



cnSGW-C Metrics Reference

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sgw Metrics Reference

CDL active sessions Category

db_records_total

Description: CDL active sessions. each label is prefix with SGW.

Sample Query: `avg(db_records_total{service_name=\"datastore-ep\"})by(session_type)`

Labels:

- Label: `emergency_call`
Label Description: Number of emergency calls in cnSGW
Example: SGW:emergency_call:true
- Label: `rat_type`
Label Description: Rat type of sessions. For cnSGW there is only one rat_type EUTRAN
Example: SGW:rat_type:EUTRAN
- Label: `state`
Label Description: Number of active or idle subscriber state.
Example: SGW:state:active , SGW:state:idle
- Label: `pdn_active`
Label Description: Number of active PDNs for that subscriber.
Example: SGW:pdn_active:1 , SGW:pdn_active:2
- Label: `bearer_active`
Label Description: Number of active Bearers for that subscriber.
Example: SGW:bearer_active:1 , SGW:bearer_active:2

- Label: `apn`

Label Description: Number of subscribers per apn.

Example: SGW:apn:internet2, SGW:apn:ims2

- Label: `colocated`

Label Description: Number of colocated or non-colocated subscriber.

Example: SGW:colocated:true, SGW:colocated:false

- Label: `total`

Label Description: Total number of sessions in CDL

Example: total

CDR container operations Category

sgw_charging_cdr_container

Description: CDR container operations total

Sample Query:

```
sgw_charging_cdr_container(gr_instance_id="1",action="close_final",change_condition="recordClosure",pdn_type="ipv4v6",pdn_plmn_type="visitor")
```

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `action`

Label Description: Type of CDR operation

Example: close_final, close_interim, open

- Label: `change_condition`

Label Description: Reason for container close operation

Example: recordClosure,qoSChange,userLocationChange,apnAmbrChange

- Label: `event`

Label Description: Event that triggered CDR action

Example: StartAccounting,SGWChange,NormalRelease etc.

- Label: `pdn_type`

Label Description: The pdn_type indicates the address type of PDN

Example: ipv4, ipv6, ipv4v6, unknown

- Label: `pdn_plmn_type`

Label Description: The pdn_plmn_type indicates the plmn type

Example: homer,visitor,roamer,unknown

CDR operations Category

sgw_charging_cdr

Description: CDR operations total

Sample Query:

```
sgw_charging_cdr(gr_instance_id=\"1\",action=\"close_final\",cause=\"servingNodeChange\",pdn_type=
\"ipv4v6\",pdn_plmn_type= \"visitor\")
```

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `action`

Label Description: Type of CDR operation

Example: close_final, close_interim, open

- Label: `cause`

Label Description: Reason for CDR close operation

Example: maxChangeCond,servingNodeChange,volumeLimit,LTEservingNodeChange,abnormalRelease etc.

- Label: `event`

Label Description: Event that triggered CDR action

Example: StartAccounting,SGWChange,NormalRelease etc.

- Label: `pdn_type`

Label Description: The `pdn_type` indicates the address type of PDN

Example: ipv4, ipv6, ipv4v6, unknown

- Label: `pdn_plmn_type`

Label Description: The `pdn_plmn_type` indicates the plmn type

Example: homer,visitor,roamer,unknown

SGW usage report stats Category

sgw_sx_usage_report_stats

Description: Total Sx Session usage reports processed

Sample Query:

```
sgw_sx_usage_report_stats{gr_instance_id="1",status="success",sx_usage_report_trigger_type="TEBUR"}
```

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `status`

Label Description: Processing status

Example: success, ur_dropped_invalid_urr_seqNo, ur_dropped_bearer_not_found, ur_dropped_urrInfo_not_found, ur_dropped_acct_ctxt_not_found, ur_dropped_bearer_not_connected

- Label: `sx_usage_report_trigger_type`

Label Description: Usage Report Trigger Type

Example: VOLTH, TIMTH, TERMR, TEBUR etc

SGW Bearer Level counters Category

sgw_bearer_counters

Description: Bearer Level counters

Sample Query: `sgw_bearer_counters{gr_instance_id="1",status="active",qci="5"}`

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `status`

Label Description: Bearer Status

Example: active

- Label: `qci`

Label Description: Bearer QCI

Example: 1, 2, 3, 4, 5, 6, 7, 8, 9, 65, 66, 69, 70, 80, 82, 83, non-std-qci

SGW Bearer Level statistics Category

sgw_bearer_stats

Description: Bearer and Qci level statistics

Sample Query:

```
sgw_bearer_stats(gr_instance_id=\"1\", status=\"attempted\", qci=\"5\", numBearer=\"2\")
```

