Network Programming Ex01

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1. How many HTTP messages are there in this trace?

2

2. What is the source address and destination address of the first HTTP message?

Source address: 199.168.1.102

Destination address: 128.199.245.12

3. What is the source address and destination address of the last HTTP message?

Source address: 128.199.245.12

Destination address: 199.168.1.102

4. Select HTTP message/packet #203. What are the protocol layers of this message? (Hint: look at the detail window, read bottom-up)

Physical

Link: Ethernet II

Transport: TCP

Application: HTML

5. What is the content length of this message?

784byte

6. How many UDP-based packets are there in this trace?

9

7. Select a UDP-based packet. What are the protocol layers of this packet?

Physical

Link: Ethernet II

Transport: UDP

Application: HTTP

8. Compare a) the protocol layers in question-4 and b) protocol layers in question-7 (please describe the differences and similarities)

When TCP sends and receives data, it checks whether the data has arrived at the other party. UDP does not confirm that. Send data unilaterally.

Home Work

9. What are the roles of hosts, communication links, and packets switches?

Hosts, It's things such as a computer that is connected to the network.

Communication links,

Packets switches

10. Please give examples of protocols at each layer of Internet protocol stack

Application layer Protocols: DNS, SMTP, HTTP, etc.

Transport layer Protocols: TCP, UDP

Network layer Protocols: IP, routing protocols

Link layer Protocols: Ethernet, 802.111, PPP

11. What are routing and forwarding in networks?

Routing: Determines source destination route taken by packets.

Forwading: Move packets from routers input to appropriate router output.

12. Please explain the reasons for delay and loss on the Internet

Delay: Packet arrival rate to link (temporarily) exceeds output link capacity.

Loss: Packet arriving to full queue is dropped (aka lost).

13. Please describe the relationships between process, socket, and port number.

14. How do the processes on the same host communicate?

15. How do the processes on two different hosts communicate?

16. What are addresses of a host and a process?

17. What is the meaning of “connection-oriented”?

18. How can a sender know whether a packet is lost or not?

19. When a receiver receives a packet, what are potential actions of the receiver?

20. Suppose that a feedback (ACK or NAK) is corrupted. What action(s) should the sender do in this case?