



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

19CSB302- COMPUTER NETWORKS

UNIT-4 TRANSPORT LAYER



SCTP (Stream Control Transmission Protocol)



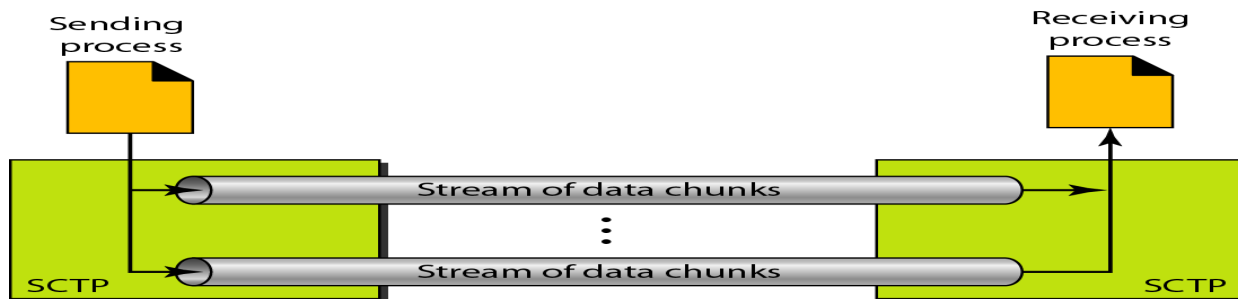
- ❑ Stream Control Transmission Protocol (SCTP) is a reliable, message-oriented transport layer protocol.
- ❑ SCTP has mixed features of TCP and UDP.
- ❑ SCTP provides the Congestion control as well as Flow control.
- ❑ SCTP is especially designed for internet applications as well as multimedia communication.



SCTP SERVICES



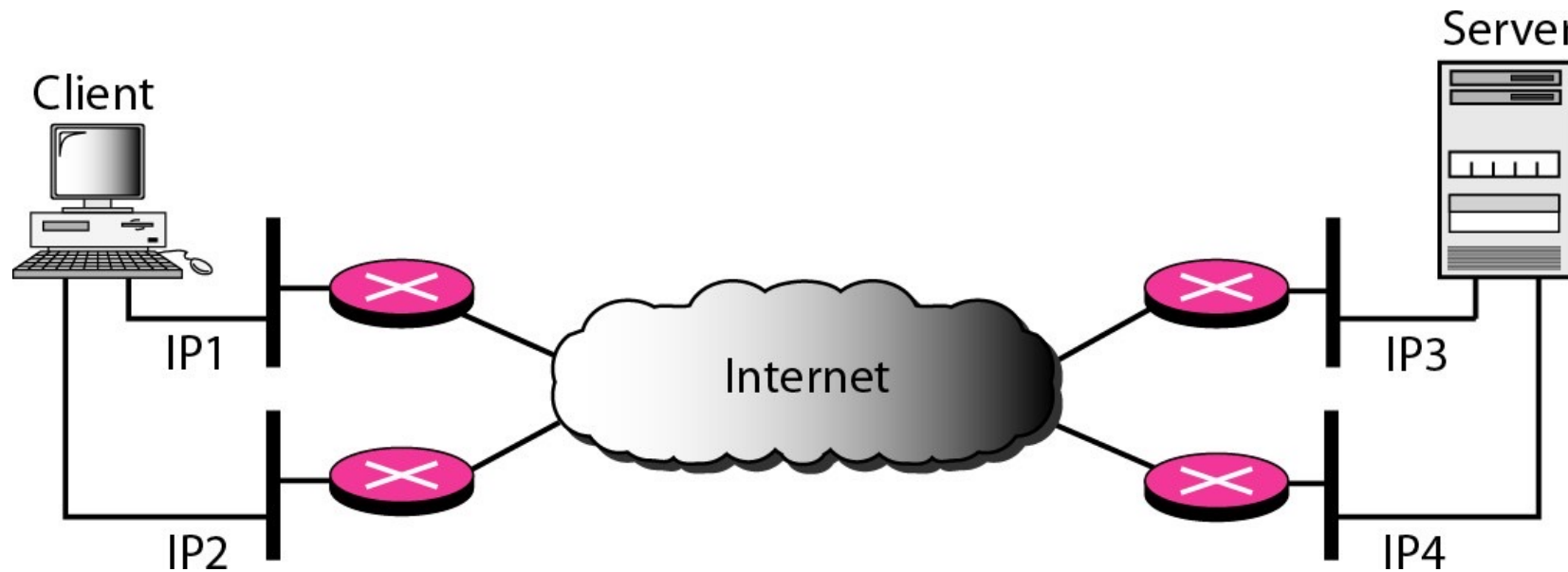
- **Process-to-Process Communication**
- [?] SCTP provides process-to-process communication.
- **Multiple Streams**
- [?] SCTP allows multistream service in each connection, which is called *association* in SCTP terminology.
- [?] If one of the streams is blocked, the other streams can still deliver their data.





