

MAC (Physical Address)

- * Hardware address identifying the NIC.
- * 48 bit long, Six groups with 2 hexa decimal characters in each group for ex:

A5: B2: 57: 8D: 1E : F5

- * Globally unique
- * portable, non-hierarchical address.
- * reside in header of frame (layer 2)

- * Have Local significance ONLY.

IP address

- * Software address representing the net id \neq host id
- * 32 bit long
- * Non-portable, hierarchical
- * Public IP addresses are globally unique
- * reside in header of packet.
- * Global Significance.

net id	host id
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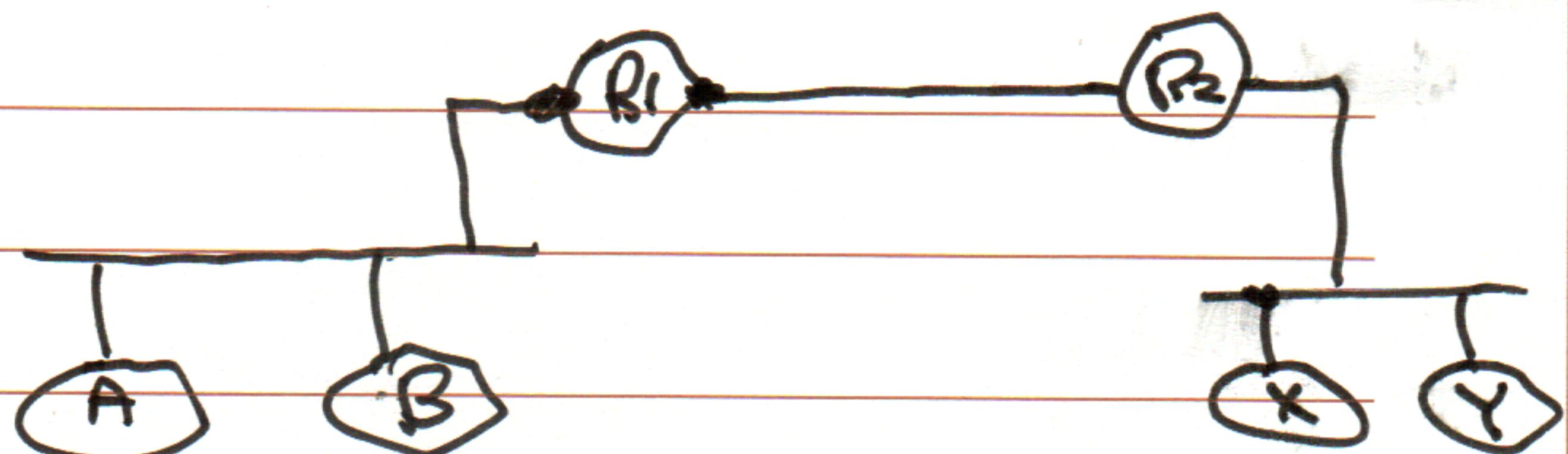
globally unique
assigned by ISP

