

## Outline for November 20, 2008

1. Network File Systems
  - a. Networked vs. distributed file systems
  - b. Example: network file system (NFS) protocol
    - i. Built on top of RPC and uses a virtual file interface like the underlying system
    - ii. Naming: all workstations are (conceptually) clients and servers; in practise, have a few systems designated as file servers (BFS downstairs); discuss file handles; it's stateless
    - iii. Lack of state: simplifies crash recovery. Handle contains all the info identifying the file, and client kernel tracks file offsets, etc. If client hears nothing, just resend
2. Networks
  - a. Goals, terms, and ideas
  - b. OSI model and layering
    - i. Physical layer
    - ii. Data link layer
    - iii. Network layer
    - iv. Transport layer
    - v. Session layer
    - vi. Presentation layer
    - vii. Application layer
  - c. Protocols
    - i. Ethernet, wireless
    - ii. IP, ICMP
    - iii. TCP, UDP
    - iv. SSL
    - v. SMTP, HTTP and variants, SSH, FTP
  - d. In the operating system