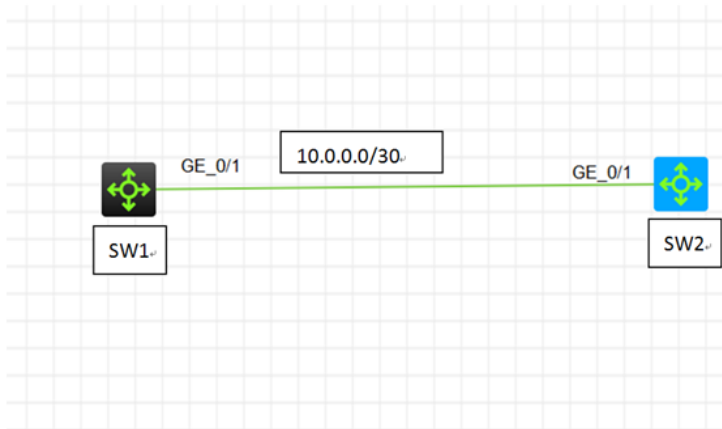


知 某局点OSPF邻居无法建立的解决办法7-Router ID confusion

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组网及说明

本案例为OSPF Router ID confusion的故障复现，网络拓扑图如下：



问题描述

通过dis ospf statistics error查看，具体反馈如下：

```
[SW1]dis ospf statistics error
      OSPF Process 1 with Router ID 1.1.1.1
      OSPF Packet Error Statistics
13      : Router ID confusion      0      : Bad packet
0       : Bad version              0      : Bad checksum
0       : Bad area ID             0      : Drop on unnumbered link
0       : Bad virtual link        0      : Bad authentication type
0       : Bad authentication key  0      : Packet too small
0       : Neighbor state low     0      : Transmit error
0       : Interface down         0      : Unknown neighbor
0       : HELLO: Netmask mismatch 0      : HELLO: Hello-time mismatch
0       : HELLO: Dead-time mismatch 0      : HELLO: Ebit option mismatch
0       : DD: MTU option mismatch  0      : DD: Unknown LSA type
0       : DD: Ebit option mismatch 0      : ACK: Bad ack
0       : ACK: Unknown LSA type   0      : REQ: Empty request
0       : REQ: Bad request        0      : UPD: LSA checksum bad
0       : UPD: Unknown LSA type   0      : UPD: Less recent LSA
[SW1]
```

```
[SW2]dis ospf statistics error
      OSPF Process 1 with Router ID 1.1.1.1
      OSPF Packet Error Statistics
15      : Router ID confusion      0      : Bad packet
0       : Bad version              0      : Bad checksum
0       : Bad area ID             0      : Drop on unnumbered link
0       : Bad virtual link        0      : Bad authentication type
0       : Bad authentication key  0      : Packet too small
0       : Neighbor state low     0      : Transmit error
0       : Interface down         0      : Unknown neighbor
0       : HELLO: Netmask mismatch 0      : HELLO: Hello-time mismatch
0       : HELLO: Dead-time mismatch 0      : HELLO: Ebit option mismatch
0       : DD: MTU option mismatch  0      : DD: Unknown LSA type
0       : DD: Ebit option mismatch 0      : ACK: Bad ack
0       : ACK: Unknown LSA type   0      : REQ: Empty request
0       : REQ: Bad request        0      : UPD: LSA checksum bad
0       : UPD: Unknown LSA type   0      : UPD: Less recent LSA
[SW2]
```

过程分析

根据反馈，SW1和SW2的Router ID confusion一直在增加，说明SW1与SW2的router-id可能存在冲突的情况，需要查看配置来进一步确认，SW1与SW2的配置如下：

SW1：

```
ospf 1 router-id 1.1.1.1
area 0.0.0.0
 network 1.1.1.1 0.0.0.0
 network 10.0.0.1 0.0.0.0
#
interface LoopBack0
 ip address 1.1.1.1 255.255.255.255
#
interface GigabitEthernet1/0/1
 port link-mode route
```

```
combo enable fiber
ip address 10.0.0.1 255.255.255.252
ospf network-type p2p
#
```

SW2:

```
ospf 1 router-id 1.1.1.1
area 0.0.0.0
 network 1.1.1.1 0.0.0.0
 network 10.0.0.2 0.0.0.0
#
interface LoopBack0
ip address 1.1.1.1 255.255.255.255
#
interface GigabitEthernet1/0/1
port link-mode route
combo enable fiber
ip address 10.0.0.2 255.255.255.252
ospf network-type p2p
#
```

根据SW1与SW2的配置反馈，不仅router-id已经冲突，而且loopback 0的IP地址也冲突了，所以导致了OSPF邻居无法正常建立。

解决方法

因此需要修改其中一端的Loopback地址及router-id，在这里就修改SW2的配置，具体配置过程如下：

```
[SW2]undo ospf 1
Undo OSPF process? [Y/N]:y
[SW2]undo int loopback 0
[SW2]int loopback 0
[SW2-LoopBack0]ip address 2.2.2.2 32
[SW2-LoopBack0]quit
[SW2]ospf 1 router-id 2.2.2.2
[SW2-ospf-1]area 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]network 10.0.0.2 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]network 2.2.2.2 0.0.0.0
[SW2-ospf-1-area-0.0.0.0]quit
[SW2-ospf-1]quit
```

修改完配置后即可正常建立OSPF邻居关系：

```
[SW2]dis ospf peer

      OSPF Process 1 with Router ID 2.2.2.2
      Neighbor Brief Information

Area: 0.0.0.0
Router ID   Address      Pri Dead-Time  State      Interface
1.1.1.1     10.0.0.1     1   39          Full/ -    GE1/0/1
[SW2]
```

```
[SW1]dis ospf peer

      OSPF Process 1 with Router ID 1.1.1.1
      Neighbor Brief Information

Area: 0.0.0.0
Router ID   Address      Pri Dead-Time  State      Interface
2.2.2.2     10.0.0.2     1   35          Full/ -    GE1/0/1
[SW1]
```