

## RFC 2460/3697

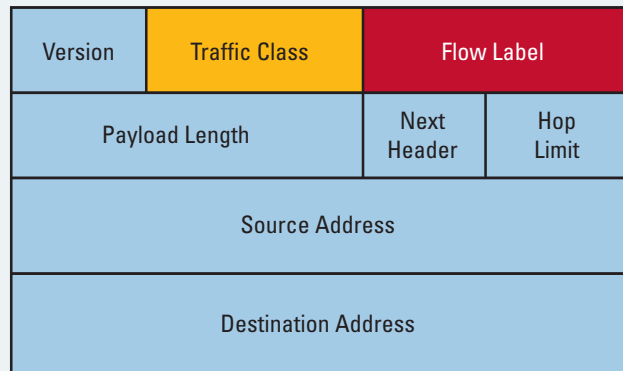
Currently IPv6 provides support for QoS marking via a field in the IPv6 header.

Similar to the type of service (ToS) field in the IPv4 header, the traffic class field (8 bits) is available for use by originating nodes and/or forwarding routers to identify and distinguish between different classes or priorities of IPv6 packets.

**Figure 1**

The traffic class field may be used to set specific precedence or differentiated services code point (DSCP) values. These values are used in the exact same way as in IPv4.

The key advantage with the flow label is that the transit routers do not have to open the inner packet to identify the flow, which aids with identification of the flow when using encryption and other scenarios.



Current Cisco IOS® Software support for IPv6 QoS includes:

- Packet classification
- Queuing (includes LLQ; excludes legacy PQ/CQ)
- Traffic shaping
- WRED

IPv6 also has a 20-bit field known as the flow label field (RFC 3697). The flow label enables per-flow processing for differentiation at the IP layer.

It can be used for special sender requests and is set by the source node.

The flow label must not be modified by an intermediate node.

Planned Cisco IOS Software support for IPv6 QoS includes:

- Compressed Real-Time Protocol (cRTP)
- Network-based application recognition (NBAR)
- Committed access rate (CAR)