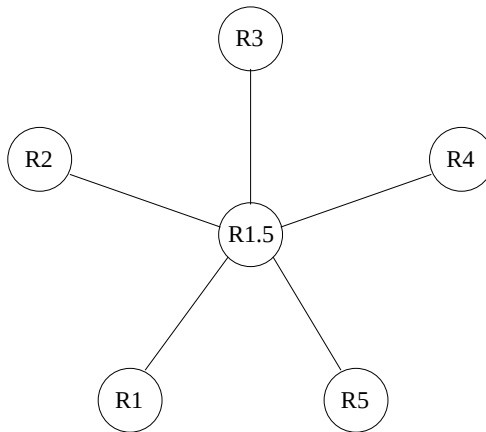
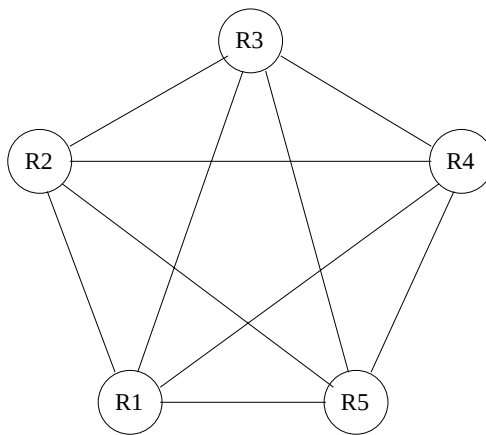
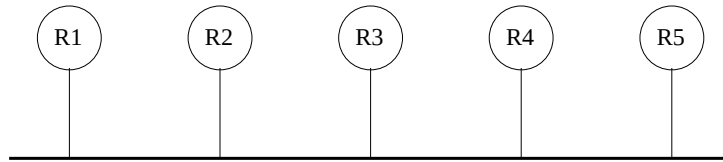


CS123A: Lecture 14, Routing final details, DNS

Cristian Estan

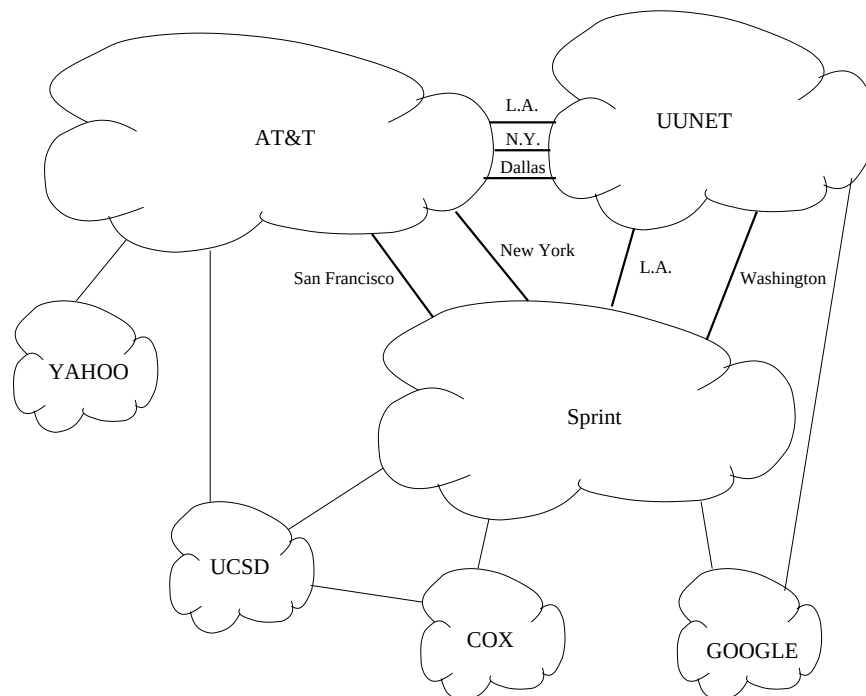
July 22, 2003

Dealing with LANs



Intradomain routing - BGP

- Default-free routers
- Uses path vector
- Based on policies, not shortest path
- Policies determined by contractual relationships between networks: clients pay providers, at peering points no money exchanges hands



IP Multicast

- Same model as LAN multicast: anyone can send to any multicast address, any receiver can listen to any multicast group
- What are the possible uses?
- Less trust and less control over strangers
- It has been implemented but it is not widely deployed

Domain Name System - DNS

- Translates names to IP addresses – DNS lookup
(e.g. www.cs.ucsd.edu to 132.239.51.20)
- Domains are organized into a hierarchy
- Top level domains: com, edu, org, uk, jp, de, info, biz
- Next level: amazon.com, ucsd.edu, ac.uk, uka.de
- Next level: cs.ucsd.edu, cam.ac.uk
- Also translates IP addresses to names – reverse lookup

DNS - how does it work?

- Delegation of authority
- Having different name servers for different domains helps distribute the load
- Having many name servers for the same domain improves reliability too
- Scalability through caching
- Per record settable TTL allows use to trade off load for staleness

