Semantically enhanced Business Process Modelling Notation

Position paper

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Business Process Modeling Notation

- created by the BPMI group
- a notation standard over many existing notations e.g. UML ADs, IDEF, ebXML, EPCs, with fast growing popularity among tool vendors

main aim:
- to create a standardized bridge for the gap between business process design and process implementation allowing for the automatic translation from the graphical process diagram into the BPEL process representation

However...
BPMN in practice

- BPMN is a graph-oriented language and its mapping to the block-structured BPEL representation is challenging.
- BPMN allows designing not well-formed processes that cannot be translated directly into a set of the BPEL executable instructions.

<?xml version="1.0" encoding="UTF-8"?>
<process>
  <partnerLinks>
    <partnerLink name="PartnerLink1" partnerLinkType="ns1:CreditFlow" myRole="CreditFlowProvider" partnerRole="CreditFlowRequester"/>
    ...
  </partnerLinks>
  <variables>
    <variable name="GetDailyStockQuoteOut1" messageType="ns3:GetDailyStockQuoteResponse"/>
    ...
  </variables>
  <sequence>
    ...
  </process>
Where does sBPMN fit in?

- Semantic Business Process Modeling Notation
  - adds meaning to each of the process elements and makes them machine-readable
  - makes reasoning on the process description possible
  - when enhanced with SWS extensions
    - it may also become possible to automatically assign to each task a Web service (or WS composition)
    - generate BPEL process representation → deployed on the execution engine and then executed
**sBPMN**

- **Main concepts:**
  - Flow Objects - Events, Activities and Gateways
  - Connecting Objects – Sequence Flow, Message Flow and Association
  - Swimlanes – Pools and Lanes.
  - Artefacts - Data Object, Group and Annotation
  - Process

- The current sBPMN ontology has approximately 95 concepts and over 50 axioms
sBPMN - summary

- sBPMN ontology is to overcome problems with composition and execution of processes, but
  - what scope of the BPMN specification should be modelled?
  - what restrictions should be imposed on business analysts creating a BPMN diagram, that is to be mapped to the BPEL representation?
  - what level of expressiveness of a formal language is required to model BPMN?
Thank you for your attention!

Questions?