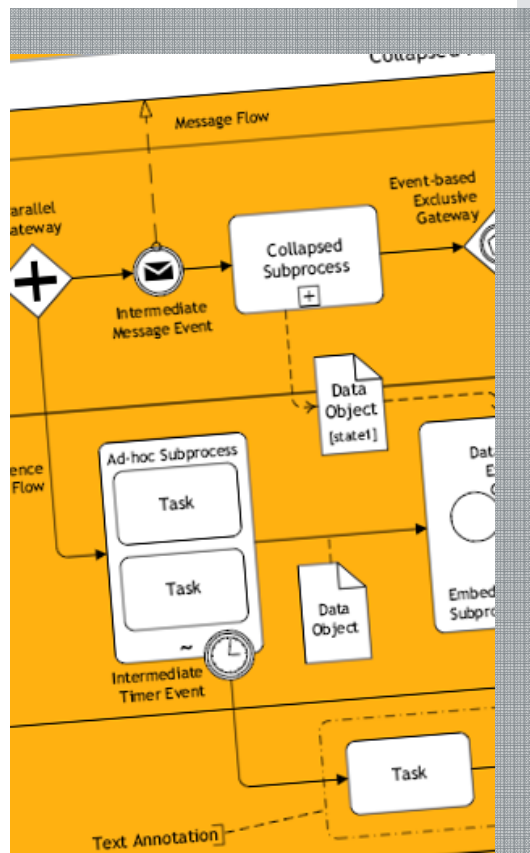




**Hasso
Plattner
Institut**

IT Systems Engineering | Universität Potsdam



BPMN 2.0 Conformance Level & BPEL Alignment

Matthias Weidlich

Business Process Technology
Hasso Plattner Institut, Universität Potsdam

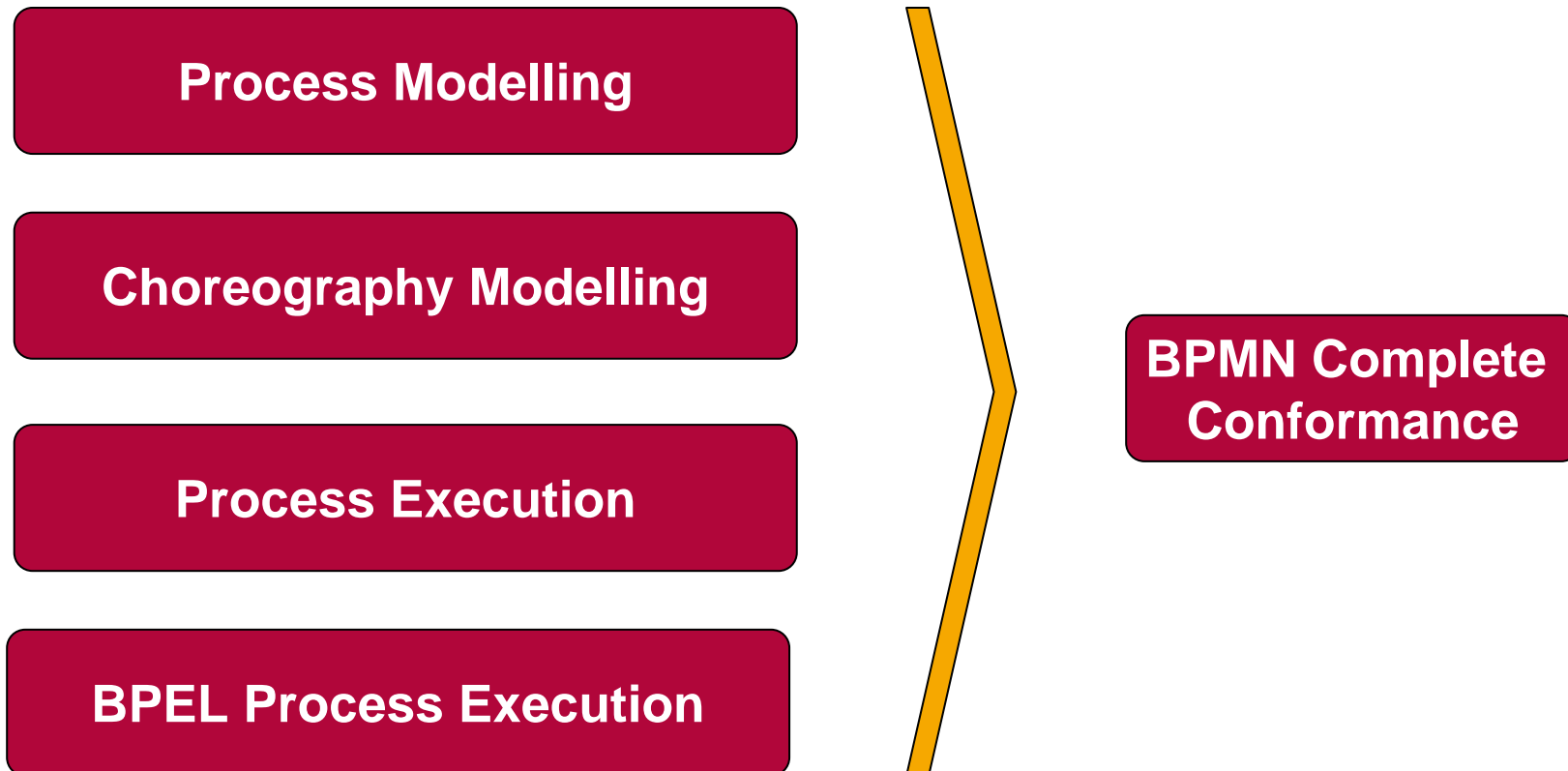
*Unser Tool bietet
nahtloses **BPMN 2.0 –
BPEL Roundtripping!***

