

# Performance Monitoring Statistics for the SGW

**DESCRIPTION** 

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# Contents

1	Introduction	1
1.1	Scope	1
1.2	Reading Instructions	1
2	Counters and Gauges Information for the SGW	2
2.1	sgwNumberOfUes	2
2.2	sgwNumberOfSessions	4
2.3	sgwGtpTunnelMgmtTowardsMmeSgsn	5
2.4	sgwGtpTunnelMgmtTowardsPgw	24
2.5	sgwGtpPathMgmtTowardsMmeSgsn	38
2.6	sgwGtpPathMgmtTowardsPgw	41
2.7	sgwGtpOverloadProtection	45
2.8	sgwUplinkTraffic	46
2.9	sgwDownlinkTraffic	51
2.10	sgwEbm	57
2.11	sgwGtpErrorStats	58
2.12	offlineCharging	59
2.13	highAvailability	61
2.14	handover	63







# 1 Introduction

This document presents the counter groups, counters, and gauges of the SGW for GSM, WCDMA Systems, and LTE radio network access.

# 1.1 Scope

This document gives descriptions of the different counter groups, counters, and gauges of the SGW.

The values for performance monitoring objects are retrieved using the CLI or an Extensible Markup Language (XML) document.

For more information on counters and gauges, see *Operation and Maintenance Description*.

For more information about retrieving performance monitoring statistics using an XML document, see *Performance Management Interface Description*.

# 1.2 Reading Instructions

All the counter groups, counters, and gauges of the SGW are presented in Section 2 on page 2.

Under each counter group description, there is a counter list including all the counters that belong to this counter group. By clicking the object in the counter list, the user is directed to a description of the object. By clicking the group in the object description, the user is directed back to the counter list.

Each object is described with the following attributes:

#### **Measurement Name**

The descriptive name of the object

**Description** An explanation of the measurement operation

**Group** The counter group name that the counter belongs to

**Type** The measurement type, either CC (Cumulative Counter)

or GAUGE

**Sub Type** The sub measurement type, always defined as SUM

Output Unit A description of expected result value(s) (for example, a

single integer value)



Size The bit size of the value of the object

**Status** The status of the object (USED, DEPRECATED,

OBSOLETED, or PRELIMINARY)

**Increments** The condition that causes the object to be incremented

**Decrements** The condition that causes the object to be decremented

CLI The CLI command that is executed to show the value

of the object

Name in CLI Output

The presentation of the object in CLI output

# Counters and Gauges Information for the SGW

# 2.1 sgwNumberOfUes

This counter group includes following counters:

sgwNbrOf sgwNbrOfConnectedUe nbrOfSuspendedUes

Ues s

#### 2.1.1 sgwNbrOfUes

Measurement Name sgwNbrOfUes

Description The total number of users in the SGW.

Group sgwNumberOfUes

Type GAUGE
Sub Type SUM
Output Unit integer
Size 32
Status USED

Increments When the first PDN connection for a UE is

established in the SGW.



Decrements When the last PDN connection for a UE is deleted

from the SGW.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-nbr-of-ues

# 2.1.2 sgwNbrOfConnectedUes

Measurement Name sgwNbrOfConnectedUes

Description The total number of connected users.

Group sgwNumberOfUes

Type GAUGE
Sub Type SUM
Output Unit integer
Size 32
Status USED

Increments When a user has downlink tunnel established in

the SGW at initial attach for RAT type EUTRAN, and upon IRAT handover from non-EUTRAN to

EUTRAN access.

Decrements When a user is detached or deleted while a downlink

tunnel is established, when a downlink tunnel is removed for RAT type EUTRAN, or upon IRAT handover from EUTRAN to non-EUTRAN access.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-nbr-of-connected-ues

# 2.1.3 nbrOfSuspendedUes

Measurement Name nbrOfSuspendedUes

Description The total number of suspended users in the SGW.

Group sgwNumberOfUes



Increments When the first PDN connection is suspended for a

UE in the SGW.

Decrements When the last PDN connection is resumed for a UE

in the SGW.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output nbr-of-suspended-ues

# 2.2 sgwNumberOfSessions

This counter group includes following counters:

sgwNbrOfBearers sgwNbrOf3gdtPdnConnections

sgwNbrOf PdnConne ctions

# 2.2.1 sgwNbrOfPdnConnections

Measurement Name sgwNbrOfPdnConnections

Description The total number of PDN connections currently

handled by the SGW.

Group sgwNumberOfSessions

Type GAUGE
Sub Type SUM
Output Unit integer
Size 32
Status USED

Increments When a PDN connection is established.

Decrements When an PDN connection is disconnected.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-nbr-of-pdn-connections

# 2.2.2 sgwNbrOfBearers

Measurement Name sgwNbrOfBearers

Description The total number of bearers currently handled by

the SGW.

Group sgwNumberOfSessions



Type GAUGE
Sub Type SUM
Output Unit integer
Size 32
Status USED

Increments When a bearer is created.

Decrements When a bearer is deleted.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-nbr-of-bearers

# 2.2.3 sgwNbrOf3gdtPdnConnections

Measurement Name sgwNbrOf3gdtPdnConnections

Description The total number of PDN connections currently

handled by the SGW and direct tunnel is established

between RNC and SGW.

Group sgwNumberOfSessions

Type GAUGE
Sub Type SUM
Output Unit integer
Size 32
Status USED

Increments When a PDN connection is established with direct

tunnel applied between RNC and SGW.

Decrements When a PDN connection with 3G direct tunnel is

disconnected, or when a PDN connection with 3G direct tunnel is modified and direct tunnel is not applied, or when a PDN connection with 3G direct tunnelis modified and whether direct tunnel is

applied or not is not known.

