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Searching for subscriber IP address statistics

For this functionality, the following **components** are required:

1. [QoE Stor module](#)
2. [SSG DPI management interface](#)



For this functionality, the following **licenses** are required:

1. SSG: [CG-NAT — network address translation and statistics export in IPFIX format](#)
2. QoE: [NAT Flow statistics collection, compression, and custom filters.](#)

Depending on the subscriber type, a different dataset is collected:

- For a **public IP address**, it is sufficient to export Full NetFlow to QoE Stor — [Configuring Full NetFlow Export in IPFIX Format](#).
- For a **private IP address**, NAT Flow data about translations must also be collected — [NAT Flow configuration](#).

Data types

- **Raw (unaggregated) logs** — contain the full set of IPFIX fields, including timestamps, IP addresses, ports, and more. These logs allow second-by-second analysis.
- **Aggregated logs** — summarized data used for reports such as Top Subscribers or Top Hosts. Aggregation groups events over time (for example, every 15 minutes) and omits unnecessary details such as ports, producing data suitable for interval-based analysis.

Raw logs are used for detailed analysis, while aggregated logs are used for reporting.

In this scenario, data lookup is based on aggregated data. Initially, SSG exports raw data to QoE Stor; by default, aggregation is performed every 15 minutes. See details on changing the aggregation and re-aggregation interval: [Regregation of outdated aggregated fullflow logs](#).

Raw unaggregated data is available in the following QoE Analytics GUI sections:

1. *Raw full NetFlow* (default data retention — **2 hours**)
2. *Raw NAT Flow* (default data retention — **2 hours**), requires a QoE license

QoE a

Search x

SSG control v

PCRF control v

QoE analytics ^

QoE dashboard

Netflow

Raw full netflow

Clickstream

Raw clickstream

GTP flow

Raw GTP flow

NAT flow

Raw NAT flow

DNS flow

Period

Top s

Subscr

Q Filt

46.243	188.22:	188.22:	188.22:	188.22:	188.22:
46.243	46.243	46.243	78.140.	78.140.	45.151.1
78.140.	78.140.	45.151.1	78.140.	45,022	

Aggregated statistics are available in the following QoE Analytics GUI sections:

1. *NetFlow* (default data retention — **14 days**)
2. *NAT Flow* (default data retention — **14 days**), requires a QoE license

The screenshot shows the VAS Experts interface. On the left, a navigation menu is expanded to 'QoE analytics', with 'Netflow' and 'NAT flow' highlighted with red boxes. On the right, a table lists various data sources and their retention periods.

Category	Data Source	Retention Period
QoE analytics	QoE dashboard	188.227
	Netflow	188.227
	Raw full netflow	188.227
	Clickstream	188.227
	Raw clickstream	46.243
	GTP flow	46.243
	Raw GTP flow	78.140.
	NAT flow	45.151.1
	Raw NAT flow	78.140.
	DNS flow	45,022

Configuring data retention period

In the GUI: Administrator → GUI Configuration → Settings → QoE Stor → Database lifetime settings:

- For Raw Full NetFlow: *QoE Stor fullflow main log lifetime (in hours) (1)*.
- For NAT Flow: *QoE Stor aggregated NAT log lifetime (in days) (2)*.

Administrator > GUI configuration

Save The form Editor

Settings

Common

Jobs intervals and periods

QoE Stor: DB (Clickhouse) connection

QoE Stor: Raw log aggregation settings

QoE Stor: DB lifetime settings

QoE Stor: Discs settings

SMTp settings

System

DB (MySQL) connection

Ulr settings: System settings

Ulr settings: Web rules lists

Push notifications settings

SSO authorization settings

Maps settings

VasCloud settings

Cluster settings

Backup settings

Backup auto restoration settings

QoE Stor: DB lifetime settings

QoE Stor cache lifetime in seconds (QOESTOR_CACHE_LIFE_TIME_SEC) 3600

QoE Stor main log lifetime in hours (QOESTOR_MAIN_LOG_PARTITIONS_LIFE_TIME_HOUR) 2

QoE Stor aggregated log lifetime in days (QOESTOR_AGG_LOG_PARTITIONS_LIFE_TIME_DAYS) 14

