

Outline for November 1, 2005

1. Access control and systems
2. Access Control Lists
 - a. UNIX method
 - b. ACLs: describe, revocation issue
 - c. Windows and ACLs
3. Capabilities
 - a. Capability-based addressing: show picture of accessing object
 - b. Show process limiting access by not inheriting all parent's capabilities
 - c. Revocation: use of a global descriptor table
4. Levels of privilege
5. MULTICS ring mechanism
 - a. MULTICS rings: used for both data and procedures; rights are REWA
 - b. (b_1, b_2) access bracket - can access freely; (b_3, b_4) call bracket - can call segment through gate; so if a 's access bracket is (32,35) and its call bracket is (36,39), then *assuming permission mode (REWA) allows access*, a procedure in:
 - rings 0-31: can access a , but ring-crossing fault occurs
 - rings 32-35: can access a , no ring-crossing fault
 - rings 36-39: can access a , provided a valid gate is used as an entry point
 - rings 40-63: cannot access a
 - c. If the procedure is accessing a data segment d , no call bracket allowed; given the above, *assuming permission mode (REWA) allows access*, a procedure in:
 - rings 0-32: can access d
 - rings 33-35: can access d , but cannot write to it (W or A)
 - rings 36-63: cannot access d

Puzzle of the Day

Define spam. In particular, what distinguishes spam from unsolicited e-mail?