Introduction to Minitrack

Internet and Workflow Automation: Technological and Managerial Issues

Pai-chun Ma  
Baruch College, City of University of New York  
Department of MIS  
University of Arizona

Edward A. Stohr  
IS Department, Stern School of Business  
New York University

Workflow Management Systems (WFMS) directly support business process reengineering efforts by providing automated support for work and decision processes. Currently, these systems are being deployed rapidly in large financial services institutions such as banks and insurance companies, where the emphasis is on increasing efficiency and reducing cycle times. In our opinion, WFMS will soon be ubiquitous in industry, changing the nature of work and introducing new possibilities for organizational design and inter-organizational collaboration.

The objective of this mini-track is to explore issues related to the development and application of workflow technologies in both traditional and e-commerce applications. The emphasis is on the interface between workflow technologies and organizational requirements.

Six excellent papers embodying a wide range of different areas within the workflow management field were selected for this year’s minitrack. The papers are arranged in their order of presentation at the conference. They cover a variety of topics ranging from workflow process design, new architectures for WFMS, interoperability, measuring performance gains, monitoring performance, and managing the signature approval process in administrative systems.

The first session starts with a paper by Mark E. Nissen, "Experimental Assessment of a Process Workflow Redesign Agent." This paper discusses KOPeR, a knowledge-based system for process redesign. KOPeR contains a number of expert rules for diagnosing problems in existing business processes and generating suggestions for design improvements. The performance of the system was compared favorably to that of human subjects in a laboratory experiment. The next two papers are concerned with WFMS technology. "Connector-Oriented Workflow System for the Support of Structured Ad Hoc Workflow," by Doongsoo Han and Jaeyong Shim, defines “structured ad hoc” workflows as randomly occurring specialized processes, which, nevertheless, have sufficient structure to be supported by an automated system. Their paper presents a novel architecture for developing and operating such a system. The paper, "Repositories for Workflow Management Systems in a Middleware Environment by Hartmut Wedekind, Michael Schlundt and Jens Neeb, presents a framework based on the CORBA IDL for augmenting workflows with metadata. The objective is to achieve greater transparency of WFMS thereby increasing the possibilities for interoperability between different systems.

To lead-off the second session, the paper by Michiko Oba, Sen’ichi Onoda and Norihisa Komoda, "Evaluation of the Effects of Workflow Systems Based on Real Cases," presents a methodology for assessing the improvements in work processes that result from the deployment of a workflow system. The methodology is illustrated using field studies in eight different companies. The results are presented in terms of improvements in labor hours and reductions in cycle time. The next paper by Michael zur Muhlen and Michael Rosemann, is also concerned with measuring the impacts and benefits of WFMS. In their paper, "Workflow-based Process Monitoring and Controlling - Technical and Organizational Issues," the authors address the problem of monitoring and controlling an operational workflow management system. The authors describe a process audit tool that compares performance against targets set by business process modeling tools thereby supporting continuous process improvement. The final paper by Karl R.P.H. Leung and Lucas C.K. Hui, "Multiple Signature handling in Workflow Systems," presents a comprehensive and novel scheme for handling multiple approval signatures in workflow systems. A major contribution of their paper is that it presents a classification of the various purposes for which administrative signatures are used. The authors illustrate the implementation of their scheme in an actual workflow engine.