

MobileNext Broadband Gateway

Performance and Fault Monitoring with SNMP

Release

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MobileNext Broadband Gateway Performance and Fault Monitoring with SNMP

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Documentation and Release Notes

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

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Supported Platforms

For the features described in this document, the following platforms are supported:

- MX240 Routers
- MX960 Routers
- MX480 Routers

Documentation Conventions

Table 1 on page x defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2 on page x defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure
Fixed-width text like this	Represents output that appears on the terminal screen.	user@host> show chassis alarms No alarms currently active
<i>Italic text like this</i>	<ul style="list-style-type: none"> Introduces important new terms. Identifies book names. Identifies RFC and Internet draft titles. 	<ul style="list-style-type: none"> A policy <i>term</i> is a named structure that defines match conditions and actions. <i>Junos OS System Basics Configuration Guide</i> RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i>
Text like this	Represents names of configuration statements, commands, files, and directories; interface names; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none"> To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level. The console port is labeled CONSOLE.
< > (angle brackets)	Enclose optional keywords or variables.	stub <default-metric <i>metric</i> >;

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	broadcast multicast (<i>string1</i> <i>string2</i> <i>string3</i>)
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	rsvp { # Required for dynamic MPLS only
[] (square brackets)	Enclose a variable for which you can substitute one or more values.	community name members [community-ids]
Indentation and braces ({ })	Identify a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop <i>address</i> ; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
J-Web GUI Conventions		
Bold text like this	Represents J-Web graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none"> In the Logical Interfaces box, select All Interfaces. To cancel the configuration, click Cancel.
> (bold right angle bracket)	Separates levels in a hierarchy of J-Web selections.	In the configuration editor hierarchy, select Protocols>Ospf .

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release version (if applicable)

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract,

or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf> .
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/> .
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

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- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/> .
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html> .

CHAPTER 1

Overview

- [Performance and Fault Management Overview on page 13](#)
- [Mobile-Edge Gateway MIB on page 13](#)

Performance and Fault Management Overview

This document is a reference for operators, open source software, or network management system tool companies wanting to build applications or tools for monitoring performance and faults on the MobileNext Broadband Gateway configured as a Gateway GPRS Support Node (GGSN) in the 3GPP 3G Network, and Packet Data Networks Gateway (P-GW) or Serving Gateway (S-GW) in the 3GPP LTE network. The base performance statistics are collected from the devices using Simple Network Management Protocol (SNMP), while notifications are sent by the device for faults or events alarms using SNMP traps. A management information base (MIB) is a hierarchy of information used to define managed objects in a network device. The MIB structure is based on a tree structure, which defines a grouping of objects into related sets. Each object in the MIB is associated with an object identifier (OID), which names the object. The “leaf” in the tree structure is the actual managed object instance, which represents a resource, event, or activity that occurs in your network device.

Routers can send notifications to SNMP managers when significant events occur on a network device, most often errors or failures. SNMP notifications can be sent as traps or inform requests. SNMP traps are unconfirmed notifications. SNMP informs are confirmed notifications.

This document provides details of the SNMP MIBs and notifications that the broadband gateway supports, and provides a description of the relevant MIB objects which you can use for performance management and fault management monitoring.

Mobile-Edge Gateway MIB

The mobile gateways (**jnxMobileGateways**) MIB is a table that lists all the gateways configured on the MobileNext Broadband Gateway chassis. For each gateway configured on the chassis, the **jnxMobileGateways** table specifies the mobile gateway name and gateway type (P-GW or S-GW).

PART 1

Performance Management

- [PDN Gateway Statistics on page 17](#)
- [Serving Gateway Statistics on page 89](#)

CHAPTER 2

PDN Gateway Statistics

- [Authentication, Authorization, and Accounting Services Performance Statistics for GGSN/P-GW on page 17](#)
- [Charging Performance Statistics for GGSN/P-GW on page 22](#)
- [GTP Performance Statistics for GGSN/P-GW on page 25](#)
- [IP Address Pool Performance Statistics for GGSN/P-GW on page 80](#)
- [Resource Manager Performance Statistics for the GGSN/P-GW on page 81](#)
- [Subscriber Manager Performance Statistics for GGSN/P-GW on page 82](#)

Authentication, Authorization, and Accounting Services Performance Statistics for GGSN/P-GW

The MobileNext Broadband Gateway supports a framework for providing authentication, authorization, and accounting (AAA) services to mobile subscribers. The broadband gateway uses groups of external RADIUS servers to provide authentication (verifying a subscriber's username and password), authorization (receiving information about the types of services to deliver to the subscriber), and accounting (accumulating and providing statistics about services delivered to the subscriber).

- [AAA MIB Structure on page 17](#)
- [AAA Authentication Counters Statistics on page 18](#)
- [AAA Dynamic Request Counters on page 18](#)
- [Radius Server Used for Authentication on page 19](#)
- [AAA RADIUS Servers Used for Accounting on page 20](#)
- [AAA Dynamic Authorization Requests on page 21](#)

AAA MIB Structure

The root of the MobileNext Broadband Gateway MIB within the Juniper Networks MIB is defined as **jnxMobileGatewayMibRoot**. All the MobileNext Broadband Gateway MIBs are defined below this as a hierarchy based on software modules.

The root node for the module is **jnxMobileGatewayPgwAAAMib**, which is a child of **jnxMobileGatewayMibRoot**. The **jnxMobileGatewayMibRoot** is defined in the Juniper-SMI.

AAA Authentication Counters Statistics

Table 3 on page 18 shows the leaf nodes of the type `jnxMbgAAAAuthStatsTable`, which are indexed by each gateway. The statistics for authentication requests and responses are specific to each gateway.

Table 3: jnxMbgAAAAuthStatsTable Statistics

Name	Description
<code>jnxMbgTtlAuthRequests</code>	Total authentication requests made.
<code>jnxMbgTtlAuthAccepts</code>	Total authentication requests that were accepted.
<code>jnxMbgTtlAuthRejects</code>	Total authentication requests that were rejected.
<code>jnxMbgTtlAuthChallenges</code>	Total authentication challenges received.
<code>jnxMbgTtlAuthRequestTimeouts</code>	Total authentication requests that timed out.
<code>jnxMbgTtlAuthRequestTxErrors</code>	Total authentication requests transmit errors.
<code>jnxMbgTtlAuthResponseErrors</code>	Total authentication response errors.
<code>jnxMbgTtlAuthPendingRequests</code>	Total pending authentication requests.

AAA Dynamic Request Counters

Table 4 on page 18 shows the leaf nodes of the type `jnxMbgAAADynAuthStatsTable`, which are indexed by each gateway. The statistics for dynamic authentication requests are specific to each gateway.

Table 4: jnxMbgAAADynAuthStatsTable Statistics

Name	Description
<code>jnxMbgTtlDynAuthReceived</code>	Total dyn-req received.
<code>jnxMbgTtlDynAuthCoaReceived</code>	Total CoA received.
<code>jnxMbgTtlDynAuthDmReceived</code>	Total DM received.
<code>jnxMbgTtlDynAuthCoaAckSent</code>	Total CoA Ack sent.
<code>jnxMbgTtlDynAuthCoaNackSent</code>	Total CoA Nack sent.
<code>jnxMbgTtlDynAuthDmAckSent</code>	Total DM Ack sent.
<code>jnxMbgTtlDynAuthDmNackSent</code>	Total DM Nack sent.
<code>jnxMbgTtlDynAuthDropped</code>	Total dyn-req that were dropped.

Table 4: jnxMbgAAADynAuthStatsTable Statistics (*continued*)

jnxMbgTtlDynAuthDuplicate	Total duplicate dyn-req detected.
jnxMbgTtlDynAuthForwarded	Total dyn-req forwarded to the anchor instance.
jnxMbgTtlDynAuthTimeouts	Total dyn-req timed out.
jnxMbgTtlDynAuthDelivered	Total dyn-req that were delivered to the application.
jnxMbgTtlDynAuthErrors	Total dyn-req that had errors during processing.
jnxMbgTtlDynAuthUnknownClnts	Total dyn-req received from unknown clients.
jnxMbgTtlDynAuthInvalidCode	Total dyn-req received with invalid RADIUS code.
jnxMbgTtlDynAuthInvalidAuth	Total dyn-req received with invalid RADIUS authenticator.
jnxMbgTtlDynAuthInvalidChId	Total dyn-req received with invalid or missing Charging ID.
jnxMbgTtlDynAuthMapErrors	Total dyn-req that had session mapping errors during processing.
jnxMbgTtlDynAuthInvalidTrId	Total dyn-req with invalid transaction ID during processing.

Radius Server Used for Authentication

Table 5 on page 19 shows the leaf nodes of the type **jnxMbgRadiusAuthSrvrTable**, which are indexed by RADIUS authentication server. The RADIUS authentication server status and statistics are specific to each RADIUS authentication server on the gateway.

Table 5: jnxMbgRadiusAuthSrvrTable Statistics

Name	Description
jnxMbgRadiusAuthSrvrName	A name that uniquely identifies this server on the mobile gateway.
jnxMbgRadiusAuthSrvrInetAddrType	The type of IP address used for this server.
jnxMbgRadiusAuthSrvrInetAddress	The IP address used for this server.
jnxMbgRadiusAuthSrvrInetPort	The UDP port number on the server to which authentication requests are sent.
jnxMbgRadiusAuthSrvrRtngInstance	The routing-instance used while contacting this server. If not configured, the default routing-instance will be used.
jnxMbgRadiusAuthSrvrStatus	The current status of the server.
jnxMbgRadiusAuthSrvrRequests	Number of access-requests that have been sent to this server.
jnxMbgRadiusAuthSrvrRetrans	Number of access-requests that have been retransmitted this server.

Table 5: jnxMbgRadiusAuthSvrTable Statistics (*continued*)

jnxMbgRadiusAuthSvrAccepts	Number of access-accepts that have been received from this server.
jnxMbgRadiusAuthSvrRejects	Number of access-rejects that have been received from this server.
jnxMbgRadiusAuthSvrChallenges	Number of access-challenges that have been received from this server.
jnxMbgRadiusAuthSvrMalformResp	Number of malformed responses have been received from this server. A response could either accept, reject or challenge.
jnxMbgRadiusAuthSvrBadAuthen	Number of responses with invalid authenticators received from this server. A response could either accept, reject or challenge.
jnxMbgRadiusAuthSvrPendingRqsts	Number of requests to this server pending authentication.
jnxMbgRadiusAuthSvrTimeouts	Number of requests to this server that timed out.
jnxMbgRadiusAuthSvrUnknownTypes	Number of responses received from this RADIUS server with unknown types.
jnxMbgRadiusAuthSvrPacketsDrop	Number of responses received from this RADIUS server that were dropped for some other reason.
jnxMbgRadiusAuthSvrRTTAvg	Average round-trip time (in ms) for this server.
jnxMbgRadiusAuthSvrRTTMin	Minimum round-trip time (in ms) seen for this server.
jnxMbgRadiusAuthSvrRTTMax	Maximum round-trip time (in ms) seen for this server.

AAA RADIUS Servers Used for Accounting

Table 6 on page 20 shows the leaf nodes of the type **jnxMbgRadiusAcctSvrTable**, which are indexed by RADIUS accounting server. The RADIUS accounting server status and statistics are specific to each RADIUS Accounting server on the gateway.

Table 6: jnxMbgRadiusAcctSvrTable Statistics

Name	Description
jnxMbgRadiusAcctSvrName	A name that uniquely identifies this server on the mobile gateway.
jnxMbgRadiusAcctSvrInetAddrType	The type of IP address used for this server.
jnxMbgRadiusAcctSvrInetAddress	The IP address used for this server.
jnxMbgRadiusAcctSvrInetPort	The UDP port number on the server to which accounting requests are sent.
jnxMbgRadiusAcctSvrRtngInstance	The routing-instance used while contacting this server. If not configured, the default routing-instance will be used.
jnxMbgRadiusAcctSvrStatus	The current status of the server.

Table 6: jnxMbgRadiusAcctSvrTable Statistics (*continued*)

jnxMbgRadiusAcctSvrRequests	Number of accounting-requests that have been sent to this server.
jnxMbgRadiusAcctSvrRetrans	Number of accounting-requests that have been retransmitted this server.
jnxMbgRadiusAcctSvrResp	Number of accounting-responses that have been received from this server.
jnxMbgRadiusAcctSvrMalformResp	Number of malformed responses have been received from this server.
jnxMbgRadiusAcctSvrBadAuthen	Number of responses with invalid authenticators received from this server.
jnxMbgRadiusAcctSvrPendingRqsts	Number of requests to this server which are yet to be sent or waiting for response.
jnxMbgRadiusAcctSvrTimeouts	Number of requests to this server that timed out.
jnxMbgRadiusAcctSvrUnknownTypes	Number of responses received from this RADIUS server with unknown types.
jnxMbgRadiusAcctSvrPacketsDrop	Number of responses received from this RADIUS server that were dropped for some other reason.
jnxMbgRadiusAcctSvrRTTAvg	Average round-trip time (in ms) for this server.
jnxMbgRadiusAcctSvrRTTMin	Minimum round-trip time (in ms) seen for this server.
jnxMbgRadiusAcctSvrRTTMax	Maximum round-trip time (in ms) seen for this server.

AAA Dynamic Authorization Requests

Table 7 on page 21 shows the leaf nodes of the type **jnxMbgDynAuthClntTable**, which are indexed by RADIUS client. The dynamic authorization status and statistics are specific to each RADIUS client sending dynamic authorization requests on the gateway.

Table 7: jnxMbgDynAuthClntTable Statistics

Name	Description
jnxMbgDynAuthClntName	A name that uniquely identifies this client on the mobile gateway.
jnxMbgDynAuthClntInAddrType	The type of IP address used for this client.
jnxMbgDynAuthClntInetAddress	The IP address of this client.
jnxMbgDynAuthClntCoaReceived	CoA requests received from this client.
jnxMbgDynAuthClntDmReceived	DM requests received from this client.
jnxMbgDynAuthClntCoaAckSent	CoA Ack responses sent to this client.
jnxMbgDynAuthClntCoaNackSent	CoA Nack responses sent to this client.

Table 7: jnxMbgDynAuthClntTable Statistics (*continued*)

jnxMbgDynAuthClntDmAckSent	DM Ack responses sent to this client.
jnxMbgDynAuthClntDmNackSent	DM Nack responses sent to this client.
jnxMbgDynAuthClntDropped	Requests received from this server that were dropped.
jnxMbgDynAuthClntDuplicate	Duplicate requests received from this client.
jnxMbgDynAuthClntForwarded	Requests received from this client that were forwarded to the anchor instance.
jnxMbgDynAuthClntTimeouts	Requests received from this client that timed out.
jnxMbgDynAuthClntDelivered	Requests received from this client that were delivered to the application.
jnxMbgDynAuthClntErrors	Requests received from this client that had errors during processing.
jnxMbgDynAuthClntInvalidAuth	Requests received from this client with invalid RADIUS authenticator.
jnxMbgDynAuthClntInvalidCode	Requests received from this client with invalid RADIUS code.
jnxMbgDynAuthClntInvalidChld	Requests received from this client with invalid or missing Charging ID.
jnxMbgDynAuthClntMapErrors	Requests received from this client that had session mapping errors during processing.

Charging Performance Statistics for GGSN/P-GW

Customers must pay for the services they use. In the 3rd Generation Partnership Project (3GPP), there are three distinct processes that translate service use into a bill for services. These processes are charging, rating, and billing. Charging gathers statistics about service usage for each customer. Rating is the process that determines how much each service costs each particular customer, based on the services contracted or tariffed. Billing is the process that generates the customer's invoice for services.

- [Charging MIB Structure on page 22](#)
- [Charging Local Storage Statistics on page 23](#)
- [Charging Gateway Function Groups Statistics on page 23](#)
- [Charging Gateway Functions Statistics on page 24](#)
- [Charging Gateway Global Statistics on page 25](#)

Charging MIB Structure

The root node for the module is **jnxMbgPgwChargingMib**, which is a child of **jnxMobileGatewayPgwGgsn**. **jnxMbgPgwChargingMib** is Juniper Networks implementation of Mobility Charging MIB for the P-GW in 3GPP LTE network and the Gateway GPRS

Support Node (GGSN) in the 3GPP 3G Network. The `jnxMobileGatewayPgwGgsn` is defined in Juniper-SMI.

Charging Local Storage Statistics

[Table 8 on page 23](#) shows the leaf nodes of the type `jnxMbgPgwCgLpsStatsTable`, which list statistics for all local persistent storage statistics configured on the P-GW.

Table 8: jnxMbgPgwCgLpsStatsTable Statistics

Name	Description
<code>jnxMbgPgwCgLpsFilesOnLcStorage</code>	The number of files containing Charging Data Records (CDRs) present on the local storage device. Incremented when a file containing CDRs is closed on the local storage device. Decrementd when SFTP is done and a file is removed from the local storage device.
<code>jnxMbgPgwCgLpsStorageAvailSpace</code>	The space available on the local storage device in Megabytes (MB).

Charging Gateway Function Groups Statistics

[Table 9 on page 23](#) shows the leaf nodes of the type `jnxMbgPgwCgTspStatsTable`, which list the statistics for all charging gateway function groups configured on the P-GW.

Table 9: jnxMbgPgwCgTspStatsTable Statistics

Name	Description
<code>jnxMbgPgwCgTspProfId</code>	Identifies the CGF Group profile ID uniquely and is used as a secondary key for the CGF group table.
<code>jnxMbgPgwCgTspDRTReqTx</code>	Total number of DRT (Detailed Record Time) requests transmitted for the CGF group.
<code>jnxMbgPgwCgTspDRTReqTmout</code>	Total number of DRT request timeouts for the CGF group.
<code>jnxMbgPgwCgTspDRTSucRspRx</code>	Total number of DRT success responses received.
<code>jnxMbgPgwCgTspDRTErrRspRx</code>	Total number of DRT error responses received for the CGF group.
<code>jnxMbgPgwCgTspRediReqRx</code>	Total number of redirection responses received for the CGF group.
<code>jnxMbgPgwCgTspRediRspTx</code>	Total number of redirection responses transmitted for the CGF group.
<code>jnxMbgPgwCgTspSwitchovers</code>	Total number of switchovers on the CGF group.
<code>jnxMbgPgwCgTspBatchReqTx</code>	Total number of batch requests transmitted for the CGF group.
<code>jnxMbgPgwCgTspBatchRspErrors</code>	Total number of batch response errors for the CGF group.
<code>jnxMbgPgwCgTspBatchCDRsTx</code>	Total number of the batch CDRs transmitted for the CGF group.
<code>jnxMbgPgwCgTspTotalWFA</code>	Total WFA available for the CGF group.

Table 9: jnxMbgPgwCgTspStatsTable Statistics (*continued*)

jnxMbgPgwCgTspProfName	A string that uniquely identifies the TSP profile.
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Charging Gateway Functions Statistics

Table 10 on page 24 shows the leaf nodes of the type **jnxMbgPgwCgPeerStatsTable**, which list statistics for all charging gateway functions configured on the P-GW.

Table 10: jnxMbgPgwCgPeerStatsTable Statistics

Name	Description
jnxMbgPgwCgPeerIndex	A number representing each CGF server whose statistics is being generated.
jnxMbgPgwCgPeerIpAddress	CGF server IP address.
jnxMbgPgwCgPeerStatus	The state of the CGF server, for example, UP or DOWN.
jnxMbgPgwCgPeerEchoReqTx	Total number of echo requests transmitted to the CGF server.
jnxMbgPgwCgPeerEchoReqRx	Total number of echo requests received from the CGF server.
jnxMbgPgwCgPeerEchoReqTmout	Total number of echo requests to the CGF server that timed out.
jnxMbgPgwCgPeerEchoRespTx	Total number of echo responses transmitted to the CGF server.
jnxMbgPgwCgPeerEchoRespRx	Total number of echo responses received from the CGF server.
jnxMbgPgwCgPeerVerUnsuppTx	Total number of version unsupported messages transmitted to the CGF server.
jnxMbgPgwCgPeerVerUnsuppRx	Total number of version unsupported messages received from the CGF server.
jnxMbgPgwCgPeerNodeAliveReqRx	Total number of node alive requests received from the CGF server.
jnxMbgPgwCgPeerNodeAliveRespTx	Total number of node alive responses transmitted to the CGF server.
jnxMbgPgwCgPeerRedirectReqRx	Total number of redirect requests received from the CGF server.
jnxMbgPgwCgPeerRedirectRespTx	Total number of redirect responses transmitted to the CGF server.
jnxMbgPgwCgPeerDRTReqTx	Total number of data record transfer requests transmitted to the CGF server. This includes the retransmission counts.
jnxMbgPgwCgPeerDRTSuccRespRx	Total number of data record transfer responses indicating success received from the CGF server.
jnxMbgPgwCgPeerDRTErrRespRx	Total number of data record transfer responses indicating error received from the CGF server.

Table 10: jnxMbgPgwCgPeerStatsTable Statistics (*continued*)

jnxMbgPgwCgPeerProfileName	A string that uniquely identifies the CGF peer profile.
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Charging Gateway Global Statistics

Table 11 on page 25 shows the leaf nodes of the type **jnxMbgPgwCgGlobalStatsTable**, which lists all global statistics for charging gateway functions configured on the P-GW.

