

P-GW CDR in CUPS

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Revision History

Note Revision history details are not provided for features introduced before release 21.24.

Revision Details	Release
First introduced	Pre 21.24

Feature Description

In CUPS architecture, support is added for P-GW CDR generation for custom24 GTPP dictionary.

The P-GW CDR is generated for the following procedures and scenarios:

- Default Bearer:
  - Volume/Time Limit
  - PCRF initiated Rule Base change
  - S-GW/PLMN change due to S1 Handover
  - ULI/Time Zone change
  - QoS change
  - UE/Network initiated session deletion
  - RAN-NAS cause code
  - Maximum change condition trigger

- Dedicated Bearer:
  - Volume/Time Limit
  - QoS change
  - Handover Procedure
  - ULI/Time Zone change
  - PCRF rule base change
  - UE/Network initiated Dedicated Bearer Deletion Procedure
  - RAN-NAS cause code



Note The correct volume is reported in CDRs when the context ID for Gi and billing context matches in both CP and UP. If the IDs do not match, the volume reported in CDRs will be zero.

Limitations

The aFRecordInformation is not supported in CUPS architecture.

User Location Information in P-GW CDR

The P-GW CDR contains the User Location Information (ULI) in the following two attribute fields:

- User Location Information (32)
- User Location Information (34-0-20)

As per the current behavior above two fields contain the “User Location information” in P-GW CDR. These fields are getting updated only when ULI-change trigger is enabled. If ULI-change trigger is not configured, the P-GW CDRs keeps the user location as it was reported in the initial CDR, even after the “Radio Access Technology” gets changed.

To overcome this issue, this feature was introduced, that even if “ULI-change trigger” is disabled, Every CDR contains the latest “User Location Information”. Functionality overview of this feature is as follows:

- This feature allows the P-GW CDRs to update User Location Information (32) and User Location Information (34-0-20) attributes with the latest User Location Information provided by the MME and S-GW.
- The implementation of the feature is through the different filler function specific to feature.
- To use this feature, customer/user requires to make the software changes at two places. First one is to update the CDR custom/customer’s dictionary ULI fields with the newly implemented filler functions. Current implementation is in the custom dictionary 38, as per requirement. Parallelly, the support for the same dictionary need to be added under the MACRO: “ACS_CHK_DICT_SUPPORT_FOR_LATEST_ULI”.

If the dictionary with the new filler functions are used, it packs the latest ULI in case of the following events:

Events to send/generate partial PGW-CDR for a subscriber:

- When the number of QoS changes or tariff time changes reaches the configured maximum number of charging condition changes.
- Before this, service containers are added to the CDR for every change.
- Every x seconds configured using "interval x".
- Every x octets configured using "volume x" (up/down/total).
- Command gtpp interim now active-charging egcdr.
- Transferring the context to a new S-GW/SGSN (serving Node Change).
- Changing the access type within the same P-GW (RAT Change).

Events to send or generate the final P-GW CDR for a subscriber:

- Detach Request received from UE
- Delete bearer context request received from S-GW.
- Manual subscriber clearing
- Abnormal Releases such as path failures.

Sample Configuration

Following are the sample configurations:

```
Customer dictionary: custom38
Customer running configuration:
    gtpp group pgwhdd
      gtpp attribute local-record-sequence-number
      gtpp attribute node-id-suffix PGW11
      no gtpp attribute twanuli
      gtpp dictionary custom38
      no gtpp trigger dcca
      no gtpp trigger service-idle-out
      no gtpp trigger serving-node-change-limit
      no gtpp trigger inter-plmn-sgsn-change
      no gtpp trigger qos-change
      no gtpp trigger ms-timezone-change
      gtpp trigger egcdr max-losdv
      no gtpp trigger uli-change
      gtpp egcdr lotdv-max-containers 1
      gtpp egcdr losdv-max-containers 1
      gtpp suppress-cdrs zero-volume-and-duration gcdrs egcdrs
      gtpp egcdr service-data-flow threshold interval 43200
     gtpp egcdr service-data-flow threshold volume total 104857600
     gtpp storage-server mode local
gtpp storage-server local file purge-processed-files file-name-pattern

            ACQ* purge-interval 2880
      gtpp storage-server local file format custom3
      gtpp storage-server local file rotation volume mb 30
      gtpp storage-server local file rotation cdr-count 65000
      gtpp storage-server local file rotation time-interval 600
```

```
  gtpp storage-server local file name prefix PGW11_Laca
#exit.
```



Note The **threshold interval** and **threshold volume total** fields are not supported in gtpp group for CUPS. Therefore, configure these fields in the **rulebase**.