Chapter 16
Open Source Workflow Systems

Petia Wohed, Birger Andersson, and Paul Johannesson

16.1 Introduction

The goal of this chapter is to broaden the reader’s knowledge in the area of open source WFMS. To achieve this we introduce three other open source WFMSs. These are OpenWFE, jBPM and Enhydra Shark, which according to download statistics (July 2008) are the open source systems with the largest number of downloads (closely followed by YAWL). The purpose of the presentation is not to provide detailed insight into each of these systems, but rather to expose the reader to different approaches and to discuss the similarities and differences of these approaches with regard to YAWL.

The chapter is divided into three parts, each describing one system. The descriptions follow the same format as much as possible. First, some background information is given. Subsequently, the architecture is described. Then an introduction to the underlying process modeling language is given from control-flow, data, and resource perspectives. After that, a part of the Order Fulfillment case is modeled and the solution briefly discussed. Each description concludes with a brief comparison of the system and YAWL. All files containing the discussed examples are distributed for test-runs with the electronic supplement of the book.

16.2 OpenWFERu: Ruote

OpenWFERu, also called Ruote, is a workflow management system written in Ruby. Of the open source projects presented in this book, this was the first project to be registered at an open source repository (May 2002 on SourceForge). The initial development was done in Java and the tool/project was called OpenWFE (or sometimes OpenWFEja). In November 2006, the development migrated to Ruby and, as

1 openwferu.rubyforge.org

P. Wohed (✉)
Stockholm University and The Royal Institute of Technology, Stockholm, Sweden, e-mail: petia@dsv.su.se
a result, the distribution moved to RubyForge. The tool is intended for developers and distributed under the BSD License. The current (July 2008) development status is 4-Beta.

16.2.1 Architecture

The architecture of the system, following the Workflow Management Coalition’s reference model,² is shown in Fig. 16.1. It consists of a number of components: a workflow engine, workflow client(s), administration and monitoring tool(s), and process definition tool(s). We sometimes use OpenWFEru or Ruote to denote the entire system, but for the sake of precision, it should be noted that OpenWFEru (Ruote) solely refers to the workflow engine component. The engine interfaces with end users and administrators through a workflow client. For this chapter, we have used the ruote-web (also called Densha) client, which is a web-based application providing end-user and administrator functionality to the engine.

Two central parts of Densha are the worklist window and the stores window, shown in Figs. 16.2 and 16.3. The worklist window provides administration functionality and is available only to administrators of the system. Note that the name “worklist” is used in a rather untraditional way, as no actual worklists are displayed there. The second figure displays the stores window. A store is a storage space for work items and in a way resembles a worklist in YAWL. In contrast with YAWL, however, where worklists are personal, several users in Ruote may have access to the same store and one user may access several stores. For instance, in Fig. 16.2, Tom, who is a Senior Supply Officer, is granted read–write-delegate privileges to

---

² www.wfmc.org/standards/referencemodel.htm