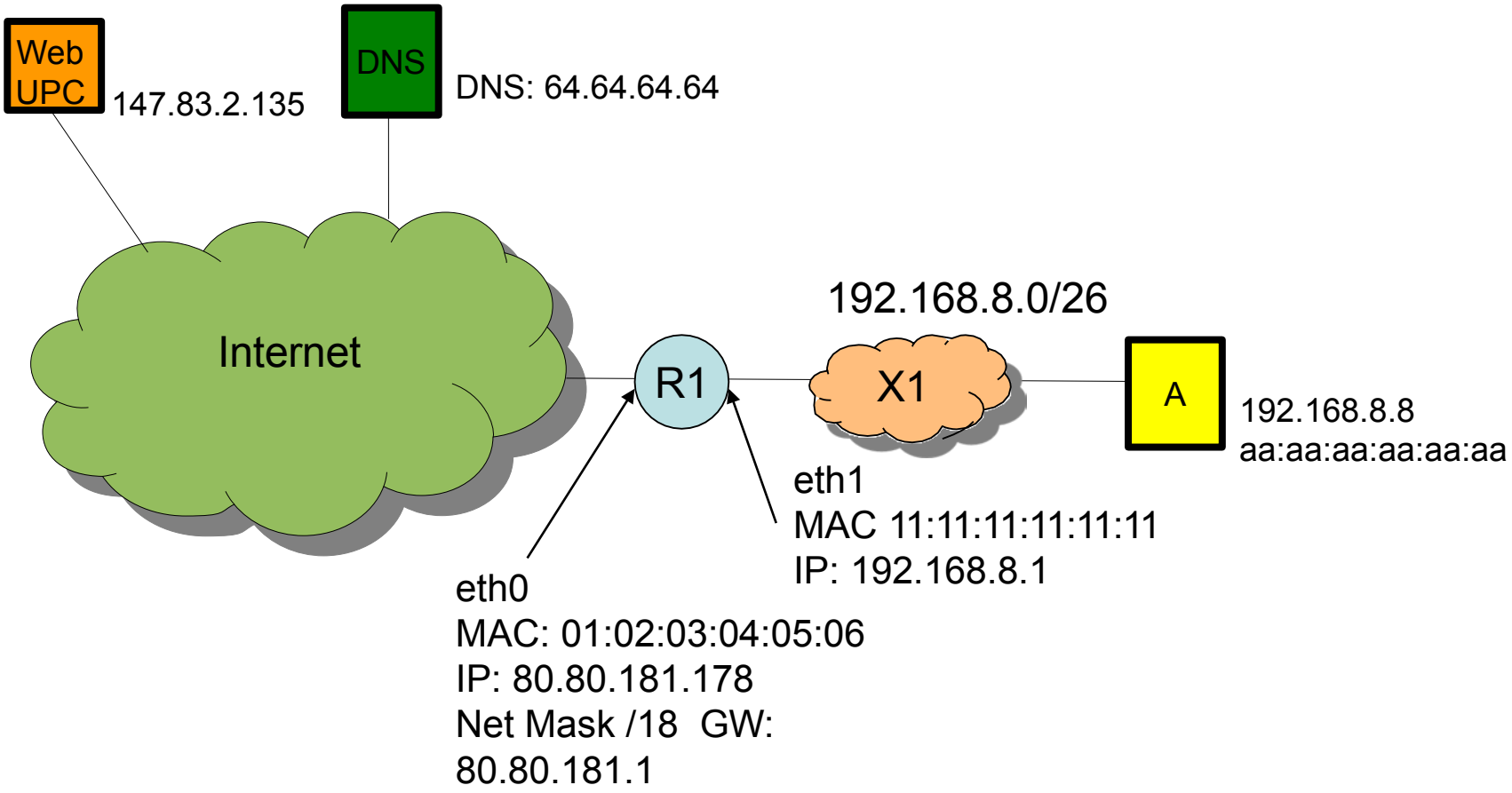