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-nbr-of-3gdt-pdn-connections

# 2.3 sgwGtpTunnelMgmtTowardsMmeSgsn

This counter group includes following counters:



sgwCreate SessionRe qReceived	sgwCreateSessionResp AccSent	sgwCreateSessionRespRejSent
sgwModify BearerReq Received	sgwModifyBearerRespA ccSent	sgwModifyBearerRespRejSent
sgwDelete SessionRe qReceived	sgwDeleteSessionResp AccSent	sgwDeleteSessionRespRejSent
sgwDelete BearerReq Sent	sgwDeleteBearerRespA ccReceived	sgwDeleteBearerRespRejReceived
sgwDIData Notification Sent	sgwDIDataNotificationAc kAccReceived	sgwDIDataNotificationAckRejReceiv ed
sgwDIData Notification FailureInd Received	sgwReleaseAccessBear ersReqReceived	sgwReleaseAccessBearersRespAcc Sent
sgwReleas eAccessBe arersResp RejSent	sgwUpdateBearerReqS ent	sgwUpdateBearerRespAccReceived
sgwUpdate BearerRes pRejRecei ved	sgwCreateIndirectDataF wdTunnelReqReceived	sgwCreateIndirectDataFwdTunnelRe spAccSent
sgwCreate IndirectDat aFwdTunn elRespRej Sent	sgwCreateBearerRespR ejReceived	sgwCreateBearerRespAccReceived
sgwCreate BearerReq Sent	sgwDeleteBearerFailureI ndSent	sgwDeleteBearerCmdReceived
sgwModify BearerCm dReceived	sgwBearerResourceCm dReceived	sgwBearerResourceFailureIndSent
sgwModify BearerFail ureIndSent	suspendNotificationRec eived	resumeNotificationReceived



# 2.3.1 sgwCreateSessionRegReceived

Measurement Name sgwCreateSessionReqReceived

Description The total number of GTPv2-C Create Session

Request messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Session Request message

is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-req-received

# 2.3.2 sgwCreateSessionRespAccSent

Measurement Name sgwCreateSessionRespAccSent

Description The total number of GTPv2-C Create Session

Response messages sent by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Session Response

message is sent by the SGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-resp-acc-sent



# 2.3.3 sgwCreateSessionRespRejSent

Measurement Name sgwCreateSessionRespRejSent

Description The total number of GTPv2-C Create Session

Response messages sent by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Session Response

message is sent by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-resp-rej-sent

# 2.3.4 sgwModifyBearerReqReceived

Measurement Name sgwModifyBearerReqReceived

Description The total number of GTPv2-C Modify Bearer

Request messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Request message

is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-req-received



# 2.3.5 sgwModifyBearerRespAccSent

Measurement Name sgwModifyBearerRespAccSent

Description The total number of GTPv2-C Modify Bearer

Response messages sent by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Response

message is sent by the SGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-resp-acc-sent

# 2.3.6 sgwModifyBearerRespRejSent

Measurement Name sgwModifyBearerRespRejSent

Description The total number of GTPv2-C Modify Bearer

Response messages sent by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Response

message is sent by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-resp-rej-sent



# 2.3.7 sgwDeleteSessionRegReceived

Measurement Name sgwDeleteSessionReqReceived

Description The total number of GTPv2-C Delete Session

Request messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Session Request message

is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-req-received

# 2.3.8 sgwDeleteSessionRespAccSent

Measurement Name sgwDeleteSessionRespAccSent

Description The total number of GTPv2-C Delete Session

Response messages sent by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Session Response

message is sent by the SGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-resp-acc-sent



# 2.3.9 sgwDeleteSessionRespRejSent

Measurement Name sgwDeleteSessionRespRejSent

Description The total number of GTPv2-C Delete Session

Response messages sent by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Session Response

message is sent by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-resp-rej-sent

# 2.3.10 sgwDeleteBearerReqSent

Measurement Name sgwDeleteBearerReqSent

Description The total number of GTPv2-C Delete Bearer

Request messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Request message

is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-req-sent



# 2.3.11 sgwDeleteBearerRespAccReceived

Measurement Name sgwDeleteBearerRespAccReceived

Description The total number of GTPv2-C Delete Bearer

Response messages sent by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Response

message is sent by the SGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-resp-acc-received

# 2.3.12 sgwDeleteBearerRespRejReceived

Measurement Name sgwDeleteBearerRespRejReceived

Description The total number of GTPv2-C Delete Bearer

Response messages sent by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Response

message is sent by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-resp-rej-received



# 2.3.13 sgwDIDataNotificationSent

Measurement Name sgwDIDataNotificationSent

Description The total number of GTPv2-C Downlink Data

Notification messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Downlink Data Notification

message is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-dl-data-notification-sent

# 2.3.14 sgwDIDataNotificationAckAccReceived

Measurement Name sgwDIDataNotificationAckAccReceived

Description The total number of GTPv2-C Downlink Data

Notification Acknowledgement messages received by the SGW with an acceptence response cause

value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Downlink Data Notification

Acknowledge message is received by the SGW with

an acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-dl-data-notification-ack-acc-received



# 2.3.15 sgwDIDataNotificationAckRejReceived

Measurement Name sgwDIDataNotificationAckRejReceived

Description The total number of GTPv2-C Downlink Data

Notification Acknowledgement messages received by the SGW with a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Downlink Data Notification

Acknowledge message is received by the SGW with

a rejection response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-dl-data-notification-ack-rej-received

# 2.3.16 sgwDIDataNotificationFailureIndReceived

Measurement Name sgwDIDataNotificationFailureIndReceived

Description The total number of GTPv2-C Downlink Data

Notification Failure Indication messages received

by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Downlink Data Notification Failure

