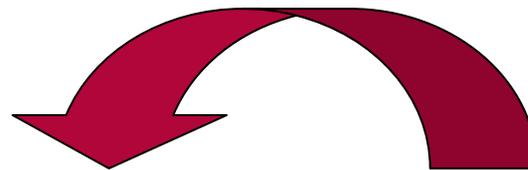
**Choreography Modelling**

## Conformance Level

8

Ausführung von BPMN Prozessen  
Aktivitätslebenszyklus  
Austauschformat

Impliziert „Process Execution“  
BPMN zu BPEL Mapping  
„Basic Mapping“ gefordert  
BPEL Import nicht gefordert

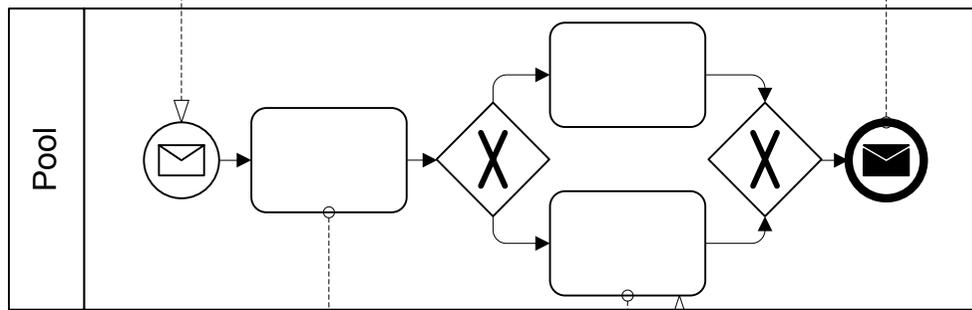


**Process Execution**

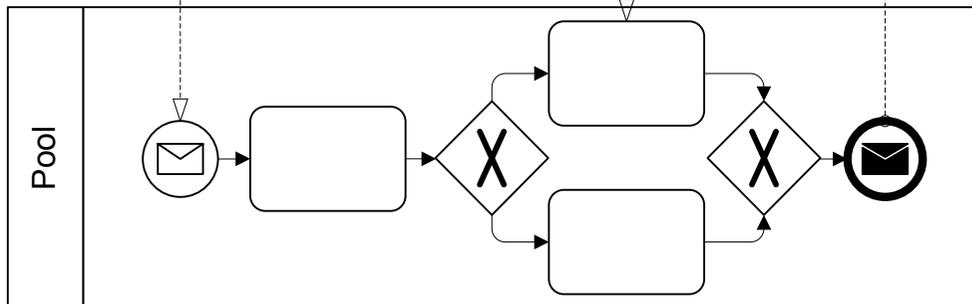
