

SUBREDES

CIDR

IP. CLASSES

A → R. H. H. H / 255. 0. 0. 0

B → R. R. H. H / 255. 255. 0. 0

C → R. R. R. H / 255. 255. 255. 0 .

$$\begin{array}{r} \text{R} \\ \hline 8.8.8.8 \end{array} \quad \overset{\text{H}}{\text{---}} \quad / 255.0.0.0$$

$$8.8.4.4$$

80.32.230.190

255.0.0.0
255.255.255.192

80.32.230.190
 255.0.0.0

 80.0.0.0

80.32.230.190
 255.255.255.192

 80.32.230.128

10 | 111110
 11 000000

 10000000

128
~~64~~
 32
 16
 8
 4
 2

192.168.1.3

255.255.255.128

192.168.1.0

3: 00000011

128: 10000000

00000000

192.168.1.200

255.255.255.128

192.168.1.128

200: 11001000

128: 10000000

10000000

Class C

||| \ ||| / . ||| \ ||| / . ||| \ ||| / . 00000000
 (underlined)

||| \ ||| / . ||| \ ||| / . ||| \ ||| / . 00000000
 (circled)

||| \ ||| / . ||| \ ||| / . ||| \ ||| / . || 00000000

↳ 255.255.255.0

/26



172.16.27.4/18

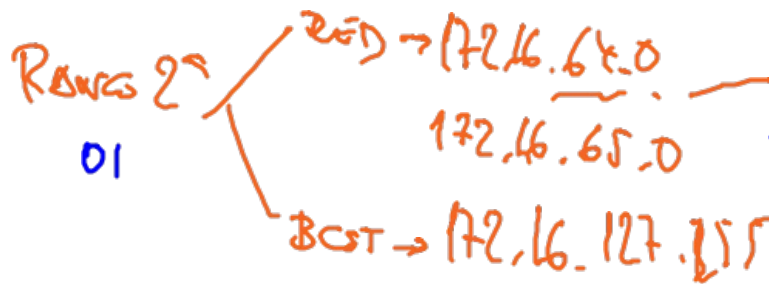