Indication message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-dl-data-notification-failure-ind-received



# 2.3.17 sgwReleaseAccessBearersReqReceived

Measurement Name sgwReleaseAccessBearersReqReceived

Description The total number of GTPv2-C Release Access

Bearers Request messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Release Access Bearers Request

message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-release-access-bearers-req-received

# 2.3.18 sgwReleaseAccessBearersRespAccSent

Measurement Name sgwReleaseAccessBearersRespAccSent

Description The total number of GTPv2-C Release Access

Bearers Response messages sent by the SGW with

an acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Release Access Bearers

Response message is sent by the SGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-release-access-bearers-resp-acc-sent



# 2.3.19 sgwReleaseAccessBearersRespRejSent

Measurement Name sgwReleaseAccessBearersRespRejSent

Description The total number of GTPv2-C Release Access

Bearers Response messages sent by the SGW with

a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Release Access Bearers

Response message is sent by the SGW with a

rejection response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-release-access-bearers-resp-rej-sent

# 2.3.20 sgwUpdateBearerReqSent

Measurement Name sgwUpdateBearerReqSent

Description The total number of GTPv2-C Update Bearer

Request messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Update Bearer Request message

is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-update-bearer-req-sent



# 2.3.21 sgwUpdateBearerRespAccReceived

Measurement Name sgwUpdateBearerRespAccReceived

Description The total number of GTPv2-C Update Bearer

Response messages received by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Update Bearer Response

message is received by the SGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-update-bearer-resp-acc-received

# 2.3.22 sqwUpdateBearerRespRejReceived

Measurement Name sgwUpdateBearerRespRejReceived

Description The total number of GTPv2-C Update Bearer

Response messages received by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Update Bearer Response

message is received by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sqw-update-bearer-resp-rej-received



# 2.3.23 sgwCreateIndirectDataFwdTunnelReqReceived

Measurement Name sgwCreateIndirectDataFwdTunnelReqReceived

Description The total number of GTPv2-C Create Indirect Data

Forwarding Tunnel Request messages received by

the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Indirect Data Forwarding

Tunnel Request message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-indirect-data-fwd-tunnel-req-received

# 2.3.24 sgwCreateIndirectDataFwdTunnelRespAccSent

Measurement Name sgwCreateIndirectDataFwdTunnelRespAccSent

Description The total number of GTPv2-C Create Indirect Data

Forwarding Tunnel Response messages sent by the SGW with an acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Indirect Data Forwarding

Tunnel Response message is sent by the SGW with

an acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-indirect-data-fwd-tunnel-resp-acc-sent



# 2.3.25 sgwCreateIndirectDataFwdTunnelRespRejSent

Measurement Name sgwCreateIndirectDataFwdTunnelRespRejSent

Description The total number of GTPv2-C Create Indirect Data

Forwarding Tunnel Response messages sent by the

SGW with a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Indirect Data Forwarding

Tunnel Response message is sent by the SGW with

a rejection response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-indirect-data-fwd-tunnel-resp-rej-sent

# 2.3.26 sqwCreateBearerRespRejReceived

Measurement Name sgwCreateBearerRespRejReceived

Description The total number of GTPv2-C Create Bearer

Response messages received by the SGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Bearer Response

message is received by the SGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sqw-create-bearer-resp-rej-received



# 2.3.27 sgwCreateBearerRespAccReceived

Measurement Name sgwCreateBearerRespAccReceived

Description The total number of GTPv2-C Create Bearer

Response messages received by the SGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Bearer Response

message is received by the SGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-bearer-resp-acc-received

# 2.3.28 sgwCreateBearerReqSent

Measurement Name sgwCreateBearerReqSent

Description The total number of GTPv2-C Create Bearer

Request messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Bearer Request message

is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-bearer-req-sent



# 2.3.29 sgwDeleteBearerFailureIndSent

Measurement Name sgwDeleteBearerFailureIndSent

Description The total number of GTPv2-C Delete Bearer Failure

Indication messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Failure Indication

message is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-failure-ind-sent

# 2.3.30 sgwDeleteBearerCmdReceived

Measurement Name sgwDeleteBearerCmdReceived

Description The total number of GTPv2-C Delete Bearer

Command messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Command

message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-cmd-received



# 2.3.31 sgwModifyBearerCmdReceived

Measurement Name sgwModifyBearerCmdReceived

Description The total number of GTPv2-C Modify Bearer

Command messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Command

message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-cmd-received

# 2.3.32 sgwBearerResourceCmdReceived

Measurement Name sgwBearerResourceCmdReceived

Description The total number of GTPv2-C Bearer Resource

Command messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Bearer Resource Command

message is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-bearer-resource-cmd-received



# 2.3.33 sgwBearerResourceFailureIndSent

Measurement Name sgwBearerResourceFailureIndSent

Description The total number of GTPv2-C Bearer Resource

Failure Indication messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Bearer Resource Failure

Indication message is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-bearer-resource-failure-ind-sent

# 2.3.34 sgwModifyBearerFailureIndSent

Measurement Name sgwModifyBearerFailureIndSent

Description The total number of GTPv2-C Modify Bearer Failure

Indication messages sent by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Failure Indication

message is sent by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-failure-ind-sent



# 2.3.35 suspendNotificationReceived

Measurement Name suspendNotificationReceived

Description The total number of GTPv2-C Suspend Notification

messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Suspend Notification message

is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output suspend-notification-received

#### 2.3.36 resumeNotificationReceived

Measurement Name resumeNotificationReceived

Description The total number of GTPv2-C Resume Notification

messages received by the SGW.

