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Searching Subscriber Statistics by IP Address

To enable this functionality, the following **components** are required:

1. [QoE Stor Module](#)
2. [SSG DPI Management Interface](#)



The following **licenses** are required:

1. SSG: [CG-NAT — Network Address Translation and IPFIX Format Statistics Export](#)
2. QoE: [NAT Flow Statistics Collection, Compression, and Custom Filters.](#)

The data set to be stored depends on the type of subscriber:

- For a public IP address, exporting Full NetFlow to QoE Stor is sufficient. [Configuring Full NetFlow export in IPFIX \(Netflow 10\)](#)
- For a private IP address, additional NAT Flow data collection — translation information — is required. [NAT Flow Configuration](#)

Data Types

- **Raw (unaggregated) logs** are the full set of IPFIX fields and contain all the details: time, IP addresses, ports, and more. These logs provide information down to the second.
- **Aggregated logs** are summarized data that is used for reports, such as subscriber or host TOPs. Aggregation groups events by time (for example, every 15 minutes) and removes unnecessary details such as ports. The result is data to analyze over time intervals, without exact timing.

Raw logs are needed for accurate analysis, while aggregated logs are needed for reporting.

In this case, information retrieval is performed on aggregated data. Initially, SSG exports raw data to QoE Stor, and by default, aggregation is performed every 15 minutes. [More on changing aggregation and re-aggregation intervals.](#)

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

1. *Raw Full NetFlow* (by default, data is stored for **2 hours**)
2. *Raw NAT Flow* (by default, data is stored for **2 hours**, QoE license required)

The screenshot shows the VAS Experts interface. On the left, a navigation menu includes 'SSG control', 'PCRF control', and 'QoE analytics'. Under 'QoE analytics', there is a sub-menu with 'QoE dashboard', 'Netflow', 'Raw full netflow', 'Clickstream', 'Raw clickstream', 'GTP flow', 'Raw GTP flow', 'NAT flow', 'Raw NAT flow', and 'DNS flow'. 'Raw full netflow' and 'Raw NAT flow' are highlighted with red boxes. On the right, a sidebar shows 'QoE a' and a 'Period' section with a 'Top s' button and a 'Subscr' section containing a 'Filter' input and a list of values: 46.243, 188.22, 188.22, 188.22, 188.22, 46.243, 46.243, 78.140, 78.140, 45.151.1, 78.140, and 45,022.

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

1. *NetFlow* (by default, data is stored for **14 days**)
2. *NAT Flow* (by default, data is stored for **14 days**), QoE license required)

The screenshot shows the VAS Experts interface. On the left is a navigation menu with categories: SSG control, PCRF control, QoE analytics (expanded), and QoE dashboard. Under QoE analytics, 'Netflow' and 'NAT flow' are highlighted with red boxes. On the right, there's a table with columns for 'Period', 'Subscr', and 'QoE a'. The table contains several rows of data with values such as 46.243, 188.22, 78.140, and 45.151.1.

Period	Subscr	QoE a
Top s		
	46.243	
	188.22	
	188.22	
	188.22	
	188.22	
	46.243	
	46.243	
	78.140	
	78.140	
	45.151.1	
	78.140	
	45,022	

Configuring Data Retention Period

In the GUI, go to Administrator → GUI Configuration → Settings → QoE Stor: DB lifetime settings:

- For Raw Full NetFlow, select *QoE Stor fullflow main log lifetime in hours* **(1)**.
- For NAT Flow, select *QoE Stor NAT aggregated 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 the data retention period, it's recommended to enable the deletion of old data when the disk fills up: Administrator → GUI Configuration → Settings → QoE Stor: Disk settings → Select *Enable force moving data for DEFAULT disk* – choose *Enable data removing!* → Select *Move factor for DEFAULT disk* – set the value to *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 find out how much disk space logs are using in QoE Analytics → Administrator → Reports → Tablespace info.

