Configurez le default-route dans l'EIGRP

Contenu

Introduction

Ceci documente décrit comment configurer des default route dans le Protocole EIGPR (Enhanced Interior Gateway Routing Protocol).

Conditions préalables

Exigences

Cisco recommande que vous ayez la connaissance de l'EIGRP.

Composants utilisés

Ce document n'est pas limité à des versions de matériel et de logiciel spécifiques.

Les informations contenues dans ce document ont été créées à partir des périphériques d'un environnement de laboratoire spécifique. Tous les périphériques utilisés dans ce document ont démarré avec une configuration effacée (par défaut). Si votre réseau est vivant, assurez-vous que vous comprenez l'impact potentiel de n'importe quelle commande.

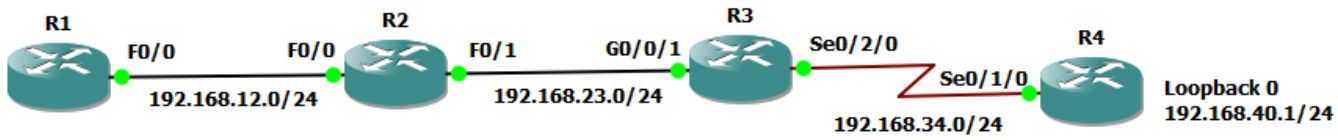
Configurer

Ces méthodes sont disponibles afin d'annoncer le default route dans l'EIGRP qui sont expliquées en cet article :

1. Default route et redistribution d'utilisation

2. Adresse récapitulative d'utilisation

Diagramme du réseau



Configuration

Ici les Routeurs R1, R2 et R3 sont configurés avec l'EIGRP et aucun EIGRP ne fonctionne entre R3 et R4.

R1

```
!
router eigrp 1 network 192.168.12.0
!
```

```
R1#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

C 192.168.12.0/24 is directly connected, FastEthernet0/0
D 192.168.23.0/24 [90/30720] via 192.168.12.2, 00:10:27, FastEthernet0/0
```

R2

```
!
router eigrp 1
 network 192.168.12.0
 network 192.168.23.0
!
```

```
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
```

```
C 192.168.12.0/24 is directly connected, FastEthernet0/0
C 192.168.23.0/24 is directly connected, FastEthernet0/1
```

R3

```
!
router eigrp 1
 network 192.168.23.0
!

R3#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
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, H - NHRP, l - LISP
a - application route
+ - replicated route, % - next hop override

Gateway of last resort is not set

D 192.168.12.0/24
[90/28416] via 192.168.23.2, 00:05:16, GigabitEthernet0/0/1
192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.23.0/24 is directly connected, GigabitEthernet0/0/1
L 192.168.23.3/32 is directly connected, GigabitEthernet0/0/1
192.168.34.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.34.0/24 is directly connected, Serial0/2/0
L 192.168.34.3/32 is directly connected, Serial0/2/0
```

Méthode 1. Default route et redistribution d'utilisation

Cette méthode décrit comment annoncer le default route dans l'EIGRP avec l'utilisation de la route statique par défaut :

```
!
router eigrp 1
 network 192.168.23.0
!

R3#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
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, H - NHRP, l - LISP
a - application route
+ - replicated route, % - next hop override

Gateway of last resort is not set

D 192.168.12.0/24
```

```
[90/28416] via 192.168.23.2, 00:05:16, GigabitEthernet0/0/1
192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.23.0/24 is directly connected, GigabitEthernet0/0/1
L 192.168.23.3/32 is directly connected, GigabitEthernet0/0/1
192.168.34.0/24 is variably subnetted, 2 subnets, 2 masks
C 192.168.34.0/24 is directly connected, Serial0/2/0
L 192.168.34.3/32 is directly connected, Serial0/2/0
```

```
R3#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
       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, H - NHRP, l - LISP
       a - application route
       + - replicated route, % - next hop override

Gateway of last resort is 192.168.34.4 to network 0.0.0.0

S*    0.0.0.0/0 [1/0] via 192.168.34.4
D     192.168.12.0/24
           [90/28416] via 192.168.23.2, 00:59:18, GigabitEthernet0/0/1
      192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.23.0/24 is directly connected, GigabitEthernet0/0/1
L        192.168.23.3/32 is directly connected, GigabitEthernet0/0/1
      192.168.34.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.34.0/24 is directly connected, Serial0/2/0
L        192.168.34.3/32 is directly connected, Serial0/2/0
```

> **Note**: Dans cette situation, une déclaration de réseau ne peut pas être utilisée à l'intérieur de l'EIGRP afin d'annoncer 0.0.0.0 parce qu'elle n'est pas directement connectée.

