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某局点S6520X-EI二层组播切换花屏，正常运行时偶发黑屏

IGMP Snooping

许家豪 2022-06-01 发表

组网及说明

型号：6520X-EI

版本：6308P02

组网：不涉及

问题描述

问题描述：现场多台6520X-EI设备跑二层组播，设备上既有组播源又有组播接收者（显示屏），有两个故障现象：1、在接收者切换组播组时会花屏；2、在正常运行时会偶发显示器黑屏现象。

过程分析

问题分析：1、切换时显示屏会花屏，需要排查下切换时是否有拥塞，排查为何会拥塞；2、正常运行偶发黑屏，需排查是否有丢包，为何会丢包。

1、在切换组播组时开启debug，并查看接口下组播组表项，发现在大量切换组播组时，终端只会发送部分组播组的IGMP leave packet报文，未发送IGMP leave packet的组播组只能等待老化，这期间端口下组播组较多，端口拥塞丢包导致花屏，现场会花屏4~5分钟，对应组播组的老化时间为260S，端口下组播组数量恢复正常后，花屏故障也随即消失。

1) debug看到有部分组播组发出了IGMP leave packet报文

*Jan 17 05:30:08:985 2013 jieru_06 MCS/7/PACKET: Receive IGMP leave packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

*Jan 17 05:30:08:988 2013 jieru_06 MCS/7/PACKET: The IGMP packet which receive from port Ten-GigabitEthernet1/0/5 on VLAN 1 on Main slot, forward it locally.

*Jan 17 05:30:08:989 2013 jieru_06 MCS/7/PACKET: Forward the IGMP membership packet which destination IP address is 224.0.0.2 and source IP address is 172.16.69.47 on VLAN 1.

*Jan 17 05:30:08:989 2013 jieru_06 MCS/7/PACKET: Succeed in delivering up packet to IP.

*Jan 17 05:30:01:133 2013 jieru_06 MCS/7/PACKET: Receive IGMP leave packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

*Jan 17 05:30:01:137 2013 jieru_06 MCS/7/PACKET: The IGMP packet which receive from port Ten-GigabitEthernet1/0/5 on VLAN 1 on Main slot, forward it locally.

*Jan 17 05:30:01:138 2013 jieru_06 MCS/7/PACKET: Forward the IGMP membership packet which destination IP address is 224.0.0.2 and source IP address is 172.16.69.47 on VLAN 1.

*Jan 17 05:30:01:138 2013 jieru_06 MCS/7/PACKET: Succeed in delivering up packet to IP.

*Jan 17 05:30:03:520 2013 jieru_06 MCS/7/PACKET: Receive IGMP leave packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

*Jan 17 05:30:03:520 2013 jieru_06 MCS/7/PACKET: Receive IGMP leave packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

*Jan 17 05:30:03:524 2013 jieru_06 MCS/7/PACKET: The IGMP packet which receive from port Ten-GigabitEthernet1/0/5 on VLAN 1 on Main slot, forward it locally.

*Jan 17 05:30:03:524 2013 jieru_06 MCS/7/PACKET: Forward the IGMP membership packet which destination IP address is 224.0.0.2 and source IP address is 172.16.69.47 on VLAN 1.

*Jan 17 05:30:03:524 2013 jieru_06 MCS/7/PACKET: Succeed in delivering up packet to IP.

2) 查看端口下组播组表项，发现有部分组播组在等待老化

dis igmp-snooping group interface Ten-GigabitEthernet 1/0/5

Total 7 entries.

XGE1/0/5:

VLAN 1: Total 7 entries.

(0.0.0.0, 224.1.1.254)	(00:03:59)
(0.0.0.0, 224.1.2.80)	(00:03:56)
(0.0.0.0, 224.1.2.187)	(00:04:01)
(0.0.0.0, 224.1.2.188)	(00:04:01)
(0.0.0.0, 224.1.2.247)	(00:03:55)
(0.0.0.0, 224.1.3.39)	(00:04:06)
(0.0.0.0, 224.1.3.40)	(00:04:06)

dis igmp-snooping group interface Ten-GigabitEthernet 1/0/5

Total 7 entries.