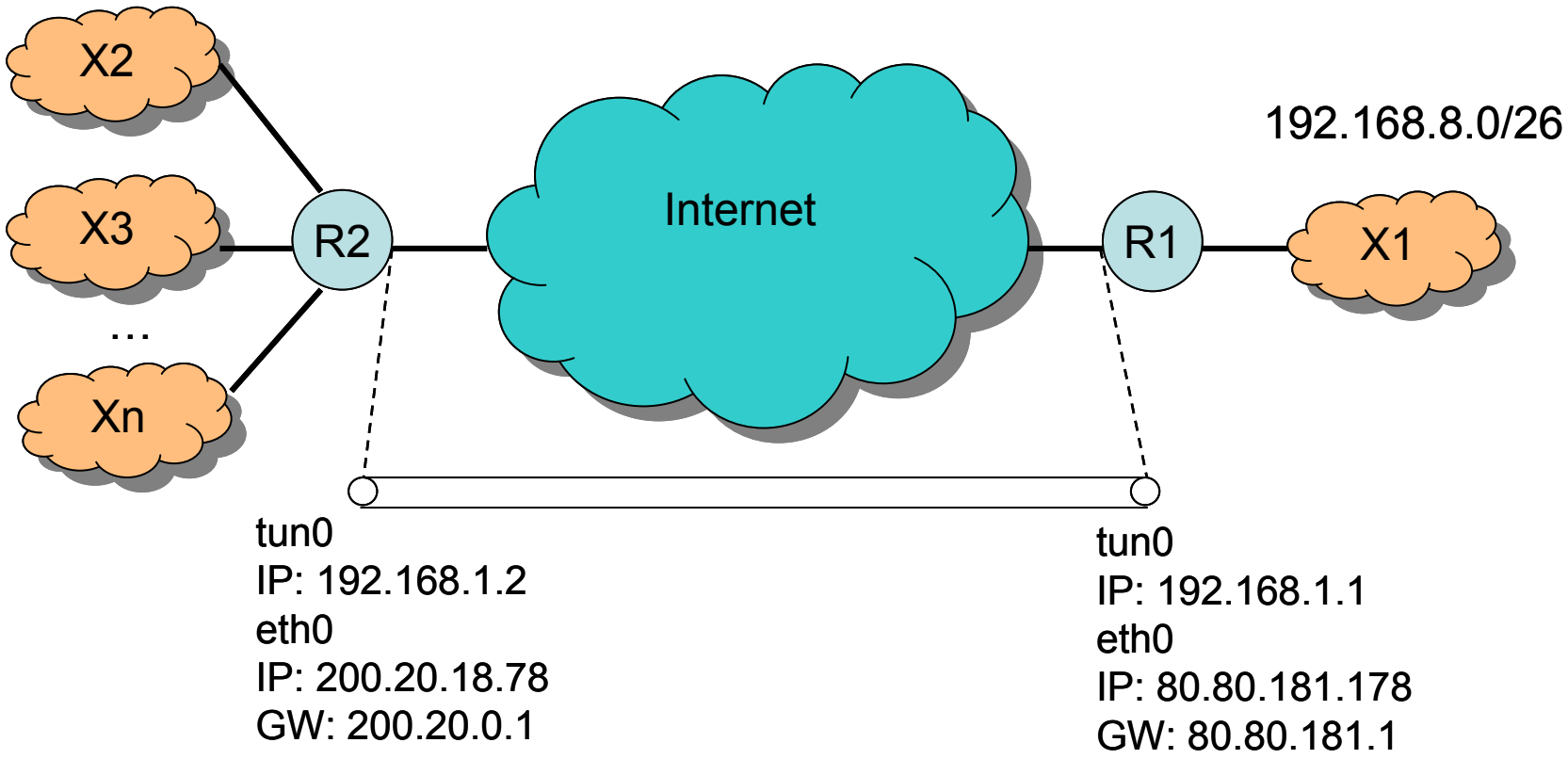
Unit 2: Networks (IP)

