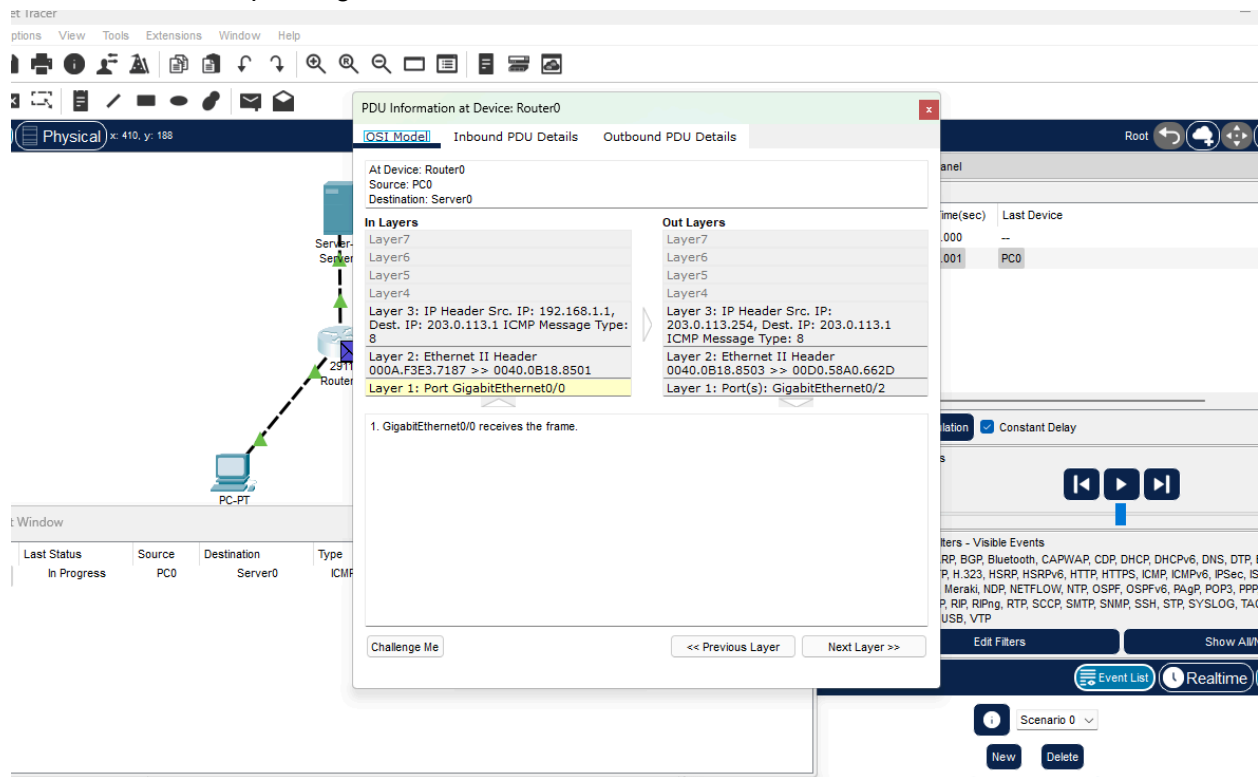


NAT (Network Address Translation) is a process where the router translates private IP addresses (like 192.168.1.1) to a public IP address when traffic leaves the local network to access the internet. This is typically done using PAT (Port Address Translation), a form of NAT where the router also maps ports to keep track of multiple devices.

Before NAT the IP passing from PC to router is the IP address of PC0



But while passing router to server the IP is translated and passed.

Before NAT: The source IP is the private IP of the PC (192.168.1.1 for PC0).

After NAT: The source IP is the public IP address assigned to the router's external (internet-facing) interface.

Physical x: 403, y: 70

Server-PT
Server0

2911
Router0

PC-PT

At Device: Server0
Source: PC0
Destination: Server0

OSI Model Inbound PDU Details Outbound PDU Details

In Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 203.0.113.254, Dest. IP: 203.0.113.1 ICMP Message Type: 8
- Layer2: Ethernet II Header 0040.0B18.8503 >> 00D0.58A0.662D
- Layer1: Port FastEthernet0

Out Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 203.0.113.1, Dest. IP: 203.0.113.254 ICMP Message Type: 0
- Layer2: Ethernet II Header 00D0.58A0.662D >> 0040.0B18.8503
- Layer1: Port(s): FastEthernet0

1. FastEthernet0 receives the frame.

Challenge Me << Previous Layer Next Layer >>

Time(sec) Last Device

0.000	--
0.001	PC0
0.002	Router0
0.003	Server0

Constant Delay

Filters - Visible Events

ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, Meraki, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAF, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, USB, VTP

Edit Filters

Event List

Scenario 0

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

Cisco Packet Tracer

File Edit Options View Tools Extensions Window Help

Logical Physical x: 357, y: 20

Server-PT
Server0

2911
Router0

PC-PT
PC0

PC-PT
PC1

At Device: Server0
Source: PC0
Destination: Server0

OSI Model Inbound PDU Details Outbound PDU Details

In Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 203.0.113.254, Dest. IP: 203.0.113.1 ICMP Message Type: 8
- Layer2: Ethernet II Header 0040.0B18.8503 >> 00D0.58A0.662D
- Layer1: Port FastEthernet0

Out Layers

- Layer7
- Layer6
- Layer5
- Layer4
- Layer3: IP Header Src. IP: 203.0.113.1, Dest. IP: 203.0.113.254 ICMP Message Type: 0
- Layer2: Ethernet II Header 00D0.58A0.662D >> 0040.0B18.8503
- Layer1: Port(s): FastEthernet0

1. FastEthernet0 receives the frame.

Challenge Me << Previous Layer Next Layer >>

PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)
	Successful	PC0	Server0	ICMP		0.000

At Device

Router0	Server0	PC0	Router0	Router0	Router0
---------	---------	-----	---------	---------	---------

Delay Captured to: 50.117 s

ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, IPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, IoT, IoT TCP, IPv6, NTP, OSPF, OSPFv6, PAgg, PO3, PPP, PPPoE, PTP, Telnet, UDP, USB, VTP

Edit Filters Show AllNone

Event List Realtime Simulation

Scenario 0

New Delete

Toggle PDU List Window

Automatically Choose Connection Type

By checking the packets , we can verify in the simulation mode. And also through passing command in the router CLI

```
Router#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
icmp 203.0.113.254:20  192.168.1.1:20    203.0.113.1:20    203.0.113.1:20

Router#
```

