TUTORIAL 5

Multidatabase Applications: Semantic and System Issues

Marek E. Rusinkiewicz, University of Houston
Amit P. Sheth, Bellcore

Many large organizations have data distributed in heterogeneous and autonomous information repositories. Studies of users' needs show that providing a systematic access to such multidatabase resources is and will continue be a major problem. The tutorial will address the state-of-the-art of the related technologies, including semantic and systems issues. The tutorial will

1. introduce the basic concepts of heterogeneous multidatabase systems and identify major research problems in the area;
2. discuss various approaches to the problem of developing applications in a multidatabase environment; and
3. review the current implementation efforts, discuss the current tendencies and future directions.

The tutorial will cover the following topics:

- Issues: Distribution, Heterogeneity, and Autonomy
- Alternatives: Interoperability, Integration, and Interdependency
- Reference Schema and System architectures
- Semantic Heterogeneity
- Schema analysis, interdependency, and integration
- System support for multisystem applications
- Processing of Multidatabase Queries
- Transaction issues in multidatabases