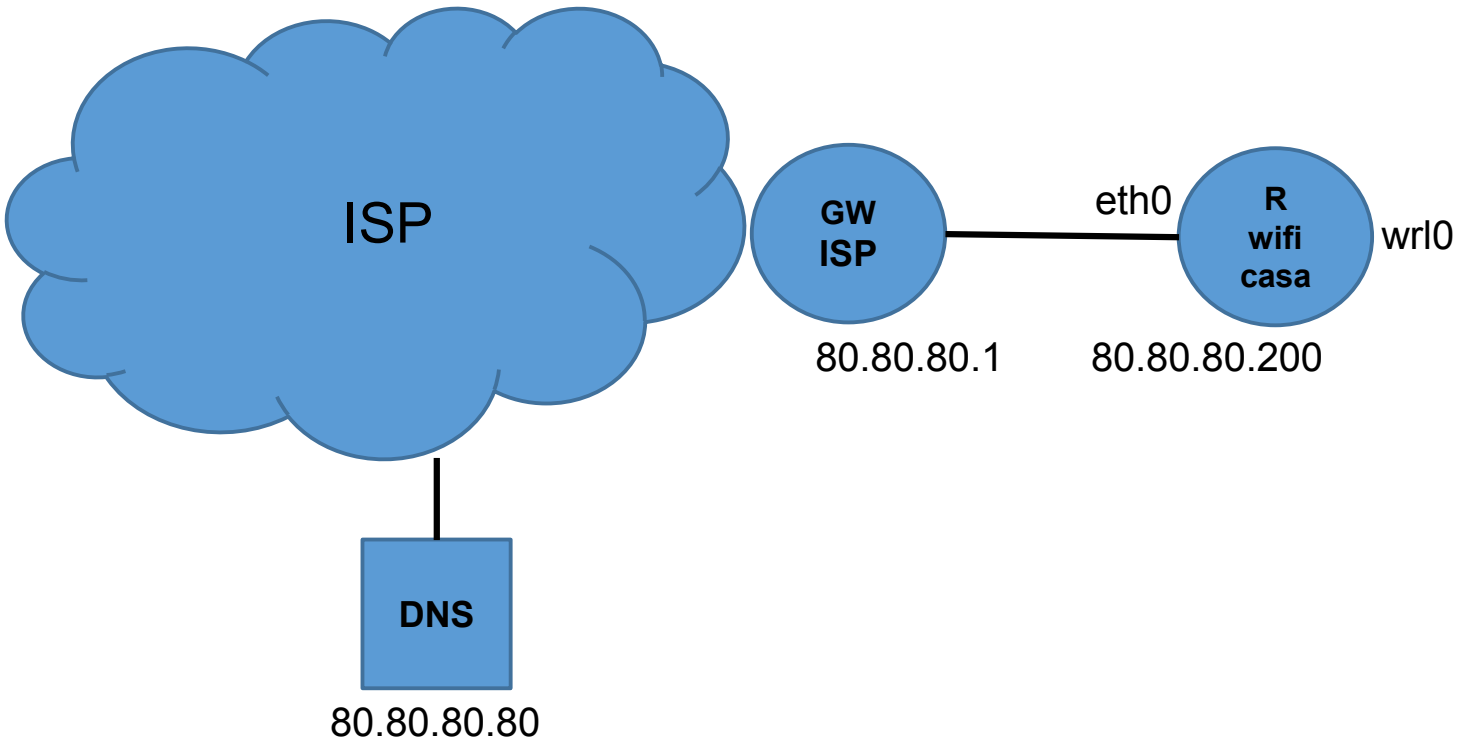
Sources: L. Cerdà, J. Rexford, ISOC, wikipedia, etc.