Table 11: jnxMbgPgwCgGlobalStatsTable Statistics

Name	Description
jnxMbgPgwCgCdrSendErrors	Total number of CDR send errors to charging module.
jnxMbgPgwCgCdrEncodeErrors	Total number of CDR (charging data record) encoding errors.
jnxMbgPgwCgCdrAllocFailures	Total number of CDR memory allocation failures.
jnxMbgPgwCgContFailures	Total number of container failures.
jnxMbgPgwCgCmBearersCreated	Total number bearers created.
jnxMbgPgwCgCmBearersDeleted	Total number of bearers deleted.

GTP Performance Statistics for GGSN/P-GW

GPRS Tunneling Protocol (GTP) is the primary protocol used in a General packet radio service (GPRS) core network and allows users in a 3G or 4G network to move from one location to another while remaining connected to the Internet. The GTP protocol is used to carry signaling and bearer data from a Serving GPRS Support Node (SGSN) or Serving Gateway (S-GW) to a GGSN Gateway GPRS Support Node (GGSN) or PDN Gateway (P-GW) across well-defined 3GPP service interfaces such as Gn and S5.

- [GTP MIB Structure on page 26](#)
- [GTP Peer Statistics on page 26](#)
- [GTP Peer Version 2 Operational Statistics on page 26](#)
- [GTP Peer Version 2 Success or Failure Statistics on page 30](#)
- [GTP Interface Statistics on page 35](#)
- [GTP Peer Version 1 Operational Statistics on page 53](#)
- [GTP Peer Version 1 Success or Failure Statistics on page 55](#)
- [GTP Peer Version 0 Operational Statistics on page 58](#)
- [GTP Peer Version 0 Success or Failure Statistics on page 60](#)
- [GTP Global Version 2 Operational Statistics on page 62](#)
- [GTP Global Version 2 Success or Failure Statistics on page 66](#)
- [GTP Global Version 1 Operational Statistics on page 71](#)

- [GTP Global Version 1 Success or Failure Statistics on page 73](#)
- [GTP Global Version 0 Operational Statistics on page 76](#)
- [GTP Global V0 Success or Failure Statistics on page 78](#)

GTP MIB Structure

The root node for the module is **jnxMbgPgwGtpMib** which is a child of **jnxMobileGatewayPgwGgsn**. The **jnxMobileGatewayPgwGgsn** is defined in Juniper-SMI.

GTP Peer Statistics

[Table 12 on page 26](#) shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**.

Table 12: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPGtpRmtAddr	Obsolete. The remote IP address of this GTP entry.
jnxMbgPgwPPGtpLclAddr	The local IP address of this GTP entry.
jnxMbgPgwPPGtpRtgInst	The routing instance for this Peer.

GTP Peer Version 2 Operational Statistics

[Table 13 on page 26](#) shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP Peer version 2 operational statistics.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPRxPacketsDropped	Number of received GTP packets dropped.
jnxMbgPgwPPPacketAllocFail	Number of packet allocation failures.
jnxMbgPgwPPPacketSendFail	Number of packet send failures.
jnxMbgPgwPPIPVerErrRx	Number of IP version error packets received.
jnxMbgPgwPPIPProtoErrRx	Number of IP protocol error packets received.
jnxMbgPgwPPGTPPortErrRx	Number of port error packets received.
jnxMbgPgwPPGTPUnknVerRx	Number of unknown version packets received.
jnxMbgPgwPPPcktLenErrRx	Number of packet length error packets received.
jnxMbgPgwPPUnknMsgRx	Number of unknown messages received.
jnxMbgPgwPPPProtocolErrRx	Number of GTP V2 protocol errors received.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2UnSupportedMsgRx	Number of GTP V2 unsupported messages received.
jnxMbgPgwPPV2T3RespTmrExpRx	Number of GTP V2 number of T3 timer expiries received.
jnxMbgPgwPPV2GlbNumMsgRx	Number of GTP V2 messages received.
jnxMbgPgwPPV2GlbNumMsgTx	Number of GTP V2 messages sent.
jnxMbgPgwPPV2GlbNumBytesRx	Number of GTP V2 bytes received.
jnxMbgPgwPPV2GlbNumBytesTx	Number of GTP V2 bytes sent.
jnxMbgPgwPPV2GlbEchoReqRx	Number of GTP V2 echo requests received.
jnxMbgPgwPPV2GlbEchoReqTx	Number of GTP V2 echo requests sent.
jnxMbgPgwPPV2GlbEchoRespRx	Number of GTP V2 echo responses received.
jnxMbgPgwPPV2GlbEchoRespTx	Number of GTP V2 echo responses sent.
jnxMbgPgwPPV2VerNotSupRx	Number of GTP V2 version not supported messages received.
jnxMbgPgwPPV2VerNotSupTx	Number of GTP V2 version not supported messages sent.
jnxMbgPgwPPV2CreateSessReqRx	Number of GTP V2 create session requests received.
jnxMbgPgwPPV2CreateSessReqTx	Number of GTP V2 create session requests sent.
jnxMbgPgwPPV2CreateSessRspRx	Number of GTP V2 create session responses received.
jnxMbgPgwPPV2CreateSessRspTx	Number of GTP V2 create session responses sent.
jnxMbgPgwPPV2ModBrReqRx	Number of GTP V2 modify bearer requests received.
jnxMbgPgwPPV2ModBrReqTx	Number of GTP V2 modify bearer requests sent.
jnxMbgPgwPPV2ModBrRspRx	Number of GTP V2 modify bearer responses received.
jnxMbgPgwPPV2ModBrRspTx	Number of GTP V2 modify bearer responses sent.
jnxMbgPgwPPV2DelSessReqRx	Number of GTP V2 delete session requests received.
jnxMbgPgwPPV2DelSessReqTx	Number of GTP V2 delete session requests sent.
jnxMbgPgwPPV2DelSessRspRx	Number of GTP V2 delete session responses received.
jnxMbgPgwPPV2DelSessRspTx	Number of GTP V2 delete session responses sent.
jnxMbgPgwPPV2CrtBrReqRx	Number of GTP V2 create bearer requests received.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2CrtBrReqTx	Number of GTP V2 create bearer requests sent.
jnxMbgPgwPPV2CrtBrRespRx	Number of GTP V2 create bearer responses received.
jnxMbgPgwPPV2CrtBrRespTx	Number of GTP V2 create bearer responses sent.
jnxMbgPgwPPV2UpdBrReqRx	Number of GTP V2 update bearer responses received.
jnxMbgPgwPPV2UpdBrReqTx	Number of GTP V2 update bearer responses sent.
jnxMbgPgwPPV2UpdBrRespRx	Number of GTP V2 update bearer responses received.
jnxMbgPgwPPV2UpdBrRespTx	Number of GTP V2 update bearer responses sent.
jnxMbgPgwPPV2DelBrReqRx	Number of GTP V2 delete bearer requests received.
jnxMbgPgwPPV2DelBrReqTx	Number of GTP V2 delete bearer requests sent.
jnxMbgPgwPPV2DelBrRespRx	Number of GTP V2 delete bearer responses received.
jnxMbgPgwPPV2DelBrRespTx	Number of GTP V2 delete bearer responses sent.
jnxMbgPgwPPV2DelConnSetReqRx	GTP V2 delete PDN connection set requests received.
jnxMbgPgwPPV2DelConnSetReqTx	GTP V2 delete PDN connection set requests sent.
jnxMbgPgwPPV2DelConnSetRespRx	GTP V2 delete PDN connection set responses received.
jnxMbgPgwPPV2DelConnSetRespTx	GTP V2 delete PDN connection set responses sent.
jnxMbgPgwPPV2UpdConnSetReqRx	GTP V2 update connection set requests received.
jnxMbgPgwPPV2UpdConnSetReqTx	GTP V2 update connection set requests sent.
jnxMbgPgwPPV2UpdConnSetRespRx	GTP V2 update connection set responses received.
jnxMbgPgwPPV2UpdConnSetRespTx	GTP V2 update connection set responses sent.
jnxMbgPgwPPV2ModBrCmdRx	Number of GTP V2 modify bearer command received.
jnxMbgPgwPPV2ModBrCmdTx	Number of GTP V2 modify bearer command sent.
jnxMbgPgwPPV2ModBrFlrIndRx	Number of GTP V2 modify bearer failure received.
jnxMbgPgwPPV2ModBrFlrIndTx	Number of GTP V2 modify bearer failure sent.
jnxMbgPgwPPV2DelBrCmdRx	Number of GTP V2 delete bearer command received.
jnxMbgPgwPPV2DelBrCmdTx	Number of GTP V2 delete bearer command sent.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2DelBrFlrIndRx	Number of GTP V2 delete bearer failure received.
jnxMbgPgwPPV2DelBrFlrIndTx	Number of GTP V2 delete bearer failure sent.
jnxMbgPgwPPV2BrResCmdRx	Number of GTP V2 bearer response command received.
jnxMbgPgwPPV2BrResCmdTx	Number of GTP V2 bearer response command sent.
jnxMbgPgwPPV2BrResFlrIndRx	Number of GTP V2 bearer resource failure received.
jnxMbgPgwPPV2BrResFlrIndTx	Number of GTP V2 bearer resource failure sent.
jnxMbgPgwPPV2RelAcsBrReqRx	Obsolete. Number of GTP V2 release access bearer requests received.
jnxMbgPgwPPV2RelAcsBrReqTx	Obsolete. Number of GTP V2 release access bearer requests sent.
jnxMbgPgwPPV2RelAcsBrRespRx	Obsolete. Number of GTP V2 release access bearer response received.
jnxMbgPgwPPV2RelAcsBrRespTx	Obsolete. Number of GTP V2 release access bearer responses sent.
jnxMbgPgwPPV2CrIndTunReqRx	Obsolete. Number of GTP V2 create indirect tunnel forward requests received.
jnxMbgPgwPPV2CrIndTunReqTx	Obsolete. Number of GTP V2 create indirect tunnel forward requests sent.
jnxMbgPgwPPV2CrIndTunRespRx	Obsolete. Number of GTP V2 create indirect tunnel forward responses received.
jnxMbgPgwPPV2CrIndTunRespTx	Obsolete. Number of GTP V2 create indirect tunnel forward responses sent.
jnxMbgPgwPPV2DelIndTunReqRx	Obsolete. Number of GTP V2 delete indirect tunnel forward requests received.
jnxMbgPgwPPV2DelIndTunReqTx	Obsolete. Number of GTP V2 delete indirect tunnel forward requests sent.
jnxMbgPgwPPV2DelIndTunRespRx	Obsolete. Number of GTP V2 delete indirect tunnel forward responses received.
jnxMbgPgwPPV2DelIndTunRespTx	Obsolete. Number of GTP V2 delete indirect tunnel forward responses sent.
jnxMbgPgwPPV2DIDataNotifRx	Obsolete. Number of GTP V2 downlink data notify received.
jnxMbgPgwPPV2DIDataNotifTx	Obsolete. Number of GTP V2 downlink data notify sent.
jnxMbgPgwPPV2DIDataAckRx	Obsolete. Number of GTP V2 downlink data notify acknowledgements received.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2DIDataAckTx	Obsolete. Number of GTP V2 downlink data notify acknowledgements sent.
jnxMbgPgwPPV2DIDataNotiFlrIndRx	Obsolete. Number of GTP V2 downlink data notification fail received.
jnxMbgPgwPPV2DIDataNotiFlrIndTx	Obsolete. Number of GTP V2 downlink data notification fail sent.
jnxMbgPgwPPV2StopPagingIndRx	Obsolete. Number of GTP V2 stop paging indication messages received.
jnxMbgPgwPPV2StopPagingIndTx	Obsolete. Number of GTP V2 stop paging indication messages sent.

GTP Peer Version 2 Success or Failure Statistics

Table 14 on page 30 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 2 success or failure statistics.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV2ICsPageRx	Obsolete. Number of GTP V2 packets received with cause Page.
jnxMbgPgwPPV2ICsPageTx	Obsolete. Number of GTP V2 packets sent with cause Page.
jnxMbgPgwPPV2ICsReqAcceptRx	Number of GTP V2 packets received with cause Request Accept.
jnxMbgPgwPPV2ICsReqAcceptTx	Number of GTP V2 packets sent with cause Request Accept.
jnxMbgPgwPPV2ICsAcceptPartRx	Number of GTP V2 packets received with cause Accept Partial.
jnxMbgPgwPPV2ICsAcceptPartTx	Number of GTP V2 packets sent with cause Accept Partial.
jnxMbgPgwPPV2ICsNewPTNPrefRx	Number of GTP V2 packets received with cause New PDN Type due to Network Preference.
jnxMbgPgwPPV2ICsNewPTNPrefTx	Number of GTP V2 packets sent with cause New PDN Type Due to Network Preference.
jnxMbgPgwPPV2ICsNewPTSIAdbrRx	Number of GTP V2 packets received with cause New PDN Type Due to Single Address Bearer.
jnxMbgPgwPPV2ICsNewPTSIAdbrTx	Number of GTP V2 packets sent with cause New PDN Type Due to Single Address Bearer.
jnxMbgPgwPPV2ICsCtxNotFndRx	Number of GTP V2 packets received with cause Context Not Found.
jnxMbgPgwPPV2ICsCtxNotFndTx	Number of GTP V2 packets sent with cause Context Not Found.
jnxMbgPgwPPV2ICsInvMsgFmtRx	Number of GTP V2 packets received with cause Invalid Message Format.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2ICsInvMsgFmtTx	Number of GTP V2 packets sent with cause Invalid Message Format.
jnxMbgPgwPPV2ICsVerNotSuppRx	Number of GTP V2 packets received with cause Version Not Supported.
jnxMbgPgwPPV2ICsVerNotSuppTx	Number of GTP V2 packets sent with cause Version Not Supported.
jnxMbgPgwPPV2ICsInvLenRx	Number of GTP V2 packets received with cause invalid length.
jnxMbgPgwPPV2ICsInvLenTx	Number of GTP V2 packets sent with cause Invalid Length.
jnxMbgPgwPPV2ICsServNotSuppRx	Number of GTP V2 packets received with cause Service Not Supported.
jnxMbgPgwPPV2ICsServNotSuppTx	Number of GTP V2 packets sent with cause Service Not Supported.
jnxMbgPgwPPV2ICsManIEIncorrRx	Number of GTP V2 packets received with cause Mandatory IE Incorrect.
jnxMbgPgwPPV2ICsManIEIncorrTx	Number of GTP V2 packets sent with cause Mandatory IE Incorrect.
jnxMbgPgwPPV2ICsManIEMissRx	Number of GTP V2 packets received with cause Mandatory IE Missing.
jnxMbgPgwPPV2ICsManIEMissTx	Number of GTP V2 packets sent with cause Mandatory IE Missing.
jnxMbgPgwPPV2ICsOptIEIncorrRx	Number of GTP V2 packets received with cause Optional IE Incorrect.
jnxMbgPgwPPV2ICsOptIEIncorrTx	Number of GTP V2 packets sent with cause Optional IE Incorrect.
jnxMbgPgwPPV2ICsSysFailRx	Number of GTP V2 packets received with cause System Failure.
jnxMbgPgwPPV2ICsSysFailTx	Number of GTP V2 packets sent with cause System Failure.
jnxMbgPgwPPV2ICsNoResRx	Number of GTP V2 packets received with cause No Resource.
jnxMbgPgwPPV2ICsNoResTx	Number of GTP V2 packets sent with cause No Resource.
jnxMbgPgwPPV2ICsTFTSMANTErRx	Number of GTP V2 packets received with cause TFT Semantic Error.
jnxMbgPgwPPV2ICsTFTSMANTErTx	Number of GTP V2 packets sent with cause TFT Semantic Error.
jnxMbgPgwPPV2ICsTFTSysErrRx	Number of GTP V2 packets received with cause TFT System Error.
jnxMbgPgwPPV2ICsTFTSysErrTx	Number of GTP V2 packets sent with cause TFT System Error.
jnxMbgPgwPPV2ICsPkFltManErrRx	Number of GTP V2 packets received with cause Packet Filter Semantic Error.
jnxMbgPgwPPV2ICsPkFltManErrTx	Number of GTP V2 packets sent with cause Packet Filter Semantic Error.
jnxMbgPgwPPV2ICsPkFltSynErrRx	Number of GTP V2 packets received with cause Packet Filter Syntax Error.

Table 14: jnxMbgPgwPPV2ICsPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2ICsPkFltSynErrTx	Number of GTP V2 packets sent with cause Packet Filter Syntax Error.
jnxMbgPgwPPV2ICsMisUnknAPNRx	Number of GTP V2 packets received with cause Unknown APN.
jnxMbgPgwPPV2ICsMisUnknAPNTx	Number of GTP V2 packets sent with cause Unknown APN.
jnxMbgPgwPPV2ICsUnexpRptIERx	Number of GTP V2 packets received with cause Unexpected Repeated IE.
jnxMbgPgwPPV2ICsUnexpRptIETx	Number of GTP V2 packets sent with cause Unexpected Repeated IE.
jnxMbgPgwPPV2ICsGREKeyNtFdRx	Number of GTP V2 packets received with cause GRE Key Not Found.
jnxMbgPgwPPV2ICsGREKeyNtFdTx	Number of GTP V2 packets sent with cause GRE Key Not Found.
jnxMbgPgwPPV2ICsRelocFailRx	Number of GTP V2 packets received with cause Relocation Failed.
jnxMbgPgwPPV2ICsRelocFailTx	Number of GTP V2 packets sent with cause Relocation Failed.
jnxMbgPgwPPV2ICsDeniedINRatRx	Number of GTP V2 packets received with cause Denied in RAT.
jnxMbgPgwPPV2ICsDeniedINRatTx	Number of GTP V2 packets sent with cause Denied in RAT.
jnxMbgPgwPPV2ICsPTNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.
jnxMbgPgwPPV2ICsPTNotSuppTx	Number of GTP V2 packets sent with cause PDN Type Not Supported.
jnxMbgPgwPPV2ICsAllDynAdOccRx	Number of GTP V2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgPgwPPV2ICsAllDynAdOccTx	Number of GTP V2 packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgPgwPPV2ICsNOTFTUECTXRx	Number of GTP V2 packets received with cause UE Context without TFT Exists.
jnxMbgPgwPPV2ICsNOTFTUECTXTx	Number of GTP V2 packets sent with cause UE Context without TFT Exists.
jnxMbgPgwPPV2ICsProtoNtSupRx	Number of GTP V2 packets received with cause Protocol Not Supported.
jnxMbgPgwPPV2ICsProtoNtSupTx	Number of GTP V2 packets sent with cause Protocol Not Supported.
jnxMbgPgwPPV2ICsUENotRespRx	Number of GTP V2 packets received with cause UE Not Responding.
jnxMbgPgwPPV2ICsUENotRespTx	Number of GTP V2 packets sent with cause UE Not Responding.
jnxMbgPgwPPV2ICsUERefusesRx	Number of GTP V2 packets received with cause UE Refuses.
jnxMbgPgwPPV2ICsUERefusesTx	Number of GTP V2 packets sent with cause UE Refuses.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2ICsServDeniedRx	Number of GTP V2 packets received with cause Service Denied.
jnxMbgPgwPPV2ICsServDeniedTx	Number of GTP V2 packets sent with cause Service Denied.
jnxMbgPgwPPV2ICsUnabPageUERx	Number of GTP V2 packets received with cause Unable to Page UE.
jnxMbgPgwPPV2ICsUnabPageUETx	Number of GTP V2 packets sent with cause Unable to Page UE.
jnxMbgPgwPPV2ICsNoMemRx	Number of GTP V2 packets received with cause No Memory.
jnxMbgPgwPPV2ICsNoMemTx	Number of GTP V2 packets sent with cause No Memory.
jnxMbgPgwPPV2ICsUserAUTHFIRx	Number of GTP V2 packets received with cause User Auth Failed.
jnxMbgPgwPPV2ICsUserAUTHFITx	Number of GTP V2 packets sent with cause User Auth Failed.
jnxMbgPgwPPV2ICsAPNAcsDenRx	Number of GTP V2 packets received with cause APN Access Denied.
jnxMbgPgwPPV2ICsAPNAcsDenTx	Number of GTP V2 packets sent with cause APN Access Denied.
jnxMbgPgwPPV2ICsReqRejRx	Number of GTP V2 packets received with cause Request Rejected.
jnxMbgPgwPPV2ICsReqRejTx	Number of GTP V2 packets sent with cause Request Rejected.
jnxMbgPgwPPV2ICsPTMSISigMMRx	Number of GTP V2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgPgwPPV2ICsPTMSISigMMTx	Number of GTP V2 packets sent with cause P-TMSI Signature Mismatch.
jnxMbgPgwPPV2ICsIMSiNotKnRx	Number of GTP V2 packets received with cause IMSI Not Known.
jnxMbgPgwPPV2ICsIMSiNotKnTx	Number of GTP V2 packets sent with cause IMSI Not Known.
jnxMbgPgwPPV2ICsCondiEMsRx	Number of GTP V2 packets received with cause Conditional IE Missing.
jnxMbgPgwPPV2ICsCondiEMsTx	Number of GTP V2 packets sent with cause Conditional IE Missing.
jnxMbgPgwPPV2ICsAPNResTIncRx	Number of GTP V2 packets received with cause APN Restriction Type Incompatible Messages Received.
jnxMbgPgwPPV2ICsAPNResTIncTx	Number of GTP V2 packets sent with cause APN Restriction Type Incompatible Messages Sent.
jnxMbgPgwPPV2ICsUnknownRx	Number of GTP V2 packets received with cause Unknown.
jnxMbgPgwPPV2ICsUnknownTx	Number of GTP V2 packets sent with cause Unknown.
jnxMbgPgwPPGtpV2ICsLclDetRx	Number of GTP packets received with cause Local Detach.
jnxMbgPgwPPGtpV2ICsLclDetTx	Number of GTP packets sent with cause Local Detach.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPGtpV2ICsCmpDetRx	Number of GTP packets received with cause Complete Detach
jnxMbgPgwPPGtpV2ICsCmpDetTx	Number of GTP packets sent with cause Complete Detach.
jnxMbgPgwPPGtpV2ICsRATChgRx	Number of GTP packets received with cause RAT changed from 3GPP to non 3GPP.
jnxMbgPgwPPGtpV2ICsRATChgTx	Number of GTP packets sent with cause RAT changed from 3GPP to non 3GPP.
jnxMbgPgwPPGtpV2ICsISRDeactRx	Number of GTP packets received with cause ISR Deactivated.
jnxMbgPgwPPGtpV2ICsISRDeactTx	Number of GTP packets sent with cause ISR Deactivated.
jnxMbgPgwPPGtpV2ICsEIFRNCEnRx	Number of GTP packets received with cause Error Indication from RNC eNodeB.
jnxMbgPgwPPGtpV2ICsEIFRNCEnTx	Number of GTP packets sent with cause Error Indication from RNC eNodeB
jnxMbgPgwPPGtpV2ICsSemErTADRx	Number of GTP packets received with cause Semantic Error in TAD Operation.
jnxMbgPgwPPGtpV2ICsSemErTADTx	Number of GTP packets sent with cause Semantic Error in TAD Operation.
jnxMbgPgwPPGtpV2ICsSynErTADRx	Number of GTP packets received with cause Syntactic Error in TAD Operation.
jnxMbgPgwPPGtpV2ICsSynErTADTx	Number of GTP packets sent with cause Syntactic Error in TAD Operation.
jnxMbgPgwPPGtpV2ICsRMValRcvRx	Number of GTP packets received with cause Reserved Message Value Received.
jnxMbgPgwPPGtpV2ICsRMValRcvTx	Number of GTP packets sent with cause Reserved Message Value Received.
jnxMbgPgwPPGtpV2ICsRPrNtRspRx	Number of GTP packets received with cause Remote peer not responding.
jnxMbgPgwPPGtpV2ICsRPrNtRspTx	Number of GTP packets sent with cause Remote peer not responding
jnxMbgPgwPPGtpV2ICsColNWReqRx	Number of GTP packets received with cause Collision with network initiated request
jnxMbgPgwPPGtpV2ICsColNWReqTx	Number of GTP packets sent with cause Collision with network initiated request.
jnxMbgPgwPPGtpV2ICsUnPgUESusRx	Number of GTP packets received with cause Unable to page UE due to suspension.
jnxMbgPgwPPGtpV2ICsUnPgUESusTx	Number of GTP packets sent with cause Unable to page UE due to suspension.
jnxMbgPgwPPGtpV2ICsInvTotLenRx	Number of GTP packets received with cause Invalid total length.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPGtpV2ICsInvTotLenTx	Number of GTP packets sent with cause Invalid total length.
jnxMbgPgwPPGtpV2ICsDtForNtSupRx	Number of GTP packets received with cause Data forwarding not supported.
jnxMbgPgwPPGtpV2ICsDtForNtSupTx	Number of GTP packets sent with cause Data forwarding not supported.
jnxMbgPgwPPGtpV2ICsInReFRePrRx	Number of GTP packets received with cause Invalid Reply from Remote peer.
jnxMbgPgwPPGtpV2ICsInReFRePrTx	Number of GTP packets sent with cause Invalid Reply from Remote peer
jnxMbgPgwPPGtpV2ICsInvPrRx	Number of GTP packets received with cause Invalid peer.
jnxMbgPgwPPGtpV2ICsInvPrTx	Number of GTP packets sent with cause Invalid peer.

