

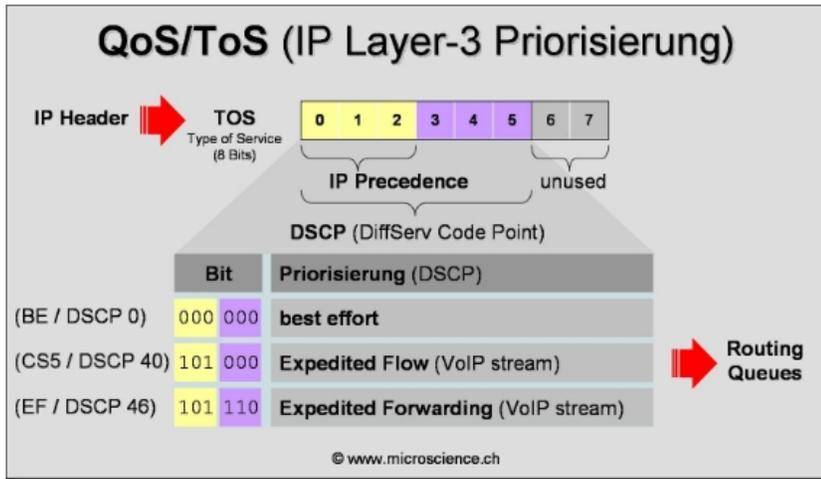
QoS - Quality of service

Quality of Service (QoS) is a term that is frequently used in relation to **VoIP**.

If the DSL line is working to capacity, speech packets of a telephone call only arrive at the telephone with delay or even not at all. Packaged in a router it guarantees bandwidths for certain services.

If, therefore, the line is working to capacity, QoS slows down the download speed as soon as a call arrives. In this way, the necessary bandwidth for the call is guaranteed.

Implementation in IP networks



QoS on Layer 3

On the theoretical level, QoS can be implemented by prioritizing or parameterizing data traffic, reserving data rates, limiting data rates and optimizing packets. Technically, there are two mechanisms for this:

- Either one registers pending data flows with all active network components (routers etc.) and reserves the required data rate (IntServ, Integrated Services),
- or you mark all data packets and the active network components treat/prefer the packets according to their markers (DiffServ, Differentiated Services).

Since **IntServ**, in practice mostly by means of **Resource Reservation Protocol (RSVP)**, results in a high administrative overhead and even a device that does not support **IntServ** fails the whole mechanism, the alternative **DiffServ** has meanwhile become established. **DiffServ is also more scalable**. Often the term **Type of Service (ToS)** can also be found. For ToS, 1 byte was reserved in the IP header, of which only 6 bits were used by ToS. However, no binding standard could be established that all manufacturers of network equipment adhere to. Meanwhile, the six most significant bits of the former ToS field in the IPv4 header as well as the 'Type of Service' octet in the IPv6 header have been redefined by the Internet Engineering Task Force (IETF). They are now uniformly called Differentiated Services Field and can be evaluated to a numerical value **Differentiated Services Code Point (DSCP)**.

Source: https://de.wikipedia.org/wiki/Quality_of_Service

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