

IP numbering for four blocks:

A=40 →  $64 = 2^6$  CIDR =  $32-6 = /26$

B=62 →  $128 = 2^7$  CIDR =  $32-7 = /25$

C=130 →  $256 = 2^8$  CIDR =  $32-8 = /24$

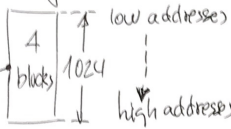
D=300 →  $512 = 2^9$  CIDR =  $32-9 = /23$

The block covering A, B, C and D has a size =

$64 + 128 + 256 + 512 = 960$  which

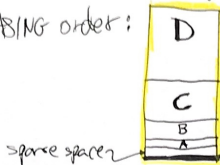
must be rounded to the next integer power of two:  $\log_2 960 = 9.91$ ;  $\text{ceil}(9.91) = 10$

$2^{10} = 1024$  is the size of the block that houses A, B, C and D:

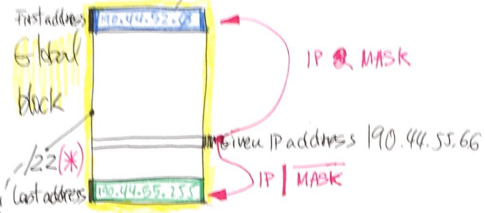


Global CIDR =  $32-10 = /22$  (\*)

Guaranteeing that the resulting Address Blocks get properly aligned entails our ordering them in NON-INCREASING order:



We are given an IP address that belongs to the global block, thus we can compute the PREFIX NUMBER (base address or network number) and the BROADCAST ADDRESS:



MASK =  $11111111 \ 11111111 \ 11111111 \ 00000000$

$b = 255 \cdot 255 \cdot 252 \cdot 0$

First address 190.44.55.66

PREFIX NUM → 190.44.52.0

Last address 190.44.52.0

0.0.3.255

190.44.55.255

