Lab 4 - IP

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1. Computers IP address: 10.0.0.1

2. The upper layer protocol field is ICMP (1)

3. Header: 20 bytes, Total Length: 84, Payload: 84-20 = 64

4. No this packet has not been fragmented since the packet has the flag (2) “Don’t Fragment”



5. The Identification, TTL, and checksum change between each ping.

6. There are a lot of fields that have remained constant. Including version, header length, protocol, ips Differentiated Services field. All of these field for the specific trace that we conducted these fields must stay the same and all of the fields in 5. must change.

7. The Identification field increases with each sent packet but all of the responses have an Identification of 0.

8. Identification = 60324, TTL = 64



9. No the TTL varies between packets. Sometimes only by a few numbers.

10. The packet for the 2000 traceroute has been fragmented. Not in my own trials but in the ip-ethereal-trace-1

11. You are able to tell that the packet has been fragmented based on the fragment offset being set to 1480. You can tell which packet is transmitted first based on the Identification number. 1480 + 20 (header) = 1500

12. The identification number incremented by one. There is a section in the flags section called “more fragments” but it is not set in this trace. But that could be a way to determine if there are more fragments to come.

13. Identification, TTL, and the checksum.

14. I counted 40 separate packets for the 3500 trace.

15. The Identification TTL, and checksum seem to be the only thing that change.