Group sgwGtpTunnelMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Resume Notification message

is received by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output resume-notification-received

# 2.4 sgwGtpTunnelMgmtTowardsPgw

This counter group includes following counters:



sgwCreate SessionRe qSent	sgwCreateSessionResp AccReceived	sgwCreateSessionRespRejReceived
sgwModify BearerReq Sent	sgwModifyBearerRespA ccReceived	sgwModifyBearerRespRejReceived
sgwDelete SessionRe qSent	sgwDeleteSessionResp AccReceived	sgwDeleteSessionRespRejReceived
sgwDelete BearerReq Received	sgwDeleteBearerRespA ccSent	sgwDeleteBearerRespRejSent
sgwUpdate BearerReq Received	sgwUpdateBearerRespA ccSent	sgwUpdateBearerRespRejSent
sgwCreate BearerReq Received	sgwCreateBearerRespA ccSent	sgwCreateBearerRespRejSent
sgwModify BearerCm dSent	sgwModifyBearerFailure IndReceived	sgwDeleteBearerCmdSent
sgwDelete BearerFail ureIndRec eived	sgwBearerResourceCm dSent	sgwBearerResourceFailureIndRecei ved
resumeNot ificationSe nt	suspendNotificationSent	

# 2.4.1 sgwCreateSessionReqSent

Measurement Name

	· ·
Description	The total number of GTPv2-C Create Session Request messages sent to the PGW.
Group	sgwGtpTunnelMgmtTowardsPgw
Туре	CC
Sub Type	SUM
Output Unit	integer

sgwCreateSessionRegSent

Size 64 Status USED



Increments When a GTPv2-C Create Session Request message

is sent to the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-req-sent

# 2.4.2 sgwCreateSessionRespAccReceived

Measurement Name sgwCreateSessionRespAccReceived

Description The total number of GTPv2-C Create Session

Response messages received from the PGW with

an acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Session Response

message is received from the PGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-resp-acc-received

# 2.4.3 sgwCreateSessionRespRejReceived

Measurement Name sgwCreateSessionRespRejReceived

Description The total number of GTPv2-C Create Session

Response messages received from the PGW with

a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Create Session Response

message is received from the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-session-resp-rej-received

# 2.4.4 sgwModifyBearerReqSent

Measurement Name sgwModifyBearerRegSent

Description The total number of GTPv2-C Modify Bearer

Request messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Request message

is sent to the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-req-sent

# 2.4.5 sgwModifyBearerRespAccReceived

Measurement Name sgwModifyBearerRespAccReceived

Description The total number of GTPv2-C Modify Bearer

Response messages received from the PGW with

an acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Modify Bearer Response

message is received from the PGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-resp-acc-received

# 2.4.6 sgwModifyBearerRespRejReceived

Measurement Name sgwModifyBearerRespRejReceived

Description The total number of GTPv2-C Modify Bearer

Response messages received from the PGW with

a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Response

message is received from the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-resp-rej-received

# 2.4.7 sgwDeleteSessionRegSent

Measurement Name sgwDeleteSessionReqSent

Description The total number of GTPv2-C Delete Session

Request messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Delete Session Request message

is sent to the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-req-sent

# 2.4.8 sgwDeleteSessionRespAccReceived

Measurement Name sgwDeleteSessionRespAccReceived

Description The total number of GTPv2-C Delete Session

Response messages received from the PGW with

an acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Session Response

message is received from the PGW with an

acceptence response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-resp-acc-received

# 2.4.9 sgwDeleteSessionRespRejReceived

Measurement Name sgwDeleteSessionRespRejReceived

Description The total number of GTPv2-C Delete Session

Response messages received from the PGW with

a rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Delete Session Response

message is received from the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-session-resp-rej-received

# 2.4.10 sgwDeleteBearerReqReceived

Measurement Name sgwDeleteBearerReqReceived

Description The total number of GTPv2-C Delete Bearer

Request messages received from the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Request message

is received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-reg-received

# 2.4.11 sgwDeleteBearerRespAccSent

Measurement Name sgwDeleteBearerRespAccSent

Description The total number of GTPv2-C Delete Bearer

Response messages sent to the PGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Delete Bearer Response

message is sent to the PGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-resp-acc-sent

# 2.4.12 sgwDeleteBearerRespRejSent

Measurement Name sgwDeleteBearerRespRejSent

Description The total number of GTPv2-C Delete Bearer

Response messages sent to the PGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Response

message is sent to the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-resp-rej-sent

# 2.4.13 sgwUpdateBearerReqReceived

Measurement Name sgwUpdateBearerReqReceived

Description The total number of GTPv2-C Update Bearer

Request messages received from PGW.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Update Bearer Request message

is received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-update-bearer-req-received

# 2.4.14 sgwUpdateBearerRespAccSent

Measurement Name sgwUpdateBearerRespAccSent

Description The total number of GTPv2-C Update Bearer

Response messages sent to the PGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Update Bearer Response

message is sent to the PGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-update-bearer-resp-acc-sent

# 2.4.15 sgwUpdateBearerRespRejSent

Measurement Name sgwUpdateBearerRespRejSent

Description The total number of GTPv2-C Update Bearer

Response messages sent to the PGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Update Bearer Response

message is sent to the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-update-bearer-resp-rej-sent

### 2.4.16 sgwCreateBearerReqReceived

Measurement Name sgwCreateBearerRegReceived

Description The total number of GTPv2-C Create Bearer

Request messages received from the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Bearer Request message

is received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-bearer-req-received

