Table of Contents

Priority assignment depending on the directions

The direction is defined by a number of an autonomous system that sends or receives the traffic. The direction priority specified for autonomous system (if defined) overrides the priority specified by protocol. The direction priority specified for the traffic's source (if defined) overrides the priority specified for the destination.

One can change the IP list that belongs to an autonomous system and define an auxiliary autonomous system dynamically. It is described in the section Configuring autonomous systems

The direction dependent priorities assigned by the system's administrator, are loaded by DPI from the file **/etc/dpi/asnum.dscp.**

Comments in this file are not allowed!

This file is created in two steps. First, the text file with a list of autonomous systems and their assigned priorities is created. Next, this file is converted into an internal format by a dedicated utility.

`asnum.bin` — a directory of public autonomous systems and subnets that can be updated from the cloud. To enable directory updates, add the parameter `asnum_download=1` to the configuration file `/etc/dpi/fastdpi.conf`. By default, updates are disabled (`asnum_download=0`).

File format of autonomous systems' list and their priorities:

Each line of the file contains: AS_number <space> dscp_value. **For example:**

```
64512       cs0
64512       local
64513       drop
64514       pass
64514       peer
```

- Here cs0 - is DSCP value.

Keywords meaning:

- drop – means that packets have not to be transmitted: they must be dropped.
- pass – the traffic of this autonomous system must go through DPI with no analysis and

processing.
- local – the traffic of this system is treated as a local operator's one, see BRAS L3
- peer – the operator is in peering state with this system; used only for Cache option
- term – termination is allowed for this AS; see BRAS: AS termination
- mark1 – Prioritize SNI detection in custom signatures for autonomous systems.
  Control from the cloud.
- mark2 – QUIC traffic from this AS, both during SNI determination and without SNI, will be marked as QUIC_UNKNOWN_MARKED
  Example:
  - in asnum.dscp ASN 15169 mark as mark2
  - in protocols.dscp mark QUIC_UNKNOWN_MARKED drop
- mark3 — reserved

local, term and peer do not effect the traffic's priority and are used for services. They are described there.

File convertation

To convert this file into the internal format and to place it into the working directory for DPI usage:

```
cat my_as_dscp.txt|as2dscp /etc/dpi/asnum.dscp
service fastdpi reload
```

This configuration is loaded on the run, with no need to restart the servic

[SSG v13+] it is now possible to add comments (#) and empty lines in input files of as2dscp utility.

Configuration for local traffic

To allow the transit of local operator traffic through the DPI without analysing and processing:

```
local_passthrough=1
```

To place the local operator traffic in a separate class:

```
local_dscp=0x38
```

dscp is set in a numerical form, the reference table provides correspondence between the numeric and letter symbols.

local_dscp setting takes precedence over the local_passthrough (if both are specified, the local_dscp is active)

Autonomous system traffic within its class can be limited regardless of the basic service plan limitation.