

组网及说明

两台S10508X为核心交换机，作为业务网关，接入交换机双上行互连主备核心。

问题描述

现场有多个业务vlan部署vrrp，但是其中一个vlan建立失败，出现双主情况，其他vlan正常。

主核心优先级为110:

```
Interface Vlan-interface1020
VRID : 102 Adver Timer : 100
Admin Status : Up State : Master
Config Pri : 110 Running Pri : 110
Preempt Mode : Yes Delay Time : 5000
Auth Type : None
Virtual IP : 10.208.11.254
Virtual MAC : 0000-5e00-0166
Master IP : 10.208.11.252
```

备核心优先级为100:

```
Interface Vlan-interface1020
VRID : 102 Adver Timer : 100
Admin Status : Up State : Master
Config Pri : 100 Running Pri : 100
Preempt Mode : Yes Delay Time : 5000
Auth Type : None
Virtual IP : 10.208.11.254
Virtual MAC : 0000-5e00-0166
Master IP : 10.208.11.253
```

过程分析

1、核查配置没有问题

主核心:

```
interface Vlan-interface1020
ip address 10.208.11.252 255.255.252.0
vrrp vrid 102 virtual-ip 10.208.11.254
vrrp vrid 102 priority 110
vrrp vrid 102 preempt-mode delay 5000
```

备核心:

```
interface Vlan-interface1020
ip address 10.208.11.253 255.255.252.0
vrrp vrid 102 virtual-ip 10.208.11.254
```

2、检测端口stp状态正常，主备交换机能相互ping通。

```
1030 Ten-GigabitEthernet3/0/47 DESI FORWARDING NONE
```

3、在两台核心同时开启Debugging调试。

主核心:

```
<Master>debugging vrrp packet
*Oct 23 20:41:58:555 2018 Master VRRP4/7/Packet: -MDC=1; Sent Advertisement message from
Vlan-interface1020 VRID: 102 Pri: 110 Adver timer: 100 centiseconds
```

备核心:

```
<Slave>debugging vrrp packet
*Oct 23 20:46:36:700 2018 Slave VRRP4/7/Packet: -MDC=1; Sent Advertisement message from Vlan-interface1020 VRID: 102 Pri: 100 Adver timer: 100 centiseconds
```

从调试信息发现:

设备一直在发送vrrp通告报告，但是对端都收不到，到目前为止怀疑是VRRP报文在中间设备被丢弃了。

4、检查接入交换机的配置

```

vlan 1000 #
vlan 1020
igmp-snooping enable
igmp-snooping drop-unknown
# vlan 1030
# vlan 1040
# vlan 1050
# vlan 1060
# vlan 1070

```

发现针对vlan1020配置了igmp-snooping enable和未知组播丢弃功能，将命令 igmp-snooping drop-unknown删除后问题解决，vrrp建立成功。

原因很明显，vrrp报文的组播地址是224.0.0.18，对于交换机来说就是普通的组播数据，不会产生igmp消息，所以并不会形成igmp-snooping表项，当设备开启未知组播丢弃功能之后vrrp报文则会被丢弃。

解决方法

但是现场由于业务需要，必须开启该功能，所以该方案无法从根本上解决问题。

通过在实验室复现测试验证，可以通过添加静态组播MAC地址表项解决，具体方案如下：

mac-address multicast 0100-5e00-0012 interface g1/0/1 to g1/0/2 vlan 10

注意：这里的mac-address需要填写组播的目的地址

No.	Time	Source	Destination	Protocol	Length	Info
5177	2502.005811	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5181	2503.005237	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5184	2504.006600	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5186	2505.005504	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5187	2506.005699	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5189	2507.005178	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5190	2508.005375	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5192	2509.005231	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5193	2510.004697	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5195	2511.004672	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5196	2512.004582	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5198	2513.004530	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5199	2514.005019	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5201	2515.004350	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5203	2516.004300	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5205	2517.004998	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5208	2518.004168	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5213	2519.004180	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5214	2520.004032	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)
5215	2521.003990	one.one.one.one	vrrp.mcast.net	VRRP	60	Announcement (v3)

```

> Frame 2345: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on interface 0
> Ethernet II, Src: IETF-VRRP-VRID_01 (00:00:5e:00:01:01), Dst: IPv4mcast_12 (01:00:5e:00:00:12)
* Internet Protocol Version 4, Src: one.one.one.one (1.1.1.1), Dst: vrrp.mcast.net (224.0.0.18)
  0100 ... = Version: 4
  ... 0101 = Header Length: 20 bytes (5)
  > Differentiated Services Field: 0xc0 (DSCP: CS6, ECN: Not-ECT)
  Total Length: 32
  Identification: 0x0771 (1905)
  > Flags: 0x0000
  Time to live: 255
  ...

```

[SWC]dis mac-address multicast

MAC Address VLAN ID State Port/NickName Aging

0100-5e00-0012 10 Multicast GE1/0/1 N GE1/0/2