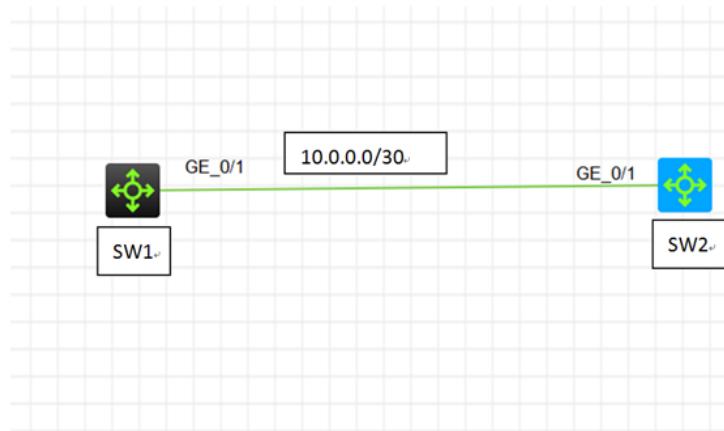


知 某局点OSPF邻居无法建立的解决办法3-Bad authentication type

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组网及说明

本案例为OSPF Bad authentication type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
      0 : Bad area ID                 0 : Drop on unnumbered link
      0 : Bad virtual link            17 : 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
      0 : Bad virtual link            20 : 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]
```

根据反馈，发现SW1与SW2在Bad authentication type的错误数量都有增长，可能是SW1与SW2的OSPF认证方式不一致导致的，需要查看具体的配置：

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
ospf authentication-mode md5 1 cipher $c$3$fBqRFMv3k2QrKG01+4hrsIHDzNK0+x/vA==
#

```

SW2:

```

router id 2.2.2.2
#
ospf 1 router-id 2.2.2.2
area 0.0.0.0
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
ospf authentication-mode simple cipher $c$3$49RbBBJ1w6Uu8Ru30INDI/1prkz3XCwBxg==
#

```

根据配置信息的反馈，SW1使用了MD5加密认证，SW2使用了明文加密认证，两端的加密认证方式的不一致会影响到OSPF邻居的建立。

解决方法

需要统一两端的OSPF认证加密，具体配置如下：

SW1:

```
[SW1]int gi 1/0/1
[SW1-GigabitEthernet1/0/1]undo ospf authentication-mode md5 1
[SW1-GigabitEthernet1/0/1]ospf authentication-mode md5 1 plain 123456
[SW1-GigabitEthernet1/0/1]quit
```

SW2:

```
[SW2]int gi 1/0/1
[SW2-GigabitEthernet1/0/1] undo ospf authentication-mode simple
[SW2-GigabitEthernet1/0/1]ospf authentication-mode md5 1 plain 123456
[SW2-GigabitEthernet1/0/1]quit
```

重新配置后，OSPF的邻居即可正常建立：

```
[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    37          Full/DR       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    34          Full/BDR      GE1/0/1
[SW2]
```