GTP Interface Statistics

Table 15 on page 35 shows the statistics for **jnxMbgPgwGtpIfStatsTable**, which shows interface-level GTP statistics.

Table 15: GTP Interface-level Statistics

Name	Description
jnxMbgPgwIfRxPacketsDropped	Number of Received GTP Packets Dropped by the Gateway.
jnxMbgPgwIfPacketAllocFail	Number of Packet allocation failures in the Gateway.
jnxMbgPgwIfPacketSendFail	Number of GTP Packet Send failures in the Gateway.
jnxMbgPgwIfIPVerErrRx	Number of IP Version Error Packets Received.
jnxMbgPgwIfIPProtoErrRx	Number of IP Protocol Error packets Received.
jnxMbgPgwIfGTPPortErrRx	Number of Port Error Packets Received.
jnxMbgPgwIfGTPUnknVerRx	Number of Unknown Version Packets Received.
jnxMbgPgwIfPcktLenErrRx	Number of Packet Length Error Packets Received.
jnxMbgPgwIfUnknMsgRx	Number of Unknown Messages Received.
jnxMbgPgwIfV2ProtocolErrRx	Number of GTPv2 Protocol Errors Received.
jnxMbgPgwIfV2UnsupportedMsgRx	Number of GTPv2 Unsupported Messages received.
jnxMbgPgwIfV2T3RespTmrExpRx	GTP V2 Number of T3 timer expiries Received.
jnxMbgPgwIfV2GlbNumMsgRx	Number of GTPv2 messages received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwlFv2GlbNumMsgTx	Number of GTPV2 messages sent.
jnxMbgPgwlFv2GlbNumBytesRx	Number of GTPv2 bytes received.
jnxMbgPgwlFv2GlbNumBytesTx	Number of GTPV2 bytes sent.
jnxMbgPgwlFv2GlbEchoReqRx	Number of GTP V2 Echo Request received.
jnxMbgPgwlFv2GlbEchoReqTx	Number of GTP V2 Echo Request Sent.
jnxMbgPgwlFv2GlbEchoRespRx	Number of GTP V2 Echo Response received.
jnxMbgPgwlFv2GlbEchoRespTx	Number of GTP V2 Echo Response Sent.
jnxMbgPgwlFv2VerNotSupRx	Number of GTP V2 Version Not supported messages received.
jnxMbgPgwlFv2VerNotSupTx	Number of GTP V2 version not supported messages Sent.
jnxMbgPgwlFv2CreateSessReqRx	Number of GTP V2 Create Session Requests received
jnxMbgPgwlFv2CreateSessReqTx	Number of GTP V2 Create Session Requests Sent.
jnxMbgPgwlFv2CreateSessRespRx	Number of GTP V2 Create Session Responses received.
jnxMbgPgwlFv2CreateSessRespTx	Number of GTP V2 Create Session Responses Sent.
jnxMbgPgwlFv2ModBrReqRx	Number of GTP V2 Modify Bearer Requests received.
jnxMbgPgwlFv2ModBrReqTx	Number of GTP V2 Modify Bearer Requests Sent.
jnxMbgPgwlFv2ModBrRespRx	Number of GTP V2 Modify Bearer Responses received.
jnxMbgPgwlFv2ModBrRespTx	Number of GTP V2 Modify Bearer Responses Sent.
jnxMbgPgwlFv2DelSessReqRx	Number of GTP V2 Delete Session Requests received.
jnxMbgPgwlFv2DelSessReqTx	Number of GTP V2 Delete Session Requests Sent.
jnxMbgPgwlFv2DelSessRespRx	Number of GTP V2 Delete Session Responses received.
jnxMbgPgwlFv2DelSessRespTx	Number of GTP V2 Delete Session Responses Sent.
jnxMbgPgwlFv2CrtBrReqRx	Number of GTP V2 Create Bearer Requests received.
jnxMbgPgwlFv2CrtBrReqTx	Number of GTP V2 Create Bearer Requests Sent
jnxMbgPgwlFv2CrtBrRespRx	Number of GTP V2 Create Bearer Responses received.
jnxMbgPgwlFv2CrtBrRespTx	Number of GTP V2 Create Bearer Responses Sent.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2UpdBrReqRx	Number of GTP V2 Update Bearer Requests received.
jnxMbgPgwIfV2UpdBrReqTx	Number of GTP V2 Update Bearer Requests Sent.
jnxMbgPgwIfV2UpdBrRespRx	Number of GTP V2 Update Bearer Responses received.
jnxMbgPgwIfV2UpdBrRespTx	Number of GTP V2 Update Bearer Responses Sent.
jnxMbgPgwIfV2DelBrReqRx	Number of GTP V2 Delete Bearer Requests received
jnxMbgPgwIfV2DelBrReqTx	Number of GTP V2 Delete Bearer Requests Sent
jnxMbgPgwIfV2DelBrRespRx	Number of GTP V2 Delete Bearer Responses received.
jnxMbgPgwIfV2DelBrRespTx	Number of GTP V2 Delete Bearer Responses Sent
jnxMbgPgwIfV2DelConnSetReqRx	Number of GTP V2 Delete PDN connection set Requests received.
jnxMbgPgwIfV2DelConnSetReqTx	Number of GTP V2 Delete PDN connection set Requests Sent.
jnxMbgPgwIfV2DelConnSetRespRx	Number of GTP V2 Delete PDN connection set Responses received.
jnxMbgPgwIfV2DelConnSetRespTx	Number of GTP V2 Delete PDN connection set Responses Sent.
jnxMbgPgwIfV2UpdConnSetReqRx	Number of GTP V2 Update Connection set Request received.
jnxMbgPgwIfV2UpdConnSetReqTx	Number of GTP V2 Update Connection set Requests Sent
jnxMbgPgwIfV2UpdConnSetRespRx	Number of GTP V2 Update Connexion set Responses received
jnxMbgPgwIfV2UpdConnSetRespTx	Number of GTP V2 Update Connection set Responses Sent
jnxMbgPgwIfV2ModBrCmdRx	Number of GTP V2 Modify Bearer Command received.
jnxMbgPgwIfV2ModBrCmdTx	Number of GTP V2 Modify Bearer Command Sent.
jnxMbgPgwIfV2ModBrFlrIndRx	Number of GTP V2 Modify Bearer Failure received.
jnxMbgPgwIfV2ModBrFlrIndTx	Number of GTP V2 Modify Bearer Failure Sent.
jnxMbgPgwIfV2DelBrCmdRx	Number of GTP V2 Delete Bearer Command received.
jnxMbgPgwIfV2DelBrCmdTx	Number of GTP V2 Delete Bearer Command Sent.
jnxMbgPgwIfV2DelBrFlrIndRx	Number of GTP V2 Delete Bearer Failure received.
jnxMbgPgwIfV2DelBrFlrIndTx	Number of GTP V2 Delete Bearer Failure Sent.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2BrResCmdRx	Number of GTP V2 Bearer Response Command received.
jnxMbgPgwIfV2BrResCmdTx	Number of GTP V2 Bearer Response Command Sent.
jnxMbgPgwIfV2BrResFlrIndRx	Number of GTP V2 Bearer Resource Failure received
jnxMbgPgwIfV2BrResFlrIndTx	Number of GTP V2 Bearer Resource Failure Sent.
jnxMbgPgwIfV2RelAcsBrReqRx	Number of GTP V2 Release Access Bearer Requests received
jnxMbgPgwIfV2RelAcsBrReqTx	Number of GTP V2 Release Access Bearer Requests Sent.
jnxMbgPgwIfV2RelAcsBrRespRx	Number of GTP V2 Release Access Bearer Responses received.
jnxMbgPgwIfV2RelAcsBrRespTx	Number of GTP V2 Release Access Bearer Responses Sent.
jnxMbgPgwIfV2CrIndTunReqRx	Number of GTP V2 Create Indirect Tunnel Forward Requests Received.
jnxMbgPgwIfV2CrIndTunReqTx	Number of GTP V2 Create Indirect Tunnel Forward Requests Sent.
jnxMbgPgwIfV2CrIndTunRespRx	Number of GTP V2 Create Indirect Tunnel Forward Responses Received.
jnxMbgPgwIfV2CrIndTunRespTx	Number of GTP V2 Create Indirect Tunnel Forward Responses Sent.
jnxMbgPgwIfV2DelIndTunReqRx	Number of GTP V2 Delete Indirect Tunnel Forward Request Received.
jnxMbgPgwIfV2DelIndTunReqTx	Number of GTP V2 Delete Indirect Tunnel Forward Requests Sent.
jnxMbgPgwIfV2DelIndTunRespRx	Number of GTP V2 Delete Indirect Tunnel Forward Responses Received.
jnxMbgPgwIfV2DelIndTunRespTx	Number of GTP V2 Delete Indirect Tunnel Forward Responses Sent.
jnxMbgPgwIfV2DlDataNotifRx	Number of GTP V2 Downlink Data Notify received.
jnxMbgPgwIfV2DlDataNotifTx	Number of GTP V2 Downlink Data Notify Sent.
jnxMbgPgwIfV2DlDataAckRx	Number of GTP V2 Downlink Data Notify Acknowledgements received.
jnxMbgPgwIfV2DlDataAckTx	Number of GTP V2 Downlink Data Notify Acknowledgements Sent.
jnxMbgPgwIfV2DlDataNotiFlrIndRx	Number of GTP V2 Downlink Data Notification failures received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2DlDataNotifRIndTx	Number of GTP V2 Downlink Data Notification failures Sent.
jnxMbgPgwIfV2StopPagingIndRx	Number of GTP V2 Stop Paging Indication Messages Received.
jnxMbgPgwIfV2StopPagingIndTx	Number of GTP V2 Stop Paging Indication messages Transmitted.
jnxMbgPgwIfV2ICsPageRx	Number of GTPV2 packets received with cause Page.
jnxMbgPgwIfV2ICsPageTx	Number of GTPV2 packets sent with cause Page.
jnxMbgPgwIfV2ICsReqAcceptRx	Number of GTPV2 packets received with cause Request Accept.
jnxMbgPgwIfV2ICsReqAcceptTx	Number of GTPV2 packets sent with cause Request Accept messages sent.
jnxMbgPgwIfV2ICsAcceptPartRx	Number of GTPV2 packets received with cause Accept Partial messages receive
jnxMbgPgwIfV2ICsAcceptPartTx	Number of GTPV2 packets sent with cause Accept Partial.
jnxMbgPgwIfV2ICsNewPTNPrefRx	Number of GTPV2 packets received with cause New PDN type due to Network Preference.
jnxMbgPgwIfV2ICsNewPTNPrefTx	Number of GTPV2 packets sent with cause New PDN type due to Network Preference.
jnxMbgPgwIfV2ICsNewPTSIAddrRx	Number of GTPV2 packets received with cause New PDN type due to Single Address Bearer
jnxMbgPgwIfV2ICsNewPTSIAddrTx	Number of GTPV2 packets sent with cause New PDN type due to Single Address Bearer
jnxMbgPgwIfV2ICsCtxNotFndRx	Number of GTPV2 packets received with cause Context not found.
jnxMbgPgwIfV2ICsCtxNotFndTx	Number of GTPV2 packets sent with cause Context not found.
jnxMbgPgwIfV2ICsInvMsgFmtRx	Number of GTPV2 packets received with cause Invalid Message Format.
jnxMbgPgwIfV2ICsInvMsgFmtTx	Number of GTPV2 packets sent with cause Invalid Message Format.
jnxMbgPgwIfV2ICsVerNotSuppRx	Number of GTPV2 packets received with cause Version not Supported.
jnxMbgPgwIfV2ICsVerNotSuppTx	Number of GTPV2 packets sent with cause Version not Supported.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2ICsInvLenRx	Number of GTPV2 packets received with cause Invalid Length.
jnxMbgPgwIfV2ICsInvLenTx	Number of GTPV2 packets sent with cause Invalid Length.
jnxMbgPgwIfV2ICsServNotSuppRx	Number of GTPV2 packets received with cause Service Not supported.
jnxMbgPgwIfV2ICsServNotSuppTx	Number of GTPV2 packets sent with cause Service Not supported.
jnxMbgPgwIfV2ICsManIEIncorrRx	Number of GTPV2 packets received with cause Mandatory IE incorrect.
jnxMbgPgwIfV2ICsManIEIncorrTx	Number of GTPV2 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwIfV2ICsManIEMissRx	Number of GTPV2 packets received with cause Mandatory IE Missing.
jnxMbgPgwIfV2ICsManIEMissTx	Number of GTPV2 packets sent with cause Mandatory IE Missing.
jnxMbgPgwIfV2ICsOptIEIncorrRx	Number of GTPV2 packets received with cause Optional IE Incorrect.
jnxMbgPgwIfV2ICsOptIEIncorrTx	Number of GTPV2 packets sent with cause Optional IE Incorrect.
jnxMbgPgwIfV2ICsSysFailRx	Number of GTPV2 packets received with cause System Failure.
jnxMbgPgwIfV2ICsSysFailTx	Number of GTPV2 packets sent with cause System Failure.
jnxMbgPgwIfV2ICsNoResRx	Number of GTPV2 packets received with cause No Resource.
jnxMbgPgwIfV2ICsNoResTx	Number of GTPV2 packets sent with cause No Resource.
jnxMbgPgwIfV2ICsTFTSMANterRx	Number of GTPV2 packets received with cause TFT Symantic Error.
jnxMbgPgwIfV2ICsTFTSMANterTx	Number of GTPV2 packets sent with cause TFT Symantic Error.
jnxMbgPgwIfV2ICsTFTSysErrRx	Number of GTPV2 packets received with cause TFT System Error.
jnxMbgPgwIfV2ICsTFTSysErrTx	Number of GTPV2 packets sent with cause TFT System Error.
jnxMbgPgwIfV2ICsPkFiltManErrRx	Number of GTPV2 packets received with cause Packet Filter Symantic Error.
jnxMbgPgwIfV2ICsPkFiltManErrTx	Number of GTPV2 packets sent with cause Packet Filter Symantic Error.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2ICsPkFltSynErrRx	Number of GTPV2 packets received with cause Packet Filter Syntax Error.
jnxMbgPgwIfV2ICsPkFltSynErrTx	Number of GTPV2 packets sent with cause Packet Filter Syntax Error.
jnxMbgPgwIfV2ICsMisUnknAPNRx	Number of GTPV2 packets received with cause Unknown APN.
jnxMbgPgwIfV2ICsMisUnknAPNTx	Number of GTPV2 packets sent with cause Unknown APN.
jnxMbgPgwIfV2ICsUnexpRptIERx	Number of GTPV2 packets received with cause Unexpected Repeated IE.
jnxMbgPgwIfV2ICsUnexpRptIETx	Number of GTPV2 packets sent with cause Unexpected Repeated IE.
jnxMbgPgwIfV2ICsGREKeyNtFdRx	Number of GTPV2 packets received with cause GRE Key Not Found.
jnxMbgPgwIfV2ICsGREKeyNtFdTx	Number of GTPV2 packets sent with cause GRE Key Not Found.
jnxMbgPgwIfV2ICsRelocFailRx	Number of GTPV2 packets received with cause Relocation Failed.
jnxMbgPgwIfV2ICsRelocFailTx	Number of GTPV2 packets sent with cause Relocation Failed.
jnxMbgPgwIfV2ICsDeniedINRatRx	Number of GTPV2 packets received with cause Denied in RAT.
jnxMbgPgwIfV2ICsDeniedINRatTx	Number of GTPV2 packets sent with cause Denied in RAT.
jnxMbgPgwIfV2ICsPTNotSuppRx	Number of GTPV2 packets received with cause PDN Type Not Supported.
jnxMbgPgwIfV2ICsPTNotSuppTx	Number of GTPV2 packets sent with cause PDN Type Not Supported.
jnxMbgPgwIfV2ICsAllDynAdOccRx	Number of GTPV2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgPgwIfV2ICsAllDynAdOccTx	Number of GTPV2 packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgPgwIfV2ICsNOTFTUECTXRx	Number of GTPV2 packets received with cause UE Context Without TFT Exists.
jnxMbgPgwIfV2ICsNOTFTUECTXTx	Number of GTPV2 packets sent with cause UE Context Without TFT Exists.
jnxMbgPgwIfV2ICsProtoNtSupRx	Number of GTPV2 packets received with cause Protocol Not Supported.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2ICsProtoNtSupTx	Number of GTPV2 packets sent with cause Protocol Not Supported.
jnxMbgPgwIfV2ICsUENotRespRx	Number of GTPV2 packets received with cause UE Not Responding.
jnxMbgPgwIfV2ICsUENotRespTx	Number of GTPV2 packets sent with cause UE Not Responding.
jnxMbgPgwIfV2ICsUERefusesRx	Number of GTPV2 packets received with cause UE Refuses.
jnxMbgPgwIfV2ICsUERefusesTx	Number of GTPV2 packets sent with cause UE Refuses.
jnxMbgPgwIfV2ICsServDeniedRx	Number of GTPV2 packets received with cause Service Denied.
jnxMbgPgwIfV2ICsServDeniedTx	Number of GTPV2 packets sent with cause Service Denied.
jnxMbgPgwIfV2ICsUnabPageUERx	Number of GTPV2 packets received with cause Unable to Page UE.
jnxMbgPgwIfV2ICsUnabPageUETx	Number of GTPV2 packets sent with cause Unable to Page UE.
jnxMbgPgwIfV2ICsNoMemRx	Number of GTPV2 packets received with cause No Memory.
jnxMbgPgwIfV2ICsNoMemTx	Number of GTPV2 packets sent with cause No Memory.
jnxMbgPgwIfV2ICsUserAUTHFIRx	Number of GTPV2 packets received with cause User AUTH Failed.
jnxMbgPgwIfV2ICsUserAUTHFITx	Number of GTPV2 packets sent with cause User AUTH Failed.
jnxMbgPgwIfV2ICsAPNAcsDenRx	Number of GTPV2 packets received with cause APN Access Denied.
jnxMbgPgwIfV2ICsAPNAcsDenTx	Number of GTPV2 packets sent with cause APN Access Denied.
jnxMbgPgwIfV2ICsReqRejRx	Number of GTPV2 packets received with cause Request Rejected.
jnxMbgPgwIfV2ICsReqRejTx	Number of GTPV2 packets sent with cause Request Rejected.
jnxMbgPgwIfV2ICsPTMSISigMMRx	Number of GTPV2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgPgwIfV2ICsPTMSISigMMTx	Number of GTPV2 packets sent with cause P-TMSI Signature Mismatch.
jnxMbgPgwIfV2ICsIMSiNotKnRx	Number of GTPV2 packets received with cause IMSI Not Known.
jnxMbgPgwIfV2ICsIMSiNotKnTx	Number of GTPV2 packets sent with cause IMSI Not Known.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV2ICsCondiEMsRx	Number of GTPV2 packets received with cause Conditional IE Missing.
jnxMbgPgwIfV2ICsCondiEMsTx	Number of GTPV2 packets sent with cause Conditional IE Missing.
jnxMbgPgwIfV2ICsAPNResTIncRx	Number of GTPV2 packets received with cause APN Restriction Type Incompatible.
jnxMbgPgwIfV2ICsAPNResTIncTx	Number of GTPV2 packets sent with cause APN Restriction Type Incompatible.
jnxMbgPgwIfV2ICsUnknownRx	Number of GTPV2 packets received with cause Unknown.
jnxMbgPgwIfV2ICsUnknownTx	Number of GTPV2 packets sent with cause Unknown.
jnxMbgPgwIfV1ProtocolErrRx	Number of GTPv2 Protocol Errors received.
jnxMbgPgwIfV1UnsupportedMsgRx	Number of GTPv2 Unsupported Messages received.
jnxMbgPgwIfV1UnsupportedMsgTx	Number of GTPv2 Unsupported Messages sent.
jnxMbgPgwIfV1T3RespTmrExpRx	Number of GTP V1 T3 timer expiries received.
jnxMbgPgwIfV1GlbNumMsgRx	Number of GTPv1 messages received.
jnxMbgPgwIfV1GlbNumMsgTx	Number of GTP V1 messages sent.
jnxMbgPgwIfV1GlbNumBytesRx	Number of GTPv1 bytes received.
jnxMbgPgwIfV1GlbNumBytesTx	Number of GTP V1 bytes sent.
jnxMbgPgwIfV1GlbEchoReqRx	Number of GTP V1 Echo Requests received.
jnxMbgPgwIfV1GlbEchoReqTx	Number of GTP V1 Echo Requests Sent.
jnxMbgPgwIfV1GlbEchoRespRx	Number of GTP V1 Echo Responses received.
