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### 3. CALCULAR LA MÉTRICA DESDE R1 A LA LAN DE R6 50.0.0.0/24

#### Paso 1: Identificar los caminos

C1: R1 - R2 - R5 - R6 - LAN R6

C2: R1 - R2 - R5 - R7 - R6 - LAN R6

#### Paso 2: Calcular la métrica para cada camino

C1:  $(10^8 / 1.024.000) + 1 + 1562 + 1 = 97 + 1 + 1562 + 1 = 1661$

C2:  $(10^8 / 1.024.000) + 1 + (10^8 / 512.000) + (10^8 / 128000) + 1 = 97 + 1 + 195 + 781 + 1 = 1075$



```
MUNOZ_R1>
MUNOZ_R1>
MUNOZ_R1>show ip route
Codes: L - local, 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, 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 111.168.10.1 to network 0.0.0.0

    10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       10.0.0.0/27 is directly connected, GigabitEthernet0/0
L       10.0.0.1/32 is directly connected, GigabitEthernet0/0
    20.0.0.0/28 is subnetted, 1 subnets
O       20.0.0.0/28 [110/99] via 111.168.10.1, 00:02:44, Serial0/1/0
    30.0.0.0/29 is subnetted, 1 subnets
O       30.0.0.0/29 [110/98] via 111.168.10.1, 00:02:44, Serial0/1/0
    40.0.0.0/26 is subnetted, 1 subnets
O       40.0.0.0/26 [110/99] via 111.168.10.1, 00:02:44, Serial0/1/0
    50.0.0.0/24 is subnetted, 1 subnets
O       50.0.0.0/24 [110/1075] via 111.168.10.1, 00:02:44, Serial0/1/0
    60.0.0.0/28 is subnetted, 1 subnets
O       60.0.0.0/28 [110/294] via 111.168.10.1, 00:02:44, Serial0/1/0
   100.0.0.0/32 is subnetted, 1 subnets
```

#### Paso 3: Seleccionar la métrica mas baja

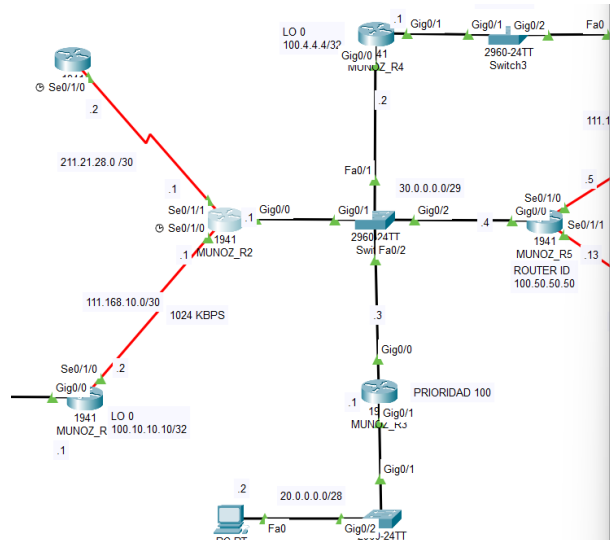
La métrica desde R1 a la LAN R6 es 1075

### 4. DETERMINAR EL IDENTIFICADOR DE LOS ROUTERS. Determinar el DR Y BDR

En el caso de los 4 router que tienen una conexión múltiple, se observa que aquel router al cual se le establece una prioridad de 100 es el DR, por otra parte, el BDR es el que por orden es segundo y tiene una prioridad de 1.

También podemos observar a través del comando show ip ospf neighbors el id correspondiente a cada router, como el id 100.50.50.50 que asignamos.

a continuación la evidencia:



```
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up
00:00:10: %OSPF-5-ADJCHG: Process 1, Nbr 100.10.10.10 on Serial0/1/0 from LOADING to FULL, Loading Done
00:00:40: %OSPF-5-ADJCHG: Process 1, Nbr 100.50.50.50 on GigabitEthernet0/0 from LOADING to FULL, Loading Done
00:00:40: %OSPF-5-ADJCHG: Process 1, Nbr 100.4.4.4 on GigabitEthernet0/0 from LOADING to FULL, Loading Done
00:00:40: %OSPF-5-ADJCHG: Process 1, Nbr 30.0.0.3 on GigabitEthernet0/0 from LOADING to FULL, Loading Done
00:00:50: %OSPF-5-ADJCHG: Process 1, Nbr 100.4.4.4 on GigabitEthernet0/0 from LOADING to FULL, Loading Done

MUNOZ_R2>
MUNOZ_R2>enable
MUNOZ_R2>show ip ospf
MUNOZ_R2>show ip ospf n
MUNOZ_R2>show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
100.50.50.50	1	FULL/DROTHER	00:00:31	30.0.0.4	GigabitEthernet0/0
100.4.4.4	1	FULL/DROTHER	00:00:31	30.0.0.2	GigabitEthernet0/0
30.0.0.3	100	FULL/DR	00:00:31	30.0.0.3	GigabitEthernet0/0
100.10.10.10	0	FULL/-	00:00:32	111.168.10.2	Serial0/1/0

MUNOZ\_R2#