

Assignment - 5

Title: File transfer using UDP ~~model~~ socket.

Problem Statement:

Write a program using UDP sockets to enable file transfer between 2 machines. Demonstrate the packet captured traces using Wireshark packet analyzer tool peer to peer mode.

Objectives:

To transfer files between 2 machines using UDP sockets.

Outcomes:

- To be able to transfer files between 2 machines using UDP sockets.
- To be able to differentiate between data packets, non-data packets, management packets and low level control packets.

Theory:

TCP guarantees the delivery of packets and preserves their order in destination. Sometimes the features are not required and since they do not come without performance cost, it would be better to use a lighter transport protocols. The kind of service is accomplished by UDP protocol which

conveys datagram packets. They are used to implement a connectionless packet delivery service supported by the UDP packet. Each message is transferred from source machine based on information contained within the packet. The format of datagram packet is:

Message	Length	Host	ServerPort
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Data packets:

These are often supplied to the packet capture mechanism, synthesized from the 802.11 header.

Non data packets:

You have to capture in monitor mode to 802.11 header.

Management packets:

They are used by peer WLAN controllers to maintain a WLAN network, and as such is seldom importance above OSI layer 2.

Low Level ~~pa~~ control packets:

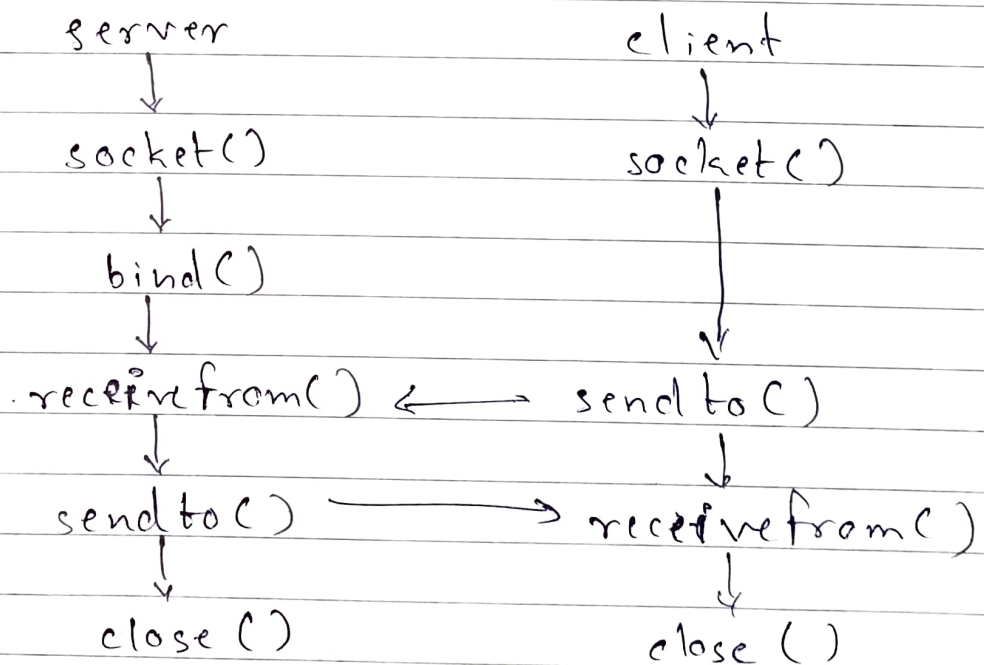
They are used by peer WLAN controllers to synchronize channel access within contending WLAN hardware as well as synchronize

packet exchange between peers.

UDP Socket APIs:

1. `socket (int domain, int type, int protocol)`
2. `bind (int socket, struct sockaddr* address)`
3. `listen (int socketid, int backlog)`
4. `sendto (int socketid, const void* msg, int len, int flag, const struct sockaddr*, to, int)`
5. `close (int socketid)`

Connectionless structure



Conclusion:

Therefore, we have successfully implemented file transfer between 2 machines using UDP protocol.