

Übung 8

Montag, 17. Januar 2011
11:45

Exercise 2

10.0.11.12 mask 255.254.254.0
 subnet address host address
 00001010.00000000.00001011.00001100
 11111111.11111111.11111111.00000000
 10101110.
 decimal

Subnet address:

00001010.00000000.00001010.00000000 → 10.0.10.0

Broadcast address:

00001010.00000000.00001011.11111111 → 10.0.10.255

Exercise 5

220.168.49.0/24 → { 1 subnet x 50 hosts
 3 " x 20 "
 1 " x 10 "
 32-24 = 8

→ we can manipulate only 8 bits for subnetting

Start with the largest subnet (1 subnet x 50 hosts) | 220.168.49. xxxxxxxx

→ 6 bits for host addressing ($2^5 - 32$, $2^6 = 64$)

→ 2 bits for subnet address (00, 01, 10, 11)

Mask: /26 : 255.255.255.192

.64

→ Subnet address: 220.168.49. 01 000000

First host: 220.168.49. 01 000001 (.65)

Last host: 220.168.49. 01 111110 (.126)

↳ host addressing: $2^6 - 2 = 62$ hosts

3 subnets x 20 hosts

→ 5 bits for hosts

→ 3 bits for subnets (000, 001, 010, 011, 100, 101, 110, 111)

100, 101, 110

Mask: /27

Subnet add.:

① 220.168.49. 100 00000

② 220.168.49. 101 00000

③ 220.168.49. 110 00000

First host

220.168.49. 100 00001

220.168.49. 101 00001

220.168.49. 110 00001

Last host

220.168.49. 100 11110

220.168.49. 101 11110

220.168.49. 110 11110

1 subnet x 10 hosts

→ 4 bits for host addressing | Subnet address

1 subnet x 10 hosts

- 4 bits for host addressing
- 4 bits for subnet addressing

Mask: $(24 + 4 = 28) \rightarrow 28$

Subnet address

Cannot use all 0's, all 1's

01 (1 x 50)

100

101

110

(3 x 20)

~~0000~~ 0001 0010 0011 ~~0100~~ ~~0101~~ ~~0110~~ ~~0111~~
~~1000~~ ~~1001~~ ~~1010~~ ~~1011~~ ~~1100~~ ~~1101~~ 1110 ~~1111~~

Subnet address: 220.168.49. 0001 0000 ^{.16}

First : 220.168.49. 001 0001 ^{.17}

Last : 220.168.49. 001 1110 ^{.30}