

配置在EIGRP的Default-route

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Introduction

本文描述如何配置在增强的内部网关路由选择协议(EIGRP)的默认路由。

Prerequisites

Requirements

Cisco建议您有EIGRP知识。

Components Used

This document is not restricted to specific software and hardware versions.

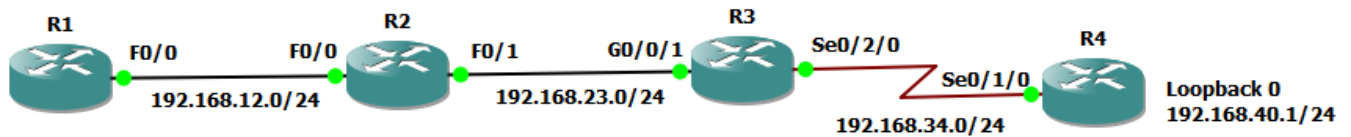
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. 如果您的网络实际，请保证您了解所有命令的潜在影响。

Configure

这些方法是可用为了通告在此条款上解释的EIGRP的默认路由：

1. 请使用默认路由和再分配
2. 请使用汇总地址

Network Diagram



配置

这里路由器R1、R2和R3配置有EIGRP，并且EIGRP不在R3和R4之间运行。

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。请使用默认路由和再分配

此方法描述如何通告在EIGRP的默认路由与使用静态默认路由：

```
!  
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:在这种情况下，因为没有直接地被连接，网络语句不可能用于在EIGRP里面为了通告0.0.0.0。

静态路由的再分配完成在EIGRP下如显示这里：

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
```

Verify

使用本部分可确认配置能否正常运行。

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

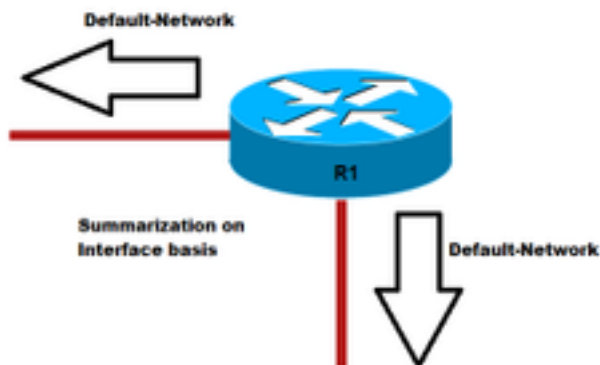
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS 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。请使用汇总地址

如镜像所显示，此方法使用EIGRP汇总规则。



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
```

Verify

使用本部分可确认配置能否正常运行。

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路由表当前显示从EIGRP了解的默认路由：

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
```

Troubleshoot

目前没有针对此配置的故障排除信息。