Transactional Workflows:
Research, Enabling Technologies and Applications
(Invited Talk)

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Abstract

Need to increase productivity and reduce cost have lead to reengineering and automation of operations across corporations. Some of the applications involve imaging, document processing and routing. These tasks can be effectively automated using current genre of workflow automation products. Some other applications involve tasks that can be modeled in client-server style using traditional transactions. These can be supported by distributed transaction processing/monitoring systems. Finally, there is an important class of more complicated applications that involve heterogeneous but automated tasks, with varying levels of transaction properties, and performed at heterogeneous systems. We will look at three aspects of the emerging technology of transactional workflow management that aims to support such applications.

- Identify properties of a class of multi-system applications and the environments that can be supported by transactional workflow systems.
- Discuss how a transactional workflow management system is different from, but "builds upon" the current transaction processing and workflow automation technologies.
- Discuss some of the relevant database research as well as software system and application prototyping experiences, especially those related to the extended/relaxed transaction models.

Much of the discussion will be based on our study of some real (mostly telecommunications) applications, and research and prototyping done at Bellcore in collaboration with U. of Houston and MCC's Carnot project.