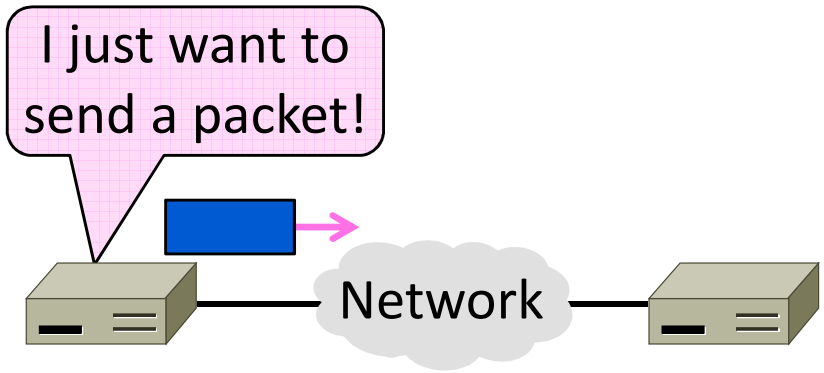
Introduction to Computer Networks

User Datagram Protocol (UDP) (§6.4)

David Wetherall (djw@uw.edu)
Professor of Computer Science & Engineering
UNIVERSITY of WASHINGTON

Topic

- Sending messages with UDP
  - A shim layer on packets

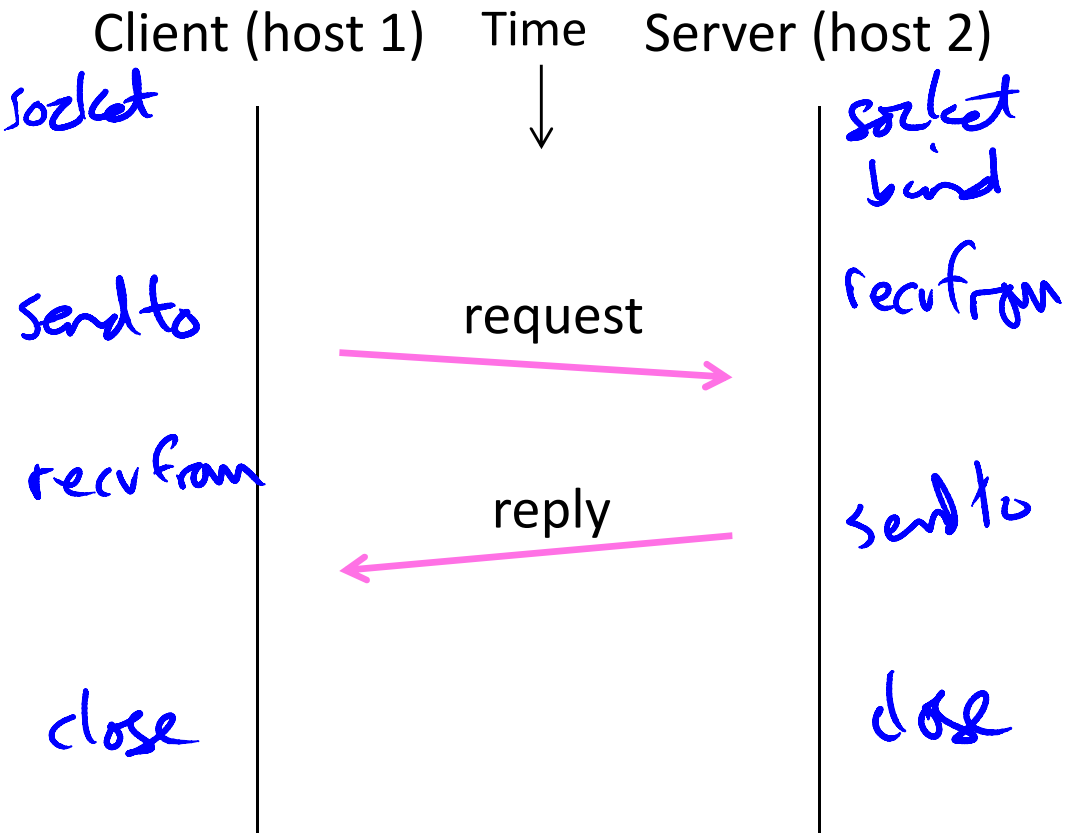


User Datagram Protocol (UDP)

