

# 在EIGRPv6中重分發IPv6 BGP預設路由的配置示例

## 目錄

[簡介](#)

[必要條件](#)

[硬體和軟體版本](#)

[慣例](#)

[設定](#)

[網路圖表](#)

[組態](#)

[驗證](#)

[顯示命令](#)

[相關資訊](#)

## 簡介

本文提供如何使用EIGRPv6和IPv6 BGP之間的相互重分佈將邊界網關協定(IPv6 BGP)預設路由重分佈到增強型內部網關路由協定(EIGRPv6)的示例配置。

## 必要條件

嘗試此組態之前，請確保符合以下要求：

- 具有EIGRPv6的基本知識
- 具有IPv6 BGP基礎知識
- 具有IPv6編址基礎知識

## 硬體和軟體版本

本文檔中的配置基於採用Cisco IOS<sup>®</sup>軟體版本15.0(1)的Cisco 7200系列路由器。

## 慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

## 設定

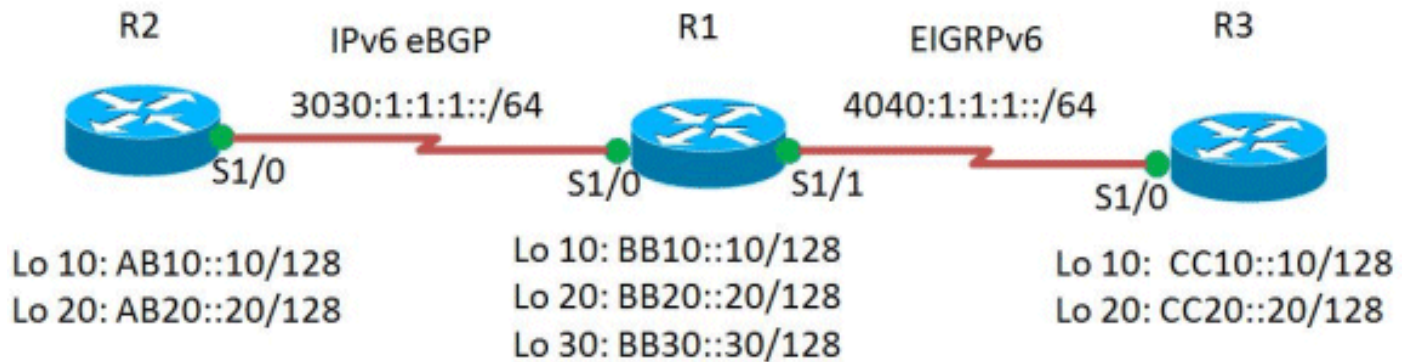
在本示例中，路由器R2和R1使用IPv6 eBGP相互通訊。路由器R1和R3使用EIGRPv6。預設路由是通過發出[neighbor default-originate](#)命令在路由器R2中建立的。要將IPv6 eBGP路由相互重分發到

EIGRPv6，請使用**redistribute bgp**命令和EIGRP度量。同樣，若要將EIGRPv6路由重分發到IPv6BGP，請在地址系列配置模式下使用**redistribute eigrp AS number**命令。

註：使用[Command Lookup Tool](#)(僅限註冊客戶)可以查詢有關本文檔中使用的命令的詳細資訊。

## 網路圖表

本檔案會使用以下網路設定：



## 組態

本檔案會使用以下設定：

- [路由器R1](#)
- [路由器R2](#)
- [路由器R3](#)

### 路由器R1

```
R1#show run
Building configuration...
!
version 15.0
!
hostname R1
!
ipv6 unicast-routing
ipv6 cef
!
!
interface Loopback10
 no ip address
 ipv6 address BB10::10/128
!
interface Loopback20
 no ip address
 ipv6 address BB20::20/128
!
interface Loopback30
 no ip address
 ipv6 address BB30::30/128
 ipv6 eigrp 1
!
interface Serial1/0
```

```

no ip address
ipv6 address 3030:1:1:1::11/64
serial restart-delay 0
!
interface Serial1/1
no ip address
ipv6 address 4040:1:1:1::10/64
ipv6 eigrp 1
serial restart-delay 0
!
!
router bgp 505
no synchronization
bgp router-id 1.1.1.1
bgp log-neighbor-changes
neighbor 3030:1:1:1::10 remote-as 500
no auto-summary
!
address-family ipv6
redistribute eigrp 1
!--- EIGRP is redistributed in to BGP. no
synchronization network BB10::10/128 network
BB20::20/128 neighbor 3030:1:1:1::10 activate exit-
address-family ! ipv6 router eigrp 1
eigrp router-id 1.1.1.1
redistribute bgp 505 metric 100 1 255 1 1500
!--- EIGRP for IPv6 has a shutdown feature. !--- Make
sure that the routing process is in "no shut" mode !---
in order to start running the protocol. !--- BGP is
redistributed with EIGRP default metrics. ! end

