

## 知 S7610-X能正常上网但邮件附件无法下载（接口有流量不学习Mac）

二层转发 宣江明 2022-04-19 发表

### 组网及说明

OLT-S7610-BRAS;

Vlan 2004; 网关在bras上, 设备为华为, 华为的bras上有arp信息, 我司76上没有mac-add。

#### 问题描述

OLT-S7610-BRAS;

Vlan 2004; 网关在bras上, 设备为华为, 华为的bras上有arp信息, 我司76上没有mac-add。现场问题是OLT下面部分终端能正常上网, 但是下载邮件中的附件无法下载, 经排查设备上没有学习到Mac。在其它vlan下面的终端无该异常情况。

## 过程分析

接口下没看见特别异常配置，诊断没看到有异常问题。

```
#
interface GigabitEthernet1/0/37
port link-mode bridge
description HuiHeDianZi,DIA,30M:1,PTD-DG-180909-00001,580HLW024861
port access vlan 2004
broadcast-suppression kbps 10000
undo lldp enable
qos apply policy 30M inbound
qos apply policy 30M outbound
```

#

有流量但是不学习Mac

```
<s1-b-gddg-DLcaibian>dis mac-address int
<s1-b-gddg-DLcaibian>dis mac-address interface g 1/0/37
MAC Address      VLAN ID      State      Port/Nickname      Aging
<s1-b-gddg-DLcaibian>
<s1-b-gddg-DLcaibian>
<s1-b-gddg-DLcaibian>
<s1-b-gddg-DLcaibian>dis mac-address interface g 1/0/37
MAC Address      VLAN ID      State      Port/Nickname      Aging
<s1-b-gddg-DLcaibian>
<s1-b-gddg-DLcaibian>
```

```
<s1-b-gddg-DLcaibian>dis int g 1/0/37
GigabitEthernet1/0/37
Current state: UP
Line protocol state: UP
IP packet frame type: Ethernet II, hardware address: 7450-4ebc-f800
Description: HuiHeDianZi,DIA,30M:1,PTD-DG-180909-00001,580HLW024861
Bandwidth: 100000 kbps
Loopback is not set
Media type is twisted pair, port hardware type is 1000_BASE_TAN_SFP
100Mbps-speed mode, full-duplex mode
Link speed type is autonegotiation, link duplex type is autonegotiation
Flow-control is not enabled
Maximum frame length: 9216
Allow jumbo frames to pass
Broadcast max-kbps: 10048
Multicast max-ratio: 100%
Unicast max-ratio: 100%
PVID: 2004
MDI type: Automdix
Port link-type: Access
Tagged VLANs: None
Untagged VLANs: 2004
Port priority: 0
Last link flapping: 6 hours 56 minutes 17 seconds
Last clearing of counters: Never
Current system time: 2022-04-06 16:11:57 Beijing+08:00:00
Last time when physical state changed to up: 2022-04-06 09:15:40 Beijing+08:00:00
Last time when physical state changed to down: 2022-04-06 09:15:33 Beijing+08:00:00
Peak input rate: 1818311 bytes/sec, at 2022-01-14 16:22:00
Peak output rate: 3786465 bytes/sec, at 2022-01-04 08:21:21
Last 300 seconds input: 370 packets/sec 231514 bytes/sec 2%
```

进一步查看发现底层vlan学习功能被关闭了

Mac学习不到，是由于底层vlan的mac学习功能被关闭了：

```
[s1-b-gddg-DLcaibian-probe]bcm s 1 c 0 dump/vlan/2004
```

```
VLAN.ipipe0[2004]: <VLAN_PROFILE_PTR=0,VLAN_CLASS_ID=0,VIRTUAL_PORT_EN=0,VALID=
1,UUC_TRILL_NETWORK_RECEIVERS_PRESENT=0,UUC_IDX=0,UMC_TRILL_NETWORK_REC
EIVERS_PRESENT=0,UMC_IDX=0,TRILL_TRANSIT_IGMP_MLD_PAYLOAD_TO_CPU=0,TRILL_R
BRIDGE_NICKNAME_INDEX=0,TRILL_DOMAIN_NONUC_REPL_INDEX=0,TRILL_ACCESS_REC
EIVERS_PRESENT=0,SVC_METER_OFFSET_MODE=0,SVC_METER_INDEX=0,STG=1,SRC_PV
LAN_PORT_TYPE=0,RSVD_FLEX_CTR_POOL_NUMBER=0,RSVD_FLEX_CTR_BASE_COUNT
R_IDX=0,RESERVED_1=0,RESERVED_0=0,PORT_BITMAP=0x0000001e00200000000b,L2_ENTR
Y_KEY_TYPE=0,HIGIG_TRUNK_OVERRIDE_PROFILE_PTR=0x80,FLEX_CTR_POOL_NUMBER=
0,FLEX_CTR_OFFSET_MODE=0,FLEX_CTR_BASE_COUNTER_IDX=0,FID_ID=0x7d4,EVEN_PAR
ITY_1=0,EVEN_PARITY_0=0,ENABLE_IGMP_MLD_SNOOPING=0,BC_TRILL_NETWORK_RECEI
VERS_PRESENT=0,BC_IDX=0>
```

```
[s1-b-gddg-DLcaibian-probe]bcm s 1 c 0 dump/vlan_profile/0
```

```
VLAN_PROFILE.ipipe0[0]: <TRUST_DOT1P_PTR=0,TRUST_DOT1P=0,RESERVED_0=0,PROT
OL_PKT_INDEX=0,PHB2_USE_INNER_DOT1P=0,PHB2_ENABLE=0,PHB2_DOT1P_MAPPING_PT
R=0,OUTER_TPID_INDEX=0,LEARN_DISABLE=1,L3_IPV6_PFM=1,L3_IPV4_PFM=1,L2_PFM=1,L2
_NON_UCAST_TOCPU=0,L2_NON_UCAST_DROP=0,L2_MISS_TOCPU=0,L2_MISS_DROP=0,IP
MCV6_L2_ENABLE=1,IPMCV4_L2_ENABLE=1,EVEN_PARITY=0>
```

打开后，mac可正常学习到

```
[s1-b-gddg-DLcaibian-probe]bcm s 1 c 0 modify/vlan/2004/1/vlan_profile_ptr=4
```

```
[s1-b-gddg-DLcaibian-probe]dis mac-address int g 1/0/37
```

MAC Address	VLAN ID	State	Port/Nickname	Aging
0000-4c00-5984	2004	Learned	GE1/0/37	Y

在40304236R09版本中提供热补丁解决。 GE1/0/37

最终通过分析代码逻辑，现场使用的版本，在设备重启时，极低概率下存在一个时序问题：平台配置恢复流程先于底层vlan初始化流程，配置恢复时单板底层vlan未准备好，导致vlan mac学习未正常打开。

本地可以构造出该种情况，通过现场收集故障VLAN的状态信息，可确认是触发该时序问题导致。