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `status`
Label Description: Bearer Status
Example: attempted, setup, release, modified
- Label: `qci`
Label Description: Bearer QCI
Example: 1, 2, 3, 4, 5, 6, 7, 8, 9, 65, 66, 69, 70, 80, 82, 83, non-std-qci

SGW CDL update stats Category

sgw_cdl_update_stats

Description: SGW CDL update Counter

Sample Query:

```
sgw_cdl_update_stats(gr_instance_id=\"1\", txn_type=\"S11ModifyBearerReqInitialAttach\", status=\"success\", cdl_update_type=\"full_cdl_update\")
```

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `txn_type`
Label Description: Transaction type
Example: ClearSubscriberSgwReq, N4SessionReportReq, NIntSgwSelfTxnBearerDisconnect, NIntSgwSelfTxnPagingStatusReq, NIntSgwSelfTxnPdnDisconnect, NIntSgwSelfTxnSxaSessRptReq, NSgwInternalTimerNotification, NSgwTimerNotificationReq, ReleaseAccessBearerReq, S11CreateSessReq, S11DeleteSessReq, S11ModifyBearerReq, S11ModifyBearerReqInitialAttach, S11ModifyBearerReqInterSystemHo, S11ModifyBearerReqIntraMMEX2S1HoNoSgwChange, S11ModifyBearerReqList, S11ModifyBearerReqListInterSystemHo, S11ModifyBearerReqListIntraMMEX2S1HoNoSgwChange, S11ModifyBearerReqListOnlyForUliChange, S11ModifyBearerReqListS1HOSgwRelocation, S11ModifyBearerReqListServiceRequest, S11ModifyBearerReqListUnknownMBR, S11ModifyBearerReqOnlyForUliChange, S11ModifyBearerReqS1HOSgwRelocation, S11ModifyBearerReqServiceRequest, S11ModifyBearerReqUnknownMBR, S5CreateBearerReq, S5DeleteBearerReq, S5S8BearerResourceCmd, S5UpdateBearerReq, S11SuspendNotf, S11ResumeNotf
- Label: `status`

Label Description: Indicate whether transaction is success, aborted or timeout

Example: success, collision_abort, timeout

- Label: `cdl_update_type`

Label Description: Indicate CDL update type

Example: partial_cdl_update, full_cdl_update, no_cdl_update

SGW Collision Stats Category

sgw_collision_stats

Description: SGW Collision counters

Sample Query: `sgw_collision_stats{gr_instance_id="1",action_type="abort",new_proc="PDN Disconnect - UE initiated",old_proc="Create Bearer"}`

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `action_type`

Label Description: The pre-defined action taken to handle the collision. The action can be

Example: abort_new, abort_old, discard_new, discard_old

- Label: `new_proc`

Label Description: The new procedure and message type"

