Chapter IX

Lost in Business Process Model Translations:
How a Structured Approach Helps to Identify Conceptual Mismatch

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Abstract

Often, different process models are employed in different phases of the BPM life cycle, each providing a different approach for capturing business processes. Efforts have been undertaken to overcome the disintegration of process models by providing complementary standards for design and execution. However, this claim has not yet been fulfilled. A prominent example is the seemingly complementary nature of BPMN and BPEL. The mapping between these process modeling languages is still unsolved and poses challenges to practitioners and academics. This chapter discusses the problem
of translating between process modeling languages. We argue that there is conceptual mismatch between modeling languages stemming from various perspectives of the business-process management life cycle that must be identified for seamless integration. While we focus on the popular case of BPMN vs. BPEL, our approach is generic and can be utilized as a guiding framework for identifying conceptual mismatch between other process modeling languages.

Introduction

Business process models play a key role in both organizational management (Davenport & Short, 1990; Hammer & Champy, 1993; Smith & Fingar, 2003) and information systems development (Curtis, Kellner, & Over, 1992; Dumas, van der Aalst, & ter Hofstede, 2005; Ellison & McGrath, 1998). In theory, business-process modeling (BPM) efforts follow a certain life cycle (Smith & Fingar; Weske, van der Aalst, & Verbeek, 2004; zur Muehlen, 2004) that idealizes the phases of development and deployment of business processes into the stages of design, implementation, enactment, and evaluation.

In principle, the design phase involves the development of conceptual process models from a business analyst perspective. During this phase, business processes are documented in an intuitive form to communicate the business requirements to relevant stakeholders. In a second step, these models serve as input to technical analysts concerned with the development of technical process models, that is, implementation models in the form of executable work-flow specifications. These specifications then serve as templates for the enactment of process instances deployed on work-flow engines. Lastly, the execution of a process is monitored and evaluated by process controlling and analysis tools to guide the revision and improvement of the process models as part of another iteration of the life cycle.

While in theory the business-process life cycle proposes a seamless interplay between the various phases, in business practice the transition between the phases is often broken. For instance, a wide range of different process modeling languages can be employed in the various stages of the life cycle, each with a different focus on audience and modeling purpose (Bider & Johannesson, 2002; Katzenstein & Lerch, 2000). Some of the languages provide mechanisms to develop high-level conceptual models that provide an
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