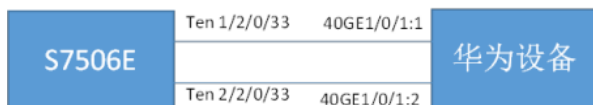


知 某局点S7506E对接华为设备聚合起不来

二层链路聚合 吴虹 2020-02-26 发表

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	21	{ACD}
XGE2/2/0/33	U	32768	70	21	{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
```

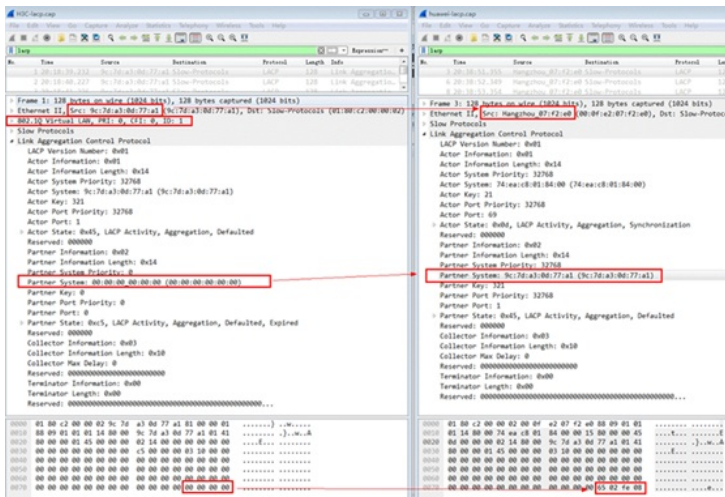
```

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6502fe08，和華為侧发的LACP的报文的最后4字节的FCS值不一致，导致華為侧丢弃该LACP报文，聚合无法对接。



但是我司设备和華為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 LACPPDU 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。

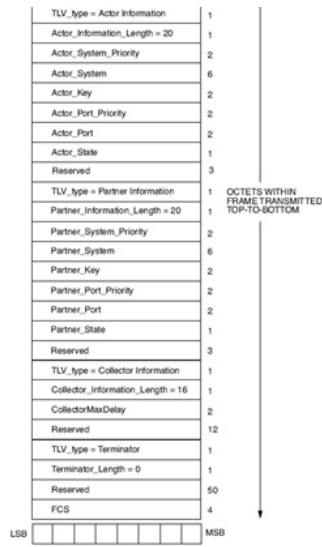


Figure 43-7—LACPDU structure

NOTE 2—These trailing reserved octets are included in all valid LACPDU 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FCS为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。