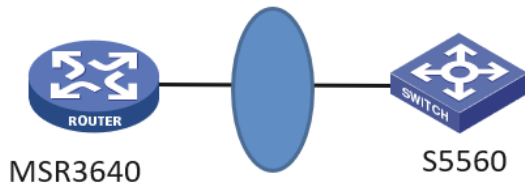


组网及说明



MSR3640和S5560替换思科设备，发现OSPF邻居卡在ExStart状态。

问题描述

查看两端设备OSPF PEER状态全部停留在ExStart

```
[H3C36-40]display ospf peer
  OSPF Process 1 with Router ID 10.21.239.129
    Neighbor Brief Information
  OSPF Process 100 with Router ID 10.72.239.246
    Neighbor Brief Information
Area: 0.0.0.0
Router ID   Address      Pri Dead-Time State      Interface
10.72.239.241 10.72.239.241 1 40    ExStart/ -  GE0/1
[RT-B]display ospf peer
  OSPF Process 1 with Router ID 10.72.239.241
    Neighbor Brief Information
  OSPF Process 100 with Router ID 10.72.239.241
    Neighbor Brief Information
Area: 0.0.0.0
Router ID   Address      Pri Dead-Time State      Interface
10.72.239.246 10.72.239.246 1 31    ExStart/ -  GE1/0/21
```

过程分析

一、查看两侧配置

```
MSR3640:
#
interface GigabitEthernet0/1
port link-mode route
combo enable copper
duplex full
speed 100
ip binding vpn-instance vpn-rt
ip address 10.72.239.246 255.255.255.248
ospf network-type p2p
#
#
ospf 100 router-id 10.72.239.246 vpn-instance vpn-rt
import-route bgp 65300
area 0.0.0.0
network 10.72.239.246 0.0.0.0
#
S5560:
#
interface GigabitEthernet1/0/21
port link-mode route
duplex full
speed 100
ip address 10.72.239.241 255.255.255.248
ospf network-type p2p
#
```

```
#
ospf 100 router-id 10.72.239.241
area 0.0.0.0
network 10.72.239.0 0.0.0.15
network 10.72.239.24 0.0.0.7
network 10.72.239.232 0.0.0.7
network 10.72.239.240 0.0.0.7
```

```
#
配置无误。
```

二、两侧收集debugging分析

S5560:

```
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: OSPF 100: Sending
packets.
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: Source address:
10.72.239.241
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: Destination address:
224.0.0.5
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: Version 2, Type: 2, Length:
32.
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: Router: 10.72.239.241, Area: 0.0.0.0, Checksu
m: 3286.
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: Authentication type: 00, Key(ASCII): 0 0 0 0 0
0 0.
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: MTU: 0, Option: _O_E_, R_I_M_MS Bit: _I_M_
MS_.
*Nov 19 14:33:21:904 2023 HXIYA OSPF/7/DEBUG: DD Sequence number:
b4c6.
```

```
*Nov 19 14:33:26:904 2023 HXIYA OSPF/7/DEBUG: OSPF 100: Sending
packets.
*Nov 19 14:33:26:904 2023 HXIYA OSPF/7/DEBUG: Source address:
10.72.239.241
*Nov 19 14:33:26:904 2023 HXIYA OSPF/7/DEBUG: Destination address:
224.0.0.5
*Nov 19 14:33:26:904 2023 HXIYA OSPF/7/DEBUG: Version 2, Type: 2, Length:
32.
*Nov 19 14:33:26:904 2023 HXIYA OSPF/7/DEBUG: Router: 10.72.239.241, Area: 0.0.0.0, Checksu
m: 3286.
*Nov 19 14:33:26:905 2023 HXIYA OSPF/7/DEBUG: Authentication type: 00, Key(ASCII): 0 0 0 0 0
0 0.
*Nov 19 14:33:26:905 2023 HXIYA OSPF/7/DEBUG: MTU: 0, Option: _O_E_, R_I_M_MS Bit: _I_M_
MS_.
*Nov 19 14:33:26:905 2023 HXIYA OSPF/7/DEBUG: DD Sequence number: b4c6.
```