P1

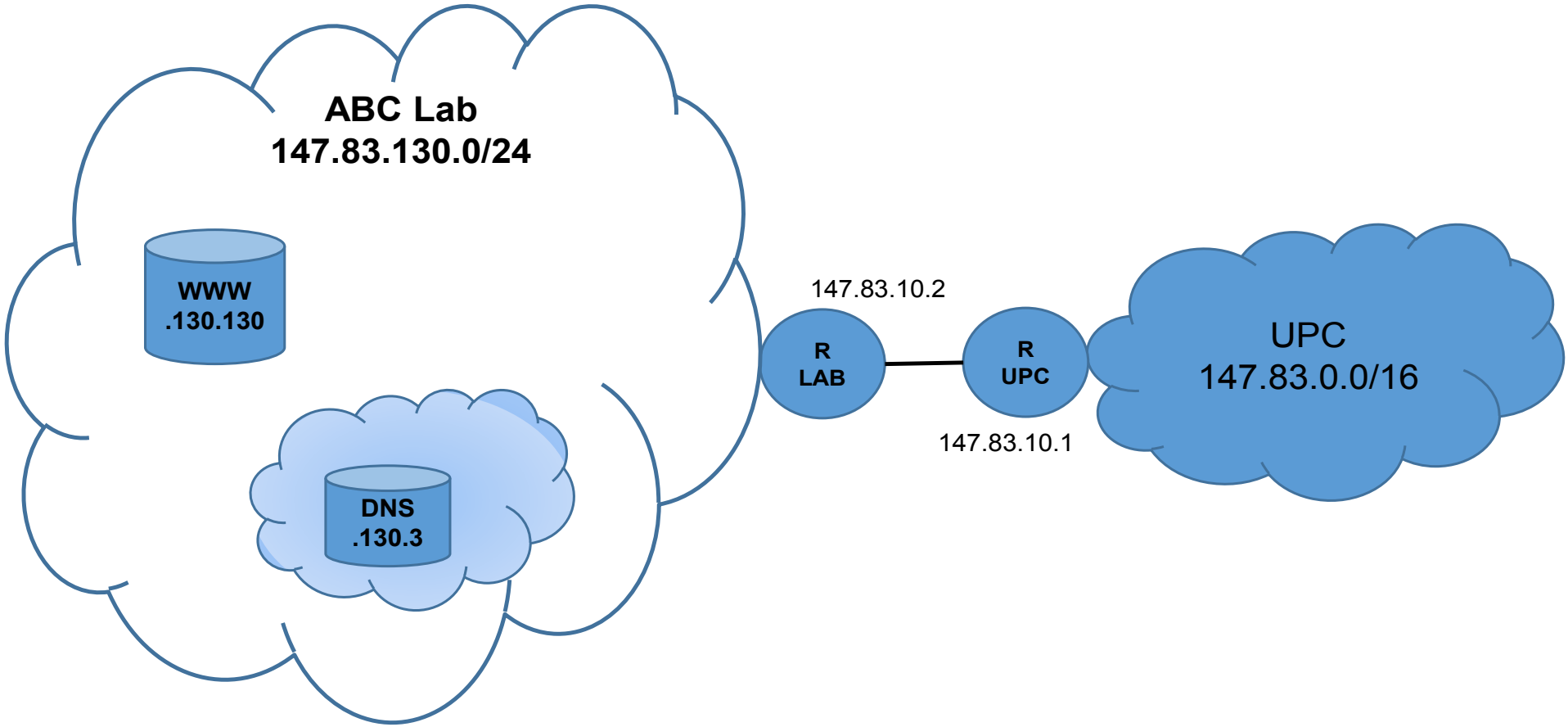

Web
UPC
147.83.2.135
DNS
DNS: 64.64.64.64
Internet
R1
192.168.8.0/26
X1
A
192.168.8.8
aa:aa:aa:aa:aa:aa
eth1
MAC 11:11:11:11:11:11
IP: 192.168.8.1
eth0
MAC: 01:02:03:04:05:06
IP: 80.80.181.178
Net Mask /18 GW:
80.80.181.1


X2
X3
...
Xn
R2
Internet
R1
X1
192.168.8.0/26
tun0
IP: 192.168.1.2
eth0
IP: 200.20.18.78
GW: 200.20.0.1
tun0
IP: 192.168.1.1
eth0
IP: 80.80.181.178
GW: 80.80.181.1