jnxMbgPgwIfV1GlbEchoRespTx	Number of GTP V1 Echo Responses Sent.
jnxMbgPgwIfV1VerNotSupRx	Number of GTP V1 Version Not supported messages received.
jnxMbgPgwIfV1VerNotSupTx	Number of GTP V1 version not supported messages Sent.
jnxMbgPgwIfV1CrtPdpCxtReqRx	Number of GTP V1 Create PDP Context Requests Received.
jnxMbgPgwIfV1CrtPdpCxtReqTx	Number of GTP V1 Create PDP Context Requests Sent.
jnxMbgPgwIfV1CrtPdpCxtRspRx	Number of GTP V1 Create PDP Context Responses Received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwlFV1CrtPdpCxtRspTx	Number of GTP V1 Create PDP Context Responses Sent.
jnxMbgPgwlFV1UpdPdpCxtReqRx	Number of GTP V1 Update PDP Context Requests Received.
jnxMbgPgwlFV1UpdPdpCxtReqTx	Number of GTP V1 Update PDP Context Requests Sent.
jnxMbgPgwlFV1UpdPdpCxtRspRx	Number of GTP V1 Update PDP Context Responses Received.
jnxMbgPgwlFV1UpdPdpCxtRspTx	Number of GTP V1 Update PDP Context Responses Sent.
jnxMbgPgwlFV1DelPdpCxtReqRx	Number of GTP V1 Delete PDP Context Requests Received.
jnxMbgPgwlFV1DelPdpCxtReqTx	Number of GTP V1 Delete PDP Context Requests Sent.
jnxMbgPgwlFV1DelPdpCxtRspRx	Number of GTP V1 Delete PDP Context Responses Received.
jnxMbgPgwlFV1DelPdpCxtRspTx	Number of GTP V1 Delete PDP Context Responses Sent.
jnxMbgPgwlFV1CrtAAPdpCxtReqRx	Number of GTP V1 Create AA PDP Context Requests Received.
jnxMbgPgwlFV1CrtAAPdpCxtReqTx	Number of GTP V1 Create AA PDP Context Requests Sent.
jnxMbgPgwlFV1CrtAAPdpCxtRspRx	Number of GTP V1 Create AA PDP Context Responses Received.
jnxMbgPgwlFV1CrtAAPdpCxtRspTx	Number of GTP V1 Create AA PDP Context Responses Sent.
jnxMbgPgwlFV1DelAAPdpCxtReqRx	Number of GTP V1 Delete AA PDP Context Requests Received.
jnxMbgPgwlFV1DelAAPdpCxtReqTx	Number of GTP V1 Delete AA PDP Context Requests Sent.
jnxMbgPgwlFV1DelAAPdpCxtRspRx	Number of GTP V1 Delete AA PDP Context Responses Received.
jnxMbgPgwlFV1DelAAPdpCxtRspTx	Number of GTP V1 Delete AA PDP Context Responses Sent.
jnxMbgPgwlFV1ErrorIndRx	Number of GTP V1 Error Indication Received.
jnxMbgPgwlFV1ErrorIndTx	Number of GTP V1 Error Indication Sent.
jnxMbgPgwlFV1NotifReqRx	Number of GTP V1 Notify Requests Received.
jnxMbgPgwlFV1NotifReqTx	Number of GTP V1 Notify Requests Sent.
jnxMbgPgwlFV1NotifRspRx	Number of GTP V1 Notify Responses Received.
jnxMbgPgwlFV1NotifRspTx	Number of GTP V1 Notify Responses Sent.
jnxMbgPgwlFV1NotifRejReqRx	Number of GTP V1 Notify Reject Requests Received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV1NotifRejReqTx	Number of GTP V1 Notify Reject Requests Sent.
jnxMbgPgwIfV1NotifRejRespRx	Number of GTP V1 Notify Reject Responses Received.
jnxMbgPgwIfV1NotifRejRespTx	Number of GTP V1 Notify Reject Responses Sent.
jnxMbgPgwIfV1RtInfReqRx	Number of GTP V1 Routing Information Requests Received.
jnxMbgPgwIfV1RtInfReqTx	Number of GTP V1 Routing Information Requests Sent.
jnxMbgPgwIfV1RtInfRespRx	Number of GTP V1 Routing Information Responses Received.
jnxMbgPgwIfV1RtInfRespTx	Number of GTP V1 Routing Information Responses Sent.
jnxMbgPgwIfV1FailRptReqRx	Number of GTP V1 Fail Repeat Requests Received.
jnxMbgPgwIfV1FailRptReqTx	Number of GTP V1 Fail Repeat Requests Sent.
jnxMbgPgwIfV1FailRptRespRx	Number of GTP V1 Fail Repeat Responses Received.
jnxMbgPgwIfV1FailRptRespTx	Number of GTP V1 Fail Repeat Responses Sent.
jnxMbgPgwIfV1NotMSPresReqRx	Number of GTP V1 MS Not Present Request Received.
jnxMbgPgwIfV1NotMSPresReqTx	Number of GTP V1 MS Not Present Request Sent.
jnxMbgPgwIfV1NotMSPresRespRx	Number of GTP V1 MS Not Present Responses Received.
jnxMbgPgwIfV1NotMSPresRespTx	Number of GTP V1 MS Not Present Responses Sent.
jnxMbgPgwIfV1ICsReqAcceptedRx	Number of GTPV1 packets received with cause Request Accepted.
jnxMbgPgwIfV1ICsReqAcceptedTx	Number of GTPV1 packets sent with cause Request Accepted.
jnxMbgPgwIfV1ICsNonExistRx	Number of GTPV1 packets received with cause Non Existent.
jnxMbgPgwIfV1ICsNonExistTx	Number of GTPV1 packets sent with cause Non Existent.
jnxMbgPgwIfV1ICsInvMsgFmtRx	Number of GTPV1 packets received with cause Invalid Message Format.
jnxMbgPgwIfV1ICsInvMsgFmtTx	Number of GTPV1 packets sent with cause Invalid Message Format.
jnxMbgPgwIfV1ICsIMSIUnknownRx	Number of GTPV1 packets received with cause IMSI Not Known.
jnxMbgPgwIfV1ICsIMSIUnknownTx	Number of GTPV1 packets sent with cause IMSI Not Known.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV1ICsMSGRPSDetachRx	Number of GTPV1 packets received with cause MS GPRS Detached.
jnxMbgPgwIfV1ICsMSGRPSDetachTx	Number of GTPV1 packets sent with cause MS GPRS Detached.
jnxMbgPgwIfV1ICsMSNotGRPSRespRx	Number of GTPV1 packets received with cause MS No GPRS Response.
jnxMbgPgwIfV1ICsMSNotGRPSRespTx	Number of GTPV1 packets sent with cause MS No GPRS Response.
jnxMbgPgwIfV1ICsMSRefusesRx	Number of GTPV1 packets received with cause MS Refuses.
jnxMbgPgwIfV1ICsMSRefusesTx	Number of GTPV1 packets sent with cause MS Refuses.
jnxMbgPgwIfV1ICsVerNotSuppRx	Number of GTPV1 packets received with cause Version Not Supported.
jnxMbgPgwIfV1ICsVerNotSuppTx	Number of GTPV1 packets sent with cause Version Not Supported.
jnxMbgPgwIfV1ICsNoResRx	Number of GTPV1 packets received with cause No Response.
jnxMbgPgwIfV1ICsNoResTx	Number of GTPV1 packets sent with cause No Response.
jnxMbgPgwIfV1ICsServNotSuppRx	Number of GTPV1 packets received with cause Service Not Supported.
jnxMbgPgwIfV1ICsServNotSuppTx	Number of GTPV1 packets sent with cause Service Not Supported.
jnxMbgPgwIfV1ICsManIEIncrRx	Number of GTPV1 packets received with cause Mandatory IE incorrect.
jnxMbgPgwIfV1ICsManIEIncrTx	Number of GTPV1 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwIfV1ICsManIEMissRx	Number of GTPV1 packets received with cause Mandatory IE Missing.
jnxMbgPgwIfV1ICsManIEMissTx	Number of GTPV1 packets sent with cause Mandatory IE Missing.
jnxMbgPgwIfV1ICsOptIEIncrRx	Number of GTPV1 packets received with cause Optional IE incorrect.
jnxMbgPgwIfV1ICsOptIEIncrTx	Number of GTPV1 packets sent with cause Optional IE incorrect.
jnxMbgPgwIfV1ICsSysFailRx	Number of GTPV1 packets received with cause System Failure.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV1ICsSysFailTx	Number of GTPV1 packets sent with cause System Failure.
jnxMbgPgwIfV1ICsRoamRestrictRx	Number of GTPV1 packets received with cause Roaming Restricted.
jnxMbgPgwIfV1ICsRoamRestrictTx	Number of GTPV1 packets sent with cause Roaming Restricted.
jnxMbgPgwIfV1ICsPTMSISigMMRx	Number of GTPV1 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwIfV1ICsPTMSISigMMTx	Number of GTPV1 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwIfV1ICsGPRSConnSuppRx	Number of GTPV1 packets received with cause GPRS Connection Supported.
jnxMbgPgwIfV1ICsGPRSConnSuppTx	Number of GTPV1 packets sent with cause GPRS Connection Supported.
jnxMbgPgwIfV1ICsAuthFailRx	Number of GTPV1 packets received with cause Auth Failure.
jnxMbgPgwIfV1ICsAuthFailTx	Number of GTPV1 packets sent with cause Auth Failure.
jnxMbgPgwIfV1ICsUserAuthFailRx	Number of GTPV1 packets received with cause User Auth Failure.
jnxMbgPgwIfV1ICsUserAuthFailTx	Number of GTPV1 packets sent with cause User Auth Failure.
jnxMbgPgwIfV1ICsCtxNotFndRx	Number of GTPV1 packets received with cause Context Not Found.
jnxMbgPgwIfV1ICsCtxNotFndTx	Number of GTPV1 packets sent with cause Context Not Found.
jnxMbgPgwIfV1ICsAllDynPDPAdRx	Number of GTPV1 packets received with cause Allow Dynamic PDP Address.
jnxMbgPgwIfV1ICsAllDynPDPAdTx	Number of GTPV1 packets sent with cause Allow Dynamic PDP Address.
jnxMbgPgwIfV1ICsNoMemRx	Number of GTPV1 packets received with cause No Memory.
jnxMbgPgwIfV1ICsNoMemTx	Number of GTPV1 packets sent with cause No Memory.
jnxMbgPgwIfV1ICsRelocFailRx	Number of GTPV1 packets received with cause Relocation Failed.
jnxMbgPgwIfV1ICsRelocFailTx	Number of GTPV1 packets sent with cause Relocation Failed.
jnxMbgPgwIfV1ICsUnkManExhdrRx	Number of GTPV1 packets received with cause Unknown Mandatory Extension Header.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIIFV1ICsUnkManExhdrTx	Number of GTPV1 packets sent with cause Unknown Mandatory Extension Header.
jnxMbgPgwIIFV1ICsSMANTTFTErrRx	Number of GTPV1 packets received with cause Mandatory TFT Error.
jnxMbgPgwIIFV1ICsSMANTTFTErrTx	Number of GTPV1 packets sent with cause Mandatory TFT Error.
jnxMbgPgwIIFV1ICsSYNTFTErr2Rx	Number of GTPV1 packets received with cause Mandatory TFT Error.
jnxMbgPgwIIFV1ICsSYNTFTErr2Tx	Number of GTPV1 packets sent with cause Mandatory TFT Error.
jnxMbgPgwIIFV1ICsSMNTPkFlErr1Rx	Number of GTPV1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwIIFV1ICsSMNTPkFlErr1Tx	Number of GTPV1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwIIFV1ICsSYNPkFlErr2Rx	Number of GTPV1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwIIFV1ICsSYNPkFlErr2Tx	Number of GTPV1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwIIFV1ICsMissUnknAPNRx	Number of GTPV1 packets received with cause Unknown APN missing.
jnxMbgPgwIIFV1ICsMissUnknAPNTx	Number of GTPV1 packets sent with cause Unknown APN missing.
jnxMbgPgwIIFV1ICsUnknPDPAdRx	Number of GTPV1 packets received with cause Unknown PDP Address.
jnxMbgPgwIIFV1ICsUnknPDPAdTx	Number of GTPV1 packets sent with cause Unknown PDP Address.
jnxMbgPgwIIFV1ICsNoTFTCtxExRx	Number of GTPV1 packets received with cause No TFT Context Exists.
jnxMbgPgwIIFV1ICsNoTFTCtxExTx	Number of GTPV1 packets sent with cause No TFT Context Exists.
jnxMbgPgwIIFV0ProtocolErrRx	Number of GTPv0 Protocol Errors received.
jnxMbgPgwIIFV0UnsupportedMsgRx	Number of GTPv0 Unsupported Messages received.
jnxMbgPgwIIFV0T3RespTmrExpRx	Number of GTP V0 T3 timer expiries received.
jnxMbgPgwIIFV0GlbNumMsgRx	Number of GTPv0 messages received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfV0GlbNumMsgTx	Number of GTP V0 messages sent.
jnxMbgPgwIfV0GlbNumBytesRx	Number of GTPv0 bytes received.
jnxMbgPgwIfV0GlbNumBytesTx	Number of GTP V0 bytes sent.
jnxMbgPgwIfV0GlbEchoReqRx	Number of GTP V0 Echo Requests received.
jnxMbgPgwIfV0GlbEchoReqTx	Number of GTP V0 Echo Requests sent.
jnxMbgPgwIfV0GlbEchoRespRx	Number of GTP V0 Echo Responses received.
jnxMbgPgwIfV0GlbEchoRespTx	Number of GTP V0 Echo Responses sent.
jnxMbgPgwIfV0GlbVerNotSupRx	Number of GTP V0 Version Not supported messages received.
jnxMbgPgwIfV0GlbVerNotSupTx	Number of GTP V0 version not supported messages sent.
jnxMbgPgwIfV0GlbCrtPdpCxtReqRx	Number of GTP V0 Create PDP Context Requests received.
jnxMbgPgwIfV0GlbCrtPdpCxtReqTx	Number of GTP V0 Create PDP Context Requests sent.
jnxMbgPgwIfV0GlbCrtPdpCxtRespRx	Number of GTP V0 Create PDP Context Responses Received.
jnxMbgPgwIfV0GlbCrtPdpCxtRespTx	Number of GTP V0 Create PDP Context Responses Sent.
jnxMbgPgwIfV0GlbUpdPdpCxtReqRx	Number of GTP V0 Update PDP Context Requests Received.
jnxMbgPgwIfV0GlbUpdPdpCxtReqTx	Number of GTP V0 Update PDP Context Requests Sent.
jnxMbgPgwIfV0GlbUpdPdpCxtRespRx	Number of GTP V0 Update PDP Context Responses Received
jnxMbgPgwIfV0GlbUpdPdpCxtRespTx	Number of GTP V0 Update PDP Context Responses Sent
jnxMbgPgwIfV0GlbDelPdpCxtReqRx	Number of GTP V0 Delete PDP Context Requests Received.
jnxMbgPgwIfV0GlbDelPdpCxtReqTx	Number of GTP V0 Delete PDP Context Requests Sent.
jnxMbgPgwIfV0GlbDelPdpCxtRespRx	Number of GTP V0 Delete PDP Context Responses Received.
jnxMbgPgwIfV0GlbDelPdpCxtRespTx	Number of GTP V0 Delete PDP Context Responses Sent.
jnxMbgPgwIfV0GlbCrtAAPdpCxtReqRx	Number of GTP V0 Create AA PDP Context Requests Received.
jnxMbgPgwIfV0GlbCrtAAPdpCxtReqTx	Number of GTP V0 Create AA PDP Context Requests Sent.
jnxMbgPgwIfV0GlbCrtAAPdpCxtRpRx	Number of GTP V0 Create AA PDP Context Responses Received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfVOGlbCrtAAPdpCxtRpTx	Number of GTP V0 Create AA PDP Context Responses Sent.
jnxMbgPgwIfVOGlbDelAAPdpCxtRqRx	Number of GTP V0 Delete AA PDP Context Requests Received.
jnxMbgPgwIfVOGlbDelAAPdpCxtRqTx	Number of GTP V0 Delete AA PDP Context Requests Sent.
jnxMbgPgwIfVOGlbDelAAPdpCxtRpRx	Number of GTP V0 Delete AA PDP Context Responses Received.
jnxMbgPgwIfVOGlbDelAAPdpCxtRpTx	Number of GTP V0 Delete AA PDP Context Responses Sent.
jnxMbgPgwIfVOGlbErrorIndRx	Number of GTP V0 Error Indication messages Received.
jnxMbgPgwIfVOGlbErrorIndTx	Number of GTP V0 Error Indication messages Sent.
jnxMbgPgwIfVOGlbNotifReqRx	Number of GTP V0 Notify Requests Received.
jnxMbgPgwIfVOGlbNotifReqTx	Number of GTP V0 Notify Requests Sent.
jnxMbgPgwIfVOGlbNotifRspRx	Number of GTP V0 Notify Responses Received.
jnxMbgPgwIfVOGlbNotifRspTx	Number of GTP V0 Notify Responses Sent.
jnxMbgPgwIfVOGlbNotifRejReqRx	Number of GTP V0 Notify Reject Requests Received.
jnxMbgPgwIfVOGlbNotifRejReqTx	Number of GTP V0 Notify Reject Requests Sent.
jnxMbgPgwIfVOGlbNotifRejRspRx	Number of GTP V0 Notify Reject Responses Received.
jnxMbgPgwIfVOGlbNotifRejRspTx	Number of GTP V0 Notify Reject Responses Sent.
jnxMbgPgwIfVOGlbRtInfReqRx	Number of GTP V0 Routing Information Requests Received.
jnxMbgPgwIfVOGlbRtInfReqTx	Number of GTP V0 Routing Information Requests Sent.
jnxMbgPgwIfVOGlbRtInfRspRx	Number of GTP V0 Routing Information Responses Received.
jnxMbgPgwIfVOGlbRtInfRspTx	Number of GTP V0 Routing Information Responses Sent.
jnxMbgPgwIfVOGlbFailRptReqRx	Number of GTP V0 Fail Repeat Requests Received.
jnxMbgPgwIfVOGlbFailRptReqTx	Number of GTP V0 Fail Repeat Requests Sent.
jnxMbgPgwIfVOGlbFailRptRspRx	Number of GTP V0 Fail Repeat Responses Received.
jnxMbgPgwIfVOGlbFailRptRspTx	Number of GTP V0 Fail Repeat Responses Sent.
jnxMbgPgwIfVOGlbNotMSPresReqRx	Number of GTP V0 MS Not Present Requests Received.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfVOIGlbNotMSPresReqTx	Number of GTP V0 MS Not Present Requests Sent.
jnxMbgPgwIfVOIGlbNotMSPresRespRx	Number of GTP V0 MS Not Present Responses Received.
jnxMbgPgwIfVOIGlbNotMSPresRespTx	Number of GTP V0 MS Not Present Responses Sent.
jnxMbgPgwIfVOICsReqAcceptedRx	Number of GTPV0 packets received with cause Request Accepted.
jnxMbgPgwIfVOICsReqAcceptedTx	Number of GTPV0 packets sent with cause Request Accepted.
jnxMbgPgwIfVOICsNonExistRx	Number of GTPV0 packets received with cause Non Existent.
jnxMbgPgwIfVOICsNonExistTx	Number of GTPV0 packets sent with cause Non Existent
jnxMbgPgwIfVOICsInvMsgFmtRx	Number of GTPV0 packets received with cause Invalid Message Format.
jnxMbgPgwIfVOICsInvMsgFmtTx	Number of GTPV0 packets sent with cause Invalid Message Format.
jnxMbgPgwIfVOICsIMSIUnknownRx	Number of GTPV0 packets received with cause IMSI Not Known.
jnxMbgPgwIfVOICsIMSIUnknownTx	Number of GTPV0 packets sent with cause IMSI Not Known.
jnxMbgPgwIfVOICsMSGRPSDetachRx	Number of GTPV0 packets received with cause MS GPRS Detached.
jnxMbgPgwIfVOICsMSGRPSDetachTx	Number of GTPV0 packets sent with cause MS GPRS Detached.
jnxMbgPgwIfVOICsMSNotGRPSRespRx	Number of GTPV0 packets received with cause MS No GPRS Response.
jnxMbgPgwIfVOICsMSNotGRPSRespTx	Number of GTPV0 packets sent with cause MS No GPRS Response.
jnxMbgPgwIfVOICsMSRefusesRx	Number of GTPV0 packets received with cause MS Refuses.
jnxMbgPgwIfVOICsMSRefusesTx	Number of GTPV0 packets sent with cause MS Refuses.
jnxMbgPgwIfVOICsVerNotSuppRx	Number of GTPV0 packets received with cause Version Not Supported.
jnxMbgPgwIfVOICsVerNotSuppTx	Number of GTPV0 packets sent with cause Version Not Supported.
jnxMbgPgwIfVOICsNoResRx	Number of GTPV0 packets received with cause No Response.
jnxMbgPgwIfVOICsNoResTx	Number of GTPV0 packets sent with cause No Response.

