Computer Network tutorial

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1) given Network IP is belongs to class c 120+0.64.0
so In class c first 24 bits are NID so in part-1
only two 00 is used in host IP

1st part   - 201.70.64.0 = SID   2nd part
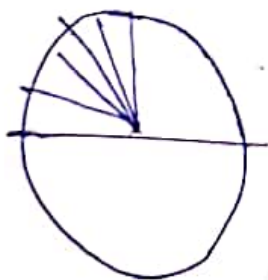   201.70.64.63 - DBA   201.70.64.128 - SID
            255.255.255.192 - SN   201.70.64.159 - DBA
                                               255.255.255.224 - SM

3rd part   201.90.64.160 - SID   4th part
            201.70.64.191 - DBA   201.70.64.192 - SID
            255.255.255.224 → SM   201.90.64.223 - DBA
                                               255.255.255.224 - SM

5th part   201.70.64.224 - SID   6th part
            201.70.64.255 - DBA   201.70.64.64 - SID.
            255.255.255.224 - SM   201.70.64.127 - DBA
                                               255.255.255.192 - SM

$1025 - 2^{10} = 1024$ so, $2^n = 1$
so it requires 11 bits for subnet ID
so, there are 5 ips in each New so.the
IP are
130.10.0.0 → SID   130.10.4.0 → DBA
130.10.5.0 → SID   120.10.9.0 → DBA
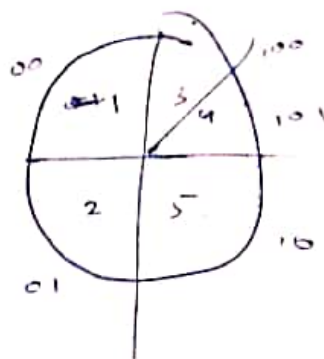
130.10.235.0 → SID   130.10.255.5 → DBA

130.10.255

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3.) Given 5 subnets

223.55 192.0/20

20 → bits for NID so

223.55. 1100 0000 .0000 0000

NID   HID

1st part we use 2bits for subnets ID so 2nd

223.55 192.0/22 → SID

223.55 .195. 855/22 → DBA

255.255 252.0/22 → SM

2nd part.

223.55. 196.0/22 → SID

223.55. 199.255/22 → DBA

255.255.252.0/22 → SM

3rd part. Here we use 3bits for subnet S₃

223.55 200.0/23 → SID

223.55.201.255/23 → DBA

255.255.254.0/23 → SM

4th

223.55 202.0/23 → SID

223.55.203.255/23 → DBA

255.255.254.0/23 → SM

5th part Here we 2bit for SL?

223.55.204.0/22 → StD

223.55 207.255/22 → DBA

255.255.252.0/22 → SM.

4.) Given 5 ports which each port should contain 4 I paddr,

1st part   156.28.224.0/19 → SLD , 156.28.232.0/19 → DBA

2nd port : 156.28.233.0/19 → SID   156.28.241.0/19 → DBA

3rd port . 156.28.242.0/19 → SID   156.28.256 0/19 → DBA

4th part : 156.28.251.0/19 → SID   156.28.255 4/19 → DBA

5th part : 156.28.255.5/19 → SID   156.28. 255.13/19 → DBA

5) 150.223.60.130/30

$$\underline{150.223.60.1\,0000\,00\hat{1}\,10}$$
NID

NID   1001 0110   1101 1111 .   0011 1100 .   1000 0010
SID   1111 1111   1111 1111 .   1111 1111 .   1111 1100
         ——
NIP : 1001 0110   1101 1111   0011 1100   1000 0000

         150   223   60 . 128/30
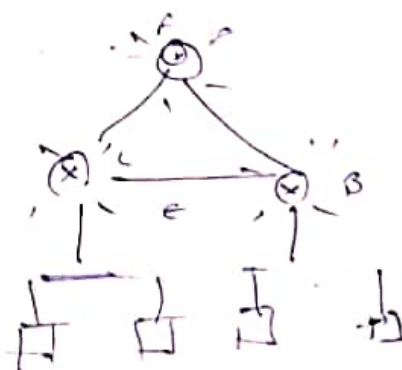
so . Network IP is 150.223.60.128/30

