计算机网络实验2-3 设计文档

实验二　抓包程序

设计实现

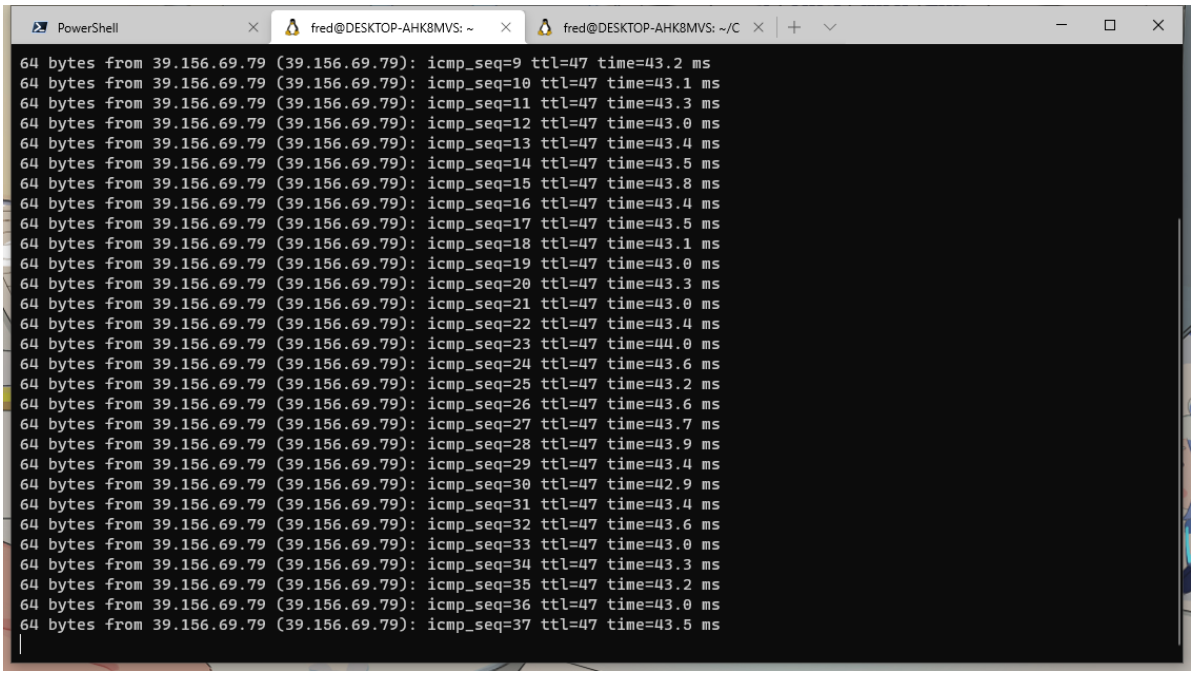
通过类型字段判断是ARP或IP数据包。

IP数据包->判断是ICMP、TCP或UDP包

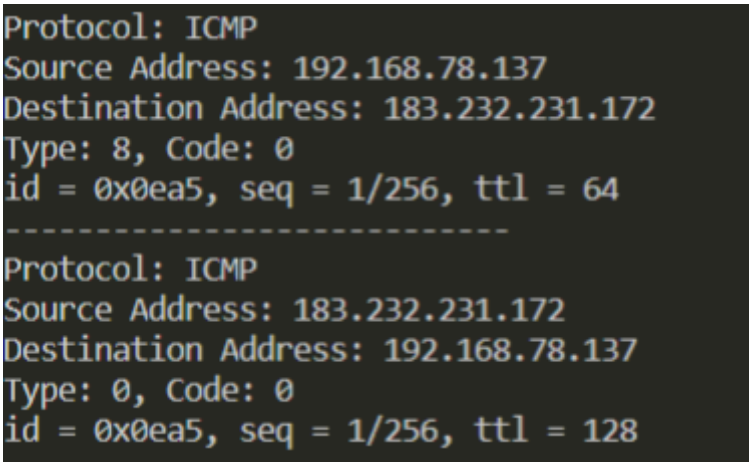
ARP数据包->判断是request或reply

然后按照Wireshark的格式输出

结果截图



ping



结果

实验三　自己动手写协议栈之以太网收发实现

设计实现

> ethernet_out

添加以太网包头

添加目的地址、原地址、协议类型

调用driver_send()

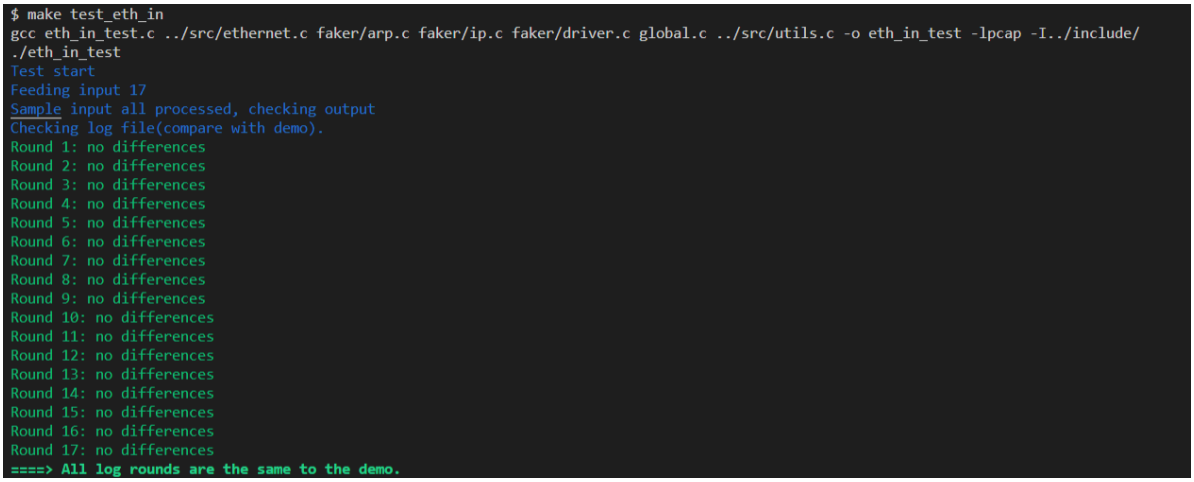
> ethernet_in

通过类型字段判断IP协议或ARP协议

去掉以太网包头

IP协议->调用ip_in() ARP协议->调用arp_in()

结果截图



```
$ make test_eth_out
gcc eth_out_test.c ../src/ethernet.c faker/arp.c faker/ip.c faker/driver.c global.c ..
/src/utils.c -o eth_out_test -lpcap -I../include/
./eth_out_test
Test start
Feeding input 17
Sample input all processed, checking output
Checking log file(compare with demo).
Round 1: no differences
Round 2: no differences
Round 3: no differences
Round 4: no differences
Round 5: no differences
Round 6: no differences
Round 7: no differences
Round 8: no differences
Round 9: no differences
Round 10: no differences
Round 11: no differences
Round 12: no differences
Round 13: no differences
Round 14: no differences
Round 15: no differences
Round 16: no differences
Round 17: no differences
====> All log rounds are the same to the demo.
Checking pcap output file(compare with demo).
Packet 1: no differences
Packet 2: no differences
Packet 3: no differences
Packet 4: no differences
Packet 5: no differences
Packet 6: no differences
Packet 7: no differences
Packet 8: no differences
Packet 9: no differences
Packet 10: no differences
Packet 11: no differences
Packet 12: no differences
Packet 13: no differences
Packet 14: no differences
Packet 15: no differences
Packet 16: no differences
Packet 17: no differences
====> All packets are the same to the demo.
```