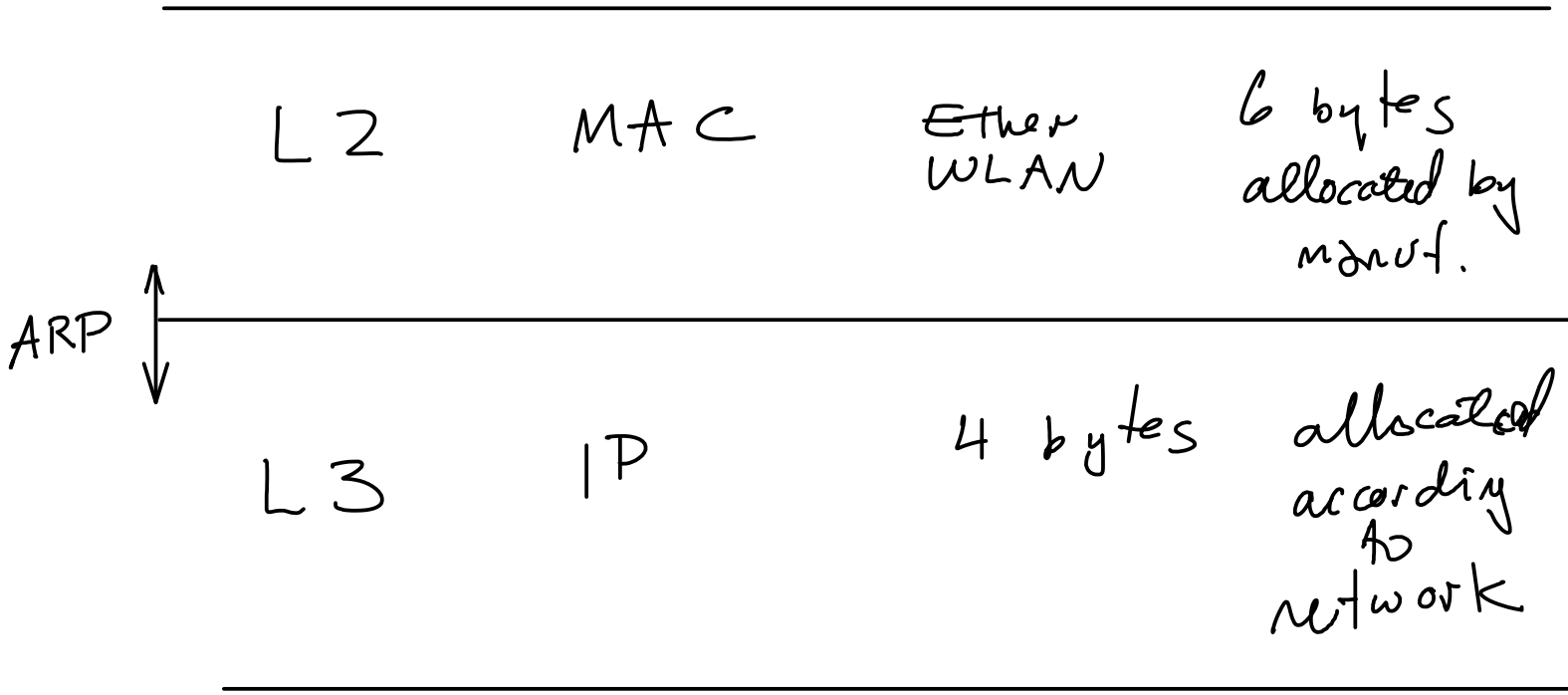# Lecture 12 - DHCP

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

IP address

netmask

gateway (default route)

DNS server

L2   MAC   Ether   6 bytes
             WLAN   allocated by
                      manuf.

ARP

L3   IP   4 bytes allocated
                    according
                    to
                    network

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?

$$T = 12$$
$$L = 4$$
$$V = "1234"$$

6 bytes : 1 for type   0x0c   12

        1 for length   0x04   4

        4 for value   0x31   0x32   0x33   0x34

                        "1 2 3 4"

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?

— yes, multiple DHCP offers

    from multiple DHCP servers

— response is DHCP ACKnowledge

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

$$2^{32} - 1 \quad - \text{ is permanent}$$
$$2^{32} - 2 \quad - \text{ longest possible lease (136 years?)}$$