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

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

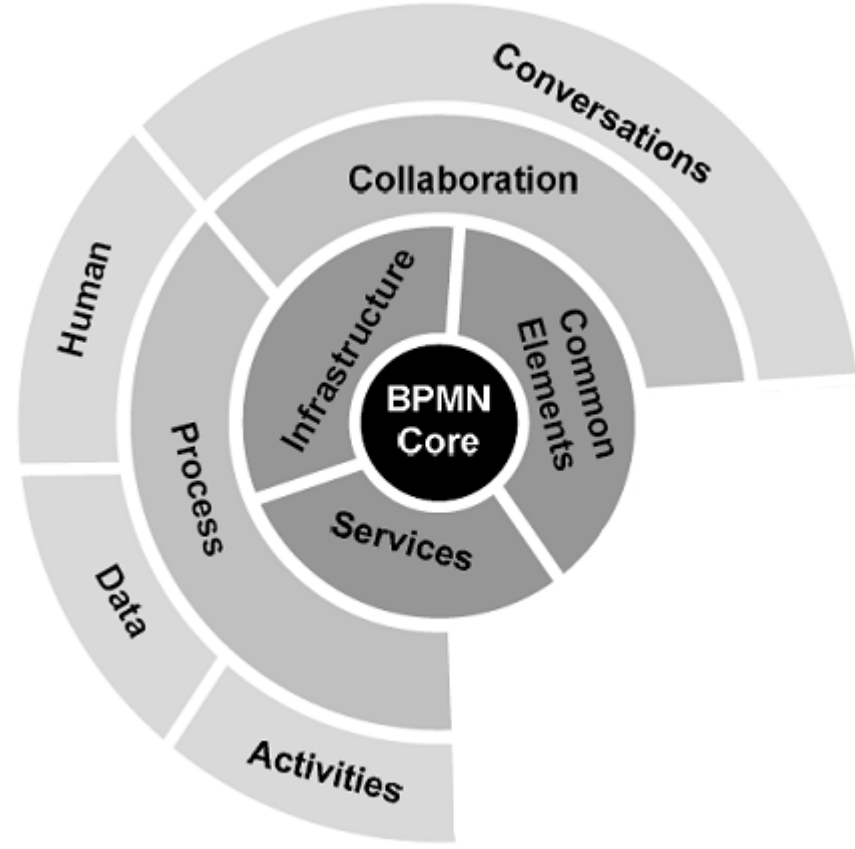
Conformance Level

3



Conformance Level

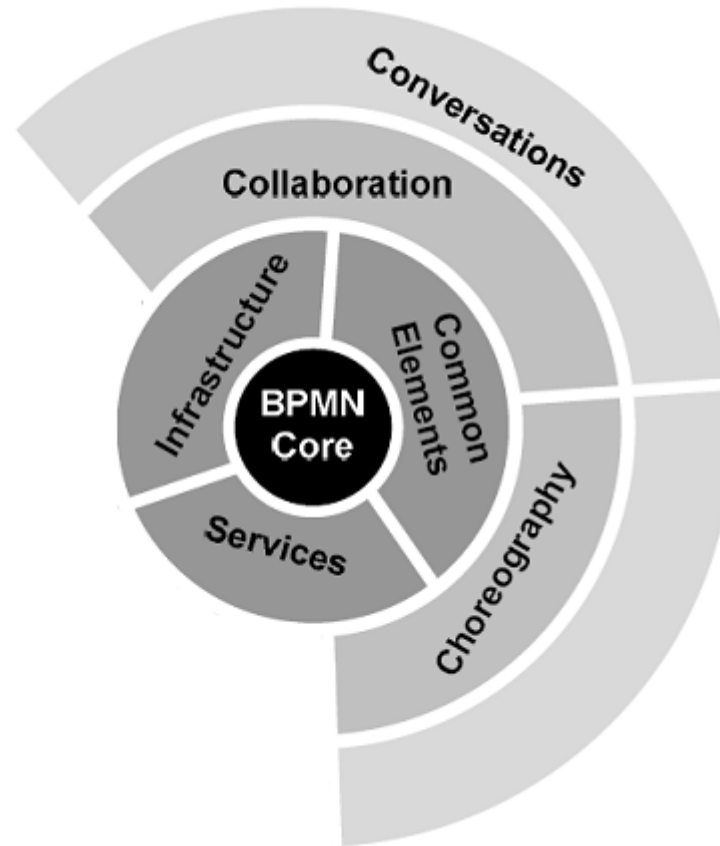
4



Process Modelling

Conformance Level

5

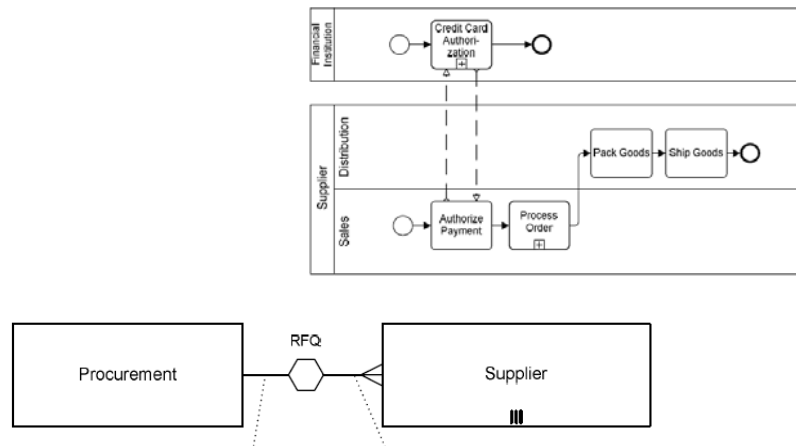


Choreography Modelling

Conformance Level

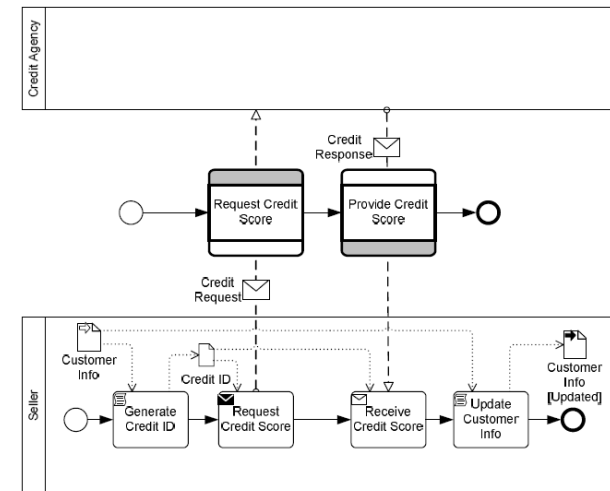
6

Prozessdiagramme
 Kollaborationsdiagramme
 Konversationsdiagramme



Process Modelling

Choreographydiagramme
 Kollaborationsdiagramme



Choreography Modelling

Conformance Level

