Editorial

ACM and SIGSAC currently sponsor an annual symposium on access control models and technologies (SACMAT). Research results and experience reports, presented in these symposia over the past years, on leading-edge issues pertaining to access control, including models, systems, applications, and theories, have contributed immensely to the growth of this field. Most of the work until recently has focused on the access control needs for closed systems having a well-defined security perimeter. These models are not very suitable for new applications and environments that are dynamic in nature and involve collaboration across organizational boundaries. Various researchers are proposing solutions to this difficult problem, including the articles in this special issue.

This issue of TISSEC consists of three articles that focus on access control in an open, dynamic, and collaborative environment. "The Traust Authorization Service," by Lee, Winslett, Basney, and Welch, describes an authorization solution that can be used in large-scale open systems where resources are shared across organizational boundaries. The authors describe the design and implementation of Traust, a third-party authorization service that uses trust negotiation to establish a trust relationship between entities before granting them access to resources. "Toward a Usage-Based Security Framework for Collaborative Computing Systems," by Zhang, Nakae, Covington, and Sandhu proposes a usage control–based policy, enforcement, and implementation framework suitable for collaborative environment that may be dynamic in nature. The authors also demonstrate the feasibility and the performance of the framework. "XACML Policy Integration Algorithms," by Mazzoleni, Crispo, Sivasubramanian, and Bertino, proposes XACML policy integration algorithms that are useful for dynamic collaborative environments where multiple autonomous subjects must share their resources to provide better services to customers.

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