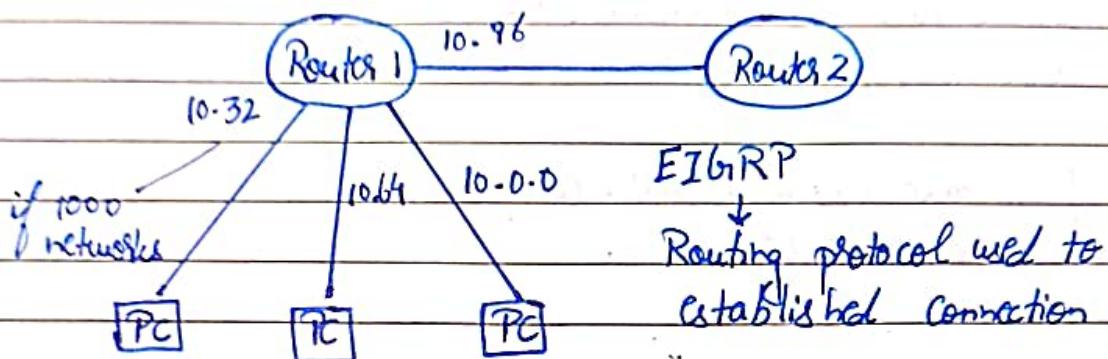


Summarization



3 networks connected with Router

When these 3 networks enter the Routing Table, only then the connection will be established.

But if we have 1000 networks, then the Routing table will become very big.

It will lead to load on the devices too. i.e. ↑CPU utilization

We use summarization to reduce it

$\frac{10.0.0.0/24}{\boxed{10.0.0.4/24}}$
 $\frac{10.0.0.5/24}{\boxed{10.0.0.8/24}}$

→ The first octet should be same to perform summarization (i.e. first 8 bits)

Convert Decimal to Binary

	①	②	③	④	8	4	2	1
10. 0. 0. Change	128	64	32	16	8	4	2	1
4	0	0	0	0	0	1	0	0
5	0	0	0	0	0	1	0	1

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

some some some some some some some some some

those which do not match
leave it

i.e. first 3 octet i.e. 24 bits are fixed
→ same binary in starting

$$24 + 4 = 28$$

i.e. $10 \cdot 0 \cdot 0 \cdot 0 / 28$

Q. $20 \cdot 16 \cdot 8 \cdot 0 / 16$

$20 \cdot 16 \cdot 9 \cdot 4 / 16$

$20 \cdot 16 \cdot 8 \cdot 3 / 16$

	0 th	1 st	2 nd	3 rd	4 th	128	64	32	16	8	4	2	1
1.	↑	8	0	0	0	0	0	0	0	1	0	0	0
2.	Fixed	9	4	0	0	0	0	0	1	0	0	0	1
3.	↓	8	3	0	0	0	0	0	1	0	0	0	0

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

Matched Matched

① ② ③ ④ ⑤ ⑥ ⑦ Does
Does not match

$$\therefore CIDR = 8 + 8 + 7 \\ = 23$$

On value

$\therefore 20 \cdot 16 \cdot 8 \cdot 0 / 23$