TP6-Routage dynamique OSPF

III/ Configuration des routeurs

III/2 Configuration de lazone 0

Configurer le protocole OSPF sur R1

Question: Quelles commandes avez-vous tapé?

```
R1>en
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#router-id 1.1.1.1
R1(config-router)#network 172.16.2.1 0.0.0.0 area 0
R1(config-router)#network 172.16.1.1 0.0.0.0 area 0
```

Configurer le protocole OSPF sur R2, ne pas oublier les interfaces loopback

Question: Quelles commandes avez-vous tapé?

```
R2(config)#router ospf 1
R2(config-router)#router-id 2.2.2.2
R2(config-router)#network 172.16.1.2 0.0.0.0 area 0
R2(config-router)#
00:34:48: %OSPF-5-ADJCHG: Process 1, Nbr 1.1.1.1 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done

R2(config-router)#network 172.16.3.2 0.0.0.0 area 0
R2(config-router)#network 172.16.20.2 0.0.0.0 area 0
R2(config-router)#network 10.0.0.0 0.0.0.255 area 0
R2(config-router)#network 10.0.1.0 0.0.0.255 area 0
R2(config-router)#network 10.0.2.0 0.0.0.255 area 0
R2(config-router)#network 10.0.3.0 0.0.0.255 area 0
R2(config-router)#exit
R2(config)#end
```

Configurer le protocole OSPF sur R3

Question: Quelles commandes avez-vous tapé?

```
R3>en
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router ospf 1
R3(config-router)#router-id 3.3.3.3
R3(config-router)#network 172.16.10.3 0.0.0.0 area 0
R3(config-router)#network 172.16.2.3 0.0.0.0 area 0
R3(config-router)#network 172.16.3.3 0.0.0.0 area 0
```

SurR1, en mode privilégié, exécuter la commande `show ip ospf neighbor`

Question: Quel est le résultat de cette commande? Expliquer ce que fait cette commande et comment en lire le résultat

```
R1>en
R1#show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
2.2.2.2           1   FULL/DR         00:00:34    172.16.1.2      GigabitEthernet0/1
3.3.3.3           1   FULL/BDR        00:00:34    172.16.2.3      GigabitEthernet0/0
```

La commande `show ip ospf neighbor` affiche les voisins OSPF actifs pour le routeur R1

`Neighbor ID` : Identifiant OSPF du routeur voisin

`State` : État de la relation OSPF avec le voisin DR ou BDR

`Address` : Adresse IP de l'interface du voisin

`Interface` : Interface locale de R1 qui communique avec le voisin

Afficher maintenant la table de routage de R1

Question: Quel est le résultat? Comment sont notées les routes apprises via le protocole OSPF?

```
     10.0.0.0/32 is subnetted, 4 subnets
O       10.0.0.1/32 [110/2] via 172.16.1.2, 00:08:45, GigabitEthernet0/1
O       10.0.1.1/32 [110/2] via 172.16.1.2, 00:08:45, GigabitEthernet0/1
O       10.0.2.1/32 [110/2] via 172.16.1.2, 00:08:45, GigabitEthernet0/1
O       10.0.3.1/32 [110/2] via 172.16.1.2, 00:08:45, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 7 subnets, 2 masks
C       172.16.1.0/24 is directly connected, GigabitEthernet0/1
L       172.16.1.1/32 is directly connected, GigabitEthernet0/1
C       172.16.2.0/24 is directly connected, GigabitEthernet0/0
L       172.16.2.1/32 is directly connected, GigabitEthernet0/0
O       172.16.3.0/24 [110/65] via 172.16.2.3, 00:06:35, GigabitEthernet0/0
                      [110/65] via 172.16.1.2, 00:06:35, GigabitEthernet0/1
O       172.16.10.0/24 [110/2] via 172.16.2.3, 00:06:45, GigabitEthernet0/0
O       172.16.20.0/24 [110/65] via 172.16.1.2, 00:08:45, GigabitEthernet0/1
```

Les routes apprises via le protocole OSPF sont préfixées par un `O`

Question: Expliquer comment la métrique a été calculée pour les routes apprises avec OSPF.

