

知 某局点S7506E对接华为设备聚合起不来

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组网及说明

拓扑如下，现场使用Ten 1/2/0/33和Ten 2/2/0/33与华为40G1分4的口做动态聚合。



问题描述

现场使用Ten 1/2/0/33和Ten 2/2/0/33与华为40G1分4的口做动态聚合，但是聚合协商失败，提示两端配置不一致，配置都是正确的。

%Apr 24 16:43:59:583 2019 WHDCH75RT-T1 IFNET/3/PHY_UPDOWN: Physical state on the interface Bridge-Aggregation24 changed to up.

%Apr 24 16:43:59:586 2019 WHDCH75RT-T1 IFNET/5/LINK_UPDOWN: Line protocol state on the interface Bridge-Aggregation24 changed to up.

%Apr 24 16:43:59:615 2019 WHDCH75RT-T1 LAGG/6/LAGG_INACTIVE_PARTNER: Member port XGE1/2/0/33 of aggregation group BAGG24 changed to the inactive state, because the aggregation configuration of its peer port is incorrect.

%Apr 24 16:43:59:724 2019 WHDCH75RT-T1 IFNET/5/LINK_UPDOWN: Line protocol state on the interface Ten-GigabitEthernet1/2/0/33 changed to down.

%Apr 24 16:43:59:736 2019 WHDCH75RT-T1 IFNET/3/PHY_UPDOWN: Physical state on the interface Bridge-Aggregation24 changed to down.

%Apr 24 16:43:59:738 2019 WHDCH75RT-T1 IFNET/5/LINK_UPDOWN: Line protocol state on the interface Bridge-Aggregation24 changed to down.

Aggregate Interface: Bridge-Aggregation24

Aggregation Mode: Dynamic

Loadsharing Type: Shar

Management VLANs: None

System ID: 0x8000, 74ea-c801-8400

Local:

Port	Status	Priority Index	Oper-Key	Flag
XGE1/2/0/33(R)	U	32768	69	{ACD}
XGE2/2/0/33	U	32768	70	{ACG}

Remote:

Actor	Priority Index	Oper-Key	SystemID	Flag
XGE1/2/0/33	32768	1	321	0x8000, 9c7d-a30d-77a1 {ACG}
XGE2/2/0/33	32768	0	0	0x8000, 0000-0000-0000 {EF}

相关配置：

S7506E配置：

```
#  
interface Bridge-Aggregation24  
description To WHDCH68SWF5C-T1  
port link-type trunk  
undo port trunk permit vlan 1  
port trunk permit vlan 2 to 4094  
link-aggregation mode dynamic  
#  
interface Ten-GigabitEthernet1/2/0/33  
port link-mode bridge  
description To WHDCH68SWF5C-T1_40GE1/0/1:1  
port link-type trunk  
undo port trunk permit vlan 1  
port trunk permit vlan 2 to 4094  
port link-aggregation group 24  
#  
interface Ten-GigabitEthernet2/2/0/33  
port link-mode bridge  
description To WHDCH68SWF5C-T1_40GE1/0/1:2  
port link-type trunk
```