7

Prozessdiagramme
Kollaborationsdiagramme
Konversationsdiagramme

Visualisierung
Strukturanforderungen
Attribute und Assoziationen
Austauschformat

Choreographydiagramme
Kollaborationsdiagramme

Visualisierung
Strukturanforderungen
Attribute und Assoziationen
Austauschformat

Process Modelling

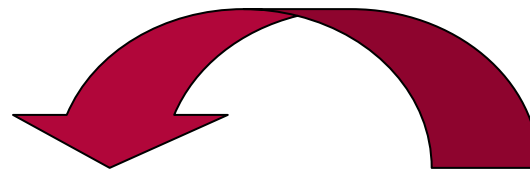
Choreography Modelling

Conformance Level

8

Ausführung von BPMN Prozessen
Aktivitätslebenszyklus
Austauschformat

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

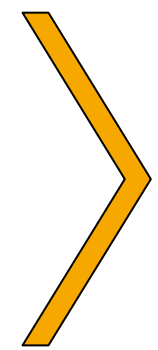
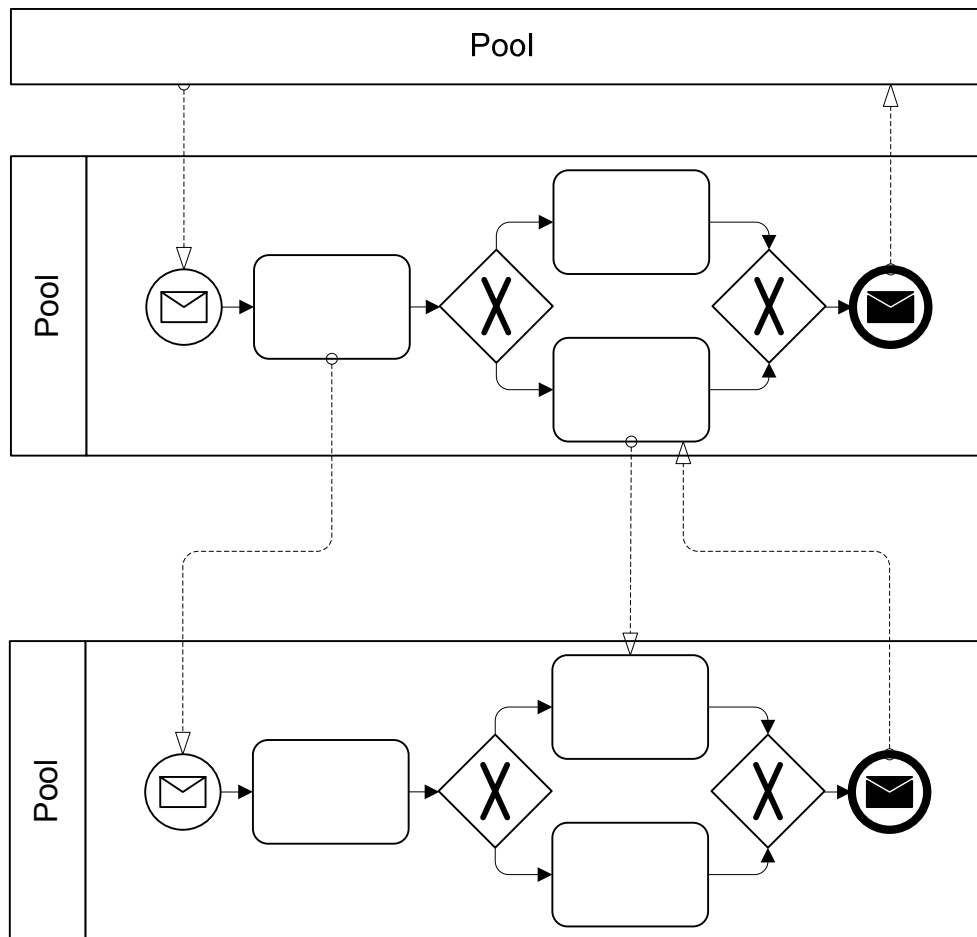