```

## 路由器R2

```

R2#show run
Building configuration...
!
hostname R2
!
ipv6 unicast-routing
ipv6 cef
!
!
interface Loopback10
no ip address
ipv6 address AB10::10/128
!
interface Loopback20
no ip address
ipv6 address AB20::20/128
!
interface Serial1/0
no ip address
ipv6 address 3030:1:1:1::10/64
serial restart-delay 0
!
router bgp 500
no synchronization
bgp router-id 2.2.2.2
bgp log-neighbor-changes
neighbor 3030:1:1:1::11 remote-as 505
neighbor 3030:1:1:1::11 default-originate
no auto-summary

```

```
!  
address-family ipv6  
  no synchronization  
  network AB10::10/128  
  network AB20::20/128  
  neighbor 3030:1:1:1::11 activate  
  neighbor 3030:1:1:1::11 default-originate  
exit-address-family  
!  
end  
!--- Originates default route to the !--- neighbor  
3030:1:1:1::11.
```

## 路由器R3

```
R3#show run  
!  
version 15.0  
!  
hostname R3  
!  
ipv6 unicast-routing  
ipv6 cef  
!  
interface Loopback10  
  no ip address  
  ipv6 address CC10::10/128  
  ipv6 eigrp 1  
!  
interface Loopback20  
  no ip address  
  ipv6 address CC20::20/128  
  ipv6 eigrp 1  
!  
interface Serial11/0  
  no ip address  
  ipv6 address 4040:1:1:1::11/64  
  ipv6 eigrp 1  
  serial restart-delay 0  
!  
!  
ipv6 router eigrp 1  
  eigrp router-id 3.3.3.3  
!  
end
```

## 驗證

使用本節內容，確認您的組態是否正常運作。

[輸出直譯器工具](#)(僅供已註冊客戶使用)(OIT)支援某些show命令。使用OIT檢視show指令輸出的分析

。

## 顯示命令

為了檢驗路由器R3是否收到重分佈的IPv6 BGP預設路由，請在路由器R3中使用[show ipv6 route eigrp](#)命令。

## show ipv6 route eigrp

### 在路由器R3中

```
R3#show ipv6 route eigrp
IPv6 Routing Table - default - 9 entries
Codes: C - Connected, L - Local, S - Static, U - Per-
user Static route
        B - BGP, HA - Home Agent, MR - Mobile Router, R -
RIP
        I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea,
IS - ISIS summary
        D - EIGRP, EX - EIGRP external, ND - Neighbor
Discovery
        O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext
1, OE2 - OSPF ext 2
        ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
EX  ::/0 [170/26112256]
        via FE80::C806:16FF:FE08:0, Serial1/0
EX  AB10::10/128 [170/26112256]
        via FE80::C806:16FF:FE08:0, Serial1/0
EX  AB20::20/128 [170/26112256]
        via FE80::C806:16FF:FE08:0, Serial1/0
D    BB30::30/128 [90/2297856]
        via FE80::C806:16FF:FE08:0, Serial1/0
!--- The above output shows that the default route !---
is redistributed in EIGRP. EX indicates EIGRP external
routes.
```

為了檢驗EIGRPv6路由在路由器R2中是否正確重分佈，請在路由器R2中使用[show ipv6 route bgp](#)命令。

## show ipv6 route bgp

### 在路由器R2中

```
R2#show ipv6 route bgp
IPv6 Routing Table - default - 9 entries
Codes: C - Connected, L - Local, S - Static, U - Per-
user Static route
        B - BGP, HA - Home Agent, MR - Mobile Router, R -
RIP
        I1 - ISIS L1, I2 - ISIS L2, IA - ISIS interarea,
IS - ISIS summary
        D - EIGRP, EX - EIGRP external, ND - Neighbor
Discovery
        O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext
1, OE2 - OSPF ext 2
        ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
B    BB10::10/128 [20/0]
        via FE80::C806:16FF:FE08:0, Serial1/0
B    BB20::20/128 [20/0]
        via FE80::C806:16FF:FE08:0, Serial1/0
B    CC10::10/128 [20/2297856]
        via FE80::C806:16FF:FE08:0, Serial1/0
B    CC20::20/128 [20/2297856]
        via FE80::C806:16FF:FE08:0, Serial1/0
!--- The above output shows that the eigrp routes !---
are redistributed in to BGP.
```

使用ping命令檢驗路由器R2和R3之間的連通性。

## ping

## 從路由器R2:

```
R2#ping CC10::10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to CC10::10, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/40/96 ms
```

```
R2#ping CC20::20
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to CC20::20, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/44/100 ms
```

## 從路由器R3:

```
R3#ping AA10::10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to AA10::10, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/33/92 ms
```

```
R3#ping AA20::20
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to AA20::20, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/33/92 ms
```

```
!--- The above ping responses shows that R1 and R3 are able !--- to communicate with each other.
```

## 相關資訊

- [BGP 支援頁面](#)
- [IPv6支援頁面](#)
- [Cisco IOS IPv6命令參考](#)
- [BGP 個案研究](#)
- [EIGRP支援頁](#)
- [技術支援與文件 - Cisco Systems](#)