Business Process Technology Group
Prof. Dr. Mathias Weske

HASSO PLATTNER INSTITUTE
IT Systems Engineering
HPI

Bachelor Project, WS 2007/2008, SS 2008

Ad-Hoc Business Processes

Introduction

With the delivery of SAP NetWeaver as the technological foundation for its business process platform, SAP has taken one further step in the transition from a vendor of traditional packaged business applications to an enabler of service-oriented architectures. SAP provides both the infrastructure and content needed to successfully manage enterprises in an economy which demands constant change in business models and processes. Business process management represents a key capability in the effort of rapidly and flexibly coping with such changes.

Traditional approaches to business process management date back to the invention of workflow automation in the mid-1970s where a process would be described as a structured composition of logically related activities. Even with Web-services-centric orchestration languages like BPEL that exist as of today, this is still the predominating paradigm. While workflows are well-suited to model the sequential parts of a process, experience shows that reality is far more complex than that. Real-world processes, specifically those with a high degree of user interaction, are often highly dynamic in nature; here, pure workflow approaches fail to deliver a suitable methodology to capture the processes in a holistic way. The consequences of this are poorly supported processes with, if at all, only little automation.

Ad-hoc processes in the sense of improvised processes or processes invented for a specific, immediate purpose are those where the execution order of contained activities cannot be determined upfront. In the extreme case, activities are not even known until the very point in time when the process is lived, i.e. "executed". As such, ad-hoc processes fit well into the scheme of dynamic processes.

Objectives

The goal of this project is to develop concepts and prototypes for an ad-hoc-enabled business process management infrastructure. The foundational part of the project will be about investigating the current the state of the art in both science and industry (specifically at SAP).

Some of the questions that will have to be answered are:
- Which degrees of "adhocness" are imaginable?
- At what points in the life cycle of a process can ad-hoc modifications take place?
- Who has the rights to perform ad-hoc changes on running process instances?
- Under which circumstances can ad-hoc changes to running process instances be fed back to the process model level?

Based on this the students will, guided by the research staff in Potsdam and SAP in Walldorf, identify and prototypically implement two to three of the most interesting findings. A leading business scenario will be used to validate both concept and prototype. The technical basis for the prototype will be partly the next-generation business process management solution currently under development at SAP and partly B3MN.

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Organization

The project will be carried out by a group of six to eight students starting from September 2007 until end of June 2008. While the project execution will mainly be done at the HPI in Potsdam, the students are supposed to occasionally visit the SAP labs in Walldorf, Germany, specifically at the early stages of the project and when milestones have been reached. A close cooperation with the development teams at SAP is highly anticipated.

Prerequisites

The students are supposed to be familiar with the following topics:
- UML/FMC
- Java
- MOF/JMI
- Eclipse development
- BPMN

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