

# Computer Networks

## Flooding (§5.2.3)



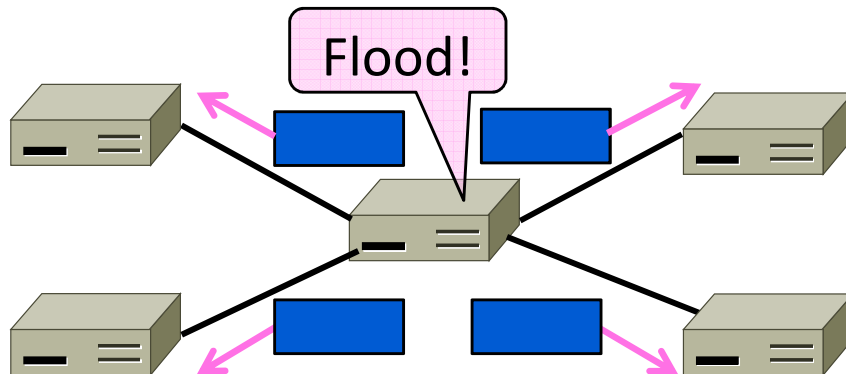
David Wetherall (djw@uw.edu)

Professor of Computer Science & Engineering



UNIVERSITY *of* WASHINGTON

# Topic

- How to broadcast a message to all nodes in the network with flooding
  - Simple mechanism, but inefficient

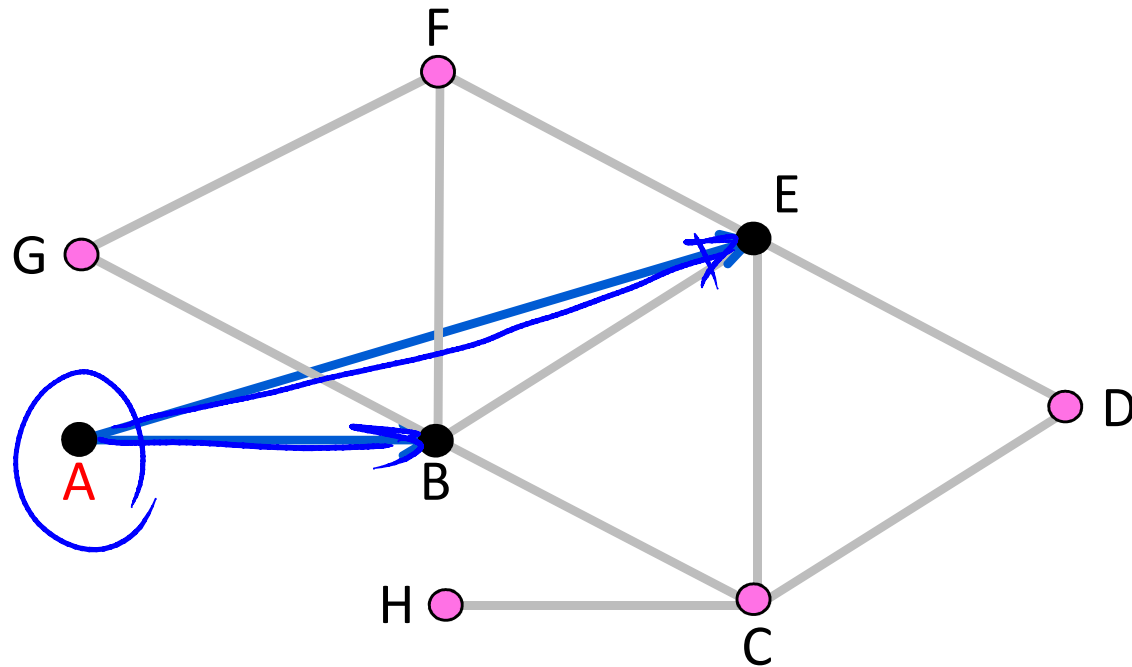


# Flooding

- Rule used at each node:
  -  Sends an incoming message on to all other neighbors
  -  Remember the message so that it is only flood once
- Inefficient because one node may receive multiple copies of message