Multihoming

1. ☐ An SCTP association supports multihoming service.
2. ☐ The sending and receiving host can define multiple IP addresses in each end for an association.
3. ☐ In this fault-tolerant approach, when one path fails, another interface can be used for data delivery without interruption.





Full-Duplex Communication

- [?] SCTP offers full-duplex service, where data can flow in both directions at the same time. Each SCTP then has a sending and receiving buffer and packets are sent in both directions.

Connection-Oriented Service

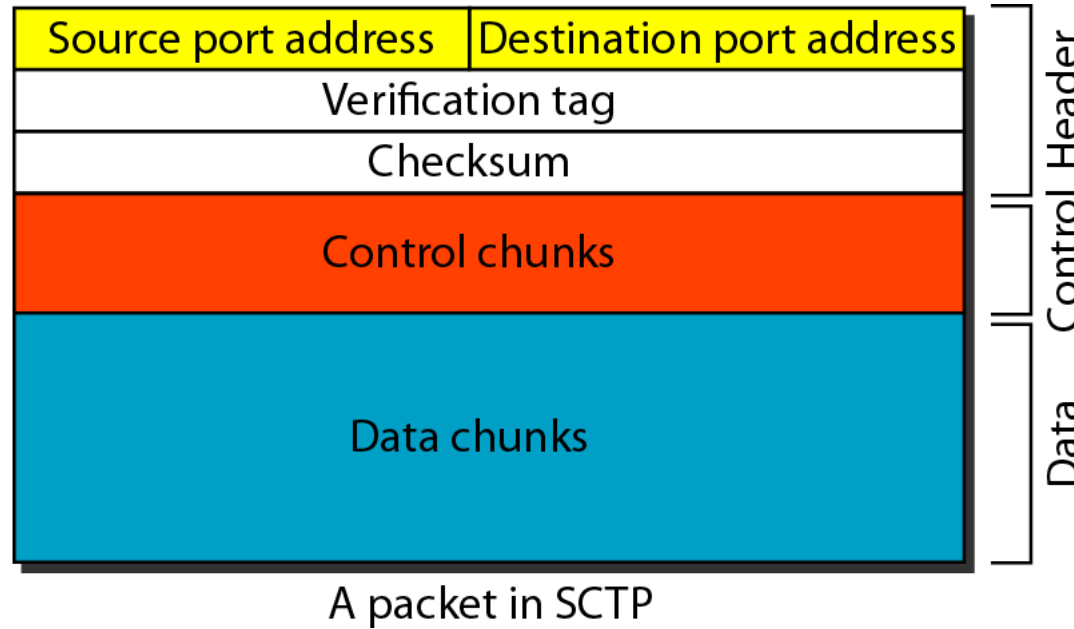
- [?] SCTP is a connection-oriented protocol.
- [?] In SCTP, a connection is called an *association*.

Reliable Service

- [?] SCTP is a reliable transport protocol.
- [?] It uses an acknowledgment mechanism to check the safe and sound arrival of data.

