52. Latency

There are 4 components of latency-

1. Transmission delay.
2. Propagation delay.
3. Queuing delay.
4. Processing delay.

Latency = TD + QD + PSD + PGD

1. Transmission delay –

* Transmission delay is the time taken by the end device/sender to place data frame on the transmission line/medium.
* The transmission delay is based on two parameters – Message-size and bandwidth.
* Transmission delay is also called as Transmission time.
* Transmission time = Message time / bandwidth.

1. Propagation delay-

* The time taken by the message to travel from point A to point B.
* The two parameters used for calculating the Propagation delay are – Distance and Speed of transmission.
* The Propagation is also known as Propagation time.
* Propagation time = Distance / transmission speed.

1. Queuing delay –

* It is the time which Intermediary node or end node holds before it can be processed.
* The queuing time is not same for all transmission of frames.
* It depends upon the load on the network and the devices.

1. Processing delay –

* The time taken by the en device to process the data once the data packet is transmitted, is known as processing delay.
* The processing delay and Queuing delay are not mostly accountable for the data transmission.