Lecture 2: Background

Date: September 30, 2013   *Homework Due*: Oct. 4 at 5:00pm

1. Computer hardware
   a. CPU, memory, registers
   b. Secondary storage
   c. Network, graphics cards
2. Computer software
   a. Applications
   b. Libraries (static, dynamic)
   c. Operating systems
   d. Kernel-loadable modules
3. Network structure
   a. Basic types of connections: broadcast, point-to-point
   b. Local area networks
   c. Gateways and routers
4. Network protocols
   a. What is a protocol
   b. Network layering
   c. Internet: Internet Protocol (IP), TCP, UDP
   d. Domain Name System (DNS), email (SMTP), web (HTTP)
5. Examples
   a. Sending an email
   b. Accessing a web page
6. Discussion question

Discussion Topic

After the first Gulf War, some generals realized that the Iraqi networks had been remarkably resilient: as soon as the Allies destroyed one station, the network promptly routed around it. The generals discovered that the Iraqis were using Internet routing protocols, which were designed for resiliency. Several promptly suggested that those protocols should be classified. What are the problems with doing this?