

Recitation 10 — DARPA

Context

- Paper was written after the fact
- Designers of Internet were interested in remote jobs, remote login, file transfer, survivability
 - It's a big surprise that the Internet was eventually used for interpersonal communication

Principles

- **Primary:** Multiplexing (sharing resources), interconnecting heterogeneous machines
- **Secondary:**
 - Continued operation in the face of loss
 - Multiple types of communication service
 - Accommodate different types of networks
 - Distributed management of resources
 - Cost effective
 - Easy, simple attachment
 - Accountability
- Any principles missing? Sure! Security, usability, mobility, longevity...

Questions for Thought

- Is having a very narrow waist a good idea?
- Would the network benefit from more state inside of it?
- At which layer would you put security?
- Can we judge whether a design is “simple” or “minimal” enough, vs. too much?
- How does one design for longevity and/or evolvability?
- Is it reasonable to expect a system of this size, sophistication, and complexity to be driven by “design principles” up front or is it only feasible to observe this after the fact as Clark did?