Example: Unknown, PDN Setup, PDN Modify, Create Bearer, Update Bearer, Delete Bearer, PDN Disconnect - UE initiated, PDN Disconnect - Admin initiated, PDN Disconnect - PGW initiated, PDN Disconnect - Self initiated, Modify Bearer Command, Delete Bearer Command, Release Access Bearer, Downlink Data Notification, Clear Subscriber - S5e Recovery Initiated, Clear Subscriber - Sx Recovery Initiated, Clear Subscriber - S11 Recovery Initiated, Clear Subscriber - S5e Path Failure Initiated, Clear Subscriber - Sx Path Failure Initiated, Clear Subscriber - S11 Path Failure Initiated, Clear Subscriber - S11 Path Failure Local Purge Initiated, Clear Subscriber - S11 Recovery Local Purge Initiated, Clear Subscriber - S5e Path Failure Local Purge Initiated, Clear Subscriber - S5e Recovery Local Purge Initiated, Clear Subscriber - Sx Association Release Initiated, Change Notification, PDN Disconnect - Upf Graceful Termination Initiated, PDN Disconnect - S5u Gtpu Error Local Purge Initiated, PDN Disconnect - S1u Gtpu Session replacement Initiated, PDN Disconnect - S5u Gtpu Session replacement Initiated, PDN Disconnect - S1u Gtpu Error Local Purge Initiated, PDN Disconnect - S5u Gtpu Error Local Purge Initiated, PDN Disconnect - S1u Gtpu Session replacement Local Purge Initiated, PDN Disconnect - S5u Gtpu Session replacement Local Purge Initiated, Clear Subscriber - Sx Session Idle Timeout Initiated, Bearer Disconnect - S1u Gtpu Error Local Purge Initiated, Bearer Disconnect - S5u Gtpu Error Local Purge Initiated, Bearer Disconnect - S1u Gtpu Session replacement Local Purge Initiated, Bearer Disconnect - S5u Gtpu Session replacement Local Purge Initiated, Bearer Disconnect - S5u Gtpu Error Local Purge Initiated, Bearer Disconnect - S1u Gtpu Session replacement Initiated, Bearer Disconnect - S5u Gtpu Session replacement Initiated, Clear Subscriber - S1u Gtpu Path Failure Initiated, Clear Subscriber - S5u Gtpu Path Failure Initiated, Clear Subscriber - S1u Gtpu Path Failure Local Purge Initiated,

Clear Subscriber - S5u Gtpu Path Failure Local Purge Initiated, Bearer Disconnect - S1u Gtpu Path Failure Initiated, Bearer Disconnect - S5u Gtpu Path Failure Initiated, Bearer Disconnect - S1u Gtpu Path Failure Local Purge Initiated, Bearer Disconnect - S5u Gtpu Path Failure Local Purge Initiated, upf_initiated_clear_subscriber, upf_initiated_association_release, upf_recovery_failure, sx_urss_association_release_initiated_deletion, upf_initiated_self_protection_termination

- Label: `old_proc`

Label Description: Indicates the ongoing procedure at eGTP-C when a new message arrived at the interface which caused the collision. The Msg Type in brackets specifies which message triggered this ongoing procedure"

Example: Unknown, PDN Setup, PDN Modify, Create Bearer, Update Bearer, Delete Bearer, PDN Disconnect - UE initiated, PDN Disconnect - Admin initiated, PDN Disconnect - PGW initiated, PDN Disconnect - Self initiated, Modify Bearer Command, Delete Bearer Command, Release Access Bearer, Downlink Data Notification, Clear Subscriber - S5e Recovery Initiated, Clear Subscriber - Sx Recovery Initiated, Clear Subscriber - S11 Recovery Initiated, Clear Subscriber - S5e Path Failure Initiated, Clear Subscriber - Sx Path Failure Initiated, Clear Subscriber - S11 Path Failure Initiated, Clear Subscriber - S11 Path Failure Local Purge Initiated, Clear Subscriber - S11 Recovery Local Purge Initiated, Clear Subscriber - S5e Path Failure Local Purge Initiated, Clear Subscriber - S5e Recovery Local Purge Initiated, Clear Subscriber - Sx Association Release Initiated, Change Notification, PDN Disconnect - Upf Graceful Termination Initiated, PDN Disconnect - S5u Gtpu Error Local Purge Initiated, PDN Disconnect - S1u Gtpu Session replacement Initiated, PDN Disconnect - S5u Gtpu Session replacement Initiated, PDN Disconnect - S1u Gtpu Error Local Purge Initiated, PDN Disconnect - S5u Gtpu Error Local Purge Initiated, PDN Disconnect - S1u Gtpu Session replacement Local Purge Initiated, PDN Disconnect - S5u Gtpu Session replacement Local Purge Initiated, Clear Subscriber - Sx Session Idle Timeout Initiated, Bearer Disconnect - S1u Gtpu Error Local Purge Initiated, Bearer Disconnect - S5u Gtpu Error Local Purge Initiated, Bearer Disconnect - S1u Gtpu Session replacement Local Purge Initiated, Bearer Disconnect - S5u Gtpu Session replacement Local Purge Initiated, Bearer Disconnect - S5u Gtpu Error Local Purge Initiated, Bearer Disconnect - S1u Gtpu Session replacement Initiated, Bearer Disconnect - S5u Gtpu Session replacement Initiated, Clear Subscriber - S1u Gtpu Path Failure Initiated, Clear Subscriber - S5u Gtpu Path Failure Initiated, Clear Subscriber - S1u Gtpu Path Failure Local Purge Initiated, Clear Subscriber - S5u Gtpu Path Failure Local Purge Initiated, Bearer Disconnect - S1u Gtpu Path Failure Initiated, Bearer Disconnect - S5u Gtpu Path Failure Initiated, Bearer Disconnect - S1u Gtpu Path Failure Local Purge Initiated, Bearer Disconnect - S5u Gtpu Path Failure Local Purge Initiated, upf_initiated_clear_subscriber, upf_initiated_association_release, upf_recovery_failure, sx_urss_association_release_initiated_deletion, upf_initiated_self_protection_termination