The screenshot shows the VAS Experts GUI interface. On the left, a sidebar menu has 'Administrator' highlighted with a red box. The main area is titled 'QoE analytics > Administrator'. It features a 'Tablespace info' table with columns for Table, Disk name, Cluster host, Min partition, Max partition, and On disk, bytes. Below the table is a pie chart showing the distribution of data across different tablespaces. A legend identifies the colors for each tablespace: fullflow (red), inner.fullflow_og (orange), inner.clickstream_from_fullflow (yellow), inner.clickstream_og (green), inner.subscribers_flow (blue), dnsflow (purple), and inner.dnsflow_og (pink). The 'inner.fullflow_og' tablespace is the largest, representing 40% of the data.

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_og	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_og	default	QoEStor	2024-08-15 09:00	2024-08-16 13:00	178,995

Searching for Subscriber Activity in the SSG GUI

For a Private IP Address. NAT Flow Section. QoE License Required



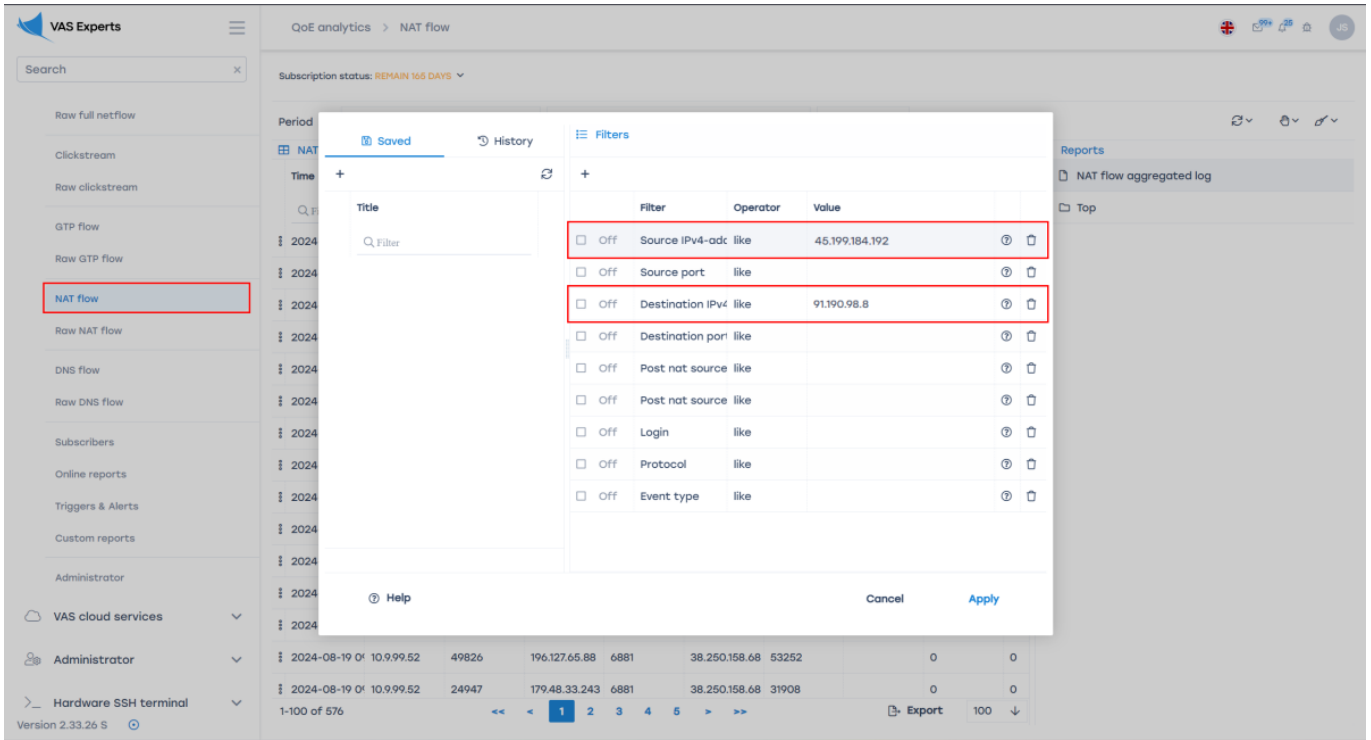
You can request a license from the GUI by filling out a form in the respective section or contact sd@vas.expert

The ability to view subscriber activity data appears after generating the NAT log — instructions [NAT Flow Configuration](#).