R1 → R2 : GigabitEthernet0/1 → Coût = 1

R2 → R6 : Serial0/1/1 → Coût = 64

Coût total : 1 + 64 = 65

III/3 Configuration de lazone 20

```
R2>en
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#router ospf 1
R2(config-router)#network 172.16.20.2 0.0.0.0 area 20
R2(config-router)#
05:54:06: %OSPF-6-AREACHG: 172.16.20.2/0 changed from area 0 to area 20
```

Configurer le processus OSPF sur R6, n'oubliez pas les loopback

Question: Quelles commandes avez-vous apé?

```
R6(config)#router ospf 1
R6(config-router)#router-id 6.6.6.6
R6(config-router)#network 172.16.20.6 0.0.0.0 area 20
R6(config-router)#
05:59:58: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial0/1/0 from LOADING to FULL,
Loading Done

R6(config-router)#network 10.20.0.0 0.0.0.255 area 20
R6(config-router)#network 10.20.1.0 0.0.0.255 area 20
R6(config-router)#network 10.20.2.0 0.0.0.255 area 20
R6(config-router)#network 10.20.3.0 0.0.0.255 area 20
R6(config-router)#END
```

Afficher maintenant la table de routage de R6

Question: Comment sont notées les nouvelles routes? Qu'est-ce que cela veut dire? A quels réseaux de destination correspondent-elles?

```
     10.0.0.0/8 is variably subnetted, 12 subnets, 2 masks
O IA    10.0.0.1/32 [110/65] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    10.0.1.1/32 [110/65] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    10.0.2.1/32 [110/65] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    10.0.3.1/32 [110/65] via 172.16.20.2, 00:03:31, Serial0/1/0
C       10.20.0.0/24 is directly connected, Loopback0
L       10.20.0.1/32 is directly connected, Loopback0
C       10.20.1.0/24 is directly connected, Loopback1
L       10.20.1.1/32 is directly connected, Loopback1
C       10.20.2.0/24 is directly connected, Loopback2
L       10.20.2.1/32 is directly connected, Loopback2
C       10.20.3.0/24 is directly connected, Loopback3
L       10.20.3.1/32 is directly connected, Loopback3
     172.16.0.0/16 is variably subnetted, 6 subnets, 2 masks
O IA    172.16.1.0/24 [110/65] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    172.16.2.0/24 [110/66] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    172.16.3.0/24 [110/128] via 172.16.20.2, 00:03:31, Serial0/1/0
O IA    172.16.10.0/24 [110/67] via 172.16.20.2, 00:03:31, Serial0/1/0
C       172.16.20.0/24 is directly connected, Serial0/1/0
L       172.16.20.6/32 is directly connected, Serial0/1/0
```

Cela signifie que R6 a découvert automatiquement des réseaux distants sans configuration manuelle grâce au protocole OSPF

Les réseaux de destination correspondent aux réseaux des autres routeurs (R2, R4, R5) dans les différentes zones

