

Switch functions

Prioritisation (QoS, Quality of Service)

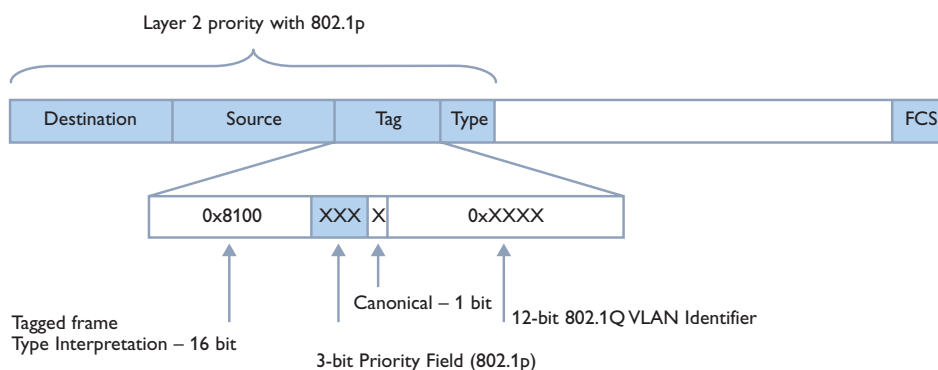
Switches that support prioritisation have two or more queues connected to respective ports to handle data (QoS). Prioritisation can take place on different levels and using different techniques.

There are a number of techniques, the switch can send a predetermined number of packets from a high priority queue before it sends a low priority packet (Round-robin). Or with strict prioritisation, where all prioritised traffic has preference over low priority traffic.

Layer 2 priority

A layer 2 switch can prioritise data on a MAC-level based on:

- ⌘ **MAC-address**, both the destination and source address can be used to prioritise data. The switch must be managed in order to utilise this, so that it is possible to set the priority on the MAC-addresses.
- ⌘ **Ethernet port (layer 1)**, one or more ports can be configured for high priority data. All traffic to these ports is handled as high priority data.
- ⌘ **Priority assigned with tags**, IEEE 802.1p (and 802.1Q) the Ethernet packet is supplemented with a field designated Tag Control Info (TCI). This field is positioned between the source address and the type field. The field results in the length of the packet increasing from 1518 byte to 1522 byte. 3 bits are used by the “tag information” to set the priority. This makes it possible to set priority on 8 levels.



Layer 3 priority

Using a layer 3 switch you can partly prioritise data on the MAC-level (layer 2) as above, or together with an IP "header level" i.e. as a router. Each packet is given priority based on the content of the field, Type of Service (ToS).

