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Searching for Flood Sources in the Operator’s Network

1. Configuring statistics export from SSG

The following parameter values must be set in the configuration file `/etc/dpi/fastdpi.conf`:

```
netflow=12
netflow_dev=vlan200
netflow_timeout=10
netflow_rate_limit=900
netflow_full_collector=10.0.0.0:1500
netflow_passive_timeout=5
netflow_active_timeout=20
netflow_full_collector_type=2
ipfix_reserved=1
```

where:

- `netflow=12` – statistics collection and export: 8 + 4 = fullnetflow + billnetflow (accounting).
- `netflow_dev=vlan200` – where `vlan200` is the name of the interface from which statistics will be exported.
- `netflow_timeout=10` – export interval in seconds.
- `netflow_rate_limit=900` – IPFIX rate limit.
- `netflow_full_collector=10.0.0.0:1500` – statistics collector address – specify the correct QoE IP.
- `netflow_passive_timeout=5` – inactivity timeout for a session. If no activity is detected during this period, the session is considered finished and its information is exported.
- `netflow_active_timeout=20` – interval for reporting long sessions (i.e., long sessions are split into fragments of this duration).
- `netflow_full_collector_type=2` – export IPFIX to a TCP collector.
- `ipfix_reserved=1` – reserves the required memory to allow enabling/changing IPFIX/Netflow parameters.

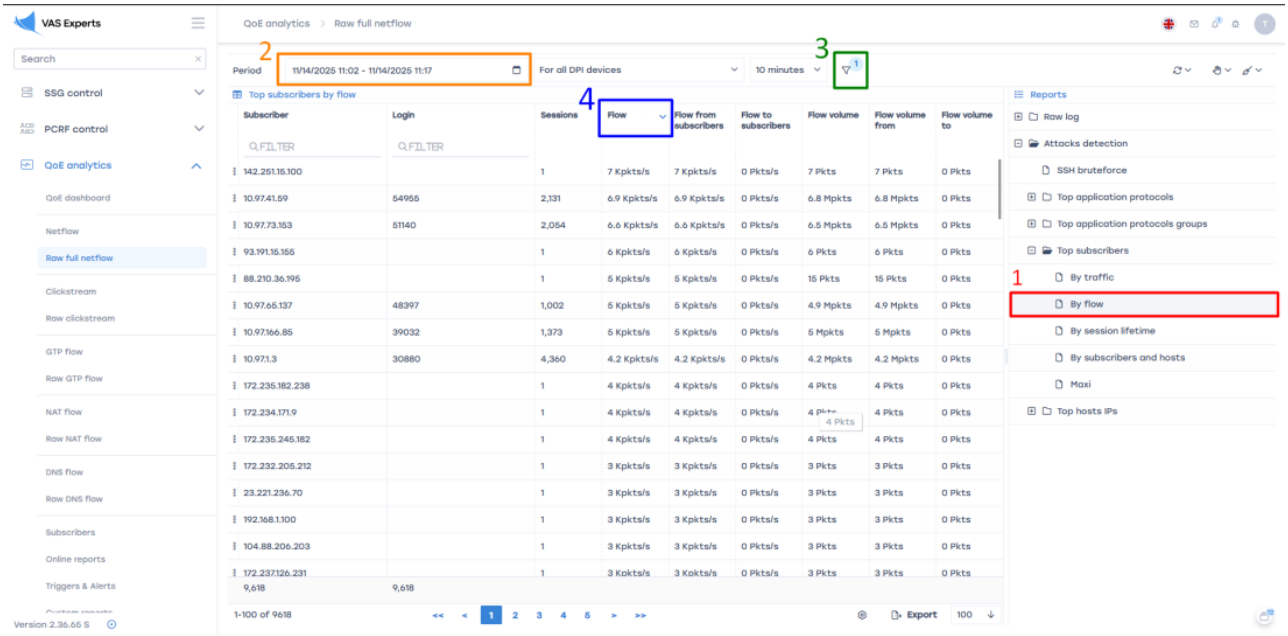
After modifying the parameters, restart the service:

```
service fastdpi restart
```

