

COMP3331 Lab7

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1 Exercise 1

1.1 Question 1

Subnet Table:

Subnet	Number	Netmask
Subnet 1	10.1.1.0	255.255.255.0
Subnet 2	10.1.2.0	255.255.255.0
Subnet 3	10.1.0.0	255.255.0.0

Interface Table:

Interface	Ip Address
H1	10.1.1.2
H2	10.1.1.3
H3	10.1.2.2
H4	10.1.2.3
R1a	10.1.1.1
R1b	10.1.0.2
R1c	10.1.2.1
NAT-i	10.1.0.1

1.2 Question 2

Since the IPv6 will use 128-bit of address, it can count more than all the sand on earth. Hence, it's impossible to run out of the address space in foreseeable future. The NAT mechanism is dealing with the address is not enough in IPv4. So if every device can be directly addressed by IPv6 in public network, there's no need to setup an NAT device in subnet.

1.3 Question 3

It's tedious to remember the IPv6 address and difficult to type into address bar without any error.

1.4 Question 4

HTTP as an example:

There's some IP address and port number inside UDP segment. If NAT leave it as what it is, others may not find the correct address because it's belong to subnet and need to translate. In this case, if NAT doesn't do the support, all the application base on this protocol wont work.

2 Exercise 2

2.1 Question 1

192.168.1.100

2.2 Question 2

Source 192.168.1.100:4335

Destination 64.233.169.104:80

2.3 Question 3

At 7.158797

2.4 Question 4

At 7.075657

2.5 Question 5

Source: 64.233.169.104:80

Destination: 192.168.1.100:4335

At 7.108986

2.6 Question 6

At 6.069168

2.7 Question 7

Source 71.192.34.104:4335

Destination: 64.233.169.104:80

The destination ip and port are same as Question 2.

2.8 Question 8

The reponse in frame and next request in frame are changed

2.9 Question 9

The checksum is changed, because the checksum is include the source ip and destination, so it will be changed (becasue source ip is changed).

2.10 Question 10

At 6.117570

2.11 Question 11

Source: 64.233.169.104:80

Destination: 71.192.34.104:4335

The destination port and ip is different.

2.12 Question 12