QoE Stor fullflow main log lifetime in hours (QOESTOR_FULLFLOW_MAIN_LOG_PARTITIONS_LIFE_TIME_HOUR) 2

QoE Stor fullflow aggregated log lifetime in days (QOESTOR_FULLFLOW_AGG_LOG_PARTITIONS_LIFE_TIME_DAYS) 14

QoE Stor clickstream main log lifetime in hours (QOESTOR_CLICKSTREAM_MAIN_LOG_PARTITIONS_LIFE_TIME_HOUR) 2

QoE Stor clickstream aggregated log lifetime in days (QOESTOR_CLICKSTREAM_AGG_LOG_PARTITIONS_LIFE_TIME_DAYS) 14

QoE Stor NAT main log lifetime in hours (QOESTOR_NAT_MAIN_LOG_PARTITIONS_LIFE_TIME_HOUR) 2

QoE Stor NAT aggregated log lifetime in days (QOESTOR_NAT_AGG_LOG_PARTITIONS_LIFE_TIME_DAYS) 14

QoE Stor GTP main log lifetime in hours (QOESTOR_GTP_MAIN_LOG_PARTITIONS_LIFE_TIME_HOUR) 2

When increasing data retention, it is recommended to enable automatic deletion of old data when the disk is full: Administrator → GUI Configuration → Settings → QoE Stor → Disk Settings → Enable forced data relocation ... → select *Enable data deletion!* → Relocation coefficient for DEFAULT disk ... → set value *0.1*.

Administrator > GUI configuration

Save The form Editor

Settings

Common

Jobs intervals and periods

QoE Stor: DB (Clickhouse) connection

QoE Stor: Raw log aggregation settings

QoE Stor: DB lifetime settings

QoE Stor: Discs settings

SMTp settings

System

DB (MySQL) connection

Ulr settings: System settings

Ulr settings: Web rules lists

Push notifications settings

SSO authorization settings

Maps settings

VasCloud settings

Cluster settings

Backup settings

Backup auto restoration settings

QoE Stor: Discs settings

Logs list to move to COLD disk (QOESTOR_LOGS_TO_MOVE_TO_COLD_DISK) ↓

QoE Stor logs lifetime before moving to COLD disk, in hours (QOESTOR_LOGS_LIFETIME_BEFORE_MOVING_TO_COLD_DISK) 720

Days of week to COLD disk (QOESTOR_MOVE_OLD_PARTITIONS_TO_COLD_DISK_SCHEDULE_WEEK_DAYS) ↓

Hours of day to COLD disk (QOESTOR_MOVE_OLD_PARTITIONS_TO_COLD_DISK_SCHEDULE_HOURS) ↓

Enable force moving data for DEFAULT disk (QOESTOR_FORCE_MOVE_FROM_DEFAULT_DISK) ↓

Enable data removing!

Move factor for DEFAULT disk (QOESTOR_FORCE_MOVE_FROM_DEFAULT_DISK_FACTOR) 0.1

Enable force moving data for HOT disk (QOESTOR_FORCE_MOVE_FROM_HOT_DISK) ↓

Move factor for HOT disk (QOESTOR_FORCE_MOVE_FROM_HOT_DISK_FACTOR) 0.1

Enable force moving data for COLD disk (QOESTOR_FORCE_MOVE_FROM_COLD_DISK) ↓

Move factor for COLD disk (QOESTOR_FORCE_MOVE_FROM_COLD_DISK_FACTOR) 0.1

You can check how much disk space logs occupy in QoE Analytics → Administrator → Reports → Table space information.

The screenshot shows the VAS Experts GUI with the 'Administrator' section selected. The 'Tablespace info' table is as follows:

Table	Disk name	Cluster host	Min partition	Max partition	On disk, bytes
fullflow	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	181,428,477,445
inner.fullflow_agg	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	162,136,046,451
inner.clickstream	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	50,138,137,625
clickstream	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	8,443,306,365
inner.clickstream	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	6,512,529,829
inner.subscribers	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	30,118,739
dnsflow	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	206,946
inner.dnsflow_agg	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	178,995

The pie chart shows the following distribution:

- inner.fullflow_agg: 40%
- inner.clickstream_agg: 13%
- inner.clickstream_from_fullflow: 3%
- inner.clickstream_agg: 2%
- inner.subscribers_flow: 1%
- inner.dnsflow_agg: 1%
- clickstream: 1%
- inner.clickstream_agg: 1%
- inner.subscribers_flow: 1%
- dnsflow: 1%
- inner.dnsflow_agg: 1%

