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Distributed Algorithms

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Assignment-3

✱ study the basics of connection oriented Protocol and connectionless protocol. Also explain the difference between them.

⇒ Connection oriented Networks :- designed and developed based on telephone system used to create an end to end connection between the sender to receiver before transmitting the data over same or different network.

→ Packets are transmitted to the receiver in the same order that sender first sent them.

→ Uses a handshake method that creates a connection between sender & receiver for transmitting the packets.

→ It is a reliable network & one of the well known example of connection oriented network Protocol is TCP.

⇒ A connection is similar to a Postal system in which each letter takes along different paths from the source to destination address.

⇒ Connectionless Protocol :- used in network system to transfer data from one end to another and without creating connection.

→ it is not a reliable network source because it does not guarantee the transfer of data packets to the receiver & the order of packets received can be different.

⇒ Network congestion can occur, data must be lost, UDP is connectionless Protocol.

Difference

| Connection oriented system | Connectionless oriented system |
|---|---|
| ⇒ Based on telephone system | ⇒ based on Postal system |
| ⇒ used to create end to end connection betⁿ sender & receiver | ⇒ used to send Packets without any connection |
| ⇒ Creates a Virtual Path betⁿ sender & receiver | ⇒ does not create any Virtual Path |
| ⇒ requires authentication | ⇒ no authentication required |
| ⇒ Data Packets are received in correct order | ⇒ Data Packets may not be received in correct order |
| ⇒ more reliable & no congestion is Produced. | ⇒ less reliable & network congestion exists |
| ⇒ Eg TCP | ⇒ UDP |

✱ Study RPC & the Protocols:

⇒ Remote Procedure call (RPC) is a technique for constructing distributed, client server based applications.

⇒ Based on extending the conventional local Procedure calling, so that the called Procedure need not exist in the same address space as the calling Procedure.

⇒ This a Protocol is used in RPC when a called Proture has nothing to return as a result of execution & the requirement of client confirmation about Procedure execution is not needed.

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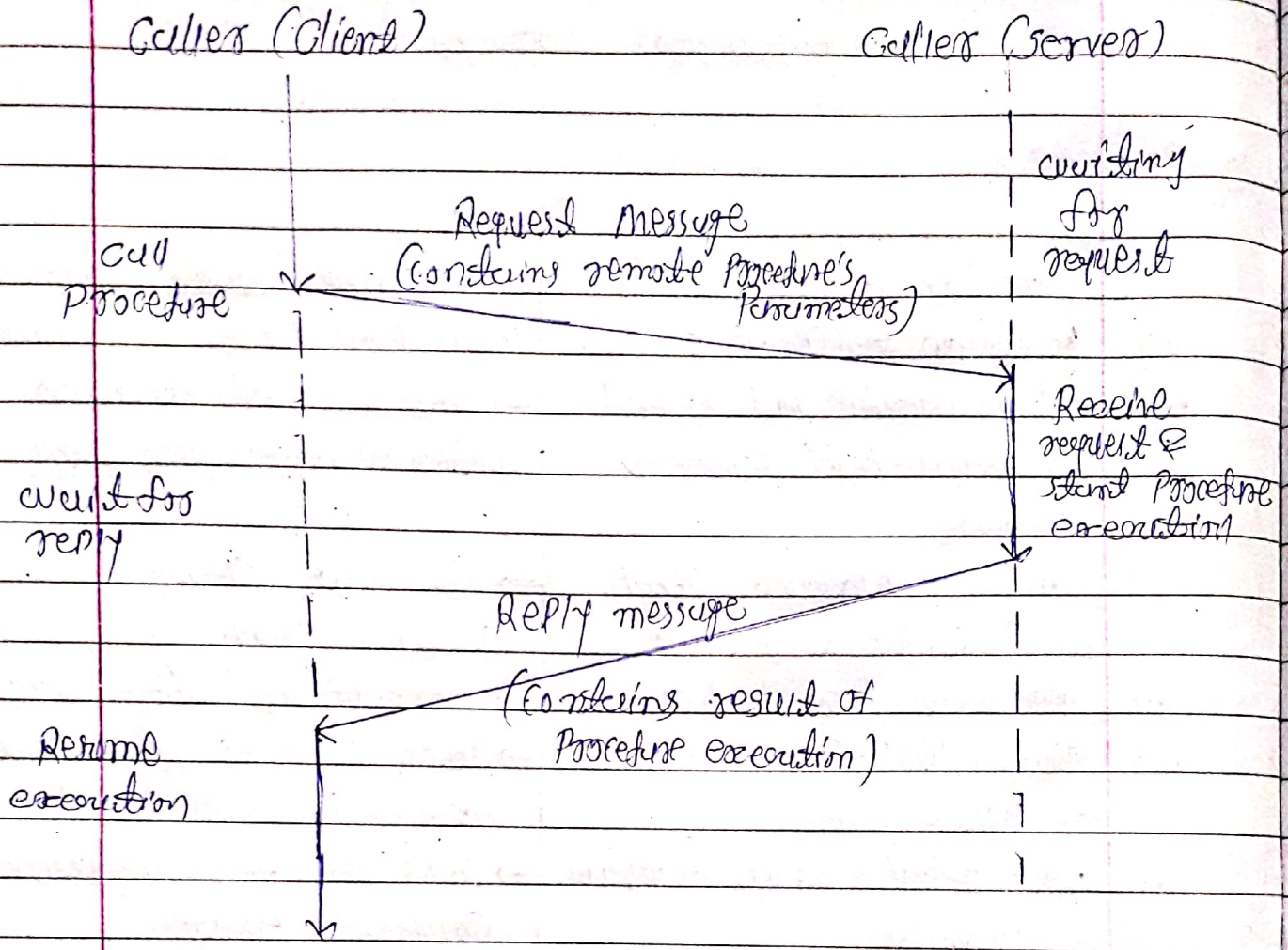


# remote Procedure call model

⇒ RPC Protocols are asynchronous, which helps to improve the performance.

⇒ RPC runtime doesn't retry a request incase of failure in communication & an unreliable transport Protocol & is generally used in implementing private virtual services.