

Link Layer and Wireless

CS144 Review Session 7

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Routers, Switches, and Hubs

- Routers are network layer devices
 - Modify IP datagram (decrement TTL)
 - Hosts and other routers must be aware of them
- Switches and hubs are link layer devices
 - Only care about frames, don't modify IP datagram
 - Transparent to network

Hubs

- **Operate as a repeater**
 - Broadcast an incoming frame to all ports, except for the ingress port
 - Like having a longer Ethernet cable that all the hosts tap into
 - All ports are on single collision domain!
- **Advantages: simple, restores signal, potentially fast since we don't have to buffer or examine frame**
- **Disadvantages: poor bandwidth due to collisions**