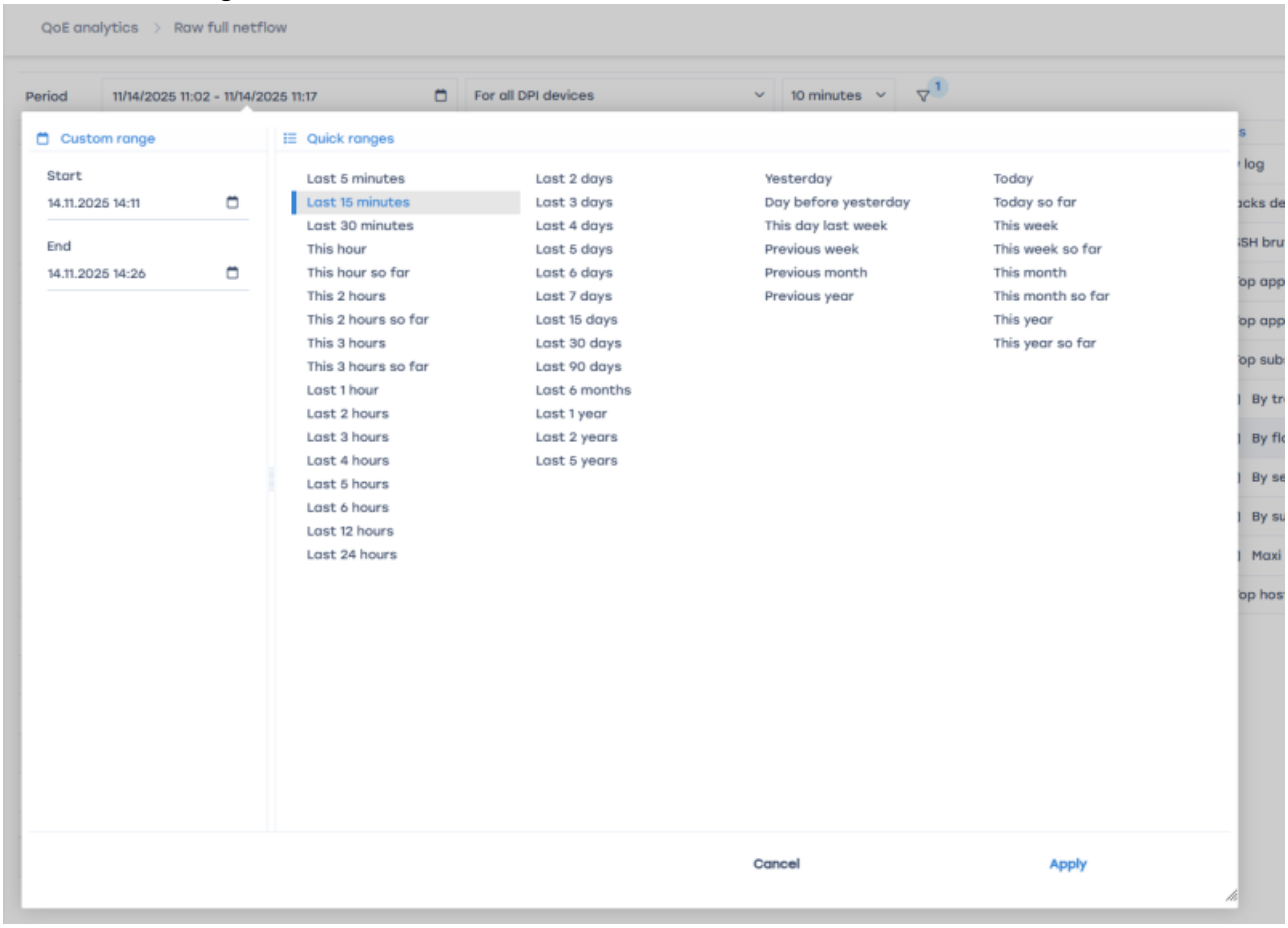
2. Searching for a flood source (BotNet)

