

知 PC端ping Bras设备丢包严重

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组网及说明

拓扑如下:

Sr88-----S5560-----5130-----PC

问题描述

PC端ping SR88 (Brasi设备) 时, ping100个包丢20个包

过程分析

问题排查思路：首先看包丢在哪里

问题初步处理结果：

在交换机两侧抓包正常，收80个包发80个包，在PC终端抓包发现有20个包未发出，也就是说没有找到网关的ARP，然后在终端、交换机查看发收的ARP报文。

经查看，终端发送去往网关的ARP报文找不到网关后，开始广播ARP报文，寻找网关

```
805 2021-10-19 10:23:41.303353 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
813 2021-10-19 10:23:41.976317 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
815 2021-10-19 10:23:42.976225 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
818 2021-10-19 10:23:43.977252 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
819 2021-10-19 10:23:44.976056 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
822 2021-10-19 10:23:45.975952 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
823 2021-10-19 10:23:46.975857 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
825 2021-10-19 10:23:48.936750 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
827 2021-10-19 10:23:49.475625 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
829 2021-10-19 10:23:50.475532 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
830 2021-10-19 10:23:51.475750 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
832 2021-10-19 10:23:52.475398 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
833 2021-10-19 10:23:53.475277 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
837 2021-10-19 10:23:54.497488 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
840 2021-10-19 10:23:55.475072 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
843 2021-10-19 10:23:56.474981 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
846 2021-10-19 10:23:57.474930 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
848 2021-10-19 10:23:58.541967 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
850 2021-10-19 10:23:59.474751 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
852 2021-10-19 10:24:00.474906 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
853 2021-10-19 10:24:01.474754 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
855 2021-10-19 10:24:02.474486 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
856 2021-10-19 10:24:03.474330 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
860 2021-10-19 10:24:04.734504 9c:7b:ef:9a:f3:6b Broadcast ARP -- Who has 172.20.213.254? Tell 172.20.213.1
861 2021-10-19 10:24:05.142147 74:50:4e:c5:a0:36 9c:7b:ef:9a:f3:6b ARP -- 172.20.213.254 is at 74:50:4e:c5:a0:36
```

通过SR88侧看CPU队列，可以看到队列6是ARP报文

```
[h3c-bras-probe]dis hardware internal rxtx car all 0
```

```
Slot:0
  ProtoclName ProtocolId Cpucode QueueID Speed(pps/C)
  PKTTOCPU_SEC          0         1      31          C
  IP_TTL1                1         2      18          C
  MPLS_TTL1              2         3      18          C
  8021x_S                 3         4         4          C
  8021x_M                 4         4         4          C
  8021x_B                 5         4         4          C
  ARP_REQ_LOCAL          6         5         6          C
  ARP_REL                7         6      31          C
  HGMP                   8         7         5          C
  HTTPS_DPORT443         9        158        44          C
  MAC_Trigger            10        159         5          C
  ICMP_RDT               11         8        25          C
  IPV4_EXTHD             12         9        25          C
  EXRPF_FAIL             13        10        23          C
  MTU                    14        11        25          C
  INRPF_FAIL             15        12        23          C
  IPV6_TTL1              16        13        18          C
  IPV6_EXTHD             17        14        57          C
  LDP_RSVP_S             18        15         9          C
  LDP_RSVP_M             19        15         9          C
  ARP_REQ                20        17         6          C
  ARP_REQ_PROXY          21        18         6          C
  NP_DROP                22        19        39          C
  IRF_UC                 23        154       128          C
  IRF_MC                 24        155       129          C
  IRF_FSTMR              25        171       128          C
```

然后查看队列情况，可以看到第6队列最大包速率是2400，但其限制的最大包速率是1200，当前为0，可见队列6被打满

```
[h3c-bras-probe]display hardware internal rxtx queue np sl 0 st all
```

```
Slot index:0
```

1、对此查看ARP报文的来源，可以看到MAC地址为0021-2757-5cf8的设备连接在XGE0/2/5.2714上，对比找到对应的设备，继续查看dis mac-address查看ARP表项，进一步排查交换机，并进行处理

```
[h3c-bras-probe]dis arp source-mac slot 0
```

Source-MAC	VLAN ID	Interface	Aging time (sec)	Packets dropped
0021-2757-5cf8	N/A	XGE0/2/5.2714	182	8068701
37-0192-2010-0000	0	0	4000	4303123 4303123 4303120 0
7 1024 10 0	0	0	200	0 0 0 0
8 10240 20 0	0	0	9000	0 0 0 0
9 10240 10 0	0	0	1800	0 0 0 0
10 8192 10 0	0	0	1200	0 0 0 0
11 10240 10 0	0	0	6000	0 0 0 0
12 20480 40 0	2	0	6000	ce4ec ce4ec ce4ec 0
13 8192 10 0	0	0	3000	0 0 0 0
14 8196 40 0	0	0	4200	0 0 0 0
15 1024 10 0	1	0	200	4465 4465 4465 0
16 8196 40 0	0	0	1600	0 0 0 0
17 8192 10 0	1	0	6000	6e 6e 6e 0
18 1024 10 0	1	0	100	2 2 2 0
19 1024 10 0	200	0	100	2641e1d 2641e15 2641e13 0
20 8192 10 0	2400	0	1200	64bb61 64bb61 64bb61 0

出现同一时间过多ARP报文上送的原因是：1、网络中有环路，频繁的ARP报文上送 2、有ARP攻击