C.G. Raymond

6) 223.1.17.0/26 → SID   223.1.17.63/26 → DBA

223.1.17.64/25 → SID   223.1.17 19/25 → DBA

223.1 17 19/28 → SIP   223.1.17.206/28 → DBA
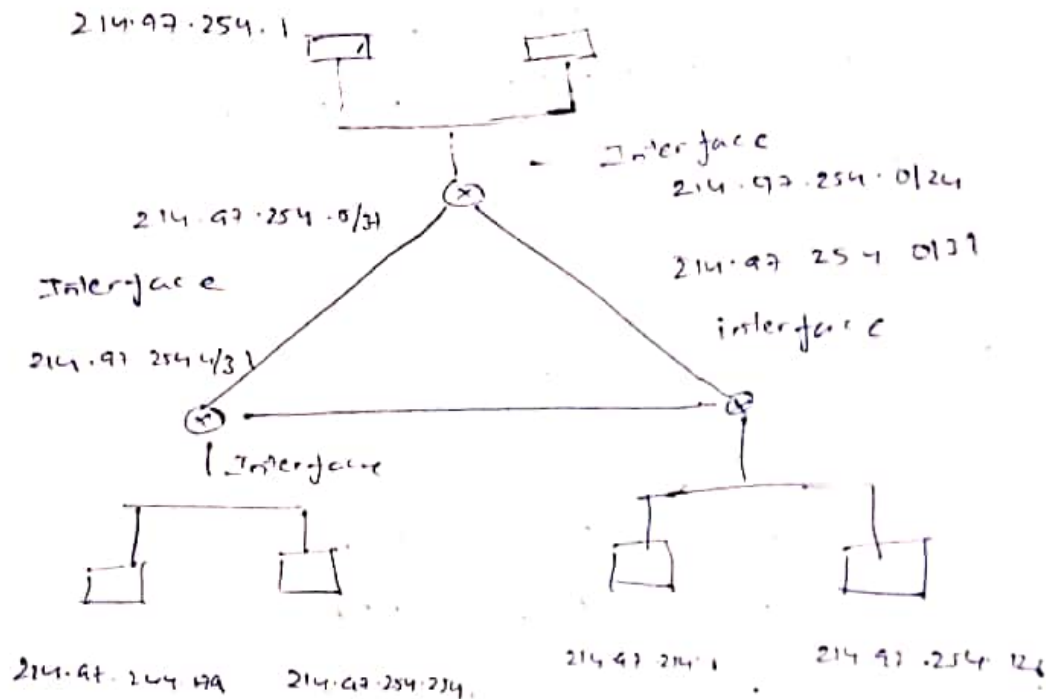

7) Ip address to 6 subnets

subnets   IP address | available Ip
& | to support Interf-
Sub net: 214.97.254.0/27 | 254
A | 128.8-120
subnet   214.97.254.0/25
B
     2   214.97.354.0/29

subnet   214 97 254.128/25   128
C

subnet   214 97 254.0/30   2
D

subnet   214.97 254 2/31   2
E

subnet   214.97.254.4/31   4

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6 subnets with Ip address

A and B.c are connected with host bet D, E and F
doesn't have any host so

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214.97.254.1

Interface
214.97.254.0/24

214.97.254.0/31

214.97.254.0/37

interface

Interface
214.97 254 4/31

214.97.254.0/31
interface

214.97.254.HA   214.97.254.234   214.97.214.1   214.97.254.124

b.) Router 1

longest prefix match outgoing interface

00 0011 10.   0 1100 0 01 1111111   subnet A   So
00 00 11 0 01100001 11111 11   Subnet D   I padd
00 0011010 11 0001 11 1 1 1   - Subnet F   14.30.50.3
                                                         and
Router 2   subnet mn
00 0011 0011 00001 11111 11   - Subnet D   255.255
0 0 0011 0011 00001 111 11   - subnet B
0 0 0011 0011 0000 111111   -- subnet E

Route - 3
0000 111 00 11 00001 1111   subnet F
0000 111 0011 00001 11111   subnet E
0 000 111 00 100001 11111   subnet E