Process Execution

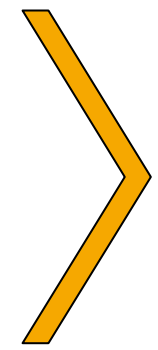
BPEL Process Execution

BPMN – BPEL Mapping Übersicht (1/2)

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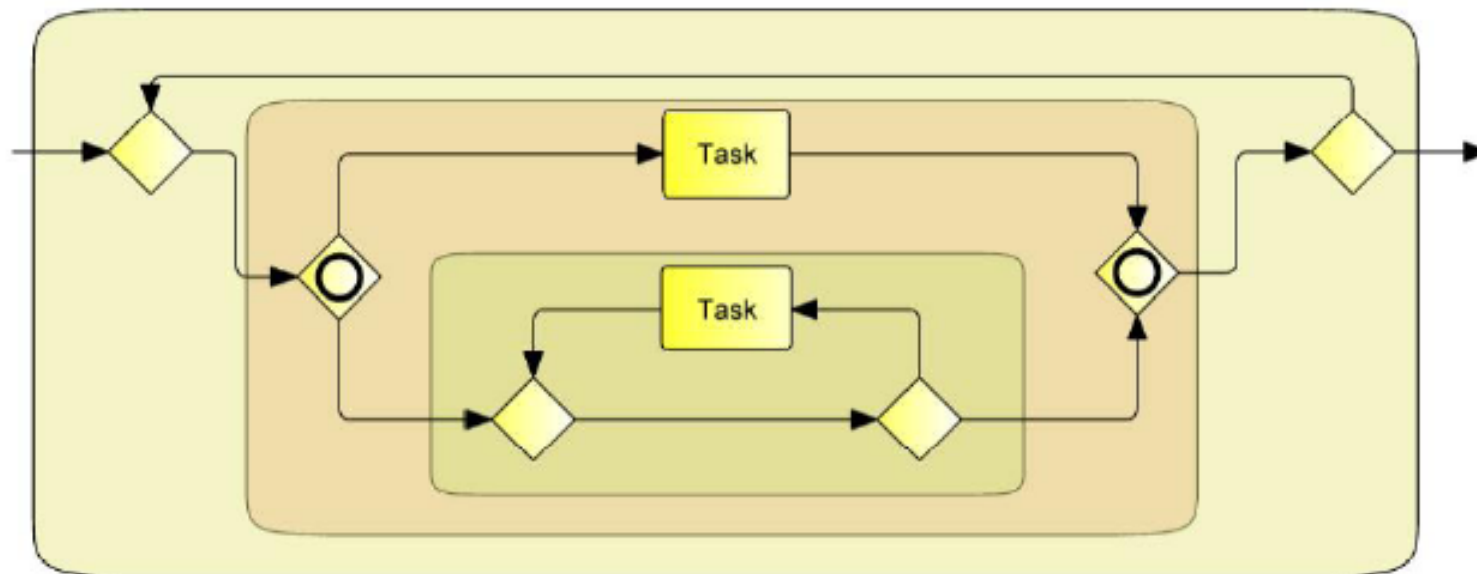


```
<process>
  <sequence>
    ...
  </sequence>
</process>
```