## 2.4.17 sgwCreateBearerRespAccSent

Measurement Name sgwCreateBearerRespAccSent

Description The total number of GTPv2-C Create Bearer

Response messages sent to the PGW with an

acceptence response cause value.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Create Bearer Response

message is sent to the PGW with an acceptence

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-bearer-resp-acc-sent

### 2.4.18 sgwCreateBearerRespRejSent

Measurement Name sgwCreateBearerRespRejSent

Description The total number of GTPv2-C Create Bearer

Response messages sent to the PGW with a

rejection response cause value.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Bearer Response

message is sent to the PGW with a rejection

response cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-create-bearer-resp-rej-sent

### 2.4.19 sgwModifyBearerCmdSent

Measurement Name sgwModifyBearerCmdSent

Description The total number of GTPv2-C Modify Bearer

Command messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw



Increments When a GTPv2-C Modify Bearer Command

message is sent to the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-cmd-sent

## 2.4.20 sgwModifyBearerFailureIndReceived

Measurement Name sgwModifyBearerFailureIndReceived

Description The total number of GTPv2-C Modify Bearer Failure

Indication messages received from the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Failure Indication

message is received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-modify-bearer-failure-ind-received

## 2.4.21 sgwDeleteBearerCmdSent

Measurement Name sgwDeleteBearerCmdSent

Description The total number of GTPv2-C Delete Bearer

Command messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Command

message is sent to the PGW.



Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-cmd-sent

## 2.4.22 sgwDeleteBearerFailureIndReceived

Measurement Name sgwDeleteBearerFailureIndReceived

Description The total number of GTPv2-C Delete Bearer Failure

Indication messages received from the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Delete Bearer Failure Indication

message is received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-delete-bearer-failure-ind-received

## 2.4.23 sgwBearerResourceCmdSent

Measurement Name sgwBearerResourceCmdSent

Description The total number of GTPv2-C Bearer Resource

Command messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Bearer Resource Command

message is sent to the PGW.

Decrements N/A



CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-bearer-resource-cmd-sent

## 2.4.24 sgwBearerResourceFailureIndReceived

Measurement Name sgwBearerResourceFailureIndReceived

Description The total number of GTPv2-C Bearer Resource

Failure Indication messages received from the

PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Bearer Resource Failure

Indication message is received from PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics
Name in CLI Output sgw-bearer-resource-failure-ind-received

### 2.4.25 resumeNotificationSent

Measurement Name resumeNotificationSent

Description The total number of GTPv2-C Resume Notification

messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Resume Notification message

is sent to the PGW.

Decrements N/A



CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output resume-notification-sent

## 2.4.26 suspendNotificationSent

Measurement Name suspendNotificationSent

Description The total number of GTPv2-C Suspend Notification

messages sent to the PGW.

Group sgwGtpTunnelMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Suspend Notification message

is sent to the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output suspend-notification-sent

# 2.5 sgwGtpPathMgmtTowardsMmeSgsn

This counter group includes following counters:

sgwMmeS sgwMmeSgsnEchoResp sgwMmeSgsnEchoRespRejReceived

gsnEchoR AccReceived

eqSent

sgwMmeS sgwMmeSgsnEchoResp sgwMmeSgsnEchoRespRejSent

gsnEchoR AccSent

eqReceive

d

## 2.5.1 sgwMmeSgsnEchoReqSent

Measurement Name sgwMmeSgsnEchoReqSent

Description The total number of GTPv2-C Echo Request

messages sent to the S4-SGSN or the MME.

Group sgwGtpPathMgmtTowardsMmeSgsn



Increments When a GTPv2-C Echo Request message is sent to

the S4-SGSN or the MME.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-req-sent

## 2.5.2 sgwMmeSgsnEchoRespAccReceived

Measurement Name sgwMmeSgsnEchoRespAccReceived

Description The total number of GTPv2-C Echo Response

messages received from the S4-SGSN or the MME

with no cause value included.

Group sgwGtpPathMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Response message is

received from the S4-SGSN or the MME with no

cause value included.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-resp-acc-received

## 2.5.3 sgwMmeSgsnEchoRespRejReceived

Measurement Name sgwMmeSgsnEchoRespRejReceived

Description The total number of GTPv2-C Echo Response

messages received from the S4-SGSN or the MME

with a rejection cause value.

Group sgwGtpPathMgmtTowardsMmeSgsn



Increments When a GTPv2-C Echo Response message is

received from the S4-SGSN or the MME with a

rejection cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-resp-rej-received

## 2.5.4 sgwMmeSgsnEchoReqReceived

Measurement Name sgwMmeSgsnEchoReqReceived

Description The total number of GTPv2-C Echo Request

messages received from the S4-SGSN or the MME.

Group sgwGtpPathMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Request message is

received from the S4-SGSN or the MME.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-req-received

### 2.5.5 sgwMmeSgsnEchoRespAccSent

Measurement Name sgwMmeSgsnEchoRespAccSent

Description The total number of GTPv2-C Echo Response

messages sent to the S4-SGSN or the MME with

no cause value included.

Group sgwGtpPathMgmtTowardsMmeSgsn



Increments When a GTPv2-C Echo Response message is sent

to the S4-SGSN or the MME with no cause value

included.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-resp-acc-sent

## 2.5.6 sgwMmeSgsnEchoRespRejSent

Measurement Name sgwMmeSgsnEchoRespRejSent

Description The total number of GTPv2-C Echo Response

messages sent to the S4-SGSN or the MME with

a rejection cause value.

Group sgwGtpPathMgmtTowardsMmeSgsn

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Response message with a

rejection cause is sent to the S4-SGSN or the MME.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-mme-sgsn-echo-resp-rej-sent

# 2.6 sgwGtpPathMgmtTowardsPgw

This counter group includes following counters:



sgwPgwEc sgwPgwEchoRespAccR sgwPgwEchoRespRejReceived

hoReqSent eceived

sgwPgwEc sgwPgwEchoRespAccS sgwPgwEchoRespRejSent

hoReqRec ent

eived

### 2.6.1 sgwPgwEchoReqSent

Measurement Name sgwPgwEchoReqSent

Description The total number of GTPv2-C Echo Request

messages sent to the PGW.

