



VPP Flow Statistics

- [Feature Summary and Revision History, on page 1](#)
- [Feature Description, on page 2](#)
- [Monitoring and Troubleshooting, on page 2](#)

Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	<ul style="list-style-type: none">• P-GW• SAEGW
Applicable Platform(s)	<ul style="list-style-type: none">• ASR 5500• VPC-DI• VPC-SI
Feature Default	<ul style="list-style-type: none">• Disabled - Configuration Required• Enabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	<ul style="list-style-type: none">• <i>Command Line Interface Reference</i>• <i>P-GW Administration Guide</i>• <i>Statistics and Counters Reference</i>• <i>SAEGW Administration Guide</i>

Revision History

Revision Details	Release
The show active-charging flows full all and show active-charging flows summary commands are enhanced to get the statistics from VPP.	21.26
The P-GW is enhanced to collect the log messages to monitor offloading and onloading flow transactions between VPP and the session manager.	21.26
The following enhancements were introduced: <ul style="list-style-type: none"> • Analyzer level statistics (TCP, UDP, P2P, HTTP, HTTPS) • VPP statistics collection using the CLI configuration 	21.25
First introduced.	21.24

Feature Description

The **show active-charging flows full** command is enhanced to receive the per flow information from VPP. This command displays the VPP stream to flow mapping information.

The **show active-charging flows full** and **show active-charging flows summary** commands support the following filters:

- imsi
- ip-address
- msisdn
- username
- callerid
- flow-id
- session-id
- instance

For more information, see the *VPP Metric Enhancement* chapter in the *P-GW Administration Guide*.

Monitoring and Troubleshooting

This section provides information to monitor and troubleshoot this feature using show commands.

Show Commands and Outputs

This section provides information about the show commands and outputs of VPP stream to flow mapping information for the CLI.

show active-charging flows full

Table 1: show active-charging flows full Command Output Descriptions

Field	Description
FP-Stream-ID (Up)	Specifies the fastpath stream ID of uplink packets.
FP-Stream-State (Up)	Specifies the fastpath stream state of uplink packets.
FP-Stream-ID (Down)	Specifies the fastpath stream ID of downlink packets.
FP-Stream-State (Down)	Specifies the fastpath stream state of downlink packets.
FP-Client-ID	Specifies the VPP fastpath client ID.
Offload-Stream-at-packet (up)	Specifies the packet number of a stream offloaded from the session manager to VPP when the uplink traffic starts.
Offload-Stream-at-packet (Down)	Specifies the packet number of a stream offloaded from the session manager to VPP when the downlink traffic starts.
VPP FP UL Packets	Specifies the VPP count for uplink packets.
VPP FP UL Bytes	Specifies the VPP count for uplink bytes.
VPP FP DL Packets	Specifies the VPP count for downlink packets.
VPP FP DL Bytes	Specifies the VPP count for downlink bytes.
VPP FP Packets	Specifies the total number of offloaded fastpath packets.
VPP FP Dropped Packets	Specifies the total number of dropped packets by VPP.
VPP Onload Succeeded	Specifies the total number of packets onloaded from VPP (onloaded to session manager).
Flow-ID	Identifier for flows.
Session-ID	Identifier for ACS session.
Uplink Packets	The total number of uplinked packets.
Uplink Bytes	The total number of uplinked bytes.
Downlink Packets	The total number of downlinked packets.
Downlink Bytes	The total number of downlinked bytes.
FP Packets	The number of data packets processed in fastpath for this flow.
MS IP	The MS IP address.

show active-charging flows full

Field	Description
MS NAT IP	The MS NAT IP address.
Server IP	The server IP address.
Transport Protocol	The transport protocol: TCP, UDP, ICMP
Application Protocol	The application protocol.
Video Pacing	Indicates whether video pacing is enabled or disabled.
Video Encoded Bit Rate	The currently enforced bit rate for video pacing.
Video Pacing Initial Burst Size	The initial burst size allowed, in bytes, during video pacing.
Video Pacing Normal Burst Size	The normal burst size allowed, in bytes, during video pacing.
Video Pacing Dropped Bytes	The number of data bytes dropped during video pacing.
Video Payload Bytes Sent towards User	The number of data bytes sent to the UE during video pacing.
Video Pacing Duration	The total number of video pacing in seconds.
TCP MS Port	The TCP MS port number.
TCP MS NAT Port	The TCP MS NAT port number. This field is not displayed for one-to-one NAT.
TCP Server Port	The TCP server port number.
TCP State	Indicates the TCP state.
TCP Prev State	Indicates the previous TCP state.
MS Window Size	The mobile window size.
Server Window Size	The server window size.
MS Retries	The total number of mobile subscriber retries.
Server Retries	The total number of server retries.
ITC Action Applied	Indicates that the ITC action is applied.
Throttle-Suppress Countdown	Displays the configured timeout (elapsed time) when flow is throttle suppressed.
Throttle-Suppress	Displays "n/a" when throttle suppress is inactive.
Socket Migration Details:	TCP Proxy Socket Migration related information.
State	Indicates the Socket Migration state of the flow. For example, SOCK_MIG_DONE.
Highest ACK Frm Server	The highest acknowledgment number from the server.

