(2) The TCP/IP model consists of five layers: the application layer, transport layer, network layer, data link layer and physical layer.

The first four layers provide physical standards, network interface, internetworking, and transport functions that correspond to the first four layers of the OSI model and these four layers are represented in TCP/IP model by a single layer called the application layer.

TCP/IP is a hierarchical protocol made up of interactive modules, and each of them provides specific functionality.

TCP/IP Ref. Model (Transmission Control Protocol Internet Protocol)

- It replace ARPANET in Internet
- Has four layers
- In real world combination of both TCP/IP & OSI Model is used.

Same as of OSI
Layers (1,2) P, D
3, 4 (N, T
5, 6, 7 (A, P, S)

Layers:
1. Host to Network layer
2. Internet layer
3. Transport layer
4. Application layer

(1) Host to network

Responsible for hardware ~~adding~~ adding & allow Physical transmission

(2) Internet layer

logical transmission of data over network Main Protocall :-

IP & ICMP

→ for Packet delivery
IPV4, IPV6

→ internet control message protocal
encabulates message with IP.

(3) Transport layer : Works similar to transport layer of OSI model.

uses

TCP	UDP
Connection oriented (byte stream without error)	used for app" which don't want sequence & flow control.

(4) Application layer : Responsible for Node to node communication & user interface.

This layer performe function of top 3 layer of OSI.

Difference) OSI v/s TCP/IP

OSI	TCP/IP
1. Developed by ISO (international Standard Organization)	By ARPANET
2. has 7 layers	4
Do provides	

3. provides clear distinguition b/w intface, service to protocal.	does not
4. In this physical & data link layer are Separated	both are carried in single host to network.
5. Session to presentation layer are part of OSI	no such layer

(ii) Client Sends a FIN Segment to the Server with FIN bit set to 1. then the ~~Client~~ client enters the FIN_WAIT-1 state and waits for acknowledgement from the Server.
After that it enters FIN_WAIT_2 State. Now for terminating the

Connecting, server sends a FIN Segment to the client with FIN bit set to 1. And finally, client frees's ub it's buffers and sends acknowledgement to the servers And then the client enters the TIME_WAIT State.

* Significance of TIME_WAIT State:-

→ It allows the client to resend the final acknowlegment if it gets lost.

→ The time spent by the client in TIME_WAIT state depends on the implementation.

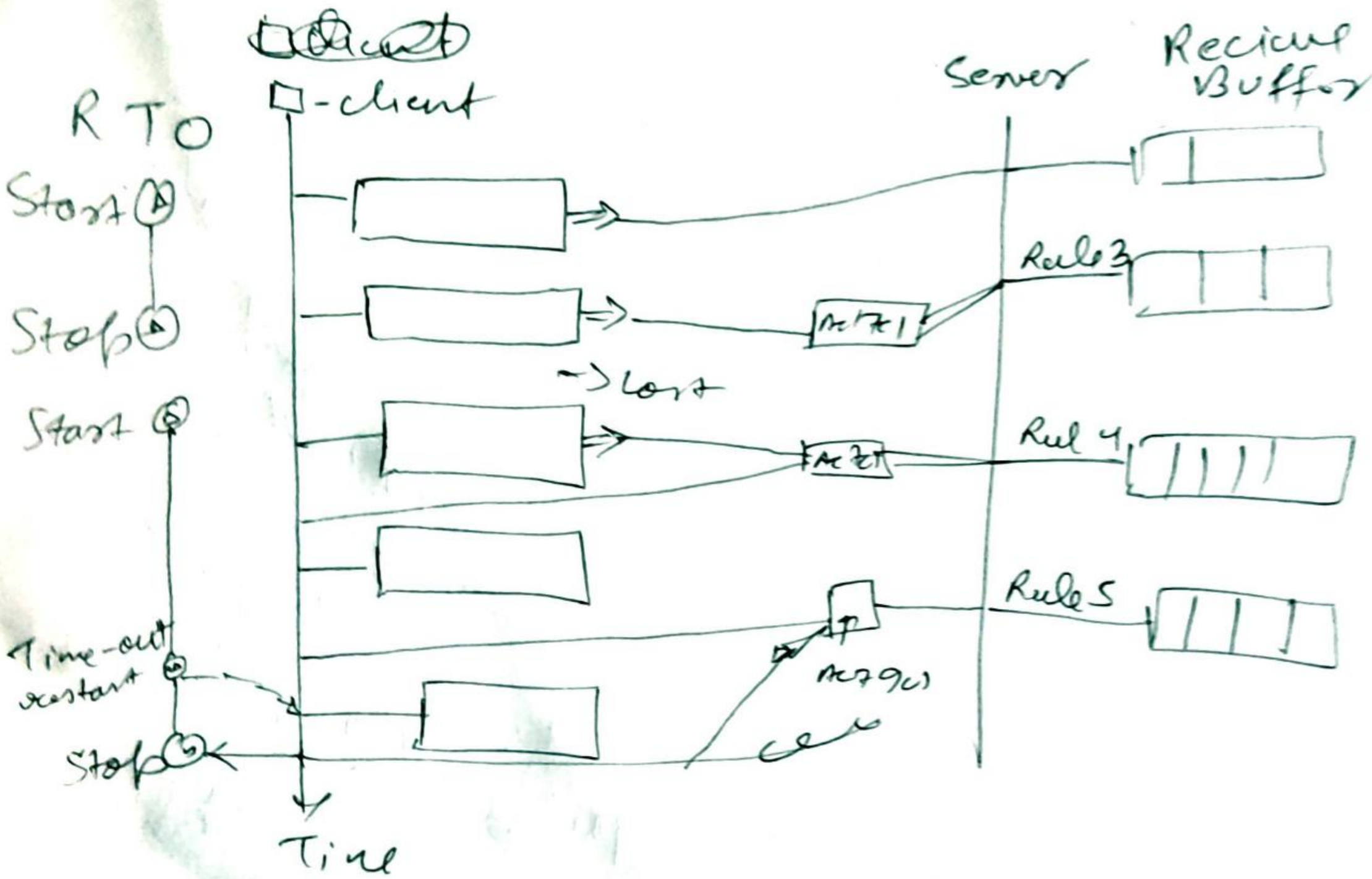
→ The typical values are 30seconds, 1 min and 2 min.

→ After the wait, the Connection gets formally closed.

Significance of 2MSL timeout :-

→ All packets generated during the duration of the connection disappears from the network, that is to ensure that when a TCP connection is established the old duplicate packets from the connection, are already ~~disp~~ disappeared from the network.

(iii) Sudp



Time