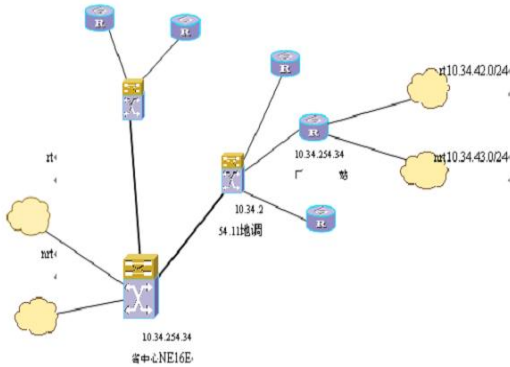


由于在PE设备上采用缺省路由导致MPLS VPN报文无法转发的案例



MPLS VPN升级过程，发现厂站R2631E能够学到VPN路由器，省调也能够学到厂站的VPN私网路由，但是同一VPN内厂站ping不通省调，VPN内私网报文无法正常转发。检查所有公网互联可达没有问题。地调作为省调的MP-BGP反射器客户端，厂站作为地调的MP-BGP，采用两级反射器实现BGP路由的传递。

```
<shengdiao>dis bgp vpnv4 vpn-instance rt routing-table
```

```
-----
Route Distinguisher:30034:10 (VPN instance:rt)
#^ 2.0.7.0/24 0.0.0.0 18/0
#^ 2.0.8.0/24 0.0.0.0 18/0
#^ 10.34.1.0/24 0.0.0.0 18/0
#^ 10.34.16.0/24 0.0.0.0 16/0
#^I 10.34.42.0/24 10.34.254.34 100 0/1025
#^I 10.34.112.0/24 10.34.254.11 100 0/16
#^I 10.34.114.0/24 10.34.254.18 100 0/16
```

```
<shengdiao>dis bgp vpnv4 vpn-instance nrt routing-table
```

```
-----
Route Distinguisher:30034:20 (VPN instance:nrt)
#^ 10.30.22.0/24 0.0.0.0 19/0
#^ 10.30.229.0/27 0.0.0.0 19/0
#^ 10.34.8.0/24 0.0.0.0 19/0
#^ 10.34.15.0/30 0.0.0.0 17/0
#^I 10.34.43.0/24 10.34.254.34 100 0/1024
#^I 10.34.113.0/24 10.34.254.11 100 0/17
#^I 10.34.115.0/24 10.34.254.18 100 0/17
#^ 10.138.5.0/24 0.0.0.0 19/0
```

```
<he_fei_chang>dis ip routing-table vpn-instance rt
```

```
rt Route Information
Routing Table: rt Route-Distinguisher: 30034:10
Destination/Mask Protocol Pre Cost Nexthop Interface
2.0.7.0/24 BGP 256 0 10.34.254.1 InLoopBack0
2.0.8.0/24 BGP 256 0 10.34.254.1 InLoopBack0
10.34.1.0/24 BGP 256 0 10.34.254.1 InLoopBack0
10.34.16.0/24 BGP 256 0 10.34.254.1 InLoopBack0
10.34.42.0/24 DIRECT 0 0 10.34.42.253 Ethernet0/0
10.34.42.253/32 DIRECT 0 0 127.0.0.1 InLoopBack0
```

```
<he_fei_chang>dis ip routing-table vpn-instance nrt
```

```
nrt Route Information
Routing Table: nrt Route-Distinguisher: 30034:20
Destination/Mask Protocol Pre Cost Nexthop Interface
10.30.22.0/24 BGP 256 0 10.34.254.1 InLoopBack0
10.30.229.0/27 BGP 256 0 10.34.254.1 InLoopBack0
10.34.8.0/24 BGP 256 0 10.34.254.1 InLoopBack0
10.34.15.0/30 BGP 256 0 10.34.254.1 InLoopBack0
```

```
10.34.43.0/24   DIRECT 0 0      10.34.43.253 Ethernet0/1
10.34.43.253/32 DIRECT 0 0      127.0.0.1   InLoopBack0
10.138.5.0/24  BGP    256 0      10.34.254.1 InLoopBack0
```

故障排除

把厂站与地调路由器之间的静态路由修改成动态OSPF协议，并引入直连路由，这样本地路由表有到达对端路由器的ROUTER ID的精确路由。能够正常接收对端发送过来的标签。私网报文能够正常转发。

公网标签分配情况。

```
[he_fei_chang]dis mpls lsp verbose
```

```
-----
LSP Information: Ldp Lsp
-----
```

NO : 1

Fec : 10.34.254.34/32

Nexthop : 127.0.0.1

In-Label : 3

Out-Label : ----

In-Interface : Serial2/0:0

Out-Interface : ----

LspIndex : 0

Token : 4294967295

LsrType : Egress

NO : 2

Fec : 10.34.254.11/32

Nexthop : 10.34.253.1

In-Label : ----

Out-Label : 3

In-Interface : ----

Out-Interface : Serial2/0:0

LspIndex : 1

Token : 0

LsrType : Ingress

NO : 3

Fec : 10.34.254.18/32

Nexthop : 10.34.253.1

In-Label : ----

Out-Label : 19

In-Interface : ----

Out-Interface : Serial2/0:0

LspIndex : 2

Token : 1

LsrType : Ingress

NO : 4

Fec : 10.34.254.1/32

Nexthop : 10.34.253.1

In-Label : ----

Out-Label : 20

In-Interface : ----

Out-Interface : Serial2/0:0

LspIndex : 3

Token : 2

LsrType : Ingress

TOTAL: 4 Record(s) Found.

私网标签分配情况

```
he_fei_chang>dis bgp vpnv4 vpn-instance rt routing-table
```

Flags: # - valid ^ - active I - internal

 D - damped H - history S - aggregate suppressed

 In/out As

Dest/mask	Next-hop	Med	Local-pref	label	path
-----------	----------	-----	------------	-------	------

```
-----
Route Distinguisher:30034:10 (VPN instance:rt)
```

#/I 2.0.7.0/24	10.34.254.1	100	-/18		
----------------	-------------	-----	------	--	--

#/I 2.0.8.0/24	10.34.254.1	100	-/18		
----------------	-------------	-----	------	--	--

#/I 10.34.1.0/24	10.34.254.1	100	-/18		
------------------	-------------	-----	------	--	--

```

#I 10.34.16.0/24 10.34.254.1 100 -/16
#^ 10.34.42.0/24 0.0.0.0 1025/-
Routes total: 5
<he_fei_chang>dis bgp vpnv4 vpn-instance nrt routing-table
Flags: # - valid ^ - active I - internal
       D - damped H - history S - aggregate suppressed
              In/out As
Dest/mask  Next-hop  Med  Local-pref  label  path
-----
Route Distinguisher:30034:20 (VPN instance:nrt)
#I 10.30.22.0/24 10.34.254.1 100 -/19
#I 10.30.229.0/27 10.34.254.1 100 -/19
#I 10.34.8.0/24 10.34.254.1 100 -/19
#I 10.34.15.0/30 10.34.254.1 100 -/17
#^ 10.34.43.0/24 0.0.0.0 1024/-
#I 10.138.5.0/24 10.34.254.1 100 -/19
Routes total: 6

```