

## Lecture 13 Outline

**Reading:** *text*, §7.1, 7.2

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1. Chinese Wall Policy
  - a. Arises as legal defense to insider trading on London stock exchange
  - b. Low-level entities are objects; all objects concerning the same corporation form a CD (company dataset); CDs whose corporations are in competition are grouped into COIs (Conflict of Interest classes)
  - c. Intuitive goal: keep one subject from reading different CDs in the same COI, or reading one CD and writing to another in same COI
  - d. Simple Security Property: Read access granted if the object:
    - i. is in the same CD as an object already accessed by the subject; or
    - ii. is in a CD in an entirely different COI.
  - e. Assumes correct initialization
  - f. Theorems:
    - i. Once a subject has accessed an object, only other objects in that CD are available within that COI;
    - ii. Subject has access to at most 1 dataset in each COI class
  - g. Exceptions: sanitized information
  - h. \*-Property: Write access is permitted only if:
    - i. Read access is permitted by the simple security property; and
    - ii. No object in a different CD in that COI can be read, unless it contains sanitized information
  - i. Key result: information can only flow within a CD or from sanitized information
  - j. Comparison to BLP:
    - i. Ability to track history;
    - ii. In CW, subjects choose which objects they can access but not in BLP;
    - iii. CW requires both mandatory and discretionary parts, BLP is mandatory only
  - k. Comparison to Clark-Wilson: specialization of Clark-Wilson
2. Clinical Information System Security model
  - a. Intended for medical records; goals are confidentiality, authentication of annotators, and integrity
  - b. Patients, personal health information, clinician
  - c. Assumptions and origin of principles
  - d. Access principles
  - e. Creation principle
  - f. Deletion principle
  - g. Confinement principle
  - h. Aggregation principle
  - i. Enforcement principle
  - j. Comparison to Bell-LaPadula: lattice structure but different focus
  - k. Comparison to Clark-Wilson: specialization