

Lecture 18 - DHCP

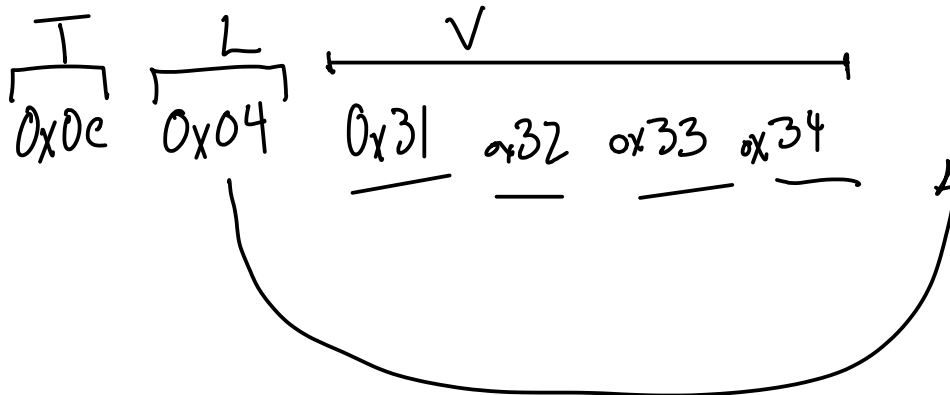
Exercise 1: What configuration information might be required to configure a network interface?

IP address
netmask
gateway
DNS server

Exercise 2: The Host Name DHCP option is encoded in TLV format using a Type of 0x0c and a value of "1234". How many bytes are required to transmit the host name? What are the values of the bytes?

6 bytes:
1 for type = 0x0c
1 for length = 4
4 for value = "1234"

string
0x30 = '0'
0x31 = '1'
:
:
0x39 = '9'



Exercise 3: Why can there be more than one response to a single DHCPDISCOVER packet? According to the diagram above, what is the response to a DHCPREQUEST packet?

- for redundancy there can be multiple servers
- DHCPACK

Exercise 4: What is the longest non-permanent lease?

$$\underline{2^{32} - 1} \rightarrow \begin{array}{l} \text{0x} \underline{\text{ff}} \underline{\text{ff}} \underline{\text{ff}} \underline{\text{ff}} \leftarrow \text{permanent} \\ \approx 4 \times 10^9 \text{ lease} \end{array}$$

$$2^{32} - 1 - 1 \leftarrow \begin{array}{l} \approx 136 \text{ years,} \\ \text{longest non-permanent lease} \end{array}$$