Access Control:

- DAC (discretionary access control)
  - owner sets access
- MAC (mandatory access control)
  - like security clearance (used in military)
- RBAC (role based access control)
  - popular with databases
  - RBAC 0: core level
  - RBAC 1: add ability to implement hierarchy
    - compartmentalization of how we think
    - ability to inherit responsibilities of superclasses
    - superclass contains rights of all subclasses
  - RBAC 2: constraints
- ABAC (attribute based access control)
  - driven by cloud services
  - much finer granularity
  - deal with attributes of subjects and objects
  - 3rd dimension of matrix: context
    - environmental or temporal conditions
    - performance is a challenge
- Static VS dynamic separation of duty
  - break up tasks with:
    - static: mutually exclusive
    - dynamic: "ability to deal with things on the fly"
- ABAC 3: logical model...
- Federations: how to handle many systems?
  - ex: CS & ECE dept.
    - 2 different domains
    - need a way to have identity shared across
  - Multiple Domains
    - 2 factors: How to trust authentication is valid from:
      - my side
      - their side
    - requires collaboration: Trust Model
      - define level of trust
      - have identity (credential)