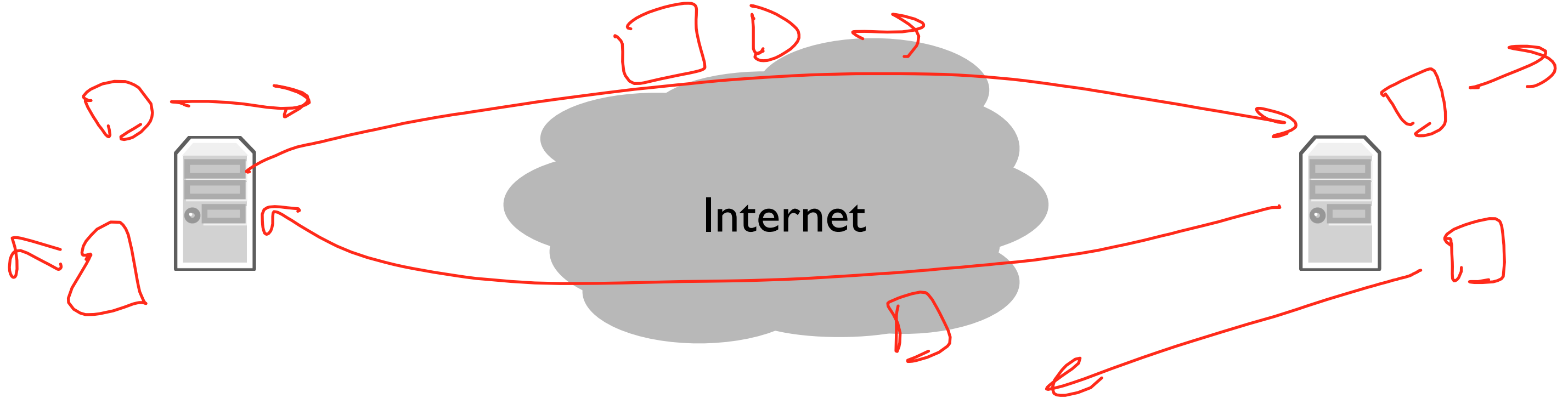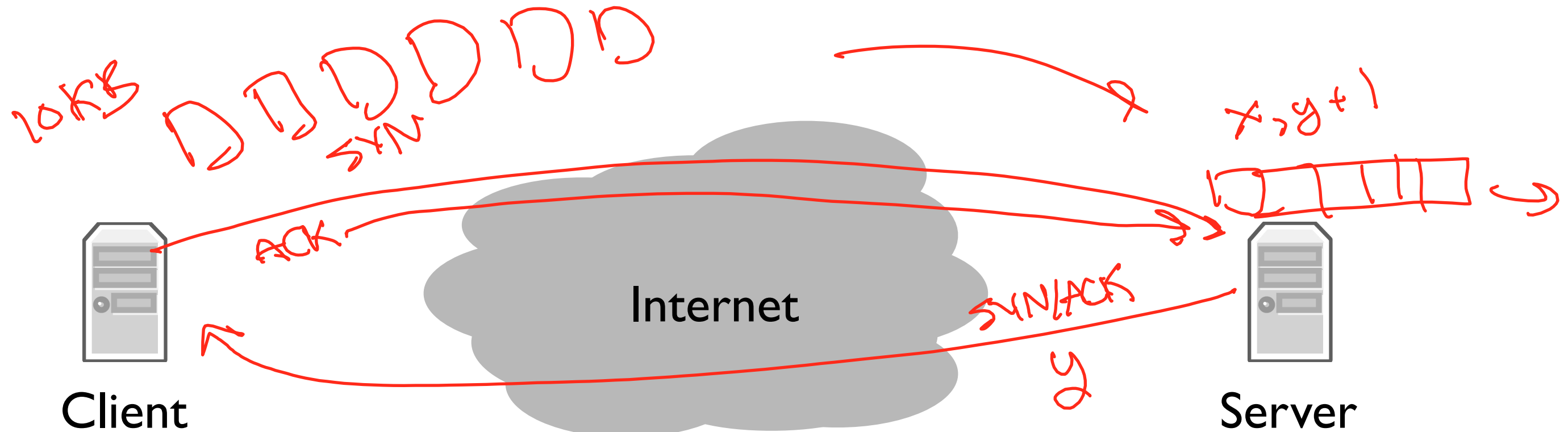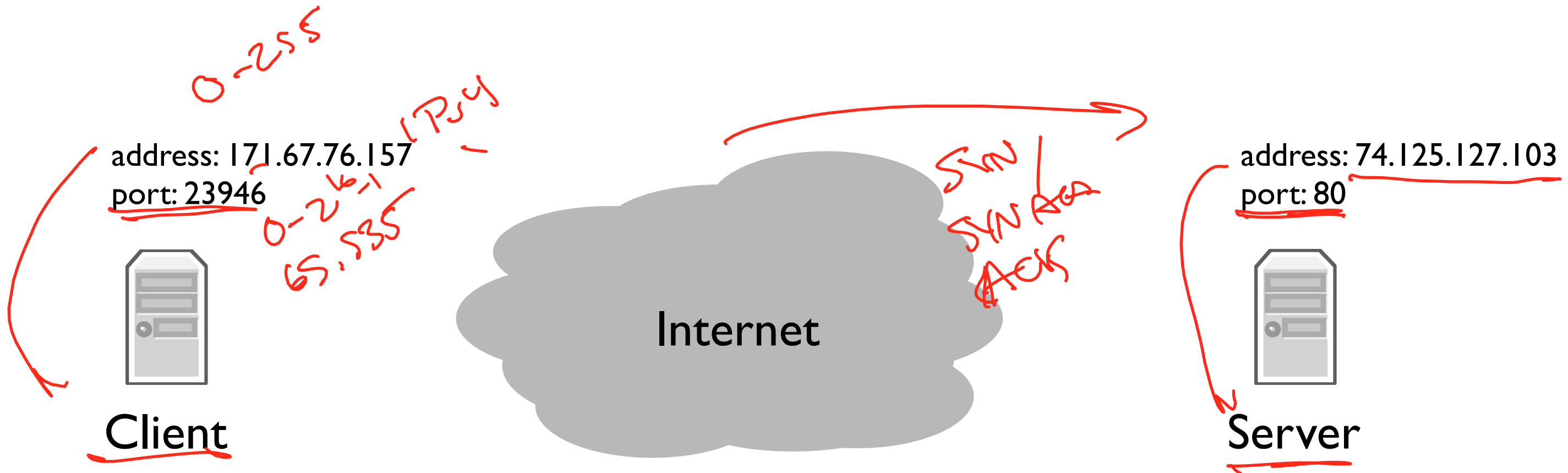# Life of a Packet

