



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 following procedure or scenario:

- 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

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

    ACQ* purge-interval 2880
    gtpv storage-server local file format custom3
    gtpv storage-server local file rotation volume mb 30
    gtpv storage-server local file rotation cdr-count 65000
    gtpv storage-server local file rotation time-interval 600
    gtpv storage-server local file name prefix PGW11_Laca
  #exit.
```

