

Network Essentials Chapter 7 Review

Name : _____

1. The Transport Layer is the 4th layer of the TCP/IP OSI model. Transfer of data happen at this layer.
2. This layer is responsible for
 - establishing a temporary communication session between applications
 - delivering data between the applications
 - segmenting data for manageability
 - reassemble segmented data at destination
 - identifying proper application for each communication stream
3. The two protocols used are Transmission Control Protocol, and User Datagram Protocol
4. A socket is the interface through which a process communicates with the transport layer.
5. Large amount of data are broken (segmented) into smaller, equal parts known as segments. These segments are numbered in sequence (segment 1, segment 2...).
6. Segments of data travel from the network layer to the transport layer in a machine.
7. De-multiplexing means delivering segments to the correct socket.
8. Multiplexing means assembling the segments to sending them to the network layer.
9. Conversation Multiplexing means multiple applications can use the network at the same time.
10. Error-checking is done to check if segments had been corrupted while being sent.
11. TCP provides reliable data delivery and ensures that data are delivered. The sequence number and acknowledgement number are used together to confirm that segments had been received. Acknowledgement is send when the window size of data is reached. Window size if the amount of data that a source must transmit before an acknowledgement is received.
- 11a. UDP does not guarantee delivery. Data are broken down in datagrams that are numbered. But if they arrive at the destination out of order, they are not reordered. Lost datagrams are not resent.
12. TCP have higher demands on the network than UDP.
13. Application developers choose to use TCP or UDP based on the requirements of their applications.
14. TCP and UDP use port numbers to differentiate between applications like Electronic Mail (port 110) , HTML page (Port 80) , SMTP (25) and Internet Chat Port 531).

15. Ports are classified under 3 categories:

PORT NUMBER RANGE	PORT GROUP
0 – 1023	Well Known Ports
1024 – 49151	Registered Ports
49152 - 65533	Private or Dynamic Ports

State the type of ports:

PORT NUMBER	PORT GROUP
45	
49000	
1055	
55555	
60000	

16. The 'Netstat' CLI command is used to examine TCP connections that are open and running on a networked host.

17. Three-way Handshake is used by TCP to set up a TCP/IP connection over an IP-based network.

18. Window size is 3000 bytes. Data of 15000bytes are sent using a segment of 1500 bytes. How many acknowledgments would be sent to the source device?

19. UDP is used by DNS, SNMP, DHMP, TFTP, etc.