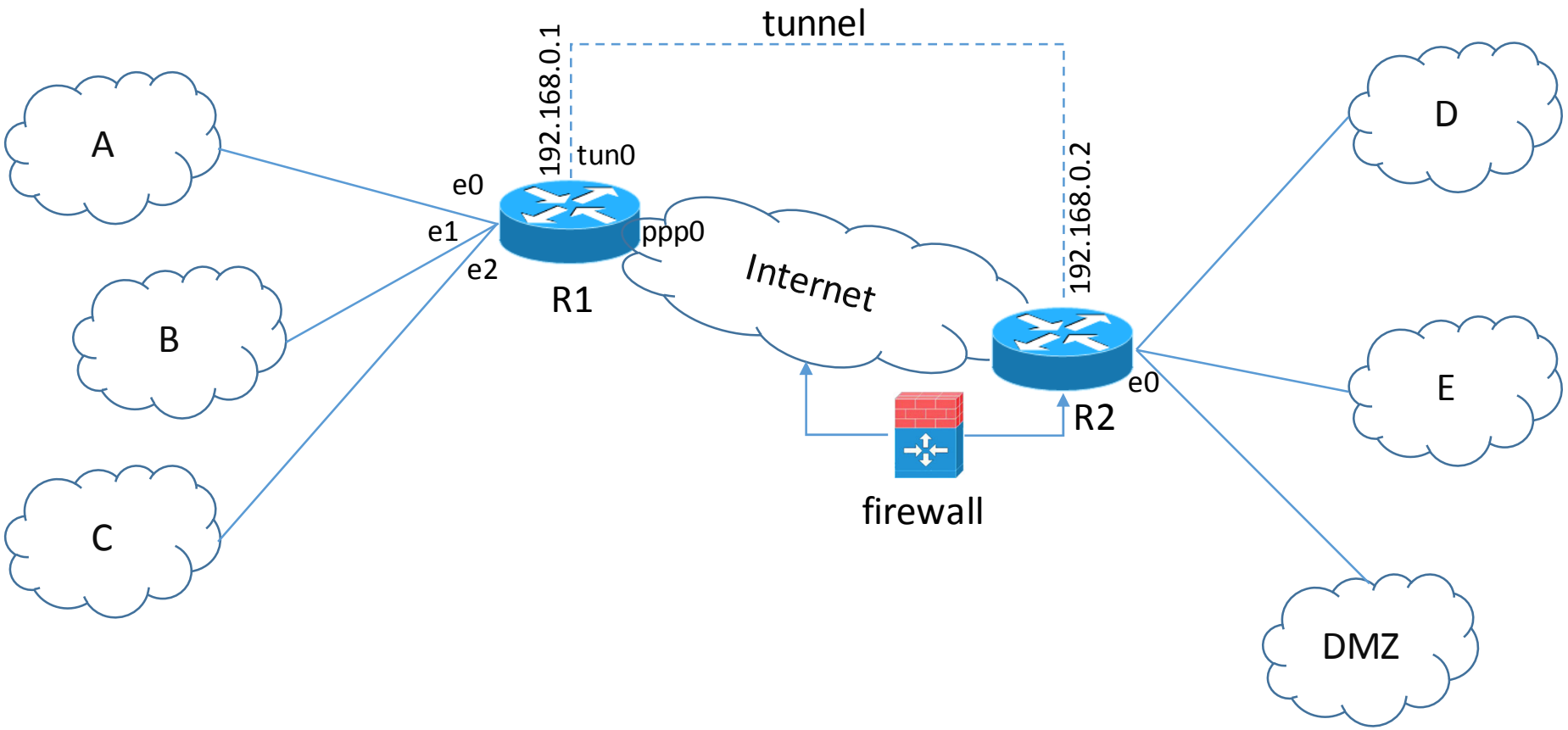
P2



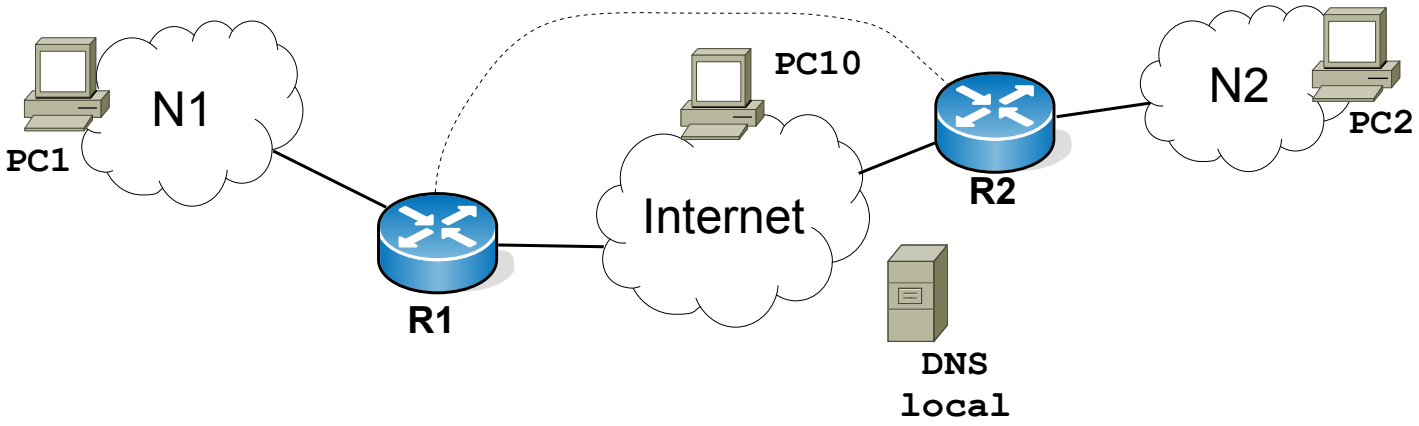
DHCP configuration:
IP: 192.168.7.7/24
GW: 192.168.7.1
DNS: 80.80.80.80
Name: PC


ABC Lab
147.83.130.0/24
WWW
.130.130
DNS
.130.3
147.83.10.2
R
LAB
R
UPC
147.83.10.1
UPC
147.83.0.0/16

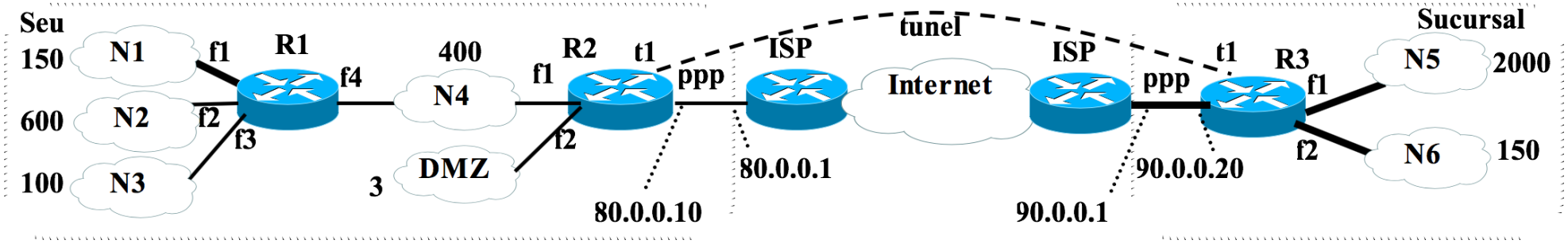
P3


tunnel
192.168.0.1
tun0
192.168.0.2
A
B
C
D
E
DMZ
e0
e1
e2
R1
ppp0
Internet
e0
R2
firewall

