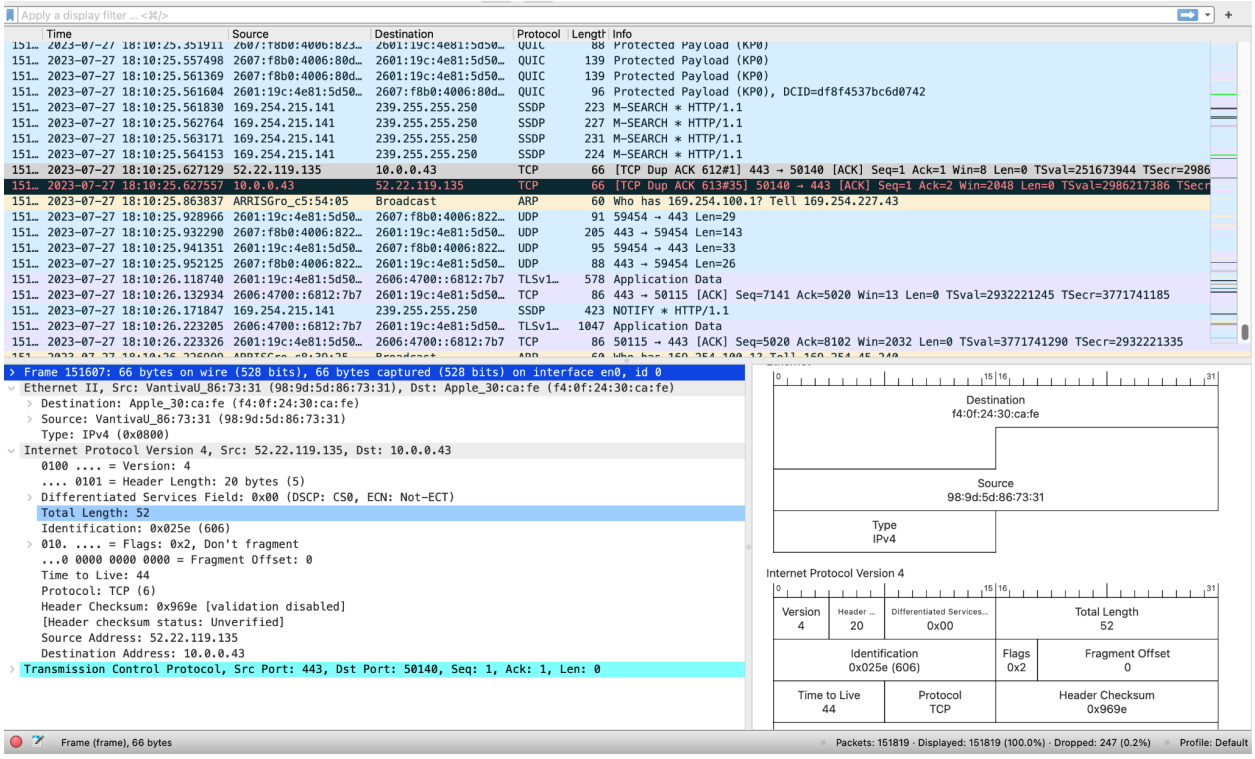
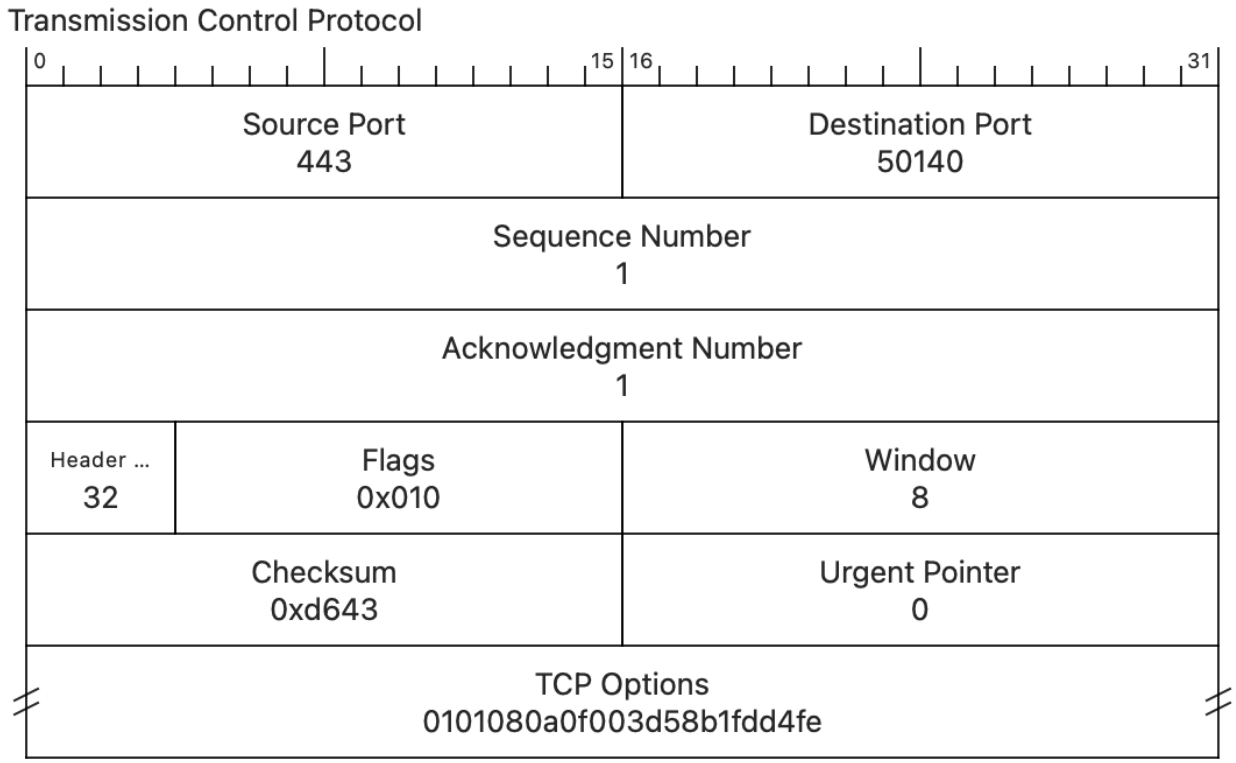
a. Functions and responsibilities of the Physical Layer:
Examine the types of signals being transmitted, such as Ethernet or Wi-Fi, by looking at the protocol information in the captured packets.

```
Frame 151607: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface en0, id 0
    Section number: 1
  > Interface id: 0 (en0)
    Encapsulation type: Ethernet (1)
    Arrival Time: Jul 27, 2023 18:10:25.627129000 EDT
    [Time shift for this packet: 0.000000000 seconds]
    Epoch Time: 1690495825.627129000 seconds
    [Time delta from previous captured frame: 0.062976000 seconds]
    [Time delta from previous displayed frame: 0.062976000 seconds]
    [Time since reference or first frame: 542.455618000 seconds]
    Frame Number: 151607
    Frame Length: 66 bytes (528 bits)
    Capture Length: 66 bytes (528 bits)
    [Frame is marked: False]
    [Frame is ignored: False]
    [Protocols in frame: eth:ethertype:ip:tcp]
    [Coloring Rule Name: Bad TCP]
    [Coloring Rule String: tcp.analysis.flags && !tcp.analysis.window_update && !tcp.analysis.keep_alive &…
```