Table 15: GTP Interface-level Statistics (*continued*)

jnxMbgPgwIfVOICsServNotSuppRx	Number of GTPV0 packets received with cause Service Not Supported.
jnxMbgPgwIfVOICsServNotSuppTx	Number of GTPV0 packets sent with cause Service Not Supported.
jnxMbgPgwIfVOICsManIEIncrRx	Number of GTPV0 packets received with cause Mandatory IE incorrect.
jnxMbgPgwIfVOICsManIEIncrTx	Number of GTPV0 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwIfVOICsManIEMissRx	Number of GTPV0 packets received with cause Mandatory IE Missing.
jnxMbgPgwIfVOICsManIEMissTx	Number of GTPV0 packets sent with cause Mandatory IE Missing.
jnxMbgPgwIfVOICsOptIEIncrRx	Number of GTPV0 packets received with cause Optional IE incorrect.
jnxMbgPgwIfVOICsOptIEIncrTx	Number of GTPV0 packets sent with cause Optional IE incorrect.
jnxMbgPgwIfVOICsSysFailRx	Number of GTPV0 packets received with cause System Failure.
jnxMbgPgwIfVOICsSysFailTx	Number of GTPV0 packets sent with cause System Failure.
jnxMbgPgwIfVOICsRoamRestrictRx	Number of GTPV0 packets received with cause Roaming Restricted.
jnxMbgPgwIfVOICsRoamRestrictTx	Number of GTPV0 packets sent with cause Roaming Restricted.
jnxMbgPgwIfVOICsPTMSISigMMRx	Number of GTPV0 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwIfVOICsPTMSISigMMTx	Number of GTPV0 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwIfVOICsGPRSConnSuppRx	Number of GTPV0 packets received with cause GPRS Connection Supported.
jnxMbgPgwIfVOICsGPRSConnSuppTx	Number of GTPV0 packets sent with cause GPRS Connection Supported."
jnxMbgPgwIfVOICsAuthFailRx	Number of GTPV0 packets received with cause Auth Failure.
jnxMbgPgwIfVOICsAuthFailTx	Number of GTPV0 packets sent with cause Auth Failure.
jnxMbgPgwIfVOICsUserAuthFailRx	Number of GTPV0 packets received with cause User Auth Failure.

Table 15: GTP Interface-level Statistics (*continued*)

<code>jnxMbgPgwIfoICsUserAuthFailTx</code>	Number of GTPV0 packets sent with cause User Auth Failure.
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GTP Peer Version 1 Operational Statistics

Table 16 on page 53 shows the statistics for `jnxMbgPgwGtpCPerPeerStatsTable`, which show GTP peer version 1 operational statistics.

Table 16: `jnxMbgPgwGtpCPerPeerStatsTable` Statistics

Name	Description
<code>jnxMbgPgwPPV1ProtocolErrRx</code>	Number of GTP V1 protocol errors received.
<code>jnxMbgPgwPPV1UnsupportedMsgRx</code>	Number of GTP V1 unsupported messages received.
<code>jnxMbgPgwPPV1T3RespTmrExpRx</code>	Number of GTP V1 T3 timer expiries received.
<code>jnxMbgPgwPPV1GlbNumMsgRx</code>	Number of GTP V1 messages received.
<code>jnxMbgPgwPPV1GlbNumMsgTx</code>	Number of GTP V1 messages sent.
<code>jnxMbgPgwPPV1GlbNumBytesRx</code>	Number of GTP V1 bytes received.
<code>jnxMbgPgwPPV1GlbNumBytesTx</code>	Number of GTP V1 bytes sent.
<code>jnxMbgPgwPPV1GlbEchoReqRx</code>	Number of GTP V1 echo requests received.
<code>jnxMbgPgwPPV1GlbEchoReqTx</code>	Number of GTP V1 echo requests sent.
<code>jnxMbgPgwPPV1GlbEchoRespRx</code>	Number of GTP V1 echo responses received.
<code>jnxMbgPgwPPV1GlbEchoRespTx</code>	Number of GTP V1 echo responses sent.
<code>jnxMbgPgwPPV1VerNotSupRx</code>	Number of GTP V1 version not supported messages received.
<code>jnxMbgPgwPPV1VerNotSupTx</code>	Number of GTP V1 number of version not supported messages sent.
<code>jnxMbgPgwPPV1CrtPdpCxtReqRx</code>	Number of GTP V1 create PDP context requests received.
<code>jnxMbgPgwPPV1CrtPdpCxtReqTx</code>	Number of GTP V1 create PDP context requests sent.
<code>jnxMbgPgwPPV1CrtPdpCxtRespRx</code>	Number of GTP V1 create PDP context responses received.
<code>jnxMbgPgwPPV1CrtPdpCxtRespTx</code>	Number of GTP V1 create PDP context responses sent.
<code>jnxMbgPgwPPV1UpdPdpCxtReqRx</code>	Number of GTP V1 update PDP context requests received.
<code>jnxMbgPgwPPV1UpdPdpCxtReqTx</code>	Number of GTP V1 update PDP context requests sent.

Table 16: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV1UpdPdpCxtRspRx	Number of GTP V1 update PDP context responses received.
jnxMbgPgwPPV1UpdPdpCxtRspTx	Number of GTP V1 update PDP context responses sent.
jnxMbgPgwPPV1DelPdpCxtReqRx	Number of GTP V1 delete PDP context requests received.
jnxMbgPgwPPV1DelPdpCxtReqTx	Number of GTP V1 delete PDP context requests sent.
jnxMbgPgwPPV1DelPdpCxtRspRx	Number of GTP V1 delete PDP context responses received.
jnxMbgPgwPPV1DelPdpCxtRspTx	Number of GTP V1 delete PDP context responses sent.
jnxMbgPgwPPV1CrtAAPdpCxtReqRx	Number of GTP V1 create AA PDP context requests received.
jnxMbgPgwPPV1CrtAAPdpCxtReqTx	Number of GTP V1 create AA PDP context requests sent.
jnxMbgPgwPPV1CrtAAPdpCxtRspRx	Number of GTP V1 create AA PDP context responses received.
jnxMbgPgwPPV1CrtAAPdpCxtRspTx	Number of GTP V1 create AA PDP context responses sent.
jnxMbgPgwPPV1DelAAPdpCxtReqRx	Number of GTP V1 delete AA PDP context requests received.
jnxMbgPgwPPV1DelAAPdpCxtReqTx	Number of GTP V1 delete AA PDP context requests sent.
jnxMbgPgwPPV1DelAAPdpCxtRspRx	Number of GTP V1 delete AA PDP context responses received.
jnxMbgPgwPPV1DelAAPdpCxtRspTx	Number of GTP V1 delete AA PDP context responses sent.
jnxMbgPgwPPV1ErrorIndRx	Number of GTP V1 error indication received.
jnxMbgPgwPPV1ErrorIndTx	Number of GTP V1 error indication sent.
jnxMbgPgwPPV1NotifReqRx	Number of GTP V1 notify requests received.
jnxMbgPgwPPV1NotifReqTx	Number of GTP V1 notify requests sent.
jnxMbgPgwPPV1NotifRspRx	Number of GTP V1 notify responses received.
jnxMbgPgwPPV1NotifRspTx	Number of GTP V1 notify responses sent.
jnxMbgPgwPPV1NotifRejReqRx	Number of GTP V1 notify reject requests received.
jnxMbgPgwPPV1NotifRejReqTx	Number of GTP V1 notify reject requests sent.
jnxMbgPgwPPV1NotifRejRspRx	Number of GTP V1 notify reject responses received.
jnxMbgPgwPPV1NotifRejRspTx	Number of GTP V1 notify reject responses sent.
jnxMbgPgwPPV1RtInfReqRx	Number of GTP V1 routing information requests received.

Table 16: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPVIRtInfReqTx	Number of GTP V1 routing information requests sent.
jnxMbgPgwPPVIRtInfRespRx	Number of GTP V1 routing information responses received.
jnxMbgPgwPPVIRtInfRespTx	Number of GTP V1 routing information responses sent.
jnxMbgPgwPPVIFailRptReqRx	Number of GTP V1 fail repeat requests received.
jnxMbgPgwPPVIFailRptReqTx	Number of GTP V1 fail repeat requests sent.
jnxMbgPgwPPVIFailRptRespRx	Number of GTP V1 fail repeat responses received.
jnxMbgPgwPPVIFailRptRespTx	Number of GTP V1 fail repeat responses sent.
jnxMbgPgwPPV1NotMSPresReqRx	Number of GTP V1 MS not present request received
jnxMbgPgwPPV1NotMSPresReqTx	Number of GTP V1 MS not present request sent.
jnxMbgPgwPPV1NotMSPresRespRx	Number of GTP V1 MS not present responses received.
jnxMbgPgwPPV1NotMSPresRespTx	Number of GTP V1 MS not present responses sent.

GTP Peer Version 1 Success or Failure Statistics

Table 17 on page 55 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 1 success or failure statistics.

Table 17: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV1CsReqAcceptedRx	Number of GTP V1 packets received with cause Request Accepted.
jnxMbgPgwPPV1CsReqAcceptedTx	Number of GTP V1 packets sent with cause Request Accepted.
jnxMbgPgwPPV1CsNonExistRx	Number of GTP V1 packets received with cause Non Existent.
jnxMbgPgwPPV1CsNonExistTx	Number of GTP V1 packets sent with cause Non Existent.
jnxMbgPgwPPV1CsInvMsgFmtRx	Number of GTP V1 packets received with cause Invalid Message Format.
jnxMbgPgwPPV1CsInvMsgFmtTx	Number of GTP V1 packets sent with cause Invalid Message Format.
jnxMbgPgwPPV1CsIMSIUnknownRx	Number of GTP V1 packets received with cause IMSI Not Known.
jnxMbgPgwPPV1CsIMSIUnknownTx	Number of GTP V1 packets sent with cause IMSI Not Known.
jnxMbgPgwPPV1CsMSGRPSDetachRx	Number of GTP V1 packets received with cause MS GPRS Detached.

Table 17: jnxMbgPgwPpV1CsMSPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPpV1CsMSGRPSTx	Number of GTP V1 packets sent with cause MS GPRS Service Not Detached.
jnxMbgPgwPpV1CsMSNotGRPSRespRx	Number of GTP V1 packets received with cause MS No GPRS Response.
jnxMbgPgwPpV1CsMSNotGRPSRespTx	Number of GTP V1 packets sent with cause MS No GPRS Response.
jnxMbgPgwPpV1CsMSRefusesRx	Number of GTP V1 packets received with cause MS Refuses.
jnxMbgPgwPpV1CsMSRefusesTx	Number of GTP V1 packets sent with cause MS Refuses.
jnxMbgPgwPpV1CsVerNotSuppRx	Number of GTP V1 packets received with cause Version Not Supported.
jnxMbgPgwPpV1CsVerNotSuppTx	Number of GTP V1 packets sent with cause Version Not Supported.
jnxMbgPgwPpV1CsNoResRx	Number of GTP V1 packets received with cause No Response.
jnxMbgPgwPpV1CsNoResTx	Number of GTP V1 packets sent with cause No Response.
jnxMbgPgwPpV1CsServNotSuppRx	Number of GTP V1 packets received with cause Service Not Supported.
jnxMbgPgwPpV1CsServNotSuppTx	Number of GTP V1 packets sent with cause Service Not Supported.
jnxMbgPgwPpV1CsManIEIncrRx	Number of GTP V1 packets received with cause Mandatory IE Incorrect.
jnxMbgPgwPpV1CsManIEIncrTx	Number of GTP V1 packets sent with cause Mandatory IE Incorrect.
jnxMbgPgwPpV1CsManIEMissRx	Number of GTP V1 packets received with cause Mandatory IE Missing.
jnxMbgPgwPpV1CsManIEMissTx	Number of GTP V1 packets sent with cause Mandatory IE Missing.
jnxMbgPgwPpV1CsOptIEIncrRx	Number of GTP V1 packets received with cause Optional IE Incorrect.
jnxMbgPgwPpV1CsOptIEIncrTx	Number of GTP V1 packets sent with cause Optional IE Incorrect.
jnxMbgPgwPpV1CsSysFailRx	Number of GTP V1 packets received with cause System Failure.
jnxMbgPgwPpV1CsSysFailTx	Number of GTP V1 packets sent with cause System Failure.
jnxMbgPgwPpV1CsRoamRestrictRx	Number of GTP V1 packets received with cause Roaming Restricted.
jnxMbgPgwPpV1CsRoamRestrictTx	Number of GTP V1 packets sent with cause Roaming Restricted.
jnxMbgPgwPpV1CsPTMSISigMMRx	Number of GTP V1 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwPpV1CsPTMSISigMMTx	Number of GTP V1 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwPpV1CsGPRSConnSuppRx	Number of GTP V1 packets received with cause GPRS connection supported.

Table 17: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV1ICsGPRSConnSuppTx	Number of GTP V1 packets sent with cause GPRS connection supported.
jnxMbgPgwPPV1ICsAuthFailRx	Number of GTP V1 packets received with cause Auth Failure.
jnxMbgPgwPPV1ICsAuthFailTx	Number of GTP V1 packets sent with cause Auth Failure.
jnxMbgPgwPPV1ICsUserAuthFailRx	Number of GTP V1 packets received with cause User Auth Failure.
jnxMbgPgwPPV1ICsUserAuthFailTx	Number of GTP V1 packets sent with cause User Auth Failure.
jnxMbgPgwPPV1ICsCtxNotFndRx	Number of GTP V1 packets received with cause Context Not Found.
jnxMbgPgwPPV1ICsCtxNotFndTx	Number of GTP V1 packets sent with cause Context Not Found.
jnxMbgPgwPPV1ICsAllDynPDPAdRx	Number of GTP V1 packets received with cause Allow Dynamic PDP Address.
jnxMbgPgwPPV1ICsAllDynPDPAdTx	Number of GTP V1 packets sent with cause Allow Dynamic PDP Address.
jnxMbgPgwPPV1ICsNoMemRx	Number of GTP V1 packets received with cause No Memory.
jnxMbgPgwPPV1ICsNoMemTx	Number of GTP V1 packets sent with cause No Memory.
jnxMbgPgwPPV1ICsRelocFailRx	Number of GTP V1 packets received with cause Relocation Failed.
jnxMbgPgwPPV1ICsRelocFailTx	Number of GTP V1 packets sent with cause Relocation Failed.
jnxMbgPgwPPV1ICsUnkManExhdrRx	Number of GTP V1 packets received with cause Unknown Mandatory Extension Header.
jnxMbgPgwPPV1ICsUnkManExhdrTx	Number of GTP V1 packets sent with cause Unknown Mandatory Extension Header.
jnxMbgPgwPPV1ICsSMANTTFTer1Rx	Number of GTP V1 packets received with cause Mandatory TFT Error.
jnxMbgPgwPPV1ICsSMANTTFTer1Tx	Number of GTP V1 packets sent with cause Mandatory TFT Error.
jnxMbgPgwPPV1ICsSYNTFTerr2Rx	Number of GTP V1 packets received with cause Mandatory TFT Error.
jnxMbgPgwPPV1ICsSYNTFTerr2Tx	Number of GTP V1 packets sent with cause Mandatory TFT Error.
jnxMbgPgwPPV1ICsSMNTPkFIEr1Rx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwPPV1ICsSMNTPkFIEr1Tx	Number of GTP V1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwPPV1ICsSYNPkFIErr2Rx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwPPV1ICsSYNPkFIErr2Tx	Number of GTP V1 packets sent with cause Mandatory Packet Filter Error.

Table 17: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV1ICsMissUnknAPNRx	Number of GTP V1 packets received with cause Unknown APN Missing.
jnxMbgPgwPPV1ICsMissUnknAPNTx	Number of GTP V1 packets sent with cause Unknown APN Missing.
jnxMbgPgwPPV1ICsUnknPDPAdRx	Number of GTP V1 packets received with cause Unknown PDP Address.
jnxMbgPgwPPV1ICsUnknPDPAdTx	Number of GTP V1 packets sent with cause Unknown PDP Address.
jnxMbgPgwPPV1ICsNoTFTCtxExRx	Number of GTP V1 packets received with cause No TFT Context Exists.
jnxMbgPgwPPV1ICsNoTFTCtxExTx	Number of GTP V1 packets sent with cause No TFT Context Exists.

GTP Peer Version 0 Operational Statistics

Table 18 on page 58 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 0 operational statistics.

Table 18: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV0ProtocolErrRx	Number of GTP V0 protocol errors received.
jnxMbgPgwPPV0UnsupportedMsgRx	Number of GTP V0 unsupported messages received.
jnxMbgPgwPPV0T3RespTmrExpRx	Number of GTP V0 T3 timer expiries received.
jnxMbgPgwPPV0GlbNumMsgRx	Number of GTP V0 messages received.
jnxMbgPgwPPV0GlbNumMsgTx	Number of GTP V0 messages sent.
jnxMbgPgwPPV0GlbNumBytesRx	Number of GTP V0 bytes received.
jnxMbgPgwPPV0GlbNumBytesTx	Number of GTP V0 bytes sent.
jnxMbgPgwPPV0GlbEchoReqRx	Number of GTP V0 echo requests received.
jnxMbgPgwPPV0GlbEchoReqTx	Number of GTP V0 echo requests sent.
jnxMbgPgwPPV0GlbEchoRespRx	Number of GTP V0 echo responses received.
jnxMbgPgwPPV0GlbEchoRespTx	Number of GTP V0 echo responses sent.
jnxMbgPgwPPV0GlbVerNotSupRx	Number of GTP V0 version not supported messages received.
jnxMbgPgwPPV0GlbVerNotSupTx	Number of GTP V0 number of version not supported messages sent.
jnxMbgPgwPPV0GlbCrtPdpCtxReqRx	Number of GTP V0 create PDP context requests received.