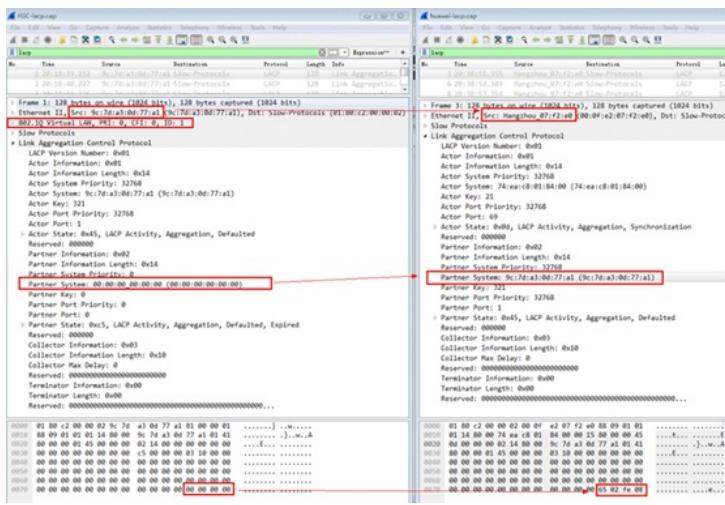
```

undo port trunk permit vlan 1
port trunk permit vlan 2 to 4094
shutdown
port link-aggregation group 24
#
对端配置：
#
interface Eth-Trunk1
description To WHDC75RT-T1_BAGG24
port link-type trunk
port trunk allow-pass vlan 2 to 4094
mode lacp-static
#
interface 40GE1/0/1:1
description To WHDCH75RT-T1_Ten2/2/0/33
eth-trunk 1
device transceiver 40GBASE-FIBER
#
interface 40GE1/0/1:2
description To WHDCH75RT-T1_Ten2/2/0/33
eth-trunk 1
device transceiver 40GBASE-FIBER
#

```

过程分析

在两端设备上分别抓包，发现S7506E发的LACP报文的最后4个字节FCS为是6502fe08，和华为侧发的LACP的报文的最后4字节的FCS值不一致，导致华为侧丢弃该LACP报文，聚合无法对接。



但是我们设备和华为设备对接动态聚合的案例有很多，而且对接起来完全没问题，查看 LACP的RFC标准文档：一个LACPPUD报文长度包含FCS校验，应该是128字节，最后4字节应该是FCS，用来校验报文的MAC层信息，即如果FCS校验不通过，对端MAC层就会过滤掉，端口上会有CRC错包。当时在对端设备接口上也并没有CRC错包，并不能说明报文发的有问题。

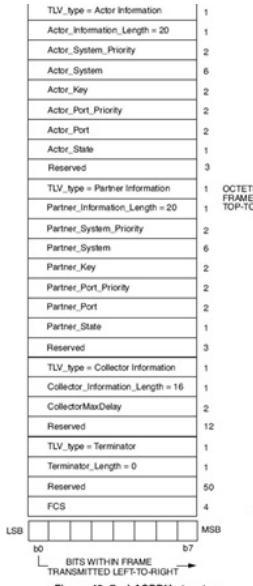


Figure 43-7 – LACPDU structure

NOTE 2—These trailing reserved octets are included in all valid LACPDUs in order to force a fixed PDU size of 128 octets, regardless of the version of the protocol. Hence, a version 1 implementation is guaranteed to be able to receive version N PDUs successfully, although version N PDUs may contain additional information that cannot be interpreted (and will be ignored) by the version 1 implementation. A crucial factor in ensuring backwards compatibility is that any future version of the protocol is required not to re-define the structure and semantics of information defined for the previous version; it may only add new information elements to the previous set. Hence, in a version N PDU, a version 1 implementation can expect to find the version 1 information in exactly the same places as in a version 1 PDU, and can expect to interpret that information as defined for version 1.

ac) *FCS.* This field is the Frame Check Sequence, typically generated by the underlying MAC.

使用计算FCS的网站计算出来的LACP报文的FCS应该是E2CD4C40，而设备发的LACP报文的FC S为是6502FE08。

<https://www.lammertbies.nl/comm/info/crc-calculation.html>

最后, 经过本地复现及抓包对比分析, 发现如果配置了如下命令后, 设备发送的lACP报文会增加4个字节, 即: 6502FE08。

link-aggregation lACP traffic-redirect-notification enable开启聚合流量重定向功能

因为设备上配置了该命令, 导致聚合无法成功, 同时在设备配置手册中对于该命令有如下描述: 开启全局的聚合流量重定向功能时, 如果有连接其它厂商设备的聚合接口, 可能影响该聚合组的正常通信。

所以取消该命令后, 聚合正常建立。

解决方法

在系统视图

undo link-aggregation lACP traffic-redirect-notification enable。