Group sgwGtpPathMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Request message is sent

to the PGW

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-req-sent

### 2.6.2 sgwPgwEchoRespAccReceived

Measurement Name sgwPgwEchoRespAccReceived

Description The total number of GTPv2-C Echo Response

messages received from the PGW with no cause

value included.

Group sgwGtpPathMgmtTowardsPgw



Increments When a GTPv2-C Echo Response message

is received from the PGW with no cause value

included.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-resp-acc-received

### 2.6.3 sgwPgwEchoRespRejReceived

Measurement Name sgwPgwEchoRespRejReceived

Description The total number of GTPv2-C Echo Response

messages received from the PGW with a rejection

cause value.

Group sgwGtpPathMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Response message is

received from the PGW with a rejection cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-resp-rej-received

### 2.6.4 sgwPgwEchoReqReceived

Measurement Name sgwPgwEchoRegReceived

Description The total number of GTPv2-C Echo Request

messages received from the PGW.

Group sgwGtpPathMgmtTowardsPgw



Increments When a GTPv2-C Echo Request message is

received from the PGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-req-received

### 2.6.5 sgwPgwEchoRespAccSent

Measurement Name sgwPgwEchoRespAccSent

Description The total number of GTPv2-C Echo Response

messages sent to the PGW with no cause value

included.

Group sgwGtpPathMgmtTowardsPgw

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Echo Response message is sent

to the PGW with no cause value included.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-resp-acc-sent

### 2.6.6 sgwPgwEchoRespRejSent

Measurement Name sgwPgwEchoRespRejSent

Description The total number of GTPv2-C Echo Response

messages sent to the PGW with a rejection cause

value.

Group sgwGtpPathMgmtTowardsPgw



Increments When a GTPv2-C Echo Response message is sent

to the PGW with a rejection cause value.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-pgw-echo-resp-rej-sent

# 2.7 sgwGtpOverloadProtection

This counter group includes following counters:

sgwGtpMe sgwGtpCreateMessage

ssageDrop Drops

S

### 2.7.1 sgwGtpMessageDrops

Measurement Name sgwGtpMessageDrops

Description The total number of GTPv2-C Tunneling

Management Messages that have been dropped by the node due to overload situations. When an overload situation occurs this counter is incremented and the message is dropped before the relevant

message counter is incremented.

Group sgwGtpOverloadProtection

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Tunneling Management Message

has been dropped by the node due to an overload

situation.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-gtp-message-drops



### 2.7.2 sgwGtpCreateMessageDrops

Measurement Name sgwGtpCreateMessageDrops

Description The total number of GTPv2-C Create Messages that

have been dropped by the node due to overload situations. When an overload situation occurs this counter is incremented and the message is dropped before the create message counter is incremented.

Group sgwGtpOverloadProtection

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C create Message has been

dropped by the node due to an overload situation.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-gtp-create-message-drops

# 2.8 sgwUplinkTraffic

This counter group includes following counters:

sgwUplink sgwUplinkDroppedBytes gtpIncDataPktS1uS4S12

DroppedP ackets

gtpIncData gtpOutDataPktS5S8 gtpOutDataByteS5S8

ByteS1uS4

S12

gtpDroppe gtpDroppedOutDataPkt

dIncDataP S5S8

ktS1uS4S1

2

## 2.8.1 sgwUplinkDroppedPackets

Measurement Name sgwUplinkDroppedPackets

Description The total number of uplink packets dropped by the

SGW.



Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an uplink packet is dropped by the SGW.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-uplink-dropped-packets

## 2.8.2 sgwUplinkDroppedBytes

Measurement Name sgwUplinkDroppedBytes

Description The total number of uplink bytes dropped by the

SGW.

Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an uplink user plane packet is dropped by the

SGW the bytes are counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-uplink-dropped-bytes

## 2.8.3 gtplncDataPktS1uS4S12

Measurement Name gtpIncDataPktS1uS4S12

Description The total number of incoming user plane packets

handled by the GTP stack on one of the S1, S4 or

S12 interfaces.

Group sgwUplinkTraffic

Type CC



Sub Type SUM **Output Unit** integer Size 64 Status **USED** 

Increments When an incoming user plane packet received

on one of the S1, S4 or S12 interfaces has been

handled by the GTP stack.

**Decrements** N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-inc-data-pkt-s1us4s12

#### 2.8.4 gtplncDataByteS1uS4S12

Measurement Name gtpIncDataByteS1uS4S12

The total number of incoming user plane Bytes Description

handled by the GTP stack on one of the S1, S4 or S12 interfaces. The bytes in the G-PDU is counted

without the GTP header.

Group sgwUplinkTraffic

CC Type Sub Type SUM **Output Unit** integer Size 64 Status **USED** 

Increments When an incoming user plane packet received

on one of the S1, S4 or S12 interfaces has been

handled by the GTP stack, the Bytes are counted.

**Decrements** 

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-inc-data-byte-s1us4s12

#### 2.8.5 gtpOutDataPktS5S8

Measurement Name gtpOutDataPktS5S8

Description The total number of outgoing user plane packets

handled by the GTP stack on the S5 or the S8

interfaces.



Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on the

S5 or the S8 interfaces has been handled by the

GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-out-data-pkt-s5s8

## 2.8.6 gtpOutDataByteS5S8

Measurement Name gtpOutDataByteS5S8

Description The total number of outgoing user plane Bytes

handled by the GTP stack on the S5 or the S8 interfaces. The bytes in the G-PDU is counted

without the GTP header.

Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on the S5

or the S8 interfaces has been handled by the GTP

stack, the Bytes are counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-out-data-byte-s5s8



### 2.8.7 gtpDroppedIncDataPktS1uS4S12

Measurement Name gtpDroppedIncDataPktS1uS4S12

Description The total number of incoming user plane packets

dropped by the GTP stack on one of the S1, S4 or

S12 interfaces.

Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an incoming user plane packet received on

one of the S1, S4 or S12 interfaces is dropped by

the GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-dropped-inc-data-pkt-s1us4s12

## 2.8.8 gtpDroppedOutDataPktS5S8

Measurement Name gtpDroppedOutDataPktS5S8

Description The total number of outgoing user plane packets

dropped by the GTP stack on the S5 or S8

interfaces.

Group sgwUplinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on the S5

or the S8 interfaces is dropped by the GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-dropped-out-data-pkt-s5s8



#### sgwDownlinkTraffic 2.9

This counter group includes following counters:

sgwDownli sgwDownlinkDroppedBy sgwDroppedPacketsBufferOverflow

nkDropped tes

Packets

sgwDropp droppedBytesSuspend droppedPacketsSuspend

edBytesBu fferOverflo

gtpIncData gtpIncDataByteS5S8 gtpOutDataPktS1uS4S12

PktS5S8

gtpDroppedIncDataPktS gtpOutDat gtpDroppedOutDataPktS1uS4S12

aByteS1uS

4S12

#### 2.9.1 sgwDownlinkDroppedPackets

Measurement Name sgwDownlinkDroppedPackets

Description The total number of downlink packets dropped by

the SGW.

Group sgwDownlinkTraffic

CC Type Sub Type SUM **Output Unit** integer Size 64 Status **USED** 

Increments When a downlink user plane packet is dropped by

the SGW.

**Decrements** N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-downlink-dropped-packets

#### 2.9.2 sgwDownlinkDroppedBytes

Measurement Name sgwDownlinkDroppedBytes

The total number of downlink bytes dropped by the Description

SGW.



Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a downlink user plane packet is dropped by

the SGW the bytes are counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-downlink-dropped-bytes

### 2.9.3 sgwDroppedPacketsBufferOverflow

Measurement Name sgwDroppedPacketsBufferOverflow

Description The total number of downlink packets dropped by

the SGW due to overflow of the buffer.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a downlink user plane packet is dropped by

the SGW due to buffer overflow.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-dropped-packets-buffer-overflow

### 2.9.4 sqwDroppedBytesBufferOverflow

Measurement Name sgwDroppedBytesBufferOverflow

Description The total number of downlink bytes dropped by the

SGW due to overflow of the buffer.

Group sgwDownlinkTraffic

Type CC



Increments When a downlink user plane packet is dropped

by the SGW due to buffer overflow, the bytes are

counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-dropped-bytes-buffer-overflow

## 2.9.5 droppedBytesSuspend

Measurement Name droppedBytesSuspend

Description The total number of downlink bytes dropped by the

SGW due to suspension.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a downlink user plane packet is dropped

by the SGW due to UE suspension, the bytes are

counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output dropped-bytes-suspend

## 2.9.6 droppedPacketsSuspend

Measurement Name droppedPacketsSuspend

Description The total number of downlink packets dropped by

the SGW due to suspension.

Group sgwDownlinkTraffic

Type CC



Increments When a downlink user plane packet is dropped by

the SGW due to UE suspension.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output dropped-packets-suspend

## 2.9.7 gtplncDataPktS5S8

Measurement Name gtpIncDataPktS5S8

Description The total number of incoming user plane packets

handled by the GTP stack on the S5 or the S8

interfaces.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an incoming user plane packet received on

the S5 or the S8 interfaces has been handled by

the GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-inc-data-pkt-s5s8

### 2.9.8 gtplncDataByteS5S8

Measurement Name gtpIncDataByteS5S8

Description The total number of incoming user plane Bytes

handled by the GTP stack on the S5 or the S8 interfaces. The bytes in the G-PDU is counted

without the GTP header.

Group sgwDownlinkTraffic



Increments When an incoming user plane packet received on

the S5 or the S8 interfaces has been handled by the

GTP stack, the Bytes are counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-inc-data-byte-s5s8

## 2.9.9 gtpOutDataPktS1uS4S12

Measurement Name gtpOutDataPktS1uS4S12

Description The total number of outgoing user plane packets

handled by the GTP stack on one of the S1, S4 or

S12 interfaces.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on one

of the S1, S4 or S12 interfaces has been handled

by the GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-out-data-pkt-s1us4s12



### 2.9.10 gtpOutDataByteS1uS4S12

Measurement Name gtpOutDataByteS1uS4S12

Description The total number of outgoing user plane Bytes

handled by the GTP stack on one of the S1, S4 or S12 interfaces. The bytes in the G-PDU is counted

without the GTP header.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on one of

the S1, S4 or S12 interfaces has been handled by

the GTP stack, the Bytes are counted.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-out-data-byte-s1us4s12

### 2.9.11 gtpDroppedIncDataPktS5S8

Measurement Name gtpDroppedIncDataPktS5S8

Description The total number of incoming user plane packets

dropped by the GTP stack on the S5 or S8

interfaces.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an incoming user plane packet received on

the S5 or the S8 interfaces is dropped by the GTP

stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-dropped-inc-data-pkt-s5s8



## 2.9.12 gtpDroppedOutDataPktS1uS4S12

Measurement Name gtpDroppedOutDataPktS1uS4S12

Description The total number of outgoing user plane packets

dropped by the GTP stack on one of the S1, S4 or

S12 interfaces.

