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1 General description

VAS Experts DPI provides the following features to control external channels:

1. control the upper bound of the channel bandwidth and prioritize traffic by protocols and directions, so that low-priority traffic is forced out of the band in favor of a high priority traffic. This feature allows to control the band and to cut down expenses since in this case the additional excess bandwidth is not required to buy, one might even decrease the upper bound up to 10-15% without a notable effect for the subscribers.
2. limit the size of the occupied bandwidth for a group of protocols. This feature is widely being applied to restrict torrents. One of the possible use cases is described in document "[Uplink channel usage optimization](#)"

We offer two methods for your choice:

1. Bandwidth restriction with burst support in [CISCO](#) style ([the classic token bucket](#)).
2. Bandwidth restriction with borrowing in [Linux HTB](#) style.

Protocols are divided into 8 classes. This number is limited by number of priorities set up by the option "[Protocol dependent prioritizing of traffic](#)". Placing of a particular protocol into its class is controlled by the same option: ([class <-> priority](#)). This approach allows to combine in a compatible way using of external and internal shapers.