Afficher la table de routage de R1

Question: La table a-t-elle changée? Si oui en quoi?

```
     10.0.0.0/32 is subnetted, 8 subnets
O       10.0.0.1/32 [110/2] via 172.16.1.2, 00:27:36, GigabitEthernet0/1
O       10.0.1.1/32 [110/2] via 172.16.1.2, 00:27:36, GigabitEthernet0/1
O       10.0.2.1/32 [110/2] via 172.16.1.2, 00:27:36, GigabitEthernet0/1
O       10.0.3.1/32 [110/2] via 172.16.1.2, 00:27:36, GigabitEthernet0/1
O IA    10.20.0.1/32 [110/66] via 172.16.1.2, 00:07:12, GigabitEthernet0/1
O IA    10.20.1.1/32 [110/66] via 172.16.1.2, 00:07:02, GigabitEthernet0/1
O IA    10.20.2.1/32 [110/66] via 172.16.1.2, 00:06:52, GigabitEthernet0/1
O IA    10.20.3.1/32 [110/66] via 172.16.1.2, 00:06:42, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 7 subnets, 2 masks
C       172.16.1.0/24 is directly connected, GigabitEthernet0/1
L       172.16.1.1/32 is directly connected, GigabitEthernet0/1
C       172.16.2.0/24 is directly connected, GigabitEthernet0/0
L       172.16.2.1/32 is directly connected, GigabitEthernet0/0
O       172.16.3.0/24 [110/65] via 172.16.2.3, 00:25:26, GigabitEthernet0/0
                      [110/65] via 172.16.1.2, 00:25:26, GigabitEthernet0/1
O       172.16.10.0/24 [110/2] via 172.16.2.3, 00:25:36, GigabitEthernet0/0
O IA    172.16.20.0/24 [110/65] via 172.16.1.2, 00:13:29, GigabitEthernet0/1
```

Oui la table a changé R1 apprend dynamiquement les réseaux distants (Zone 10 et Zone 20) via OSPF

Les réseaux appartenant aux routeurs R4, R5 (Zone 10) et R6 (Zone 20) sont désormais accessibles

Afficher la table de routage de R3

Question: Pour envoyer les données vers les adresses de loopback de R6, quel prochain le routeur R3 a-t-il choisi? Pourquoi ce choix?

```
     10.0.0.0/32 is subnetted, 8 subnets
O       10.0.0.1/32 [110/3] via 172.16.2.1, 00:29:12, GigabitEthernet0/1
O       10.0.1.1/32 [110/3] via 172.16.2.1, 00:29:12, GigabitEthernet0/1
O       10.0.2.1/32 [110/3] via 172.16.2.1, 00:29:12, GigabitEthernet0/1
O       10.0.3.1/32 [110/3] via 172.16.2.1, 00:29:12, GigabitEthernet0/1
O IA    10.20.0.1/32 [110/67] via 172.16.2.1, 00:10:48, GigabitEthernet0/1
O IA    10.20.1.1/32 [110/67] via 172.16.2.1, 00:10:38, GigabitEthernet0/1
O IA    10.20.2.1/32 [110/67] via 172.16.2.1, 00:10:28, GigabitEthernet0/1
O IA    10.20.3.1/32 [110/67] via 172.16.2.1, 00:10:18, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 8 subnets, 2 masks
O       172.16.1.0/24 [110/2] via 172.16.2.1, 00:29:12, GigabitEthernet0/1
C       172.16.2.0/24 is directly connected, GigabitEthernet0/1
L       172.16.2.3/32 is directly connected, GigabitEthernet0/1
C       172.16.3.0/24 is directly connected, Serial0/1/0
L       172.16.3.3/32 is directly connected, Serial0/1/0
C       172.16.10.0/24 is directly connected, GigabitEthernet0/0
L       172.16.10.3/32 is directly connected, GigabitEthernet0/0
O IA    172.16.20.0/24 [110/66] via 172.16.2.1, 00:17:05, GigabitEthernet0/1
```

Le routeur R3 choisi le routeur R2 car il est directement connecté à R2 et car OSPF privilégie toujours le chemin avec la métrique la plus faible

Configuration de la zone10

Configurer l'interface de R3 allant vers cette zone

Question: Quelles commandes avez-vous tapé?

```
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router ospf 1
R3(config-router)#router-id 3.3.3.3
R3(config-router)#network 172.16.10.3 0.0.0.255 area 10
R3(config-router)#end
```

Configurerle processus OSPF sur R4 sans donner d'identifiant au routeur, n'oubliez pas les loopback

