# Important Points

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 Flow Control at Transport Layer   
In communication at the transport layer, we are dealing with four entities: sender   
process, sender trans port layer, re ceiver transport layer, and receiver process.**

**Figure 6: Error control at the transport layer   
Sequence Numbers   
Error control requires that the sending transport layer knows which packet is to be   
resent and the receiving transport layer knows which packet is a duplicate, or which packet has   
arrived out of order.**

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Connection oriented service   
• A connection establishment between the sender   
and the receiver, data transfer and connection release   
• The packets are numbered   
• There is an acknowledgment both way   
• Facility for reordering of lost/corrupted packets   
• TCP,SCTP   
   
   
   
Finite State M achine   
Connectionless transport layer as an FSM with only one state: the established state.**

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TRANSPORT LAYER P ROTOCOLS   
   
Simple Protocol   
   
• Simple connectionless protocol with neither flow nor error control   
• Assume tha t the receiver can immediately handle any packet it receives   
   
   
Figure: Simple protocol   
The transport layer at the sender gets a message from its application layer, makes a packet out of it,   
and sends the packet.**

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Figure: FSM of Simple protocol   
   
Figure: Flow diagram of Simple protocol   
   
Stop -and-Wait Protocol   
• Connection -oriented protocol   
• Uses both flow and error control   
Both the sender and the receiver use a sliding window of size 1   
   
Sequence Numbers   
Assume that the sender has sent the packet with sequence number x.**

# Summary

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