|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Version  (4 bits) | IHL  (4 bits) | | Type of service  (8 bits) | Total Length  (16 bits) | |
| Trusted Host ID  (16 bits) | | | | Flags  (3 bits) | Fragment offset  (13 bits) |
| Time to live  (8 bits) | | Protocol  (8 bits) | | Header Checksum  (16 bits) | |
| Source Address  (32 bits) | | | | | |
| Destination Address  (32 bits) | | | | | |
| Options and Padding  (multiples of 32 bits) | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Version  4 | IHL  20 bytes | | Type of service | Total Length  78 | |
| Trusted Host ID | | | | Flags  0x00 | Fragment offset  0 |
| Time to live  128 | | Protocol  UDP (17) | | Header Checksum  0x4e5d (Unverified) | |
| Source Address  149.153.106.121 | | | | | |
| Destination Address  149.153.106.255 | | | | | |
| Options and Padding  12 bytes | | | | | |

4.

Version: is a 4-bit version indicator.

Internal header Length: is used to show how many 32-bit words are present in the header.

Type of service: is providing features related to the quality of service for data streaming, it is also used for specifying the handle Datagram.

Total length: is measured in bytes, the minimum size is 20 bytes and the maximum is 65535 bytes.

Trusted Host ID:

Flags: is a 3-bit field that helps to control the possible fragments, this can be their possible configuration.

Fragment offset: represents the number of data bytes ahead of the particular fragment is the specific datagram.

Time to live: is an 8-bit number that indicates the maximum time the datagram will be live for in the internet system before the datagram gets erased.

Protocol: this is the IPv4 header that is reserved to denote the internet protocol that is used in the portion of the datagram.

Header Checksum: is a 16-bit header checksum field which is used to check the header for errors.

Source Address: this is a 32-bit address of the source used for the IPv4 packet.

Destination Address: is a 32-bit address that stores the address of the receiver.

Options and Padding: is basically used to make sure that the IP packet header has a length that is a multiple of 32 bits, its needed because of the varying length of the options field in the IP header.

5.

The flag is set to more fragments in the example as well as having different identification. The time to live in the example shorter. It also uses a different protocol. The source address and destination address is closer compared to the other packet where they are quite different.