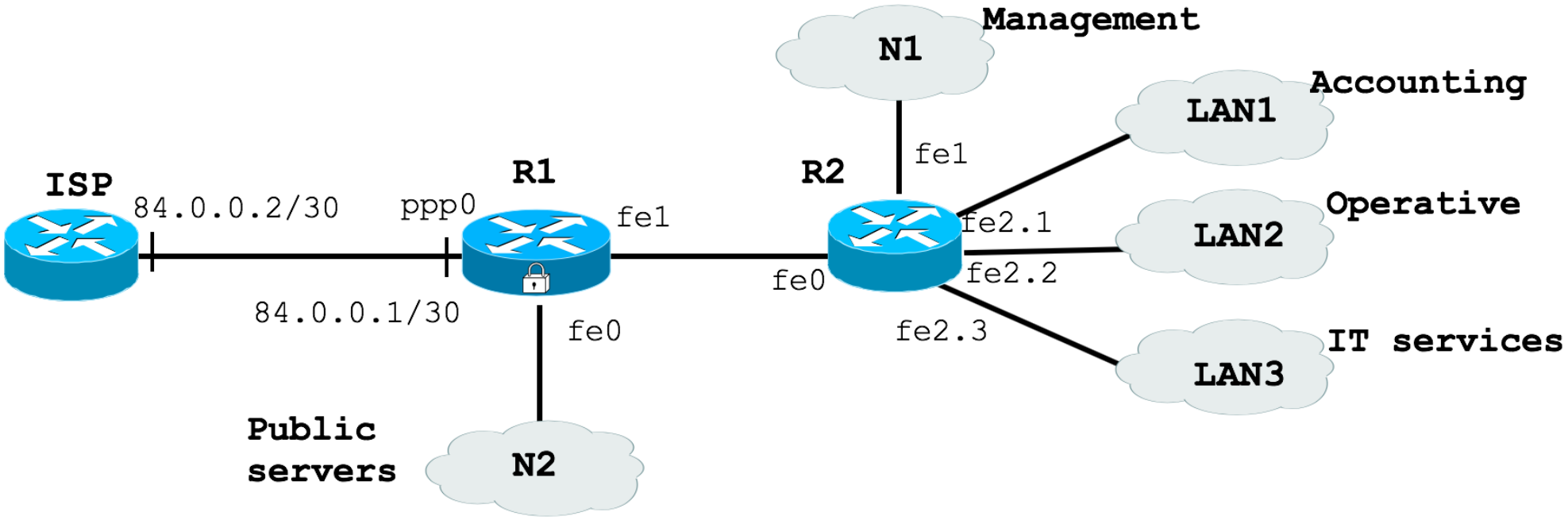
P4

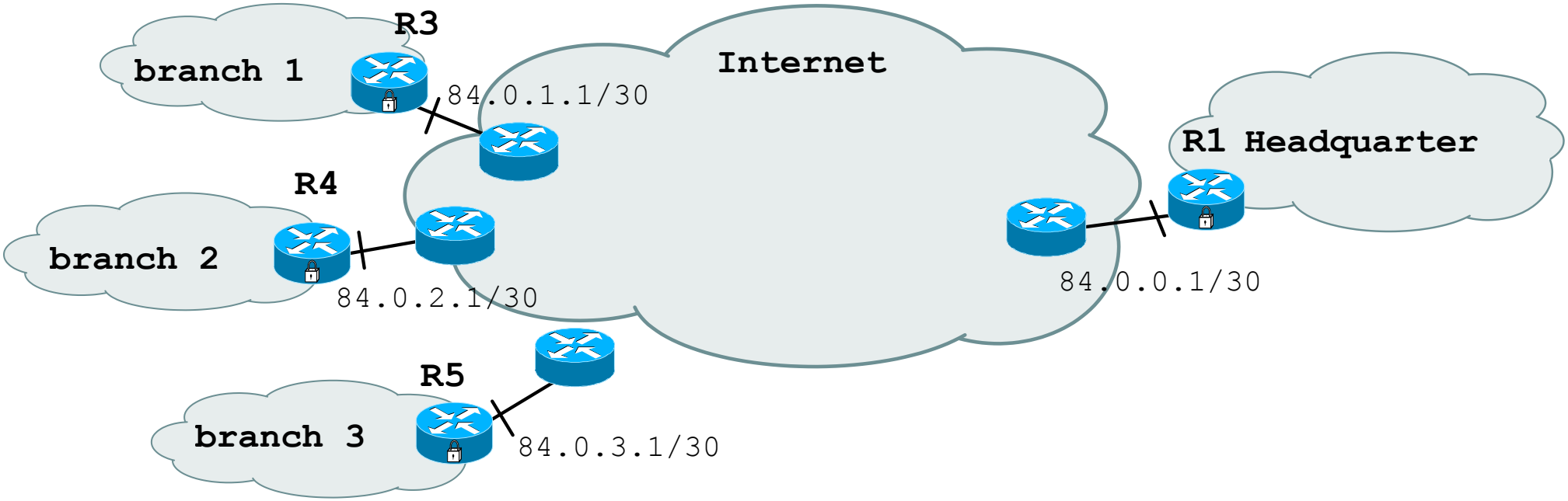


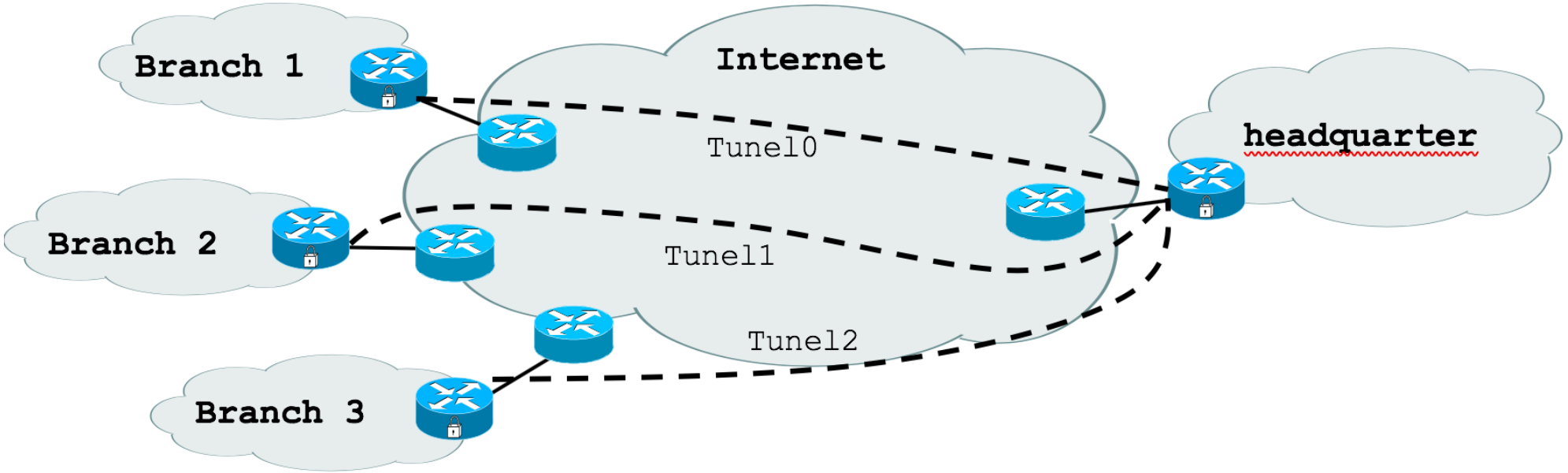
P4'


Seu
150
N1
600
N2
100
N3
f1
f2
f3
R1
f4
400
N4
3
DMZ
f1
f2
R2
t1
ppp
80.0.0.10
ISP
80.0.0.1
tunel
Internet
ISP
90.0.0.1
