

Problems with Classful Addressing

Issue #1:- Lack of Internal flexibility					Total	
N	H	N/W		Hosts	$2^4 \times 126$	
8	24	A	$2^7 = 128 - 2 = 126$	$2^{24} = 16777216$	65536×16384	
16	16	B	$2^{14} = 16384$	$2^{16} = 65536$		
24	8	C	$2^1 = 2097152$	$2^8 = 256$		

Solution
Subnetting

- ① In class the number network are less but each n/w contains a large number of IP Address/Hosts.
- ② In class B Moderate number of N/W & IP Address.
- ③ In Class C number of N/W are very large & IP address are less.

In classful Addressing a complete n/w to any organization

e.g. 100000 → (A) 16777216

Issue #2 → Inefficient use of Address space.

Solution
IPv6

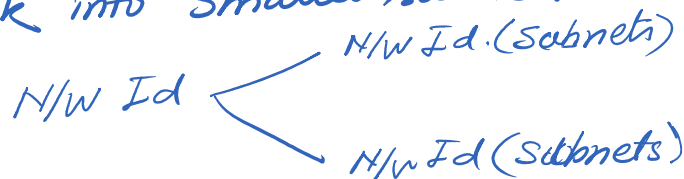
wastage of address.

Issue #3:- More routing table entries & this will create an explosion in the routing table.

SCW
NAT
Private & Public

SUBNETTING

Subnetting is a process of dividing a single network into smaller subnets.



Process of subnetting





Class C 192.168.10.0 $\underline{256} - 40 = \underline{\underline{216}}$
waite.

	0	1	2	3	4	5	6	7
Host(n)							6	
Hosts (2^n)	1	2	4	8	16	32	64	128

↓
40

Step-2:- Find the number of host bits borrowed & converted to the network bits.

Step-3:- Find the total number of Network bits

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