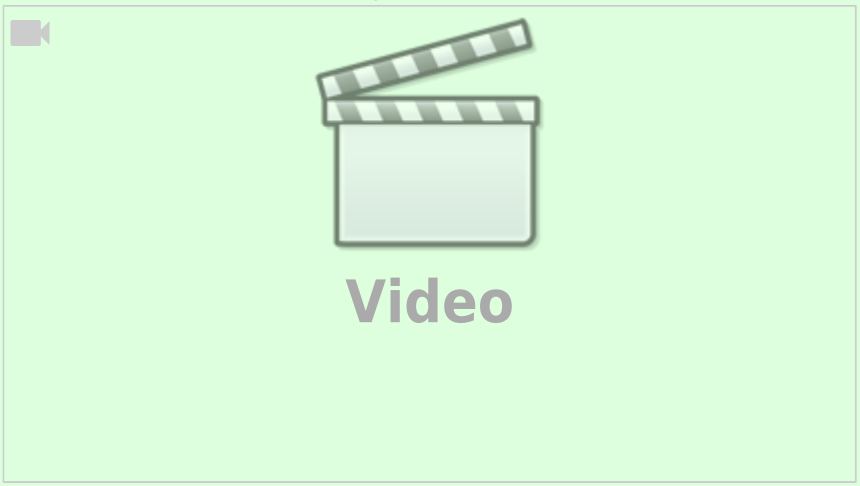
Содержание

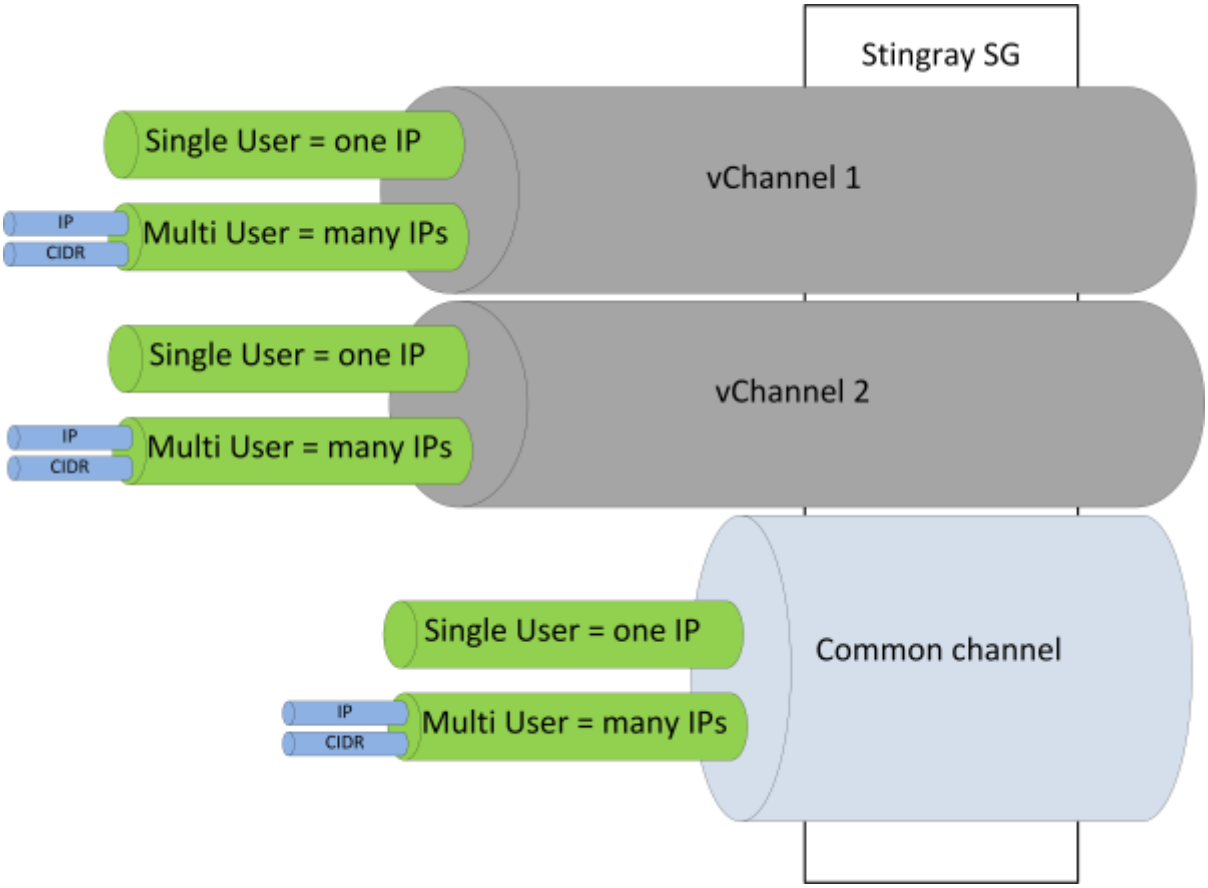
Policing of Virtual Channel (vChannel)