**BPEL Process Execution**

# BPMN – BPEL Mapping Übersicht (1/2)

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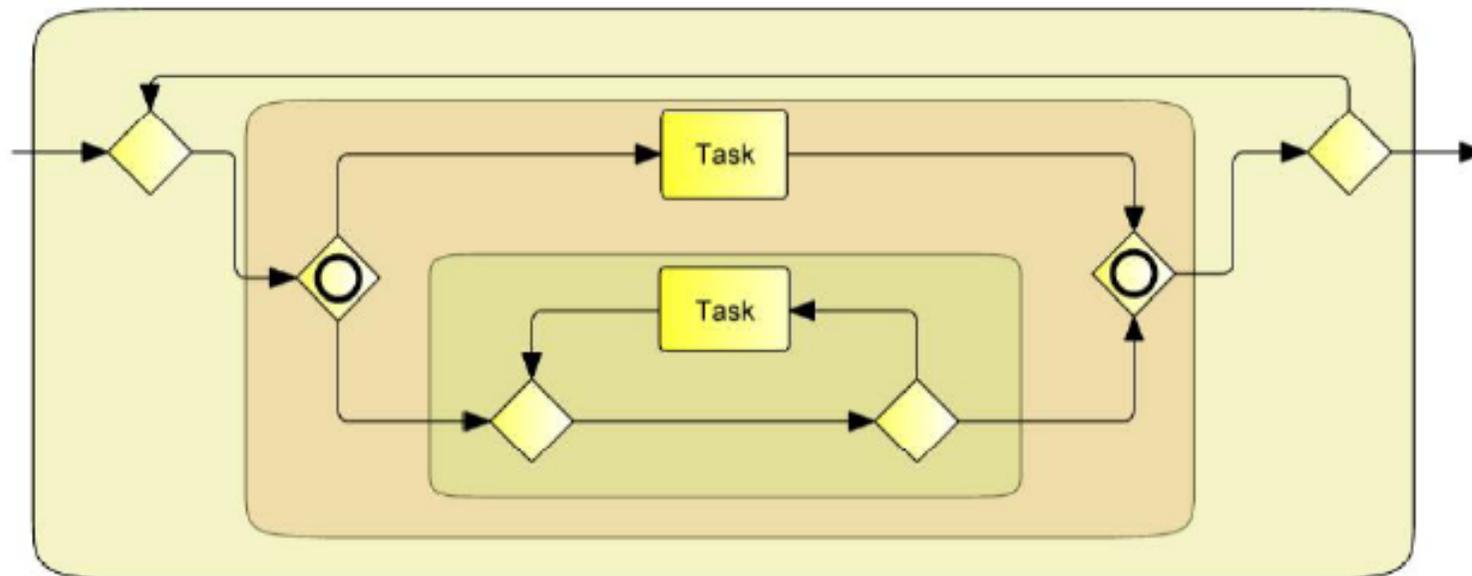


```
<process>
  <sequence>
    ...
  </sequence>
</process>
```

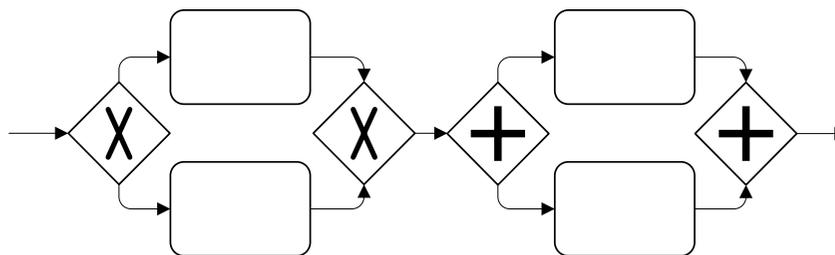
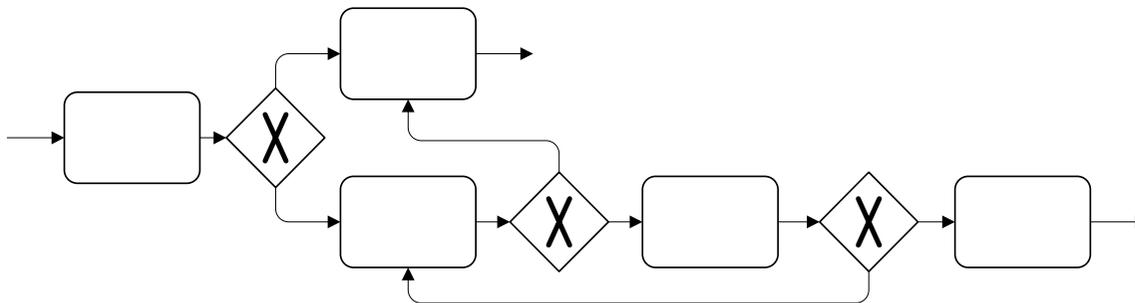


```
<process>
  <sequence>
    ...
  </sequence>
</process>
```