172.16.27.4
 255.255.192.0

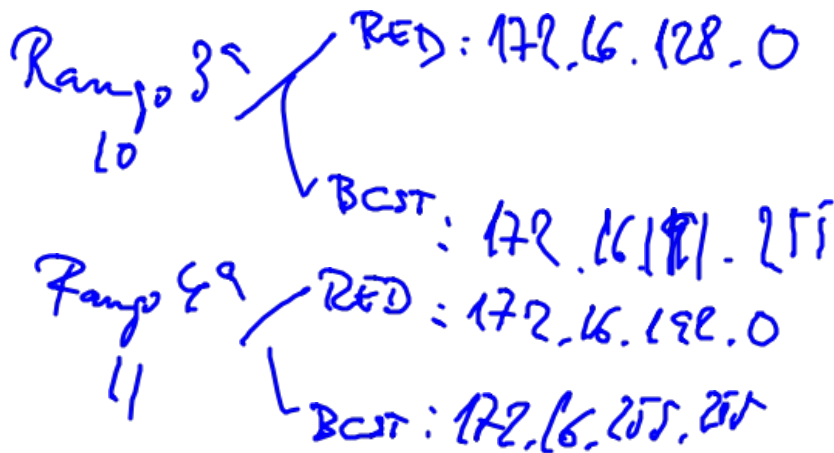
 172.16.0.0

27: 00011011
 192: 11000000

 00000000



00 | 111111. 11111111
 0 | 000000 | 00000000
 01 | 111111. 11111111

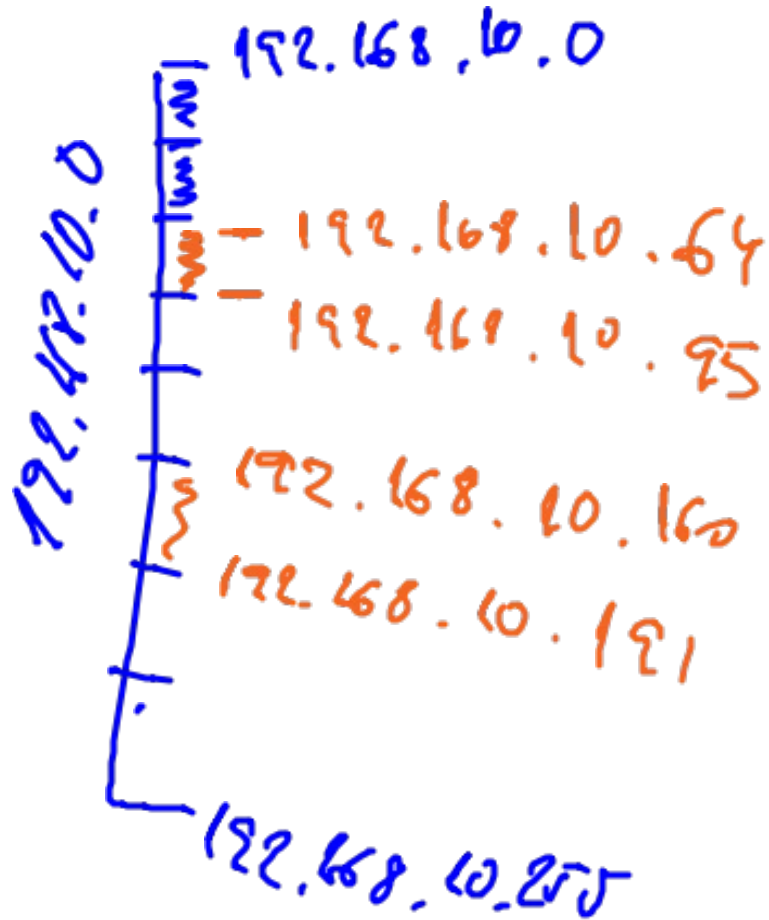


10 | 111111. 11111111

192.168.10.0

7 subnets

3² subred



R.R.R. ○

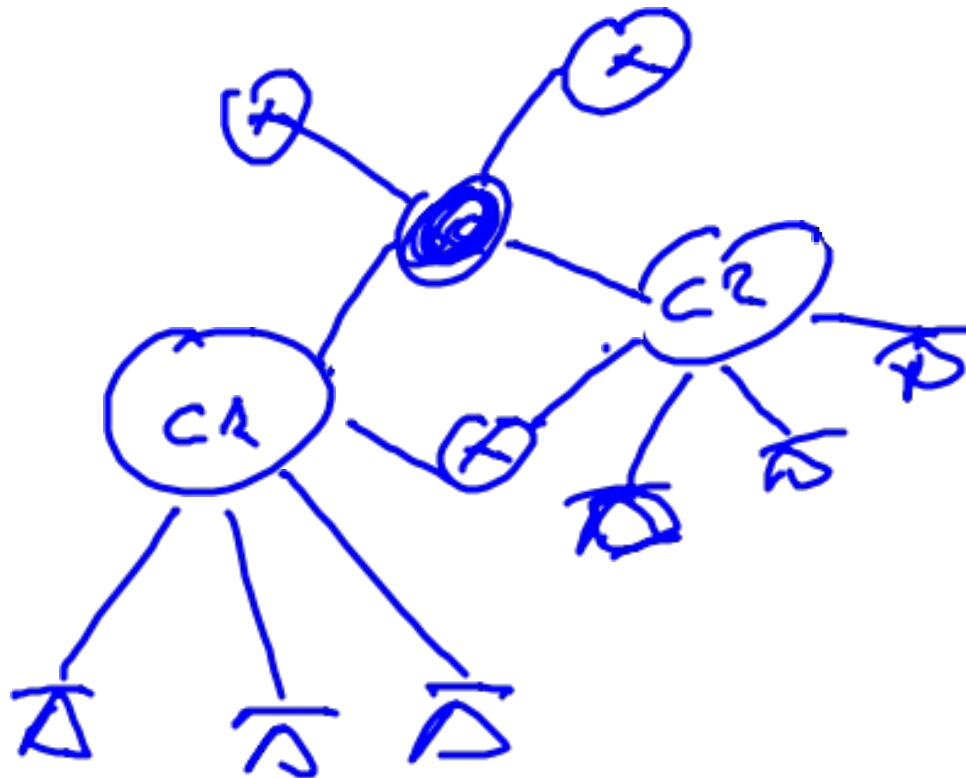
.SSS HHHHHH

.....111 00000
255.255.255.224

/27

~~XXXXXXXXXX~~

000000
 000 < 11111
 001 < 00000 → 64
 010 < 11111 → 95
 011
 100 < 00000 → 160
 101 < 11111 → 191
 110
 111



JP →
 HDSCARCS → } →
 P, ENLAGE
 DWS1
 DWS2

U



8.8.8.8

dividir 1000

A que nùbre?

8.8.8.8
 255.255.192.0

 8.8.0.0

8: 00001000
 192: 11000000

 00000000

R.H.H.H

55555555.55 00000000

255.255.192.0

00001000.00

192.168.1.0

255.255.255.0

R.R.R.H

HHHHHHHH
SHHHHHHH

$n^{\circ} \text{ subredes} \leq 2^S$

$n^{\circ} \text{ equipos} = 2^H - 2$
subred.

