

DCN - Transport Layer Introduction

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Next Layer in OSI Model is recognized as Transport Layer *Layer* — 4. All modules and procedures pertaining to transportation of data or data stream are categorized into this layer. As all other layers, this layer communicates with its peer Transport layer of the remote host.

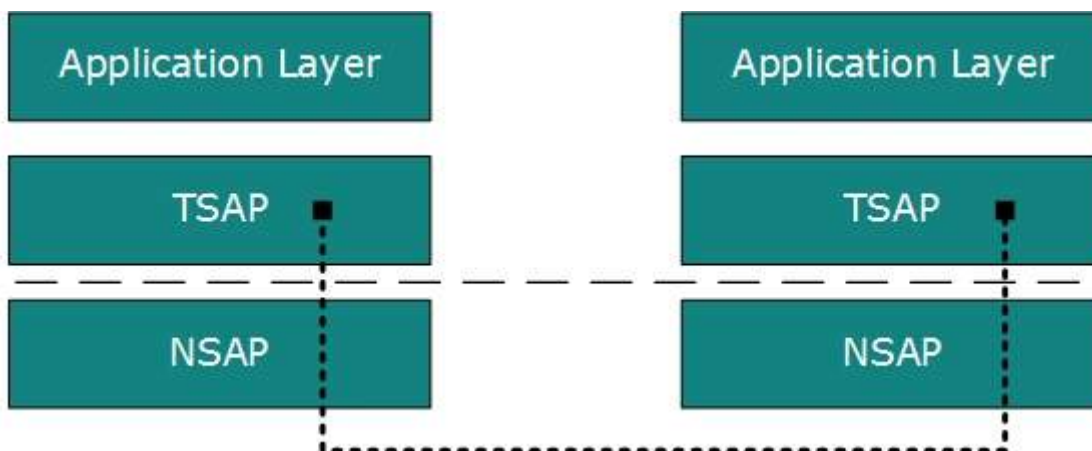
Transport layer offers peer-to-peer and end-to-end connection between two processes on remote hosts. Transport layer takes data from upper layer *i. e. Applicationlayer* and then breaks it into smaller size segments, numbers each byte, and hands over to lower layer *NetworkLayer* for delivery.

Functions

- This Layer is the first one which breaks the information data, supplied by Application layer in to smaller units called segments. It numbers every byte in the segment and maintains their accounting.
- This layer ensures that data must be received in the same sequence in which it was sent.
- This layer provides end-to-end delivery of data between hosts which may or may not belong to the same subnet.
- All server processes intend to communicate over the network are equipped with well-known Transport Service Access Points *TSAPs* also known as port numbers.

End-to-End Communication

A process on one host identifies its peer host on remote network by means of TSAPs, also known as Port numbers. TSAPs are very well defined and a process which is trying to communicate with its peer knows this in advance.



For example, when a DHCP client wants to communicate with remote DHCP server, it always requests on port number 67. When a DNS client wants to communicate with remote DNS server, it always requests on port number 53 *UDP*.

The two main Transport layer protocols are:

- **Transmission Control Protocol**

It provides reliable communication between two hosts.

- **User Datagram Protocol**

It provides unreliable communication between two hosts.