La redistribution de l'artère statique est faite sous l'EIGRP comme affiché ici :

```
R3#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
       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, H - NHRP, l - LISP
       a - application route
       + - replicated route, % - next hop override

Gateway of last resort is 192.168.34.4 to network 0.0.0.0

S*    0.0.0.0/0 [1/0] via 192.168.34.4
D     192.168.12.0/24
           [90/28416] via 192.168.23.2, 00:59:18, GigabitEthernet0/0/1
      192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.23.0/24 is directly connected, GigabitEthernet0/0/1
L        192.168.23.3/32 is directly connected, GigabitEthernet0/0/1
      192.168.34.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.34.0/24 is directly connected, Serial0/2/0
L        192.168.34.3/32 is directly connected, Serial0/2/0
```

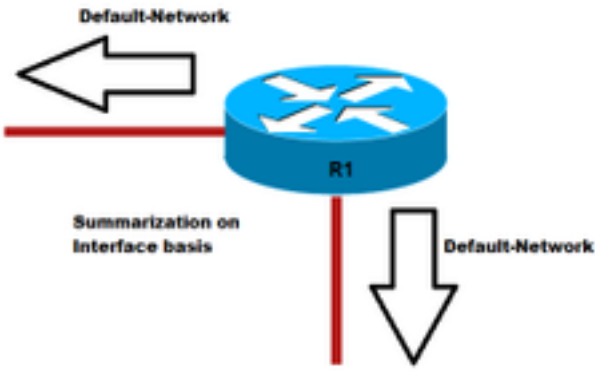
Vérifiez

Utilisez cette section pour confirmer que votre configuration fonctionne correctement.

```
R1#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 192.168.12.2 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
D    192.168.23.0/24 [90/30720] via 192.168.12.2, 00:14:01, FastEthernet0/0
D*EX 0.0.0.0/0 [170/286720] via 192.168.12.2, 00:00:39, FastEthernet0/0

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 192.168.23.3 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.23.0/24 is directly connected, FastEthernet0/1
D*EX 0.0.0.0/0 [170/284160] via 192.168.23.3, 00:04:44, FastEthernet0/1
```

Méthode 2. Adresse récapitulative d'utilisation

Cette méthode utilise la règle de récapitulation de l'EIGRP suivant les indications de l'image.




```
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 192.168.23.3 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.23.0/24 is directly connected, FastEthernet0/1
D*EX 0.0.0.0/0 [170/284160] via 192.168.23.3, 00:04:44, FastEthernet0/1
```

Vérifiez

Utilisez cette section pour confirmer que votre configuration fonctionne correctement.

```
R3#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
       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, H - NHRP, l - LISP
       a - application route
       + - replicated route, % - next hop override

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

D*    0.0.0.0/0 is a summary, 00:00:06, Null0
D     192.168.12.0/24
           [90/28416] via 192.168.23.2, 00:15:54, GigabitEthernet0/0/1
      192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.23.0/24 is directly connected, GigabitEthernet0/0/1
L        192.168.23.3/32 is directly connected, GigabitEthernet0/0/1
      192.168.34.0/24 is variably subnetted, 2 subnets, 2 masks
C        192.168.34.0/24 is directly connected, Serial0/2/0
L        192.168.34.3/32 is directly connected, Serial0/2/0
```

La table de routage R1 et R2 affiche maintenant un default route appris de l'EIGRP :

```
R1#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 192.168.12.2 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
D    192.168.23.0/24 [90/30720] via 192.168.12.2, 00:17:50, FastEthernet0/0
D*   0.0.0.0/0 [90/30976] via 192.168.12.2, 00:01:30, FastEthernet0/0


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 192.168.23.3 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.23.0/24 is directly connected, FastEthernet0/1
D*   0.0.0.0/0 [90/28416] via 192.168.23.3, 00:03:50, FastEthernet0/1
```

Dépanner

Il n'existe actuellement aucune information de dépannage spécifique pour cette configuration.