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ZAD.1

62.18.192.0/19   7SubNets * 200 PCs

00111110.00010010.110 | 00000.00000000
    Network=19bits   Host=13bits

7SubNet + 2reserve = 9   ]log2(9)[= 4

200Host + 2reserve = 202]log2(202)[= 8

We need 8bits for host address and 4bits for subnet!
We have 13bits in the host part of the address given, but we use only 12 of them:
last byte for host, and the second tetrade of the previous byte for subneting.

00111110.00010010.1100 | 0000.00000000 | Network ID
00111110.00010010.1100 | 0001.00000000 | Assigned as Network 1
00111110.00010010.1100 | 0010.00000000 | Assigned as Network 2
00111110.00010010.1100 | 0011.00000000 | Assigned as Network 3
00111110.00010010.1100 | 0100.00000000 | Assigned as Network 4
00111110.00010010.1100 | 0101.00000000 | Assigned as Network 5
00111110.00010010.1100 | 0110.00000000 | Assigned as Network 6
00111110.00010010.1100 | 0111.00000000 | Assigned as Network 7
00111110.00010010.1100 | 1000.00000000 | Unassigned
00111110.00010010.1100 | 1001.00000000 | Unassigned
00111110.00010010.1100 | 1010.00000000 | Unassigned
00111110.00010010.1100 | 1011.00000000 | Unassigned
00111110.00010010.1100 | 1100.00000000 | Unassigned
00111110.00010010.1100 | 1101.00000000 | Unassigned
00111110.00010010.1100 | 1110.00000000 | Unassigned
00111110.00010010.1100 | 1111.00000000 | BroadCast

    There are 7 unassigned subnets (unused) !

        Network 1
Network ID = 62.18.193.0
Broadcast = 62.18.193.255
IP = 62.18.193.1 ~ 62.18.193.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

        Network 2
Network ID = 62.18.194.0
Broadcast = 62.18.194.255
IP = 62.18.194.1 ~ 62.18.194.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

        Network 3
Network ID = 62.18.195.0
Broadcast = 62.18.195.255
IP = 62.18.195.1 ~ 62.18.195.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

Network 4
Network ID = 62.18.196.0
Broadcast = 62.18.196.255
IP = 62.18.196.1 ~ 62.18.196.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

Network 5
Network ID = 62.18.197.0
Broadcast = 62.18.197.255
IP = 62.18.197.1 ~ 62.18.197.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

Network 6
Network ID = 62.18.198.0
Broadcast = 62.18.198.255
IP = 62.18.198.1 ~ 62.18.198.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

Network 7
Network ID = 62.18.199.0
Broadcast = 62.18.199.255
IP = 62.18.199.1 ~ 62.18.199.254 | There are 54 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.0

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ZAD.2

180.25.64.0 / 20   3SN * 60PC

10110100.00011001.0100 | 0000.00000000
    Network=20bits   Host=12bits

60Host + 2 reserved = 62   ]log2(62)[= 6
3SubNet + 2 reserved = 5   ]log2(5)[= 3

We have 6bits for hosts and 3 bits for subnets!
We have 12bits in the host part of the address given but we use only 9 of them:
last six bits of the last byte for hosts and last bit of the previous byte and first two
bits of the last byte for subneting.

10110100.00011001.0100000 | 0.00 | 000000 | Network ID
10110100.00011001.0100000 | 0.01 | 000000 | Assigned as Network 1
10110100.00011001.0100000 | 0.10 | 000000 | Assigned as Network 2
10110100.00011001.0100000 | 0.11 | 000000 | Assigned as Network 3
10110100.00011001.0100000 | 1.00 | 000000 | Unassigned
10110100.00011001.0100000 | 1.01 | 000000 | Unassigned
10110100.00011001.0100000 | 1.10 | 000000 | Unassigned
10110100.00011001.0100000 | 1.11 | 000000 | BroadCast

        We have 3 unassigned subnets (unused) !

        Network 1
Network ID = 180.25.64.64
BroadCast = 180.25.64.127
IP = 180.25.64.65 ~ 180.25.64.126 | There are 2 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.192

        Network 1
Network ID = 180.25.64.128
BroadCast = 180.25.64.191
IP = 180.25.64.129 ~ 180.25.64.190 | There are 2 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.192

        Network 1
Network ID = 180.25.64.192
BroadCast = 180.25.64.255
IP = 180.25.64.193 ~ 180.25.64.254 | There are 2 addresses for future needs (unassigned)
Subnet Mask = 255.255.255.192

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