Week 5

IP Addressing
Subnetting

- LAN can be divided into managable size
  - Static Subnetting
  - Variable Length Subnet Mask (VLSM)

255 . 255 . 255 . 0
11111111 . 11111111 . 11111111 . 00000000

204.17.5.0/24 → 24 bit network
8 bit host

Adjusment
1 bit → 2 subnet
(2^1)

4 bit → 10 subnet
(2^4) → 16

3 bit → 5 subnet
$2^3 = 8$ artinya 3 tidak terpakai

2 bit → 4 subnet
2^2

Contoh 204.17.5.0/24, buat 8 subnet → 3 bit 24+3 = /27

Network Address	4th Octet of NA	Subnet Mask	First Host	Last Host
204.17.5.0	x.xx.000 00000	255.255.255.224	x.x.x.1	x.x.x.30
204.17.5.32	x.xx.001 00000		x.x.x.33	x.x.x.62
204.17.5.64	x.x.x.010 00000		x.x.x.65	x.x.x.94
204.17.5.96	x.x.x.011 00000		x.x.x.97	x.x.x.126
204.17.5.128	x.x.x.100 00000		x.x.x.129	x.x.x.158
204.17.5.160	x.x.x.101 00000		x.x.x.161	x.x.x.190
204.17.5.192	x.x.x.110 00000		x.x.x.193	x.x.x.222
204.17.5.224	x.x.x.111 00000	255.255.255.224	x.x.x.225	x.x.x.254

x.x.x = 204.17.5

VLSM : cara agar pembagian subnet optimal agar tidak terjadi hal seperti dialokasikannya 30 hosts, yang terpakai hanya 2
↳ Mengassign subnet dari yang terbesar terlebih dahulu

netA : requires a/28 (255.255.255.240) mask to support 14 hosts 4 bit
netB : requires a/27 (255.255.255.224) mask to support 28 hosts 5 bit
netC : requires a/30 (255.255.255.252) mask to support 2 hosts 2 bit
net D* : requires a/28 (255.255.255.240) mask to support 7 hosts 4 bit harusnya 3 bit*, tapi terpakai 1 network
net E : requires a/27 (255.255.255.224) mask to support 28 hosts 5 bit

* a/29 (255.255.255.248) would only allow 6

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Jarkomdat A