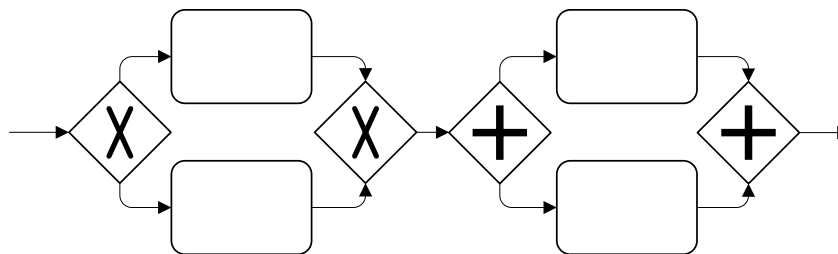
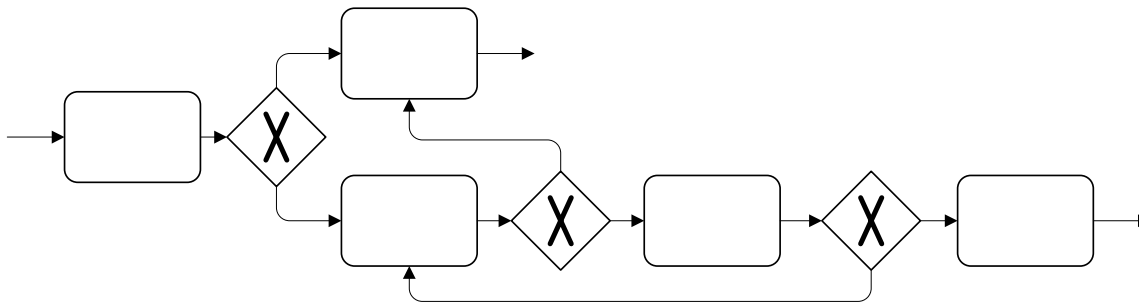


```
<process>
  <sequence>
    ...
  </sequence>
</process>
```

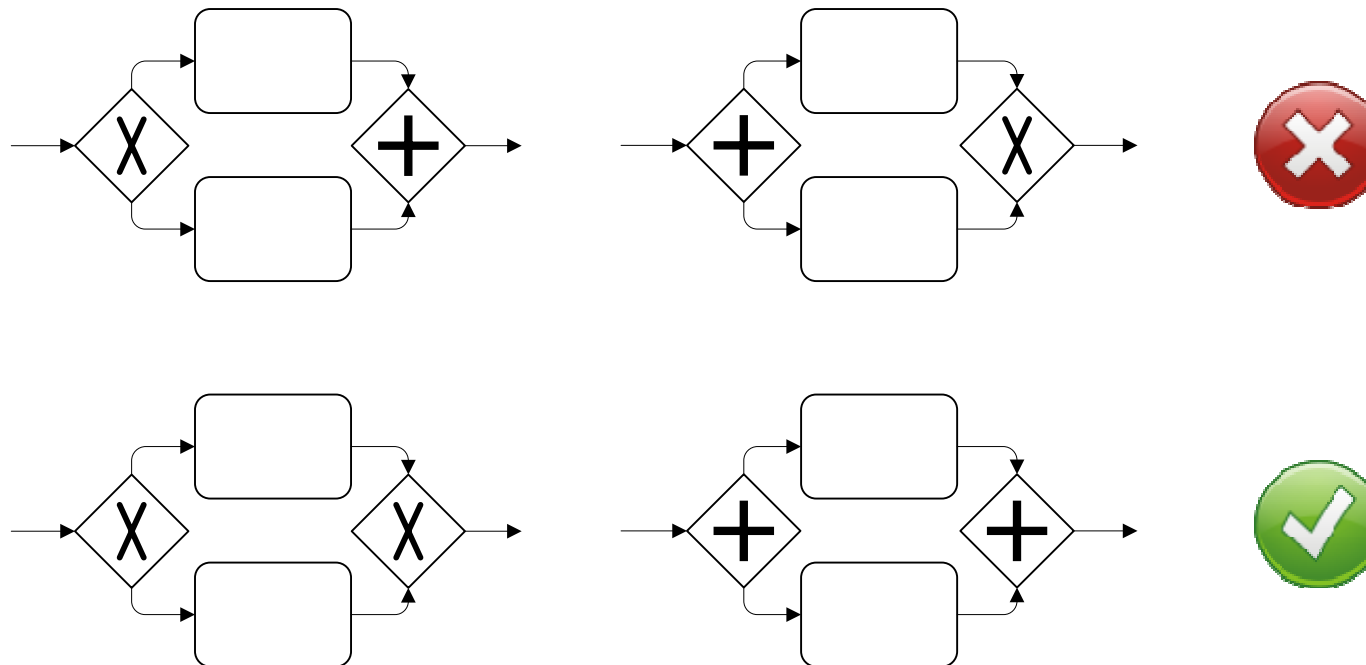
„Basic Mapping“ vs. „Extended Mapping“ Mapping mittels Block-Hierarchie