Searching for subscriber activity in the SSG GUI

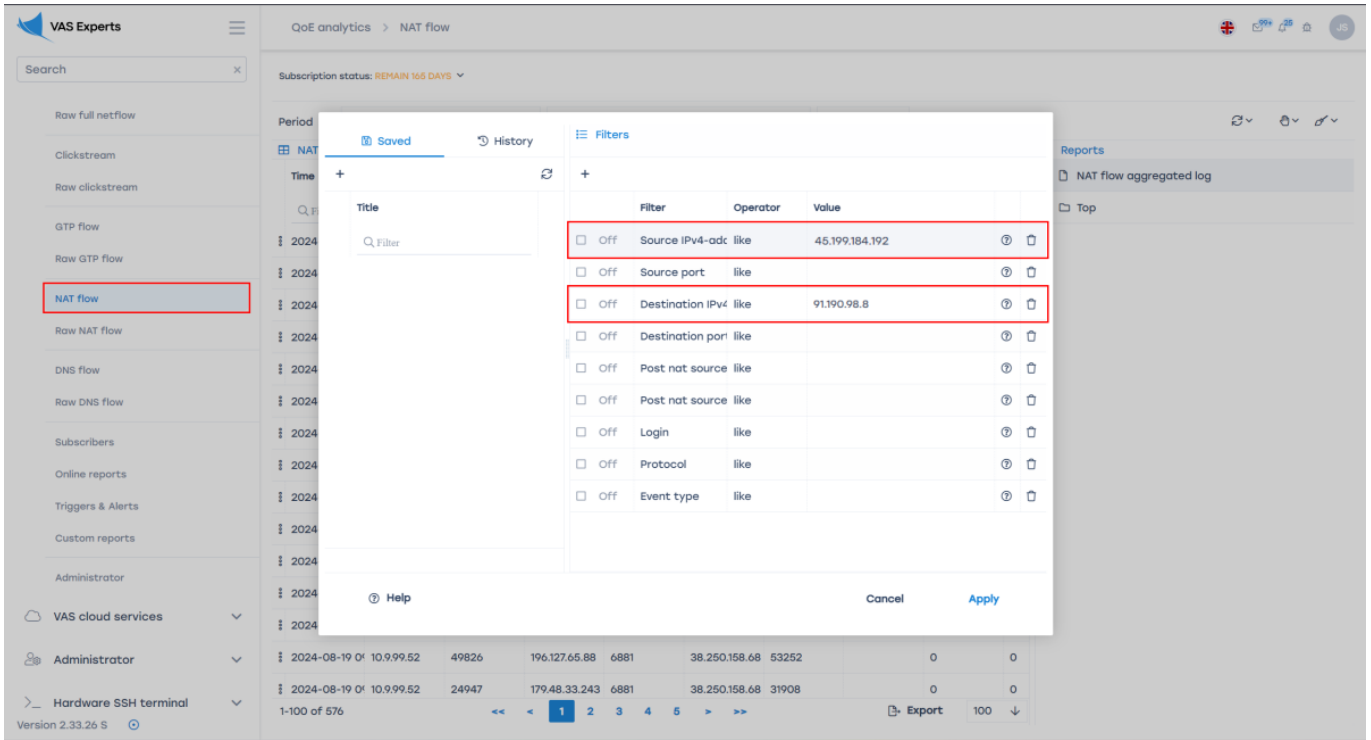
For a private IP address (NAT Flow section, QoE license required)



You can request a license directly from the GUI in this section by filling out the form, or by emailing sd@vas.expert.

