Logical To Physical Address Mapping: ARP Dt: 21/3/23

→ The sender has the target logical/IP address from DNS.
→ physical address is local to the n/w.
→ Sender broadcasts a ARP (Address Resolution Protocol) query packet.
→ The ARP query packet contains → Sender Physical Address
" " Logical "
" Target " "
→ Upon receiving the target replies with ARP response packet that includes its physical address.
→ ARP Cache: To avoid so many broadcasts cache is used. Before broadcasting ARP query packet the cache memory is checked first.
→ ARP query is unicast but reply is broadcast.

Physical to logical mapping: RARP, BOOTP, DHCP

RARP: (Reverse Address Resolution Protocol):-
→ The RARP client broadcasts a RARP request on local n/w.
→ A RARP server on the same n/w replies to the request.
→ RARP is a data link layer protocol.
→ For each subnet, a RARP server is reqd.

~~BOOTP: (Boot strap~~

BOOTP: (Bootstrap Protocol):

1) Application layer protocol
2) BOOTP client & server might belong to diff n/w s.
3) The BOOTP request is broadcast
4) A relay agent knows the unicast address of a BOOTP server
5) BOOTP server replies to the relay agent.
6) Relay agent " " " BOOTP client

DHCP: (Dynamic Host Configuration Protocol)

1) BOOTP is not dynamic. The mapping b/w physical addr & logical addr is a fixed one
2) In static address allocation DHCP equl. to BOOTP.
3) When DHCP server receives a DHCP request message, it first checks its static data base. If a match is found for the i/p physical addr. corresponding logical addr. is returned.
4) O/w, from the available IP's, a IP is assigned and, an entry is made in dynamic database