Annahmen bzgl. der Struktur und enthaltenen Elemente

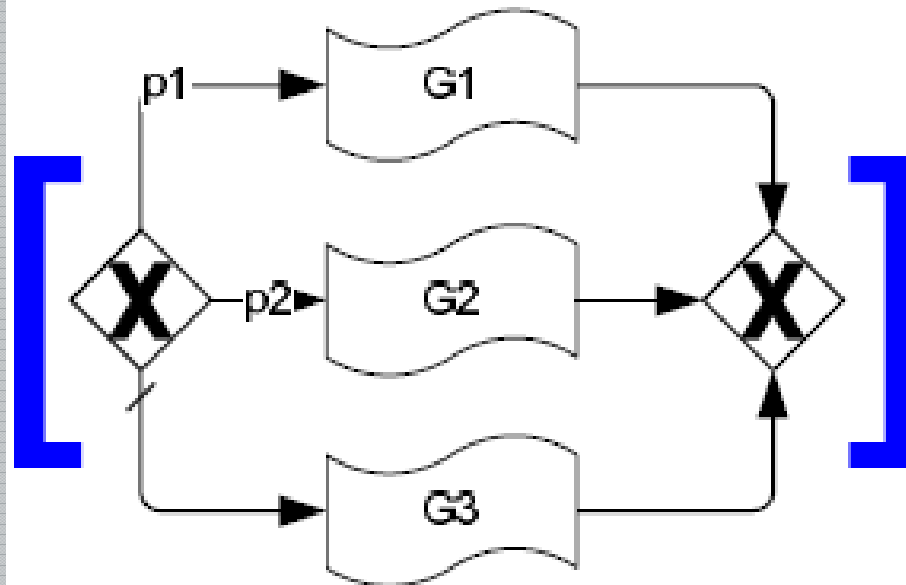


Annahmen bzgl. des Verhaltens



Beschreibung des Mappings

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=

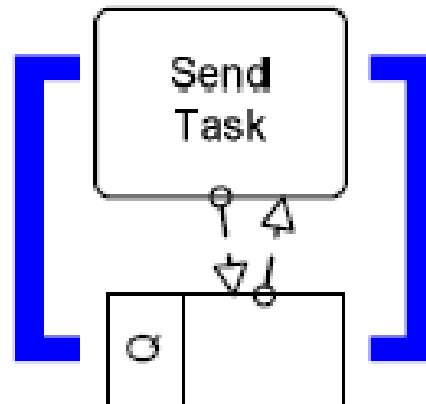
```

<if><condition>[p1]</condition>
  [G1]
<elseif><condition>[p2]</condition>
  [G2]
</elseif>
<else>
  [G3]
</else>
</if>
  
```

- Mapping ist über Beispielblöcke beschrieben
- Zusätzlich textuelle Beschreibung des Mappings für Attribute

Mapping Beispiele

14



```

<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="[msg1i-name]" />
      <outMessageRef ref="[msg1o-name]" />
      <errorRef ref="[error1a-name]" />
      ...
    </Operation>
    ...
  </Operations>
</Interface>

```

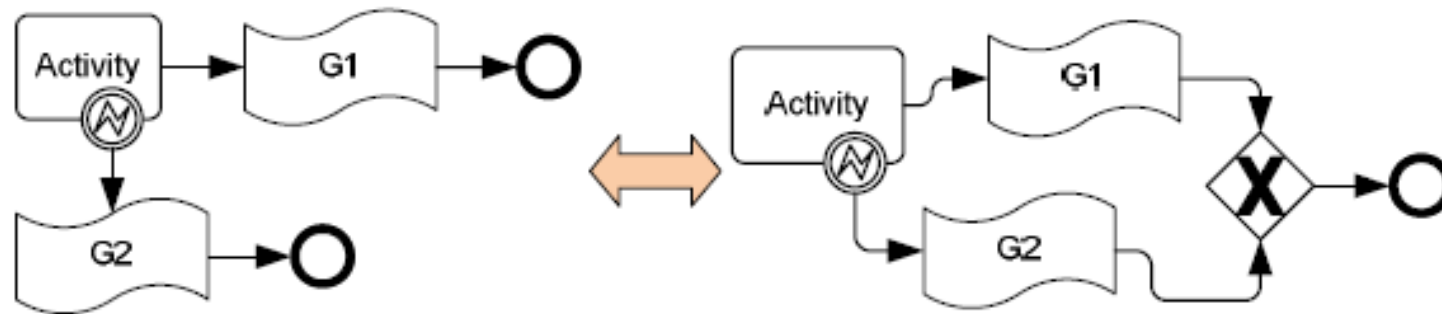
```

<wsdl:portType name="[if-name]">
  <operation name="[op1-name]">
    <wsdl:input message="[msg1i-name]" />
    <wsdl:output message="[msg1o-name]" />
    <wsdl:fault name="[error1a-faultname]"
      message="[error1a-name]" />
    ...
  </operation>
  ...
</wsdl:portType>