More about VChannels configuration:



In case if the operator has several external (uplink) or internal channels often it is needed to control Channel Upper Boundary and limit low priority traffic independently of one another. Channel traffic is usually uneven and channels often are unequal.

By using vChannel, you can separate traffic from the common channel based on physical ports / VLANs / CIDRs. Policing and services are applied on vChannel similarly to subscriber rate plans. Channel parameters and restrictions in the channel are configured by a special identifier.



Setting up

In the DPI setting **/etc/dpi/fastdpi.conf** there is a parameter to identify the way of channels differentiation:

```
vchannels_type=1
```

where

- 1 different NICs will be used for different channels
- 2 different VLANs will be used for different channels
- 3 they will be defined via CIDR

Next, you need to specify which physical interfaces, VLANs, CIDRs form the virtual channel.

For physical interfaces

```
vchannels_list=60-00.0:60-00.1|61-00.0:61-00.1
```

Traffic through network interfaces **60-00.0 and 60-00.1 refers to the first virtual channel,** and traffic through **61-00.0 and 61-00.1 refers to the second.**
If the Stingray SG has other network interfaces specified in the in_dev/out_dev setting, the traffic through them will refer to the common channel, which is managed and limited in the configuration file.

For VLANs:

```
vchannels_list=100:101-115|200:201:240-250
```

VLAN 100 and 101-115 - virtual channel 1, **VLAN 200 and 240-250 - virtual channel 2**. Traffic that is not in VLANs defined in vchannels_list will be in common channel as before. It is managed as usual in configuration file

For CIDR

Creating ipchannels.txt file:

```
10.0.1.0/24 1
10.0.2.0/24 1
10.1.0.0/16 2
```

To convert:

```
 cat ipchannels.txt | as2bin /etc/dpi/ipchannels.bin
```

CKAT 12.4+ Added support for IPv6 channels (with reload).
Example of an assignment:

```
fe80::0/8 1
cat ipchannels6.txt | as2bin6 /etc/dpi/ipchannels6.bin
```

To list vChannels in /etc/dpi/fastdpi.conf:

```
vchannels_list=1|2
```

Traffic from **CIDR 10.0.1.0/24 and 10.0.2.0/24 refers to the first** virtual channel, **from CIDR 10.1.0.0/16 refers to the second** channel. Traffic that is not in the defined CIDR will refer to the common channel, which is managed and limited in the configuration file.

Policing Configuration

Load the policing setting for channels 1 and 2

```
fdpi_ctrl load --policing vchannel1.cfg --vchannel 1
```

```
fdpi_ctrl load --policing vchannel2.cfg --vchannel 2
```

where vchannel1.cfg - file with policing definition (same as for the general channel,virtual channels and subscriber rate plans)

Example of the configuration file:

```
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 100mbit static
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 100mbit static
htb_class7=rate 8bit ceil 10mbit
```

Let's check what setup is loaded:

```
fdpi_ctrl list all vchannel --policing
```

The settings for the virtual channels are stored in DPI UDR (internal database) and can be changed on the fly during operation as well as for subscribers. Configuration of policing for the channel can be loaded by the named profile eather.

```
fdpi_ctrl load --policing --profile.name vchannel_1 --vchannel 1
```

The tariff plan can be set in JSON format as well.

Block List Setup - Service 4

The profile is created similarly to creating Subscriber's profile: Filtering Management.

```
fdpi_ctrl load --service 4 --profile.name test_blocked ——vchannel 2
```

Allow List Setup - Service 5

The profile is created similarly to creating Subscriber's profile: Allow List Management.

```
fdpi_ctrl load --service 5 --profile.name test_white ——vchannel 1
```