

Nastavni predmet: RAČUNALNE MREŽE

Vježba: LV8 - Konfiguracija protokola OSPF

Cilj vježbe: Naučiti i izvesti usmjernički protokol OSPF

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PRIPREMA ZA VJEŽBU

1. Koje su karakteristike protokola OSPF?

OSPF se često koristi u velikim poslovnim mrežama. Mreža se dijeli na OSPF područja. Usmjernici dijele istu bazu podataka stanja veze. Za metriku koristi brzinu putovanja podataka.

2. Što je Wildcard maska?

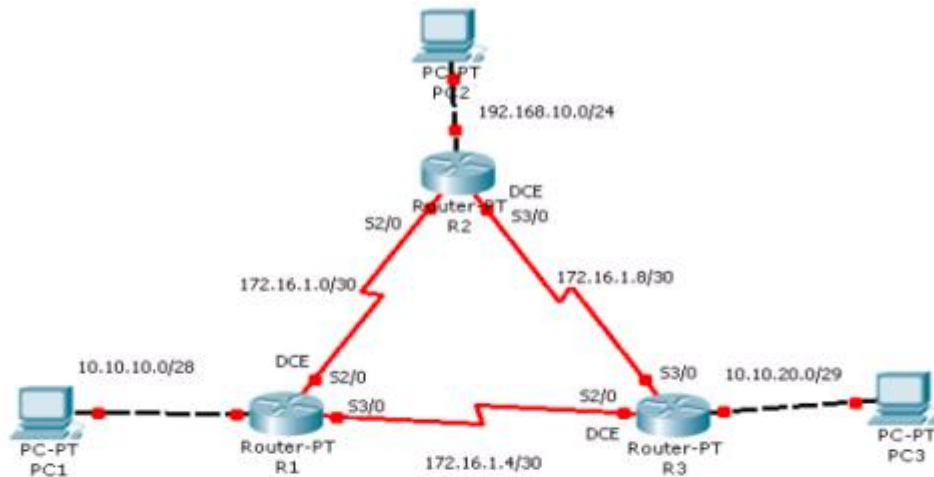
Wildcard maska pobliže definira mrežu o kojoj se radi i predstavlja inverziju subnet maske. Primjer

Mreža 172.16.1.4/28 ima subnet masku: 255.255.255.240 ili

11111111.11111111.11111111.11110000 Invertirana subnet maska je:

00000000.00000000.00000000.00001111 ili u dekadskom zapisu: 0.0.0.15

IZVOĐENJE VJEŽBE



Tablica adresa

Ruter	Adresa Fastethernet sučelja	Mrežna maska	Oznaka ser. sučelja	Tip ser. sučelja	Adresa serijskog sučelja	Mrežna maska	Default gateway
R1	10.10.10.1	255.255.255.240	S2/0	DCE	172.16.1.1	255.255.255.252	
			S3/0	DTE	172.16.1.6	255.255.255.252	
R2	192.168.10.1	255.255.255.0	S2/0	DTE	172.16.1.2	255.255.255.252	
			S3/0	DCE	172.16.1.9	255.255.255.252	
R3	10.10.20.1	255.255.255.248	S2/0	DCE	172.16.1.5	255.255.255.252	
			S3/0	DTE	172.16.1.10	255.255.255.252	
PC1	10.10.10.10	255.255.255.240					10.10.10.1
PC2	192.168.10.10	255.255.255.0					192.168.10.1
PC3	10.10.20.10	255.255.255.248					10.10.20.1

1. U PT-u spoji uređaje prema zadanoj topologiji i izvrši temeljnu konfiguraciju usmjernika, koristeći tab CLI u Packet Traceru
2. Konfiguriraj sučelja na usmjernicima R1, R2 i R3, koristeći priloženu tablicu adresa i zabilješke s prethodnih vježbi, pri čemu voditi računa da su IP adrese izmijenjene.
3. Pinganjem provjeri da li postoji povezanost između PC1 i PC2. Obrazloži zašto je tako.

```

C:\>ping 192.168.10.10

Pinging 192.168.10.10 with 32 bytes of data:

Reply from 10.10.10.1: Destination host unreachable.
Reply from 10.10.10.1: Destination host unreachable.
Reply from 10.10.10.1: Destination host unreachable.
Reply from 10.10.10.1: Destination host unreachable.

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>

```

Mreže koje su izravno spojene s usmjernikom nisu konfigurirane po OSPF protokolu. Trebamo konfigurirati IP adresu, inverznu masku i područje.

4.

```

C:\>ping 10.10.10.1

Pinging 10.10.10.1 with 32 bytes of data:

Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255
Reply from 10.10.10.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.10.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.16.1.9

Pinging 172.16.1.9 with 32 bytes of data:

Reply from 10.10.10.1: Destination host unreachable.
Reply from 10.10.10.1: Destination host unreachable.
Request timed out.
Reply from 10.10.10.1: Destination host unreachable.

Ping statistics for 172.16.1.9:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>

```

5.

C 10.10.10.0 is directly connected, FastEthernet0/0

C 172.16.1.0 is directly connected, Serial2/0

C 172.16.1.4 is directly connected, Serial3/0

6.

```
R1>enable
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#network 10.10.10.0 0.0.0.15 area 0
R1(config-router)#network 172.16.1.0 0.0.0.3 area 0
R1(config-router)#network 172.16.1.4 0.0.0.3 area 0
R1(config-router)#
```

7.

```
R1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route
```

Gateway of last resort is not set

```
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    10.10.10.0/28 is directly connected, FastEthernet0/0
O    10.10.20.0/29 [110/65] via 172.16.1.5, 00:15:37, Serial3/0
172.16.0.0/30 is subnetted, 3 subnets
C    172.16.1.0 is directly connected, Serial2/0
C    172.16.1.4 is directly connected, Serial3/0
O    172.16.1.8 [110/128] via 172.16.1.5, 00:03:05, Serial3/0
```

```
R1#
```