XGE1/0/5:

VLAN 1: Total 7 entries.

(0.0.0.0, 224.1.1.254)	(00:04:06)
(0.0.0.0, 224.1.2.80)	(00:01:28)
(0.0.0.0, 224.1.2.187)	(00:01:33)
(0.0.0.0, 224.1.2.188)	(00:01:33)
(0.0.0.0, 224.1.2.247)	(00:01:27)
(0.0.0.0, 224.1.3.39)	(00:04:04)
(0.0.0.0, 224.1.3.40)	(00:04:02)

解决方法
dis igmp-snooping group interface Ten-GigabitEthernet 1/0/5

解决方案entries.

1、切换组播组终端花屏的问题，需排查终端为何没有发出IGMP leave packet报文，导致设备组播组表项残留：进而导致拥塞丢包花屏。

2、运行时报错问题，可升级到R6530P01+H01补丁解决。

```
(0.0.0.0, 224.1.1.254)          (00:03:48)
(0.0.0.0, 224.1.3.39)          (00:04:17)
(0.0.0.0, 224.1.3.40)          (00:04:15)
```

3) 进一步对比平台和驱动收到IGMP协议报文数量，发现驱动和平台收包数量一致，说明确实是终端未发送部分组播组的leave报文，导致组播组表项残留，端口拥塞导致花屏，需排查终端侧原因。

驱动收到的是369

C:\Users\m11472\Desktop\本次debug驱动和平台分析.txt (369 hits)

Line 65: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

Line 101: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

Line 253: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

Line 426: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

Line 551: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

Line 578: From board 1: received packet from chip0,port43,CpuCode=529,cos=3,sMod=0,sPort=43,len=64,Matched=0,time=128,src_vp=-1,uiNumOfBuff=1,Untag_Flag=0.

平台收到也是369

C:\Users\m11472\Desktop\本次debug驱动和平台分析.txt (369 hits)

Line 73: *Jan 18 06:13:31:441 2013 jieru_06 MCS/7/PACKET: Receive IGMPv2 report packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

Line 109: *Jan 18 06:13:32:341 2013 jieru_06 MCS/7/PACKET: Receive IGMPv2 report packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

Line 261: *Jan 18 06:13:38:341 2013 jieru_06 MCS/7/PACKET: Receive IGMPv2 report packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

Line 434: *Jan 18 06:14:04:741 2013 jieru_06 MCS/7/PACKET: Receive IGMPv2 report packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

Line 559: *Jan 18 06:14:09:039 2013 jieru_06 MCS/7/PACKET: Receive IGMPv2 report packet from port Ten-GigabitEthernet1/0/5 on VLAN 1.

2、正常运行时偶发出现黑屏问题，查看softcare发现，存在大量未知组播报文上述CPU了，系版本已知的bfd下发系统acl时会误匹配组播报文，部分组播流量被上送CPU，无法转发到终端，因此出现黑屏的现象。可手动关闭底层acl临时规避，可升级版本彻底解决。

=====debug rxtx softcar show slot 1=====

ID	Type	RcvPps	Rcv_All	DisPkt_All	Pps	Dyn	Swi	Hash	Am	APps
0	ROOT	0	0	0	200	S	On	SMAC	0	0
1	ISIS	0	0	0	200	D	On	SMAC	8	512
2	ESIS	0	0	0	100	S	On	SMAC	8	512
3	CLNP	0	0	0	100	S	On	SMAC	8	512
4	VRRP	0	0	0	1024	S	On	SMAC	8	768
5	UNKNOWN_IPV4MC	646	474994932	61098234	100	S	On	SMAC	8	1024
6	UNKNOWN_IPV6MC	0	0	0	100	S	On	SMAC	8	1024

