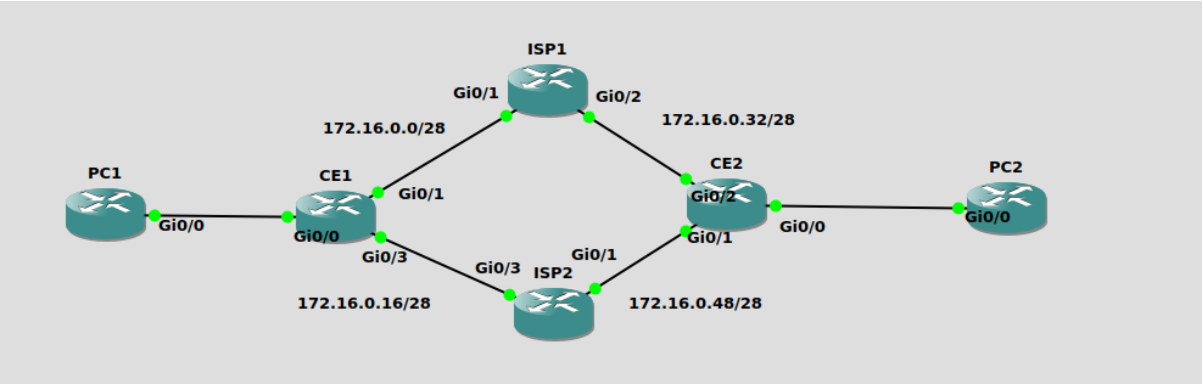
Labák 1 - route map + redistribucie



1. Ubezpečte sa, že sú zariadenia čisté, prípadne ich vyčistite. Nakonfigurujte zariadeniam hostname a zapojte ich podľa zobrazenej topológie.

```
Router# hostname <>
```

2. Nakonfigurujte zariadeniam IP adresy, clock rate na sériových linkách a zapnite rozhrania.
   • Lokálne siete (smerom k PC) budú mať adresy X0.X0.X0.0 /24, kde X je číslo smerovača.
   • Pre siete medzi CE a ISP použite ľubovoľné /28 podsiete z rozsahu 172.16.0.0 /24.

```
PC1(config-if)#ip add 10.10.10.2 255.255.255.0
PC2(config-if)#ip add 20.20.20.2 255.255.255.0

CE1(config)#do sh ip int br
Interface                  IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0         10.10.10.1      YES manual up                    up
GigabitEthernet0/1         172.16.0.1      YES manual up                    up
GigabitEthernet0/2         unassigned      YES unset  administratively down down
GigabitEthernet0/3         172.16.0.17     YES manual up                    up

CE2(config)#do sh ip int br
Interface                  IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0         20.20.20.1      YES manual up                    up
GigabitEthernet0/1         172.16.0.50     YES manual up                    up
GigabitEthernet0/2         172.16.0.34     YES manual up                    up
GigabitEthernet0/3         unassigned      YES unset  administratively down down

ISP1(config)#do sh ip int br
Interface                  IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0         unassigned      YES unset  down                  down
GigabitEthernet0/1         172.16.0.2      YES manual up                    up
GigabitEthernet0/2         172.16.0.33     YES manual up                    up
GigabitEthernet0/3         unassigned      YES unset  administratively down down

ISP2(config)#do sh ip int br
Interface                  IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0         unassigned      YES unset  administratively down down
GigabitEthernet0/1         172.16.0.49     YES manual up                    up
GigabitEthernet0/2         unassigned      YES unset  administratively down down
GigabitEthernet0/3         172.16.0.18     YES manual up                    up
```

3. Na smerovačoch PC nakonfigurujte predvolenú statickú cestu cez IP adresu príslušného CE.

```
PC1(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.1

PC2(config)#ip route 0.0.0.0 0.0.0.0 20.20.20.1
```

4. Nakonfigurujte v sieti dynamické smerovanie tak, aby sa ISP dozvedeli lokálne siete smerovačov CE. Medzi CE1 a ISP1 použite OSPF, medzi CE1 a ISP2 použite EIGRP, medzi CE2 a obomi ISP použite RIPv2. Overte v smerovacích tabuľkách, či ISP poznajú všetky siete a či CE smerovače nepoznajú lokálne siete na opačnej strane.

```
ISP1(config)#router rip
ISP1(config-router)#version 2
ISP1(config-router)#network 172.16.0.32

ISP1(config)#router ospf 1
ISP1(config-router)#network 172.16.0.0 0.0.0.15 area 0

ISP2(config)#router rip
ISP2(config-router)#version 2
ISP2(config-router)#network 172.16.0.48

ISP2(config)#router eigrp 100
ISP2(config-router)#no auto-summary
ISP2(config-router)#network 172.16.0.16 0.0.0.15

CE1(config)#router ospf 1
CE1(config-router)#network 172.16.0.0 0.0.0.15 area 0
CE1(config-router)#exit
CE1(config)#router eigrp 100
CE1(config-router)#no auto-summary
CE1(config-router)#network 172.16.0.16 0.0.0.255

CE2(config)#router rip
CE2(config-router)#version 2
CE2(config-router)#no auto-summary
CE2(config-router)#network 172.16.0.32
CE2(config-router)#network 172.16.0.48
```

5. Pomocou prefix-listov na ISP aj CE nastavte, aby sa cez dynamické smerovacie protokoly nedistribuovali (teda použite distribute-list) siete sériových liniek.

```
ISP1(config)#ip prefix-list LIST deny 172.16.0.0/24 ge 28 le 28
ISP1(config)#ip prefix-list LIST permit 0.0.0.0/0 le 32
```

```
ISP1(config)#router rip
ISP1(config-router)#distribute-list prefix LIST out
ISP1(config)#router ospf 1
ISP1(config-router)#distribute-list prefix LIST out
```

```
CE1(config)#ip prefix-list LIST deny 172.16.0.0/24 ge 28 le 28
CE1(config)#ip prefix-list LIST permit 0.0.0.0/0 le 32
CE1(config)#router ospf 1
CE1(config-router)#distribute-list prefix LIST out
CE1(config)#router eigrp 1
CE1(config-router)#distribute-list prefix LIST out

ISP2(config)#ip prefix-list LIST deny 176.16.0.0/24 ge 28 le 28
ISP2(config)#ip prefix-list LIST permit 0.0.0.0/0 le 32
ISP2(config)#router rip
```

```
ISP2(config-router)#distribute-list prefix LIST out
ISP2(config)#router eigrp 1
ISP2(config-router)#distribute-list prefix LIST out

CE2(config)#ip prefix-list LIST deny 172.16.0.0/24 ge 28 le 28
CE2(config)#ip prefix-list LIST permit 0.0.0.0/0 le 32
CE2(config)#router rip
CE2(config-router)#distribute-list prefix LIST out
CE2(config)#router eigrp 1
CE2(config-router)#distribute-list prefix LIST out
```