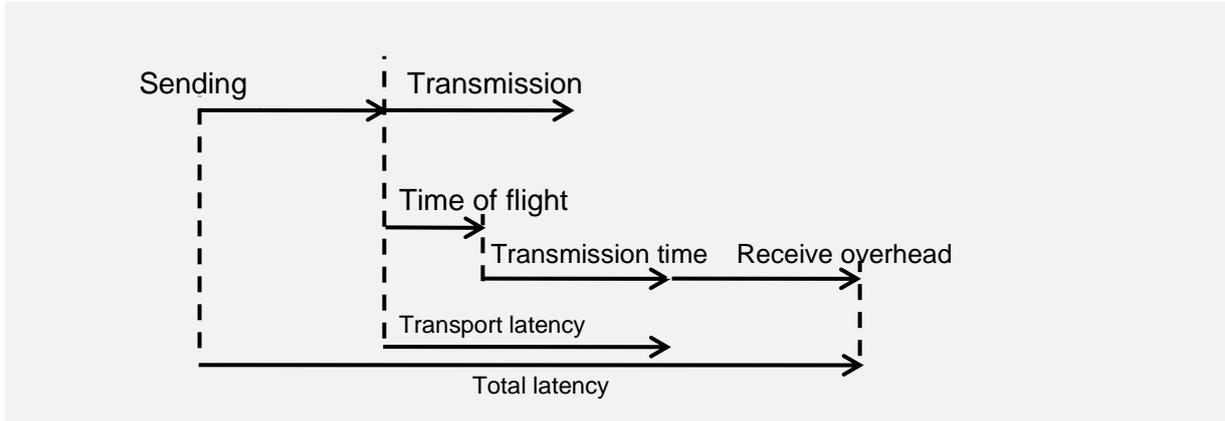# EEE4120F Lecture 11 : Class Activity

Calculating the Effective Bandwidth of a communication link

Recipe for the Effective Bandwidth:

Total latency = Sending overhead + Transmission time + time of flight + Receiver overhead

Effective bandwidth = Message size / total latency

Time of flight (ToF) is also referred to as 'propagation delay' – it may depend on how many channels are used. E.g. a two-channel path will give an effective lower propagation.
With switching circuitry, the propagation delay can increase significantly.

Question:

You are wanting to connect two computers together using a copper wire.

The distance between them is: 100m

Raw bandwidth (limited by comms devices) of the channel is: 10Mbit/s

Message to send is: 10,000 **bytes**

Sending overhead: 200us   Receiving overhead: 300us

TODO: Calculate the Effective Bandwidth of this connection.

Your Answer: