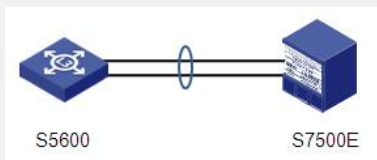


某局点S7500E 与S5600链路聚合状态错误 案例分析

一、组网：



客户组网拓扑示意图如上，采用S7500E与S5600做链路聚合。

二、问题描述：

客户反馈链路聚合状态不正确，链路聚合不成功。

S7500E侧两个端口均显示Unselect，但S5600侧却显示2个端口都是Select状态，已经加入聚合组。

```
[S7503E]display link-aggregation summary
```

```
Aggregation Interface Type:
```

```
BAGG -- Bridge-Aggregation, RAGG -- Route-Aggregation
```

```
Aggregation Mode: S -- Static, D -- Dynamic
```

```
Loadsharing Type: Shar -- Loadsharing, NonS -- Non-Loadsharing
```

```
Actor System ID: 0x8000, c4ca-d934-fef9
```

AGG	AGG	Partner ID	Select	Unselect	Share
-----					BAGG1 D
0x8000	0000-0000-0000	0	2	Shar	

```
Interface Mode Ports Ports Type
```

```
[S5600]display link-aggregation summary
```

```
Aggregation Group Type:D -- Dynamic, S -- Static, M -- Manual
```

```
Loadsharing Type: Shar -- Loadsharing, NonS -- Non-Loadsharing
```

```
Actor ID: 0x8000, 000f-e2bc-f641
```

AL	AL	Partner ID	Select	Unselect	Share	Master
ID	Type	Ports	Ports	Type	Port	
9	S	0x8000,c4ca-d934-fef9	2	0	Shar	GigabitEthernet1/0/2

三、过程分析：

为了排查问题原因，首先检查设备配置。

S7500E侧采用动态链路聚合，S5600侧因为是V3平台设备，采用的是静态链路聚合与之对接，这个配置是没有问题的。

S7500E侧配置：

```
interface Bridge-Aggregation1
```

```
port access vlan 403
```

```
link-aggregation mode dynamic
```

```
interface GigabitEthernet5/0/1
```

```
port link-mode bridge
```

```
port access vlan 403
```

```
speed 1000
```

```
duplex full
port link-aggregation group 1
interface GigabitEthernet5/0/2
port link-mode bridge
description To_dajiaoting-1
port access vlan 403
speed 1000
duplex full
port link-aggregation group 1
```

S5600侧配置:

```
link-aggregation group 9 mode static
interface GigabitEthernet1/0/2
duplex full
speed 1000
port access vlan 403
lacp enable
port link-aggregation group 9
interface GigabitEthernet1/0/3
duplex full
speed 1000
port access vlan 403
lacp enable
port link-aggregation group 9
```

在设备两侧进行debug链路聚合的协议报文，发现有LACP报文交互。

S7500E侧debug信息:

```
*May 22 10:18:01:311 2012 JINGAN_CORE_7503E LAGG/7/LAGG_DEBUG: -Slot=
5; FSM.GigabitEthernet5/0/1.RX.0-432120625:
```

```
CURRENT-->CURRENT, PDU_Indicate
```

```
*May 22 10:18:01:311 2012 JINGAN_CORE_7503E LAGG/7/LAGG_DEBUG: -Slot=
5; PACKET.GigabitEthernet5/0/1.TX.0-432120625:
```

```
size=110, subtype=1, version=1
```

```
Actor: type=1, len=20, sys-pri=0x8000, sys-mac=c4ca-d934-fef9, key=0x1, pr
i=0x8000, port-index=0x3, state=0xd-
```

```
Partner: type=2, len=20, sys-pri=0x8000, sys-mac=000f-e2bc-f641, key=0x6,
pri=0x8000, port-index=0x3, state=0x5
```