③ Port Numbers

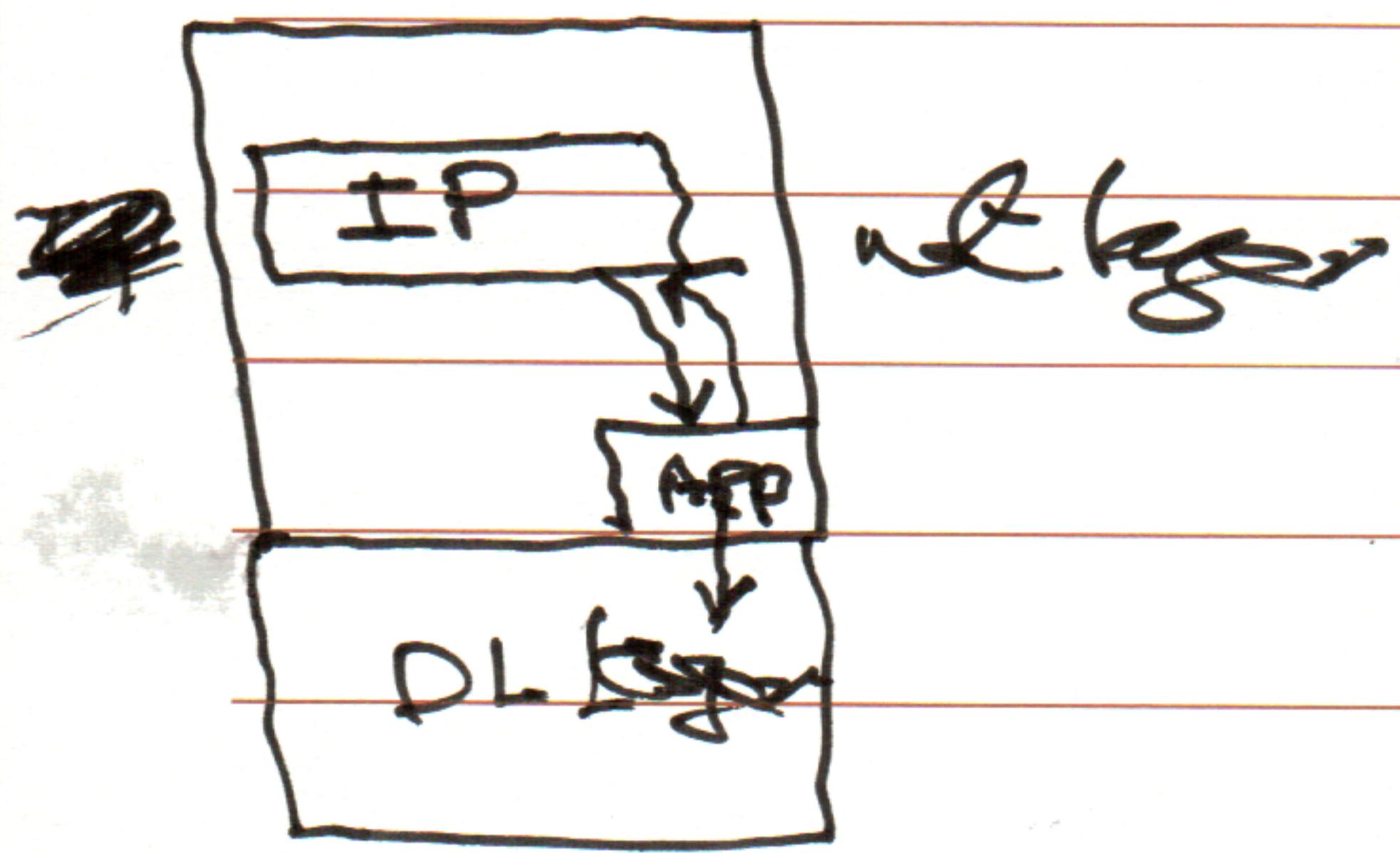
- * 16 bits long (represented in decimal)
- * Identify the applications running in Client & Server machines
- * Well-known port numbers (0~1023) at server side.
- * Reside in header of TCP Segment or UDP datagrams.

ARP : The protocol that maps an IP address to a MAC address.

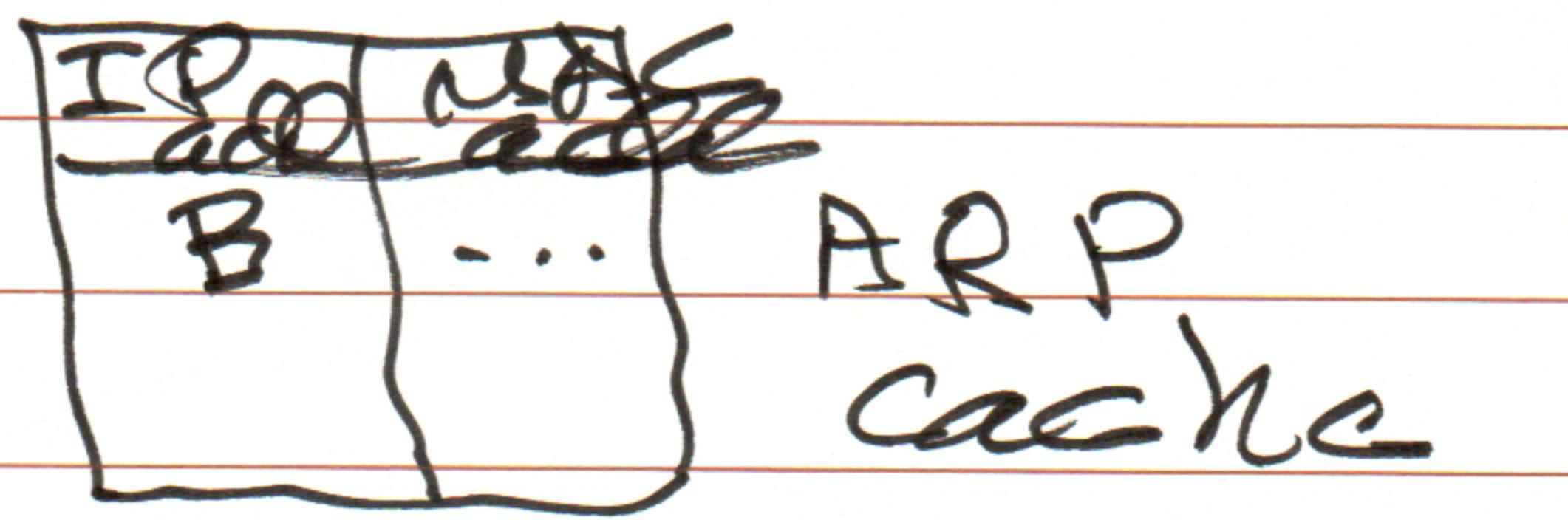
ARP is a Local protocol.