Byte Stream Model

Internet

Byte Stream Model

- Building block of most applications today
  - ▸ Other models exist: datagrams, real-time data streams
- Abstracts away entire Internet -- just a pipe between two processes
  - ▸ Does so on top of unreliable, "best effort" Internet
- In the Internet, almost always Transmission Control Protocol (TCP)
- Application level controls communication pattern and payloads
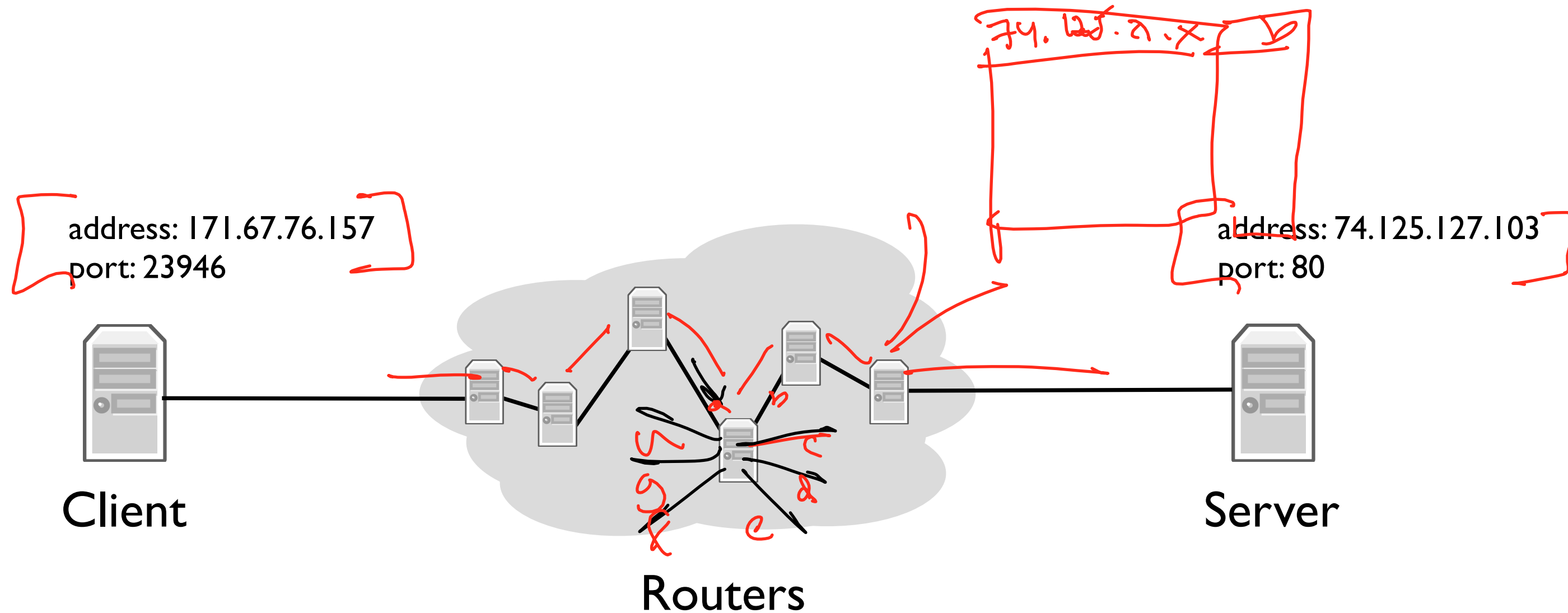 - ▸ World Wide Web (HTTP)
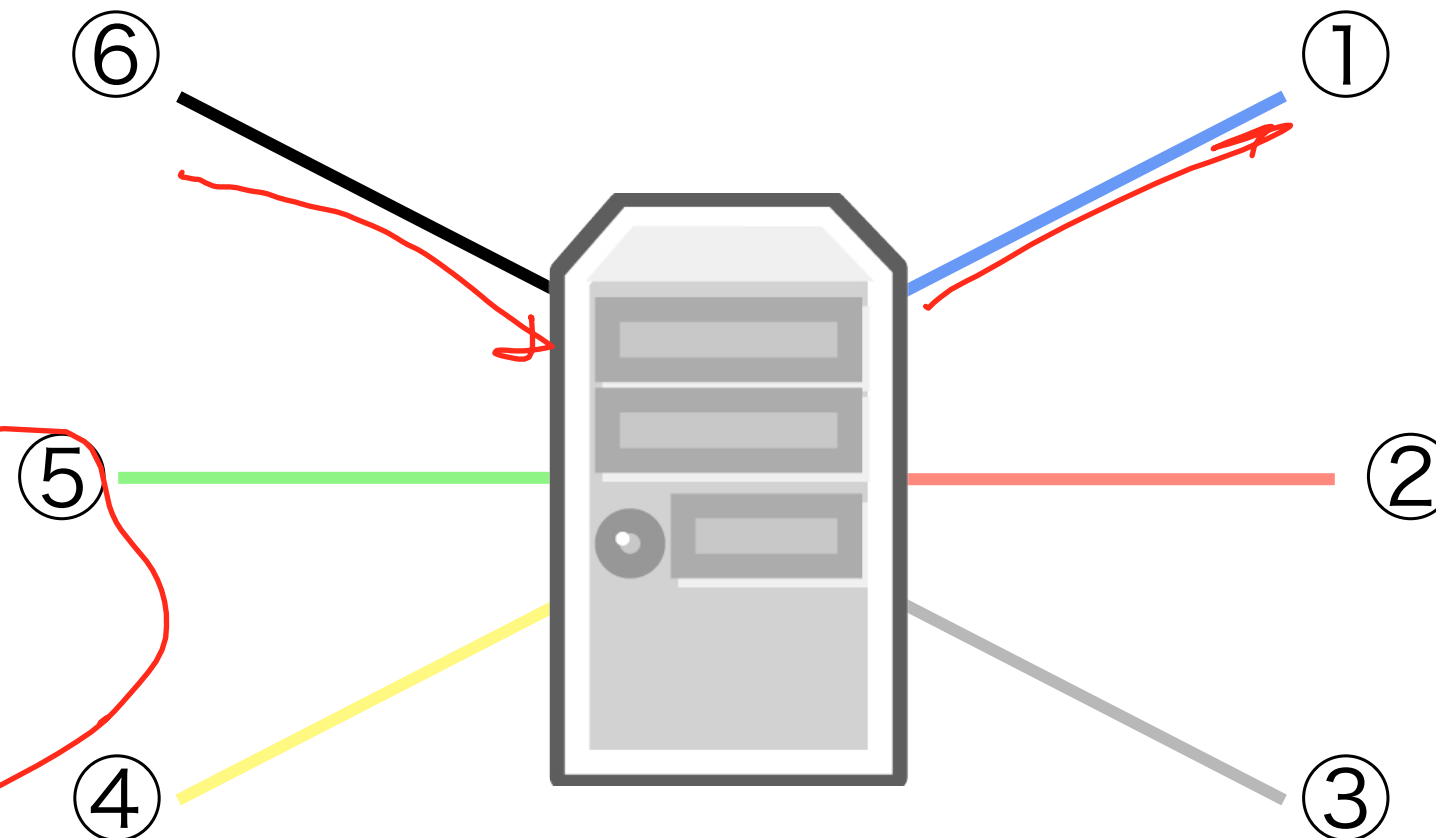 - ▸ Skype
  - ▸ BitTorrent

TCP Byte Stream

Client

Internet

Server

4

TCP Byte Stream

0-255

address: 171.67.76.157
port: 23946

0-2^16-1
65,535

(Psy)

SYN
SYN ACK
ACK

Internet

address: 74.125.127.103
port: 80

Client

Server

Inside the Stream

address: 171.67.76.157
port: 23946

address: 74.125.127.103
port: 80

Client

Routers

Server

Inside Each Hop

address: 216.239.47.186

dest	link
default	1
171.33.x.x	5
23.x.x.x	2
28.33.5.x	4
171.32.x.x	2
67.x.x.x	6
216.x.x.x	1

Under the Hood

- Request web page from www.cs.brown.edu
- Use wireshark to see TCP byte stream establishment and data exchange
- Use traceroute to see route packets take through Internet