

在EIGRP中配置Default-Route

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簡介

本文檔介紹如何在增強型內部網關路由協定(EIGRP)中配置預設路由。

必要條件

需求

Cisco建議您瞭解EIGRP。

採用元件

本文件所述內容不限於特定軟體和硬體版本。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

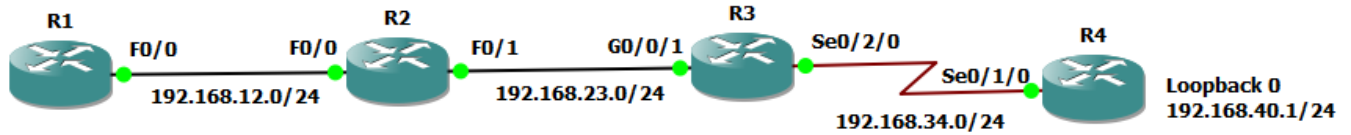
設定

在EIGRP中通告預設路由時可以使用以下方法，如本文所述：

1.使用預設路由和重分發

2.使用摘要地址

網路圖表



組態

路由器R1、R2和R3配置了EIGRP，且R3和R4之間沒有運行EIGRP。

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
```

方法1.使用預設路由和重分發

此方法描述如何使用靜態預設路由通告EIGRP中的預設路由：

```
R3(config)#ip route 0.0.0.0 0.0.0.0 192.168.34.4
```

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
```

附註：在這種情況下，不能在EIGRP中使用network語句來通告0.0.0.0，因為它不是直接連線的。

靜態路由的重新分發在EIGRP下完成，如下所示：

```
R3(config)#router eigrp 1
R3(config-router)#redistribute static metric 100000 1000 255 1 1500
```

驗證

使用本節內容，確認您的組態是否正常運作。

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

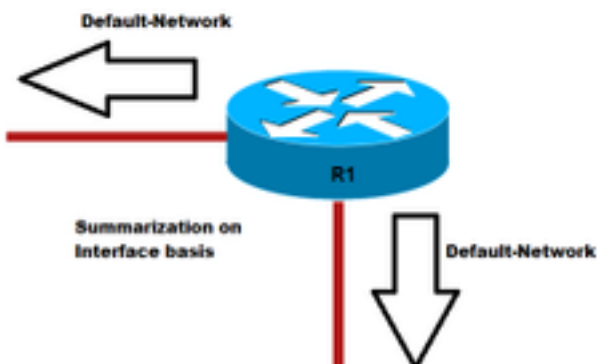
```
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, 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
```

方法2.使用摘要地址

此方法使用EIGRP的彙總規則，如圖所示。



```
!  
R3(config)#interface gigabitEthernet 0/0/1 R3(config-if)#ip summary-address eigrp 1 0.0.0.0  
0.0.0.0  
!
```

驗證

使用本節內容，確認您的組態是否正常運作。

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
```

R1和R2的路由表現在顯示從EIGRP獲知的預設路由：

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

疑難排解

目前尚無適用於此組態的具體疑難排解資訊。