

知 CR16006-F-BGP路由RT互倒不能形成负载分担

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问题描述

两个vpn实例，CRC_ZD ospf 学到两条路由由复杂分担，BGP vpn 实例CRC_ZD引入ospf 路由，也是负载分担的，但是bgp vpn 实例SDW_LAN 通过RT 互倒的方式引入bgp路由由不能形成负载分担，看提示local-redist -route 本地从其他VPN引入的路由由不能形成等价。

```
<GDSW-01-B03-N13U-HC16006F-SDWANHX>display ip routing-table vpn-instance CRC_ZD 161
Summary count : 2
Destination/Mask Proto Pre Cost NextHop Interface
10.51.148.161/32 O_ASE2 130 1 10.51.148.30 XGE3/2/4.1008
O_ASE2 150 1 10.51.148.30 XGE2/2/4.1008
<GDSW-01-B03-N13U-HC16006F-SDWANHX>display ip routing-table vpn-instance SDW_LAN 161
Summary count : 1
Destination/Mask Proto Pre Cost NextHop Interface
10.51.148.161/32 BGP 130 2 10.51.148.30 XGE3/2/4.1008
<GDSW-01-B03-N13U-HC16006F-SDWANHX>
```

```
#
ip vpn-instance SDW_LAN
peer 10.51.148.37 as-number 100
peer 10.51.148.101 as-number 100
peer 10.51.148.22 as-number 65128
peer 10.51.148.22 bfd
peer 10.51.148.18 as-number 65128
peer 10.51.148.18 bfd
peer 2001::318:100:4c::4112 as-number 65128
peer 2001::318:100:4c::4212 as-number 65128
#
address-family ipv4 unicast
balance 8
preference 20 200 130
vpn-route cross multipath
import-route multipath
network 10.51.148.1 255.255.255.255
network 10.51.148.2 255.255.255.255
network 10.51.148.9.120 255.255.255.252
network 10.51.148.10.120 255.255.255.252
peer 10.51.148.37 enable
peer 10.51.148.101 route-policy IPV4-SDW_LAN-BGP-IN-HW_SDW_ASBR import
peer 10.51.148.101 route-policy IPV4-SDW_LAN-BGP-OUT-HW_SDW_ASBR export
peer 10.51.148.22 enable
peer 10.51.148.22 route-policy IPV4-SDW_LAN-BGP-IN-HW_SDW_ASBRbk import
peer 10.51.148.22 route-policy IPV4-SDW_LAN-BGP-OUT-HW_SDW_ASBRbk export
peer 10.51.148.18 enable
peer 10.51.148.18 route-policy IPV4-SDW_LAN-BGP-OUT-HXPE export
peer 10.51.148.2 advertise-community
peer 10.51.148.18 enable
peer 10.51.148.18 route-policy IPV4-SDW_LAN-BGP-OUT-HXPE export
peer 10.51.148.21.18 advertise-community
#
address-family ipv6 unicast
balance 8
preference 20 200 130
vpn-route cross multipath
```

```
<GDSW-01-B03-N13U-HC16006F-SDWANHX>dis bgp routing-table ipv4 vpn-instance CRC_ZD 10.51.148.161
BGP local router ID: 10.51.221.253
Local AS number: 65260
Paths: 2 available, 2 best
BGP routing table information of 10.51.148.161/32:
Imported route.
Original nexthop: 10.51.148.30
Out interface : Ten-GigabitEthernet3/2/4.1008
Route age : 05d22h06m12s
OutLabel : NULL
Ext-Community : <RT: 46044:46044>
RxPathID : 0x0
TxPathID : 0x0
AS-path : (null)
Origin : incomplete
Attribute value : MED 2, pref-val 32768
State : valid, local, best
Source type : local
IP precedence : N/A
QoS local ID : N/A
Traffic index : N/A
Tag : 157
Tunnel policy : NULL
Rely tunnel IDs : N/A
Imported route.
Original nexthop: 10.51.148.30
Out interface : Ten-GigabitEthernet2/2/4.1008
Route age : 05d22h06m12s
OutLabel : NULL
Ext-Community : <RT: 46044:46044>
RxPathID : 0x1
TxPathID : 0xffffffff
AS-path : (null)
Origin : incomplete
Attribute value : MED 2, pref-val 32768
State : valid, local, best
Source type : local
IP precedence : N/A
QoS local ID : N/A
Traffic index : N/A
Tag : 156
Tunnel policy : NULL
```

负载分担

```

<GDSW-01-B03-N130-HC16006F-SDWANHXK>dis bgp routing-table ipv4 vpn-instance SDW_LAN .161
BGP local router ID: 10.51.221.253
Local AS number: 65260

Paths: 2 available, 1 best

BGP routing table information of .161/32:
Original nexthop: 1 .30
Out interface : Ten-GigabitEthernet3/2/4.1008
Route age : 05d22h06m31s
OutLabel : NULL
Ext-Community : <RT: 46044:46044>
RxFPathID : 0x0
TxPathID : 0x0
AS-path : (null)
Origin : incomplete
Attribute value : MED 2, pref-val 32768
State : valid, local, best, localredist
Source type : local-import
IP precedence : N/A
QoS local ID : N/A
Traffic index : N/A
Tag : 157
Tunnel policy : NULL
Rely tunnel IDs : N/A

Original nexthop: 1 .30
Out interface : Ten-GigabitEthernet2/2/4.1008
Route age : 05d22h06m31s
OutLabel : NULL
Ext-Community : <RT: 46044:46044>
RxFPathID : 0x1
TxPathID : 0xffffffff
AS-path : (null)
Origin : incomplete
Attribute value : MED 2, pref-val 32768
State : valid, local, localredist, not preferred for received, not ECMP for redist-route
Source type : local-import
IP precedence : N/A
QoS local ID : N/A
Traffic index : N/A
Tag : 156
Tunnel policy : NULL
Rely tunnel IDs : N/A

```

导入后不能负载分担

过程分析

表1-40 未形成等价路由的原因

原因	描述
preferred-value	首选值不同
local-preference	本地优先级不同
local-origin-route	路由的生成方式不同
aigp	携带的AIGP属性值不同或某条路由未携带AIGP属性
as-path	AS_PATH属性的长度不同
origin	ORIGIN属性不同
med	MED属性值不同
remote-route	路由来自不同的EBGP、联盟EBGP、联盟IBGP或IBGP邻居
igp-cost	IGP Metric值不同
local-redist-route	本地从其他VPN引入的路由不能形成等价
label-route	不同时为标签路由或非标签路由
samenexthop	路由具有相同的下一跳
evpn-macip-label	EVPN MAC/IP发布路由未同时携带L3VNI
evpn-other-type	EVPN路由中非MAC/IP发布路由不能形成等价
color-relay	路由未同时通过Color属性迭代
srv6-route	路由未同时携带非本地SID

解决方法

研发评估：
引入路由插入其他VRF不能形成等价，谁先引入就优选谁。