$$1000 \leq 2^{10}$$

$$1000 \leq 2^{\cancel{10}}$$

SSSSHHHH
SSSSSSH
~~SSSSSSH~~

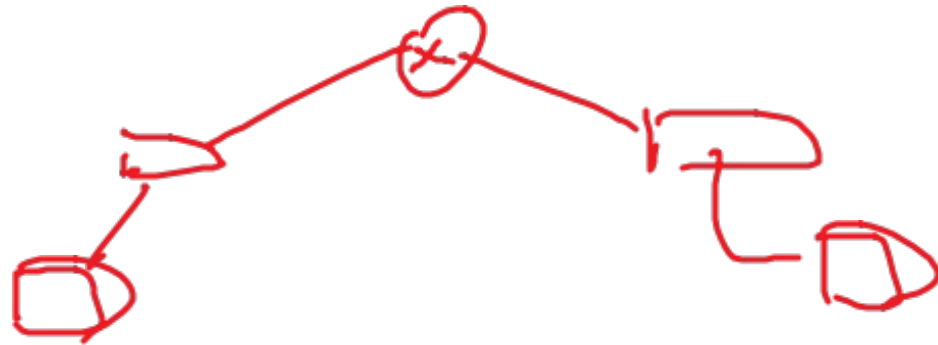
172.16.0.0
255.255.0.0



R.R.H.H



S.S.S.S.S.S.S.S.H.H



192.168.1.0/24

192.168.2.0/24

R.R.R.H

/16

192.168.1.0

255.255.0.0

192.168.0.0

/16

192.168.2.0

255.255.0.0

192.168.0.0

✓

118.212.87.56/12

Rango subred a que pertenece

Rango

- RED: 118.208.0.0
- BCSS: 118.223.255.255

11011111

192
31
223

R.H.H.H

SSSSHHHH-H.H
255.240.0.0

118.212.87.56
255.240.0.0

118.208.0.0

212: 11010100 .
240: 11110000 .
11010000

10.0.0.0

Subnetes. 5000 → Mascara: 255.255.248.0

Range 666

RED: 10.20.200.0

BCST: 10.20.207.255

$5000 \leq 2^S$

$S=13$

665, 2000 | 010011001

11001000
192
11001111

17.0.0.0

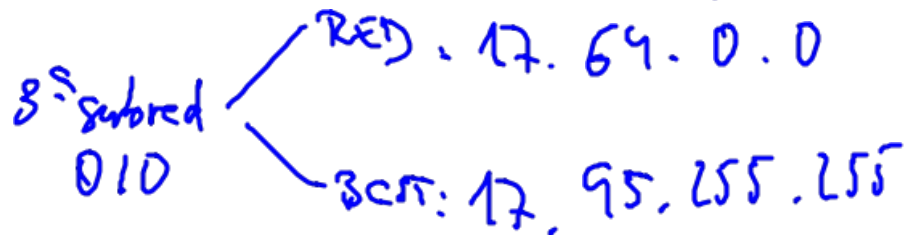
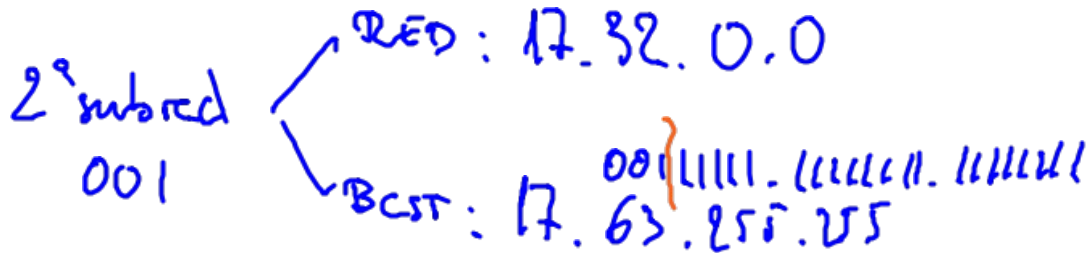
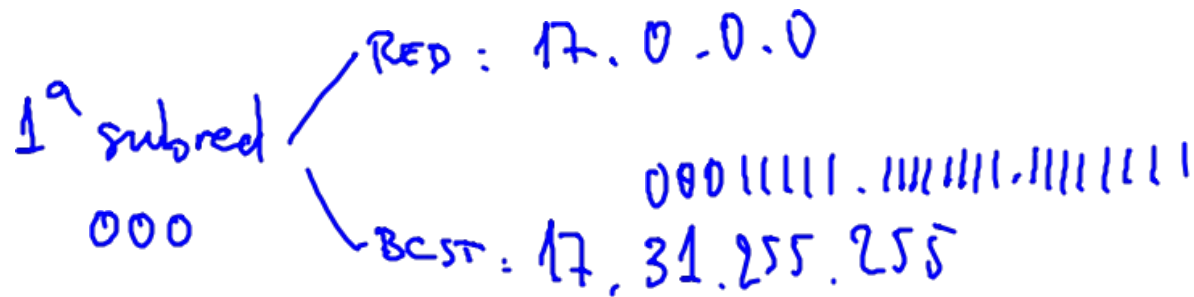
$$n^{\circ} \text{ subredes} \leq 2^S \Rightarrow S=3$$

255.0.0.0

00000000

11100000

255.224.0.0



17.0.0.0

~~255.0.0.0~~

6 subredes \Rightarrow n° subredes $\leq 2^s$
