

Institute Of Technology, Nirma University
B.Tech. (CE/IT) Sem VII
IT701 Network Protocol
Tutorial 9 (Application Layer – DHCP & DNS)

1. A BOOTP/DHCP Packet is encapsulated in UDP Packet, which is encapsulated in IP packet, which is encapsulated in frame. Whereas RARP Packet is only encapsulated only in frame. Find the efficiency of BOOTP/DHCP Packet versus RARP Packet.
2. Do as following
 - a. Show the contents of all fields for a DHCP request packet sent from a client with physical address 00:11:21:15:EA:21.
 - b. Encapsulate the packet in part a in a UDP user datagram. Fill all the fields.
 - c. Encapsulate the packet in part b in an IP datagram. Fill all the fields.
 - d. Show the contents of all fields for a DHCP reply sent in response to the request in part a.
 - e. Encapsulate the packet in part d in a UDP user datagram. Fill all the fields.
 - f. Encapsulate the packet in part e in an IP datagram. Fill all the fields.
3. A diskless client on a Class C Ethernet network uses DHCP. The DHCP server is on a Class B Ethernet network. Draw a figure of the networks with appropriate IP addresses for the client, server, and relay agent. Fill out a DHCP request and reply packet.
4. Given a DNS header with few flag value. Analyze the flag 0x8F80 & 0x0503. Which of the flags are valid?
5. In context to DNS, Is the size of a question and resource record fixed? Justify your answer
6. A DNS client is looking for the IP address of xxx.yyy.com. Show the query message with values for each field. Show the response message of a DNS server to Exercise 19. Assume the IP address is 201.34.23.12.