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CN Assignment-1

(Wireshark_iP_v7)

1) The ip address of my computer is 192.168.1.56

2) Within the header the value of upper layer protocol field is ICMP (0x01)

3) There are 20 bytes in the Ip header and total length 84, this gives 64 bytes in the payload of the Ip data gram.

4) The more fragment bit=0, so data is not fragmented.

5) Identification, Time to live header cheaksum always change.

6) Fields that stay constant across IP datagrams are:-

→ version (using IPV4 for all packets)

→ source IP

→ header length

→ destination IP

→ Differentiated service

→ upper layer protocol.

Fields that must change:-

→ Identification (IP packets must have different ids)

→ Time to live (traceroute increments each subsequent packets)

→ header cheaksum

7) Ip header identification field increment with each ICMP Echo (ping) request.

8) identification = 44368
ttl = 64

9) The identification field ~~changes~~ changes for all ICMP TTL-exceeded replies because the identification field is a unique value. where two or more ip datagrams have the same identification value, then it means that the ip datagrams are fragments of a single large IP datagram.

(10) Yes, this packet has been fragm-
-ented accross more than
one datagram (IP datagram).

(11) The flag bit for more
fragments is set, indicating
that the datagram has been
fragmented. Since the fragment
offset is 0, we know that this
is the first fragment. The
first datagram has total
length of 1500, including
the header.

(12) We can tell that this isn't the
first fragment, since the
fragment offset is 1480.
It is the last fragment, since
the more fragment flag
isn't set.

13. The IP header fields that changed b/w the fragments are, - total length, flags, fragment offset & cheaksum.

14. After switching to 3500, there are 3 packets created from original datagram.

15. The IP header fields that changed b/w all of the packets are : fragmented offset and cheaksum.