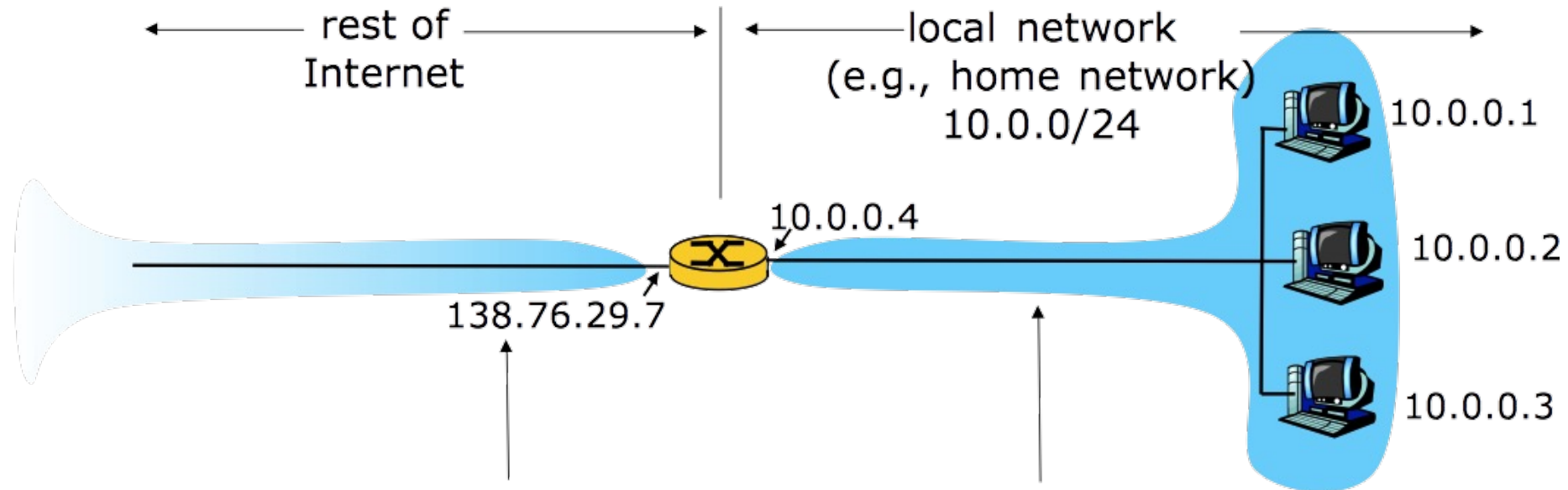


NAT: Network Address Translation

- Local network uses just one IP address as far as outside world is concerned



All datagrams *leaving* local network have **same** single source NAT IP address: 138.76.29.7, different source port numbers

Datagrams with source or destination in this network have 10.0.0/24 address for source, destination (as usual)

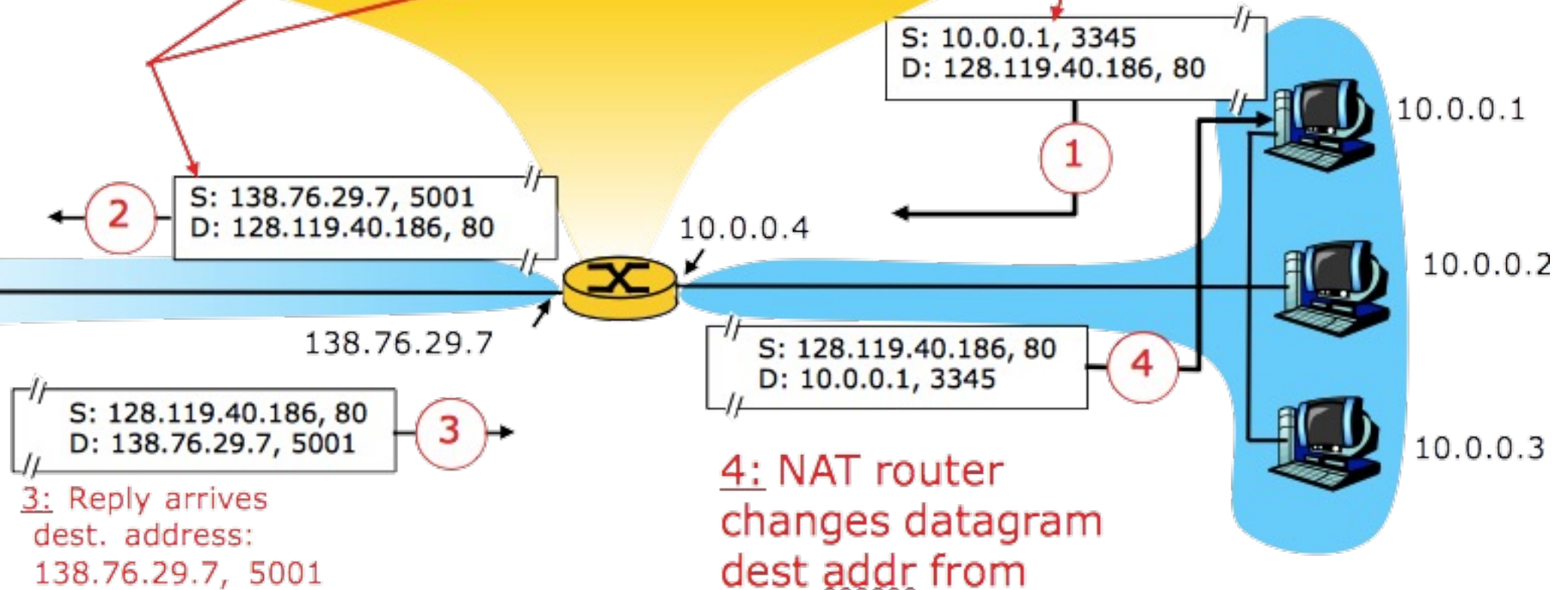
NAT: Network Address Translation

- Implementation: NAT router must:
 - **outgoing datagrams**: replace (source IP address, port #) of every outgoing datagram to (NAT IP address, new port #)
 - . . . remote clients/servers will respond using (NAT IP address, new port #) as destination addr.
 - **remember**: in NAT translation table, every (source IP address, port #) to (NAT IP address, new port #) translation pair
 - **incoming datagrams**: replace (NAT IP address, new port #) in dest fields of every incoming datagram with corresponding (source IP address, port #) stored in NAT table

2: NAT router changes datagram source addr from 10.0.0.1, 3345 to 138.76.29.7, 5001, updates table

NAT translation table	
WAN side addr	LAN side addr
138.76.29.7, 5001	10.0.0.1, 3345
.....

1: host 10.0.0.1 sends datagram to 128.119.40.186, 80



4: NAT router changes datagram dest addr from 138.76.29.7, 5001 to 10.0.0.1, 3345