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Assignment 5

31330

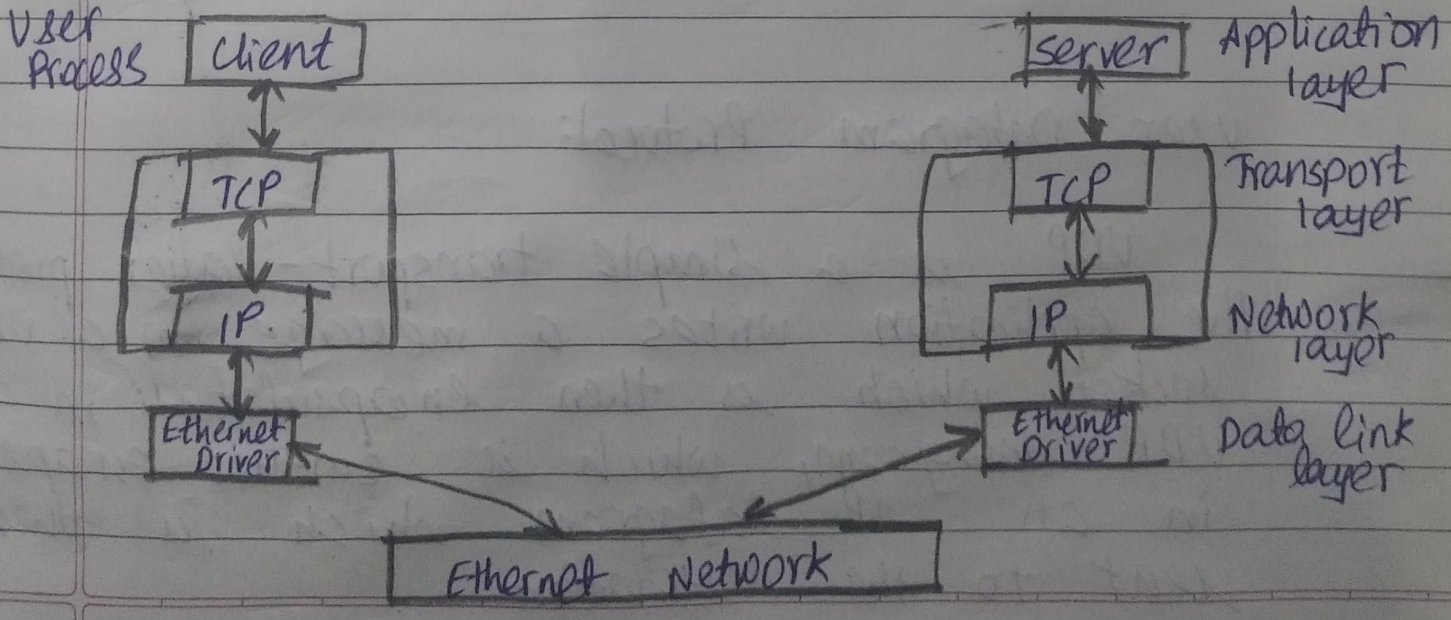
Title: Study of UDP socket programming for wired network.

Objectives:
- Getting familiar with client-server communication model.
- Learning the most important library function (UNIX and internet sockets) used for the design of the client server application.

