

# 知 S12508X-AF使用HB板卡配置32个VRRP组之后某些vrrp虚地址ping不通

VRRP 单板 王英凯 2019-05-05 发表

## 组网及说明

S12508X-AF使用HB板卡配置32个VRRP组之后某些vrrp虚地址ping不通

## 问题描述

部分VRRP虚地址ping不通，在PC上或者在备机带源都不通，PC上关于不通的虚地址的ARP是正常的。

主机

```
[IDC-HXXT-JR12508-S1]dis device
```

Slot Type	State	Subslot	Soft Ver	Patch Ver	
0 LSXM1SUPB1	Master	0	S12508X-AF-2713	None	
1 LSXM1SUPB1	Standby	0	S12508X-AF-2713	None	
2 LSXM1TGS48HB1	Normal	0	S12508X-AF-2713	None	/业务板卡
3 LSXM1CGQ6QGHB1	Normal	0	S12508X-AF-2713	None	//40G接口板卡 聚合端口使用
4 NONE	Absent	0	NONE	None	
5 NONE	Absent	0	NONE	None	
6 NONE	Absent	0	NONE	None	
7 NONE	Absent	0	NONE	None	
8 NONE	Absent	0	NONE	None	
9 NONE	Absent	0	NONE	None	
10 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
11 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
12 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
13 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
14 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
15 NONE	Absent	0	NONE	None	

```
[IDC-HXXT-JR12508-S1]
```

备机

```
[IDC-HXXT-JR12508-S2]dis device
```

Slot Type	State	Subslot	Soft Ver	Patch Ver	
0 LSXM1SUPB1	Master	0	S12508X-AF-2713	None	
1 LSXM1SUPB1	Standby	0	S12508X-AF-2713	None	
2 LSXM1TGS48HB1	Normal	0	S12508X-AF-2713	None	/业务板卡
3 LSXM1CGQ6QGHB1	Normal	0	S12508X-AF-2713	None	//40G接口板卡 --聚合端口使用
4 NONE	Absent	0	NONE	None	
5 NONE	Absent	0	NONE	None	
6 NONE	Absent	0	NONE	None	
7 NONE	Absent	0	NONE	None	
8 NONE	Absent	0	NONE	None	
9 NONE	Absent	0	NONE	None	
10 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
11 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
12 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
13 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
14 LSXM1SFH08C1	Normal	0	S12508X-AF-2713	None	
15 NONE	Absent	0	NONE	None	

```
[IDC-HXXT-JR12508-S2]
```

测试.

```
[IDC-HXXT-JR12508-S2] ping -a 12.1.1.253 12.1.1.254
```

```
Ping 12.1.1.254 (12.1.1.254) from 12.1.1.253: 56 data bytes, press CTRL_C to break
56 bytes from 12.1.1.254: icmp_seq=0 ttl=255 time=1.304 ms
56 bytes from 12.1.1.254: icmp_seq=1 ttl=255 time=1.005 ms
56 bytes from 12.1.1.254: icmp_seq=2 ttl=255 time=0.985 ms
56 bytes from 12.1.1.254: icmp_seq=3 ttl=255 time=0.926 ms
56 bytes from 12.1.1.254: icmp_seq=4 ttl=255 time=1.028 ms
```

--- Ping statistics for 12.1.1.254 ---  
5 packet(s) transmitted, 5 packet(s) received, 0.0% packet loss  
round-trip min/avg/max/std-dev = 0.926/1.050/1.304/0.132 ms

//正常的主机,在S2上面通过实地址可以ping通虚地址

```
[IDC-HXXT-JR12508-S2] ping -a 12.1.120.253 12.1.120.254  
Ping 12.1.120.254 (12.1.120.254) from 12.1.120.253: 56 data bytes, press CTRL_C to break  
Request time out  
Request time out  
Request time out  
Request time out  
Request time out
```

--- Ping statistics for 12.1.120.254 ---  
5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss  
[IDC-HXXT-JR12508-S2]

//异常的主机,在S2上面通过实地址不能ping通虚地址.

刚才客户做了测试,  
当Master在S1上时.

