Outline for May 20, 2003

1. Representation of identity
   a. X.509 Distinguished Names
2. Access control lists
   a. What they are
   b. Abbreviations
   c. Issues in creation and maintenance
   d. Revocation
3. Capabilities
   a. What they are
   b. Copying and amplifying
   c. Revocation
   d. Limits
4. Locks and keys
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*
6. Propagated access control lists