 $6 \leq 2^s \Rightarrow s = 3$

||||| . |||0000 . ||||| . |||||

255.227.0.0

Range 1^a
000 Red: 17.0.0.0
BCST: 17.8.255.255

Range 2^a
001 Red: 17.32.0.0
BCST: 17.63.255.255

Range 3^a
010 Red: 17.64.0.0
BCST: 17.95.255.255

Range 4^a
011 Red: 17.96.0.0
BCST: 17.127.255.255

Range 5^a
100 Red: 17.128.0.0
BCST: 17.159.255.255

Range 6^a
101 Red: 17.160.0.0
BCST: 17.191.255.255

100.0.0.0

255.0.0.0

Dividir 1000 subredes

$$n^{\circ} \text{ subredes} \leq 2^s$$

$$1000 \leq 2^s \Rightarrow s = 10$$

|||||||, |||||, ||000000, 00000000

255.255.192.0

$$n^{\circ} \text{ equipos} = 2^4 - 2 = 2^{14} - 2$$

000000, 10000000, 00000000

Rango subred 3

00000000 10

RED: 100.0.128.0

BCST: 100.0.191.255

Rango subred 510

01111111.01

RED: 100.127.64.0

BCST: 100.127.127.255

130.12.0.0

Subredes de 1000 equipos

255.255.0.0
s. --- h

$$N^{\circ} \text{ equipos} = 2^h - 2$$

ssssss hh. hhhhhhhh
||||| 00.0000000

$$1000 = 2^h - 2 \Rightarrow h = 10$$

255.255.252.0

$$N^{\circ} \text{ de subredes} \leq 2^s \Rightarrow \text{subredes} = 2^6 = 64$$