ppp
90.0.0.20
t1
R3
f1
f2
Sucursal
N5
2000
N6
150

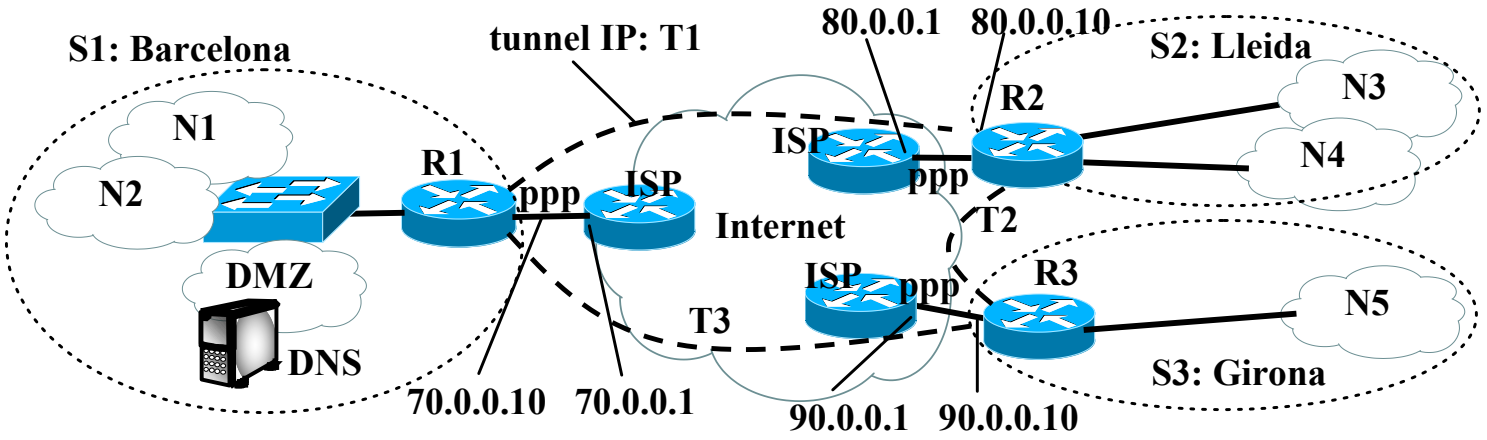
P5


Management
N1
Accounting
LAN1
fe1
ISP
84.0.0.2/30
ppp0
R1
fe1
R2
fe2.1
Operative
LAN2
fe0
fe2.2
84.0.0.1/30
fe0
fe2.3
IT services
LAN3
Public
servers
N2


