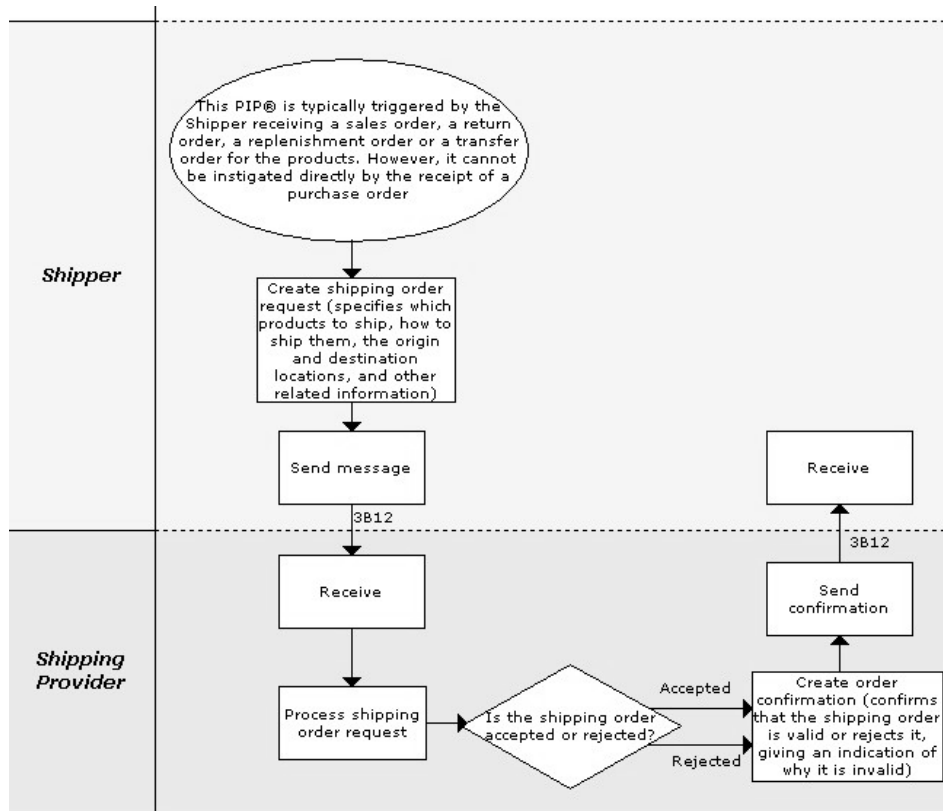


Issue 99: Explanation of the proposed solution

The issue was explained in <http://lists.oasis-open.org/archives/wsbpel/200403/msg00021.html> and the proposed solution in <http://lists.oasis-open.org/archives/wsbpel/200403/msg00070.html>.

RosettaNet PIPs will be used in order to illustrate the proposed solution. A RosettaNet PIP defines message exchange between two parties. Presentation “BPEL4WS and RosettaNet: Demo” given by Rania Khalaf (available via <http://lists.oasis-open.org/archives/wsbpel/200312/msg00142.html>) also tackles the relationship between RosettaNet PIPs and BPEL abstract processes. Not all aspects of PIPs can be expressed using BPEL. For this illustration only process-related aspects are taken into account.

Let’s take a look at PIP 3B12 (Request Shipping Order).



