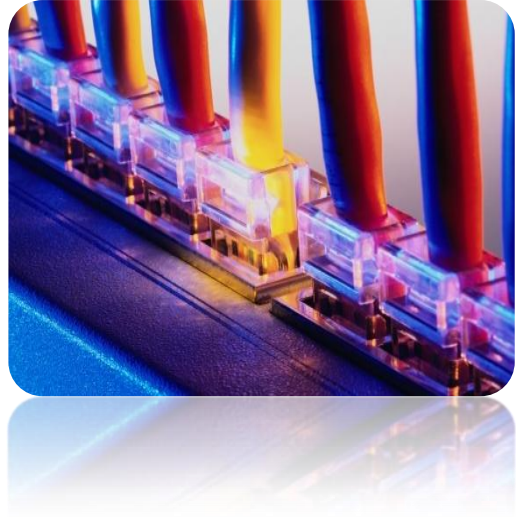


VLSM



What is VLSM ?

Variable Length Subnet Mask , VLSM is simply subnetting a subnet. VLSM can be thought of as sub-subnetting.

We use VLSM to optimize IP addresses distribution

Why should we use it ?

Assume we have 4 group of users with : 1 , 8, 16, 4 with normal subnets how many unused IP will we have?

Assume 5 groups : 2, 3, 4, 17, 40 !!

How to imagine it !

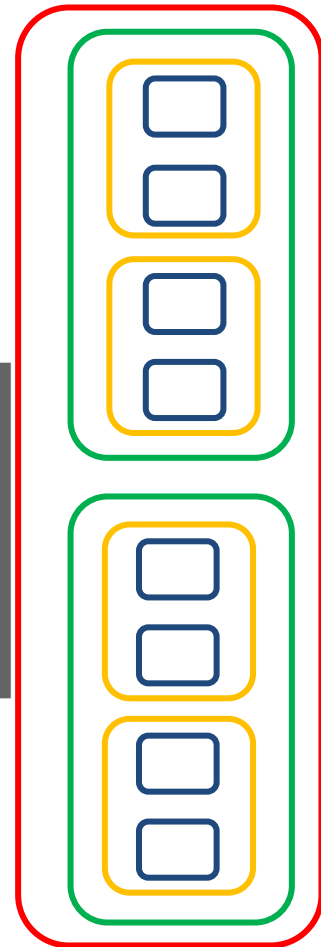
Remember from last lab that subnets blocks are of fixed size (thanks to the power of 2 !!) see this :

For class C:

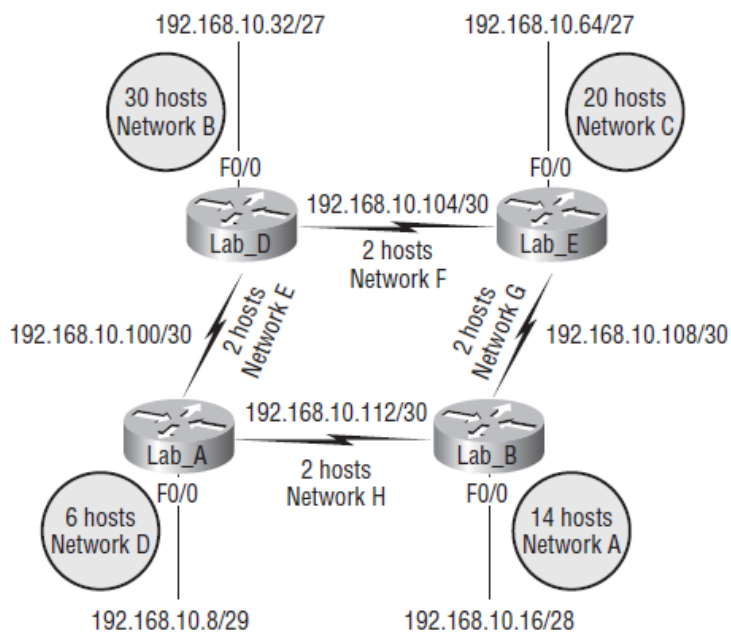
- 1 bit for subnetting 7 bits for hosts : block size of 128
- 2 bit for subnetting 6 bits for hosts : block size of 64
- 3 bit for subnetting 5 bits for hosts : block size of 32
- 4 bit for subnetting 4 bits for hosts : block size of 16
- 5 bit for subnetting 3 bits for hosts : block size of 8
- 6 bit for subnetting 2 bits for hosts : block size of 4