R3
branch 1
Internet
84.0.1.1/30
R1 Headquarter
R4
branch 2
84.0.2.1/30
84.0.0.1/30
R5
branch 3
84.0.3.1/30


Branch 1
Internet
Tunel0
headquarter
Branch 2
Tunel1
Tunel2
Branch 3

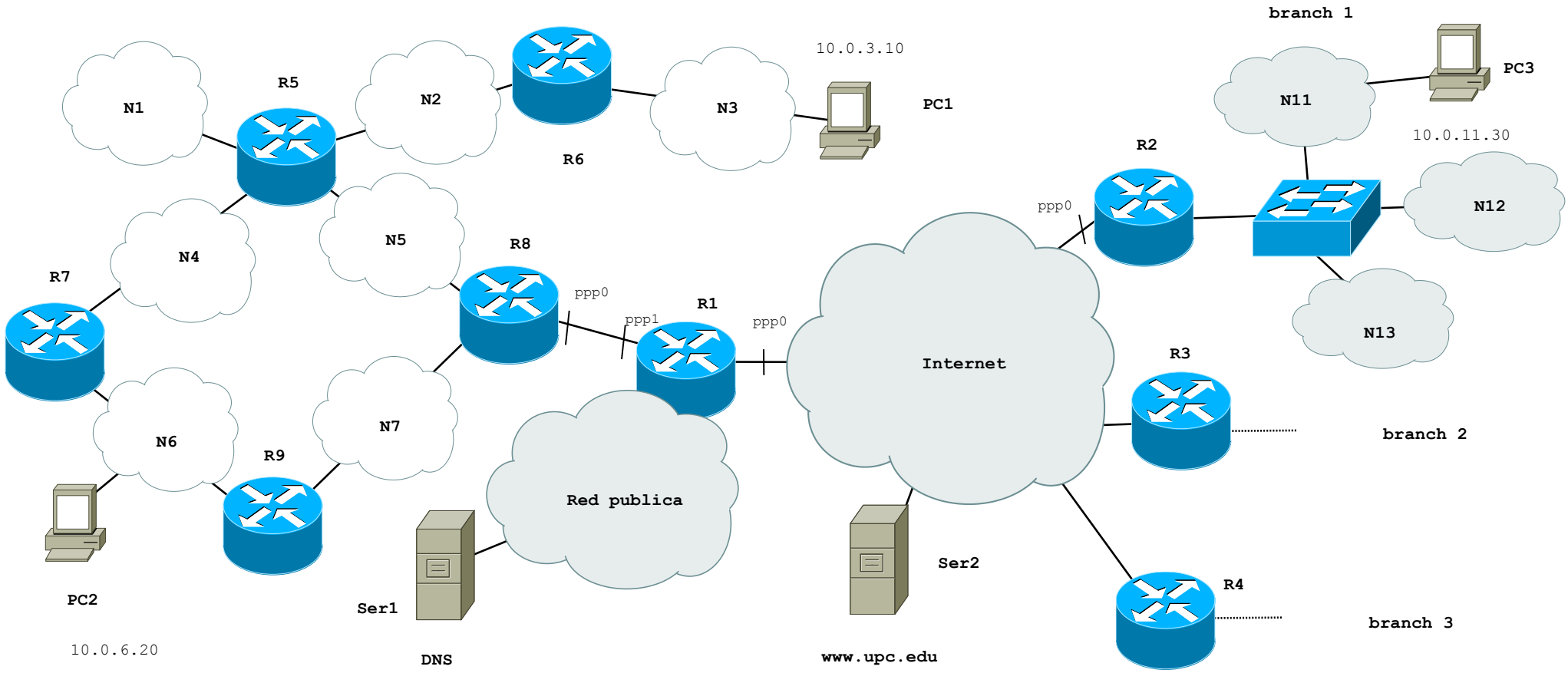
P 6



IP public addresses:
IP-R1: 70.0.0.10, ISP: 70.0.0.1
IP-R2: 80.0.0.10, ISP: 80.0.0.1
IP-R3: 90.0.0.10, ISP: 90.0.0.1
200.0.0.0/27

Number of stations:
N1: 750
N2: 150
N3: 100
N4: 350
N5: 100
DMZ: 4 servers

P7


branch 1
PC3
N11
10.0.11.30
N12
N13
R2
ppp0
10.0.3.10
PC1
N1
R5
N2
R6
N3
N4
N5
R8
R7
ppp0
ppp1
R1
ppp0
Internet
R3
branch 2
N6
N7
R9
Red publica
Ser2
R4
branch 3
PC2
10.0.6.20
Ser1
DNS
www.upc.edu