Group sgwDownlinkTraffic

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an outgoing user plane packet sent on one

of the S1, S4 or S12 interfaces is dropped by the

GTP stack.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output gtp-dropped-out-data-pkt-s1us4s12

# 2.10 sgwEbm

This counter group includes following counters:

sgwEbmEv sgwEbmBytes

ents

### 2.10.1 sgwEbmEvents

Measurement Name sgwEbmEvents

Description The total number of sgw events transmitted over the

ebm streaming interface.

Group sgwEbm



When a Sgw Ebm event is transmitted over the Increments

ebm streaming interface, the number of events is

counted.

**Decrements** N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-ebm-events

#### 2.10.2 sgwEbmBytes

Measurement Name sgwEbmBytes

Description The total number of sgw event bytes transmitted

over the ebm streaming interface.

Group sgwEbm

CC Type Sub Type SUM **Output Unit** integer 64 Size Status **USED** 

Increments When a Sgw Ebm event is transmitted over the ebm

streaming interface the bytes are counted.

**Decrements** N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-ebm-bytes

#### 2.11 sgwGtpErrorStats

This counter group includes following counters:

sgwGtpErr orResourc esUnavaila ble

#### 2.11.1 sgwGtpErrorResourcesUnavailable

Measurement Name sgwGtpErrorResourcesUnavailable

Description The number of GTP resources unavailable errors

sent by the SGW.



Group sgwGtpErrorStats

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C message is rejected with the

cause No Resources Available.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output sgw-gtp-error-no-resources

# 2.12 offlineCharging

This counter group includes following counters:

rfAcctReqSent

rfAcctReq WrittenTo Disk

rfAcctAnsw erAccRec rfAcctAnswerRejRec

## 2.12.1 rfAcctReqWrittenToDisk

Measurement Name rfAcctReqWrittenToDisk

Description The total number of Accounting Requests written

to disk by the SGW.

Group offlineCharging

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an Accounting Request message is written

to disk by the SGW.

Decrements N/A



CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output rf-acct-req-written-to-disk

## 2.12.2 rfAcctReqSent

Measurement Name rfAcctReqSent

Description The total number of Accounting Requests sent by

the SGW over the Rf interface.

Group offlineCharging

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an Accounting Request message is sent by

the SGW over the Rf interface.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output rf-acct-req-sent

### 2.12.3 rfAcctAnswerRejRec

Measurement Name rfAcctAnswerRejRec

Description The total number of Accounting Answers received

by the SGW over the Rf interface without result code

DIAMETER\_SUCCESS, or with syntax errors.

Group offlineCharging

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an Accounting Answer message is recieved

by the SGW over the Rf interface without result code

DIAMETER\_SUCCESS, or with syntax errors.

Decrements N/A



CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output rf-acct-answer-rej-rec

### 2.12.4 rfAcctAnswerAccRec

Measurement Name rfAcctAnswerAccRec

Description The total number of Accounting Answers received

by the SGW over the Rf interface with result code

DIAMETER\_SUCCESS.

Group offlineCharging

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When an Accounting Answer message is recieved

by the SGW over the Rf interface with result code

DIAMETER\_SUCCESS.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output rf-acct-answer-acc-rec

# 2.13 highAvailability

This counter group includes following counters:

icrCreateS icrCreateSessionSyncR icrDeleteSessionSyncSent

essionSyn eceived

cSent

icrDeleteS essionSyn cReceived

### 2.13.1 icrCreateSessionSyncSent

Measurement Name icrCreateSessionSyncSent

Description The total number of create session synchronization

messages sent over the ICR synchronization

channel.



Group highAvailability

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a create session synchronization message is

sent over the ICR synchronization channel

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output icr-create-session-sync-sent

### 2.13.2 icrCreateSessionSyncReceived

Measurement Name icrCreateSessionSyncReceived

Description The total number of create session synchronization

messages received over the ICR synchronization

channel.

Group highAvailability

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a create session synchronization message is

received over the ICR synchronization channel

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output icr-create-session-sync-received

### 2.13.3 icrDeleteSessionSyncSent

Measurement Name icrDeleteSessionSyncSent

Description The total number of delete session synchronization

messages sent over the ICR synchronization

channel.



Group highAvailability

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a delete session synchronization message is

sent over the ICR synchronization channel

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output icr-delete-session-sync-sent

## 2.13.4 icrDeleteSessionSyncReceived

Measurement Name icrDeleteSessionSyncReceived

Description The total number of delete session synchronization

messages received over the ICR synchronization

channel.

Group highAvailability

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a delete session synchronization message is

received over the ICR synchronization channel

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output icr-delete-session-sync-received

## 2.14 handover

This counter group includes following counters:

attempted completedPdnHoFromN

PdnHoFro on3gpp

mNon3gpp



## 2.14.1 attemptedPdnHoFromNon3gpp

Measurement Name attemptedPdnHoFromNon3gpp

Description Total number of PDN Connection IRAT handover

attempts from non-3GPP to 3GPP.

Group handover

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Create Session Request message

with the Handover Indicator flag set is received.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output attempted-pdn-ho-from-non-3gpp

### 2.14.2 completedPdnHoFromNon3gpp

Measurement Name completedPdnHoFromNon3gpp

Description Total number of successful PDN Connection IRAT

handover procedures from non-3GPP to 3GPP.

Group handover

Type CC
Sub Type SUM
Output Unit integer
Size 64
Status USED

Increments When a GTPv2-C Modify Bearer Response

message with an acceptance response cause value is sent as a result of a successful PDN Connection IRAT handover procedure from non-3GPP to 3GPP.

Decrements N/A

CLI ManagedElement=1,Epg=1,Sgw=1,statistics

Name in CLI Output completed-pdn-ho-from-non-3gpp