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Title: Trust Negotiation

Abstract:

Trust negotiation is a key technology for establishing trust in open systems, in which sensitive interactions may occur between entities with no prior knowledge of each other. Although several proposals for the management of trust negotiation have been proposed, none of them provide a comprehensive approach to the problem of on-line mutual authorization with privacy guarantees. In this talk, I will present approaches to the problem of privacy in trust negotiation systems.

Specifically, the focus of this talk will be on Trust-X, an XML-based system for trust negotiation. I will discuss the main features of Trust-X, from the policy specification language, to the strategies for efficiently carrying on negotiations, to the approaches adopted for addressing privacy issues. In discussing the trust negotiation strategies, I will illustrate how they can be used in different application domains, on the basis of negotiators' security requirements.

An overview of the architecture of Trust-X prototype system, which has been implemented using a web service architecture, will be discussed. I will show the main evaluation results of the systems performance and evaluate the complexity of the defined strategies. I will conclude by discussing possible extensions and outlining the next research challenges that need to be addressed for a deployment and applicability of such a promising technology.

Bio:

Anna Cinzia Squicciarini is a post doctoral associate at the Computer Science Department at Purdue University. She also collaborates as a security researcher with the ItaP group at Purdue University for the NSF TeraGrid project. She received her PhD in Computer Science from the University of Milan, Italy in March, 2006. During fall 2003 she was a visiting researcher at Swedish Institute of Computer Science, Stockholm, and during spring 2004 she was a research scholar at Colorado State University, Fort Collins (CO), US. She also spent several months at Purdue University before her graduation as visiting student.

Her main research interests include trust negotiations, privacy, and access control for grid computing systems. She has been the main architect of Trust-X, an advanced trust negotiation system supporting privacy policies, anonymity, and recovery techniques. Currently, she is exploring issues related to identity management systems and the integration of biometric techniques with existing authentication mechanisms.