Содержание

Configuring Full NetFlow Export in IPFIX Format

The `netflow_tos_format` parameter defines the format of the TOS field data in IPFIX. Possible values:

- **0** - 3 bits are transmitted (default value).
- **1** - 6 bits are transmitted (full DSCP).

The `netflow_plc_stat` parameter defines the set of transmitted statistics data for dropped packets according to policing or drop rules. The parameter is a bitmask.
By default, the mask has the value **0x07** — statistics for dropped data of session + subscriber + virtual channel policing are transmitted.

❗ Affects the formation of the DROPPED_BYTES and DROPPED_PACKETS counters.
Values that make up the mask:

- **0xff** - any drop is transmitted
- **0** - do not count
- **1** - count for session policing
- **2** - count for subscriber policing
- **4** - count for virtual channel policing
- **8** - count when packets are dropped (drop) by protocol
- **16** - count in all other cases

The `ipfix_mtu_limit` parameter sets the maximum UDP packet size when sending IPFIX. By default, it equals the minimum MTU of the interfaces used for sending.

> 💡 IPFIX/Netflow parameters can be changed without restarting fastDPI.
> The configuration parameter `ipfix_reserved` allows reserving the necessary memory to enable/change IPFIX/Netflow parameters.
> If IPFIX/Netflow parameters are set in the configuration file, memory reservation for IPFIX/Netflow is automatically enabled, and IPFIX/Netflow parameters and new exporter types can be changed without restarting fastDPI.

> 💡 For receiving, processing, and storing IPFIX, it is recommended to use the QoE Store software for statistics collection and the DPIUI2 Graphical Interface.
>
> For collecting information in IPFIX format, any universal IPFIX collector that understands templates, or the IPFIX Receiver utility, is suitable.

Export Template in IPFIX Format (Netflow v10) for IPv4

Protocol

№	Bytes	Data Type	IANA	Description	Notes	Used in QoEStor
				Export Template for IPv4		
1	8	int64	0	OCTET_DELTA_COUNT	Analog in NetFlow v9 IN_BYTES	Used
2	8	int64	0	PACKET_DELTA_COUNT	Analog in NetFlow v9 IN_PKTS	Used
4	1	int8	0	PROTOCOL_IDENTIFIER	Analog in NetFlow v9 PROTOCOL	Used
5	1	int8	0	IP_CLASS_OF_SERVICE	Analog in NetFlow v9 TOS	Used
7	2	int16	0	SOURCE_TRANSPORT_PORT	Analog in NetFlow v9 L4_SRC_PORT	Used
8	4	int32	0	SOURCE_IPV4_ADDRESS	Analog in NetFlow v9 IPV4_SRC_ADDR	Used
11	2	int16	0	DESTINATION_TRANSPORT_PORT	Analog in NetFlow v9 L4_DST_PORT	Used
12	4	int32	0	DESTINATION_IPV4_ADDRESS	Analog in NetFlow v9 IPV4_DST_ADDR	Used
16	4	int32	0	BGP_SOURCE_AS_NUMBER	Analog in NetFlow v9 SRC_AS	Used
17	4	int32	0	BGP_DESTINATION_AS_NUMBER	Analog in NetFlow v9 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	Analog in NetFlow v9 IngressInterface	Used
14	2	int16	0	OUTPUT_SNMP	Analog in NetFlow v9 EgressInterface	Used
60	1	int8	0	IP_VERSION	Analog in NetFlow v9 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	Analog in Radius User-Name	Used
225	4	int32	0	POST_NAT_SOURCE_IPV4_ADDRESS		Used
227	2	int16	0	POST_NAPT_SOURCE_TRANSPORT_PORT		Used
2010	2	int16	43823	FRGMT_DELTA_PACKS	Delta of fragmented packets.	Used
2011	2	int16	43823	REPEAT_DELTA_PACK	Delta of retransmissions.	Used
2012	4	int32	43823	PACKET_DELIVER_TIME	Delay (RTT/2) in ms (RTT=round-trip time).	Used

№	Bytes	Data Type	IANA	Description	Notes	Used in QoEStor
				Export Template for IPv4		
2016	2	int16	43823	BRIDGE_CHANNEL_NUM	Channel number (vchannel) or bridge. If vchannels are configured in DPI, the channel number will be transmitted, otherwise the bridge number.	Used
6	2	int16	0	TCP_FLAGS	TCP control bits	Used
58	2	int16	0	SRC_VLAN	VLAN ID	Used
59	2	int16	0	DST_VLAN	Post VLAN ID	Used
56	6	mac_address	0	SRC_MAC	Source MAC address	Used
57	6	mac_address	0	DST_MAC	Destination MAC address	Used
2017	-	raw	43823	MPLS Lables		Used
132	8	int64	0	DROPPED_BYTES	Delta count of dropped octets. *For example: data is dumped at minute T1 and T2. The delta will show the difference in the number of octets between minute T1 and T2.*	Used
133	8	int64	0	DROPPED_PACKETS	Delta count of dropped packets. *For example: data is dumped at minute T1 and T2. The delta will show the difference in the number of packets between minute T1 and T2.*	Used
2019	1	int8	43823	originalTOS	Original TOS value from IP header	Used
192	1	int8	0	IP_TTL	TTL packets	
2020	2	int16	43823	RATING_GROUP	Rating group number	

Export Template in IPFIX Format (Netflow v10) for IPv6 Protocol

The template is similar to IPv4 except that the following fields are absent: **SOURCE_IPV4_ADDRESS, DESTINATION_IPV4_ADDRESSs, POST_NAT_SOURCE_IPV4_ADDRESS, POST_NAT_SOURCE_TRANSPORT_PORT**, – and the following are present:

№	Bytes	Data Type	IANA	Description	Notes
				Export Template for IPv6	
27	16	int128	0	SOURCE_IPV6_ADDRESS	Analog in NetFlow v9 IPV6_SRC_ADDR
28	16	int128	0	DESTINATION_IPV6_ADDRESS	Analog in NetFlow v9 IPV6_DST_ADDR