Searching for subscribers with a high number of flows per second

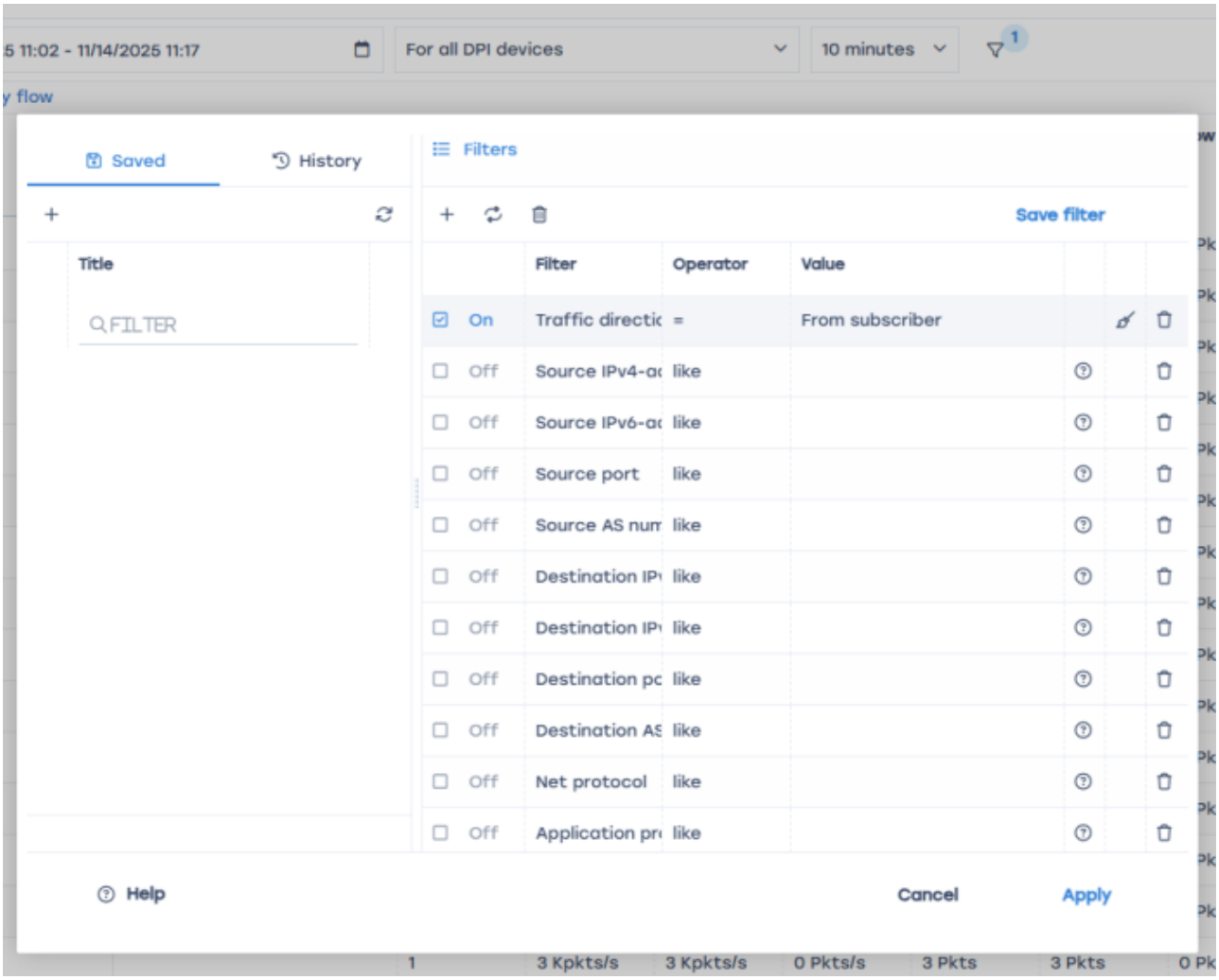
1. Open the QoE Analytics report → Raw Full Netflow → Attack detection → Top subscribers → By flow:



2. Set the time range:



3. Add a traffic direction filter – From subscriber:

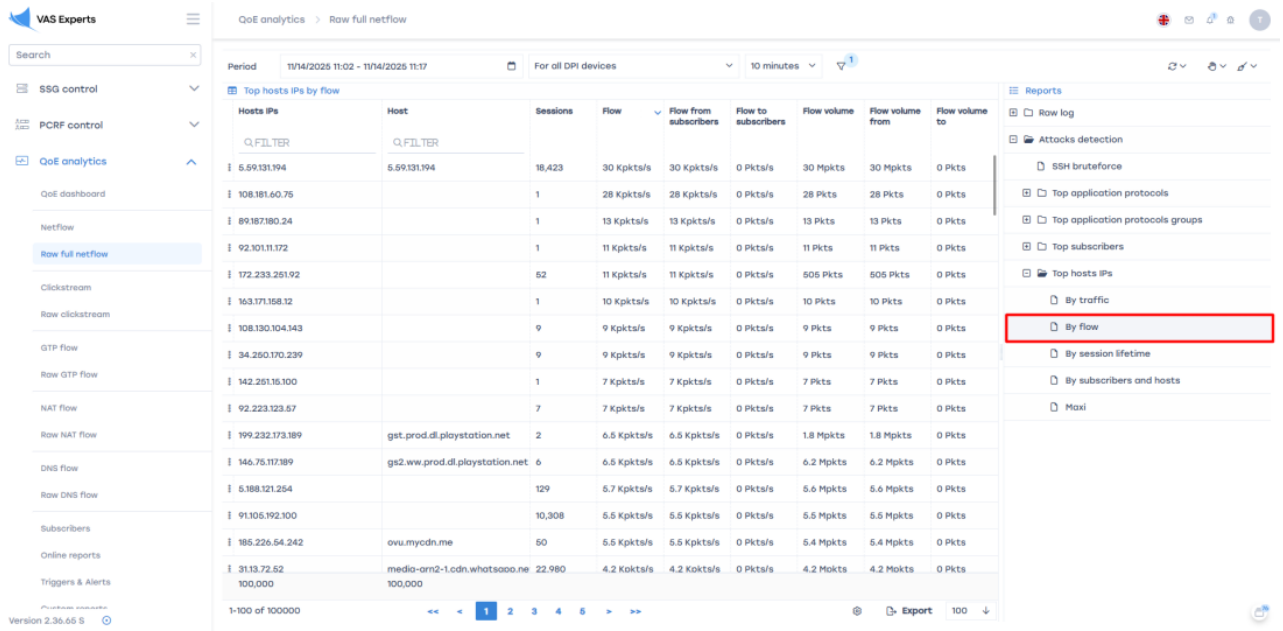


4. Click the Flow column for convenient sorting

   The detected subscriber source IP addresses must be added to a local AS (see section 3.1)

Searching for hosts with a high number of flows per second

1. Open the QoE Analytics report → Raw Full Netflow → Attack detection → Top host IP addresses → By flow:



2. Set the time range.
3. Add a traffic direction filter – From subscriber.
4. Click the Flow column for convenient sorting.
   The detected host IP addresses must be added to a local AS (see section 3.1)

3. Blocking IPs by assigning them to an autonomous system

Creating a local AS (example for IPv4)

1. Create a copy of /etc/dpi/aslocal.bin:

   ```
   cp /etc/dpi/aslocal.bin /etc/dpi/aslocal.bin.backup
   ```

2. Convert aslocal.bin to a TXT file using the bin2as utility:

   ```
   bin2as /etc/dpi/aslocal.bin > /etc/dpi/list.txt
   ```

   If the aslocal.bin file is missing in /etc/dpi/, create it:

   ```
   vi /etc/dpi/list.txt
   ```

3. Add entries to list.txt in the format (CIDR <space> ASN):

   ```
   10.0.0.1/32 64525
   172.16.0.0/12 64525
   192.168.0.0/16 64525
   ```

   Where 64525 is the AS that will later need to be blocked.

4. Convert the CIDR–ASN list from TXT to BIN format using the as2bin utility:

   ```
   cat /etc/dpi/list.txt | as2bin /etc/dpi/aslocal.bin
   ```

5. Reload the service (hot parameter):

   ```
   service fastdpi reload
   ```

More details about preparing aslocal lists

Assigning a drop rule to the local AS

1. Create a copy of the asnum.dscp file:

   ```
   cp /etc/dpi/asnum.dscp /etc/dpi/asnum.dscp.backup
   ```

2. Convert asnum.dscp to TXT using the dscp2as utility:

```
dscp2as /etc/dpi/asnum.dscp > /etc/dpi/asnum.txt
```

3. Add entries in the format ASN <space> drop to the existing records in asnum.txt:

```
64525 drop
```

4. Convert the TXT file back using the as2dscp utility:

```
cat /etc/dpi/asnum.txt | as2dscp /etc/dpi/asnum.dscp
```

5. Reload the service (hot parameter):

```
service fastdpi reload
```