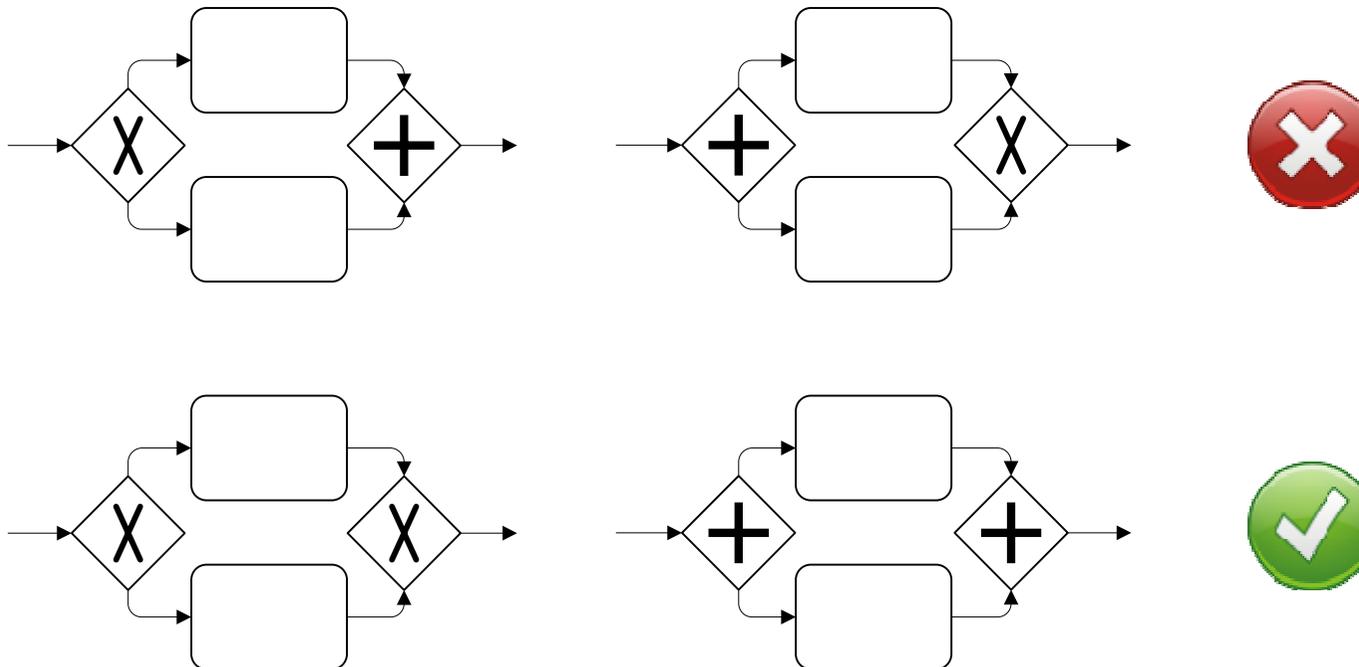
## „Basic Mapping“ vs. „Extended Mapping“ Mapping mittels Block-Hierarchie



## Annahmen bzgl. der Struktur und enthaltenen Elemente



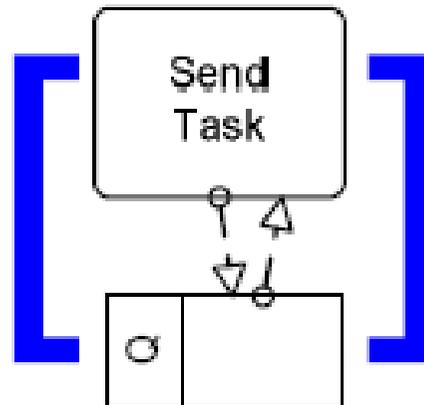
## Annahmen bzgl. des Verhaltens





# Mapping Beispiele

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```

<invoke name="[Task-name]"
  partnerLink="[Q, Task-operation-interface]"
  portType="[Task-operation-interface]"
  operation="[Task-operation]" />
</invoke>

```