Since we have we have 256 host, we can divide Them to 2 subnets of 128, 128 assume we take One of them and divide it to 2 subnets of size 64, 64 and so on !!

Subnet	Mask	Subnets	Hosts	Block
/26	192	4	62	64
/27	224	8	30	32
/28	240	16	14	16
/29	248	32	6	8
/30	252	64	2	4

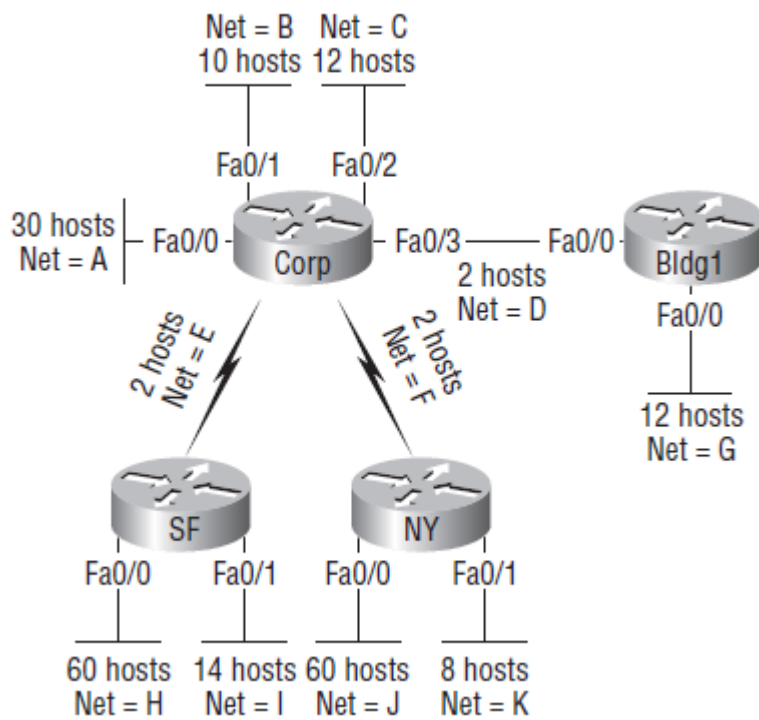


Examples



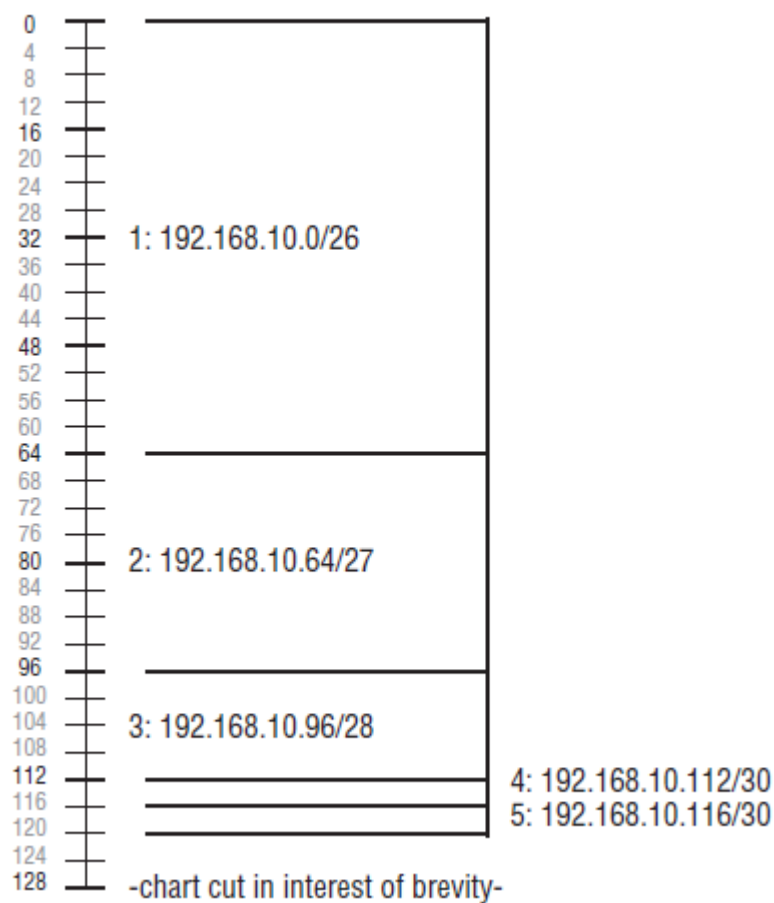