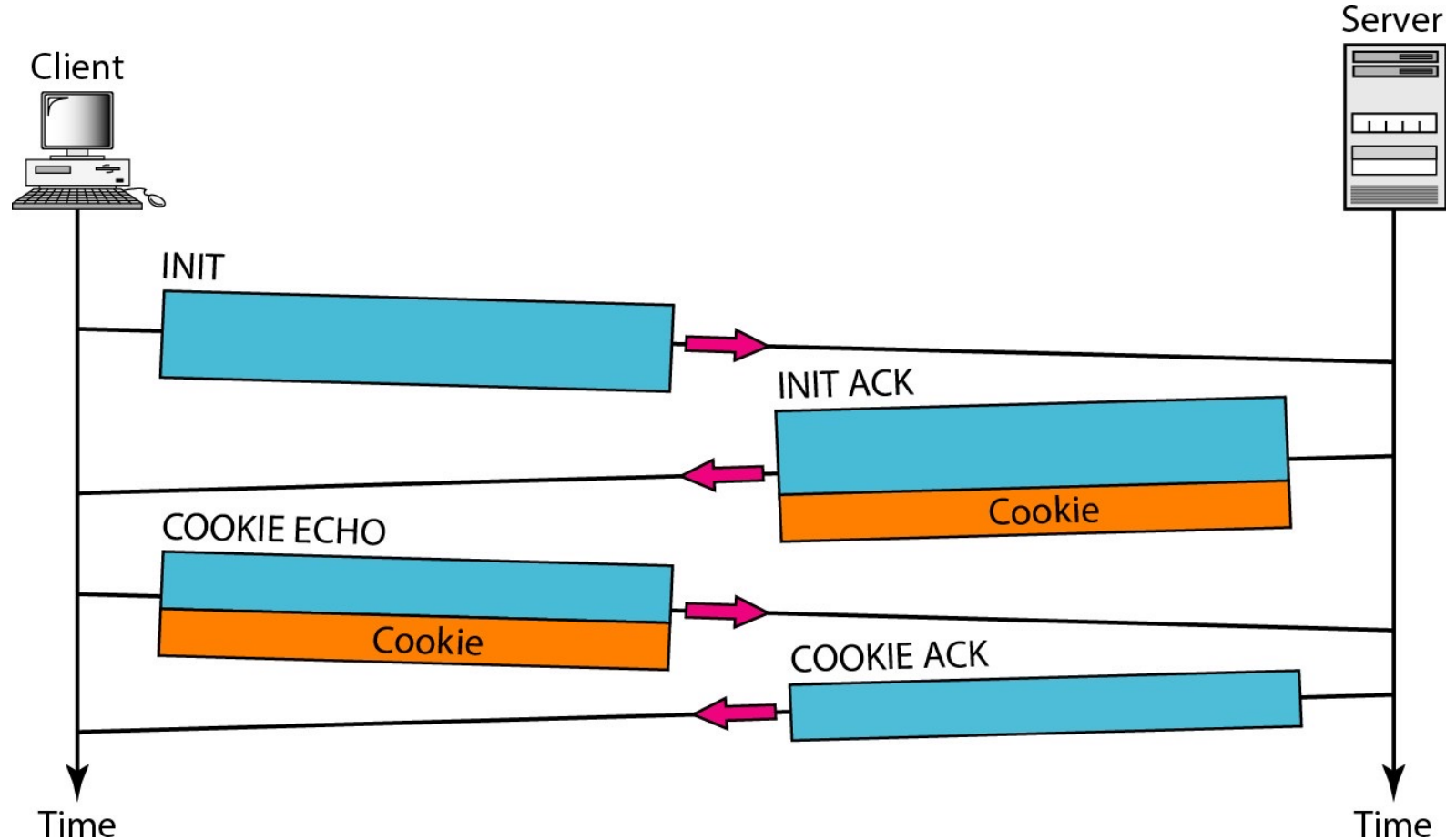


SCTP Packet format



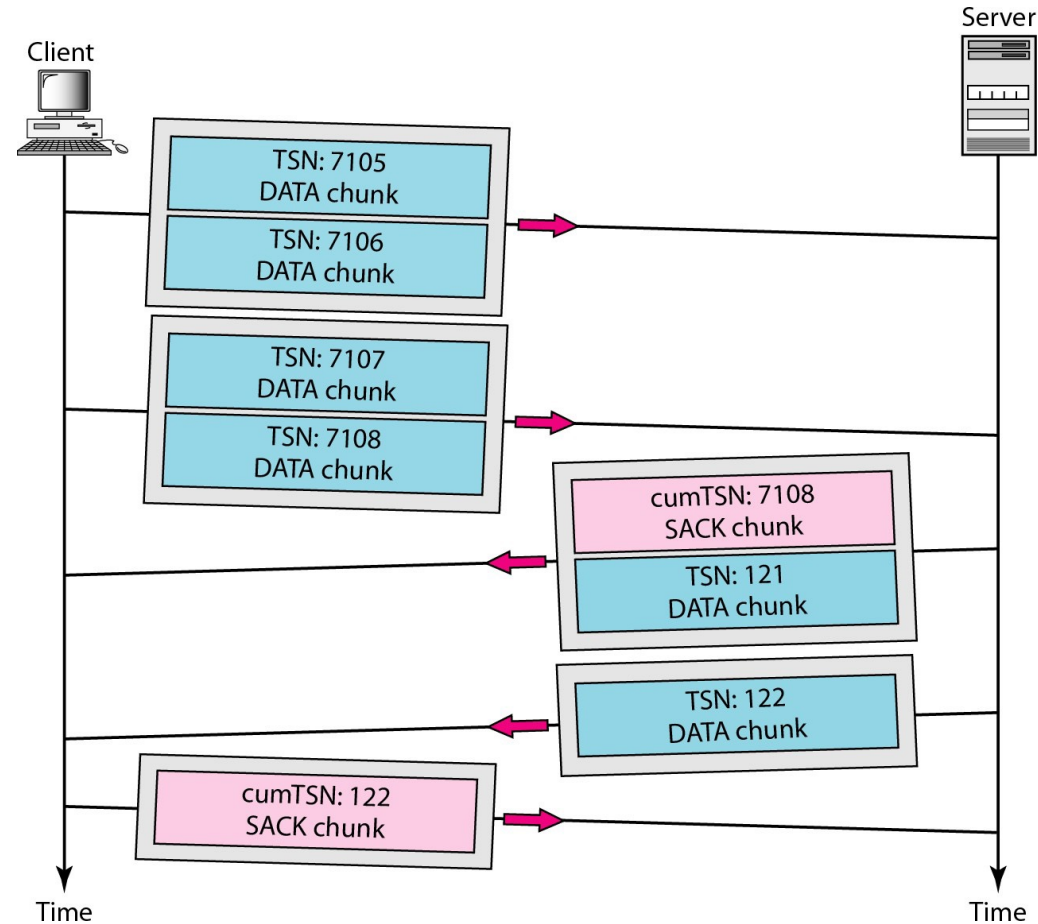


Four-way Handshaking





Data Transfer



The acknowledgment in SCTP defines the cumulative TSN, the TSN of the last data chunk received in order.



Association termination

