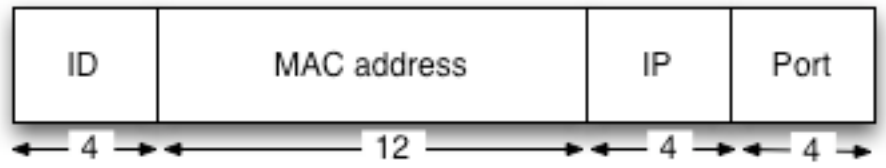


CSE461

Project 2: Routing

Packet Formats

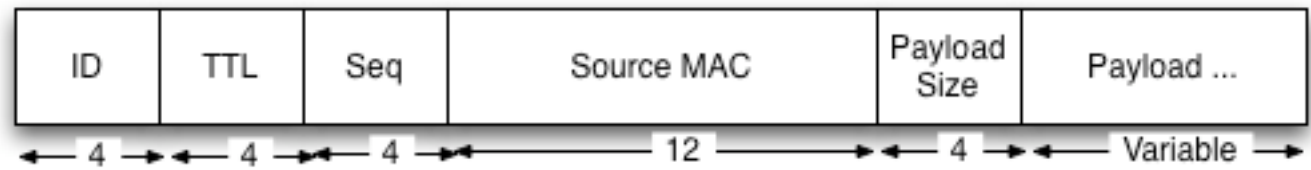
■ Beacon Packet



- Same as Phase 1
- ID = 42
- Used for discovering neighbors

New Packet!

■ Generic Packet

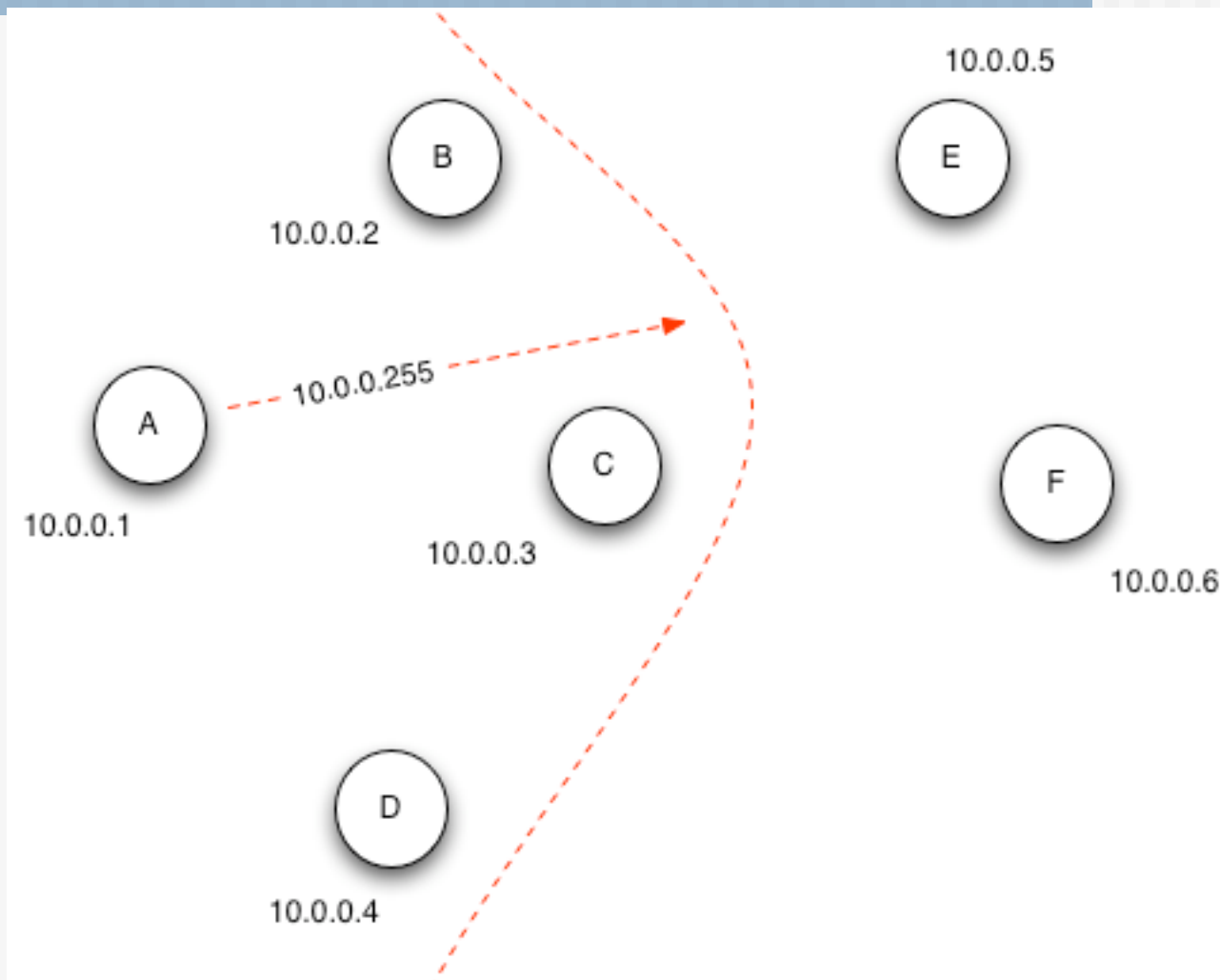


- ID decides Broadcast, Ping, PingReply
- TTL = Time-To-Live (default 10)
- Seq: Source's sequence number
- MAC: Source's MAC address
- Payload Size: Size of Payload in bytes
- Payload :