```

<Interface name="[if-name]">
  <Operations>
    <Operation name="[op1-name]">
      <inMessageRef ref="[msg1-name]" />
      <outMessageRef ref="[msg1o-name]" />
      <errorRef ref="[error1a-name]" />
      ...
    </Operation>
    ...
  </Operations>
</Interface>

```

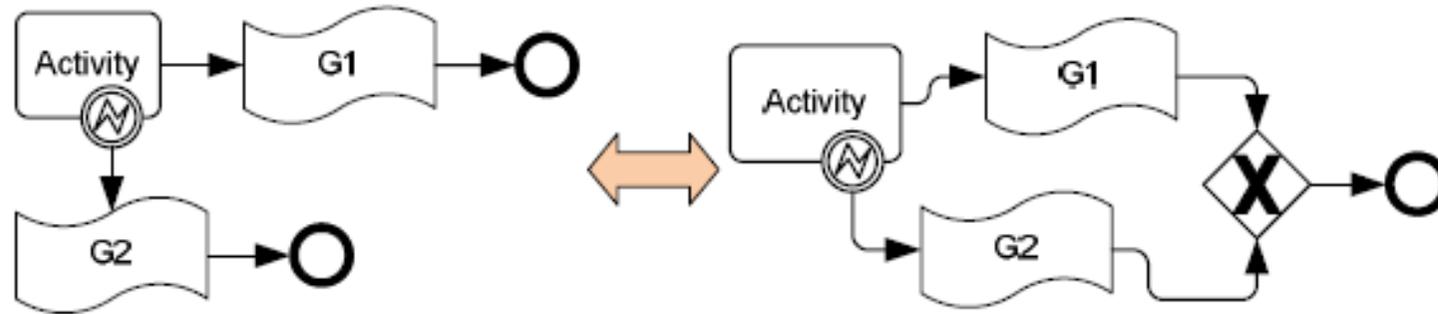
```

