



Trust Management

CS 6463 Lecture One

Prof. William Winsborough
January 22, 2007

Welcome

- Syllabus:
 - <http://www.cs.utsa.edu/~winsboro/teaching/CS6463-S07/Syllabus.htm>
- If you cannot make my office hours, please set up an appointment
 - Email, call, drop by
- This class is about my area of research
 - Some of the papers we will study were co-authored by the instructor

January 22, 2007 Winsborough CS 6463 Lecture 1 2

Authorization and Access Control

- Bedrock of Computer Security
- Its function is to control which principals (persons, processes, machines, ...) have access to which resources in the system --
 - which files they can read, which programs they can execute, and how they share data with other principals, and so on. [Ross Anderson]

January 22, 2007 Winsborough CS 6463 Lecture 1 3

Access Control is Pervasive

- Application
 - business applications
- Middleware
 - DBMS
- Operating System
 - controlling access to files, ports
- Hardware
 - memory protection, privilege levels

January 22, 2007 Winsborough CS 6463 Lecture 1 4

What is Trust Management?

- An approach to designing authorization systems for use in decentralized environments and open systems
 - Business partnerships or coalition operations
 - The Internet
- Because of scale, resources (files, software, computing equipment,...) need to be shared selectively with resource requesters (users, servers, processes,...) with whom the resource owner may have no prior relationship
- Access control policies must be able to utilize information from various sources about resource requesters
 - Credentials
 - Delegation of authority
- In some sense trust management generalizes public key infrastructure (PKI), however it focuses more on authorization and less on authentication

January 22, 2007 Winsborough CS 6463 Lecture 1 5

What is Automated Trust Negotiation (ATN)

- ATN is a process whereby mutually distrustful parties can establish trust in one another that is sufficient to enable them to engage in some desired transaction

January 22, 2007 Winsborough CS 6463 Lecture 1 6

Based on Research Papers

- No text book
 - Lectures will be based on research papers, which will be posted on the course homepage:
 - <http://www.cs.utsa.edu/~winsboro/teaching/CS6463-S07/>
 - You are required to read these papers before the corresponding lectures
 - Some papers may be discussed for multiple class periods
 - I will lecture from notes that will also be posted

January 22, 2007

Winsborough CS 6463 Lecture 1

7

Course Activities

- Assignments
 - Due at start of class in which the paper in question is first discussed
- Paper presentation
- Discussion during class
 - Attendance is required
- Class project
 - Tailored to individual interests
- No exams

January 22, 2007

Winsborough CS 6463 Lecture 1

8