Subscriber activity data becomes available after NAT log creation — see [NAT Flow configuration](#). In the GUI, go to QoE Analytics → NAT Flow. Then:

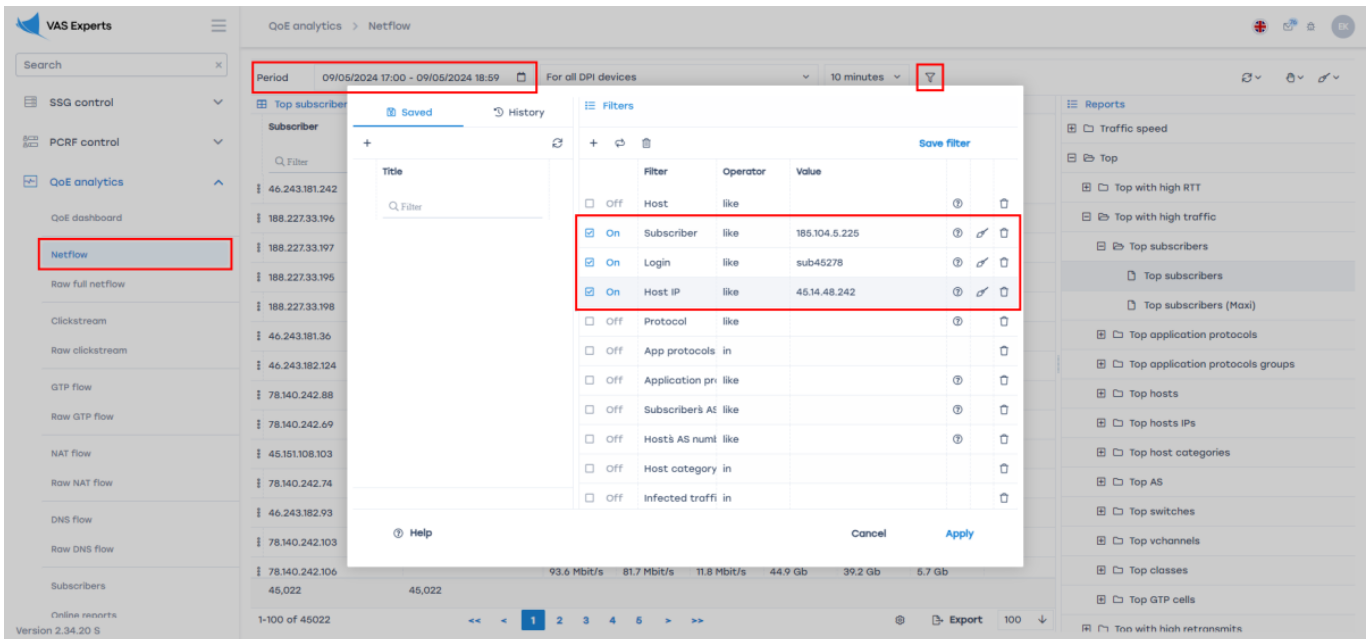
1. Select a time period
2. Enable filters “Source IPv4 address” and “Destination IPv4 address” (check the boxes)
3. Set filter values and apply changes



For a public IP address (aggregated data, NetFlow section)

In the GUI, go to QoE Analytics → NetFlow. Then:

1. Select a period (**default retention is only 14 days!**)
2. Enable filters “Subscriber”, “Login”, and “Host IP” (check the boxes)
3. Set filter values and apply changes



For a public IP address (raw full NetFlow section)

In the GUI, go to QoE Analytics → Raw Full NetFlow. Then:

1. Select a period (**default retention is only 2 hours!**)
2. Enable filters “Source IPv4 address” and “Destination IPv4 address” (check the boxes)
3. Set filter values and apply changes

The screenshot displays the VAS Experts interface for QoE analytics. The main view is 'Raw full netflow'. A 'Filters' dialog box is open, showing a list of filters to be applied. The filters are:

Filter	Operator	Value
<input type="checkbox"/> Off Session ID	like	
<input checked="" type="checkbox"/> On Source IPv4-address	like	45.199.184.192
<input type="checkbox"/> Off Source IPv6-address	like	
<input type="checkbox"/> Off Source port	like	
<input type="checkbox"/> Off Source AS number	like	
<input checked="" type="checkbox"/> On Destination IPv4-address	like	91.190.98.8
<input type="checkbox"/> Off Destination IPv6-address	like	
<input type="checkbox"/> Off Destination port	like	
<input type="checkbox"/> Off Destination AS number	like	
<input type="checkbox"/> Off Net protocol	like	
<input type="checkbox"/> Off Application protocol	like	

The 'Apply' button is highlighted in blue. The background shows a data table with columns for flow start time, session ID, and other metrics. The 'Raw full netflow' option is selected in the left sidebar.