//这里显示G5/0/1端口portid为3，对端为3

```
Collector: type=3, len=16, col-max-delay=0x0
```

```
Terminator: type=0, len=0
```

```
*May 22 10:18:01:312 2012 JINGAN_CORE_7503E LAGG/7/LAGG_DEBUG: -Slot=
5; FSM.GigabitEthernet5/0/2.RX.0-432120625:
```

```
CURRENT-->CURRENT, PDU_Indicate
```

```
*May 22 10:18:01:312 2012 JINGAN_CORE_7503E LAGG/7/LAGG_DEBUG: -Slot=
5; PACKET.GigabitEthernet5/0/2.TX.0-432120626:
```

```
size=110, subtype=1, version=1
```

```
Actor: type=1, len=20, sys-pri=0x8000, sys-mac=c4ca-d934-fef9, key=0x1, pr
i=0x8000, port-index=0x4, state=0xd
```

```
Partner: type=2, len=20, sys-pri=0x8000, sys-mac=000f-e2bc-f641, key=0x6,
pri=0x8000, port-index=0x2, state=0x5
```

//这里表示G5/0/2端口为4，对端为2

Collector: type=3, len=16, col-max-delay=0x0

Terminator: type=0, len=0

S5600侧debug信息:

*22.2105176299 BJDJT-s-core LAGG/8/Pkt:- 1 - Receive LACP Packet via port GigabitEthernet1/0/2

*22.2105176301 BJDJT-s-core LAGG/8/Pkt:- 1 - size=128, subtype =1, version=1

Actor: tlv=1, len=20, sys-pri=0x8000, sys-mac=c4ca-d934-fef9, key=0x1, pri=0x8000, p=0x3, state=0x8d

Partner: tlv=2, len=20, sys-pri=0x8000, sys-mac=000f-e2bc-f641, key=0xa, pri=0x8000, p=0x2, state=0x7

//S5600侧G1/0/2 portid为3, 对端是2

Collector: tlv=3, len=16, col-max-delay=0 Terminator: tlv=0, len=0 *22.2105176304 BJDJT-s-core LAGG/8/Pkt:- 1 -

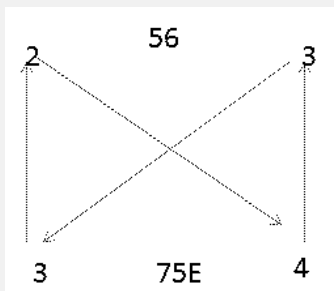
Send LACP Packet via port GigabitEthernet1/0/3*22.2105176988 BJDJT-s-core LAGG/8/Pkt:- 1 size=128, subtype =1, version=1

Actor: tlv=1, len=20, sys-pri=0x8000, sys-mac=000f-e2bc-f641, key=0xa, pri=0x8000, p=0x3, state=0x8d

Partner: tlv=2, len=20, sys-pri=0x8000, sys-mac=c4ca-d934-fef9, key=0x1, pri=0x8000, p=0x4, state=0x7

但从debug信息来看, 两侧设备收发LACP报文的端口与实际端口不一致。

应该是光纤连接交叉了。具体如下示意图:



S7500E的port ID 3收到的是S5600的3发过来, 所以回的报文是S7500E 3-> S5600 3 (但实际发给了S5600的2)

S7500E的4收到的是S5600的2发过来, 所以回的报文是S7500E 4-> S5600 2 (但实际发给了S5600的3)

S5600的2收到的是S7500E的3发过来, 所以回的报文是S5600 2-> S7500E 3 (但实际发给了S7500E的4)

S5600的3收到的是S7500E的4发过来, 所以回的报文是S5600 3-> S7500E 4 (但实际发给了S7500E的3)

四、 解决方法:

经过排查现场光纤连接情况, 发现确实是光纤交叉连接导致了这个现象。

这个问题比较少见, 这里给大家提供一个案例作为参考, 便于大家在排查问题时, 能够扩展一下思路, 很多时候可能不会想到光纤交叉导致链路聚合出现这样的问题。