

知 交换机接口up, 无法学习到arp和mac地址

ARP MAC地址表 唐广 2022-12-27 发表

组网及说明

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问题描述

问题现象：将光模块从旧设备S7506E换到新设备S6805上，接口都是up的，但是无法学习到arp和mac地址

1、接口up

```
=====display interface brief=====
XGE1/0/24    UP 10G(a) F(a) T 1 to H3C-S5560-49
XGE1/0/31    UP 1G(a)  F(a) T 1 NGJY_JGYWL_1F_S3110-52TP_
XGE1/0/32    UP 1G(a)  F(a) T 1
XGE1/0/33    UP 1G(a)  F(a) T 1 NGJY_JGYWL_2F_S3110-52TP_
XGE1/0/34    DOWN auto A   T 1
XGE1/0/35    UP 1G(a)  F(a) T 1 NGJY_JGYWL_3F_S3110-52TP_
XGE1/0/36    UP 1G(a)  F(a) T 1
XGE1/0/37    UP 1G(a)  F(a) T 1 NGJY_JGYWL_4F_S3110-52TP_
XGE1/0/38    DOWN auto A   T 1
```

2、无法学习到arp和mac地址

```
=====display arp all=====
Type: S-Static D-Dynamic O-Openflow R-Rule M-Multiport I-Invalid
IP address  MAC address  VLAN/VSI name Interface  Aging Type
10.3.159.191 c470-abfc-474b 2000 XGE1/0/22 1000 D
10.3.159.251 a069-d96f-9910 2000 XGE1/0/24 541 D
10.3.159.12  487a-dac7-2e0b 2000 BAGG1      539 D
10.3.159.188 5cdd-7098-3b4b 2000 BAGG1      1144 D
10.3.159.253 50da-0064-976c 2000 BAGG1      539 D
10.3.159.254 60db-15ea-e5d6 2000 BAGG1      679 D
10.3.159.5   50da-002f-0f90 2000 XGE1/0/39 541 D
10.3.159.4   50da-002f-0f58 2000 XGE1/0/37 616 D
10.3.159.3   50da-002f-0890 2000 XGE1/0/35 693 D
10.3.159.2   50da-002f-06d0 2000 XGE1/0/33 738 D
10.3.159.6   50da-002f-15b0 2000 XGE1/0/41 965 D
192.168.1.222 000e-c671-4bac -- MGE0/0/0 1131 D
```

```
=====display mac-address=====
0017-6110-7660 200 Learned XGE1/0/31 Y
0020-6b05-0456 200 Learned XGE1/0/39 Y
0023-248e-1e4b 200 Learned XGE1/0/35 Y
0024-816b-8bfc 200 Learned XGE1/0/31 Y
00d8-6124-c97f 200 Learned XGE1/0/37 Y
00fa-89fa-db9f 200 Learned XGE1/0/31 Y
0857-006e-4308 200 Learned XGE1/0/35 Y
0c72-2ce7-37e4 200 Learned XGE1/0/39 Y
1860-249b-6691 200 Learned XGE1/0/39 Y
1860-249b-e8ae 200 Learned XGE1/0/35 Y
189e-2c48-a16a 200 Learned XGE1/0/35 Y
1c7d-222c-9a35 200 Learned XGE1/0/41 Y
2047-47db-bb5a 200 Learned XGE1/0/39 Y
2469-68a1-8f81 200 Learned XGE1/0/33 Y
309c-2374-26d8 200 Learned XGE1/0/43 Y
309c-2377-caec 200 Learned XGE1/0/33 Y
30f9-edfd-f7d5 200 Learned XGE1/0/37 Y
```

过程分析

1、做过替换测试，将这块光模块替换到其他接口，还是学不到arp和mac地址；重新插入另外一块光模块到该接口也学习不到arp和mac地址；将这块光模块插回旧设备7506E就能正常学习到arp和mac地址

2、查看接口光模块是H3C原厂模块

Ten-GigabitEthernet1/0/36 transceiver manufacture information:

Manu. Serial Number : 210231A962X16A018635 (过保)

Manufacturing Date : 2016-10-28

Vendor Name : H3C

3、光模块型号：SFP-GE-LX-SM1310-D；[查看官网也是适配的](#)

4、收集debugging arp packet，发现设备只收到一个arp请求报文，没有回应一个ARP应答报文

```
<AS_JZSJY_HJ_S6805-IRF>*Dec 15 15:11:53:946 2022 AS_JZSJY_HJ_S6805-IRF ARP/7/ARP_R  
CV: Received an ARP message, operation: 1, sender MAC: 90e7-1009-0d0a, sender IP: 10.3.159.15
```

6, target MAC: 0000-0000-0000, target IP: 10.3.159.183

5、接口收光弱，接近阈值

Ten-GigabitEthernet1/0/36 transceiver diagnostic information:

Current diagnostic parameters:

Temp.(j) Voltage(V) Bias(mA) RX power(dBm) TX power(dBm)

28 3.35 14.75 -18.89 -6.05

Alarm thresholds:

Temp.(j) Voltage(V) Bias(mA) RX power(dBm) TX power(dBm)

High 85 3.60 60.00 -3.00 -1.00

Low -5 3.00 0.00 -19.00 -11.00

解决方法

SFP+口使用除了SFP-GE-T、SFP-GE-T-D之外的其他千兆SFP模块与对端连接时，对端需要关闭自协商（autonegotiation）功能。

端口安装SFP-GE-T、SFP-GE-T-D模块时仅支持1G速率。

