

IPv4 addressing

Class	Lead Bits	Prefix	Possible Address
A	0XXX	/8	0.0.0.0-127.255.255.255
B	10XX	/16	128.0.0.0-191.255.255.255
C	110X	/24	192.0.0.0-223.255.255.255
D	1110	/32	224.0.0.0-239.255.255.255
E	1111	Undefined	240.0.0.0-255.255.255.255

Private IP

Class A : 10.X.X.X (10.0.0.0 – 10.255.255.255)

Class B : 172.16.X.X–172.31.X.X (172.16.0.0–172.31.255.255)

Class C : 192.168.X.X (192.168.0.0-192.168.255.255)

IPv4 addressing

Class	First Octet binary Value	First Octet Decimal Value	Possible number of Hosts
A	<u>0</u> 0000001 to <u>0</u> 1111110	1-126	16,777,214
B	<u>10</u> 000000 to <u>10</u> 111111	128-191	65,534
C	<u>110</u> 00000 to <u>110</u> 11111	192-223	254

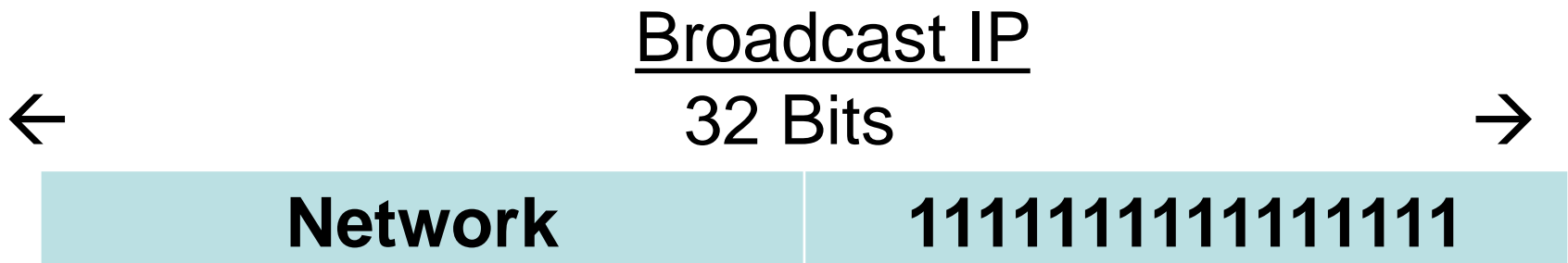
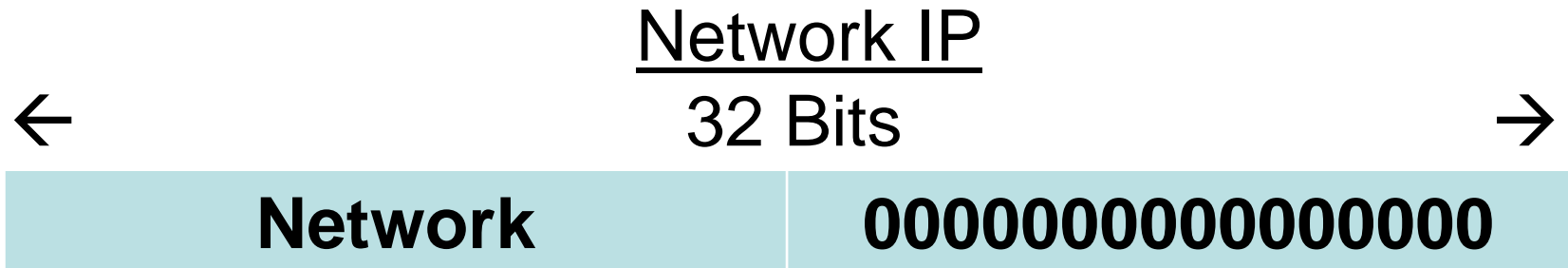
- *127 (01111111) is a Class A address reserved for loopback testing and cannot be assigned to a network .

(Ex c:/ping 127.0.0.1)

- 0.0.0.0 (Ex #ip route 0.0.0.0 0.0.0.0 GW)

IPv4 addressing

Reserved Address



IPv4 addressing

- http://www.jodoi.com/book/book_technic_cal_IP.pdf

1	1	1	1	1	1	1	1	1
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	
128	64	32	16	8	4	2	1	
128	192	224	240	248	252	254	255	

IPv4 addressing

1) Subnet Mask

1.1) /24 = 255.255.255.0

1.2) /16 = _____

1.3) /29 = _____

1.4) /30 = _____

1.5) /12 = _____

1.6) /13 = _____

1.7) /25 = _____

1.8) /23 = _____

1.9) /27 = _____

1.10) /20 = _____

IPv4 addressing

2) Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.1) 192.168.22.50/30

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.2) 192.168.5.33/27

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

IPv4 addressing

Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.3) 172.18.22.60/29

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.4) 10.10.10.130/25

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

IPv4 addressing

Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.5) 192.168.100.165/28

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.6) 10.10.10.0/13

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

IPv4 addressing

Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.7) 10.159.255.255/12

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.8) 10.179.0.255/15

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

IPv4 addressing

Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.9) 222.222.50.0/20

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.10) 10.178.65.255/18

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

IPv4 addressing

Find Subnet Mask , Network IP , Broadcast IP , IP Hosts ?

2.11) 222.222.222.222/22

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____

2.12) 10.121.65.255/14

Subnet Mask _____

Network IP _____

Broadcast IP _____

IP Hosts _____