

Supernetting

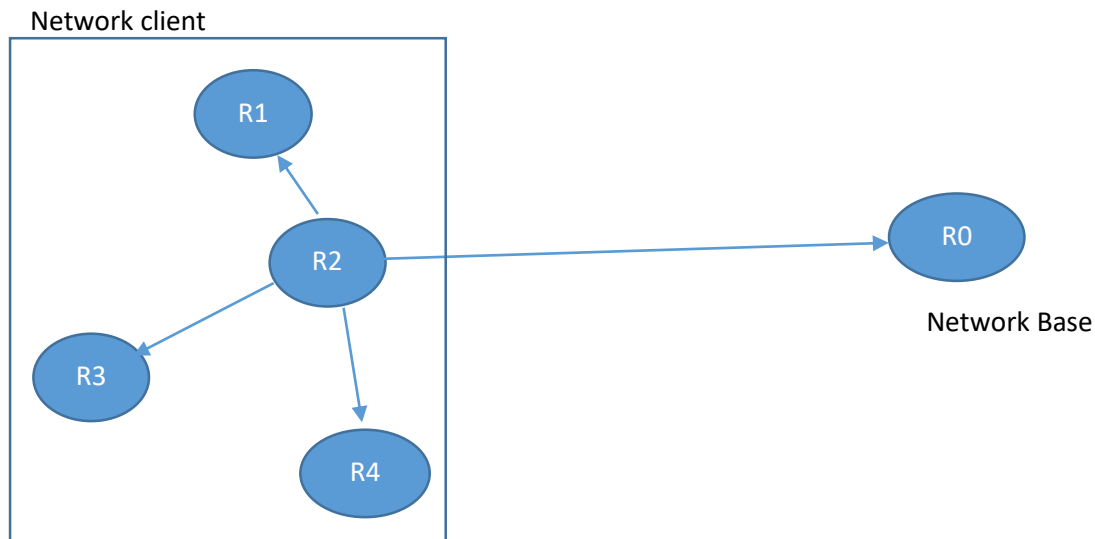
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Supernetting is nothing but combining two or more networks together for better efficiency of the routing table.

But, the network should be in the same network.

We do Supernetting just to reduce the overload on the router when searching for the network.

Lets understand it with an example;



Here, R0 is over network base and in Network client we 4 routers,

When network R0 wants to communicate with client network then it will just use the supernetted network of Client network and then whichever router receives the packet will pass the packet to the destination.

Here, Routers in client network will have every routers address in the network including R0, whereas R0 will only have one supernetted network address of client network.

Let's take an example how we can perform Supernetting.

We have networks 192.168.10.0/24, 192.168.11.0/24, 192.168.12.0/24, 192.168.13.0/24

Then first we will consider the first networks changing octet and write down it in a binary for every network for the same octet.

128	64	32	16	8	4	2	1
0	0	0	0	1	0	1	0
0	0	0	0	1	0	1	1
0	0	0	0	1	1	0	0

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So from above pattern, we can guess one thing that first five bits are constant, therefore we will only consider five network bits in that octet.

So, our subnet will be

NNNNNNNN.NNNNNNNN.NNNNNHHH.HHHHHHHH

So, $N = 21$; $H = 11$

And the Network address will be 192.168.8.0/21