Subred 55

~~xxxxxx~~

110110

RED : 130.12.216.0

11011000.00000000

11011011.11111111

BCST : 130.12.219.255

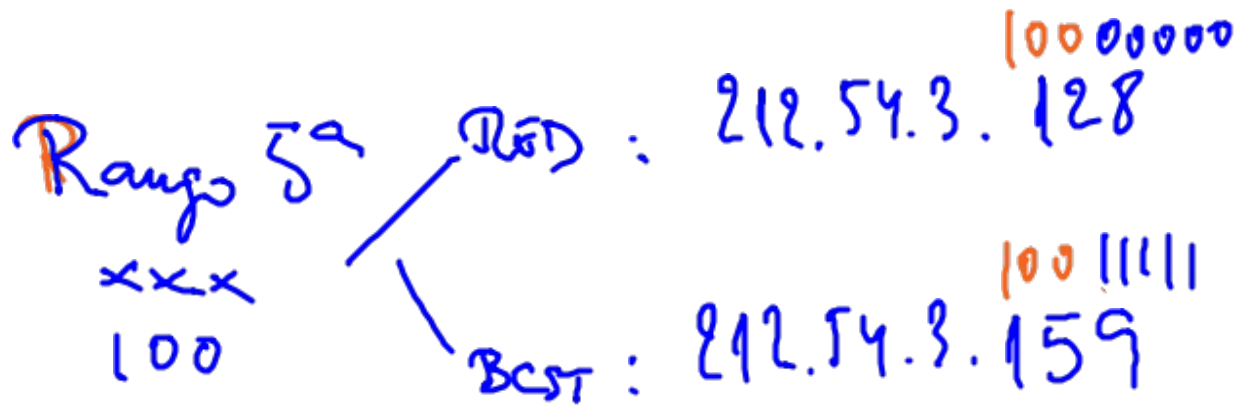
212.54.3.0

255.255.255.0

8 subredas \Rightarrow $(S=3)$

n° subredas $\leq 2^S \Rightarrow$ $(S=3)$

\Rightarrow 255.255.255.224



Subred de la IP: 212.54.3.(99) \rightarrow ~~XXXXXXXX~~ 011 00011

212.54.3.(91) - 10111111 \Rightarrow BROADCAST!!! \downarrow
4th subred (3+1)

192.168.10.0

32 subredes.

~~255.255.0.0~~
255.255.255 } 0

$n^{\circ} \text{ subredes} \leq 2^s$

$32 \leq 2^s \Rightarrow s=5$

11110000
 $\Rightarrow 255.255.255.248$

$n^{\circ} \text{ equipos} = 2^h - 2 = 2^3 - 2 = 6$

Rango 2^2
00001

RED: 192.168.10.8
00001000

BCST: 192.168.10.15
00001111

Rango 2^3
00100

RED: 192.168.10.32
00100000

BCST: 192.168.10.39
00100111

Rango 2^4
11000

RED: 192.168.10.192
11000000

BCST: 192.168.10.199
11000111

10.205.1.130

Clase A PRIVADA
255.255.255.0 R.H.H.H
255.SSSSSSS.SSSSSSS.HHHH..

$N^{\circ} \text{ subredes} \leq 2^s$

$65.536 \leq 2^s$

$N^{\circ} \text{ equipos} = 2^h - 2$

$254 = 2^8 - 2$

205.1

110011 01.00000001

1
256
1024
2048
16384
32768
52481 + 1