```

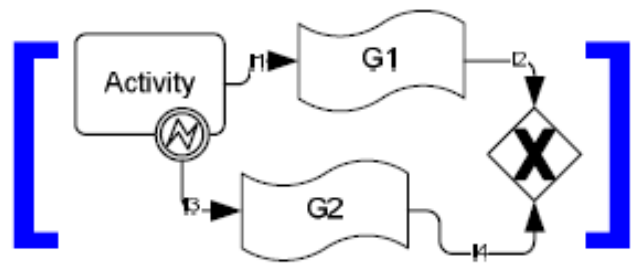
Mapping Beispiele

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Mapping Beispiele

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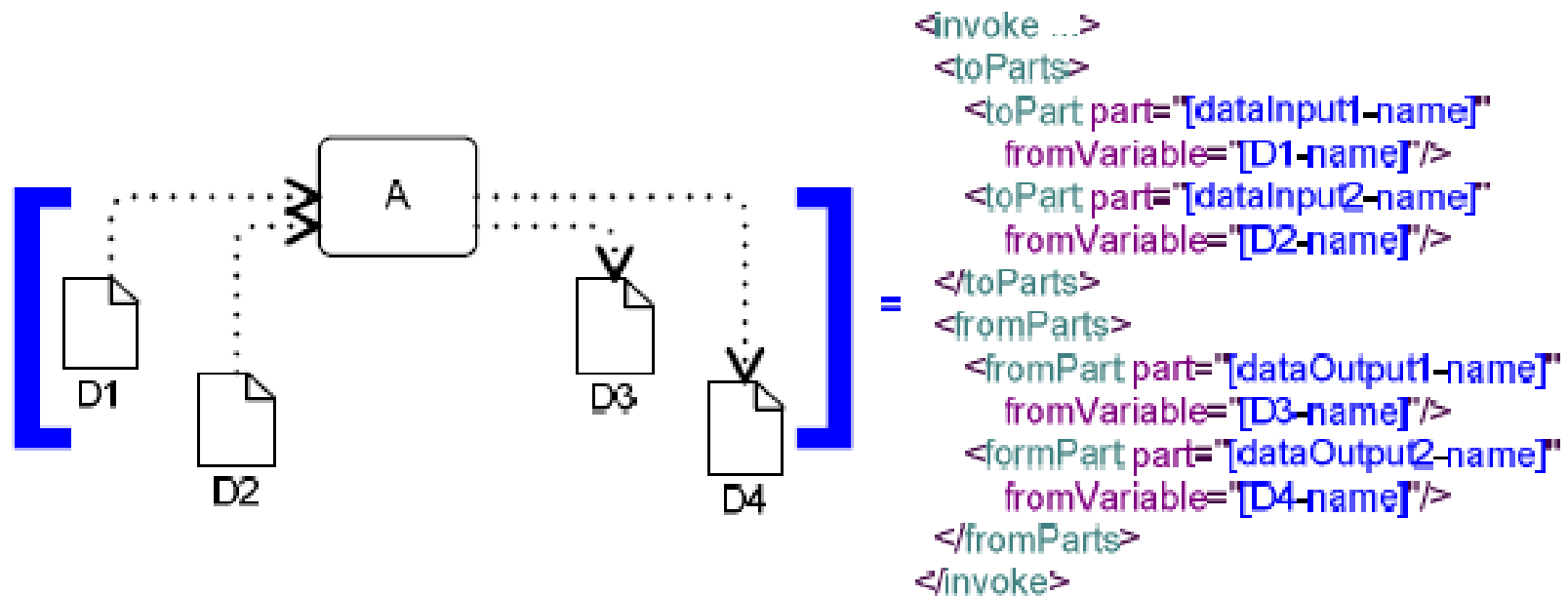


```

