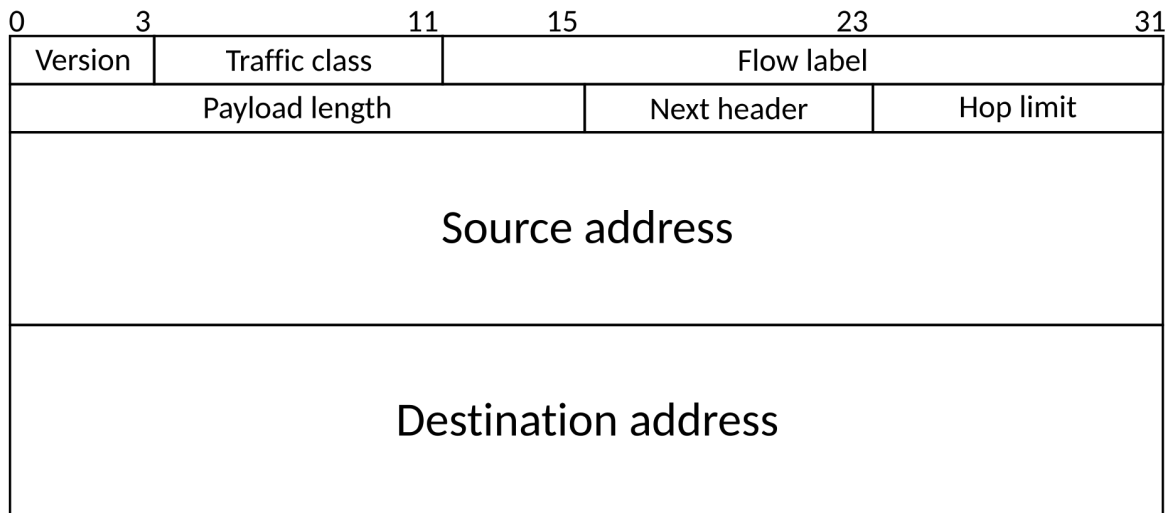


# IPV6



SRC: wikipedia

## Captured header using wireshark

|      |   |                 |
|------|---|-----------------|
| 0000 | 78 4f 24 f7 44 f0 94 e7 0b fe 70 cc 86 dd 60 00 | x0\$.D...p...   |
| 0010 | 03 9a 00 33 11 40 fe 80 00 00 00 00 00 00 41 c1 | ...3.@...A.     |
| 0020 | e4 85 0e c4 39 81 fe 80 00 00 00 00 00 00 00 00 | ...9... ..      |
| 0030 | 00 00 00 00 00 01 df d3 00 35 00 33 6b d3 a3 68 | .....53k..h     |
| 0040 | 01 00 00 01 00 00 00 00 00 01 03 6f 67 73 06 67 | .....ogs.g      |
| 0050 | 6f 6f 67 6c 65 03 63 6f 6d 00 00 01 00 01 00 00 | oogle.co m..... |
| 0060 | 29 05 ac 00 00 00 00 00 00                      | ).....          |

### NOTE:

Ip header length has total 40 bytes.

### 1) Version (4-bits)

It denotes the version of ip.IN given packet version is 6.

## **2) Priority/traffic class(8 bits)**

It helps routers to handle the traffic based on the priority of the packet. If congestion occurs on the router then packets with the least priority will be discarded. There priority is 0 which means no specific traffic.

## **3) Flow label(20 bits):**

The Flow Label field in IPv6 is a tool used to enable special handling of packet flows. It helps ensure that certain types of network traffic receive the necessary QoS or real-time service by allowing routers to recognize and appropriately manage these packets. Here Flow label is 0x0039a.

## **4) Payload Length(16 - bits):**

It is a 16-bit (unsigned integer) field, indicates the total size of the payload which tells routers about the amount of information a particular packet contains in its payload. Payload length can be maximum 65536 but in our packet it is 0x0033 which means payload is of 51 length.

## **5) Next Header (8 bits):**

Next Header indicates the type of extension header(if present) immediately following the IPv6 header. Whereas In some cases it indicates the protocols contained within upper-layer packets, such as TCP, UDP. Here next header has value 0x11 which is 17 meaning UDP protocol.

## **6) Hop Limit (8-bits):**

It indicates the maximum number of intermediate nodes IPV6 packet is allowed to travel. Its value gets decremented by one, by each node that forwards the packet and the packet is discarded if the value decrements to 0. This is used to discard the packets that are stuck in an infinite loop because of some routing error. In our packet it has value 0x40 which means it can travel next 40 nodes.

## **7) Source address (128 bits):**

.In this packet source ip address is fe80::41c1:e485:ec4:3981.

## **8) Destination Address(128 bits):**

In this packet source ip address is fe80::1.