Question: Quelles commandes avez-vous tapé?

```
R4#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R4(config)#router ospf 1
R4(config-router)#network 172.16.10.4 0.0.0.0 area 0
R4(config-router)#
00:00:49: %OSPF-5-ADJCHG: Process 1, Nbr 3.3.3.3 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done

R4(config-router)#network 10.10.0.0 0.0.0.255 area 0
R4(config-router)#network 10.10.1.0 0.0.0.255 area 0
R4(config-router)#network 10.10.2.0 0.0.0.255 area 0
R4(config-router)#network 10.10.3.0 0.0.0.255 area 0
R4(config-router)#exit
```

Taper la commande

Question: Quel est l'identifiant donné à R4?

```
R3#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
2.2.2.2           0   FULL/  -        00:00:37    172.16.3.2      Serial0/1/0
1.1.1.1           1   FULL/BDR        00:00:37    172.16.2.1      GigabitEthernet0/1
10.10.3.1         1   FULL/BDR        00:00:37    172.16.10.4     GigabitEthernet0/0
```

Donnerl'identifiant 4.4.4.4 à R3

Question: Quelles commandes avez-vous tapé?

```
R4#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R4(config)#router ospf 1
R4(config-router)#router-id 4.4.4.4
R4(config-router)#Reload or use "clear ip ospf process" command, for this to take effect


R4(config-router)#end
R4#
%SYS-5-CONFIG_I: Configured from console by console

R4#clear ip ospf process
Reset ALL OSPF processes? [no]: y
```

Configurerle processus OSPF sur R5, n'oubliez pas les loopback

Question: Quelles commandes avez-vous tapé?

```
R5#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R5(config)#router ospf 1
R5(config-router)#router-id 5.5.5.5
R5(config-router)#network 172.16.10.5 0.0.0.0 area 0
R5(config-router)#
21:37:15: %OSPF-5-ADJCHG: Process 1, Nbr 3.3.3.3 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done

21:37:15: %OSPF-5-ADJCHG: Process 1, Nbr 4.4.4.4 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done

R5(config-router)#network 10.10.4.0 0.0.0.255 area 0
R5(config-router)#network 10.10.5.0 0.0.0.255 area 0
R5(config-router)#network 10.10.6.0 0.0.0.255 area 0
R5(config-router)#network 10.10.7.0 0.0.0.255 area 0
R5(config-router)#exit
```

Question: Quelles sont les relations de voisinage de R4?

```
R4#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address         Interface
3.3.3.3           1   FULL/BDR        00:00:37    172.16.10.3     GigabitEthernet0/0
5.5.5.5           1   FULL/DROTHER    00:00:32    172.16.10.5     GigabitEthernet0/0
```

Faire de R4 le DR

Question: Quelles commandes avez-vous tapé?

```
R4(config)#interface GigabitEthernet0/0
R4(config-if)#ip ospf priority 1
R4(config-if)#end
R4#
%SYS-5-CONFIG_I: Configured from console by console

R4#clear ip ospf process
Reset ALL OSPF processes? [no]: y
```

Faire en sorte que R5 ne peut pas devenir le DR/BDR

Question: Quelles commandes avez-vous tapé?

```
R5#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R5(config)#interface GigabitEthernet0/0
R5(config-if)#ip ospf priority 0
R5(config-if)#end
R5#
%SYS-5-CONFIG_I: Configured from console by console

R5#clear ip ospf process
Reset ALL OSPF processes? [no]: y
```

Afficher les relations de voisinage de R3, R4 et R5

Question: Indiquer le rôle de chaque routeur

R3

```
R3#show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
2.2.2.2           0   FULL/  -        00:00:38    172.16.3.2      Serial0/1/0
1.1.1.1           1   FULL/BDR        00:00:38    172.16.2.1      GigabitEthernet0/1
5.5.5.5           0   FULL/DROTHER    00:00:38    172.16.10.5     GigabitEthernet0/0
4.4.4.4           1   FULL/DR         00:00:38    172.16.10.4     GigabitEthernet0/0
```

