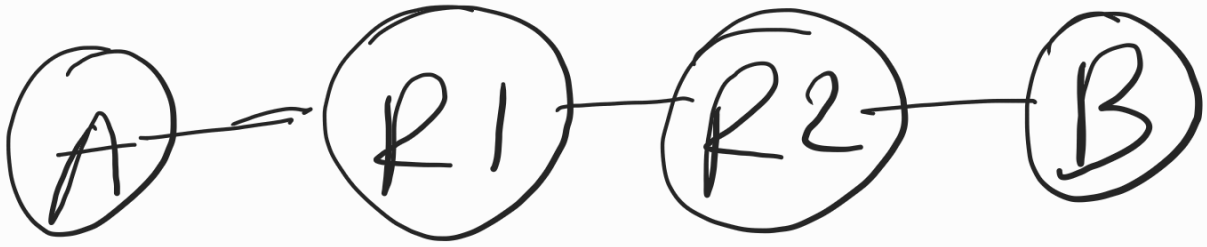
1.



TCP hdr = 20

Data = 920

IP payload = 940

IP hdr = 20

A-R1 → MTU = 1024

14 (frame hdr)

1010 (data)

1010 > 960 → No fragmentation

$R1 - R_2 \rightarrow MTU = 512$

8 504

So, the pacuet size can be maximum 504 bytes. That means, maximum 484 bytes of IP payload can be accomodated considering 20 bytes of IP hdr. But 484 is not a meltipk of 8. so, we can send maximum 480 bytes of data.

So, our data will be fragmented in this line to two fragments. one will contain 480 bytes of data, another will contain (940 - 480) = 460 bytes. So the values are:

F1:

Total size = 500

mf = 1

offset = 0

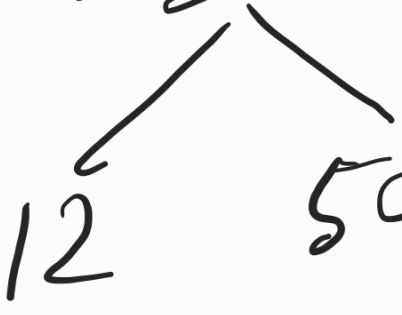
F2:

Total size = 480

MF = 0

offset = 60

R2 — B: MTU = 512



Total size (f1) ≤ 500

Total size (f2) ≤ 500

So, no fragmentation in this link.

f1 and f2 will be

transmitted as they are without any further fragmentation.

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2. IP = 172.16.15.2

S.M. = 255.255.240.0

a) P.M. = /20

b) N.A. = 172.16.0.0

c) 1st usable ip
= 172.16.0.1

d) B.A. = 172.16.15.255

e) # PC = 4094