

某局点BGP跨VPN等价路由的引入学习不完整

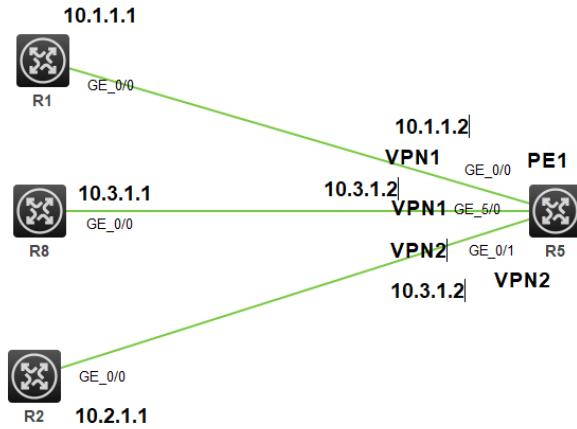
GRE VPN 孔德飞 2022-01-12 发表

组网及说明

组网如下图：

R5分别与R1 R8建立EBGP，使用的接口属于VPN1，R1 R8分别引入一个32位的100.100.100.100的直连路由，

R5的G0/1所属的接口为VPN2



问题描述

关键配置:

以下只列出BGP的相关配置

R8

```
bgp 100
peer 7.7.7.7 as-number 100
peer 7.7.7.7 connect-interface LoopBack0
#
address-family vpnv4
peer 7.7.7.7 enable
#
ip vpn-instance vpn1
peer 10.1.1.1 as-number 65410
peer 10.3.1.1 as-number 65410
#
address-family ipv4 unicast
balance 32
import-route direct
peer 10.1.1.1 enable
peer 10.3.1.1 enable
#
ip vpn-instance vpn2
#
address-family ipv4 unicast
balance 2
```

R1

```
bgp 65410
router-id 100.100.100.100
peer 10.1.1.2 as-number 100
#
address-family ipv4 unicast
import-route direct
peer 10.1.1.2 enable
```

R2

```
bgp 65410
peer 10.3.1.2 as-number 100
#
address-family ipv4 unicast
import-route direct
peer 10.3.1.2 enable
```

现象: R5的VPN1实例的BGP路由表中有两条路由, 下一跳分别是10.1.1.1与10.3.1.1

```
[PE1]display bgp routing-table ipv4 vpn-instance vpn1
```

Total number of routes: 4

BGP local router ID is 5.5.5.5

Status codes: * - valid, > - best, d - dampened, h - history,
s - suppressed, S - stale, i - internal, e - external
Origin: i - IGP, e - EGP, ? - incomplete

Network	NextHop	MED	LocPrf	PrefVal	Path/Ogn
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```

*>e 10.1.1.0/24 10.1.1.1 0 0 65410?
*>e 10.3.1.0/24 10.3.1.1 0 0 65410?
*>e 100.100.100.100/32 10.1.1.1 0 0 65410?

```

默认情况下，BGP VPN路由引入的时候，只能选择最优路由

但是VPN2的BGP路由表中，只有一条100.100.100.100的路由
 [PE1-bgp-default]dis bgp routing-table ipv4 vpn-instance vpn2

Total number of routes: 3

BGP local router ID is 5.5.5.5

Status codes: * - valid, > - best, d - dampened, h - history,
 s - suppressed, S - stale, i - internal, e - external
 Origin: i - IGP, e - EGP, ? - incomplete

Network	NextHop	MED	LocPrf	PrefVal	Path/Ogn
*>e 10.1.1.0/24	10.1.1.1	0	0	65410?	
*>e 10.3.1.0/24	10.3.1.1	0	0	65410?	
*>e 100.100.100.100/32	10.1.1.1	0	0	65410?	

解决方法

需要在VPN2的视图下开启vpn-route cross multipath

该命令是让VPN2能够学到所有来自VPN1的路由，PS：VPN2到底能不能学到VPN1的路由是看VPN1的EX RT与VPN2的IM RT是否一致

(4) 开启VPN引入等价路由功能。

vpn-route cross multipath

缺省情况下，VPN引入等价路由功能处于关闭状态，对于前缀和RD均相同的多条路由，只会将最优路由引入到VPN实例的路由表中。

BGP IPv4单播地址族视图和BGP IPv6单播地址族视图下配置本命令后，会将多条路由全部引入到公网实例的路由表中。公网实例的详细介绍，请参见“EVPN配置指导”中的“EVPN”。

解决方法：在BGP视图下开启如下命令

```
bgp 100
```

```
vpn-route cross multipath
```

```
peer 7.7.7.7 as-number 100
```

```
peer 7.7.7.7 connect-interface LoopBack0
```

```
#
```

```
address-family ipv4 unicast
```

```
#
```

```
ip vpn-instance vpn1
```

```
peer 10.1.1.1 as-number 65410
```

```
peer 10.3.1.1 as-number 65410
```

```
#
```

```
address-family ipv4 unicast
```

```
peer 10.1.1.1 enable
```

```
peer 10.3.1.1 enable
```

```
#
```

```
ip vpn-instance vpn2
```

```
#
```

```
address-family ipv4 unicast
```

```
display bgp routing-table ipv4 vpn-instance vpn2
```

```
Total number of routes: 4
```

```
BGP local router ID is 5.5.5.5
```

```
Status codes: * - valid, > - best, d - dampened, h - history,
```

```
s - suppressed, S - stale, i - internal, e - external
```

```
Origin: i - IGP, e - EGP, ? - incomplete
```

Network	NextHop	MED	LocPrf	PrefVal	Path/Ogn
* >e 10.1.1.0/24	10.1.1.1	0	0	65410?	
* >e 10.3.1.0/24	10.3.1.1	0	0	65410?	
* >e 100.100.100.100/32	10.1.1.1	0	0	65410?	
* e	10.3.1.1				