b. Transmission media:
Observe the types of transmission media being used, such as wired (copper or fiber optic) or wireless (radio or infrared), by examining the network interface used for capturing the packet's protocol information.
Frame > Interface ID > Indicated On Mac OS, "en0", "en1", …: Ethernet

c. Error detection and correction methods:
Investigate the captured packets for evidence of error detection and correction methods, such as checksums or parity bits, by examining the packet details and researching the specific methods used by the identified protocols.



Checksum above

a. A brief introduction to the Physical Layer and its functions and responsibilities
b. Analysis of the transmission media observed in the captured traffic
c. A discussion of error detection and correction methods observed in the captured traffic

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The Physical Layer is responsible for the transmission of raw bits over a communication channel. By examining the captured packets, we can identify the types of signals being transmitted. For instance, Ethernet or Wi-Fi protocols indicate the presence of wired or wireless transmission within the network. The Physical Layer ensures that the transmitted signals adhere to specified standards and regulates physical characteristics such as voltage levels, signal timing, and data encoding.

Examining the captured packets allowed me to explore the implementation of error detection and correction methods. Error detection mechanisms, such as checksums or parity bits, are used to identify transmission errors. These methods enhance the reliability of data transmission by automatically recovering from detected errors or requesting retransmission of corrupted packets.