Table 18: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV0GlbCrtPdpCxtReqTx	Number of GTP V0 create PDP context requests sent.
jnxMbgPgwPPV0GlbCrtPdpCxtRespRx	Number of GTP V0 create PDP context responses received.
jnxMbgPgwPPV0GlbCrtPdpCxtRespTx	Number of GTP V0 create PDP context responses sent.
jnxMbgPgwPPV0GlbUpdPdpCxtReqRx	Number of GTP V0 update PDP context requests received.
jnxMbgPgwPPV0GlbUpdPdpCxtReqTx	Number of GTP V0 update PDP context requests sent.
jnxMbgPgwPPV0GlbUpdPdpCxtRespRx	Number of GTP V0 update PDP context responses received.
jnxMbgPgwPPV0GlbUpdPdpCxtRespTx	Number of GTP V0 update PDP context responses sent.
jnxMbgPgwPPV0GlbDelPdpCxtReqRx	Number of GTP V0 delete PDP context requests received.
jnxMbgPgwPPV0GlbDelPdpCxtReqTx	Number of GTP V0 delete PDP context requests sent.
jnxMbgPgwPPV0GlbDelPdpCxtRespRx	Number of GTP V0 delete PDP context responses received.
jnxMbgPgwPPV0GlbDelPdpCxtRespTx	Number of GTP V0 delete PDP context responses sent.
jnxMbgPgwPPV0GlbCrAAPdpCxtReqRx	Number of GTP V0 create AA PDP context requests received.
jnxMbgPgwPPV0GlbCrAAPdpCxtReqTx	Number of GTP V0 create AA PDP context requests sent.
jnxMbgPgwPPV0GlbCrAAPdpCxtRespRx	Number of GTP V0 create AA PDP context responses received.
jnxMbgPgwPPV0GlbCrAAPdpCxtRespTx	Number of GTP V0 create AA PDP context responses sent.
jnxMbgPgwPPV0GlbDIAAPdpCxtReqRx	Number of GTP V0 delete AA PDP context requests received.
jnxMbgPgwPPV0GlbDIAAPdpCxtReqTx	Number of GTP V0 delete AA PDP context requests sent.
jnxMbgPgwPPV0GlbDIAAPdpCxtRespRx	Number of GTP V0 delete AA PDP context responses received.
jnxMbgPgwPPV0GlbDIAAPdpCxtRespTx	Number of GTP V0 delete AA PDP context responses sent.
jnxMbgPgwPPV0GlbErrorIndRx	Number of GTP V0 error indication received.
jnxMbgPgwPPV0GlbErrorIndTx	Number of GTP V0 error indication sent.
jnxMbgPgwPPV0GlbNotifReqRx	Number of GTP V0 notify requests received.
jnxMbgPgwPPV0GlbNotifReqTx	Number of GTP V0 notify requests sent.
jnxMbgPgwPPV0GlbNotifRespRx	Number of GTP V0 notify responses received.
jnxMbgPgwPPV0GlbNotifRespTx	Number of GTP V0 notify responses sent.

Table 18: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV0GlbNotifRejReqRx	Number of GTP V0 notify reject requests received.
jnxMbgPgwPPV0GlbNotifRejReqTx	Number of GTP V0 notify reject requests sent.
jnxMbgPgwPPV0GlbNotifRejRespRx	Number of GTP V0 notify reject responses received.
jnxMbgPgwPPV0GlbNotifRejRespTx	Number of GTP V0 notify reject responses sent.
jnxMbgPgwPPV0GlbRtInfReqRx	Number of GTP V0 routing information requests received.
jnxMbgPgwPPV0GlbRtInfReqTx	Number of GTP V0 routing information requests sent.
jnxMbgPgwPPV0GlbRtInfRespRx	Number of GTP V0 routing information responses received.
jnxMbgPgwPPV0GlbRtInfRespTx	Number of GTP V0 routing information responses sent.
jnxMbgPgwPPV0GlbFailRptReqRx	Number of GTP V0 fail repeat requests received.
jnxMbgPgwPPV0GlbFailRptReqTx	Number of GTP V0 fail repeat requests sent.
jnxMbgPgwPPV0GlbFailRptRespRx	Number of GTP V0 fail repeat responses received.
jnxMbgPgwPPV0GlbFailRptRespTx	Number of GTP V0 fail repeat responses sent.
jnxMbgPgwPPV0GlbNotMSPresReqRx	Number of GTP V0 MS not present requests received.
jnxMbgPgwPPV0GlbNotMSPresReqTx	Number of GTP V0 MS not present requests sent.
jnxMbgPgwPPV0GlbNotMSPresRespRx	Number of GTP V0 MS not present responses received.
jnxMbgPgwPPV0GlbNotMSPresRespTx	Number of GTP V0 MS not present responses sent.

GTP Peer Version 0 Success or Failure Statistics

Table 19 on page 60 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 0 success or failure statistics.

Table 19: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV0ICsReqAcceptedRx	Number of GTP V0 packets received with cause Request Accepted.
jnxMbgPgwPPV0ICsReqAcceptedTx	Number of GTP V0 packets sent with cause Request Accepted.
jnxMbgPgwPPV0ICsNonExistRx	Number of GTP V0 packets received with cause Non Existent.
jnxMbgPgwPPV0ICsNonExistTx	Number of GTP V0 packets sent with cause Non existent.

Table 19: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV0ICsInvMsgFmtRx	Number of GTP V0 packets received with cause Invalid Message Format.
jnxMbgPgwPPV0ICsInvMsgFmtTx	Number of GTP V0 packets sent with cause Invalid Message Format.
jnxMbgPgwPPV0ICsIMSIUnknownRx	Number of GTP V0 packets received with cause IMSI Not Known.
jnxMbgPgwPPV0ICsIMSIUnknownTx	Number of GTP V0 packets sent with cause IMSI Not Known.
jnxMbgPgwPPV0ICsMSGRPSDetachRx	Number of GTP V0 packets received with cause MS GPRS Detached.
jnxMbgPgwPPV0ICsMSGRPSDetachTx	Number of GTP V0 packets sent with cause MS GPRS Detached.
jnxMbgPgwPPV0ICsMSNoGRPSRespRx	Number of GTP V0 packets received with cause MS No GPRS Response.
jnxMbgPgwPPV0ICsMSNoGRPSRespTx	Number of GTP V0 packets sent with cause MS No GPRS Response.
jnxMbgPgwPPV0ICsMSRefusesRx	Number of GTP V0 packets received with cause MS Refuses.
jnxMbgPgwPPV0ICsMSRefusesTx	Number of GTP V0 packets sent with cause MS Refuses.
jnxMbgPgwPPV0ICsVerNotSuppRx	Number of GTP V0 packets received with cause Version Not Supported.
jnxMbgPgwPPV0ICsVerNotSuppTx	Number of GTP V0 packets sent with cause Version Not Supported.
jnxMbgPgwPPV0ICsNoResRx	Number of GTP V0 packets received with cause No Response.
jnxMbgPgwPPV0ICsNoResTx	Number of GTP V0 packets sent with cause No Response.
jnxMbgPgwPPV0ICsServNotSuppRx	Number of GTP V0 packets received with cause Service Not Supported.
jnxMbgPgwPPV0ICsServNotSuppTx	Number of GTP V0 packets sent with cause Service Not Supported.
jnxMbgPgwPPV0ICsManIEIncrRx	Number of GTP V0 packets received with cause Mandatory IE Incorrect.
jnxMbgPgwPPV0ICsManIEIncrTx	Number of GTP V0 packets sent with cause Mandatory IE Incorrect.
jnxMbgPgwPPV0ICsManIEMissRx	Number of GTP V0 packets received with cause Mandatory IE Missing.
jnxMbgPgwPPV0ICsManIEMissTx	Number of GTP V0 packets sent with cause Mandatory IE Missing.
jnxMbgPgwPPV0ICsOptIEIncrRx	Number of GTP V0 packets received with cause Optional IE Incorrect.
jnxMbgPgwPPV0ICsOptIEIncrTx	Number of GTP V0 packets sent with cause Optional IE Incorrect.
jnxMbgPgwPPV0ICsSysFailRx	Number of GTP V0 packets received with cause System Failure.
jnxMbgPgwPPV0ICsSysFailTx	Number of GTP V0 packets sent with cause System Failure.
jnxMbgPgwPPV0ICsRoamRestrictRx	Number of GTP V0 packets received with cause Roaming Restricted.

Table 19: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPVOICsRoamRestrictTx	Number of GTP V0 packets sent with cause Roaming Restricted.
jnxMbgPgwPPVOICsPTMSISigMMRx	Number of GTP V0 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwPPVOICsPTMSISigMMTx	Number of GTP V0 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwPPVOICsGPRSConnSuppRx	Number of GTP V0 packets received with cause GPRS Connection Supported.
jnxMbgPgwPPVOICsGPRSConnSuppTx	Number of GTP V0 packets sent with cause GPRS Connection Supported.
jnxMbgPgwPPVOICsAuthFailRx	Number of GTP V0 packets received with cause Auth Failure.
jnxMbgPgwPPVOICsAuthFailTx	Number of GTP V0 packets sent with cause Auth Failure.
jnxMbgPgwPPVOICsUserAuthFailRx	Number of GTP V0 packets received with cause User Auth Failure.
jnxMbgPgwPPVOICsUserAuthFailTx	Number of GTP V0 packets sent with cause User Auth Failure.

GTP Global Version 2 Operational Statistics

Table 20 on page 62 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 2 operational statistics.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwRxPacketsDropped	Number of received GTP packets dropped by the gateway.
jnxMbgPgwPacketAllocFail	Number of packet allocation failures in the gateway.
jnxMbgPgwPacketSendFail	Number of GTP packet send failures in the gateway.
jnxMbgPgwIPVerErrRx	Number of IP version error packets received.
jnxMbgPgwIPProtoErrRx	Number of IP protocol error packets received.
jnxMbgPgwGTPPortErrRx	Number of port error packets received.
jnxMbgPgwGTPUnknVerRx	Number of unknown version packets received.
jnxMbgPgwPcktLenErrRx	Number of packet length error packets received.
jnxMbgPgwUnknMsgRx	Number of unknown messages received.
jnxMbgPgwV2ProtocolErrRx	Number of GTPv2 protocol errors received.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2UnSupportedMsgRx	Number of GTP V2 unsupported messages received.
jnxMbgPgwV2T3RespTmrExpRx	GTP V2 number of T3 timer expiries received.
jnxMbgPgwV2GlbNumMsgRx	Number of GTP V2 messages received.
jnxMbgPgwV2GlbNumMsgTx	Number of GTP V2 messages sent.
jnxMbgPgwV2GlbNumBytesRx	Number of GTP V2 bytes received.
jnxMbgPgwV2GlbNumBytesTx	Number of GTP V2 bytes sent.
jnxMbgPgwV2GlbEchoReqRx	Number of GTP V2 echo requests received.
jnxMbgPgwV2GlbEchoReqTx	Number of GTP V2 echo requests sent.
jnxMbgPgwV2GlbEchoRespRx	Number of GTP V2 echo responses received.
jnxMbgPgwV2GlbEchoRespTx	Number of GTP V2 echo responses sent.
jnxMbgPgwV2VerNotSupRx	Number of GTP V2 version not supported messages received.
jnxMbgPgwV2VerNotSupTx	Number of GTP V2 version not supported messages sent.
jnxMbgPgwV2CreateSessReqRx	Number of GTP V2 create session requests received.
jnxMbgPgwV2CreateSessReqTx	Number of GTP V2 create session requests sent.
jnxMbgPgwV2CreateSessRspRx	Number of GTP V2 create session responses received.
jnxMbgPgwV2CreateSessRspTx	Number of GTP V2 create session responses sent.
jnxMbgPgwV2ModBrReqRx	Number of GTP V2 modify bearer requests received.
jnxMbgPgwV2ModBrReqTx	Number of GTP V2 modify bearer requests sent.
jnxMbgPgwV2ModBrRspRx	Number of GTP V2 modify bearer responses received.
jnxMbgPgwV2ModBrRspTx	Number of GTP V2 modify bearer responses sent.
jnxMbgPgwV2DelSessReqRx	Number of GTP V2 delete session requests received.
jnxMbgPgwV2DelSessReqTx	Number of GTP V2 delete session requests sent.
jnxMbgPgwV2DelSessRspRx	Number of GTP V2 delete session responses received.
jnxMbgPgwV2DelSessRspTx	Number of GTP V2 delete session responses sent.
jnxMbgPgwV2CrtBrReqRx	Number of GTP V2 create bearer requests received.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2CrtBrReqTx	Number of GTP V2 create bearer requests sent.
jnxMbgPgwV2CrtBrRespRx	Number of GTP V2 create bearer responses received.
jnxMbgPgwV2CrtBrRespTx	Number of GTP V2 create bearer responses sent.
jnxMbgPgwV2UpdBrReqRx	Number of GTP V2 update bearer responses received.
jnxMbgPgwV2UpdBrReqTx	Number of GTP V2 update bearer responses sent.
jnxMbgPgwV2UpdBrRespRx	Number of GTP V2 update bearer responses received.
jnxMbgPgwV2UpdBrRespTx	Number of GTP V2 update bearer responses sent.
jnxMbgPgwV2DelBrReqRx	Number of GTP V2 delete bearer requests received.
jnxMbgPgwV2DelBrReqTx	Number of GTP V2 delete bearer requests sent.
jnxMbgPgwV2DelBrRespRx	Number of GTP V2 delete bearer responses received.
jnxMbgPgwV2DelBrRespTx	Number of GTP V2 delete bearer responses sent.
jnxMbgPgwV2DelConnSetReqRx	Number of GTP V2 delete PDN connection set requests received.
jnxMbgPgwV2DelConnSetReqTx	Number of GTP V2 delete PDN connection set requests sent.
jnxMbgPgwV2DelConnSetRespRx	Number of GTP V2 delete PDN connection set responses received.
jnxMbgPgwV2DelConnSetRespTx	Number of GTP V2 delete PDN connection set responses sent.
jnxMbgPgwV2UpdConnSetReqRx	Number of GTP V2 update connection set request received.
jnxMbgPgwV2UpdConnSetReqTx	Number of GTP V2 update connection set requests sent.
jnxMbgPgwV2UpdConnSetRespRx	Number of GTP V2 update connection set responses received.
jnxMbgPgwV2UpdConnSetRespTx	Number of GTP V2 update connection set responses sent.
jnxMbgPgwV2ModBrCmdRx	Number of GTP V2 modify bearer commands received.
jnxMbgPgwV2ModBrCmdTx	Number of GTP V2 modify bearer commands sent.
jnxMbgPgwV2ModBrFlrIndRx	Number of GTP V2 modify bearer failures received.
jnxMbgPgwV2ModBrFlrIndTx	Number of GTP V2 modify bearer failures sent.
jnxMbgPgwV2DelBrCmdRx	Number of GTP V2 delete bearer commands received.
jnxMbgPgwV2DelBrCmdTx	Number of GTP V2 delete bearer commands sent.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2DelBrFlrIndRx	Number of GTP V2 delete bearer failures received.
jnxMbgPgwV2DelBrFlrIndTx	Number of GTP V2 delete bearer failures sent.
jnxMbgPgwV2BrResCmdRx	Number of GTP V2 bearer response commands received.
jnxMbgPgwV2BrResCmdTx	Number of GTP V2 bearer response commands sent.
jnxMbgPgwV2BrResFlrIndRx	Number of GTP V2 bearer resource failures received.
jnxMbgPgwV2BrResFlrIndTx	Number of GTP V2 bearer resource failures sent.
jnxMbgPgwV2RelAcsBrReqRx	Obsolete. Number of GTP V2 release access bearer requests received.
jnxMbgPgwV2RelAcsBrReqTx	Obsolete. Number of GTP V2 release access bearer requests sent.
jnxMbgPgwV2RelAcsBrRespRx	Obsolete. Number of GTP V2 release access bearer responses received.
jnxMbgPgwV2RelAcsBrRespTx	Obsolete. Number of GTP V2 release access bearer responses sent.
jnxMbgPgwV2CrIndTunReqRx	Obsolete. Number of GTP V2 create indirect tunnel forward requests received.
jnxMbgPgwV2CrIndTunReqTx	Obsolete. Number of GTP V2 create indirect tunnel forward requests sent.
jnxMbgPgwV2CrIndTunRespRx	Obsolete. Number of GTP V2 create indirect tunnel forward responses received.
jnxMbgPgwV2CrIndTunRespTx	Obsolete. Number of GTP V2 create indirect tunnel forward responses sent.
jnxMbgPgwV2DelIndTunReqRx	Obsolete. Number of GTP V2 delete indirect tunnel forward requests received.
jnxMbgPgwV2DelIndTunReqTx	Obsolete. Number of GTP V2 delete indirect tunnel forward requests sent.
jnxMbgPgwV2DelIndTunRespRx	Obsolete. Number of GTP V2 delete indirect tunnel forward responses received.
jnxMbgPgwV2DelIndTunRespTx	Obsolete. Number of GTP V2 delete indirect tunnel forward responses sent.
jnxMbgPgwV2DlDataNotifRx	Obsolete. Number of GTP V2 downlink data notifies received.
jnxMbgPgwV2DlDataNotifTx	Obsolete. Number of GTP V2 downlink data notifies sent.
jnxMbgPgwV2DlDataAckRx	Obsolete. Number of GTP V2 downlink data notify acknowledgements received.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2DlDataAckTx	Obsolete. Number of GTP V2 downlink data notify acknowledgements sent.
jnxMbgPgwV2DlDataNotiFlrIndRx	Obsolete. Number of GTP V2 downlink data notification failures received.
jnxMbgPgwV2DlDataNotiFlrIndTx	Obsolete. Number of GTP V2 downlink data notification failures sent.
jnxMbgPgwV2StopPagingIndRx	Obsolete. Number of GTP V2 stop paging indication messages received.
jnxMbgPgwV2StopPagingIndTx	Obsolete. Number of GTP V2 stop paging indication messages transmitted.
jnxMbgPgwV2ICsPageRx	Obsolete. Number of GTPV2 packets received with cause Page.
jnxMbgPgwV2ICsPageTx	Obsolete. Number of GTPV2 packets sent with cause Page.

GTP Global Version 2 Success or Failure Statistics

Table 21 on page 66 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 2 success or failure statistics.

Table 21: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwV2ICsPageRx	Obsolete. Number of GTP V2 packets received with cause Page.
jnxMbgPgwV2ICsPageTx	Obsolete. Number of GTP V2 packets sent with cause Page.
jnxMbgPgwGtpV2ICsLclDetRx	Number of GTP packets received with cause Local Detach.
jnxMbgPgwGtpV2ICsLclDetTx	Number of GTP packets sent with cause Local Detach.
jnxMbgPgwGtpV2ICsCmpDetRx	Number of GTP packets received with cause Complete Detach.
jnxMbgPgwGtpV2ICsCmpDetTx	Number of GTP packets sent with cause Complete Detach.
jnxMbgPgwGtpV2ICsRATChgRx	Number of GTP packets received with cause RAT changed from 3GPP to non 3GPP.
jnxMbgPgwGtpV2ICsRATChgTx	Number of GTP packets sent with cause RAT changed from 3GPP to non 3GPP.
jnxMbgPgwGtpV2ICsISRDeactRx	Number of GTP packets received with cause ISR Deactivated.
jnxMbgPgwGtpV2ICsISRDeactTx	Number of GTP packets sent with cause ISR Deactivated.
jnxMbgPgwGtpV2ICsEIFRNCEnRx	Number of GTP packets received with cause Error Indication from RNC eNodeB.
jnxMbgPgwGtpV2ICsEIFRNCEnTx	Number of GTP packets sent with cause Error Indication from RNC eNodeB.

Table 21: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwGtpV2ICsSemErTADRx	Number of GTP packets received with cause Semantic Error in TAD Operation.
jnxMbgPgwGtpV2ICsSemErTADTx	Number of GTP packets sent with cause Semantic Error in TAD Operation.
jnxMbgPgwGtpV2ICsSynErTADRx	Number of GTP packets received with cause Syntactic Error in TAD Operation.
jnxMbgPgwGtpV2ICsSynErTADTx	Number of GTP packets sent with cause Syntactic Error in TAD Operation.
jnxMbgPgwGtpV2ICsRMValRcvRx	Number of GTP packets received with cause Reserved Message Value Received.
jnxMbgPgwGtpV2ICsRMValRcvTx	Number of GTP packets sent with cause Reserved Message Value Received.
jnxMbgPgwGtpV2ICsRPrNtRspRx	Number of GTP packets received with cause Remote peer not responding.
jnxMbgPgwGtpV2ICsRPrNtRspTx	Number of GTP packets sent with cause Remote peer not responding.
jnxMbgPgwGtpV2ICsColNWReqRx	Number of GTP packets received with cause Collision with network initiated request.
jnxMbgPgwGtpV2ICsColNWReqTx	Number of GTP packets sent with cause Collision with network initiated request.
jnxMbgPgwGtpV2ICsUnPgUESusRx	Number of GTP packets received with cause Unable to page UE due to suspension.
jnxMbgPgwGtpV2ICsUnPgUESusTx	Number of GTP packets sent with cause Unable to page UE due to suspension.
jnxMbgPgwGtpV2ICsInvTotLenRx	Number of GTP packets received with cause Invalid total length.
jnxMbgPgwGtpV2ICsInvTotLenTx	Number of GTP packets sent with cause Invalid total length.
jnxMbgPgwGtpV2ICsDtForNtSupRx	Number of GTP packets received with cause Data forwarding not supported.
jnxMbgPgwGtpV2ICsDtForNtSupTx	Number of GTP packets sent with cause Data forwarding not supported.
jnxMbgPgwGtpV2ICsInReFRPrRx	Number of GTP packets received with cause Invalid Reply from Remote peer.
jnxMbgPgwGtpV2ICsInReFRPrTx	Number of GTP packets sent with cause Invalid Reply from Remote peer.
jnxMbgPgwGtpV2ICsInvPrRx	Number of GTP packets received with cause Invalid peer.
jnxMbgPgwGtpV2ICsInvPrTx	Number of GTP packets sent with cause Invalid peer.
jnxMbgPgwV2ICsReqAcceptRx	Number of GTP V2 packets received with cause Request Accept.
jnxMbgPgwV2ICsReqAcceptTx	Number of GTP V2 packets sent with cause Request Accept Messages.
jnxMbgPgwV2ICsAcceptPartRx	Number of GTP V2 packets received with cause Accept Partial Messages.

