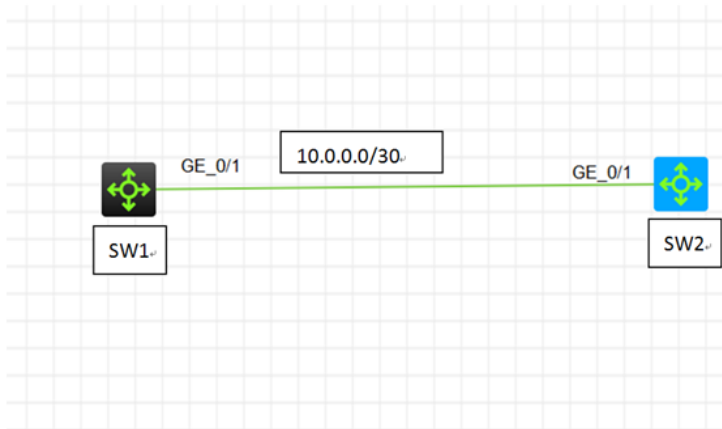


## 知 某局点OSPF邻居无法建立的解决办法2-Bad area ID

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### 组网及说明

本案例为OSPF Bad area ID的故障复现，网络拓扑图如下：



### 问题描述

SW1与SW2为S5820交换机，在配置OSPF后无法建立OSPF邻居关系。

### 过程分析

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
0      : Router ID confusion      0      : Bad packet
0      : Bad version              0      : Bad checksum
24     : 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 2.2.2.2
  OSPF Packet Error Statistics
0      : Router ID confusion      0      : Bad packet
0      : Bad version              0      : Bad checksum
0      : Bad area ID              0      : Drop on unnumbered link
25     : 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>
```

根据OSPF的错误反馈，在SW1中看到Bad area ID的错误数量在增长，同时在SW2中看到Bad virtual link的错误数量在增长。可能是因为两边的OSPF发布的区域不一致，也可能OSPF虚链路指向有问题。

通过分别查看SW1、SW2的OSPF的配置，反馈如下：

SW1:

```
router id 1.1.1.1
#
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
#

```

SW2:

```

#
router id 2.2.2.2
#
ospf 1 router-id 2.2.2.2
area 0.0.0.1
network 2.2.2.2 0.0.0.0
network 10.0.0.2 0.0.0.0
#
interface LoopBack0
ip address 2.2.2.2 255.255.255.255
#
interface GigabitEthernet1/0/1
port link-mode route
combo enable fiber
ip address 10.0.0.2 255.255.255.252
#

```

根据查看的配置，SW1的互联地址发布在了area 0.0.0.0，SW2发布在了area 0.0.0.1。所以导致了OSPF邻居无法正常建立。

## 解决方法

需要将其中一端的区域重新发布即可，在这里就选用SW2的OSPF区域重新配置，具体的配置如下：

```

[SW2]ospf 1 router-id 2.2.2.2
[SW2-ospf-1]undo area 0.0.0.1
[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

```

重新配置SW2的OSPF区域后，SW1与SW2即可正常建立OSPF邻居关系：

```

[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   39          Full/BDR   GE1/0/1
[SW1]

```

```

[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   31          Full/DR    GE1/0/1
[SW2]

```