

SUBNETTING



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Tujuan Subnetting



- Berkurangnya lalu lintas jaringan (reduce network traffic)
- Optimasi unjuk kerja jaringan (Optimized Network Performance)
- Penyederhanaan Pengelolaan (Simplified Management)
- Membantu untuk pengembangan jaringan ke jarak geografis yang jauh (facilitated spanning of large geographical distances)

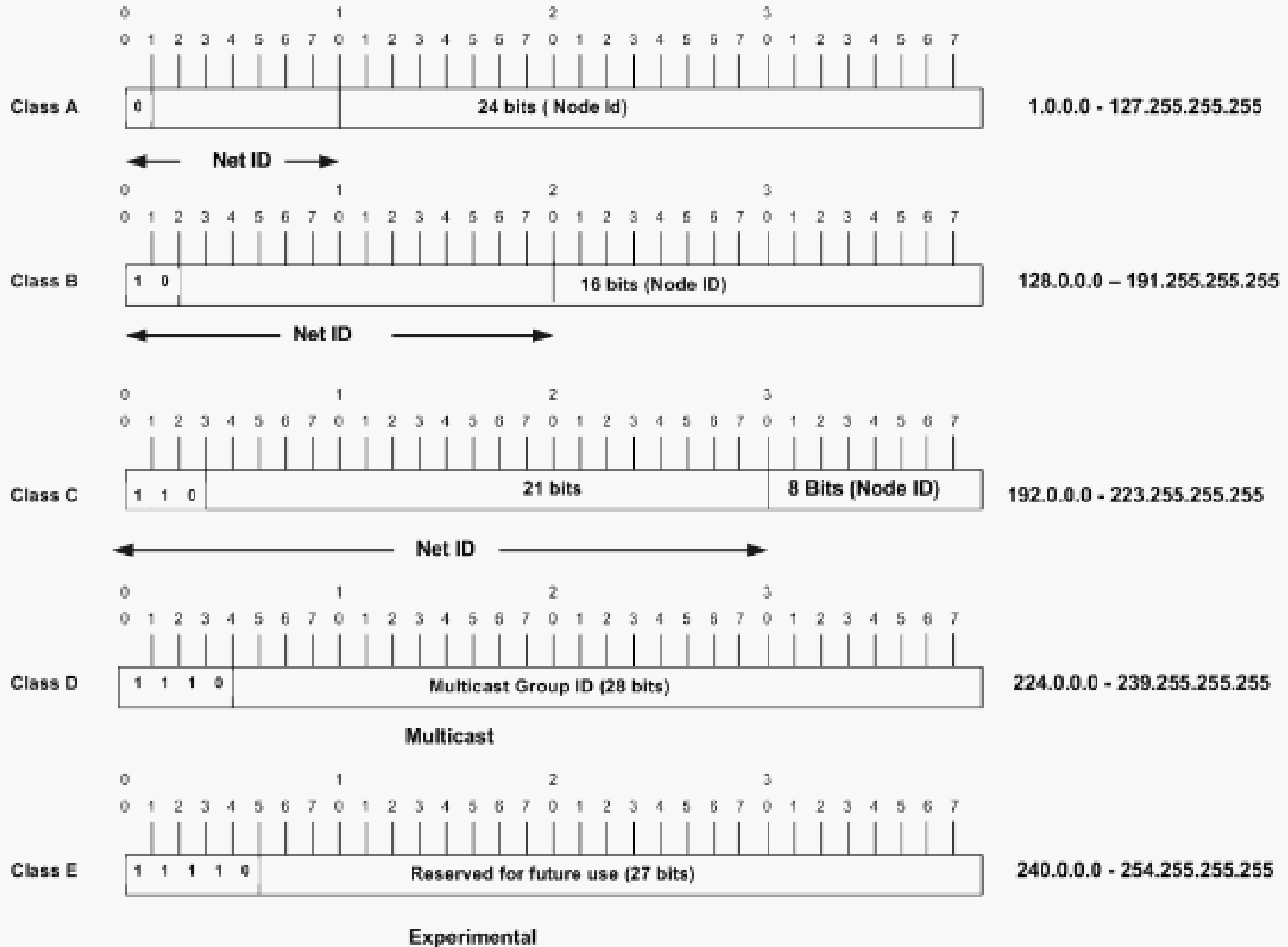
Subnetting



- IP Kelas A Subnet Mask : 255.0.0.0
- IP Kelas B Subnet Mask : 255.255.0.0
- IP Kelas C Subnet Mask : 255.255.255.0

Subnet Mask (biner)	Desimal	Hexa
11111111.11111111.11111111.00000000	255.255.255.0	FF.FF.FF.00
11111111.11111111.11111111.10000000	255.255.255.128	FF.FF.FF.80
11111111.11111111.11111111.11000000	255.255.255.192	FF.FF.FF.C0
11111111.11111111.11111111.11100000	255.255.255.224	FF.FF.FF.E0

Subnetting



Contoh Subnetting



- Diketahui alamat IP 196.124.230.124 netmask 255.255.255.0
- Carilah alamat network dengan bitwise ?
- Jawab :
 - $192.124.230.124 = 11000000.01111100.11100110.01111100$
 - $255.255.255.0 = 11111111.11111111.11111111.00000000$
 - Di AND kan $= 11000000.01111100.11100110.00000000$

CIDR (Classes Inter Domain Routing)



- Kelas A

Subnet Mask	CIDR
255.0.0.0	/8
255.128.0.0	/9
255.192.0.0	/10
255.224.0.0	/11
255.240.0.0	/12
255.248.0.0	/13
255.252.0.0	/14
255.254.0.0	/15

- Kelas B

Subnet Mask	CIDR
255.255.0.0	/16
255.255.128.0	/17
255.255.192.0	/18
255.255.224.0	/19
255.255.240.0	/20
255.255.248.0	/21
255.255.252.0	/22
255.255.254.0	/23

CIDR (Classes Inter Domain Routing)



- Kelas C

Subnet Mask	CIDR
255.255.255.0	/24
255.255.255.128	/25
255.255.255.192	/26
255.255.255.224	/27
255.255.255.240	/28
255.255.255.248	/29
255.255.255.252	/30

Subnetting



- **Mencari Jumlah Subnet :**
 - $2^x = \dots$
 - Diambil dari nilai host id yang bernilai 1
- **Mencari Jumlah Host :**
 - $2^y - 2 = \dots$
 - Diambil dari host ID yang bernilai 0