Business Process Management: A Killer App for Agents?

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Abstract

This panel will evaluate business process management as an application area for agent technology. Business process management has been studied intensively in the agents community. As businesses evolve into e-businesses, process management is garnering an increasing amount of interest among IT practitioners. Therefore, this technical area appears to be a natural fulcrum for leveraging agent technology. This panel will discuss the challenges and opportunities that business process management offers. In particular, this panel will seek to identify promising directions for agents research that would lead to a more robust introduction of agent technology into mainstream IT.

1. Introduction

Process management both in business and scientific settings continues to be extremely practically important. The expansion of e-business has increased the urgency of effective process management. The expansion of service-oriented computing in the guise of Web and Grid services has increased the potential payoff of sophisticated techniques for process management.

Currently, traditional techniques for process management, e.g., workflows, are being lifted to apply in modern settings. Yet these techniques are designed for closed environments where the process can be conceptualized in a central manner and can be understood as little more than a script. For this reason, traditional techniques are inherently unsuited to modern open environments, which are characterized by the autonomy and heterogeneity of the participating business partners.

Information Technology practitioners recognize both the importance of business process management and the limitations of current techniques. Because of its natural emphasis on open systems, process management is an obvious application area for agents research. Indeed, agents researchers have already made several contributions to process management, some over a decade ago. Several agent-based tools and techniques have been prototyped, some in advanced commercial settings. The resurgence of interest in process management provides a great opportunity for agents research to establish its relevance in the world of practitioners. If the agents community could make a solid case to the practitioners, business process management could provide precisely the kind of mission-critical, broad-scope application needed to introduce agent technology into the IT mainstream.

With the above motivation, this panel will study the opportunities and challenges of process management in its modern incarnation. It will discuss the agents approaches that have been developed for process management, and the perils and pitfalls that they face in modern deployment. It will seek to identify research directions for the agents community where the industry need is the most acute and where agents can make the most profound contributions.

The motivation behind this panel is to take a proactive stance on a well-understood major business arena where agents technology can contribute significantly. For this purpose, it would help to identify specific problem areas whose significance is widely recognized by practitioners. The panel will carefully avoid hyping prototypes, which is one of the aspects of research in general and agents research in particular that practitioners find quite off putting.

The outcomes of this panel will include

(a) A characterization of the toughest problems within business process management where agents can apply.

(b) A characterization of the agent techniques that are ready for prime time.

(c) Challenges and war stories about applying (b) to (a).

The invited panelists will represent a broad range of experience in process management from industry, government, and academia, and have the credentials to lead discourse on the above topics.