

CSE - 421

ASSINGMENT : 07

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Sec: 2B

Spring - 24(B)

Q1: (a)

Source IP: 0

Source MAC: ~~10~~ C

Destination IP: 14

Destination MAC: T

Source port: Between 49152 to 65535

Destination port: ~~0 to~~ Between 0 to 1023.

(b)

Destination port type is well-known.

Q2:

To troubleshoot a website that is not loading properly, can look at the http response status code in the response message. for checking communication between the Client & web server the head method is useful. as it retrieves only the headers ,allowing ~~to~~ to see status code and other information without downloading .

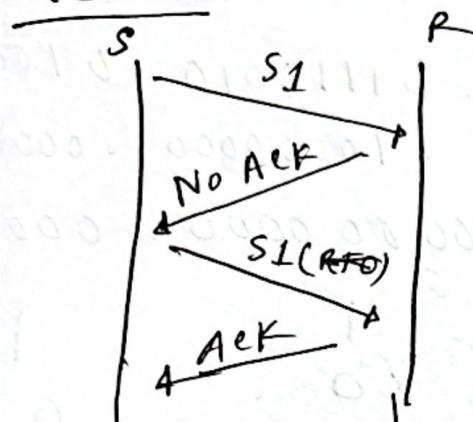
Q3) :

An iterative DNS lookup can be faster than a recursive DNS lookup because in iterative the client queries each DNS server step by step and can cache the response locally. In a recursive lookup, the client relies entirely on a single DNS server to resolve and that server must query multiple servers on client's behalf which can add extra network delays.

Q4) :

SMTP and HTTPS are often used together in web based email services. for example, when I access my email through a web browser, the browser communicates securely with email service using ~~SMTP~~ HTTPS to send and receive messages through the web interface. Meanwhile, SMTP is used in the background by the server to send outgoing emails to other mail servers.

Q5:



Steps:

sender sends segment 1 & start the RTO timer (70ms)
segment lost, receiver never receives it & send ACK. RTO timer expires
sender retransmitted S1

receiver, receive the retransmitted segment and sends an ACK. Sender receives ACK stops timer and continues with the next segment.

Q6:

subnet : 255.255.128.0 — 00000000

1111 1111
 1111 1111 . 1111 1111 . 1000 0000 . 0000 0000

Prefix mask — 255.255.128.0/17.

IP: 175.172.122.75 — 01001011

1010 1111 1010 1000 0111 1010

IP AND MASK:

10101111 . 10101100 . 01111010 . 01001011
11111111 . 11111111 . 10000000 . 0000.0000

→ 10101111 . 10101100 . 00100000 . 00000000

1 / 1 / 1 0
175 172 0 0

Network Address = 175.172.0.0

Broadcast Address: 175.172.127.255

Q(7)

server speed = 80 mbps , each object = 10
∴ 80 mb

transmission time = $\frac{80 \text{ mb}}{80 \text{ mbps}}$

a) Num of obj = $\frac{\text{Total RTT}}{\text{RTT per obj}} = 48$

Q(7):

(i) RTT per object = $2 \times 15 = 30$

total RTT = 0.48 ms

∴ num of obj = 8

Q(7):

(b) Total RTT = 480 ms = 0.48 sec

total time = 8 s

∴ transmission time = $7.52 \div 8$

~~1028 = 7.52 + 0.94 + 0.94~~ $\therefore 0.94 \text{ s} \approx 1$

∴ 8 object = 8 sec.

Q : (8)

a) S1 : seq - 2024 size 350 \rightarrow nextseq = 2374

S2 : seq - 2374 size ~~350~~ met seq = 2501

S3 : seq - 2501 size 412 \rightarrow next seq = 2913

$\therefore S4 : seq = 2913$

ACK for S4 :

~~102 + 250 = 442~~

$\therefore 5044 + 442 = 5486$

S2 seq = 5044 , size = 280

$\therefore 5044 + 280 = 5294$.

S4 : seq = 2913 , ACK = 5294 .

(b) $S1$ size = 350 , seq = 2024

$$\therefore 2024 + 350 = 2374$$

$$\therefore ACK-2 = 2374 .$$

(c) $2024 + 350 + 127 = 2501 .$

$$\therefore ACK - 3 = 2501 .$$