

# Subnetting Chart

## FIGURES

1

Subnetting a class C network

2

3

Máscara 255.255.255.0 /24

4

Slash format	/25	/26	/27	/28	/29	/30	N/A	N/A
Mask	128	192	224	240	248	252	254	255
Total Subnets	<b>2</b>	4	8	16	32	64		
Total Hosts	<b>128</b>	64	32	16	8	4		
Usable Hosts	<b>126</b>	62	30	14	6	2		

A Class C address with a /25 mask only borrows one bit as shown in the chart above. However, a Class B address with a /25 mask borrows nine bits.

Example:

Subnetting the class C 192.168.10.0 network with a /27 mask  
(255.225.255.224)

## Subnet Scheme

### FIGURES

1

2

Subnetwork #	Subnetwork ID	Host Range	Broadcast ID
0	192.168.10.0	.1--.30	192.168.10.31
1	192.168.10.32	.33--.62	192.168.10.63
2	192.168.10.64	.65--.94	192.168.10.95
3	192.168.10.96	.97--.126	192.168.10.127
4	192.168.10.128	.129--.158	192.168.10.159
5	192.168.10.160	.161--.190	192.168.10.191
6	192.168.10.192	.193--.222	192.168.10.223
7	192.168.10.224	.225--.254	192.168.10.255

Qual a mascara para a rede 192.168.32.0 que proporciona 254 hosts por subrede?

255.255.0.0  
255.255.255.0  
255.255.254.0  
255.255.248.0

Qual o endereco de broadcast para o endereco Class C of 192.168.32.0 com a mascara de rede de defeito?

192.168.0.0  
192.168.0.255  
192.168.32.0  
192.168.32.254  
192.168.32.255

**Considera a rede classe C 192.136.224.0 netmask 255.255.255.0**

Quantas são as sub-redes e quantos hosts ha em cada sub-rede se a netmask for 255.255.255.128?

Quantas são as sub-redes e quantos hosts ha em cada sub-rede se a netmask for 255.255.255.192?

Quantas são as sub-redes e quantos hosts ha em cada sub-rede se a netmask for 255.255.255.252?

Quantas são as sub-redes e quantos hosts ha em cada sub-rede se a netmask for 255.255.255.240?

Identifica quais as sub-redes que proporcionam o número de hosts à direita

172.16.64.0/18	2 hosts
172.16.16.64/30	60 hosts
172.16.128.0/19	250 hosts
172.16.144.0/25	8000 hosts
172.16.18.0/24	16,000 hosts
172.16.5.128/26	
172.16.10.128/28	

**Considera o IP 192.136.224.36 e a mascara 255.255.255.248**

**Qual é o IP de rede e o IP de broadcast para esta sub-rede?**

**Dado um PC com o IP 172.32.65.13 e uma mascara por defeito para esta classe, qual o endereco de rede a que este PC pertence?**

172.32.65.0

172.32.65.32

172.32.0.0

172.32.32.0

**Uma empresa tem uma licenca para uma rede classe C e precisa de criar cinco subredes, com 20 PCs. Qual a mascara apropriada?**

255.255.255.0

255.255.255.192

255.255.255.224

255.255.255.240

**Qual a mascara que o network administrador deve utilizar na rede 10.10.20.0 para criar uma sub-rede com 1000 hosts?**

255.255.0.0

255.255.248.0

255.255.252.0

255.255.254.0

255.255.255.0

**Que tipo de endereco e' 192.168.17.111/28?**

host address

network address

broadcast address

multicast address



The following subnet masks have been chosen for use with the 192.168.16.0 network:

255.255.255.252

255.255.255.240

255.255.255.192

Which of the following identify the most efficient use for each of these masks? (Choose three.)

