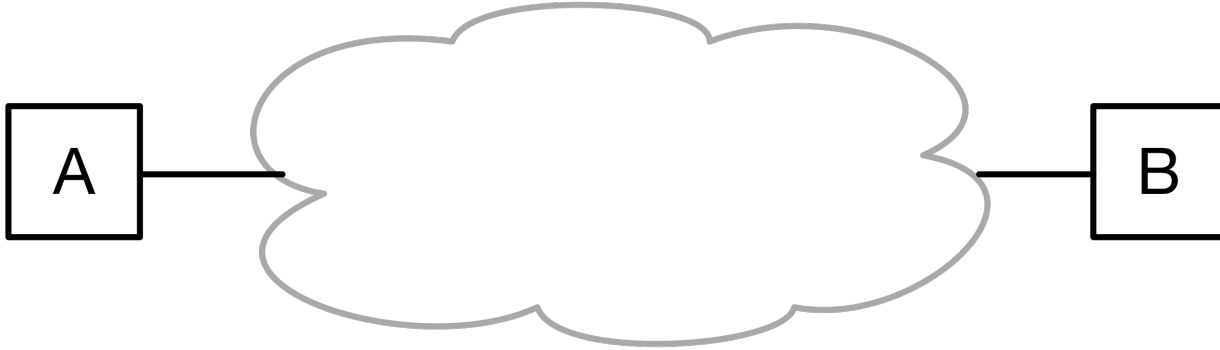


Week 3: Connectivity, losses, latency, and geolocation

1. Introduction - Ping
- 2. Connectivity**
3. Losses
4. Latency
5. Geolocation
6. Conclusion

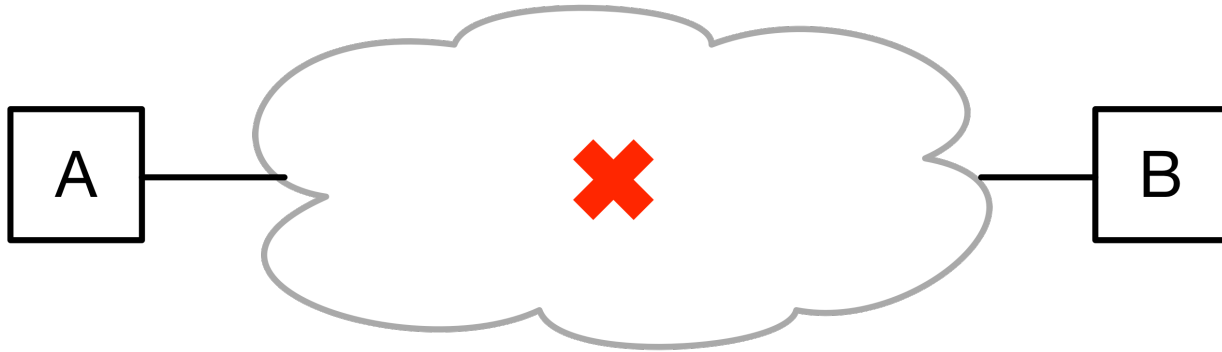
Connectivity



Connectivity or "reachability"

- can packets travel from A to B (and back)?

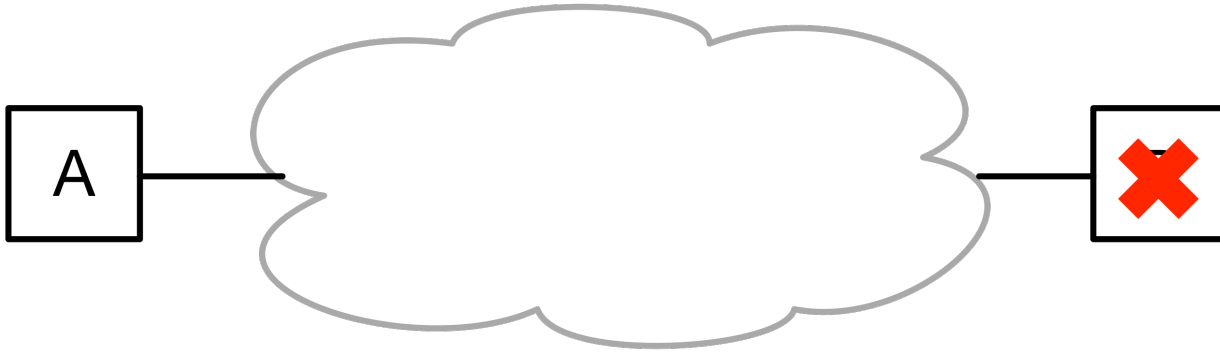
Connectivity



Some possible network problems

- link down
- congestion → packet loss
- routing loop
- firewall or other middlebox

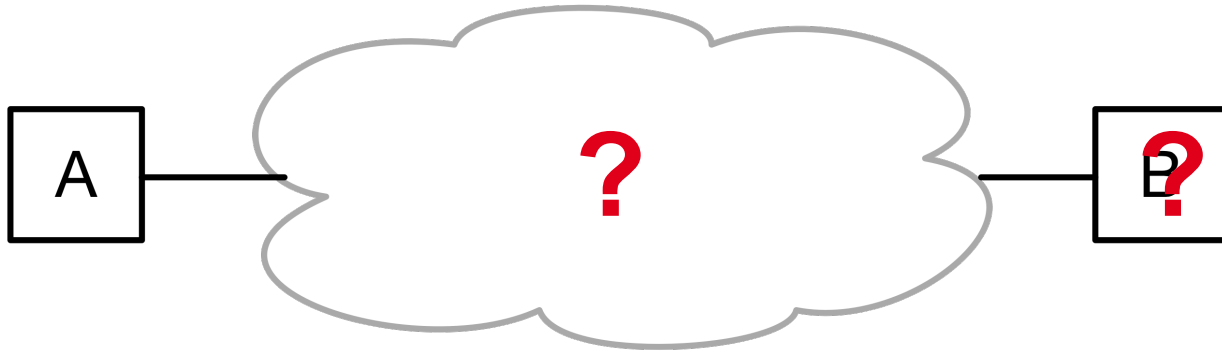
Connectivity



Some possible end-host problems

- host is down
- host running, network interface down
- host up, on network, but service not available

Connectivity



Troubleshooting connectivity

- Additional pings locally, elsewhere
- ICMP blocked?
 - check TCP connectivity with Telnet (e.g., port 22, port 80)
 - check UDP connectivity with UDP Traceroute (ICMP Port Unreachable)