

# 知 路由器物理口Down导致聚合口内其他成员端口震荡

二层链路聚合 三层链路聚合 二层链路聚合 三层链路聚合 张帅杰 2024-09-27 发表

## 问题描述

我司路由器通过4条物理链路跟第三方防火墙通过链路聚合互联，会出现防火墙侧手工关闭一个成员口会导致路由器侧聚合组内其他聚合成员端口震荡一下后恢复。

## 过程分析

1、打开路由器的日志观察到如下情况：

剩余的几个聚合成员口提示：由于聚合组对端操作Key与参考端口不一致，本端成员端口变为去激活状态。

```
<root>@FA>%Sep 20 14:11:48:514 2024 ... LAGG/6/LAGG_INACTIVE_OPERSTATE: -MDC=1; Member port HGE3/1/1 of aggregation group RAGG3 changed to the inactive state, because the peer port did not have the Synchronization flag.
%Sep 20 14:11:48:514 2024 ... LAGG/6/LAGG_INACTIVE_PARTNER_KEY_WRONG: -MDC=1; Member port HGE4/1/1 of aggregation group RAGG3 changed to the inactive state, because the operational key of the peer port was different than the peer port for the reference port.
%Sep 20 14:11:48:514 2024 ... LAGG/6/LAGG_INACTIVE_PARTNER_KEY_WRONG: -MDC=1; Member port HGE5/1/1 of aggregation group RAGG3 changed to the inactive state, because the operational key of the peer port was different than the peer port for the reference port.
%Sep 20 14:11:48:519 2024 ... IFNET/4/LINK_UPDOWN: -MDC=1; Line protocol state on the interface HundredGigE4/1/1 changed to down.
%Sep 20 14:11:48:520 2024 ... IFNET/4/LINK_UPDOWN: -MDC=1; Line protocol state on the interface HundredGigE5/1/1 changed to down.
%Sep 20 14:11:48:521 2024 ... IFNET/3/PHY_UPDOWN: -MDC=1; Physical state on the interface Route-Aggregation3.41 changed to down.
%Sep 20 14:11:48:521 2024 ... IFNET/3/PHY_UPDOWN: -MDC=1; Physical state on the interface Route-Aggregation3.42 changed to down.
%Sep 20 14:11:48:521 2024 ... IFNET/4/LINK_UPDOWN: -MDC=1; Line protocol state on the interface Route-Aggregation3.41 changed to down.
%Sep 20 14:11:48:521 2024 ... IFNET/4/LINK_UPDOWN: -MDC=1; Line protocol state on the interface Route-Aggregation3.42 changed to down.
```

2、继续查看，将debug link-aa lacp打开后将问题复现，查看在对端防火墙的接口手动执行shutdown的命令后，会发送key=0的LACP报文，导致路由器侧其他的成员端口震荡一下，直到选出新的参考端口后up；

```
*Sep 21 14:19:46:976 2024 ... LAGG/7/Packet: -MDC=1-Slot=2;
PACKET.HundredGigE2/1/1.receive.
size=110, subtype=1, version=1
Actor: type=1, len=20, sys-pri=0x8000, sys-mac=0024-ac71-5fff, key=0x0, pri=0x8000, port-index=0x311, state=0x47
Partner: type=2, len=20, sys-pri=0xffff, sys-mac=0000-0000-0000, key=0x1, pri=0xffff, port-index=0x1, state=0x1
Collector: type=3, len=16, col-max-delay=0x0
Terminator: type=0, len=0
```

3、继续了解第三方防火墙是为了实现让对端端口快速踢出聚合组，所以才会发key=0的LACP报文，恰好这个口是参考端口，所以导致问题产生。

## 解决方法

第三方防火墙是通过自己私有的方式实现聚合成员快速离开，而我们路由器侧是按照协议实现的，所以最终解决方案是让对方防火墙手工shutdown端口时不发送key=0的报文；