<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

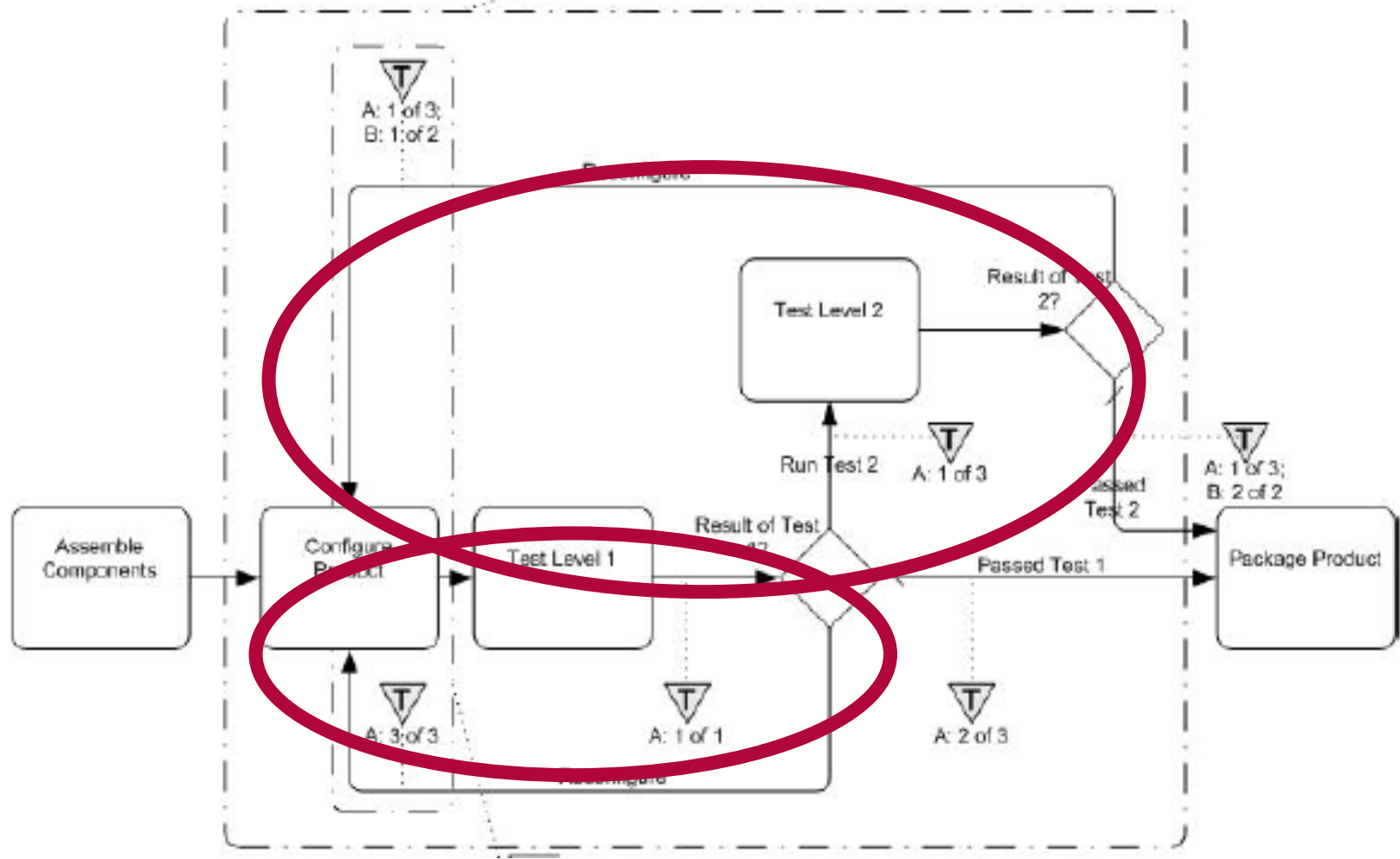
17



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}`

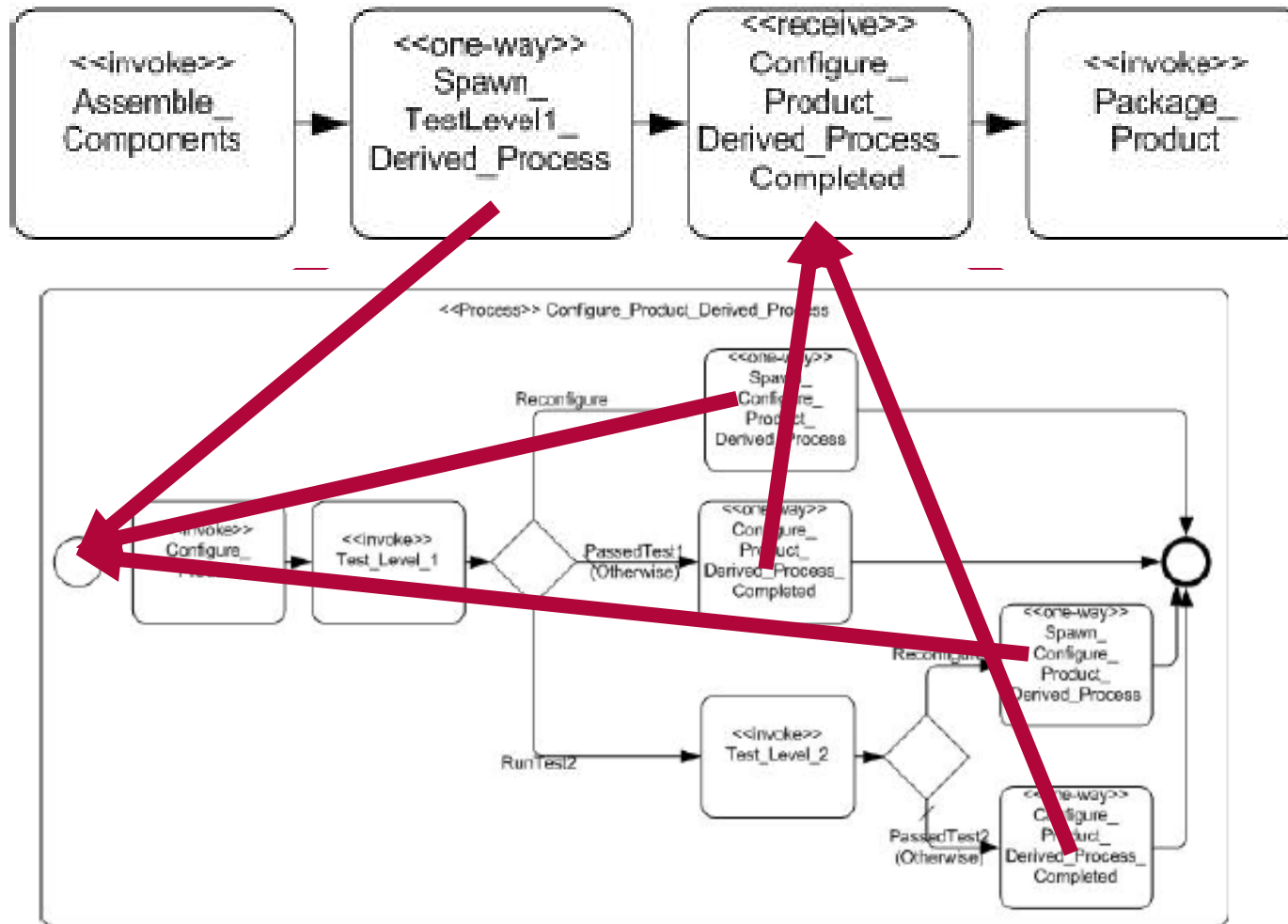
„Extended Mapping“

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