COMPUTER NETWORKS

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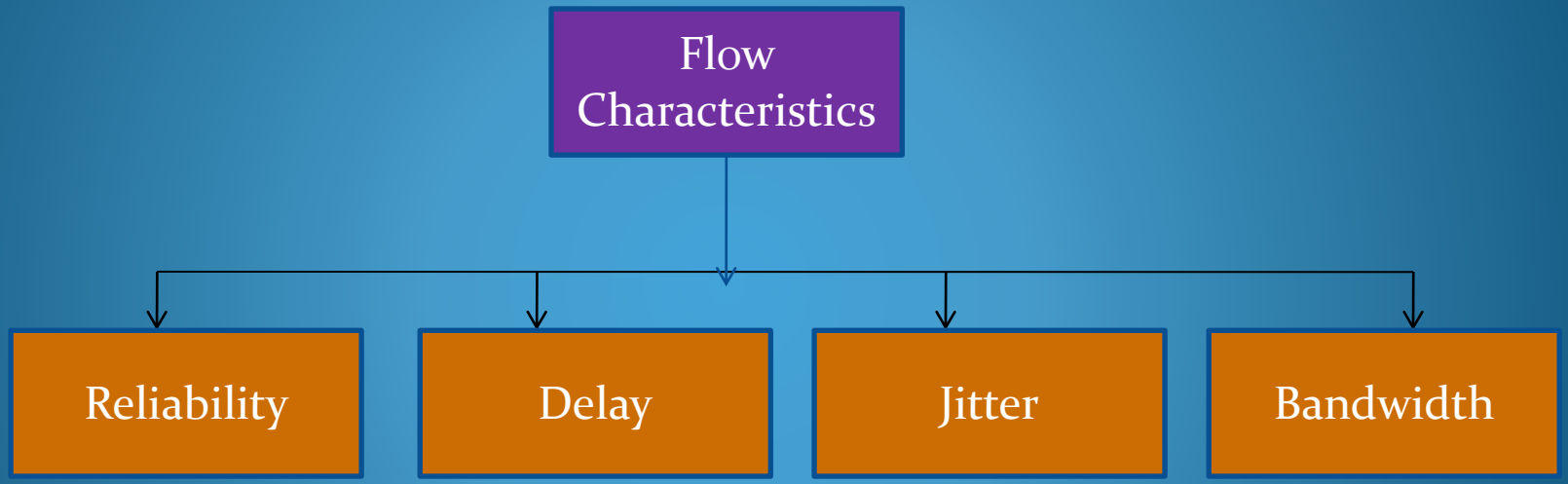
PPT presentation on :

Flow Characteristics & Admission Control

Flow Characteristics



1. Reliability :

If a packet gets lost or acknowledgement is not received (at sender), the re-transmission of data will be needed. This decreases the reliability. The importance of the reliability can differ according to the application.

For example:

E- mail and file transfer need to have a reliable transmission as compared to that of an audio conferencing.

2. Delay

Delay of a message from source to destination is a very important characteristic. However, delay can be tolerated differently by the different applications.

For example:

The time delay cannot be tolerated in audio conferencing (needs a minimum time delay), while the time delay in the e-mail or file transfer has less importance.

3. Jitter

The jitter is the variation in the packet delay.
If the difference between delays is large, then it is called as **high jitter.** On the contrary, if the difference between delays is small, it is known as **low jitter.**

For Example:

Case1: If 4 packets are sent at times 0, 1, 2,3 and received at 8,9,10,11. Here, the delay is same for all packets and it is acceptable for the telephonic conversation.

Case2: If 4 packets 0, 1, 2,3 are sent and received at 25, 28,34,40. So the delay is different for all packets. In this case, the time delay is not acceptable for the telephonic conversation.

4. Bandwidth

Different applications need the different bandwidth.

For example:

Video conferencing needs more bandwidth in comparison to that of sending an e-mail.

Admission Control

Admission control refers to the mechanism used by a router or a switch , to accept or reject a flow based on predefined parameters called flow specifications. Before a router accepts a flow for processing, it checks the flow specifications to see if its capacity(in terms of bandwidth , buffer size , CPU speed etc.) and its previous commitmentments to other flows can handle the new flow.

Admission Control performs the following two operations while establishing a connection:

1. It establishes a connection when resources are free and available.
2. If the connection is rejected in the absence of free/available resources, a notification is sent back to the originator or requester of the call or connection.

The following factors are to be considered when establishing or requesting a connection :

- ✓ The type of service required.
- ✓ Traffic parameters (source traffic parameters are analyzed).
- ✓ Both directions request their required QoS, which is also considered when establishing a connection.

THANK YOU