<wsdl:portType name="[if-name]">
  <operation name="[op1-name]">
    <wsdl:input message="[msg1-name]" />
    <wsdl:output message="[msg1o-name]" />
    <wsdl:fault name="[error1a-faultname]"
      message="[error1a-name]" />
    ...
  </operation>
  ...
</wsdl:portType>

```

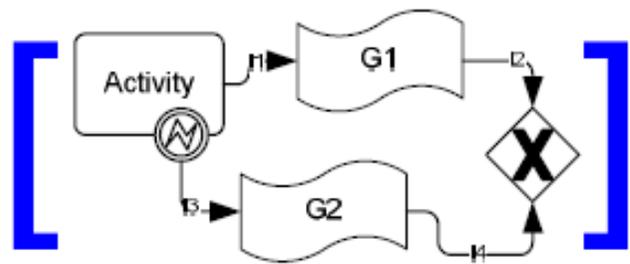
# Mapping Beispiele

15



# Mapping Beispiele

16

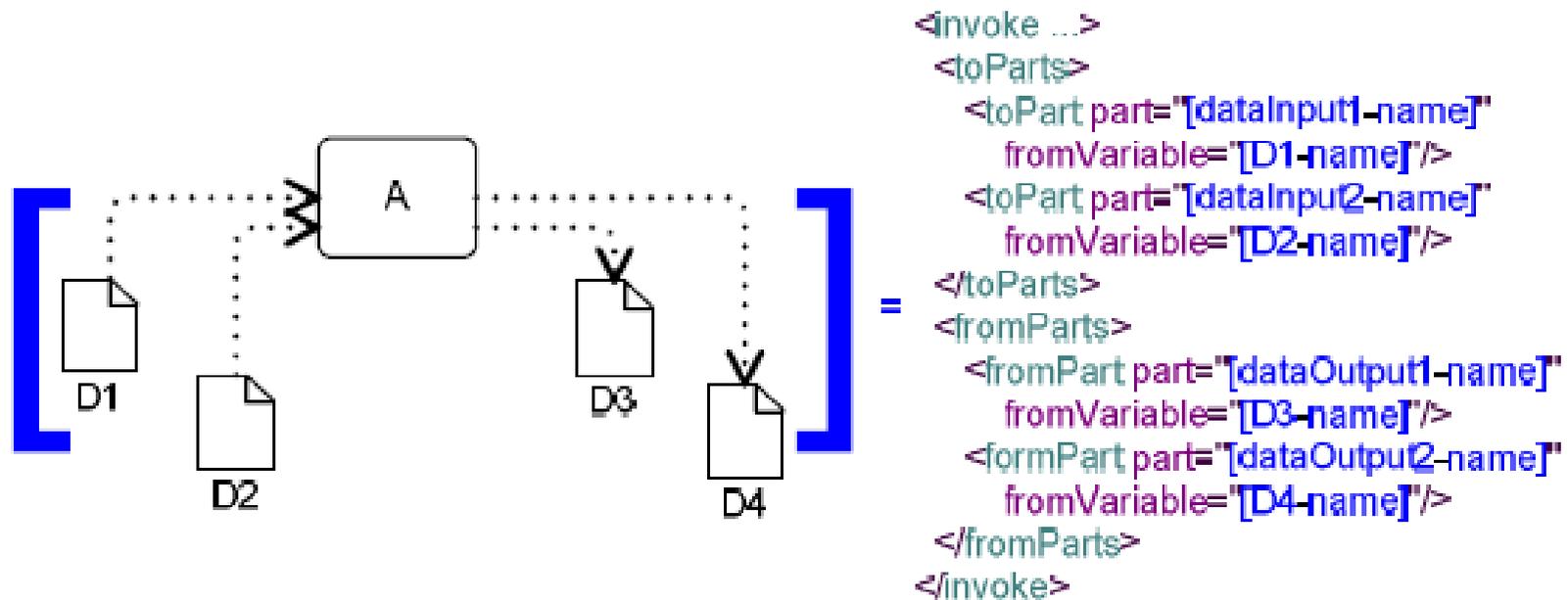


```

<flow>
<links>
  <link name="[1]"/>
  ...
  <link name="[4]"/>
</links>
<scope>
  <sources><source linkName="[1]"/></sources>
  <faultHandlers>
    <catch faultName="[e-error]"/>
    <empty>
    <sources><source linkName="[3]"/></sources>
    <empty>
  </catch>
</faultHandlers>
  [Activity]
</scope>
<flow>
  <targets><target linkName="[1]"/></targets>
  <sources><source linkName="[2]"/></sources>
  [G1]
  <flow>
  <flow>
    <targets><target linkName="[3]"/></targets>
    <sources><source linkName="[4]"/></sources>
  [G2]
  <flow>
  <empty>
    <sources><source linkName="[2]"/>
    <source linkName="[4]"/></sources>
  </empty>
</flow>
  
```

# Mapping Beispiele

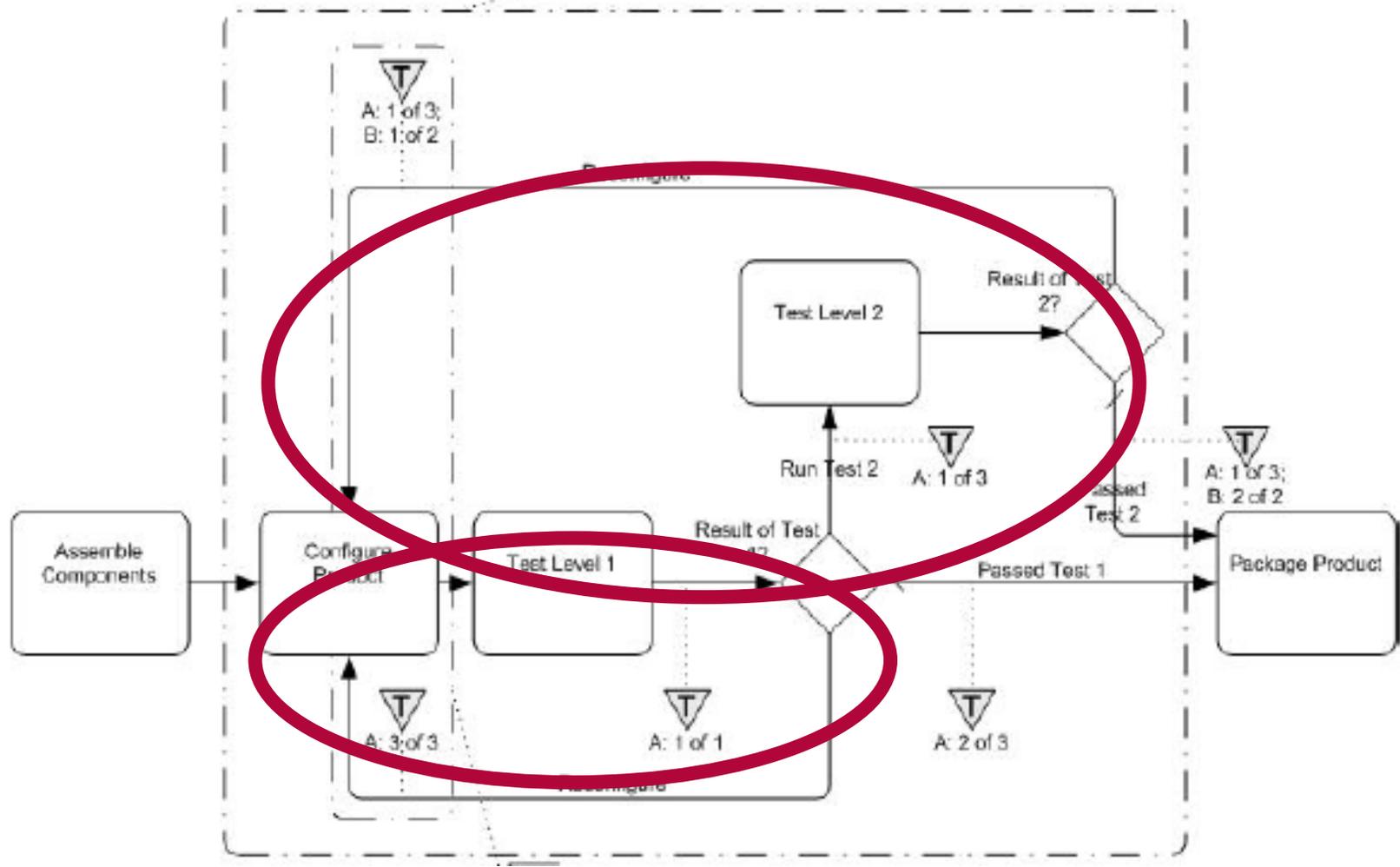
17



BPMN context access	BPEL context access
getDataobject(dataObjectName)	`\${dataObjectName}`