Table 21: jnxMbgPgwGtpCgIbStatsTable Statistics (*continued*)

jnxMbgPgwV2ICsAcceptPartTx	Number of GTP V2 packets sent with cause Accept Partial Messages.
jnxMbgPgwV2ICsNewPTNPrefRx	Number of GTP V2 packets received with cause New PDN Type Due to Network Preference.
jnxMbgPgwV2ICsNewPTNPrefTx	Number of GTP V2 packets sent with cause New PDN Type Due to Network Preference.
jnxMbgPgwV2ICsNewPTSIAdbrRx	Number of GTP V2 packets received with cause New PDN Type Due to Single Address Bearer.
jnxMbgPgwV2ICsNewPTSIAdbrTx	Number of GTP V2 packets sent with cause New PDN Type Due to Single Address Bearer.
jnxMbgPgwV2ICsCtxNotFndRx	Number of GTP V2 packets received with cause Context Not Found.
jnxMbgPgwV2ICsCtxNotFndTx	Number of GTP V2 packets sent with cause Context Not Found.
jnxMbgPgwV2ICsInvMsgFmtRx	Number of GTP V2 packets received with cause Invalid Message
jnxMbgPgwV2ICsInvMsgFmtTx	Format.number of GTP V2 packets sent with cause Invalid Message Format.
jnxMbgPgwV2ICsVerNotSuppRx	Number of GTP V2 packets received with cause Version Not Supported.
jnxMbgPgwV2ICsVerNotSuppTx	Number of GTP V2 packets sent with cause Version Not Supported.
jnxMbgPgwV2ICsInvLenRx	Number of GTP V2 packets received with cause Invalid Length.
jnxMbgPgwV2ICsInvLenTx	Number of GTP V2 packets sent with cause Invalid Length.
jnxMbgPgwV2ICsServNotSuppRx	Number of GTP V2 packets received with cause Service Not Supported.
jnxMbgPgwV2ICsServNotSuppTx	Number of GTP V2 packets sent with cause Service Not Supported.
jnxMbgPgwV2ICsManIEIncorrRx	Number of GTP V2 packets received with cause Mandatory IE Incorrect.
jnxMbgPgwV2ICsManIEIncorrTx	Number of GTP V2 packets sent with cause Mandatory IE Incorrect.
jnxMbgPgwV2ICsManIEMissRx	Number of GTP V2 packets received with cause Mandatory IE Missing.
jnxMbgPgwV2ICsManIEMissTx	Number of GTP V2 packets sent with cause Mandatory IE Missing.
jnxMbgPgwV2ICsOptIEIncorrRx	Number of GTP V2 packets received with cause Optional IE Incorrect.
jnxMbgPgwV2ICsOptIEIncorrTx	Number of GTP V2 packets sent with cause optional IE Incorrect.
jnxMbgPgwV2ICsSysFailRx	Number of GTP V2 packets received with cause System Failure.
jnxMbgPgwV2ICsSysFailTx	Number of GTP V2 packets sent with cause System Failure.

Table 21: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2ICsNoResRx	Number of GTP V2 packets received with cause No Resource.
jnxMbgPgwV2ICsNoResTx	Number of GTP V2 packets sent with cause No Resource.
jnxMbgPgwV2ICsTFTSMANterRx	Number of GTP V2 packets received with cause TFT Semantic Error.
jnxMbgPgwV2ICsTFTSMANterTx	Number of GTP V2 packets sent with cause TFT Semantic Error.
jnxMbgPgwV2ICsTFTSysErrRx	Number of GTP V2 packets received with cause TFT System Error.
jnxMbgPgwV2ICsTFTSysErrTx	Number of GTP V2 packets sent with cause TFT System Error.
jnxMbgPgwV2ICsPkFltManErrRx	Number of GTP V2 packets received with cause Packet Filter Semantic error.
jnxMbgPgwV2ICsPkFltManErrTx	Number of GTP V2 packets sent with cause Packet Filter Semantic Error.
jnxMbgPgwV2ICsPkFltSynErrRx	Number of GTP V2 packets received with cause Packet Filter Syntax Error.
jnxMbgPgwV2ICsPkFltSynErrTx	Number of GTP V2 packets sent with cause Packet Filter Syntax Error.
jnxMbgPgwV2ICsMisUnknAPNRx	Number of GTP V2 packets received with cause Unknown APN.
jnxMbgPgwV2ICsMisUnknAPNTx	Number of GTP V2 packets sent with cause Unknown APN.
jnxMbgPgwV2ICsUnexpRptIERx	Number of GTP V2 packets received with cause Unexpected Repeated IE.
jnxMbgPgwV2ICsUnexpRptIETx	Number of GTP V2 packets sent with cause Unexpected Repeated IE.
jnxMbgPgwV2ICsGREKeyNtFdRx	Number of GTP V2 packets received with cause GRE Key Not Found.
jnxMbgPgwV2ICsGREKeyNtFdTx	Number of GTP V2 packets sent with cause GRE Key Not Found.
jnxMbgPgwV2ICsRelocFailRx	Number of GTP V2 packets received with cause Relocation Failed.
jnxMbgPgwV2ICsRelocFailTx	Number of GTP V2 packets sent with cause Relocation Failed.
jnxMbgPgwV2ICsDeniedINRatRx	Number of GTP V2 packets received with cause Denied in RAT.
jnxMbgPgwV2ICsDeniedINRatTx	Number of GTP V2 packets sent with cause Denied in RAT.
jnxMbgPgwV2ICsPTNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.
jnxMbgPgwV2ICsPTNotSuppTx	Number of GTP V2 packets sent with cause PDN Type Not Supported.
jnxMbgPgwV2ICsAllDynAdOccRx	Number of GTP V2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgPgwV2ICsAllDynAdOccTx	Number of GTP V2 packets sent with cause Allocated Dynamic Address Occupied.

Table 21: jnxMbgPgwV2ICsNOTFTUECTxRx Statistics (*continued*)

jnxMbgPgwV2ICsNOTFTUECTxRx	Number of GTP V2 packets received with cause UE Context without TFT exists.
jnxMbgPgwV2ICsNOTFTUECTTx	Number of GTP V2 packets sent with cause UE Context without TFT exists.
jnxMbgPgwV2ICsProtoNtSupRx	Number of GTP V2 packets received with cause Protocol Not Supported.
jnxMbgPgwV2ICsProtoNtSupTx	Number of GTP V2 packets sent with cause Protocol Not Supported.
jnxMbgPgwV2ICsUENotRespRx	Number of GTP V2 packets received with cause UE Not Responding.
jnxMbgPgwV2ICsUENotRespTx	Number of GTP V2 packets sent with cause UE Not Responding.
jnxMbgPgwV2ICsUERefusesRx	Number of GTP V2 packets received with cause UE Refuses.
jnxMbgPgwV2ICsUERefusesTx	Number of GTP V2 packets sent with cause UE Refuses.
jnxMbgPgwV2ICsServDeniedRx	Number of GTP V2 packets received with cause Service Denied.
jnxMbgPgwV2ICsServDeniedTx	Number of GTP V2 packets sent with cause Service Denied.
jnxMbgPgwV2ICsUnabPageUERx	Number of GTP V2 packets received with cause Unable To Page UE.
jnxMbgPgwV2ICsUnabPageUETx	Number of GTP V2 packets sent with cause Unable To Page UE.
jnxMbgPgwV2ICsNoMemRx	Number of GTP V2 packets received with cause No Memory.
jnxMbgPgwV2ICsNoMemTx	Number of GTP V2 packets sent with cause No Memory.
jnxMbgPgwV2ICsUserAUTHFlRx	Number of GTP V2 packets received with cause User Auth Failed.
jnxMbgPgwV2ICsUserAUTHFlTx	Number of GTP V2 packets sent with cause User Auth Failed.
jnxMbgPgwV2ICsAPNAcsDenRx	Number of GTP V2 packets received with cause APN Access Denied.
jnxMbgPgwV2ICsAPNAcsDenTx	Number of GTP V2 packets sent with cause APN Access Denied.
jnxMbgPgwV2ICsReqRejRx	Number of GTP V2 packets received with cause Request Rejected.
jnxMbgPgwV2ICsReqRejTx	Number of GTP V2 packets sent with cause Request Rejected.
jnxMbgPgwV2ICsPTMSISigMMRx	Number of GTP V2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgPgwV2ICsPTMSISigMMTx	Number of GTP V2 packets sent with cause P-TMSI Signature Mismatch.
jnxMbgPgwV2ICsIMSINotKnRx	Number of GTP V2 packets received with cause IMSI Not Known.
jnxMbgPgwV2ICsIMSINotKnTx	Number of GTP V2 packets sent with cause IMSI Not Known.

Table 21: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2ICsCondiEMsRx	Number of GTP V2 packets received with cause Conditional IE Missing.
jnxMbgPgwV2ICsCondiEMsTx	Number of GTP V2 packets sent with cause Conditional IE Missing.
jnxMbgPgwV2ICsAPNResTIncRx	Number of GTP V2 packets received with cause APN Restriction Type Incompatible.
jnxMbgPgwV2ICsAPNResTIncTx	Number of GTP V2 packets sent with cause APN Restriction Type Incompatible.
jnxMbgPgwV2ICsUnknownRx	Number of GTP V2 packets received with cause Unknown.
jnxMbgPgwV2ICsUnknownTx	Number of GTP V2 packets sent with cause Unknown.

GTP Global Version 1 Operational Statistics

Table 22 on page 71 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 1 operational statistics.

Table 22: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwV1ProtocolErrRx	Number of GTP V2 protocol errors received.
jnxMbgPgwV1UnSupportedMsgRx	Number of GTP V2 unsupported messages received.
jnxMbgPgwV1T3RespTmrExpRx	Number of GTP V1 T3 timer expiries received.
jnxMbgPgwV1GlbNumMsgRx	Number of GTP V1 messages received.
jnxMbgPgwV1GlbNumMsgTx	Number of GTP V1 messages sent.
jnxMbgPgwV1GlbNumBytesRx	Number of GTP V1 bytes received.
jnxMbgPgwV1GlbNumBytesTx	Number of GTP V1 bytes sent.
jnxMbgPgwV1GlbEchoReqRx	Number of GTP V1 echo requests received.
jnxMbgPgwV1GlbEchoReqTx	Number of GTP V1 echo requests sent.
jnxMbgPgwV1GlbEchoRespRx	Number of GTP V1 echo responses received.
jnxMbgPgwV1GlbEchoRespTx	Number of GTP V1 echo responses sent.
jnxMbgPgwV1VerNotSupRx	Number of GTP V1 version not supported messages received.
jnxMbgPgwV1VerNotSupTx	Number of GTP V1 version not supported messages sent.

Table 22: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1CrtPdpCxtReqRx	Number of GTP V1 create PDP context requests received.
jnxMbgPgwV1CrtPdpCxtReqTx	Number of GTP V1 create PDP context requests sent.
jnxMbgPgwV1CrtPdpCxtRespRx	Number of GTP V1 create PDP context responses received.
jnxMbgPgwV1CrtPdpCxtRespTx	Number of GTP V1 create PDP context responses sent.
jnxMbgPgwV1UpdPdpCxtReqRx	Number of GTP V1 update PDP context requests received.
jnxMbgPgwV1UpdPdpCxtReqTx	Number of GTP V1 update PDP context requests sent.
jnxMbgPgwV1UpdPdpCxtRespRx	Number of GTP V1 update PDP context responses received.
jnxMbgPgwV1UpdPdpCxtRespTx	Number of GTP V1 update PDP context responses sent.
jnxMbgPgwV1DelPdpCxtReqRx	Number of GTP V1 delete PDP context requests received.
jnxMbgPgwV1DelPdpCxtReqTx	Number of GTP V1 delete PDP context requests sent.
jnxMbgPgwV1DelPdpCxtRespRx	Number of GTP V1 delete PDP context responses received.
jnxMbgPgwV1DelPdpCxtRespTx	Number of GTP V1 delete PDP context responses sent.
jnxMbgPgwV1CrtAAPdpCxtReqRx	Number of GTP V1 create AA PDP context requests received.
jnxMbgPgwV1CrtAAPdpCxtReqTx	Number of GTP V1 create AA PDP context requests sent.
jnxMbgPgwV1CrtAAPdpCxtRespRx	Number of GTP V1 create AA PDP context responses received.
jnxMbgPgwV1CrtAAPdpCxtRespTx	Number of GTP V1 create AA PDP context responses sent.
jnxMbgPgwV1DelAAPdpCxtReqRx	Number of GTP V1 delete AA PDP context requests received.
jnxMbgPgwV1DelAAPdpCxtReqTx	Number of GTP V1 delete AA PDP context requests sent.
jnxMbgPgwV1DelAAPdpCxtRespRx	Number of GTP V1 delete AA PDP context responses received.
jnxMbgPgwV1DelAAPdpCxtRespTx	Number of GTP V1 delete AA PDP context responses sent.
jnxMbgPgwV1ErrorIndRx	Number of GTP V1 error indication received.
jnxMbgPgwV1ErrorIndTx	Number of GTP V1 error indication sent.
jnxMbgPgwV1NotifReqRx	Number of GTP V1 notify requests received.
jnxMbgPgwV1NotifReqTx	Number of GTP V1 notify requests sent.
jnxMbgPgwV1NotifRespRx	Number of GTP V1 notify responses received.

Table 22: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1NotifRespTx	Number of GTP V1 notify responses sent.
jnxMbgPgwV1NotifRejReqRx	Number of GTP V1 notify reject requests received.
jnxMbgPgwV1NotifRejReqTx	Number of GTP V1 notify reject requests sent.
jnxMbgPgwV1NotifRejRespRx	Number of GTP V1 notify reject responses received.
jnxMbgPgwV1NotifRejRespTx	Number of GTP V1 notify reject responses sent.
jnxMbgPgwV1RtInfReqRx	Number of GTP V1 routing information requests received.
jnxMbgPgwV1RtInfReqTx	Number of GTP V1 routing information requests sent.
jnxMbgPgwV1RtInfRespRx	Number of GTP V1 routing information responses received.
jnxMbgPgwV1RtInfRespTx	Number of GTP V1 routing information responses sent.
jnxMbgPgwV1FailRptReqRx	Number of GTP V1 fail repeat requests received.
jnxMbgPgwV1FailRptReqTx	Number of GTP V1 fail repeat requests sent.
jnxMbgPgwV1FailRptRespRx	Number of GTP V1 fail repeat responses received.
jnxMbgPgwV1FailRptRespTx	Number of GTP V1 fail repeat responses sent.
jnxMbgPgwV1NotMSPresReqRx	Number of GTP V1 MS not present requests received.
jnxMbgPgwV1NotMSPresReqTx	Number of GTP V1 MS not present requests sent.
jnxMbgPgwV1NotMSPresRespRx	Number of GTP V1 MS not present responses received.
jnxMbgPgwV1NotMSPresRespTx	Number of GTP V1 MS not present responses sent.

GTP Global Version 1 Success or Failure Statistics

Table 23 on page 73 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 1 success or failure statistics.

Table 23: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwV1ICsReqAcceptedRx	Number of GTP V1 packets received with cause Request Accepted.
jnxMbgPgwV1ICsReqAcceptedTx	Number of GTP V1 packets sent with cause Request Accepted.
jnxMbgPgwV1ICsNonExistRx	Number of GTP V1 packets received with cause Non Existent.

Table 23: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1ICsNonExistTx	Number of GTP V1 packets sent with cause Non Existent.
jnxMbgPgwV1ICsInvMsgFmtRx	Number of GTP V1 packets received with cause Invalid Message Format.
jnxMbgPgwV1ICsInvMsgFmtTx	Number of GTP V1 packets sent with cause Invalid Message Format.
jnxMbgPgwV1ICsIMSIUnknownRx	Number of GTP V1 packets received with cause IMSI Not Known.
jnxMbgPgwV1ICsIMSIUnknownTx	Number of GTP V1 packets sent with cause IMSI Not Known.
jnxMbgPgwV1ICsMSGRPSDetachRx	Number of GTP V1 packets received with cause MS GPRS Detached.
jnxMbgPgwV1ICsMSGRPSDetachTx	Number of GTP V1 packets sent with cause MS GPRS Detached.
jnxMbgPgwV1ICsMSNotGRPSRespRx	Number of GTP V1 packets received with cause MS No GPRS Response.
jnxMbgPgwV1ICsMSNotGRPSRespTx	Number of GTP V1 packets sent with cause MS No GPRS Response.
jnxMbgPgwV1ICsMSRefusesRx	Number of GTP V1 packets received with cause MS Refuses.
jnxMbgPgwV1ICsMSRefusesTx	Number of GTP V1 packets sent with cause MS Refuses.
jnxMbgPgwV1ICsVerNotSuppRx	Number of GTP V1 packets received with cause Version Not Supported.
jnxMbgPgwV1ICsVerNotSuppTx	Number of GTP V1 packets sent with cause Version Not Supported.
jnxMbgPgwV1ICsNoResRx	Number of GTP V1 packets received with cause No Response.
jnxMbgPgwV1ICsNoResTx	Number of GTP V1 packets sent with cause No Response.
jnxMbgPgwV1ICsServNotSuppRx	Number of GTP V1 packets received with cause Service Not Supported.
jnxMbgPgwV1ICsServNotSuppTx	Number of GTP V1 packets sent with cause Service Not Supported.
jnxMbgPgwV1ICsManIEIncrRx	Number of GTP V1 packets received with cause Mandatory IE incorrect.
jnxMbgPgwV1ICsManIEIncrTx	Number of GTP V1 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwV1ICsManIEMissRx	Number of GTP V1 packets received with cause Mandatory IE Missing.
jnxMbgPgwV1ICsManIEMissTx	Number of GTP V1 packets sent with cause Mandatory IE Missing.
jnxMbgPgwV1ICsOptIEIncrRx	Number of GTP V1 packets received with cause Optional IE incorrect.
jnxMbgPgwV1ICsOptIEIncrTx	Number of GTP V1 packets sent with cause Optional IE incorrect.
jnxMbgPgwV1ICsSysFailRx	Number of GTP V1 packets received with cause System Failure.
jnxMbgPgwV1ICsSysFailTx	Number of GTP V1 packets sent with cause System Failure.

Table 23: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1ICsRoamRestrictRx	Number of GTP V1 packets received with cause Roaming Restricted.
jnxMbgPgwV1ICsRoamRestrictTx	Number of GTP V1 packets sent with cause Roaming Restricted.
jnxMbgPgwV1ICsPTMSISigMMRx	Number of GTP V1 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwV1ICsPTMSISigMMTx	Number of GTP V1 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwV1ICsGPRSConnSuppRx	Number of GTP V1 packets received with cause GPRS Connection Supported.
jnxMbgPgwV1ICsGPRSConnSuppTx	Number of GTP V1 packets sent with cause GPRS Connection Supported.
jnxMbgPgwV1ICsAuthFailRx	Number of GTP V1 packets received with cause Auth Failure.
jnxMbgPgwV1ICsAuthFailTx	Number of GTP V1 packets sent with cause Auth Failure.
jnxMbgPgwV1ICsUserAuthFailRx	Number of GTP V1 packets received with cause User Auth Failure.
jnxMbgPgwV1ICsUserAuthFailTx	Number of GTP V1 packets sent with cause User Auth Failure.
jnxMbgPgwV1ICsCtxNotFndRx	Number of GTP V1 packets received with cause Context Not Found.
jnxMbgPgwV1ICsCtxNotFndTx	Number of GTP V1 packets sent with cause Context Not Found.
jnxMbgPgwV1ICsAllDynPDPAdRx	Number of GTP V1 packets received with cause Allow Dynamic PDP Address.
jnxMbgPgwV1ICsAllDynPDPAdTx	Number of GTP V1 packets sent with cause Allow Dynamic PDP Address.
jnxMbgPgwV1ICsNoMemRx	Number of GTP V1 packets received with cause No Memory.
jnxMbgPgwV1ICsNoMemTx	Number of GTP V1 packets sent with cause No Memory.
jnxMbgPgwV1ICsRelocFailRx	Number of GTP V1 packets received with cause Relocation Failed.
jnxMbgPgwV1ICsRelocFailTx	Number of GTP V1 packets sent with cause Relocation Failed.
jnxMbgPgwV1ICsUnkManExhdrRx	Number of GTP V1 packets received with cause Unknown Mandatory Extension Header.
jnxMbgPgwV1ICsUnkManExhdrTx	Number of GTP V1 packets sent with cause Unknown Mandatory Extension Header.
jnxMbgPgwV1ICsSMANTTFTErIRx	Number of GTP V1 packets received with cause Mandatory TFT Error.
jnxMbgPgwV1ICsSMANTTFTErITx	Number of GTP V1 packets sent with cause Mandatory TFT Error.
jnxMbgPgwV1ICsSYNTFTErr2Rx	Number of GTP V1 packets received with cause Mandatory TFT Error.
jnxMbgPgwV1ICsSYNTFTErr2Tx	Number of GTP V1 packets sent with cause Mandatory TFT Error.

