Monitoring Offloading and Onloading VPP Flow Transactions

Feature Summary and Revision History

Summary Data

Applicable Products or Functional Area	P-GW
Applicable Platforms	• ASR 5500 • VPC-DI • VPC-SI
Feature Default	Enabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *P-GW Administration Guide* • *Command Line Interface Reference* • *Statistics and Counters Reference*

Revision History

Revision Details	Release
First introduced.	21.26

Feature Description

The P-GW is enhanced to collect log messages to monitor offloading and onloading flow transactions between the VPP and session manager. The logs are collected when traffic state changes from offloading to onloading, and conversely. The logs are stored in a file. Monitoring can be enabled or disabled using the supported CLI.

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

How it Works

P-GW supports a user-controlled mechanism to monitor traffic offloading to VPP, onloading to sessmgr, and collects the traffic statistics for the monitored period. When the feature is enabled, the logs are saved to */tmp/fpflowchangelog_2021-11-24_02h35m44sEST_1.csv*. Once the logging is disabled, the log file moves to */hd-raid/fpflowchangelog/fpflowchangelog_2021-12-16_04h06m55sEST_1.csv*. If the number of logs exceed 32K, the log file closes and moves to */hd-raid/fpflowchangelog/fpflowchangelog_2021-12-16_04h06m55sEST_2.csv*. Then, the new file gets created in the rotated index format. The number, for example, *_2.csv* gets incremented and gets saved to */tmp/fpflowchangelog_2021-11-24_02h35m44sEST* with the current stamp. However, the logging continues to happen as usual and the logs are written to the new file.

Enabling or Disabling Logging

The logs are stored in a file in the following format:

```
Timestamp,IMSI, Session-ID, Stream-Idx, Client-IP, Client-Port, Server-IP, Server-Port,
Protocol, Trigger-Type, Trigger-Reason
```

Use the following CLI command in the Exec mode to enable or disable offload and onload logging. By default, the monitoring is disabled:

logging session fp-flow-state-change facility sessmgr instance *instance_number* **number-of-events** *events_value*

logging session fp-flow-state-change facility sessmgr instance *instance_number* **duration** *duration_value*

You will receive the following warning message on enabling the command:

⚠

Warning   Logging facility for flow state change is now enabled! Logs shall be written to /hd-raid/fpflowchangelog/fpflowchangelog_2021-12-16_04h06m55sEST_1.csv. Warning: Flow state change logging may have performance impact. Please use with discretion.

If the logging is already enabled when executing the command, you will receive the following message:

```
[local]laas-setup# logging session fp-flow-state-change facility sessmgr instance 8 duration
 10
Flow state change event logging is already enabled. Disable before enabling.
```

```
[local]laas-setup# logging session fp-flow-state-change facility sessmgr instance 12 duration
 10
Error in flow stream state change logging enable. Invalid parameter.
```

✎

Note	Once the configured value for **number-of-events** is met or the duration in seconds elapse, this feature gets disabled automatically.
	The event logging must be enabled independent of any other feature or module log.

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 offload and onload events.

show session fp-flow-state-change statistics

Field	Description
Onload/Offload event logging	Displays the status of logging to show if it is currently enabled or disabled.
Start time	Displays the start time of the last logging. If the logging was never started, the start time shows "NA".
End time	Displays the time when logging was stopped. If logging was never started, the end time shows NA. If the logging is currently enabled, it shows "In progress".
Total events recorded	Displays the total number of logs generated.
Logging enabled for *number of events*/ *duration*	The number of events or duration in seconds.
Sessmgr Instance	The session manager instance for which the logging is enabled.