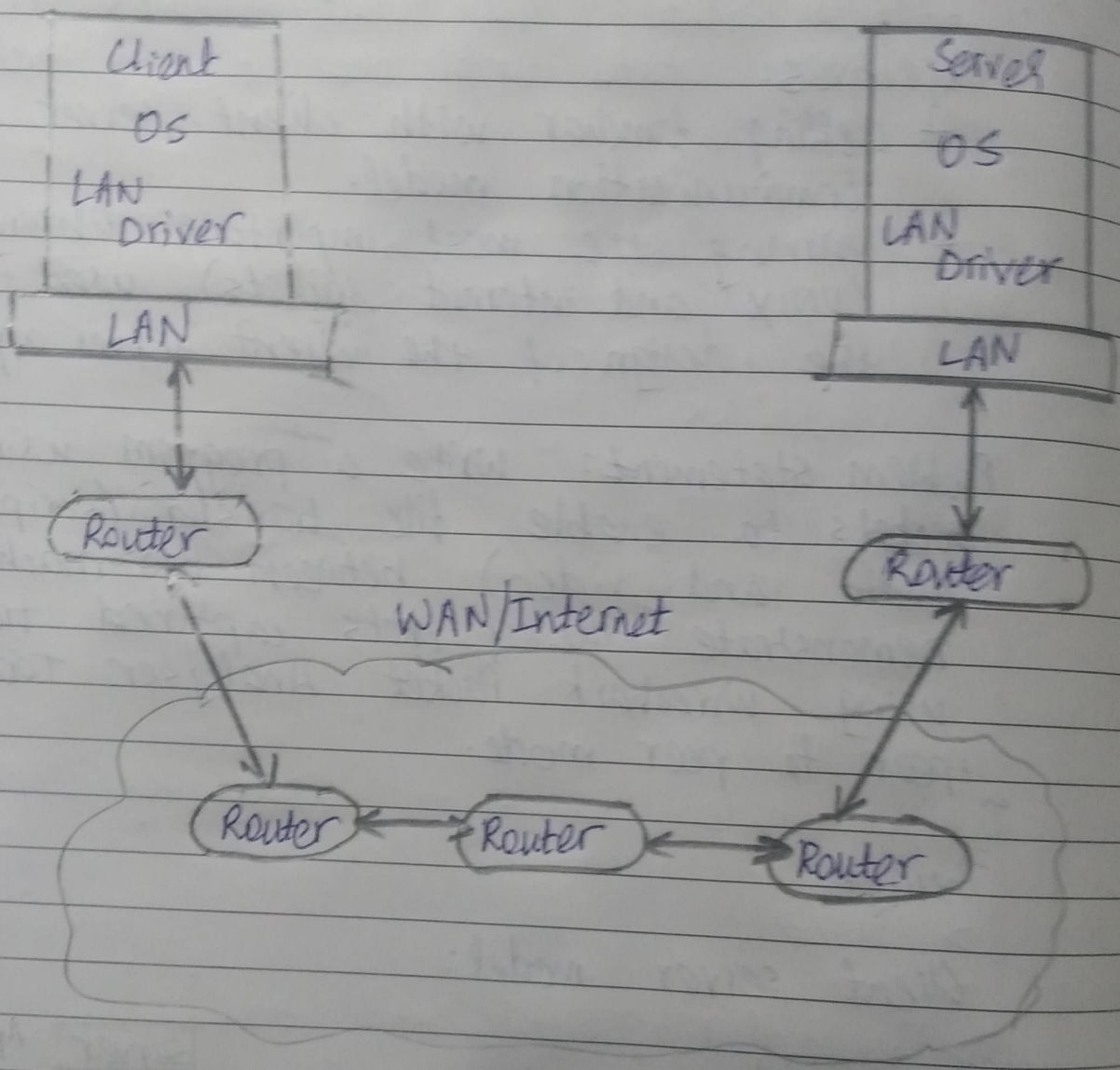
Problem statement: Write a program using UDP sockets to enable file transfer (script, text, audio and video) between two machines. Demonstrate the packets captured traces using Wireshark Packet Analyser Tool for peer to peer mode.