-----正常的网段-----						
Vlan701	1	Master	105	100	None	12.1.1.254
Vlan702	2	Master	105	100	None	12.1.2.254
Vlan705	5	Master	105	100	None	12.1.5.254
Vlan707	7	Master	105	100	None	12.1.7.254
Vlan714	14	Master	105	100	None	12.1.14.254
Vlan715	15	Master	105	100	None	12.1.15.254
Vlan716	16	Master	105	100	None	12.1.16.254
Vlan717	17	Master	105	100	None	12.1.17.254
Vlan718	18	Master	105	100	None	12.1.18.254
Vlan719	19	Master	105	100	None	12.1.19.254
Vlan720	20	Master	105	100	None	12.1.20.254
Vlan721	21	Master	105	100	None	12.1.21.254
Vlan722	22	Master	105	100	None	12.1.22.254
Vlan724	24	Master	105	100	None	12.1.24.254
Vlan725	25	Master	105	100	None	12.1.25.254
Vlan726	26	Master	105	100	None	12.1.26.254
-----异常的网段-----						
Vlan810	110	Master	105	100	None	12.1.110.254
Vlan819	119	Master	105	100	None	12.1.119.254
Vlan820	120	Master	105	100	None	12.1.120.254
Vlan719	19	Master	105	100	None	12.1.19.254
Vlan720	20	Master	105	100	None	12.1.20.254
Vlan723	23	Master	105	100	None	12.1.23.254
Vlan733	33	Master	105	100	None	12.1.33.254
Vlan824	124	Master	105	100	None	12.1.124.254
Vlan825	125	Master	105	100	None	12.1.125.254
Vlan826	126	Master	105	100	None	12.1.126.254
Vlan827	127	Master	105	100	None	12.1.127.254
Vlan1100	100	Master	105	100	None	12.1.100.254
Vlan1101	101	Master	105	100	None	12.1.101.254
Vlan1102	102	Master	105	100	None	12.1.102.254
Vlan1103	103	Master	105	100	None	12.1.103.254
Vlan1104	104	Master	105	100	None	12.1.104.254
Vlan1105	105	Master	105	100	None	12.1.105.254

变更后.将下面17个网段的Master切换到备的上去之后.前面的32个均正常.

VLAN1105不通.

#### 过程分析

Debug只有实地址的流量,虚地址的包都没有,

```
-----S1-----
<IDC-HXXT-JR12508-S1>*Apr 29 14:06:09:024 2019 IDC-HXXT-JR12508-S1
IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Receiving, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65166, offset = 0, ttl = 255, protocol = 1,
checksum = 53706, s = 12.1.105.65, d = 12.1.105.252
prompt: Receiving IP packet.

*Apr 29 14:06:09:024 2019 IDC-HXXT-JR12508-S1 IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65166, offset = 0, ttl = 255, protocol = 1,
checksum = 53706, s = 12.1.105.65, d = 12.1.105.252
prompt: IP packet is delivering up.

*Apr 29 14:06:09:025 2019 IDC-HXXT-JR12508-S1 IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65167, offset = 0, ttl = 255, protocol = 1,
checksum = 53705, s = 12.1.105.65, d = 12.1.105.252
prompt: IP packet is delivering up.

*Apr 29 14:06:09:026 2019 IDC-HXXT-JR12508-S1 IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65168, offset = 0, ttl = 255, protocol = 1,
checksum = 53704, s = 12.1.105.65, d = 12.1.105.252
prompt: IP packet is delivering up.

*Apr 29 14:06:09:027 2019 IDC-HXXT-JR12508-S1 IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65169, offset = 0, ttl = 255, protocol = 1,
checksum = 53703, s = 12.1.105.65, d = 12.1.105.252
prompt: IP packet is delivering up.

*Apr 29 14:06:09:028 2019 IDC-HXXT-JR12508-S1 IPFW/7/IPFW_PACKET: -MDC=1-Slot=3;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65170, offset = 0, ttl = 255, protocol = 1,
checksum = 53702, s = 12.1.105.65, d = 12.1.105.252
prompt: IP packet is delivering up.

<IDC-HXXT-JR12508-S1>

-----S2-----

<IDC-HXXT-JR12508-S2>*Apr 29 14:07:54:420 2019 IDC-HXXT-JR12508-S2
IPFW/7/IPFW_PACKET: -MDC=1-Slot=2;
Receiving, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65171, offset = 0, ttl = 255, protocol = 1,
checksum = 53700, s = 12.1.105.65, d = 12.1.105.253
prompt: Receiving IP packet.

*Apr 29 14:07:54:420 2019 IDC-HXXT-JR12508-S2 IPFW/7/IPFW_PACKET: -MDC=1-Slot=2;
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,
pktlen = 100, pktid = 65171, offset = 0, ttl = 255, protocol = 1,
checksum = 53700, s = 12.1.105.65, d = 12.1.105.253
prompt: IP packet is delivering up.

*Apr 29 14:07:54:421 2019 IDC-HXXT-JR12508-S2 IPFW/7/IPFW_PACKET: -MDC=1-Slot=2;
```

Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,  
pktlen = 100, pktid = 65172, offset = 0, ttl = 255, protocol = 1,  
checksum = 53699, s = 12.1.105.65, d = 12.1.105.253  
prompt: IP packet is delivering up.

\*Apr 29 14:07:54:422 2019 IDC-HXXT-JR12508-S2 IPFW/7/IPFW\_PACKET: -MDC=1-Slot=2;  
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,  
pktlen = 100, pktid = 65173, offset = 0, ttl = 255, protocol = 1,  
checksum = 53698, s = 12.1.105.65, d = 12.1.105.253  
prompt: IP packet is delivering up.

\*Apr 29 14:07:54:423 2019 IDC-HXXT-JR12508-S2 IPFW/7/IPFW\_PACKET: -MDC=1-Slot=2;  
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,  
pktlen = 100, pktid = 65174, offset = 0, ttl = 255, protocol = 1,  
checksum = 53697, s = 12.1.105.65, d = 12.1.105.253  
prompt: IP packet is delivering up.

\*Apr 29 14:07:54:423 2019 IDC-HXXT-JR12508-S2 IPFW/7/IPFW\_PACKET: -MDC=1-Slot=2;  
Delivering, interface = Vlan-interface1105, version = 4, headlen = 20, tos = 0,  
pktlen = 100, pktid = 65175, offset = 0, ttl = 255, protocol = 1,  
checksum = 53696, s = 12.1.105.65, d = 12.1.105.253  
prompt: IP packet is delivering up.

PING 12.1.105.254的数据包完全收不到.

目前12.1.105.254 的网关在S2上

<IDC-HXXT-JR12508-S2>dis vrrp interface Vlan-interface 1105

IPv4 Virtual Router Information:

Running mode : Standard

Total number of virtual routers on interface Vlan-interface1105 : 1

Interface	VRID	State	Running	Adver	Auth	Virtual
		Pri	Timer	Type		IP
Vlan1105	105	Master	100	100	None	12.1.105.254

<IDC-HXXT-JR12508-S2>

## 解决方法

问题原因:

产品芯片硬件限制, HB的板卡对于VRID单设备只支持16个, 所以会出现开始单台设备只能正常使用的16个VRID不同的VRRP组, 此外, 这种情况日志里也会报虚MAC下发失败的日志

%Apr 29 14:33:12:855 2019 IDC-HXXT-JR12508-S1 VRRP/3/VRRP\_VMAC\_INEFFECTIVE: -Slot=3;

The IPv4 virtual router 105 (configured on Vlan-interface1105) failed to add virtual MAC.

%Apr 29 14:33:13:445 2019 IDC-HXXT-JR12508-S1 VRRP/3/VRRP\_VMAC\_INEFFECTIVE: -Slot=2;

The IPv4 virtual router 105 (configured on Vlan-interface1105) failed to add virtual MAC.

Vlan 1105以及以后其他的vian之后再配置vrrp组的时候, 请采用现在已经用了的VRID。另外如果是ipv4|ipv6共存的情况, vrid规格是折半的