

## 知 某局点l2tp隧道建立成功，但无法访问

L2TP VPN 李臻昊 2022-12-31 发表

### 组网及说明

现场采用vpdn的组网方式，MSR（5G）---运营商网络设备（Iac）-----CR16K(LNS)

## 问题描述

lac与Ins之间可以互通，但是MSR ping Ins不通，Ins ping MSR可以通，但是显示超时

```
108 bytes from [redacted]: icmp_seq=2 time=4.893ms ttl=250
108 bytes from [redacted]: icmp_seq=3 time=5.236ms ttl=250
108 bytes from [redacted]: icmp_seq=4 time=4.139ms ttl=250
108 bytes from [redacted]: icmp_seq=5 time=4.961ms ttl=250
[redacted] statistics---
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
round-trip min/avg/max=4.139/4.754/5.236ms
```

```
<H3C>ping [redacted]
Ping [redacted]: 56 data bytes, press CTRL+C to break
Request time out
--- Ping statistics for [redacted] ---
 5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss
<H3C>%Nov  7 10:20:45:592 2022 H3C PING/6/PING_STATISTICS: Ping statistics for [redacted]
mitted, 0 packet(s) received, 100.0% packet loss.
```

## 过程分析

1、首先在Ins查看相关信息，发现隧道正常建立

```
[GJYBJ-TJWQ-LNS]dis l2tp tunnel
LocalTID RemoteTID State Sessions RemoteAddress RemotePort RemoteName
2506 1 Established 1

[GJYBJ-TJWQ-LNS]dis l2tp ses
[GJYBJ-TJWQ-LNS]dis l2tp session
LocalSID RemoteSID LocalTID State Username
22699 2506 Established
```

2、在Ins与lac相连接口上抓包，也发现完整隧道建立过程，但是发现lac这边发送报文少了一个字节

```
0365 L2TP 148 Control Message - SCCRQ (tunnel id=0, session
1632 L2TP 189 Control Message - SCCRQ (tunnel id=1, session
6092 L2TP 84 Control Message - SCCN (tunnel id=2506, sess
6092 L2TP 133 Control Message - ICRQ (tunnel id=2506, sessi
6834 L2TP 70 Control Message - ICRP (tunnel id=1, session
2284 L2TP 169 Control Message - ICCN (tunnel id=2506, sessi
2876 L2TP 60 Control Message - ZLB (tunnel id=1, sess
6527 PPP PAP 84 Authenticate-Ack (Message='Welcome to use thi
6527 PPP IP_ 80 Configuration Request
0532 PPP IP_ 72 Configuration Request
0532 PPP IP_ 60 Configuration Ack
1077 PPP IP_ 80 Configuration Reject
4906 PPP IP_ 60 Configuration Request
5264 PPP IP_ 80 Configuration Nak
9282 PPP IP_ 60 Configuration Request
9634 PPP IP_ 80 Configuration Ack
```

```
10.10.10.10 10.10.10.10 ICMP 136
10.10.10.10 10.10.10.10 ICMP 135
```

展开详细信息查看

Ins发送给lac的报文抓包详细信息

```
0000 04 9f ca 8c 09 ba 64 2f c7 cc e8 37 08 00 45 00 .....d/ ...7...E.
0010 00 7a 04 6d 00 00 ff 11 8c ed c0 a8 62 3e 0a 2c ..z.m....>.
0020 fd 05 06 a5 06 a5 00 66 00 00 00 02 00 01 00 01 .....f .....
0030 ff 03 00 21 45 00 00 54 04 6c 00 00 ff 01 94 c6 ...|E..T..l.....
0040 0a 0a 07 31 0a 0a 07 32 08 00 6b 80 f5 64 00 00 ...1...2...s...d...
0050 63 6b 7f 7c 00 0b c9 24 08 09 0a 0b 0c 0d 0e 0f ck.|...$ .....
0060 10 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f .....
0070 20 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f !"#%&'()*+,-./
0080 30 31 32 33 34 35 36 37 01234567
```

lac回给Ins的报文抓包详细信息

```
0000 64 2f c7 cc e8 37 04 9f ca 8c 09 ba 08 00 45 00 d/...7...E.
0010 00 79 1c 4d 00 00 3b 11 39 0f 0a 2c fd 05 c0 a8 ..y.M...; 9...
0020 62 3e 06 a5 06 a5 00 65 00 00 00 02 00 02 1a 85 b>...e .....
0030 ff 03 21 45 28 00 54 1a c5 00 00 ff 01 7e 45 0a ...E(.T...E.
0040 0a 07 32 0a 0a 07 31 00 00 73 80 f5 64 00 00 63 ...2...1...s...d...c
0050 6b 7f 7c 00 0b c9 24 08 09 0a 0b 0c 0d 0e 0f 10 k.|...$ .....
0060 11 12 13 14 15 16 17 18 19 1a 1b 1c 1d 1e 1f 20 .....
0070 21 22 23 24 25 26 27 28 29 2a 2b 2c 2d 2e 2f 30 !"#%&'()*+,-./0
0080 31 32 33 34 35 36 37 1234567
```

可以发现 PPP 报头被压缩了，对端LAC发送的报文对PPP头部进行了压缩，我们设备收到不处理进行丢弃。从而导致了这样一个问题

## 解决方法

lac侧调整对ppp头不进行压缩, 问题解决