In the GUI, navigate to QoE Analytics → NAT Flow.

In the NAT Flow section, you need to:

1. Select the time period
2. Enable the “Source IPv4-address” and “Destination IPv4-Address” filters (check the box)
3. Enter values for the enabled filters and apply changes

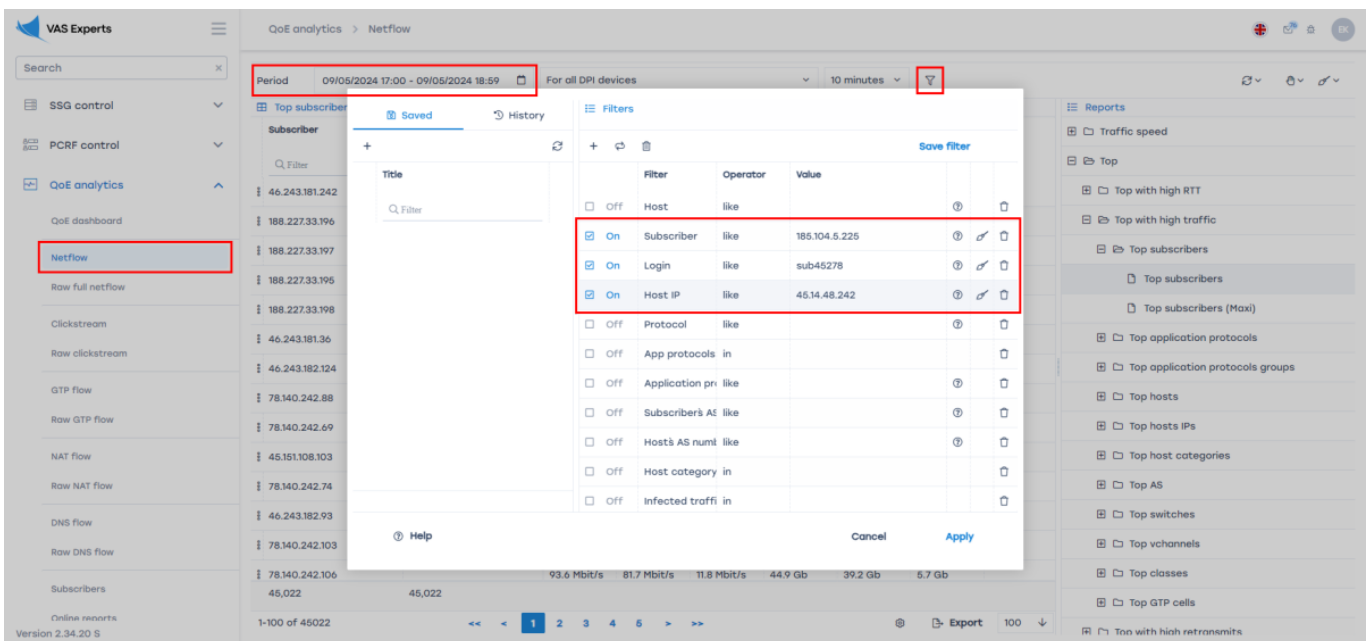


For a Public IP Address from Aggregated Data. NetFlow Section

In the GUI, navigate to QoE Analytics → NetFlow.

In the NetFlow section, you need to:

1. Select the time period (**by default stored for only 14 days!**)
2. Enable the “Subscriber,” “Login,” and “Host IP” filters (check the box)
3. Enter values for the enabled filters and apply changes



For a Public IP Address. Raw Full NetFlow Section

In the GUI, navigate to QoE Analytics → Raw Full NetFlow.

In the Raw Full NetFlow section, you need to:

1. Select the time period (**by default stored for only 2 hours!**)
2. Enable the “Source IPv4-address” and “Destination IPv4-Address” filters (check the box)
3. Enter values for the enabled filters and apply changes

The screenshot shows the VAS Experts interface with the 'Raw full netflow' section selected. A 'Filters' dialog box is open, displaying a table of filters. The 'Period' is set to 08/16/2024 11:22 - 08/16/2024 11:37. The 'Filters' table has the following data:

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