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11/4/2021

Homework 8

Computer Networking Principals

25.2 List the features of TCP

Features of TCP are:

* Point-To-Point Connections
* Complete Reliability
* Full-Duplex Communication
* Stream Interface
* Flow And Congestion Control Are All Examples Of Connection-Oriented Paradigms

25.3 What layers of a protocol stack are used on a router? A host?

The layers a protocol stack that is used by a router are layers 1,2, and 3. A host uses all of the layers.

25.4 What are the main problems a transport protocol must solve to achieve reliable transfer?

The main problems a transport protocol must solve to achieve a reliable transfer are communication failures, end-system reboots, heterogeneous end-systems, and network congestion.

25.5 What are the techniques a transport protocol uses?

The techniques a transport protocol uses is:

* Sequencing
* Retransmission
* Parity Bits
* Flow Control

25.6 When using a sliding window of size N, how many packets can be sent without requiring a single ACK to be received?

An ACK packet is not required if the number of packets is less than or equal to the window size.

25.9 What is the chief cause of packet delay and loss in the Internet?

Congestion is the primary source of packet delay and loss over the Internet.

25.10 How does TCP handle packet loss?

TCP uses retransmission to deal with packet loss.

25.11 What happens to throughput if a protocol waits too long to retransmit? If a protocol does not wait long enough to retransmit?

If a protocol waits too long to retransmit you will be timed out. If a protocol does not wait long enough to retransmit your data will be erased.

25.12 How does TCP compute a timeout for retransmission?

Ways TCP computes a timeout for retransmission:

* TCP has a default timeout length (Each transmission attempt the length is doubled).
* Connection times out after three attempts with no answer.

25.14 What is a *SYN*? A *FIN*?

A SYN is a packet that seeks the establishment of a connection. A FIN packet is one that ends a connection.