getProcessProperty(propertyName)	`\${{processName}.propertyName}` where the right processName is statistically derived.
getActivityProperty(activityName, propertyName)	`\${activityName.propertyName}`
getEventProperty(eventName, propertyName)	`\${eventName.propertyName}`

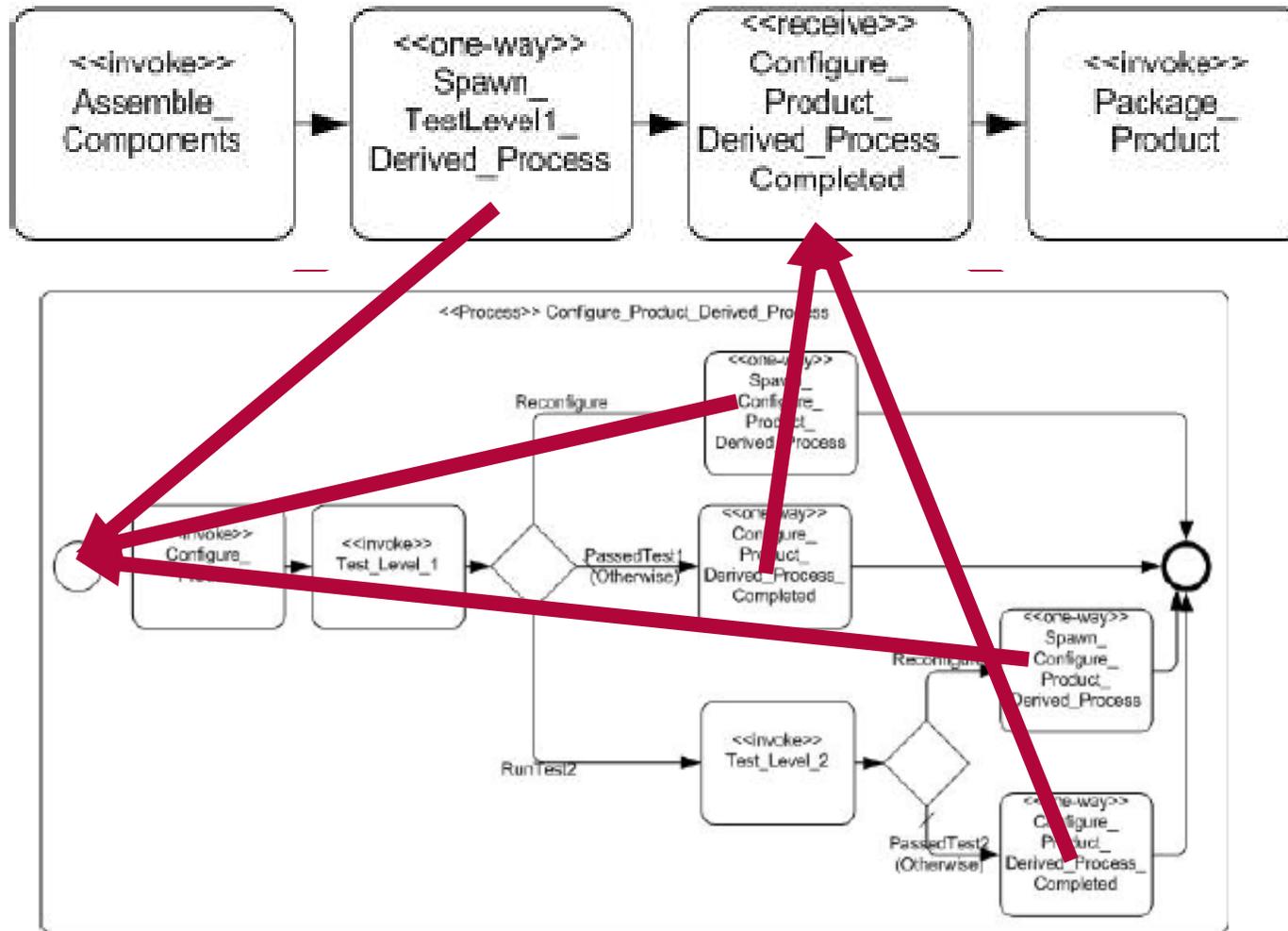
# „Extended Mapping“

18



# „Extended Mapping“

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## Fazit

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- Conformance Level bieten die Möglichkeit Tools hinsichtlich Modellierungs- und Ausführungsfähigkeiten zu evaluieren
- BPMN 2.0 zu BPEL Mapping verdient den Namen Mapping
  - Aussagen bzgl. der Annahmen über einen Prozess
  - Detailliertes Mapping bis auf die technische Ebene
- Roundtripping ist nicht Teil des Standards