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# Configuring export in IPFIX (Netflow 10)

NetFlow control can be changed by next setting:

```
netflow_full_collector_type=1
```

here

- "0" - export in NetFlow5 format (default value).
- "1" - IPFIX export to a UDP collector.
- "2" - IPFIX export to a TCP collector.

The following is an IPFIX (Netflow v10) export template for IPv4.

| Export template for IPFIX format (Netflow v10) |      |        |       |                              |                                        |            |
|------------------------------------------------|------|--------|-------|------------------------------|----------------------------------------|------------|
| Nº                                             | Size | Type   | IANA  | Description                  | Note                                   | Use in QoS |
| 1                                              | 8    | int64  | 0     | OCTET_DELTA_COUNT            | NetFlow v9 analogy IN_BYTES            | Used       |
| 2                                              | 8    | int64  | 0     | PACKET_DELTA_COUNT           | NetFlow v9 analogy IN_PKTS             | Used       |
| 4                                              | 1    | int8   | 0     | PROTOCOL_IDENTIFIER          | NetFlow v9 analogy PROTOCOL            | Used       |
| 5                                              | 1    | int8   | 0     | IP_CLASS_OF_SERVICE          | NetFlow v9 analogy TOS                 | Used       |
| 7                                              | 2    | int16  | 0     | SOURCE_TRANSPORT_PORT        | NetFlow v9 analogy L4_SRC_PORT         | Used       |
| 8                                              | 4    | int32  | 0     | SOURCE_IPV4_ADDRESS          | NetFlow v9 analogy IPV4_SRC_ADDR       | Used       |
| 11                                             | 2    | int16  | 0     | DESTINATION_TRANSPORT_PORT   | NetFlow v9 analogy L4_DST_PORT         | Used       |
| 12                                             | 4    | int32  | 0     | DESTINATION_IPV4_ADDRESS     | NetFlow v9 analogy IPV4_DST_ADDR       | Used       |
| 16                                             | 4    | int32  | 0     | BGP_SOURCE_AS_NUMBER         | NetFlow v9 analogy SRC_AS              | Used       |
| 17                                             | 4    | int32  | 0     | BGP_DESTINATION_AS_NUMBER    | NetFlow v9 analogy DST_AS              | Used       |
| 152                                            | 8    | int64  | 0     | FLOW_START_MILLISECOND       |                                        | Used       |
| 153                                            | 8    | int64  | 0     | FLOW_END_MILLISECOND         |                                        | Used       |
| 10                                             | 2    | int16  | 0     | INPUT_SNMP                   | NetFlow v9 analogy ingressInterface    | Used       |
| 14                                             | 2    | int16  | 0     | OUTPUT_SNMP                  | NetFlow v9 analogy egressInterface     | Used       |
| 60                                             | 1    | int8   | 0     | IP_VERSION                   | NetFlow v9 analogy IP_PROTOCOL_VERSION | Used       |
| 2000                                           | 8    | int64  | 43823 | SESSION_ID                   |                                        | Used       |
| 2001                                           | -    | string | 43823 | HTTP_HOST or CN_HTTPS        |                                        | Used       |
| 2002                                           | 2    | int16  | 43823 | DPI_PROTOCOL                 |                                        | Used       |
| 2003                                           | -    | string | 43823 | LOGIN                        | Radius UserName                        | Used       |
| 225                                            | 4    | int32  | 0     | POST_NAT_SOURCE_IPV4_ADDRESS |                                        | Used       |

| Export template for IPFIX format (Netflow v10) |      |             |       |                                 |                                                                                                                                                                                     |                |
|------------------------------------------------|------|-------------|-------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| №                                              | Size | Type        | IANA  | Description                     | Note                                                                                                                                                                                | Use in QoEStor |
| 227                                            | 2    | int16       | 0     | POST_NAPT_SOURCE_TRANSPORT_PORT |                                                                                                                                                                                     | Used           |
| 2010                                           | 2    | int16       | 43823 | FRGMT_DELTA_PACKS               | Fragmented packets delta. Used in QoEStor.                                                                                                                                          | Used           |
| 2011                                           | 2    | int16       | 43823 | REPEAT_DELTA_PACK               | Retransmissions delta. Used in QoEStor.                                                                                                                                             | Used           |
| 2012                                           | 4    | int32       | 43823 | PACKET_DELIVER_TIME             | Latency (RTT/2), ms (RTT = Round Trip Time). Used in QoEStor.                                                                                                                       | Used           |
| 2016                                           | 2    | int16       | 43823 | BRIDGE_CHANNEL_NUM              | Channel number (vchannel) or bridge. If vchannel is configured in the DPI configuration, then the channel number will be transmitted, otherwise the bridge number. Used in QoEStor. | Used           |
| 6                                              | 2    | int16       | 0     | tcpControlBits                  |                                                                                                                                                                                     |                |
| 58                                             | 2    | int16       | 0     | VlanID                          |                                                                                                                                                                                     |                |
| 59                                             | 2    | int16       | 0     | postVlanId                      |                                                                                                                                                                                     |                |
| 56                                             | 6    | mac_address | 0     | Source MAC Address              |                                                                                                                                                                                     |                |
| 57                                             | 6    | mac_address | 0     | Destination MAC Address         |                                                                                                                                                                                     |                |
| 2017                                           | -    | raw         | 43823 | MPLS Lables                     |                                                                                                                                                                                     |                |
| 132                                            | 8    | int64       | 0     | droppedOctetDeltaCount          |                                                                                                                                                                                     |                |
| 133                                            | 8    | int64       | 0     | droppedPacketDeltaCount         |                                                                                                                                                                                     |                |

Below is an IPFIX export template for an IPv6 protocol for IPv6. The following fields are missing from this template: **SOURCE\_IPV4\_ADDRESS, DESTINATION\_IPV4\_ADDRESs, POST\_NAT\_SOURCE\_IPV4\_ADDRESS, POST\_NAT\_SOURCE\_TRANSPORT\_PORT**, - and contains the following fields:

| Export template for IPv6 |              |           |      |                          |                                  |
|--------------------------|--------------|-----------|------|--------------------------|----------------------------------|
| №                        | Num of bytes | Data type | IANA | Description              | Note                             |
| 27                       | 16           | int128    | 0    | SOURCE_IPV6_ADDRESS      | NetFlow v9 analogy IPV6_SRC_ADDR |
| 28                       | 16           | int128    | 0    | DESTINATION_IPV6_ADDRESS | NetFlow v9 analogy IPV6_DST_ADDR |



To collect, process and store IPFIX we suggest using [the QoE Store statistics module](#) and [DPIUI2 graphical interface](#).

For extended information in IPFIX format can be used any universal IPFIX collector, for instance - [CESNET ipfixcol](#) or our utility [IPFIX Receiver](#).