Source: <http://www.rosettanet.org> -> Standards -> PIPs

According to the specification used as input (and the current working draft) Shipper’s BPEL abstract process looks as follows. (Note: Namespaces defined in BPEL4WS v1.1, May 2003, are used.)

```
<definitions name="WSDLDefintions"
targetNamespace="http://example.com/RequestShippingOrder/wsdl"
xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:bpws="http://schemas.xmlsoap.org/ws/2003/03/business-process/"
xmlns:plnk="http://schemas.xmlsoap.org/ws/2003/05/partner-link/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">

<!-- data type definitions and message definitions are omitted -->

<!-- port type definitions -->

<portType name="InterfaceOfService">
  <operation name="internalRequest">
    <input message="..." />
  </operation>
</portType>
```

```
</operation>
</portType>

<portType name="InterfaceOfShipper">
  <operation name="receiveResponse">
    <input message="..." />
  </operation>
</portType>

<portType name="InterfaceOfShippingProvider">
  <operation name="receiveRequest">
    <input message="..." />
  </operation>
</portType>

<!-- partner link type definitions -->

<plnk:partnerLinkType name="InitializingPLT">
  <plnk:role name="Service">
    <plnk:portType name="InterfaceOfService" />
  </plnk:role>
</plnk:partnerLinkType>

<plnk:partnerLinkType name="ShippingPLT">
  <plnk:role name="Shipper">
    <plnk:portType name="InterfaceOfShipper" />
  </plnk:role>
  <plnk:role name="ShippingProvider">
    <plnk:portType name="InterfaceOfShippingProvider" />
  </plnk:role>
</plnk:partnerLinkType>

<!-- definition of properties -->

<bpws:property name="requestID" type="xsd:string" />

<!-- property aliases are omitted -->
</definitions>

<process name="RequestShippingOrder"
  targetNamespace="http://example.com/RequestShippingOrder"
  xmlns="http://schemas.xmlsoap.org/ws/2003/03/business-process/"
  xmlns:sw="http://example.com/RequestShippingOrder/wsdl"
  abstractProcess="yes">

  <partnerLinks>
    <partnerLink name="Initializing"
      partnerLinkType="sw:InitializingPLT"
      myRole="Service" />

    <partnerLink name="Shipping"
      partnerLinkType="sw:ShippingPLT"
      partnerRole="ShippingProvider"
      myRole="Shipper" />
  </partnerLinks>

  <correlationSets>
    <correlationSet name="requestCorrelation"
      properties="sw:requestID" />
  </correlationSets>

  <sequence>
    <receive partnerLink="Initializing"
      portType="sw:InterfaceOfService"
      operation="internalRequest"
      createInstance="yes">
      <correlations>
        <correlation set="requestCorrelation">
```

```

        initiate="yes"/>
      </correlations>
    </receive>
    <invoke partnerLink="Shipping"
      portType="sw:InterfaceOfShippingProvider"
      operation="receiveRequest">
      <correlations>
        <correlation set="requestCorrelation"
          pattern="out"/>
      </correlations>
    </invoke>
    <receive partnerLink="Shipping"
      portType="sw:InterfaceOfShipper"
      operation="receiveResponse">
      <correlations>
        <correlation set="requestCorrelation"/>
      </correlations>
    </receive>
  </sequence>
</process>

```

This abstract process includes partner link “Initializing” and starting activity <receive> which are not specified in PIP 3B12. How the process of Shipper is started is not specified in the PIP. That information is an implementation detail and does not have to be included in the abstract process.

The proposed resolution says that any basic activity (including <invoke>, <receive>, <assign>, <wait>, <empty> and even <throw>) may appear at the beginning of a BPEL abstract process. Activities <reply> and <terminate> are excluded because of the current syntactic and semantic restrictions.

If we adopt the proposal Shipper’s abstract process will look as follows.

```

<definitions name="WSDLDefintions"
  targetNamespace="http://example.com/RequestShippingOrder/wsdl"
  xmlns="http://schemas.xmlsoap.org/wsdl/"
  xmlns:bpws="http://schemas.xmlsoap.org/ws/2003/03/business-process/"
  xmlns:plnk="http://schemas.xmlsoap.org/ws/2003/05/partner-link/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">

  <!-- data type definitions and message definitions are omitted -->

  <!-- port type definitions -->

  <portType name="InterfaceOfShipper">
    <operation name="receiveResponse">
      <input message="..." />
    </operation>
  </portType>

  <portType name="InterfaceOfShippingProvider">
    <operation name="receiveRequest">
      <input message="..." />
    </operation>
  </portType>

  <!-- partner link type definitions -->

  <plnk:partnerLinkType name="ShippingPLT">
    <plnk:role name="Shipper">
      <plnk:portType name="InterfaceOfShipper"/>
    </plnk:role>
    <plnk:role name="ShippingProvider">
      <plnk:portType name="InterfaceOfShippingProvider"/>
    </plnk:role>
  </plnk:partnerLinkType>

```

```
<!-- definition of properties -->
<bpws:property name="requestID" type="xsd:string"/>

<!-- property aliases are omitted -->
</definitions>

<process name="RequestShippingOrder"
  targetNamespace="http://example.com/RequestShippingOrder"
  xmlns="http://schemas.xmlsoap.org/ws/2003/03/business-process/"
  xmlns:sw="http://example.com/RequestShippingOrder/wsdl"
  abstractProcess="yes">

  <partnerLinks>
    <partnerLink name="Shipping"
      partnerLinkType="sw:ShippingPLT"
      partnerRole="ShippingProvider"
      myRole="Shipper"/>
  </partnerLinks>

  <correlationSets>
    <correlationSet name="requestCorrelation"
      properties="sw:requestID"/>
  </correlationSets>

  <sequence>
    <invoke partnerLink="Shipping"
      portType="sw:InterfaceOfShippingProvider"
      operation="receiveRequest">
      <correlations>
        <correlation set="requestCorrelation"
          initiate="yes"
          pattern="out"/>
      </correlations>
    </invoke>
    <receive partnerLink="Shipping"
      portType="sw:InterfaceOfShipper"
      operation="receiveResponse">
      <correlations>
        <correlation set="requestCorrelation"/>
      </correlations>
    </receive>
  </sequence>
</process>
```
