



Лабораториска вежба бр. 8	OSPF		
Име и презиме	Индекс	Група	Датум
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01. Порака при конфигурирање на OSPFv3 процес:

```
*Mar 1 00:30:31.931: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.30.3 on Serial0/0 from LOADING to FULL, Loading Done
```

ID – то на секоја адреса е од тип broadcast.

Рутирачка табела на R2:

```
R2#show ip route
Codes: C - connected, S - static, 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
       i - IS-IS, su - IS-IS summary, 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

192.168.30.0/30 is subnetted, 5 subnets
O IA 192.168.30.16 [110/129] via 192.168.30.10, 00:00:24, Serial0/1
C     192.168.30.4 is directly connected, Serial0/0
O     192.168.30.0 [110/65] via 192.168.30.5, 00:00:24, Serial0/0
O IA 192.168.30.12 [110/128] via 192.168.30.10, 00:00:24, Serial0/1
C     192.168.30.8 is directly connected, Serial0/1
```

02. Статичките патеки не се видливи.

03. Во рутирачката табела имаме 5 патеки. Пред патеките додадени од OSPFv3 протоколот стојат буквите **O IA** и **O** и означуваат **OSPF inter area**.

OSPF запис од рутирачката табела:

**O IA 192.168.30.12 [110/128] via 192.168.30.10, 00:02:29, Serial0/1**

04. Информациите за мрежата од Fast Ethernet интерфејсот лево од R1 ги добиваме од локалната област area 10. Мрежата можеме да ја пристапиме преку serial 0/0 (лево) интерфејсот и адресата за следниот скок ни е 192.168.30.5.

```
R2#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.30.3	0	FULL/ -	00:00:31	192.168.30.10	Serial0/1
192.168.30.1	0	FULL/ -	00:00:39	192.168.30.5	Serial0/0



05. За овој рутер има наведено 2 ip ospf соседи.

Neighbor ID: 192.168.30.3 и 192.168.30.1

06. IP протоколи:

```
R2#show ip protocols
Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 192.168.30.2
  It is an area border router
  Number of areas in this router is 2. 2 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    Routing on Interfaces Configured Explicitly (Area 0):
      Serial0/1
    Routing on Interfaces Configured Explicitly (Area 10):
      Serial0/0
  Reference bandwidth unit is 100 mbps
  Routing Information Sources:
    Gateway         Distance      Last Update
    192.168.30.3      110          00:13:47
    192.168.30.1      110          00:13:47
  Distance: (default is 110)
```

07. По поврзување на хостот 3 со рутерот 2 и поставување на ethernet интерфејсот со IP address 192.168.30.25/30, рутирачката на рутерот 2 изгледа вака:

```
R2#show ip route
Codes: C - connected, S - static, 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
       i - IS-IS, su - IS-IS summary, 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

    192.168.30.0/30 is subnetted, 6 subnets
O IA   192.168.30.16 [110/129] via 192.168.30.10, 00:02:19, Serial0/1
C       192.168.30.24 is directly connected, FastEthernet1/0
C       192.168.30.4 is directly connected, Serial0/0
O       192.168.30.0 [110/65] via 192.168.30.5, 00:44:30, Serial0/0
O IA   192.168.30.12 [110/128] via 192.168.30.10, 00:02:19, Serial0/1
C       192.168.30.8 is directly connected, Serial0/1
```

C 192.168.30.24 is directly connected, FastEthernet1/0

Хостот е директно поврзан до рутерот.



08.

```
R3#debug ip ospf events
OSPF events debugging is on
R3#
*Mar 1 00:56:02.723: OSPF: Send hello to 224.0.0.5 area 0 on Serial0/0 from 192.168.30.10
*Mar 1 00:56:02.727: OSPF: Send hello to 224.0.0.5 area 20 on Serial0/1 from 192.168.30.13
*Mar 1 00:56:02.759: OSPF: Rcv hello from 192.168.30.2 area 0 from Serial0/0 192.168.30.9
*Mar 1 00:56:02.759: OSPF: End of hello processing
*Mar 1 00:56:02.983: OSPF: Rcv hello from 192.168.30.4 area 20 from Serial0/1 192.168.30.14
*Mar 1 00:56:02.983: OSPF: End of hello processing
R3#
R3#
*Mar 1 00:56:12.723: OSPF: Send hello to 224.0.0.5 area 0 on Serial0/0 from 192.168.30.10
*Mar 1 00:56:12.727: OSPF: Send hello to 224.0.0.5 area 20 on Serial0/1 from 192.168.30.13
*Mar 1 00:56:12.731: OSPF: Rcv hello from 192.168.30.2 area 0 from Serial0/0 192.168.30.9
*Mar 1 00:56:12.731: OSPF: End of hello processing
*Mar 1 00:56:12.999: OSPF: Rcv hello from 192.168.30.4 area 20 from Serial0/1 192.168.30.14
*Mar 1 00:56:12.999: OSPF: End of hello processing
R3#
R3#
*Mar 1 00:56:22.723: OSPF: Send hello to 224.0.0.5 area 0 on Serial0/0 from 192.168.30.10
*Mar 1 00:56:22.727: OSPF: Send hello to 224.0.0.5 area 20 on Serial0/1 from 192.168.30.13
*Mar 1 00:56:22.731: OSPF: Rcv hello from 192.168.30.2 area 0 from Serial0/0 192.168.30.9
*Mar 1 00:56:22.731: OSPF: End of hello processing
*Mar 1 00:56:22.999: OSPF: Rcv hello from 192.168.30.4 area 20 from Serial0/1 192.168.30.14
*Mar 1 00:56:22.999: OSPF: End of hello processing
R3#
R3#
*Mar 1 00:56:32.723: OSPF: Send hello to 224.0.0.5 area 0 on Serial0/0 from 192.168.30.10
*Mar 1 00:56:32.727: OSPF: Send hello to 224.0.0.5 area 20 on Serial0/1 from 192.168.30.13
*Mar 1 00:56:32.747: OSPF: Rcv hello from 192.168.30.2 area 0 from Serial0/0 192.168.30.9
*Mar 1 00:56:32.747: OSPF: End of hello processing
*Mar 1 00:56:32.975: OSPF: Rcv hello from 192.168.30.4 area 20 from Serial0/1 192.168.30.14
*Mar 1 00:56:32.975: OSPF: End of hello processing
```

Добива порака од сите рутери.

Пинг од хост 1 до хост 2:

```
PC1> ping 192.168.30.18
84 bytes from 192.168.30.18 icmp_seq=1 ttl=60 time=120.253 ms
84 bytes from 192.168.30.18 icmp_seq=2 ttl=60 time=165.050 ms
84 bytes from 192.168.30.18 icmp_seq=3 ttl=60 time=120.228 ms
84 bytes from 192.168.30.18 icmp_seq=4 ttl=60 time=151.418 ms
84 bytes from 192.168.30.18 icmp_seq=5 ttl=60 time=120.655 ms
```

Пинг од хост 2 до хост 1:

```
PC2> ping 192.168.30.2
84 bytes from 192.168.30.2 icmp_seq=1 ttl=60 time=151.728 ms
84 bytes from 192.168.30.2 icmp_seq=2 ttl=60 time=121.615 ms
84 bytes from 192.168.30.2 icmp_seq=3 ttl=60 time=119.918 ms
84 bytes from 192.168.30.2 icmp_seq=4 ttl=60 time=151.670 ms
84 bytes from 192.168.30.2 icmp_seq=5 ttl=60 time=151.087 ms
```