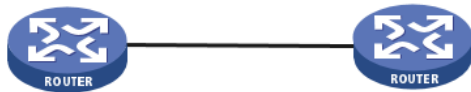


知 V5设备ospf配置邻居验证后邻居无法建立

OSPF 郭尧 2020-11-24 发表

组网及说明



两设备建立ospf邻居

问题描述

在不配置ospf验证情况下可以正常建立，在接口配置ospf验证后邻居无法建立

过程分析

设备接口配置

```
interface Ten-GigabitEthernet0/24.1
vlan-type dot1q vid 1
ip address 218.XXX.XXX.XXX 255.255.255.252
ospf cost 10
ospf authentication-mode md5 1 cipher $c$3$sZj2VXsv6dEOdlq4SkeW/NKNQA4=
ospf network-type p2p
```

```
ospf 1 router-id 218.205.XXX.XX
silent-interface LoopBack0
area 0.0.0.0
network 218.XXX.XXX.XXX 0.0.0.3
network 218.XXX.XXX.XXX 0.0.0.3
area 0.0.0.1
```

两端接口配置ospf的MD5验证，在area骨干区域宣告网段路由，邻居无法建立
查看设备debug信息和日志内容

```
*Nov 11 04:52:55:651 2020 ROUTE RM/6/RMDEBUG: OSPF 1: SEND Packet.
*Nov 11 04:52:55:651 2020 ROUTE RM/6/RMDEBUG: Source Address: 218.205.XXX.XXX
*Nov 11 04:52:55:651 2020 ROUTE RM/6/RMDEBUG: Destination Address: XXX.0.0.5
*Nov 11 04:52:55:651 2020 ROUTE RM/6/RMDEBUG: Ver# 2, Type: 1, Length: 44.
*Nov 11 04:52:55:652 2020 ROUTE RM/6/RMDEBUG: Router: XXX.XXX.112.27, Area: 0.0.0.0, Chec
ksum: 45241.
*Nov 11 04:52:55:652 2020 ROUTE RM/6/RMDEBUG: AuType: 00, Key(ascii): 0 0 0 0 0 0 0.
*Nov 11 04:52:55:652 2020 ROUTE RM/6/RMDEBUG: Net Mask: 255.255.255.252, Hello Int: 10, Opt
ion: _E_.
*Nov 11 04:52:55:652 2020 ROUTE RM/6/RMDEBUG: Rtr Priority: 1, Dead Int: 40, DR: 0.0.0.0, BDR
: 0.0.0.0.
#Nov 11 04:53:00:927 2020 ROUTE OSPF/3/IF_AUTH_FAIL: OSPF
TrapID1.3.6.1.2.1.14.16.2.6<ospflfAuthFailure>: Non-virtual interface XXX.XXX.115.130 index 0
Router XXX.XXX.112.27 PacekSrc XXX.XXX.115.129 authentication fail 5 PacketType 1 .
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: OSPF 1: RECV Packet.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Source Address: XXX.XXX.115.138
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Destination Address: XXX.0.0.5
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Ver# 2, Type: 1, Length: 48.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Router: XXX.XXX.112.28, Area: 0.0.0.0, Chec
ksum: 26059.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: AuType: 00, Key(ascii): 0 0 0 0 0 0 0.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Net Mask: 255.255.255.252, Hello Int: 10, Opt
ion: _E_.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Rtr Priority: 1, Dead Int: 40, DR: 0.0.0.0, BDR
: 0.0.0.0.
*Nov 11 04:53:01:415 2020 ROUTE RM/6/RMDEBUG: Attached Neighbor: XXX.XXX.112.27.
```

设备debug报文收发正常，日志内容报错验证失败

```
#Nov 11 04:53:00:927 2020 ROUTE OSPF/3/IF_AUTH_FAIL: OSPF
```

TrapID1.3.6.1.2.1.14.16.2.6<ospfAuthFailure>: Non-virtual interface XXX.XXX.115.130 index 0
Router XXX.XXX.112.27 PacekSrc XXX.XXX.115.129 authentication fail 5 PacketType 1 .