SGW DDN Stats Category

`sgw_ddn_stats`

Description: Total SGW DDN Stats

Sample Query: `sgw_ddn_stats{gr_instance_id="1",ddn_stats_type="high_priority_initiated"}`

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `ddn_stats_type`

Label Description: The pre-defined `ddn_stats_type`

Example: `high_priority_initiated`, `high_priority_suppressed`, `throttled`, `delayed`, `control_proc_triggered`, `data_triggered`, `gtpu_err_ind_triggered`

SGW PDN Disconnect Stats Category

`sgw_pdn_disconnect_stats`

Description: SGW PDN disconnects counters

Sample Query:

```
sgw_pdn_disconnect_stats{gr_instance_id="1",pdn_type="ipv4v6",rat_type="EUTRAN",reason="mme_init_pdn_sess_rel"}
```

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `pdn_type`

Label Description: The `pdn_type` indicates the address type of PDN

Example: `ipv4`, `ipv6`, `ipv4v6`, `unknown`

- Label: `rat_type`

Label Description: The `rat_type` indicates which Radio Access Technology is currently serving the UE"

Example: `EUTRAN`

- Label: `reason`

Label Description: The reason indicates the disconnect reason associate with the `pdn`"

Example: `admin_init_disconnect`, `remote_init_disconnect`, `pgw_init_pdn_sess_rel`, `mme_init_pdn_sess_rel`, `sx_request_rejected`, `sx_context_not_found`, `sx_msg_invalid_length`, `sx_no_resource_available`, `sx_no_response`, `sx_reason_unknown`, `no_response`, `s5_context_not_found`, `s11_context_not_found`, `local_disconnect`, `no_cause`, `userplane_info_not_available`, `setup_timeout`, `admin_init_local_purge`, `db_conflict_init_disconnect`, `context_replacement`, `userplane_session_idle_timeout`, `userplane_requested_graceful_termination`, `s1u_gtpu_error`, `s5u_gtpu_error`, `s1u_gtpu_session_replacement`, `s5u_gtpu_session_replacement`, `sx_recovery`, `sx_path_failure`, `s11_path_failure`, `s5e_path-failure`, `s11_path_failure_local_purge`, `s5e_path_failure_local_purge`, `s5e_recovery`, `s11_recovery`, `s5e_recovery_local_purge`, `s11_recovery_local_purge`, `s1u_gtpu_path_failure`, `s5u_gtpu_path_failure`, `stale_session_init_disconnect`, `mop_offline`, `userplane_initiated_clear_subscriber`, `userplane_initiated_association_release`, `userplane_initiated_recovery_failure`, `sx_urss_association_release`, `userplane_initiated_self_protection_termination`

SGW PDN EMPS Counter Category

sgw_pdn_emps_counter

Description: Total number of active emps session

Sample Query: `sgw_pdn_emps_counters{gr_instance_id=\"1\",status=\"active\"}`

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `status`
Label Description: Active emps session
Example: active

SGW PDN EMPS Stats Category

sgw_pdn_emps_stats

Description: Total number of emps session

Sample Query: `sgw_pdn_emps_stats{gr_instance_id=\"1\",status=\"release\"}`

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `status`
Label Description: Status of emps session
Example: setup, release

SGW PDN Level Counters Category

sgw_pdn_counters

Description: Pdn level counters

Sample Query:

`sgw_pdn_counters{ratType=\"EUTRAN\",pdnConnType=\"ipv4\",plmnType=\"homer\",grInstanceID=\"1\"}`

Labels:

- Label: `rat_type`
Label Description: The `rat_type` indicates which Radio Access Technology is currently serving the UE"

Example: EUTRAN

- Label: `pdn_type`

Label Description: The `pdn_type` indicates the address type of PDN

Example: ipv4, ipv6, ipv4v6, unknown

- Label: `pdn_plmn_type`

Label Description: It indicates the plmn type for the subscriber

Example: homer, visitor, roamer, unknown

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

SGW PDN Level statistics Category

sgw_pdn_stats

Description: Pdn level statistics

Sample Query:

```
sgw_pdn_stats{ratType="EUTRAN",status="setup",pdnConnType="ipv4",plmnType="homer",grInstanceID="1"}
```

Labels:

- Label: `rat_type`

Label Description: The `rat_type` indicates which Radio Access Technology is currently serving the UE"

Example: EUTRAN

- Label: `status`

Label Description: Subscriber status

Example: setup, release

- Label: `pdn_type`

Label Description: The `pdn_type` indicates the address type of PDN

Example: ipv4, ipv6, ipv4v6, unknown

- Label: `pdn_plmn_type`

Label Description: It indicates the plmn type for the subscriber

Example: homer, visitor, roamer, unknown

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

SGW Procedure Category

sgw_service_stats

Description: SGW call flow procedure counters

Sample Query: `sgw_service_stats{gr_instance_id="1",sgw_procedure_type="create_bearer"}`

Labels:

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

- Label: `sgw_procedure_type`

Label Description: The procedure type associated with the call flow procedure

Example: `initial_attach`, `secondary_pdn_creation`, `mme_initiated_deletion`, `pgw_initiated_deletion`, `update_bearer`, `create_bearer`, `downlink_data_notification`, `downlink_data_notification_retry`, `pgw_initiated_dedicated_bearer_deletion`, `release_access_bearer`, `inter_mme_intra_sgw_idle_mode`, `intra_mme_intra_sgw_idle_mode`, `service_request`, `modify_bearer_req_initial_attach`, `inter_mme_handover`, `intra_mme_handover`, `inter_system_handover`, `modify_bearer_req_uli_tz_change`, `admin_initiated_deletion`, `s5_cnf_initiated_deletion`, `s11_cnf_initiated_deletion`, `sx_cnf_initiated_deletion`, `local_initiated_deletion`, `setup_timeout_deletion`, `create_indirect_data_forwarding_tunnel`, `delete_indirect_data_forwarding_tunnel`, `indirect_data_forwarding_tunnel_guard_timer_expiry`, `db_conflict_initiated_deletion`, `s1_sgw_relocation_attach`, `context_replacement`, `modify_bearer_command`, `delete_bearer_command`, `inter_system_handover_attach`, `x2_gnnp_to_lte_relocation_attach`, `s1_gnnp_to_lte_relocation_attach`, `inter_system_handover`, `modify_bearer_req_x2_gnnp_to_lte_relocation`, `modify_bearer_req_s1_gnnp_to_lte_relocation`, `change_notification`, `upf_sess_idle_timeout_deletion`, `upf_initiated_clear_subscriber`, `upf_initiated_association_release`, `upf_recovery_failure`, `sx_urss_association_release_initiated_deletion`, `upf_initiated_self_protection_termination`, `s5u_gtpu_error_initiated`, `s1u_gtpu_session_replacement_initiated`, `s5u_gtpu_session_replacement_initiated`, `s1u_gtpu_path_failure_initiated`, `s5u_gtpu_path_failure_initiated`, `s5u_gtpu_error_initiated_bearer_deletion`, `s1u_gtpu_error_local_purge_initiated_bearer_deletion`, `s5u_gtpu_error_local_purge_initiated_bearer_deletion`, `s1u_gtpu_session_replacement_initiated_bearer_deletion`, `s5u_gtpu_session_replacement_initiated_bearer_deletion`, `s1u_gtpu_session_replacement_local_purge_initiated_bearer_deletion`, `s5u_gtpu_session_replacement_local_purge_initiated_bearer_deletion`, `s1u_gtpu_path_failure_initiated_bearer_deletion`, `s5u_gtpu_path_failure_initiated_bearer_deletion`, `s1u_gtpu_path_failure_local_purge_initiated_bearer_deletion`, `s5u_gtpu_path_failure_local_purge_initiated_bearer_deletion`, `stale_session_initiated_deletion`, `dbcfi_cnf_local_purge_initiated_bearer_deletion`, `suspend_notification`, `resume_notification`, `pdn_state_sync`, `upf_initiated_clear_subscriber`, `upf_initiated_association_release`, `upf_recovery_failure`, `sx_urss_association_release_initiated_deletion`, `upf_initiated_self_protection_termination`