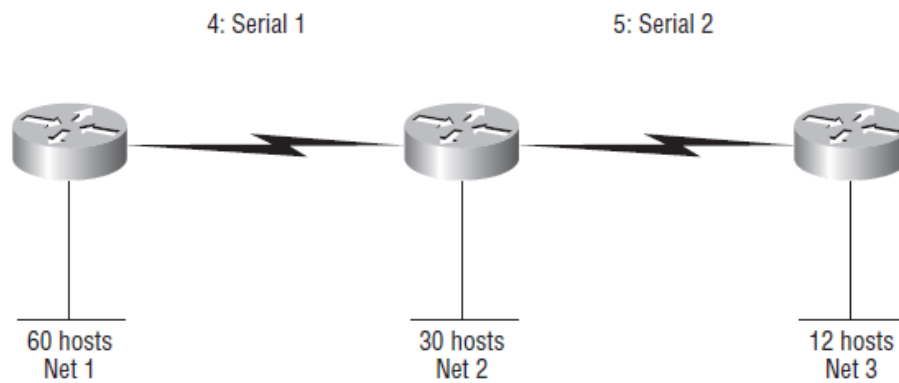
Solution in book page 143 (pdf numbering)

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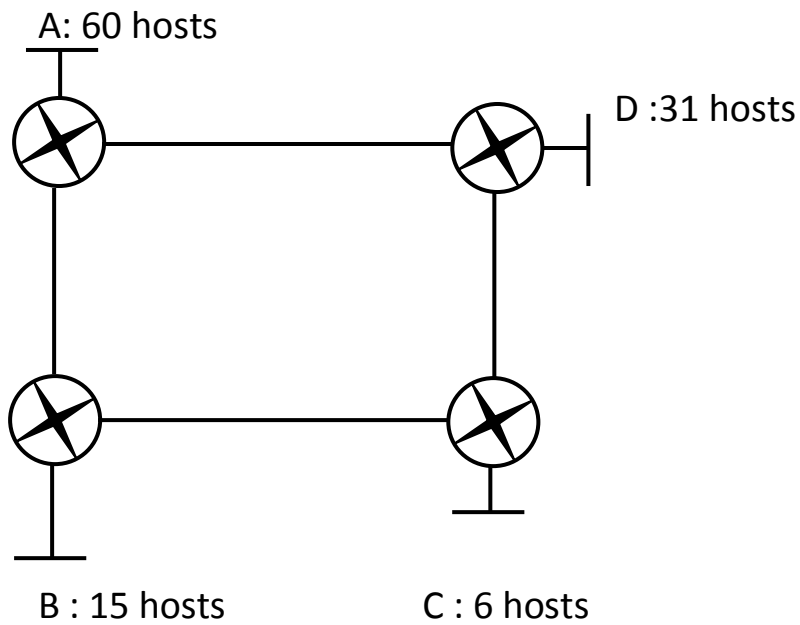
Solution at book page 145

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For report :

Main network 192.168.10.0



Main network 192.168.10.0 >>> ;-)