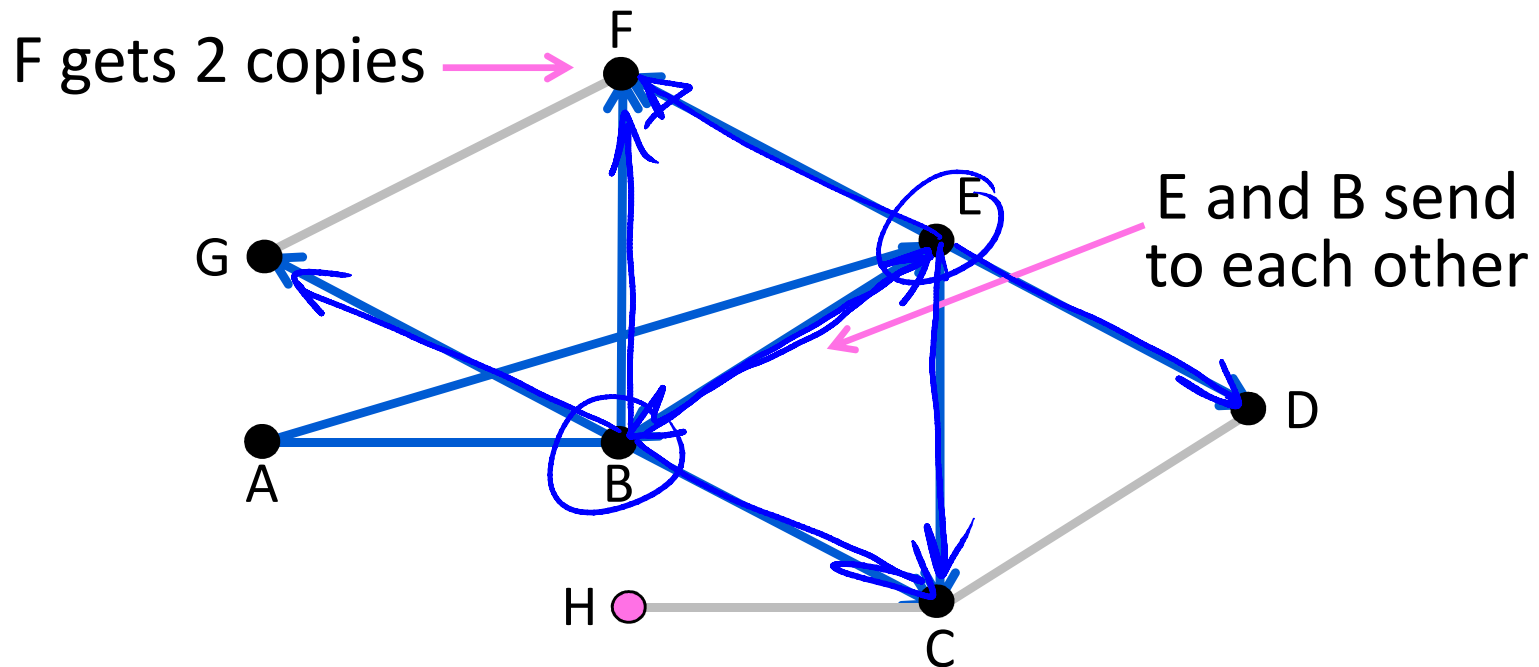
# Flooding (2)

- Consider a flood from A; first reaches B via AB, E via AE



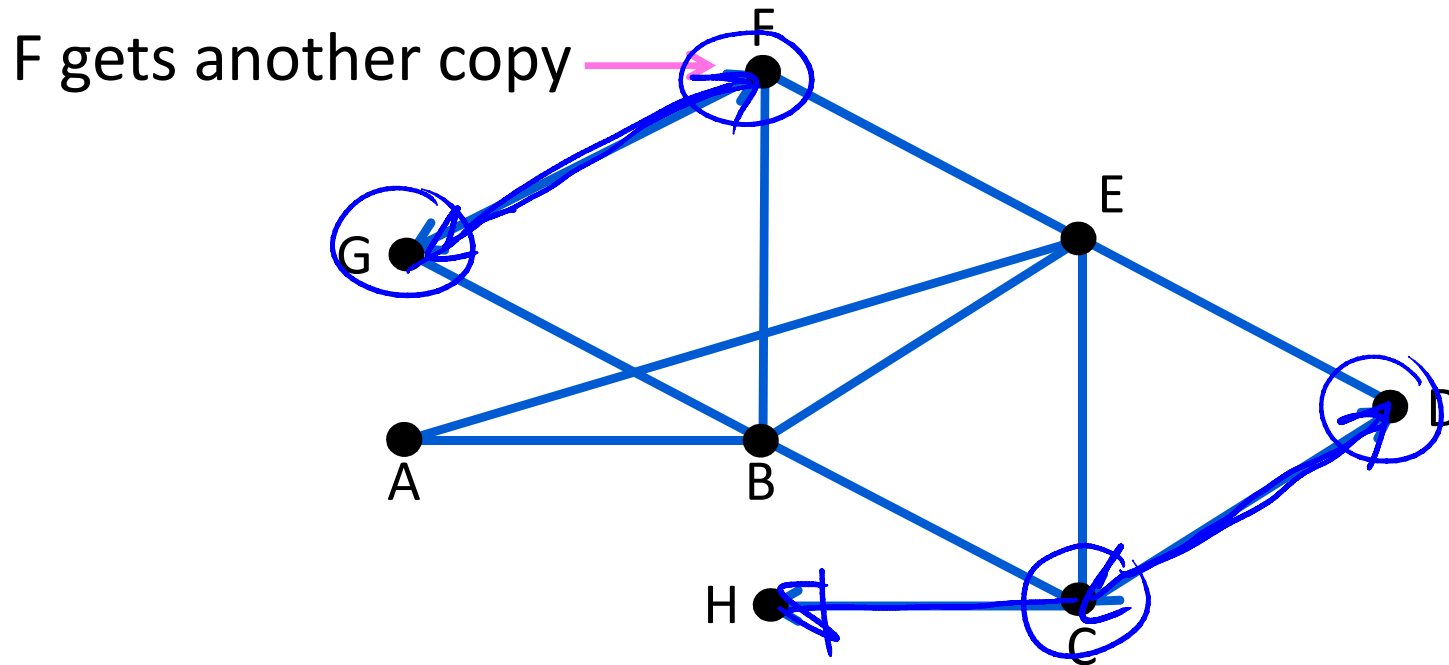
# Flooding (3)

