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概要

これは記述します Enhanced Interior Gateway Routing Protocol (EIGRP) のデフォルト ルートを設定する方法を文書化します。

前提条件

要件

EIGRP の基本的な知識。

使用するコンポーネント

このドキュメントは、特定のソフトウェアやハードウェアのバージョンに限定されるものではありません。

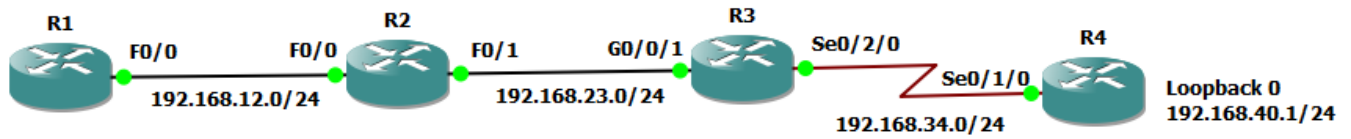
設定

この技術情報で説明される次のメソッドは EIGRP のデフォルト・ルートをアドバタイズして利用できます:

1. デフォルト ルートおよび再配布の使用。

2. サマリー アドレスの使用。

ネットワーク図



設定

ここにルータ R1、R2 および R3 は EIGRP で設定され、EIGRP は R3 と R4 の間で動作していません。

R1 の設定

```
!  
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 の設定

```
!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 の設定

```
!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

デフォルト ルート及び再配布を使用する Method-1

設定

この方式は静的デフォルト ルートを使用して EIGRP のデフォルト ルートをアドバタイズする方法を記述します。

```
!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 overrideGateway of last resort is 192.168.34.4 to network 0.0.0.0S*
```

```
0.0.0.0/0 [1/0] via 192.168.34.4D      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 masksC
192.168.23.0/24 is directly connected, GigabitEthernet0/0/1L      192.168.23.3/32 is directly
connected, GigabitEthernet0/0/1      192.168.34.0/24 is variably subnetted, 2 subnets, 2 masksC
192.168.34.0/24 is directly connected, Serial0/2/0L      192.168.34.3/32 is directly
connected, Serial0/2/0
```

注 直接接続されないので 0.0.0.0 をアドバタイズするのにこの場合 EIGRP の中でネットワークステートメントが使用することができません。

スタティック ルートの Redistriution は下記に示されているように EIGRP の下でされます:

```
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 overrideGateway of last resort is 192.168.34.4 to network 0.0.0.0S*
0.0.0.0/0 [1/0] via 192.168.34.4D      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 masksC
192.168.23.0/24 is directly connected, GigabitEthernet0/0/1L      192.168.23.3/32 is directly
connected, GigabitEthernet0/0/1      192.168.34.0/24 is variably subnetted, 2 subnets, 2 masksC
192.168.34.0/24 is directly connected, Serial0/2/0L      192.168.34.3/32 is directly
connected, Serial0/2/0
```

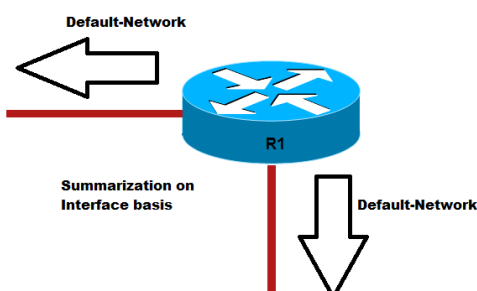
検証

```
R1#show ip routeCodes: 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
routeGateway of last resort is 192.168.12.2 to network 0.0.0.0C      192.168.12.0/24 is directly
connected, FastEthernet0/0D      192.168.23.0/24 [90/30720] via 192.168.12.2, 00:14:01,
FastEthernet0/0D*EX 0.0.0.0/0 [170/286720] via 192.168.12.2, 00:00:39, FastEthernet0/0R2#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 routeGateway of
last resort is 192.168.23.3 to network 0.0.0.0C      192.168.12.0/24 is directly connected,
FastEthernet0/0C      192.168.23.0/24 is directly connected, FastEthernet0/1D*EX 0.0.0.0/0
[170/284160] via 192.168.23.3, 00:04:44, FastEthernet0/1
```

サマリー アドレスを使用する Method-2

設定

この方式は EIGRP の集約ルールを使用します。



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

確認

```
R3#show ip routeCodes: 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 overrideGateway of last resort is 0.0.0.0 to network 0.0.0.0D* 0.0.0.0/0 is
a summary, 00:00:06, Null0D 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 masksC 192.168.23.0/24
is directly connected, GigabitEthernet0/0/1L 192.168.23.3/32 is directly connected,
GigabitEthernet0/0/1 192.168.34.0/24 is variably subnetted, 2 subnets, 2 masksC 192.168.34.0/24
is directly connected, Serial0/2/0L 192.168.34.3/32 is directly connected, Serial0/2/0
```

R1 および R2 ルーティング テーブルは今 EIGRP から学習された default ルートを示します

```
R1#show ip routeCodes: 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
routeGateway of last resort is 192.168.12.2 to network 0.0.0.0C      192.168.12.0/24 is directly
connected, FastEthernet0/0D      192.168.23.0/24 [90/30720] via 192.168.12.2, 00:17:50,
FastEthernet0/0D* 0.0.0.0/0 [90/30976] via 192.168.12.2, 00:01:30, FastEthernet0/0R2#show ip
routeCodes: 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 routeGateway of
last resort is 192.168.23.3 to network 0.0.0.0C      192.168.12.0/24 is directly connected,
FastEthernet0/0C      192.168.23.0/24 is directly connected, FastEthernet0/1D* 0.0.0.0/0
[90/28416] via 192.168.23.3, 00:03:50, FastEthernet0/1
```

トラブルシューティング

現在のところ、この設定に関する特定のトラブルシューティング情報はありません。