

知 S7608-X业务转发正常无法ping通问题分析

SNMP

赵杰 2015-07-31 发表

S7608-X作为客户业务网络核心交换机，S5500-EI是业务网络的汇聚交换机，两台设备直连并转发业务数据。近期客户发现网络中业务运行正常，网管显示核心交换机托管，无法显示业务流量统计数据以及设备运行状态，进一步分析发现汇聚交换机下联的PC和核心交换机互ping不通，但是业务不受影响，测试PC的网关在汇聚交换机上。

网管告警核心交换机托管。

1、在两台交换机上做流量统计分析，并从测试PC上ping核心交换机，通过流量统计记录核心交换机收到报文，但是未回应报文：

```
[Zhongxing7608_1]dis qos policy interface
```

```
Interface: GigabitEthernet1/1/0/13
```

```
Direction: Inbound
```

```
Policy: test
```

```
Classifier: test
```

```
Operator: AND
```

```
Rule(s) : If-match acl 3100
```

```
Behavior: test
```

```
Accounting Enable:
```

```
4 (Packets)
```

```
Direction: Outbound
```

```
Policy: test
```

```
Classifier: test
```

```
Operator: AND
```

```
Rule(s) : If-match acl 3100
```

```
Behavior: test
```

```
Accounting Enable:
```

```
0 (Packets)
```

经过确认，交换机对于CPU处理的报文在出方向无法统计；

2、在核心交换机上debug ip icmp信息分析，统计调试信息显示，设备发送报文中存在TTL超时：

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.70.1.103; Original IP header : Pro = 1, Src = 10.70.1.103, Dst = 180.76.22.49, First 8 bytes = 0800BCE9 02003916
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.74.4.206; Original IP header : Pro = 1, Src = 10.74.4.206, Dst = 180.76.22.49, First 8 bytes = 080092E9 02006316
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 1.1.91.2, Dst = 10.3.81.94; Original IP header: Pro = 1, Src = 10.3.81.94, Dst = 61.155.162.135, First 8 bytes = 0800BB30 18F80005
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.76.81.24; Original IP header : Pro = 1, Src = 10.76.81.24, Dst = 10.208.101.56, First 8 bytes = 080076FD 02007F02
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.20.59.209; Original IP header: Pro = 1, Src = 10.20.59.209, Dst = 219.133.40.180, First 8 bytes = 0800D005 00010128
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.67.23.223; Original IP header: Pro = 1, Src = 10.67.23.223, Dst = 180.76.22.49, First 8 bytes = 0800CC56 01002AA9
```

```
ICMP Send: ttl-exceeded(Type=11, Code=0), Src = 172.31.0.1, Dst = 10.72.176.4; Original IP header : Pro = 1, Src = 10.72.176.4, Dst = 61.135.185.216, First 8 bytes = 0800CDC4 013B2900
```

3.为进一步确认是哪台设备问题，在核心交换机上抓包，通过抓包分析，核心交换机发出报文TTL值为1：

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	172.31.0.1	10.76.90.237	ICMP	64	Time-to-live

▶ Frame 1: 64 bytes on wire (512 bits), 64 bytes captured (512 bits) on interface 0 ▶ Ethernet II, Src: Hangzhou_80:bd:ac (80:f6:2e:80:bd:ac), Dst: Hangzhou_f7:9a:81 (3c:e5:a6:f7:9a:81) ▶ 802.1Q Virtual LAN, PRI: 0, CFI: 0, ID: 1001 ▶ Internet Protocol Version 4, Src: 172.31.0.1 (172.31.0.1), Dst: 10.76.90.237 (10.76.90.237)

Version: 4 Header Length: 20 bytes ▶ Differentiated Services Field: 0x00 (DSCP 0x00: Default; ECN: 0x00: Not-ECT (Not ECN-Capable)) Total Length: 88 Identification: 0x9892 (39058) Flags: 0x00 Fragment offset: 0 ▶ Time to live: 1 Protocol: ICMP (1) ▶ Header checksum: 0x0fba [correct] Source: 172.31.0.1 (172.31.0.1) Destination: 10.76.90.237 (10.76.90.237) [Source GeoIP: unknown] [Destination GeoIP: unknown]
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▶ Internet Control Message Protocol

4.通过进一步确认，交换机默认对于TTL=1的报文不回应处理，所以显示ping不通

- 1、在核心交换机上删除SNMP写权限，或者在写权限增加ACL访问权限；
- 2、使用网管软件修改核心设备的TTL值为255，或者重启核心交换机（客户选择使用网管软件修改）