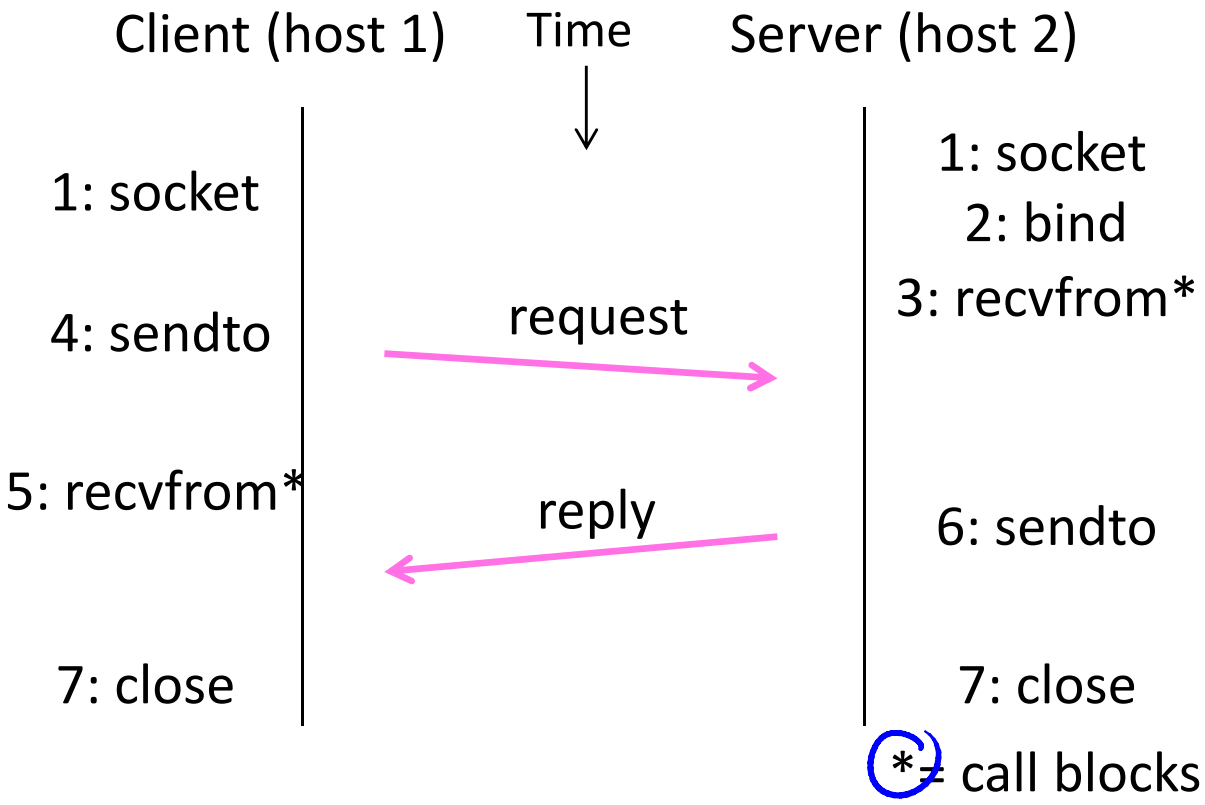
- Used by apps that don't want reliability or bytestreams
  - Voice-over-IP (unreliable)
  - DNS, RPC (message-oriented)
  - DHCP (bootstrapping)

(If application wants reliability and messages then it has work to do!)