- Label: `interface`

Label Description: The interface type associated with the call flow procedure

Example: `interface_sgw_ingress`, `interface_sgw_egress`

- Label: `status`

Label Description: The status of the call flow procedure. In case of procedure failure it can indicate whether the message was rejected or was the message discarded.

Example: attempted, success, failure, rejected, discarded

- Label: `fail_reason`

Label Description: High level reason for failure status. For success and attempted it will be Empty

Example: `gtp_validation_fail`, `gtp_cause_fail`, `gtp_peer_not_responding`, `sx_validation_fail`, `sx_cause_fail`, `sx_peer_not_responding`, `timeout`, `internal_failure`, `userplane_selection_fail`, `gtp_partial_fail`, `sx_oci_throttling_reject`, `collision_abort`, `collision_discard`, `gtp_entity_in_congestion`

- Label: `sub_fail_reason`

Label Description: Incoming negative GTP/Sx Cause or type of TIMEOUT that led to the failure. For other failures it will be Empty

Example: `invalid_msg_format`, `version_not_supported`, `service_not_supported`, `imsi_imei_not_known`, `preferred_pdn_type_unsupported`, `mand_ie_missing`, `cond_ie_missing`, `invalid_len`, `mand_ie_incorrect`, `no_resource_available`, `temp_rejected_due_to_handover_in_progress`, `peer_not_responding`, `context_not_found`, `unable_to_page_ue`, `unable_to_page_ue_due_to_suspension`, `ue_already_reattached`, `temp_rejected_due_to_ho_in_progress`, `sx_req_rejected`, `invalid_fw_policy`, `invalid_fteid_alloc_opt`, `rule_creation_mod_fail`, `no_estab_sx_assoc`, `system_failure`, `pfcpc_entity_in_congestion`, `procedure_timeout`, `ipc_timeout`, `transaction_timeout`, `missing_or_unknown_apn`

- Label: `reject_cause`

Label Description: In case of procedure failure it will be used to indicate the outgoing GTP/Sx cause being sent to the peer. In other cases it will be Empty.

Example: `invalid_msg_format`, `version_not_supported`, `invalid_len`, `mandatory_ie_missing`, `conditional_ie_missing`, `mandatory_ie_incorrect`, `service_not_supported`, `imsi_imei_not_known`, `preferred_pdn_type_unsupported`, `system_failure`, `no_resources_available`, `temp_rejected_due_to_handover_in_progress`, `service_denied`, `peer_not_responding`, `context_not_found`, `request_rejected`, `missing_or_unknown_apn`, `entity_in_congestion`

- Label: `svc_to_svc`

Label Description: In case of gtp bypass, i.e. service to service communication this is set as True, else False

Example: True, False

SGW Resource Management stats Category

sgw_resource_mgmt_stats

Description: It gives information about number of allocated/deallocated ID's from resource manager

Sample Query:

```
sgw_resource_mgmt_stats{label_id_type="id_alloc",status="success",grInstanceID="1"}
```

Labels:

- Label: `label_id_type`

Label Description: The `label_id_type` indicates if its ID allocation or deallocation"

Example: id_alloc, id_dealloc

- Label: status

Label Description: The status of ID allocation/deallocation

Example: attempted, success, failure

- Label: gr_instance_id

Label Description: GR instance ID

Example: 1, 2

SGW Sx session report stats Category

sgw_sx_session_report_stats

Description: Total Sx Session-Report-Requests processed

Sample Query:

```
sgw_sx_session_report_stats{gr_instance_id="1",reason="psdbu",sx_session_report_type="USAR",sx_usage_report_status="success"}
```

Labels:

- Label: gr_instance_id

Label Description: GR instance ID

Example: 1, 2

- Label: sx_session_report_type

Label Description: Type of the session-report

Example: USAR, DLDR, ERIR, UPIR, SPTer, SRIR, GTER, UPRR, UISR

- Label: sx_usage_report_status

Label Description: Processing status of usage report

Example: success, failure

- Label: reason

Label Description: Reason for Session Report Request

Example: psdbu

SGW Timer Stats Category

sgw_tmr_stats

Description: SGW Timer Counter

Sample Query:

```
sgw_tmr_stats{gr_instance_id="1",timer_type="internal_ddn_delay",status="start"}
```

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `timer_type`
Label Description: Timer type
Example: `internal_ddn_delay`
- Label: `status`
Label Description: Status of timer
Example: start, stop, expired

SGW UE Disconnect Stats Category

sgw_ue_disconnect_stats

Description: SGW UE disconnects counters

Sample Query: `sgw_ue_disconnect_stats{gr_instance_id=\"1\",reason=\"admin_init_disconnect\"}`

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `reason`
Label Description: The reason indicates the disconnect reason associated with the UE
Example: `admin_init_disconnect`, `remote_init_disconnect`, `pgw_init_pdn_sess_rel`, `mme_init_pdn_sess_rel`, `sx_request_rejected`, `sx_context_not_found`, `sx_msg_invalid_length`, `sx_no_resource_available`, `sx_no_response`, `sx_reason_unknown`, `no_response`, `s5_context_not_found`, `s11_context_not_found`, `local_disconnect`, `no_cause`, `userplane_info_not_available`, `db_conflict_init_disconnect`, `userplane_session_idle_timeout`, `userplane_requested_graceful_termination`, `s1u_gtpu_error`, `s5u_gtpu_error`, `s1u_gtpu_session_replacement`, `s5u_gtpu_session_replacement`, `sx_recovery`, `sx_path_failure`, `s11_path_failure`, `s5e_path_failure`, `s11_path_failure_local_purge`, `s5e_path_failure_local_purge`, `s5e_recovery`, `s11_recovery`, `s5e_recovery_local_purge`, `s11_recovery_local_purge`, `s1u_gtpu_path_failure`, `s5u_gtpu_path_failure`, `stale_session_init_disconnect`, `mop_offline`, `userplane_initiated_clear_subscriber`, `userplane_initiated_association_release`, `userplane_initiated_recovery_failure`, `sx_urss_association_release`, `userplane_initiated_self_protection_termination`

SGW UE Level Counters Category

sgw_ue_counters

Description: UE level counter

Sample Query: `sgw_ue_counters{ratType=\"EUTRAN\",state=\"idle\",grInstanceID=\"1\"}`

Labels:

- Label: `rat_type`

Label Description: The `rat_type` indicates which Radio Access Technology is currently serving the UE"

Example: EUTRAN

- Label: `state`

Label Description: Subscriber state

Example: idle, connected

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

SGW UE Level statistics Category

sgw_ue_stats

Description: UE level statistics

Sample Query: `sgw_ue_stats{ratType=\"EUTRAN\",status=\"setup\",grInstanceID=\"1\"}`

Labels:

- Label: `rat_type`

Label Description: The `rat_type` indicates which Radio Access Technology is currently serving the UE"

Example: EUTRAN

- Label: `status`

Label Description: Subscriber status

Example: setup, release

- Label: `gr_instance_id`

Label Description: GR instance ID

Example: 1, 2

SGW Volte session counter Category

sgw_voltesession_counter

Description: Total Sx Session usage reports processed

Sample Query: `sgw_voltesession_counter{gr_instance_id="1",state="VolteSession"}`

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `state`
Label Description: Session type
Example: VolteSession

SGW callflow optimization stats Category

sgw_callflow_optimization_stats

Description: SGW Callflow Optimization Counter

Sample Query:

`sgw_callflow_optimization_stats{gr_instance_id="1",type="suppress_uli_reporting_on_s5"}`

Labels:

- Label: `gr_instance_id`
Label Description: GR instance ID
Example: 1, 2
- Label: `type`
Label Description: Callflow optimization type
Example: `suppress_uli_reporting_on_s5`, `rab_prepone_ack`