R4

```
R4# show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
5.5.5.5           0   FULL/DROTHER    00:00:33    172.16.10.5     GigabitEthernet0/0
3.3.3.3           1   FULL/BDR        00:00:33    172.16.10.3     GigabitEthernet0/0
```

R5

```
R5# show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
4.4.4.4           1   FULL/DR         00:00:35    172.16.10.4     GigabitEthernet0/0
3.3.3.3           1   FULL/BDR        00:00:35    172.16.10.3     GigabitEthernet0/0
```

R3 : BDR

R4 : DR

R5 : DROTHER

IV/ Vérification

Afficher la table de routage de R1

Question: Que donne cette table?

```
     10.0.0.0/32 is subnetted, 16 subnets
O       10.0.0.1/32 [110/2] via 172.16.1.2, 00:04:16, GigabitEthernet0/1
O       10.0.1.1/32 [110/2] via 172.16.1.2, 00:04:16, GigabitEthernet0/1
O       10.0.2.1/32 [110/2] via 172.16.1.2, 00:04:16, GigabitEthernet0/1
O       10.0.3.1/32 [110/2] via 172.16.1.2, 00:04:16, GigabitEthernet0/1
O       10.10.0.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.1.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.2.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.3.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.4.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.5.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.6.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O       10.10.7.1/32 [110/3] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O IA    10.20.0.1/32 [110/66] via 172.16.1.2, 00:04:06, GigabitEthernet0/1
O IA    10.20.1.1/32 [110/66] via 172.16.1.2, 00:03:56, GigabitEthernet0/1
O IA    10.20.2.1/32 [110/66] via 172.16.1.2, 00:03:56, GigabitEthernet0/1
O IA    10.20.3.1/32 [110/66] via 172.16.1.2, 00:03:56, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 7 subnets, 2 masks
C       172.16.1.0/24 is directly connected, GigabitEthernet0/1
L       172.16.1.1/32 is directly connected, GigabitEthernet0/1
C       172.16.2.0/24 is directly connected, GigabitEthernet0/0
L       172.16.2.1/32 is directly connected, GigabitEthernet0/0
O       172.16.3.0/24 [110/65] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
                      [110/65] via 172.16.1.2, 00:02:56, GigabitEthernet0/1
O       172.16.10.0/24 [110/2] via 172.16.2.3, 00:02:56, GigabitEthernet0/0
O IA    172.16.20.0/24 [110/65] via 172.16.1.2, 00:04:06, GigabitEthernet0/1
```

V/ RouteSummarization

Afficher la table de routage de R3

Question: Quelle ligne de la table correspond à la compression de route?

```
R3#show ip route ospf
     10.0.0.0/8 is variably subnetted, 13 subnets, 2 masks
O       10.0.0.1 [110/3] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
O       10.0.1.1 [110/3] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
O       10.0.2.1 [110/3] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
O       10.0.3.1 [110/3] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
O       10.10.0.1 [110/2] via 172.16.10.4, 00:48:28, GigabitEthernet0/0
O       10.10.1.1 [110/2] via 172.16.10.4, 00:48:28, GigabitEthernet0/0
O       10.10.2.1 [110/2] via 172.16.10.4, 00:48:28, GigabitEthernet0/0
O       10.10.3.1 [110/2] via 172.16.10.4, 00:48:28, GigabitEthernet0/0
O       10.10.4.1 [110/2] via 172.16.10.5, 00:48:28, GigabitEthernet0/0
O       10.10.5.1 [110/2] via 172.16.10.5, 00:48:28, GigabitEthernet0/0
O       10.10.6.1 [110/2] via 172.16.10.5, 00:48:28, GigabitEthernet0/0
O       10.10.7.1 [110/2] via 172.16.10.5, 00:48:28, GigabitEthernet0/0
O IA    10.20.0.0 [110/67] via 172.16.2.1, 00:00:45, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 8 subnets, 2 masks
O       172.16.1.0 [110/2] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
O IA    172.16.20.0 [110/66] via 172.16.2.1, 00:48:28, GigabitEthernet0/1
```

Faire de même pour la zone 10. Attention au masque utilisé !!!