查看设备ospf error信息

```
display ospf error
```

```
OSPF Process 1 with Router ID XXX.XXX.112.27
```

```
OSPF Packet Error Statistics
```

```
0 : OSPF Router ID confusion    0 : OSPF bad packet
0 : OSPF bad version           0 : OSPF bad checksum
0 : OSPF bad area ID          0 : OSPF drop on unnumbered interface
0 : OSPF bad virtual link      351 : OSPF bad authentication type
0 : OSPF bad authentication key 0 : OSPF packet too small
0 : OSPF Neighbor state low    0 : OSPF transmit error
0 : OSPF interface down       0 : OSPF unknown neighbor
0 : HELLO: Netmask mismatch    0 : HELLO: Hello timer mismatch
0 : HELLO: Dead timer mismatch 0 : HELLO: Extern option mismatch
0 : HELLO: Neighbor unknown    0 : DD: MTU option mismatch
0 : DD: Unknown LSA type       0 : DD: Extern option mismatch
0 : LS ACK: Bad ack            0 : LS ACK: Unknown LSA type
0 : LS REQ: Empty request      0 : LS REQ: Bad request
0 : LS UPD: LSA checksum bad   2 : LS UPD: Received less recent LSA
0 : LS UPD: Unknown LSA type
```

```
display ospf error
```

```
OSPF Process 1 with Router ID XXX.XXX.112.27
```

```
OSPF Packet Error Statistics
```

```
0 : OSPF Router ID confusion    0 : OSPF bad packet
0 : OSPF bad version           0 : OSPF bad checksum
0 : OSPF bad area ID          0 : OSPF drop on unnumbered interface
0 : OSPF bad virtual link      371 : OSPF bad authentication type
0 : OSPF bad authentication key 0 : OSPF packet too small
0 : OSPF Neighbor state low    0 : OSPF transmit error
0 : OSPF interface down       0 : OSPF unknown neighbor
0 : HELLO: Netmask mismatch    0 : HELLO: Hello timer mismatch
0 : HELLO: Dead timer mismatch 0 : HELLO: Extern option mismatch
0 : HELLO: Neighbor unknown    0 : DD: MTU option mismatch
0 : DD: Unknown LSA type       0 : DD: Extern option mismatch
0 : LS ACK: Bad ack            0 : LS ACK: Unknown LSA type
0 : LS REQ: Empty request      0 : LS REQ: Bad request
0 : LS UPD: LSA checksum bad   2 : LS UPD: Received less recent LSA
```

发现**OSPF bad authentication type**认证类型错误一直在增长

反复查看两设备接口验证方式一致，均为MD5验证，两端密钥重复配置，保证一致，但是ospf邻居依然无法建立，仍然报错验证类型错误

后经确认，V7设备只需要在接口启用OSPF验证算法进行邻居验证

V5设备不仅需要在接口进行MD5验证，还需要在area区域进行验证开启

增加**authentication-mode**配置命令

解决方法

同一网段的接口的验证参数必须相同，并且需使用**authentication-mode**命令来设置区域验证模式，使得配置生效。

以明文或密文方式设置的验证密码，均以密文的方式保存在配置文件中。

如果没有指定**cipher**和**plain**，对于MD5/HMAC-MD5验证模式来说缺省为**cipher**，对于简单验证模式来说缺省为**plain**。

相关配置可参考命令**authentication-mode**。

【举例】

配置接口的网段XXX.XXX.0.0/16所在的区域1支持MD5明文验证模式，验证字标识符为15，验证密码为abc。

```
<Sysname> system-view
```

```
[Sysname] ospf 100
```

```
[Sysname-ospf-100] area 1
```

```
[Sysname-ospf-100-area-0.0.0.1] network XXX.XXX.0.0 0.0.255.255
[Sysname-ospf-100-area-0.0.0.1] authentication-mode md5
[Sysname-ospf-100-area-0.0.0.1] quit
[Sysname-ospf-100] quit
[Sysname] interface gigabitethernet 0/1
[Sysname-GigabitEthernet0/1] ospf authentication-mode md5 15 plain abc
```