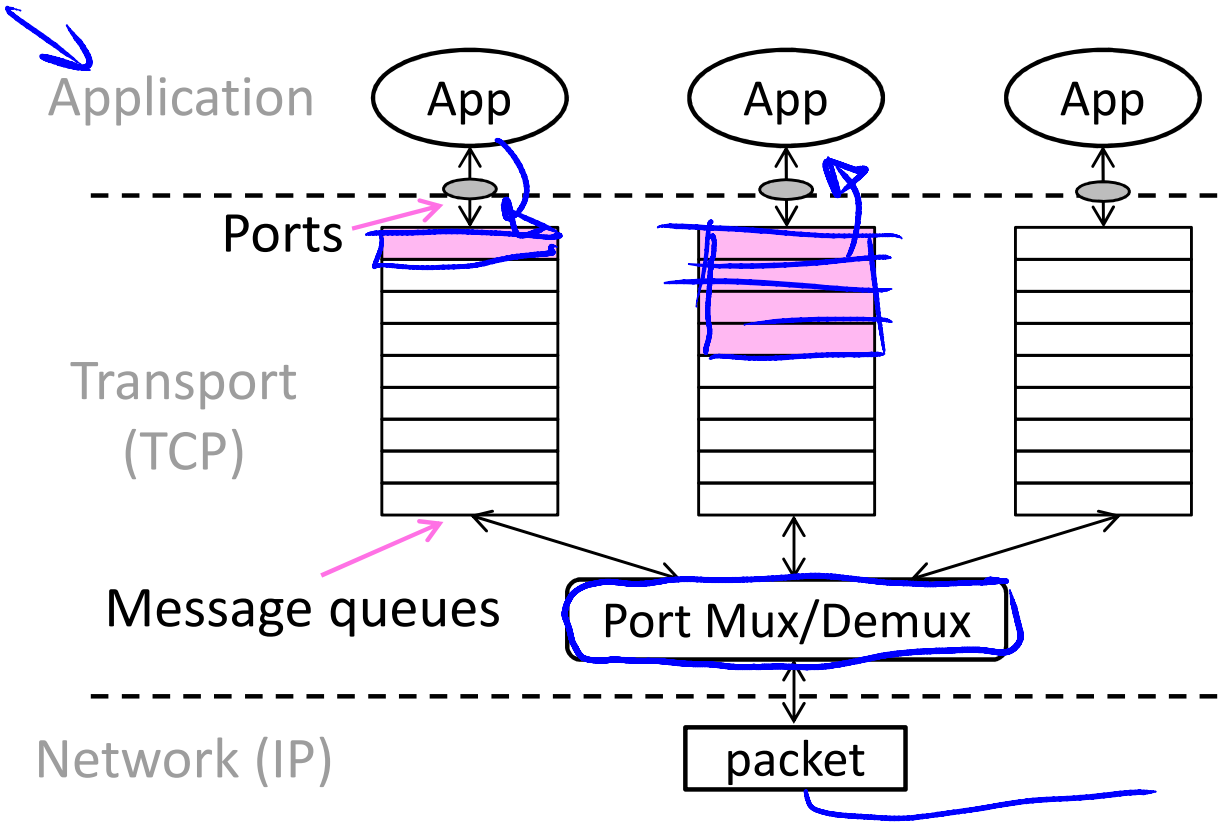
Datagram Sockets



Datagram Sockets (2)

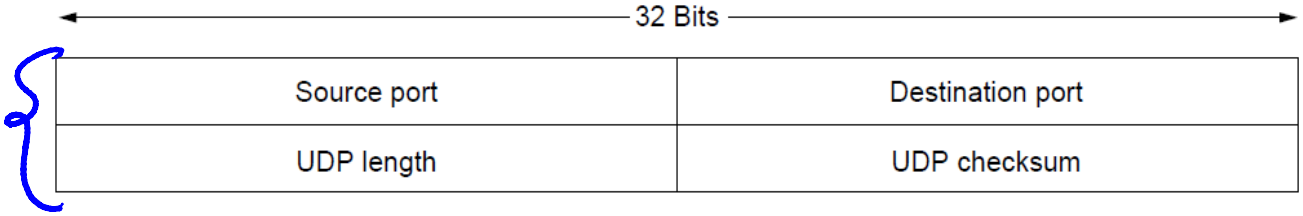


UDP Buffering



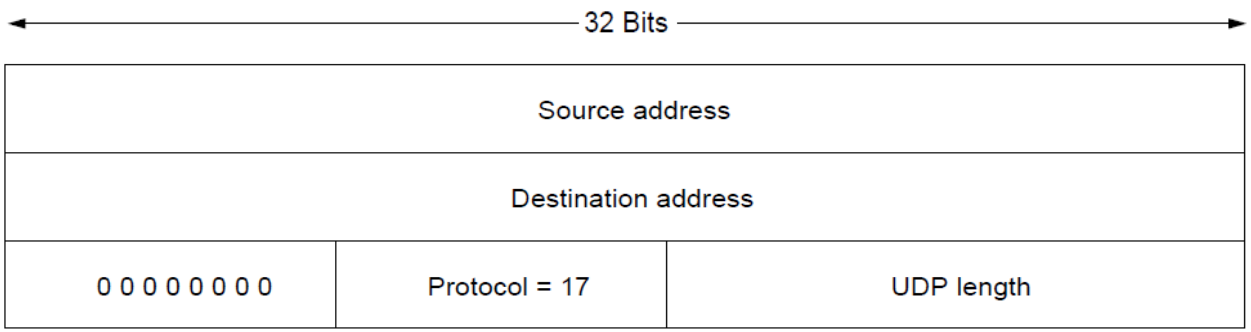
UDP Header

- Uses ports to identify sending and receiving application processes
- Datagram length up to 64K
- Checksum (16 bits) for reliability



UDP Header (2)

- Optional checksum covers UDP segment and IP pseudoheader
  - Checks key IP fields (addresses)
  - Value of zero means "no checksum"



END