- Next B floods BC, BE, BF, BG, and E floods EB, EC, ED, EF



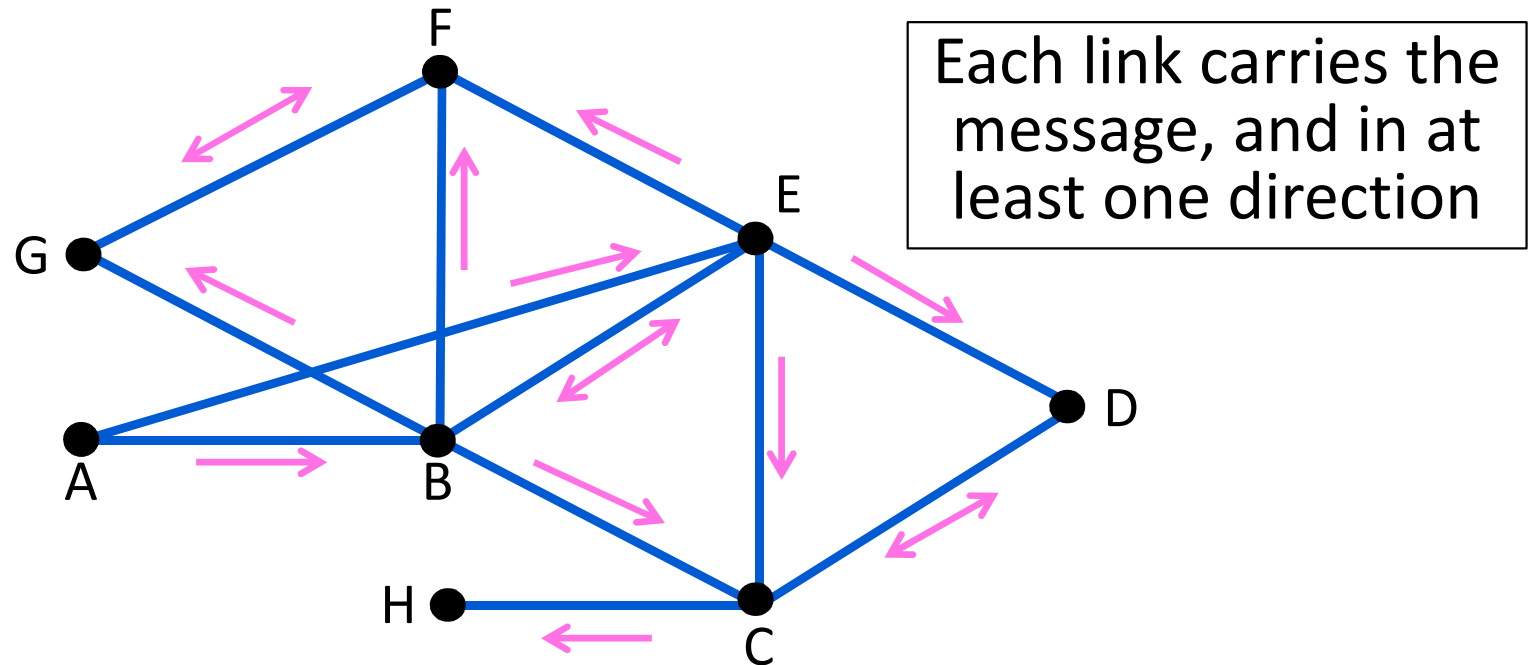
# Flooding (4)

- C floods CD, CH; D floods DC; F floods FG; G floods GF



# Flooding (5)

- H has no-one to flood ... and we're done



# Flooding Details

- Remember message (to stop flood) using source and sequence number
  - So next message (with higher sequence number) will go through
- To make flooding reliable, use ARQ
  - So receiver acknowledges, and sender resends if needed



# END

© 2013 D. Wetherall

Slide material from: TANENBAUM, ANDREW S.; WETHERALL, DAVID J., COMPUTER NETWORKS, 5th Edition, © 2011.  
Electronically reproduced by permission of Pearson Education, Inc., Upper Saddle River, New Jersey