

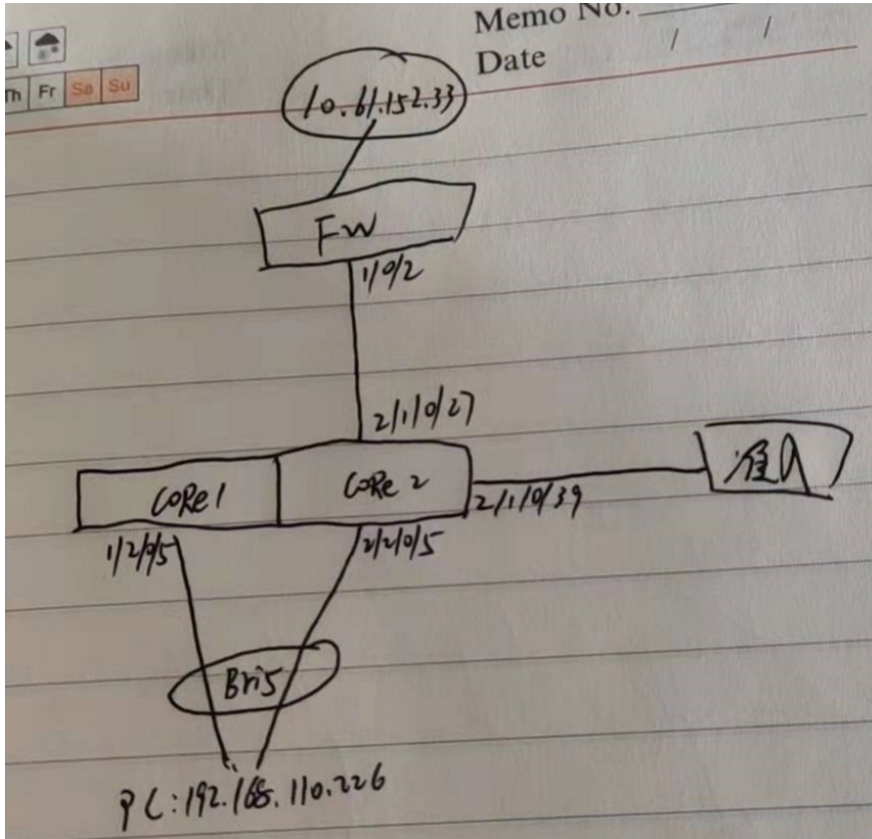
知 S10500 (V5) 由于OSPF发布网段路由问题导致不定时异常丢包

OSPF 丢包 宣江明 2022-02-21 发表

组网及说明

拓扑图如下,

1. BRI5是PC端对应物理端口G1/2/0/5、G2/2/0/5 (IRF)
2. 准入采用PBR方式引流, 连接核心交换机G2/1/0/39口
3. 上行口G2/1/0/27



问题描述

产品版本Version 5.20, Release 1210P03

故障现象:

从PC去访问防火墙外网地址出现不定时随机丢包现象

The screenshot shows the ATKPING utility window with the following configuration and results:

- Target Host (H): 10.61.152.33
- Ping Interval (I): 1000 ms (checked)
- Ignore Ping Interval (unchecked)
- Ping Log (L) (unchecked)
- Ping Count (N): 100
- Forever Ping (V) (unchecked)
- Don't Fragment (B) (unchecked)
- Stop Ping:
 - When (W) (unchecked)
 - Continuous Timeout (C) (unchecked)
 - Total Timeout (G) 1 times (checked)
 - In (A) 4 seconds (unchecked)
 - When error (unchecked)
- Survival Time (TTL): 32
- Data Size (D): 32
- Maximum MTU (Ethernet) (checked)
- Data Size Options (Z)...

Ping 统计信息

发送包	100	Ping 最小值	6 毫秒	开始时间	10:33:07
超时	19	Ping 最大值	7 毫秒	经过时间	00:01:36
包丢失	19.00 %	Ping 平均值	6.05 毫秒	停止时间	10:34:46

```
#96 Reply 32 bytes from 10.61.152.33: time=6ms TTL=92
#97 Reply 32 bytes from 10.61.152.33: time=6ms TTL=92
#98 Reply 32 bytes from 10.61.152.33: time=6ms TTL=92
#99 Reply 32 bytes from 10.61.152.33: time=6ms TTL=92
#100 Reply 32 bytes from 10.61.152.33: time=6ms TTL=92
== 100 有效发送, 81 接收, 19.00% 丢失, 6.05ms 平均值 ==
```

过程分析

首先在相应的接口做流统测试

[S10508-NW-hx]dis qos po int g1/2/0/5

Interface: GigabitEthernet1/2/0/5

Direction: Inbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

0 (Packets)

Direction: Outbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

0 (Packets)