S5560发送了DD报文。

MSR3640:

```
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: OSPF 100: Receiving
packets.
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: Source address:
10.72.239.241
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: Destination address:
224.0.0.5
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: Version 2, Type: 2, Length:
32.
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: Router: 10.72.239.241, Area: 0.0.0.0, Chec
ksum: 3286.
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: Authentication type: 00, Key(ASCII): 0 0 0 0
0 0 0.
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: MTU: 0, Option: _O_E_, R_I_M_MS Bit:
_I_M_MS_.
*Nov 19 14:26:38:321 2023MSR 36-40 OSPF/7/DEBUG: DD Sequence number:
b4c6.
```

```
*Nov 19 14:26:40:316 2023MSR 36-40 OSPF/7/DEBUG: OSPF 100: Sending
packets.
```

```
*Nov 19 14:26:40:316 2023MSR 36-40 OSPF/7/DEBUG: Source address:
```

10.72.239.246

*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: Destination address:

10.72.239.241

*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: Version 2, Type: 2, Length:

32.

*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: Router: 10.72.239.246, Area: 0.0.0.0, Checksum: 52407.

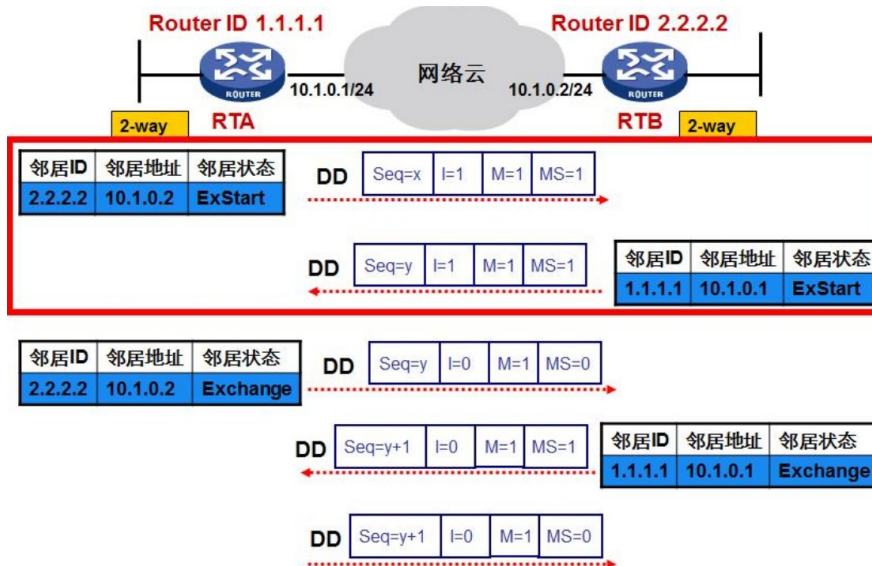
*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: Authentication type: 00, Key(ASCII): 0 0 0 0 0 0 0 0.

*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: MTU: 0, Option: _O_E_, R_I_M_MS Bit: _I_M_MS_.

*Nov 19 14:26:40:317 2023MSR 36-40 OSPF/7/DEBUG: DD Sequence number:

f4df.

MSR3640收到并回复了DD报文，但是S5560上未收到。



根据OSPF邻居的建立过程邻居状态从ExStart到Exchange需要交互一次DD报文。由于MSR3640回复的DD报文S5560未收到，导致OSPF邻居卡在ExStart状态，测试MSR36与S5560直连，OSPF邻居正常full，经排查现场MSR3640和S5560之间还串接了一台二层加密设备，该设备将MSR3640回复的DD报文给过滤了。

解决方法

协调中间二层加密设备进行配置修改，防止OSPF的DD报文被阻断