

# Redes de Computadores 1

## LAB UDP

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1.

The header only contains 4 fields: the source port, destination port, length, checksum.

```
> Frame 5: 85 bytes on wire (680 bits), 85 bytes captured (680 bits) on interface \Device\NPF_{EC71B609-C48F-49FD-9863-3F8DE3A146E9}, id 0
> Ethernet II, Src: Tp-LinkT_e9:4f:7c (c4:e9:84:e9:4f:7c), Dst: IntelCor_d5:1b:46 (34:41:5d:d5:1b:46)
> Internet Protocol Version 4, Src: 188.122.88.191, Dst: 192.168.0.105
v User Datagram Protocol, Src Port: 50003, Dst Port: 57771
  Source Port: 50003
  Destination Port: 57771
  Length: 51
  Checksum: 0x0b19 [unverified]
  [Checksum Status: Unverified]
  [Stream index: 1]
  > [Timestamps]
    UDP payload (43 bytes)
> Data (43 bytes)
```

2.

Each of the UDP header fields is 2 bytes long.

```
UDP payload (43 bytes)
> Data (44 bytes)
```

3.

The value in the length field, in the example below it is 46, is the sum of the 8 header bytes and the remaining data bytes encapsulated in the packet.

4.

The maximum number of bytes that can be in the payload is  $2^{16} - 1$  the bytes already being used by the header field (8). Therefore, the maximum payload is  $65535 - 8 = 65527$  bytes.

5.

The largest possible source port number is  $2^{16} - 1$  or 65535.

6.

The protocol number for UDP is 17 in decimal notation which is hexadecimal notation is 0x11.

**Protocol: UDP (17)**

7.

The relationship between port number is that the source port on the send message is the destination port of the receive message. The destination port for the send message is also the source port for the receive message.