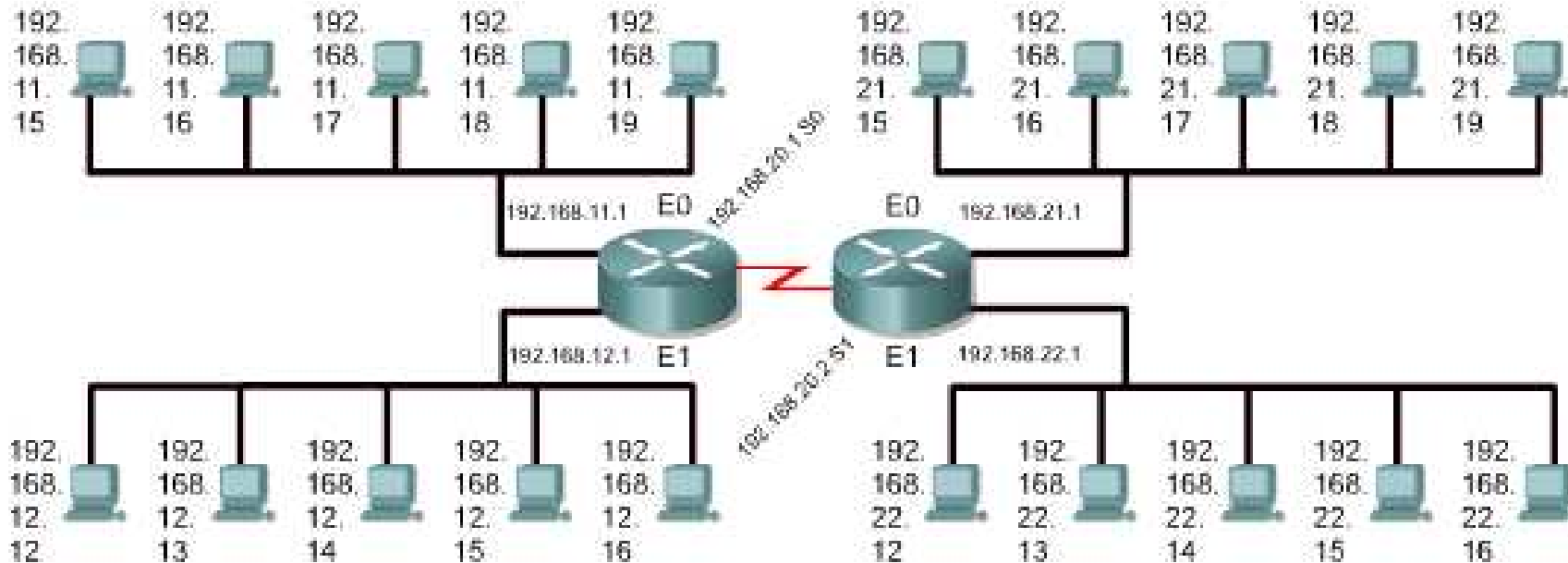
- Use the /30 mask for point-to-point links, such as WAN connections.
- Use the /30 mask for subnetworks of four or more hosts.
- Use the /28 mask for small subnetworks with up to 14 hosts.
- Use the /26 mask for larger subnetworks with up to 62 hosts.
- Use the /25 mask for subnetworks with up to 30 hosts.
- Use the /24 mask for point-to-point links, such as WAN connections.

# Routing Tables

FIGURE

1

Toolbar: Maximize



Routing Table			
Learned	Network Address	Hop	Interface
C	192.168.11.0	0	E0
C	192.168.12.0	0	E1
C	192.168.20.0	0	S0
R	192.168.21.0	1	S0
R	192.168.22.0	1	S0

Routing Table			
Learned	Network Address	Hop	Interface
C	192.168.21.0	0	E0
C	192.168.22.0	0	E1
C	192.168.20.0	0	S1
R	192.168.11.0	1	S1
R	192.168.12.0	1	S1

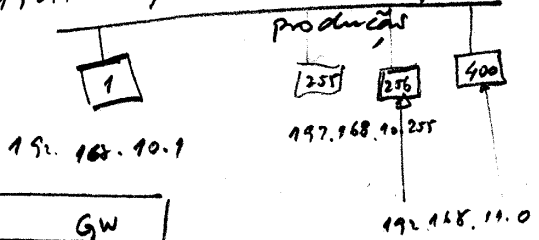
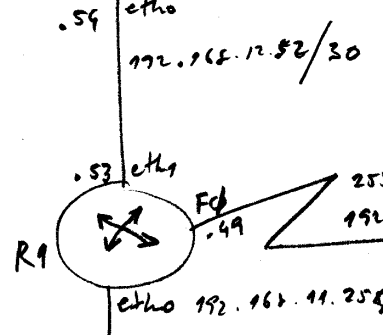
- Comptables 230
- administrative 10
- production ~~400~~
- 400
- 2 routers
- 7 switches

- 2 classes C
  - 192.168.10.0
  - 192.168.11.0
  - 192.168.12.0

- broadcast mask
  - 192.168.11.255
  - 255.255.255.0
  - 192.168.10/23



ADSL IP FIXO 45.93.27.41  
 Router ADSL



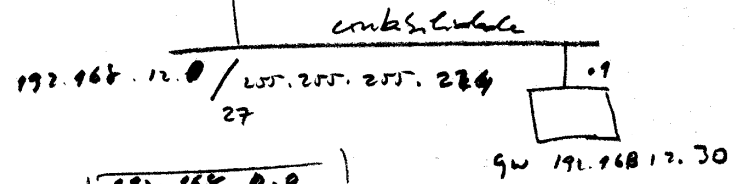
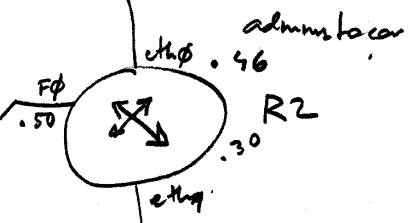
R1	GW
192.168.10.0/23	(eth0)
192.168.12.52/30	(eth1)
192.168.12.48/30	(f0)
192.168.12.32/24	192.168.12.50
192.168.12.0/27	192.168.12.50
0.0.0.0/0.0.0.0	192.168.12.54

400  
255  
192.168.11.144

256  
32  
277

R2	GW
192.168.12.32/24	-
192.168.12.0/27	-
192.168.12.48/30	-
192.168.10.0/23	192.168.12.49
192.168.12.52/30	192.168.12.49
default	192.168.12.49

255.255.255.252  
 192.168.12.32/28



192.168.12.0	32	192.168.12.32	32
192.168.12.27	27	192.168.12.67	27
192.168.12.32	32	192.168.12.48	48
192.168.12.63	63	192.168.12.63	63
LIVRE 26			
LIVRE 27			
LIVRE			