

128.10.0.0

115 Subnets

SUBNET 95

HOST 478

$\begin{matrix} \text{NNNN} & \text{NNNN} & \text{NNNN} & \text{NNNN} & \text{SSSS} & \text{SSSS} & \text{HHHH} & \text{HHHH} \\ 1000 & 0000 & 0000 & 1010 & 1011 & 1111 & 1101 & 1110 \end{matrix}$

SERVER  $\begin{matrix} 1111 & 1111 & 1111 & 1111 & 1111 & 1110 & 0000 & 0000 \end{matrix}$   
 MASK  $\begin{matrix} 255 & 255 & 255 & 254 & 0 & 0 & 0 & 0 \end{matrix}$

95	64	32	16	8	4	2	1
31	16	8	4	2	1	0	0
15	0	0	0	0	0	0	0

256	128	64	32	16	8	4	2	1
1	1	1	0	1	1	1	1	0

- 2 2
- 3 6
- 4 14
- 5 30
- 6 62
- 7 126
- 8 254
- 9 510

$\begin{matrix} 478 \\ -256 \\ \hline 222 \\ -128 \\ \hline 94 \\ -64 \\ \hline 30 \end{matrix}$

- a) 7 bits
- b) 510
- c) 255.255.254.0
- d) 128.10.191.222

13.0.0.0      2000 Subnets

SUBNET 1885  
 HOST 1972  
 NNNN NNNN SSSS SSSS SSSH HHHH HHHH HHHH  
 0000 1101 1110 1011 1010 0111 1011 0100  
 13 . 235 . 167 . 180

9 510  
 10 1024  
 11 2046  
 12 4094  
 13 8190

1885  
 1024  
 ---  
 861  
 512  
 ---  
 349  
 256  
 ---  
 93  
 64  
 ---  
 29  
 16  
 ---  
 13

1024	512	256	128	64	32	16	8	4	2	1
1	1	1	0	1	0	1	1	1	0	1

1024	2048	1024	512	256	128	64	32	16	8	4	2	1
0	0	1	1	1	1	0	1	1	0	1	0	0

1972  
 1024  
 ---  
 948  
 512  
 ---  
 436  
 256  
 ---  
 180

180  
 128  
 ---  
 52  
 32  
 ---  
 20

- a) 11 bits
- b) 8190 HOSTS/SUBNET
- c) 255.255.224.0
- d) 13.235.167.180

7 B E 8  
0111 1011 E 8  
FLAGS 1 B E 8

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5 9 E 4  
0101 1001 E 4  
FLAGS 1 9 E 4

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6 5 4 5  
0110 0101 4 5  
FLAGS 0 5 4 5

187.215.233.195  
 255.255.248.0

187		215	
1011	1011	1101	0111
1111	1111	1111	1111

233	
1110	1001
1111	1000

195	
1100	0011
0000	0000

32768	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1
1	0	1	1	1	0	1	1	1	1	0	1	0	1	1	1

16	8	4	2	1
1	1	1	0	1

NETWORK = 48,087  
 SUBNET = 29  
 HOST = 45

1024	512	256	128	64	32	16	8	4	2	1
0	0	1	1	1	0	0	0	0	1	1