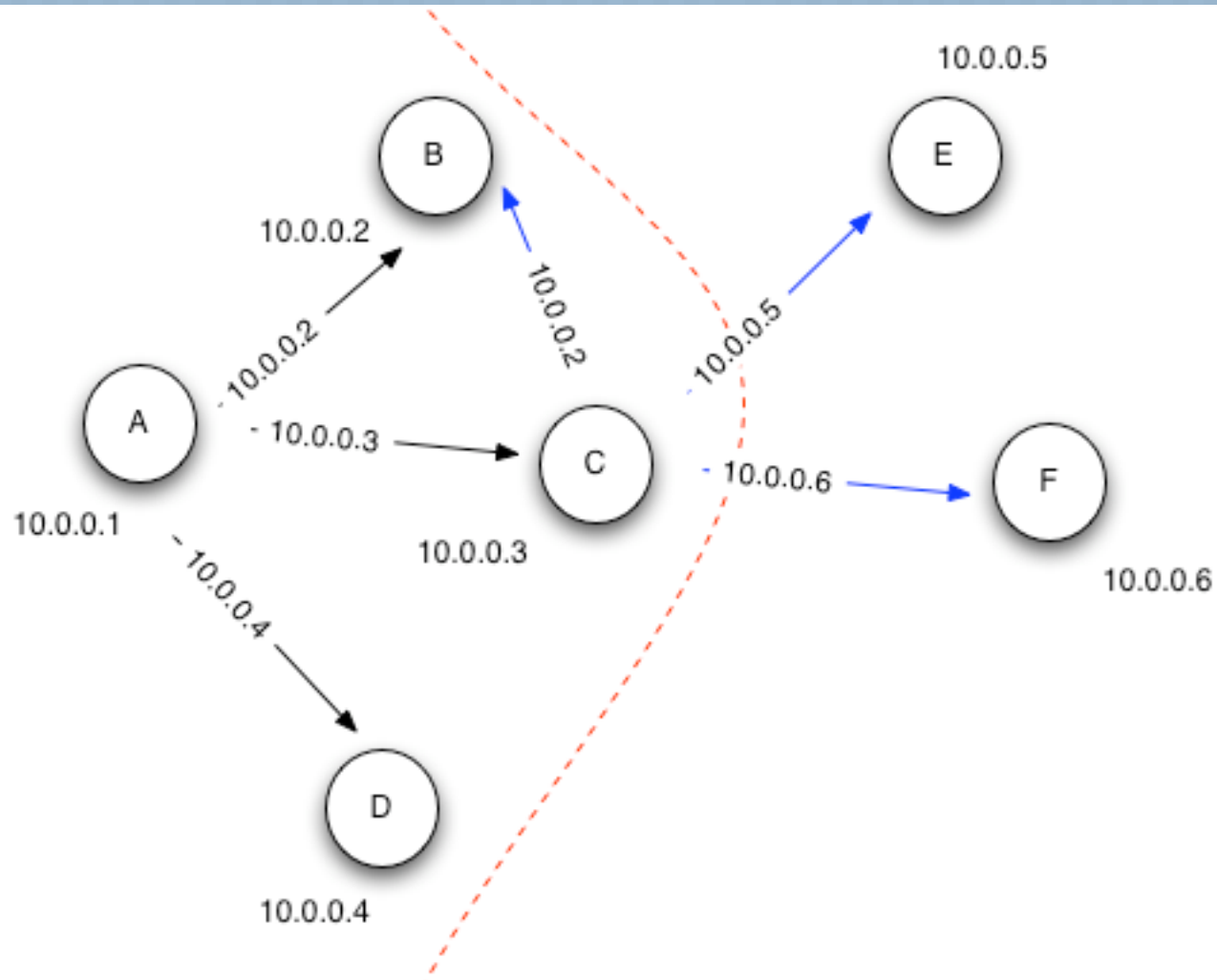
Flooding

- This is application-level flooding, not IP-broadcast
- To flood a packet, you send it to each of your neighbors, who in turn send it to theirs, and so on ...
- Neighbor discovery is NOT through flooding

Beacon



Flood



Flooding

- Remember to:
 - Decrement TTL, and drop packet if ≤ 0
 - Not send the same packet multiple times:
 - B receives the same packet from both A and C, it should be forwarded only once

Link State Routing

- LS packets are ‘flooded’ through the network
- Payload contents (on webpage)
- Compute the size of the payload, and set the payload size correctly
- Run Dijkstra’s algorithm to find the shortest path to each node

DHCP

- Pick a random IP in the 10.0.0.x subnet
- If you hear another node with the same IP, then lower MAC address wins: if your MAC is bigger, pick another IP
- Reflect the change in your beacon messages and link-state packets

Ping

- Use generic packet
- No Flooding
- If you receive a Ping packet:
 - Check if you are dest
 - If true, send Ping reply to source
 - Else lookup nextHop in routing table and forward the packet
 - Remember to decrement TTL