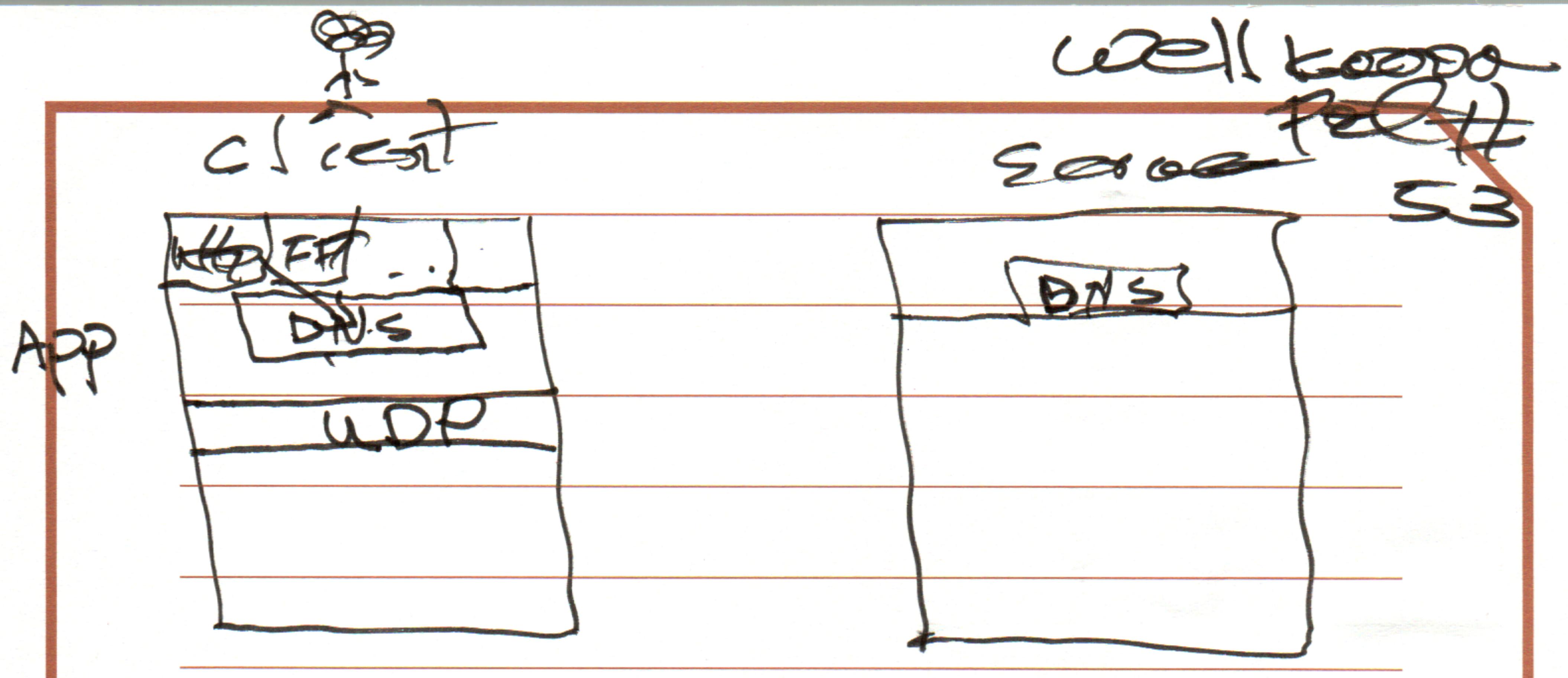


Case 1 $A \rightarrow B$



cache
~~cache~~





Local DNS

DNS will map a host name to an IP address.

http://wood.vsc.edu/godbe

protocol

host
name

file
name

file
format