



### Benötigte Teilnetze:

- a.) untrust: #8 -> /28=14 (/29=6 zu klein) - done
- b.) DMZ I: #26 -> /27=30 (/28=14 zu klein)
- c.) DMZ II: #40 -> /26=62 (/27=30 zu klein) - done
- d.) Backnet I: #12 -> /28=14 (/29=6 zu klein) - done
- e.) Backnet II: #30 -> /27=30 (/28=14 zu klein) - done

### Ausführliche Aufteilung von 178.26.8.0/24:

178.26.8.0/24:

Netmask: 255.255.255.0 = ||||||||||||||||||||00000000

Address: 178.26.8.0 = |0|1|00|0.000||0|0.0000||000.00000000

Host first: 178.26.8.1 = |0|1|00|0.000||0|0.0000||000.0000000|

Host last: 178.26.8.254 = |0|1|00|0.000||0|0.0000||000.|||||0

Broadcast: 178.26.8.255 = |0|1|00|0.000||0|0.0000||000.|||||1

2x/25 (2x128 Hosts):

Netmask: 255.255.255.128 = ||||||||||||||||0000000

a.) Address: 178.26.8.0 = |0|1|00|0.000||0|0.0000||000.00000000

Host first: 178.26.8.1 = |0|1|00|0.000||0|0.0000||000.0000000|

Host last: 178.26.8.126 = |0|1|00|0.000||0|0.0000||000.0|||||0

Broadcast: 178.26.8.127 = |0|1|00|0.000||0|0.0000||000.0|||||1

b.) Address: 178.26.8.128 = |0|1|00|0.000||0|0.0000||000.10000000

Host first: 178.26.8.129 = |0|1|00|0.000||0|0.0000||000.1000000|

Host last: 178.26.8.254 = |0|1|00|0.000||0|0.0000||000.|||||0

Broadcast: 178.26.8.255 = |0|1|00|0.000||0|0.0000||000.|||||1

4x/26 (4x64 Hosts):

Netmask: 255.255.255.192 =  $11111111.11111111.11111111.00000000$

a.) Address: 178.26.8.0 =  $10110010.00011010.00001000.00000000$

Host first: 178.26.8.1 =  $10110010.00011010.00001000.00000001$

Host last: 178.26.8.62 =  $10110010.00011010.00001000.00111110$

Broadcast: 178.26.8.63 =  $10110010.00011010.00001000.00111111$

b.) Address: 178.26.8.64 =  $10110010.00011010.00001000.01000000$

Host first: 178.26.8.65 =  $10110010.00011010.00001000.01000001$

Host last: 178.26.8.126 =  $10110010.00011010.00001000.01111110$

Broadcast: 178.26.8.127 =  $10110010.00011010.00001000.01111111$

c.) Address: 178.26.8.128 =  $10110010.00011010.00001000.10000000$

Host first: 178.26.8.129 =  $10110010.00011010.00001000.10000001$

Host last: 178.26.8.190 =  $10110010.00011010.00001000.10111110$

Broadcast: 178.26.8.191 =  $10110010.00011010.00001000.10111111$

d.) Address: 178.26.8.192 =  $10110010.00011010.00001000.11000000$

Host first: 178.26.8.193 =  $10110010.00011010.00001000.11000001$

Host last: 178.26.8.254 =  $10110010.00011010.00001000.11111110$

Broadcast: 178.26.8.255 =  $10110010.00011010.00001000.11111111$

Zerlegung allgemein (Byte-Grenzen!):

Host first:  $A/h \rightarrow A+1$  (178.26.8.0/24

Host first:  $A/h \rightarrow (A+2^{(h-1)})-2$

Broadcast:  $A/h \rightarrow (A+2^{(h-1)})-1$

$h=32-s$

next Adress:  $A/s \rightarrow A+2^{(h-1)}$  (178.26.8.0/28  $\rightarrow$  178.26.8.0+ $2^4$

16x/27 (16x32 Hosts):

Netmask: 255.255.255.224 = 11111111.11111111.11111111.11000000

a.) Address: 178.26.8.0 = 10110010.00011010.00001000.00000000

Host first: 178.26.8.1 = 10110010.00011010.00001000.00000001

Host last: 178.26.8.30 = 10110010.00011010.00001000.00011110

Broadcast: 178.26.8.31 = 10110010.00011010.00001000.00011111

b.) Address: 178.26.8.32 = 10110010.00011010.00001000.00100000

Host first: 178.26.8.33 = 10110010.00011010.00001000.00100001

Host last: 178.26.8.62 = 10110010.00011010.00001000.00111110

Broadcast: 178.26.8.63 = 10110010.00011010.00001000.00111111

c.) Address: 178.26.8.64 = 10110010.00011010.00001000.01000000

Host first: 178.26.8.65 = 10110010.00011010.00001000.01000001

Host last: 178.26.8.94 = 10110010.00011010.00001000.01011110

Broadcast: 178.26.8.95 = 10110010.00011010.00001000.01011111

d.) Address: 178.26.8.96 = 10110010.00011010.00001000.01100000

Host first: 178.26.8.97 = 10110010.00011010.00001000.01100001

Host last: 178.26.8.126 = 10110010.00011010.00001000.01111110

Broadcast: 178.26.8.127 = 10110010.00011010.00001000.01111111

e.) Address: 178.26.8.128 = 10110010.00011010.00001000.10000000

Host first: 178.26.8.129 = 10110010.00011010.00001000.10000001

Host last: 178.26.8.158 = 10110010.00011010.00001000.10011110

Broadcast: 178.26.8.159 = 10110010.00011010.00001000.10011111

f.) Address: 178.26.8.160 = 10110010.00011010.00001000.10100000

Host first: 178.26.8.161 = 10110010.00011010.00001000.10100001

Host last: 178.26.8.190 = 10110010.00011010.00001000.10111110

Broadcast: 178.26.8.191 = 10110010.00011010.00001000.10111111

g.) Address: 178.26.8.192 = 10110010.00011010.00001000.11000000

Host first: 178.26.8.193 = 10110010.00011010.00001000.11000001

Host last: 178.26.8.222 = 10110010.00011010.00001000.11011110

Broadcast: 178.26.8.223 = 10110010.00011010.00001000.11011111

h.) Address: 178.26.8.224 = 10110010.00011010.00001000.11100000

Host first: 178.26.8.225 = 10110010.00011010.00001000.11100001

Host last: 178.26.8.254 = 10110010.00011010.00001000.11111110

Broadcast: 178.26.8.255 = 10110010.00011010.00001000.11111111

Andere Lösung:

178.26.8.0/28 für untrust

178.26.8.16/28 für Backnet I

178.26.8.32/27 für Back II

178.26.8.64/26 für DMZ II

178.26.8.192/27 für DMZ I

178.26.8.128/26

178.26.8.224/27