Question: Quelles commandes avez-vous tapé?

```
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router ospf 1
R3(config-router)#area 10 range 10.10.0.0 255.255.254.0
R3(config-router)#end
```

Afficher la table de routage de R1

Question: Quelles lignes de la table correspondent à la compression de route?

```
R1#show ip route ospf
     10.0.0.0/8 is variably subnetted, 13 subnets, 2 masks
O       10.0.0.1 [110/2] via 172.16.1.2, 00:13:35, GigabitEthernet0/1
O       10.0.1.1 [110/2] via 172.16.1.2, 00:13:35, GigabitEthernet0/1
O       10.0.2.1 [110/2] via 172.16.1.2, 00:13:35, GigabitEthernet0/1
O       10.0.3.1 [110/2] via 172.16.1.2, 00:13:35, GigabitEthernet0/1
O       10.10.0.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.1.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.2.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.3.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.4.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.5.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.6.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O       10.10.7.1 [110/3] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O IA    10.20.0.0 [110/66] via 172.16.1.2, 00:06:21, GigabitEthernet0/1
     172.16.0.0/16 is variably subnetted, 7 subnets, 2 masks
O       172.16.3.0 [110/65] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
                   [110/65] via 172.16.1.2, 00:12:15, GigabitEthernet0/1
O       172.16.10.0 [110/2] via 172.16.2.3, 00:12:15, GigabitEthernet0/0
O IA    172.16.20.0 [110/65] via 172.16.1.2, 00:13:25, GigabitEthernet0/1
```

VI/ Redistribution de route

Mettre en place les routes statiques de R1.

Question: Quelles commandes avez-vous tapé?

```
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#ip route 192.168.0.0 255.255.255.0 Null0
%Default route without gateway, if not a point-to-point interface, may impact performance
R1(config)#ip route 192.168.1.0 255.255.255.0 Null0
%Default route without gateway, if not a point-to-point interface, may impact performance
R1(config)#ip route 192.168.2.0 255.255.255.0 Null0
%Default route without gateway, if not a point-to-point interface, may impact performance
R1(config)#ip route 192.168.3.0 255.255.255.0 Null0
%Default route without gateway, if not a point-to-point interface, may impact performance
R1(config)#END
```

Taper les commandes précédentes sur R1

```
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#router ospf 1
R1(config-router)#redistribute static subnets
R1(config-router)#end
```

Afficher la table de R2, normalement les routes sont apparues avec une métrique de 20

```
E2 192.168.0.0 [110/20] via 172.16.1.1, 00:01:07, GigabitEthernet0/0
E2 192.168.1.0 [110/20] via 172.16.1.1, 00:01:07, GigabitEthernet0/0
E2 192.168.2.0 [110/20] via 172.16.1.1, 00:01:07, GigabitEthernet0/0
E2 192.168.3.0 [110/20] via 172.16.1.1, 00:01:07, GigabitEthernet0/0
```

Afficher la table de R6, normalement les routes sont apparues et là aussi la métrique est de 20.

Celle-ci n'augmente pas but qu'il y ait plus de liaisons à utiliser!

```
E2 192.168.0.0 [110/20] via 172.16.20.2, 00:03:00, Serial0/1/0
E2 192.168.1.0 [110/20] via 172.16.20.2, 00:03:00, Serial0/1/0
E2 192.168.2.0 [110/20] via 172.16.20.2, 00:03:00, Serial0/1/0
E2 192.168.3.0 [110/20] via 172.16.20.2, 00:03:00, Serial0/1/0
```