## Содержание

An individual configuration file is used to define each bandwidth control policy. This file specifies bandwidth limits for protocol classes (groups). The method is similar to overall bandwidth control).

fdpi_ctrl utility applies the configured policies to subscribers.

The format of the instruction:

```
fdpi_ctrl команда --policing файл_описания_полисинга [список_IP]
```

Instructions' syntax and IP addresses specification methods are described in details here: Control instructions.

The First Example:

We intend to offer our subscribers the plan for 10 Mb/s with torrent bandwidth limit of 3 Mb/s.

To accomplish the goal we create a class for torrents as described in Configuring priorities.

```
bittorrent   cs1
default      cs0
```

We split the traffic into 2 classes for this example:
cs0 - corresponds to DSCP=0 QOS(IPP)=0 Best Effort
cs1 - corresponds to DSCP=8 QOS(IPP)=1 Priority

We create the configuration file rateplan_1.cfg. It specifies bandwidth limits for each of 8 protocol classes (groups). We use HTB (the method of borrowing available bandwidth) and specify the bandwidth limit for torrents 3 Mb, but not smaller than 1 Mb. Unlike torrents, other traffic may take the whole available bandwidth.

```
htb_inbound_root=rate 10mbit
htb_inbound_class0=rate 8bit ceil 10mbit
htb_inbound_class1=rate 1mbit ceil 3mbit
htb_inbound_class2=rate 8bit ceil 10mbit
htb_inbound_class3=rate 8bit ceil 10mbit
htb_inbound_class4=rate 8bit ceil 10mbit
htb_inbound_class5=rate 8bit ceil 10mbit
htb_inbound_class6=rate 8bit ceil 10mbit
htb_inbound_class7=rate 8bit ceil 10mbit
htb_root=rate 10mbit
htb_class0=rate 8bit ceil 10mbit
htb_class1=rate 1mbit ceil 3mbit
htb_class2=rate 8bit ceil 10mbit
htb_class3=rate 8bit ceil 10mbit
htb_class4=rate 8bit ceil 10mbit
htb_class5=rate 8bit ceil 10mbit
htb_class6=rate 8bit ceil 10mbit
htb_class7=rate 8bit ceil 10mbit
```

htp_inbound_root, htb_root are the root classes that define the overall bandwidth for inbound and outbound traffic. The bandwidth is distributed within these classes.

rate - is the minimal bandwidth
ceil - is the maximum bandwidth that can be borrowed from the root class if available
class2-7 would not be used as we configure two classes only: 0 and 1.

Here we assign the configured policy to subscribers that use this plan:

```
fdpi_ctrl load --policing rateplan_1.cfg --file
subscribers_with_rateplan_1.txt
```

The Second Example:

Let us assign the plan from the previous example to a subscriber with several IPs.

Check that BD support is enabled in dpi /etc/dpi/fastdpi.conf:

```
udr=1
```

If it is not enabled: we enable it and restart DPI: service fastdpi restart

We reserve for corporative subscriber all his IPs:

```
fdpi_ctrl load --bind_multi --user
OOO_PizzaJohnes:192.168.0.1-192.168.0.5,192.168.1.10-192.168.1.25
```

The subscriber's IP list can be modified dynamically (i.e. add new IPs and delete it).

We assign the bandwidth limits according to the plan:

```
fdpi_ctrl load --policing rateplan_1.cfg --login OOO_PizzaJohnes
```

*For advanced users*: We advise to learn how to control outbound traffic via feedback loop.