[S10508-NW-hx]dis qos po int g2/2/0/5

Interface: GigabitEthernet2/2/0/5

Direction: Inbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

100 (Packets)

Direction: Outbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

81 (Packets)

[S10508-NW-hx]dis qos po int g2/1/0/39

Interface: GigabitEthernet2/1/0/39

Direction: Inbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

100 (Packets)

Direction: Outbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

100 (Packets)

[S10508-NW-hx]dis qos po int g2/1/0/27

Interface: GigabitEthernet2/1/0/27

Direction: Inbound

Policy: 3998

Classifier: 3998

Operator: AND

解决方法

Rule(s) : If-match acl 3998

有这个24位掩码的话肯定会最长匹配上24位掩码的，其他设备给发布过来这个路由我们就有这个路由，其他设备撤销了我们设备上就没有了，最终是写32位明细路由方式解决。

Accounting Enable:

81 (Packets)

Direction: Outbound

Policy: 3998

Classifier: 3998

Operator: AND

Rule(s) : If-match acl 3998

Behavior: 3998

Accounting Enable:

81 (Packets)

流统计发现从g2/2/0/5进来了100个包，但是最后回包只有81个，和ping测试相符合。看到从g2/1/0/27口进出都是81个说明报文出去之后是正常返回的。从当前现象看报文是丢在了10508设备上，由于报文进入交换机之后要经过一次准入设备再返回到交换机才能去访问外网。怀疑有可能是准入设备的特殊配置原因导致，但是修改交换机配置让流量不经过准入设备还是有丢包现象。

进一步查看设备丢包情况

```
[S10508-NW-hx-diagnose] bcm 19 0 show/c 19为slot1+18得来
IBCAST.cpu0      :      13,067,062      +835
PERQ_PKT(0).cpu0 :    3,402,812,244      +408,314      54/s
PERQ_PKT(3).cpu0 :    1,187,487,217      +81,718      49/s
PERQ_PKT(5).cpu0 :    100,614,000      +6,454      2/s
PERQ_PKT(6).cpu0 :    1,995,804,306      +350,156      3/s
PERQ_PKT(7).cpu0 :    279,642,653      +19,587      12/s
PERQ_PKT(12).cpu0 :   103,935,197      +7,515      9/s
PERQ_PKT(18).cpu0 :    35,364,905      +2,263      1/s
PERQ_PKT(24).cpu0 :    2,170,216      +216
PERQ_PKT(36).cpu0 :    438,449      +24
PERQ_PKT(42).cpu0 :    2,303,897,075      +142,841      84/s
PERQ_BYTE(0).cpu0 :    2,184,135,805      +151,898
PERQ_BYTE(3).cpu0 :  1,362,943,742,961      +89,257,353      53,596/s
PERQ_BYTE(5).cpu0 :    15,994,243,340      +1,085,088      166/s
PERQ_BYTE(6).cpu0 :    231,545,530,275      +28,285,606      400/s
PERQ_BYTE(7).cpu0 :    52,637,911,156      +3,623,756      2,256/s
PERQ_BYTE(12).cpu0 :   7,067,634,156      +511,020      627/s
PERQ_BYTE(18).cpu0 :   3,073,657,211      +197,248      78/s
```

[S10508-NW-hx]display interface GigabitEthernet 2/1/0/27 -----无错包

[S10508-NW-hx-diagnose]bcm 19 0 show/c/ge27 -----无丢包

[S10508-NW-hx]display ip routing-table 10.61.152.33 -----查看路由表正常

Routing Table : Public

Summary Count : 3

Destination/Mask	Proto	Pre	Cost	NextHop	Interface
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0.0.0.0/0	Static	60	0	172.16.1.9	GE1/1/0/45
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10.0.0.0/8	Static	60	0	192.168.1.139	Vlan100
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10.61.0.0/16	Static	60	0	192.168.1.5	Vlan100
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[S10508-NW-hx-diagnose]bcm 20 0 l3/defip/show

Unit 0, Total Number of DEFIP entries: 16385

#	VRF	Net addr	Next Hop Mac	INTF	MODID	PORT	PRIO	CLASS	HIT	VLAN
0	0	172.16.100.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	
0	0	172.20.70.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	
0	0	172.16.1.3/32	00:00:00:00:00:00	100002	0	0	0	32	y	
0	0	172.16.1.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	
0	0	172.16.2.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	
0	0	192.168.206.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	
0	0	172.16.1.5/32	00:00:00:00:00:00	100001	0	0	1	32	y	
0	0	172.16.2.1/32	00:00:00:00:00:00	100001	0	0	1	32	n	
0	0	192.168.219.255/32	00:00:00:00:00:00	100002	0	0	0	32	n	

[S10508-NW-hx-diagnose]debug ipv4-drv show route 0 10.61.152.33 16 slo 19