Configure Mutual Redistribution Between EIGRP and BGP

Contents

Introduction

This document describes how to configure mutual redistribution between EIGRP and BGP.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Enhanced Interior Gateway Routing Protocol (EIGRP)

- Border Gateway Protocol (BGP)

Components Used

The information in this document is based on the Cisco 7200 Series Router with Cisco IOS®Software Release 15.0(1).
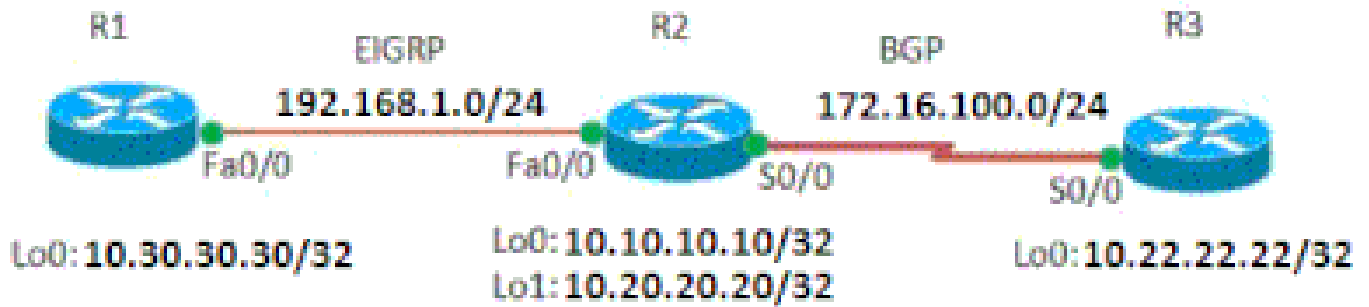
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

In this example, routers R1 and R2 communicate with each other using EIGRP. Routers R2 and R3 use eBGP. In order to mutually redistribute the eBGP routes in to EIGRP, use the redistribute bgp command with EIGRP metrics. Similarly, in order to redistribute EIGRP routes in to BGP, use the **redistribute eigrp AS number** command.

Network Diagram

This document uses this network setup:

Network Diagram

Configurations

This document uses these configurations:

- [Router R1](#)
- [Router R2](#)
- [Router R3](#)

Router R1

<pre>!
hostname R1
!
ip cef
!
!
interface Loopback0
 ip address 10.30.30.30 255.255.255.255
!
interface FastEthernet0/0
 ip address 192.168.1.101 255.255.255.0
 duplex auto
 speed auto
 	
!
router eigrp 100
 network 10.30.0.0
 network 192.168.1.0
 no auto-summary
!
end</pre>

Router R2
`<#root>`

```
!
hostname R2
!
ip cef
!
!
interface Loopback0
 ip address 10.10.10.10 255.255.255.255
!
interface Loopback1
 ip address 10.20.20.20 255.255.255.255
!
interface FastEthernet0/0
 ip address 192.168.1.100 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0
 ip address 172.16.100.50 255.255.255.0
 serial restart-delay 0
 clock rate 2000000

!
router eigrp 100
 redistribute static


redistribute bgp 1000 metric 100 1 255 1 1500

 network 10.0.0.0
 network 192.168.1.0
 no auto-summary
!
router bgp 1000
 no synchronization
 bgp log-neighbor-changes
 network 10.20.20.20 mask 255.255.255.255
 redistribute connected
 redistribute static


redistribute eigrp 100

 neighbor 172.16.100.51 remote-as 2000
 neighbor 172.16.100.51 next-hop-self


 no auto-summary
!
end
```

Router R3

```
!
hostname R3
!
ip cef
!
interface Loopback0
 ip address 10.22.22.22 255.255.255.255

```

```
!
interface Serial0/0
 ip address 172.16.100.51 255.255.255.0
 serial restart-delay 0
 clock rate 2000000
!
router bgp 2000
 no synchronization
 bgp log-neighbor-changes
 network 10.22.22.22 mask 255.255.255.255
 network 172.16.100.0 mask 255.255.255.0
 neighbor 172.16.100.50 remote-as 1000
 neighbor 172.16.100.50 default-originate
 default-information originate

!--- Default route is configured!


 no auto-summary

!
end
```

Verify

Use this section in order to confirm that your configuration works properly.

The CLI Analyzer is used in order to view an analysis of show command output.

Note: Only registered Cisco users can access internal Cisco tools and information.

Show Commands

In order to verify that EIGRP is receiving the redistributed routes, use the **show ip route eigrp** command.

show ip route eigrp

In router R1
 	
``
<#root>
 	
R1#
 	
show ip route eigrp
 	
10.20.0.0/32 is subnetted, 1 subnets
D EX   10.20.20.20
           [170/25625856] via 192.168.1.100, 01:00:33, FastEthernet0/0
     10.22.0.0/32 is subnetted, 1 subnets
``

```
D EX    10.22.22.22
            [170/25625856] via 192.168.1.100, 00:59:49, FastEthernet0/0
        10.0.0.0/32 is subnetted, 1 subnets
D       10.10.10.10 [90/409600] via 192.168.1.100, 00:55:17, FastEthernet0/0
D*EX 0.0.0.0/0 [170/25625856] via 192.168.1.100, 00:46:24, FastEthernet0/0


!--- Shows the default route from router R3.



!--- EX indicates that the routes are EIGRP external routes.
```

In order to verify that EIGRP routes are redistributed in BGP properly, use the **show ip route bgp** command in router R3.

show ip route bgp

In router R3

```
<#root>

R3#

show ip route bgp

show ip route bgp
        10.20.0.0/32 is subnetted, 1 subnets
B       10.20.20.20 [20/0] via 172.16.100.50, 01:03:02
        10.0.0.0/32 is subnetted, 1 subnets
B       10.10.10.10 [20/0] via 172.16.100.50, 01:03:02
B
```

192.168.1.0/24 [20/0] via 172.16.100.50, 01:03:02


```
 10.30.0.0/32 is subnetted, 1 subnets
```

```
B       10.30.30.30 [20/409600] via 172.16.100.50, 00:59:06

!--- The output indicates that the EIGRP routes are
!--- redistributed in BGP.
```

Related Information

- **BGP Support Page**
- **BGP Case Studies**
- **EIGRP Support Page**
- **Cisco Technical Support & Downloads**