Outline for January 20, 2016

Reading: *text*, §16 (15 in first edition)   **Assignments due:** Presentation paper selection, Jan. 22
Project selection, Jan. 22
Homework 1, Jan. 25

1. Access Control Lists
   a. Full access control lists
   b. UNIX method
   c. ACLs: describe, revocation issue
2. Capabilities
   a. Capability-based addressing
   b. Inheritance of C-Lists
   c. Revocation: use of a global descriptor table
3. MULTICS ring mechanism
   a. Rings, gates, ring-crossing faults
   b. Used for both data and procedures; rights are REWA
   c. (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
   d. 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