高级网络编程

实验报告

实验名称：腾讯会议传输方式分析
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一、实验目的

1. 通过抓包方式分析腾讯会议的传输方式

二、实验环境

windows 10、wireshark

三、实验内容

通过抓包方式分析腾讯会议的传输方式

主要过程

1. 在会议中启动wireshark，筛选UDP包

2. 观察出主机持续接收大量来自同一地址的UDP包，初步判断这些包即为腾讯会议的流量包

1	0.000000	14.29.105.122	192.168.0.107	UDP	134	8020 → 50109 Len=92
2	0.000233	192.168.0.107	14.29.105.122	UDP	354	50109 → 8020 Len=312
3	0.009745	14.29.105.122	192.168.0.107	UDP	390	8020 → 50109 Len=348
4	0.009890	192.168.0.107	14.29.105.122	UDP	128	50109 → 8020 Len=86
5	0.010506	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
6	0.010645	192.168.0.107	14.29.105.122	UDP	120	50109 → 8020 Len=78
7	0.014392	14.29.105.122	192.168.0.107	UDP	68	8020 → 50109 Len=26
8	0.015127	14.29.105.122	192.168.0.107	UDP	68	8020 → 50109 Len=26
9	0.020562	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
10	0.021286	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
11	0.021288	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
12	0.021289	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
13	0.021289	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
14	0.160078	14.29.105.122	192.168.0.107	UDP	390	8020 → 50109 Len=348
15	0.160080	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
16	0.160246	192.168.0.107	14.29.105.122	UDP	128	50109 → 8020 Len=86
17	0.160267	192.168.0.107	14.29.105.122	UDP	120	50109 → 8020 Len=78
18	0.160860	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
19	0.160862	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
20	0.160997	192.168.0.107	14.29.105.122	UDP	120	50109 → 8020 Len=78
21	0.162284	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
22	0.162285	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
23	0.162286	14.29.105.122	192.168.0.107	UDP	385	8020 → 50109 Len=343
24	0.164861	14.29.105.122	192.168.0.107	UDP	68	8020 → 50109 Len=26
25	0.164863	14.29.105.122	192.168.0.107	UDP	68	8020 → 50109 Len=26
26	0.164863	14.29.105.122	192.168.0.107	UDP	68	8020 → 50109 Len=26
27	0.226493	14.29.105.122	192.168.0.107	UDP	420	8020 → 50109 Len=378

图 1: UDP包

3. 分析包的内容，查看到发送和接收都为单播

```
      6 0.010645    192.168.0.107    14.29.105.122    UDP    120 50109 → 8020 Len=78
      7 0.014392    14.29.105.122    192.168.0.107    UDP     68 8020 → 50109 Len=26

> Frame 6: 120 bytes on wire (960 bits), 120 bytes captured (960 bits) on interface \Device\NPF_{6B7183FC-7425-437E-A4B9-504E5031B4F5}, id 0
v Ethernet II, Src: Micro-St_69:e4:22 (30:9c:23:69:e4:22), Dst: Tp-LinkT_a7:e0:fb (80:89:17:a7:e0:fb)
  v Destination: Tp-LinkT_a7:e0:fb (80:89:17:a7:e0:fb)
      Address: Tp-LinkT_a7:e0:fb (80:89:17:a7:e0:fb)
      .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
      .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
  v Source: Micro-St_69:e4:22 (30:9c:23:69:e4:22)
      Address: Micro-St_69:e4:22 (30:9c:23:69:e4:22)
      .... ..0. .... .... .... .... = LG bit: Globally unique address (factory default)
      .... ...0 .... .... .... .... = IG bit: Individual address (unicast)
    Type: IPv4 (0x0800)
> Internet Protocol Version 4, Src: 192.168.0.107, Dst: 14.29.105.122
> User Datagram Protocol, Src Port: 50109, Dst Port: 8020
> Data (78 bytes)
```

图 2: 发送

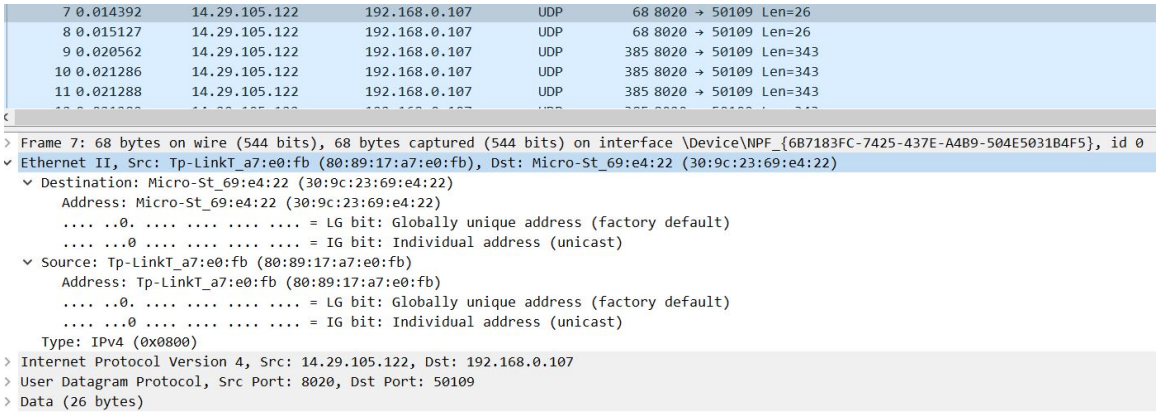

图 3: 接收

四、实验总结

腾讯会议使用了UDP单播的方式发送数据包。