



Business Process Management

In this chapter, we look at business processes and how business process management (BPM) is supported by Seam. I've already discussed JBoss Business Process Management (jBPM) in Chapter 5, when we explored Seam's pageflow features, which are built on jBPM. As mentioned in that chapter, while BPM can be applied effectively to manage pageflow, it's actually a much broader field, supporting tasks implemented in a variety of ways (web pages, business components, business rules, etc.), connected together with a structured workflow that can span multiple users across potentially long periods of time. In this chapter, we look at this broader application of BPM and how jBPM can be used within Seam to define and execute business processes.

Business Processes, jBPM, and Seam

In Chapter 5, I described pageflow as a specific subset of business process management. Pageflow is concerned with how a single user moves between web pages during a single session. And in the case of Seam, a jBPM pageflow is actually part of a single Seam conversation within a single session. This is just one very specific application of business process management.

In this section, I'll first introduce you to some of the basic concepts of business process management, then show you how jBPM models these concepts, and finally demonstrate how Seam integrates jBPM into its application framework.

Business Process Concepts

Business process management covers a broad realm using very general concepts that can be applied to many different practical situations. Any situation that involves structured workflow leading users through a series of tasks could be modeled using BPM. That's not

to say that all these situations *should* be modeled using BPM. BPM frameworks bring their own overhead, and you need to be sure that the benefits are there before applying a process modeling tool. When such a situation arises, though, BPM can be a very powerful tool to help clarify and execute structured workflows that are defined by user experience goals, business rules, regulatory constraints, or all of the above.

In business process management, actions can be initiated by a variety of events beyond just users visiting web pages. Batch jobs can fire off messages to a queue, signaling the end of a task and a transition to a new state. Users can send e-mail messages to a target mailbox that triggers the start of an entire process. Any event that can be detected by the system can be used within a business process.

Business processes are also typically larger in scope, in terms of both timeframe and number of users involved. A pageflow involves a single user in a single web session, and web sessions typically last on the order of minutes. A business process can involve multiple users over a much longer period of time. Some processes take hours, days, weeks, even months to complete. Editing an article for a magazine or web site, for example, can be modeled as a business process, involving one or more authors, one or more editors, plus technical reviewers, production staff, and so on. The entire process can take several weeks or even months, involving interactions with several systems along the way.

Business Process Models

A business process consists of a set of *nodes*, or states, linked by various possible *transitions*. *Events* in the business process cause various *actions* to be executed. These events include arrival at a particular state in the process, a transition between states, or specific outcomes of other actions.

As a practical example, Figure 7-1 shows a graphical model of a simplified business process for editing articles. There are eight nodes in this workflow. Six of them are named states in the process: the starting state (“start-state”), a “write article” task, a “tech edit” task, a “copy edit” task, a “revise article” task, and the end state (“end”), signaling the completion of the article and the end of the process. The other two, unnamed nodes are a fork, between the article submission and the two parallel editing tasks, and a join, where the two parallel editing tasks transition to the article revision task. Various transitions exist between these nodes. Some of these are named, indicating specific actions that have to take place in order for the transition to take place. Others are not named, either because there is only one transition out of a given node, or the nature of the transition is obvious from the start and end nodes.