Theory:

Client server model:



The scenario of the client and the server on the same LAN:



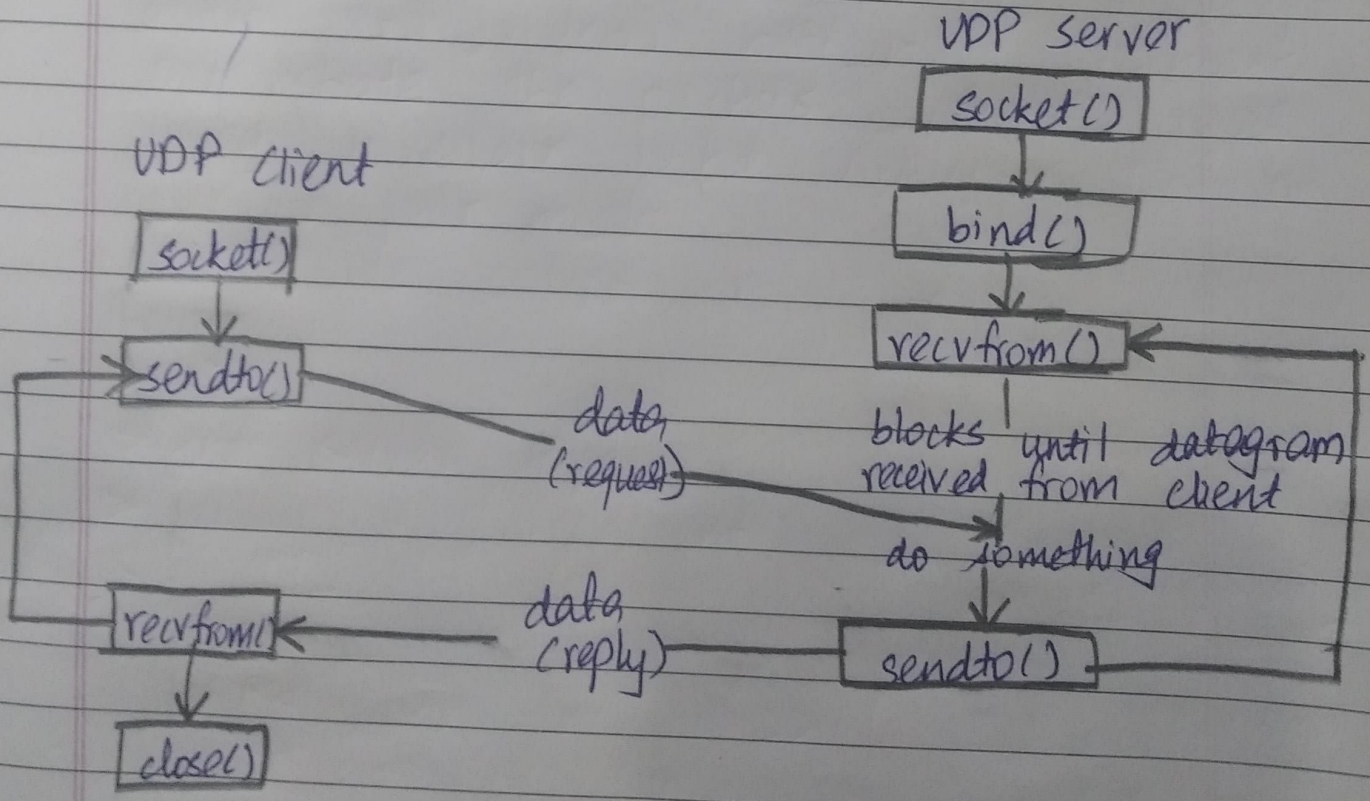
User Datagram Protocol:

UDP is a simple transport-layer protocol. The application writes a message to a UDP socket, which is then encapsulated in a UDP datagram, which is further encapsulated in an IP datagram which is then sent to the destination.

There is no guarantee that an UDP will reach the destination in that order of the datagram i.e. the order may not be preserved.

The problem of UDPs is its lack of reliability. If a datagram reaches its final destination, but the checksum detects an error, or if the datagram is dropped in the network, it is not automatically retransmitted.

UDP Socket API:



Conclusion:

Hence, we studied and implemented a program to demonstrate UDP socket programming for a wired network.