

Subject:

Year.

Month.

Date.

Sa	Su	Mo	Tu	We	Th	Fr
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1) $2^n \gg 4$ $n = 2$ new-sub = 24, 2, 26 hosts = $2^6 = 64$

192.168.1.0 - 192.168.1.63 192.168.1.64 - 192.168.1.127

192.168.1.128 - 192.168.1.191 192.168.1.192 - 192.168.1.255

usable: 192.168.1.1 - 192.168.1.62 192.168.1.65 - 192.168.1.126

192.168.1.129 - 192.168.1.190 192.168.1.193 - 192.168.1.254

2) 172.16.0.0/16, $n = 16$ $2^n \gg 16$ $n = 4$ new-sub = 16 + 4 = 20
hosts = $2^{12} = 4096$

172.16.0.0 - 172.16.15.255 172.16.16.0 - 172.16.31.255

172.16.32.0 - 172.16.47.255 172.16.48.0 - 172.16.63.255

172.16.64.0 - 172.16.79.255

3) 10.0.0.0/8, $n = 64$ $2^n \gg 64$ $n = 6$ new-sub = 8 + 6 = 14
hosts = $2^{18} = 262144$ 10.0.0.0 - 10.3.255.255

10.4.0.0 - 10.6.255.255 10.7.0.0 - 10.10.255.255

10.11.0.0 - 10.14.255.255 10.15.0.0 - 10.18.255.255

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4) $192.168.10.0/24$, $n=8$ $2^n \gg 8$ $n=3$ $\overset{24}{\text{new-sub}} = 8+3 = 27$

hosts = $2^5 = 32$ $192.168.10.0 - 192.168.10.31$

$192.168.10.32 - 192.168.10.63$ $192.168.10.64 - 192.168.10.95$

$192.168.10.96 - 192.168.10.127$ $192.168.10.128 - 192.168.10.159$

5) $172.31.0.0/16$, $n=128$ $2^n \gg 128$ $n=7$ $\text{new-sub} = 16+7 = 23$

hosts = $2^9 = 512$ $172.31.0.0 - 172.31.1.255$

$172.31.2.0 - 172.31.3.255$ $172.31.4.0 - 172.31.5.255$

$172.31.6.0 - 172.31.7.255$ $172.31.8.0 - 172.31.9.255$

6) $10.10.0.0/16$, $n=1000$ $2^n \gg 1000$ $n=10$ $\text{new-sub} = 16+10 = 26$

hosts = $2^6 = 64$ $10.10.0.0 - 10.10.0.63$

$10.10.0.64 - 10.10.0.127$ $10.10.0.128 - 10.10.0.191$

$10.10.0.192 - 10.10.0.255$ $10.10.1.0 - 10.10.1.63$

7) $192.168.0.0/16$, $n=1024$ $2^n \gg 1024$ $n=10$ $\text{new-sub} = 16+10 = 26$

hosts = $2^6 = 64$ $192.168.0.0 - 192.168.0.63$

$192.168.0.64 - 192.168.0.127$ $192.168.0.128 - 192.168.0.191$

$192.168.0.192 - 192.168.0.255$ $192.168.1.0 - 192.168.1.63$