Field	Description
Highest Seq Frm Server	The highest sequence number from the server.
Highest ACK Frm MS	The highest acknowledgement number from the MS.
Highest Seq Frm MS	The highest sequence number from the MS.
Seq Frm MS at Mig	The sequence number from MS at migration.
ACK Frm MS at Mig	The acknowledgement number from MS at migration.
Seq Frm Server at Mig	The sequence number from the server at migration.
ACK Frm Server at Mig	The acknowledgement number from the server at migration.
Data To Be Delivered To MS	Data to be delivered to the MS.
Data To Be Delivered To Server	Data to be delivered to the server.
Highest Seq Frm MS	The highest sequence number from the MS.
Timestamps Enabled	Indicates if timestamps option is enabled.
SACK Enabled	Indicates if selective acknowledgement is enabled.
Wscale From MS	The window scale value from MS.
Wscale From Server	The window scale value from the server.
Buffering Statistics:	
Buffered Uplink Packets	The total number of buffered uplink packets.
Buffered Uplink Bytes	The total number of buffered uplink bytes.
Buffered Downlink Packets	The total number of buffered downlink packets.
Buffered Downlink Bytes	The total number of buffered downlink bytes.
Uplink Packets in Buffer	The total number of uplink packets in the buffer.
Uplink Bytes in Buffer	The total number of uplink bytes in the buffer.
Downlink Packets in Buffer	The total number of downlink packets in the buffer.
Downlink Bytes in Buffer	The total number of downlink bytes in the buffer.
Buff Over-limit Uplink Pkts	The total number of uplink packets that are over the limit in the buffer.
Buff Over-limit Uplink Bytes	The total number of uplink bytes that are over the limit in the buffer.
Buff Over-limit Downlink Pkts	The total number of downlink packets that are over the limit in the buffer.
Buff Over-limit Downlink Bytes	The total number of downlink bytes that are over the limit in the buffer.
CAE-Readdressing:	

show active-charging flows summary

Field	Description
Requests CAE-Readdressed	The total number of request readdressing done.
Responses CAE-Readdressed	The total number of response readdressing done.
Requests having xheader inserted	The total number of HTTP requests with x-headers inserted.
Total connect failed to CAE	The total number of connections failed to the CAE.
Total CAE-Readdressed Uplink Bytes	The total number of uplink bytes readdressed.
Total CAE-Readdressed Uplink Packets	The total number of uplink packets readdressed.
Total CAE-Readdressed Downlink Bytes	The total number of downlink bytes readdressed.
Total CAE-Readdressed Downlink Packets	The total number of downlink packets readdressed.
Flows connected to CAE	The total number of flows connected to the CAE.
Proxy Disable Success	The total number of flows with proxy disabled.
Proxy Disable Failed	The total number of times the proxy disable function failed.
Link Monitoring	
Average Throughput	The average TCP throughput of downlink TCP traffic towards the mobile device, in kbps.
Average RTT	The average TCP RTT (Round Trip Time) of downlink TCP traffic towards the mobile device, in milliseconds.
Tethering detection performed	Indicates whether tethering detection was performed.
Tethering detected	Indicates whether tethering was detected.
Total ACS flows matching specified criteria	The total number of ACS flows that match the specified criteria.

show active-charging flows summary*Table 2: show active-charging flows summary Command Output Descriptions*

Field	Description
Current:	
Active Flows	Specifies the total number of active flows currently on the system.
TCP Active flows	Specifies the total number of active flows for TCP traffic.
DNS Active flows	Specifies the total number of active flows for DNS traffic.
ICMPV6 Active flows	Specifies the total number of active flows for ICMPv6 traffic.
Idle Flows:	

Field	Description
TCP Idle flows	Specifies the total number of idle flows for TCP traffic.
UDP Idle flows	Specifies the total number of idle flows for UDP traffic.
ICMPv6 Idle flows	Specifies the total number of idle flows for ICMPv6 traffic.
DNS Idle flows	Specifies the total number of idle flows for DNS traffic.
Cumulative:	
Uplink Packets	Specifies the total number of uplinked packets.
Uplink Bytes	Specifies the total number of uplinked bytes.
Downlink Packets	Specifies the total number of downlinked packets.
Downlink Bytes	Specifies the total number of downlinked bytes.

show active-charging flows summary