Table 23: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1ICsSMNTPkFlErr1Rx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSMNTPkFlErr1Tx	Number of GTP V1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSYNPkFlErr2Rx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSYNPkFlErr2Tx	Number of GTP V1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsMissUnknAPNRx	Number of GTP V1 packets received with cause Unknown APN Missing.
jnxMbgPgwV1ICsMissUnknAPNTx	Number of GTP V1 packets sent with cause Unknown APN Missing.
jnxMbgPgwV1ICsUnknPDPAdRx	Number of GTP V1 packets received with cause Unknown PDP Address.
jnxMbgPgwV1ICsUnknPDPAdTx	Number of GTP V1 packets sent with cause unknown PDP Address.
jnxMbgPgwV1ICsNoTFTCtxExRx	Number of GTP V1 packets received with cause No TFT Context Exists.
jnxMbgPgwV1ICsNoTFTCtxExTx	Number of GTP V1 packets sent with cause No TFT Context Exists.

GTP Global Version 0 Operational Statistics

Table 24 on page 76 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 0 operational statistics.

Table 24: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwV0ProtocolErrRx	Number of GTP V0 protocol errors received.
jnxMbgPgwV0UnsupportedMsgRx	Number of GTP V0 unsupported messages received.
jnxMbgPgwV0T3RespTmrExpRx	Number of GTP V0 T3 timer expiries received.
jnxMbgPgwV0GlbNumMsgRx	Number of GTP V0 messages received.
jnxMbgPgwV0GlbNumMsgTx	Number of GTP V0 messages sent.
jnxMbgPgwV0GlbNumBytesRx	Number of GTP V0 bytes received.
jnxMbgPgwV0GlbNumBytesTx	Number of GTP V0 bytes sent.
jnxMbgPgwV0GlbEchoReqRx	Number of GTP V0 echo requests received.
jnxMbgPgwV0GlbEchoReqTx	Number of GTP V0 echo requests sent.

Table 24: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwVOGlbEchoRespRx	Number of GTP V0 echo responses received.
jnxMbgPgwVOGlbEchoRespTx	Number of GTP V0 echo responses sent.
jnxMbgPgwVOGlbVerNotSupRx	Number of GTP V0 version not supported messages received
jnxMbgPgwVOGlbVerNotSupTx	Number of GTP V0 version not supported messages sent.
jnxMbgPgwVOGlbCrtPdpCxtReqRx	Number of GTP V0 create PDP context requests received.
jnxMbgPgwVOGlbCrtPdpCxtReqTx	Number of GTP V0 create PDP context requests sent.
jnxMbgPgwVOGlbCrtPdpCxtRespRx	Number of GTP V0 create PDP context responses received.
jnxMbgPgwVOGlbCrtPdpCxtRespTx	Number of GTP V0 create PDP context responses sent.
jnxMbgPgwVOGlbUpdPdpCxtReqRx	Number of GTP V0 update PDP context requests received.
jnxMbgPgwVOGlbUpdPdpCxtReqTx	Number of GTP V0 update PDP context requests sent.
jnxMbgPgwVOGlbUpdPdpCxtRespRx	Number of GTP V0 update PDP context responses received.
jnxMbgPgwVOGlbUpdPdpCxtRespTx	Number of GTP V0 update PDP context responses sent.
jnxMbgPgwVOGlbDelPdpCxtReqRx	Number of GTP V0 delete PDP context requests received.
jnxMbgPgwVOGlbDelPdpCxtReqTx	Number of GTP V0 delete PDP context requests sent.
jnxMbgPgwVOGlbDelPdpCxtRespRx	Number of GTP V0 delete PDP context responses received.
jnxMbgPgwVOGlbDelPdpCxtRespTx	Number of GTP V0 delete PDP context responses sent.
jnxMbgPgwVOGlbCrtAAPdpCxtReqRx	Number of GTP V0 create AA PDP context requests received.
jnxMbgPgwVOGlbCrtAAPdpCxtReqTx	Number of GTP V0 create AA PDP context requests sent.
jnxMbgPgwVOGlbCrtAAPdpCxtRespRx	Number of GTP V0 create AA PDP context responses received.
jnxMbgPgwVOGlbCrtAAPdpCxtRespTx	Number of GTP V0 create AA PDP context responses sent.
jnxMbgPgwVOGlbDelAAPdpCxtReqRx	Number of GTP V0 delete AA PDP context requests received.
jnxMbgPgwVOGlbDelAAPdpCxtReqTx	Number of GTP V0 delete AA PDP context requests sent.
jnxMbgPgwVOGlbDelAAPdpCxtRespRx	Number of GTP V0 delete AA PDP context responses received.
jnxMbgPgwVOGlbDelAAPdpCxtRespTx	Number of GTP V0 delete AA PDP context responses sent.
jnxMbgPgwVOGlbErrorIndRx	Number of GTP V0 error indication messages received.

Table 24: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwVOGlbErrorIndTx	Number of GTP V0 error indication messages sent.
jnxMbgPgwVOGlbNotifReqRx	Number of GTP V0 notify requests received.
jnxMbgPgwVOGlbNotifReqTx	Number of GTP V0 notify requests sent.
jnxMbgPgwVOGlbNotifRespRx	Number of GTP V0 notify responses received.
jnxMbgPgwVOGlbNotifRespTx	Number of GTP V0 notify responses sent.
jnxMbgPgwVOGlbNotifRejReqRx	Number of GTP V0 notify reject requests received.
jnxMbgPgwVOGlbNotifRejReqTx	Number of GTP V0 notify reject requests sent.
jnxMbgPgwVOGlbNotifRejRespRx	Number of GTP V0 notify reject responses received.
jnxMbgPgwVOGlbNotifRejRespTx	Number of GTP V0 notify reject responses sent.
jnxMbgPgwVOGlbRtInfReqRx	Number of GTP V0 routing information requests received.
jnxMbgPgwVOGlbRtInfReqTx	Number of GTP V0 routing information requests sent.
jnxMbgPgwVOGlbRtInfRespRx	Number of GTP V0 routing information responses received.
jnxMbgPgwVOGlbRtInfRespTx	Number of GTP V0 routing information responses sent.
jnxMbgPgwVOGlbFailRptReqRx	Number of GTP V0 fail repeat requests received.
jnxMbgPgwVOGlbFailRptReqTx	Number of GTP V0 fail repeat requests sent.
jnxMbgPgwVOGlbFailRptRespRx	Number of GTP V0 fail repeat responses received.
jnxMbgPgwVOGlbFailRptRespTx	Number of GTP V0 fail repeat responses sent.
jnxMbgPgwVOGlbNotMSPresReqRx	Number of GTP V0 MS not present requests received.
jnxMbgPgwVOGlbNotMSPresReqTx	Number of GTP V0 MS not present requests sent.
jnxMbgPgwVOGlbNotMSPresRespRx	Number of GTP V0 MS not present responses received.
jnxMbgPgwVOGlbNotMSPresRespTx	Number of GTP V0 MS not present responses sent.

GTP Global V0 Success or Failure Statistics

Table 25 on page 79 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global V0 success or failure statistics.

Table 25: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwVOICsReqAcceptedRx	Number of GTP V0 packets received with cause Request Accepted.
jnxMbgPgwVOICsReqAcceptedTx	Number of GTP V0 packets sent with cause Request Accepted.
jnxMbgPgwVOICsNonExistRx	Number of GTP V0 packets received with cause Non Existent.
jnxMbgPgwVOICsNonExistTx	Number of GTP V0 packets sent with cause Non Existent.
jnxMbgPgwVOICsInvMsgFmtRx	Number of GTP V0 packets received with cause Invalid Message Format.
jnxMbgPgwVOICsInvMsgFmtTx	Number of GTP V0 packets sent with cause Invalid Message Format.
jnxMbgPgwVOICsIMSIUnknownRx	Number of GTP V0 packets received with cause IMSI Not Known.
jnxMbgPgwVOICsIMSIUnknownTx	Number of GTP V0 packets sent with cause IMSI Not Known.
jnxMbgPgwVOICsMSGRPSDetachRx	Number of GTP V0 packets received with cause MS GPRS Detached.
jnxMbgPgwVOICsMSGRPSDetachTx	Number of GTP V0 packets sent with cause MS GPRS Detached.
jnxMbgPgwVOICsMSNotGRPSRespRx	Number of GTP V0 packets received with cause MS No GPRS Response.
jnxMbgPgwVOICsMSNotGRPSRespTx	Number of GTP V0 packets sent with cause MS No GPRS Response.
jnxMbgPgwVOICsMSRefusesRx	Number of GTP V0 packets received with cause MS Refuses.
jnxMbgPgwVOICsMSRefusesTx	Number of GTP V0 packets sent with cause MS Refuses.
jnxMbgPgwVOICsVerNotSuppRx	Number of GTP V0 packets received with cause Version Not Supported.
jnxMbgPgwVOICsVerNotSuppTx	Number of GTP V0 packets sent with cause Version Not Supported.
jnxMbgPgwVOICsNoResRx	Number of GTP V0 packets received with cause No Response.
jnxMbgPgwVOICsNoResTx	Number of GTP V0 packets sent with cause No Response.
jnxMbgPgwVOICsServNotSuppRx	Number of GTP V0 packets received with cause Service Not Supported.
jnxMbgPgwVOICsServNotSuppTx	Number of GTP V0 packets sent with cause Service Not Supported.
jnxMbgPgwVOICsManIEIncrRx	Number of GTP V0 packets received with cause Mandatory IE incorrect.
jnxMbgPgwVOICsManIEIncrTx	Number of GTP V0 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwVOICsManIEMissRx	Number of GTP V0 packets received with cause Mandatory IE Missing.
jnxMbgPgwVOICsManIEMissTx	Number of GTP V0 packets sent with cause Mandatory IE Missing.

Table 25: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwVOICsOptIEIncrRx	Number of GTP V0 packets received with cause Optional IE incorrect.
jnxMbgPgwVOICsOptIEIncrTx	Number of GTP V0 packets sent with cause Optional IE incorrect.
jnxMbgPgwVOICsSysFailRx	Number of GTP V0 packets received with cause System Failure.
jnxMbgPgwVOICsSysFailTx	Number of GTP V0 packets sent with cause System Failure.
jnxMbgPgwVOICsRoamRestrictRx	Number of GTP V0 packets received with cause Roaming Restricted.
jnxMbgPgwVOICsRoamRestrictTx	Number of GTP V0 packets sent with cause Roaming Restricted.
jnxMbgPgwVOICsPTMSISigMMRx	Number of GTP V0 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwVOICsPTMSISigMMTx	Number of GTP V0 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwVOICsGPRSConnSuppRx	Number of GTP V0 packets received with cause GPRS Connection Supported.
jnxMbgPgwVOICsGPRSConnSuppTx	Number of GTP V0 packets sent with cause GPRS Connection Supported.
jnxMbgPgwVOICsAuthFailRx	Number of GTP V0 packets received with cause Auth Failure.
jnxMbgPgwVOICsAuthFailTx	Number of GTP V0 packets sent with cause Auth Failure.
jnxMbgPgwVOICsUserAuthFailRx	Number of GTP V0 packets received with cause User Auth Failure.
jnxMbgPgwVOICsUserAuthFailTx	Number of GTP V0 packets sent with cause User Auth Failure.

IP Address Pool Performance Statistics for GGSN/P-GW

The IP Pool Management Module manages the IP address pools for each APN configured on the GGSN/P-GW. Because IP pools are shared resources, IP pool statistics are aggregated across all configured gateways.

- [IP Pool MIB Structure on page 80](#)
- [IP Address Pool Statistics on page 80](#)
- [IP Address Pool Range Statistics on page 81](#)

IP Pool MIB Structure

The root node for the module is **jnxMobileGatewayPgwSMIPPoolMib**, which is a child of **jnxMobileGatewayMibRoot**. The **jnxMobileGatewayMibRoot** is defined in the Juniper-SMI.

IP Address Pool Statistics

[Table 26 on page 81](#) shows the leaf nodes of the type **jnxMbgIPPoolTable**, which are indexed by logical system, routing instance, and IP pool name.

Table 26: jnxMbgIPPoolTable Statistics

Name	Description
jnxMbgIPPoolId	A pool ID that identifies a pool on the mobile gateway.
jnxMbgIPPoolLogicalSystem	A name that identifies the logical system to which the address pool belongs on the mobile gateway.
jnxMbgIPPoolRoutingInstance	A name that identifies the routing instance to which the address pool belongs on the mobile gateway.
jnxMbgIPPoolName	A name that identifies the pool on the mobile gateway.
jnxMbgIPPoolType	The type configured for this pool on the mobile gateway. Types supported are Ipv4(1) or IPv6(2).
jnxMbgIPPoolFree	Total number of free addresses in this pool.
jnxMbgIPPoolInUse	Total number of used addresses in this range.
jnxMbgIPPoolUtil	Percentage utilization for this pool.

IP Address Pool Range Statistics

[Table 27 on page 81](#) shows the leaf nodes of the type **jnxMbgIPPoolRangeTable**, which are indexed by logical system, routing instance, IP pool name, and pool range name.

[Table 27 on page 81](#) contains information about local address pools only.

Table 27: Local IP Address Pool Range Statistics

Name	Description
jnxMbgIPPoolRangeName	The name of the local IP address pool range.
jnxMbgIPPoolRangeType	The type configured for this range on the mobile gateway. Types supported are Ipv4(1) or IPv6(2).
jnxMbgIPPoolRangeFree	Total number of free addresses in this range.
jnxMbgIPPoolRangeInUse	Total number of used addresses in this range.
jnxMbgIPPoolRangeUtil	Percentage utilization for this range.

Resource Manager Performance Statistics for the GGSN/P-GW

The Resource Manager Module manages Resource Manager clients on the GGSN/P-GW.

- [Resource Manager MIB Structure on page 82](#)
- [Resource Manager Statistics on page 82](#)

Resource Manager MIB Structure

The root node for the module is **jnxMbgRMPSMib**, which is a child of **jnxMobileGatewayMibRoot**. The **jnxMobileGatewayMibRoot** is defined in the Juniper-SMI.

Resource Manager Statistics

Table 28 on page 82 shows the leaf nodes of the type **jnxMbgIPPoolRangeTable**, which are indexed by logical system, routing instance, IP pool name, and pool range name.

Table 28: Resource Manager Client Statistics

Name	Description
jnxMbgRMPSClientIdentifier	The client, in the form ms-a/b/c or apfe-a/b/c , where a is the fpc slot, b is the pic slot, and c is the port.
jnxMbgRMPSClientStatus	The status of a Resource Manager client.
jnxMbgRMPSServiceStatus	The status of a Resource Manager service.
jnxMbgRMPSClientRedundancyRole	The redundancy role of the Resource Manager client.

Subscriber Manager Performance Statistics for GGSN/P-GW

Subscriber management describes various GGSN/P-GW statistics related to subscriber session establishment or failures, attach and detach at the global and APN level.

- [MIB Structure on page 82](#)
- [Gateway-Level Statistics for GGSN/P-GW on page 82](#)
- [APN-Based Statistics on page 85](#)

MIB Structure

The root node for the module is **jnxMbgPgwSubscriberManagerMib**, which is a child of **jnxMobileGatewayPgwGgsn**. The **jnxMobileGatewayPgwGgsn** is defined in the Juniper-SMI.

Gateway-Level Statistics for GGSN/P-GW

Table 29 on page 82 shows the leaf nodes of the type **jnxMbgPgwSMOperStatsTable**, which are indexed by each GGSN or P-GW.

Table 29: jnxMbgPgwSMOperStatsTable Statistics

Name	Description
jnxMbgPgwSessnEstAtmpts	Total session establishment attempts.
jnxMbgPgwSuccSessnEst	Total sessions established successfully.
jnxMbgPgwPeerInitDeactv	Total MS/peer initiated session deactivation attempts.

Table 29: jnxMbgPgwSMOperStatsTable Statistics (*continued*)

jnxMbgPgwPeerInitSuccDeactv	Total MS/peer initiated successful session deactivations.
jnxMbgPgwGwInitDeactv	Total gateway initiated session deactivation attempts.
jnxMbgPgwGwInitSuccDeactv	Total gateway initiated successful session deactivations.
jnxMbgPgwGtpStatsGnS5S8InpPkt	Total GTP statistics (Gn/S5/S8) input packets.
jnxMbgPgwGtpStatsGnS5S8InpByt	Total GTP statistics (Gn/S5/S8) input bytes.
jnxMbgPgwGtpStatsGnS5S8OutPkt	Total GTP statistics (Gn/S5/S8) output packets.
jnxMbgPgwGtpStatsGnS5S8OutByt	Total GTP statistics (Gn/S5/S8) output bytes.
jnxMbgPgwGtpStatsGiInpPkt	Total GTP statistics Gi input packets.
jnxMbgPgwGtpStatsGiInpByt	Total GTP statistics Gi input bytes.
jnxMbgPgwGtpStatsGiOutPkt	Total GTP statistics Gi output packets.
jnxMbgPgwGtpStatsGiOutByt	Total GTP statistics Gi output bytes.
jnxMbgPgwGtpStatsS5S8DiscrdPkts	Total GTP statistics (Gn/S5/S8) discarded packets.
jnxMbgPgwGtpStatsGiDiscrdPkts	Total GTP statistics Gi discarded packets.
jnxMbgPgwSrcAddrViolationPkts	Total Source address violation packets.
jnxMbgPgwSrcAddrViolationByts	Total Source address violation bytes.
jnxMbgPgwPktsRcvdNonExstTeids	Total packets received with non-existent TEIDs.
jnxMbgPgwGtpErrLenPkts	Total GTP packets received with erroneous length.
jnxMbgNonExstUeAddrPkts	Total non-existent UE address packets.

Table 30 on page 83 shows the leaf nodes of the type **jnxMbgPgwSMStatusTable**, which are indexed by each GGSN or P-GW.

Table 30: jnxMbgPgwSMStatusTable Statistics

Name	Description
jnxMbgPgwActvSubscribers	Total active subscribers.
jnxMbgPgwActvSessions	Total active sessions.
jnxMbgPgwActvBearers	Total active bearers.

Table 30: jnxMbgPgwSMStatusTable Statistics (*continued*)

jnxMbgPgwIdleSubscribers	DEPRECATED. Total idle subscribers.
jnxMbgPgwIdleSessions	DEPRECATED. Total idle sessions.
jnxMbgPgwIdleBearers	DEPRECATED. Total idle bearers.
jnxMbgPgwSuspSubscribers	DEPRECATED. Total suspended subscribers.
jnxMbgPgwSuspSessions	DEPRECATED. Total suspended sessions.
jnxMbgPgwSuspBearers	DEPRECATED. Total suspended bearers.
jnxMbgPgwCPUUtil	Current CPU usage.
jnxMbgPgwMemoryUtil	Current memory usage.

Table 31 on page 84 shows the leaf nodes of the type **jnxMbgPgwSMClRateStatsTable**, which are indexed by GGSN or P-GW.

Table 31: Call Rate Statistics for the Most Recent Configured Interval for GGSN/P-GW

Name	Description
jnxMbgPgwClRateIntervalMin	Aggregation interval for call rate statistics in minutes.
jnxMbgPgwClRateSuccSessnEst	Total sessions successfully established.
jnxMbgPgwClRateSuccSessnDel	Total sessions successfully deleted.
jnxMbgPgwClRateStatsGnInpPkt	Total GTP statistics Gn Input packets.
jnxMbgPgwClRateStatsGnInpByt	Total GTP statistics Gn Input bytes.
jnxMbgPgwClRateStatsGnOutPkt	Total GTP statistics Gn Output packets.
jnxMbgPgwClRateStatsGnOutByt	Total GTP statistics Gn Output bytes.

Table 32 on page 84 shows the leaf nodes of the type **jnxMbgPgwSMSpicStatusTable**, which are indexed by GGSN/P-GW and Session PIC.

Table 32: Session PIC Statistics for GGSN/P-GW

Name	Description
jnxMbgGwFpc	An integer that uniquely identifies the FPC slot.
jnxMbgGwPic	An integer that uniquely identifies the PIC slot.
jnxMbgPgwSpicStatusName	A string that uniquely identifies the session PIC.

Table 32: Session PIC Statistics for GGSN/P-GW (*continued*)

<code>jnxMbgPgwSpicStatusState</code>	A string that identifies the session PIC state.
<code>jnxMbgPgwSpicStatusType</code>	A string that identifies the session PIC type.
<code>jnxMbgPgwSpicActvSubscribers</code>	Total active subscribers per session PIC.
<code>jnxMbgPgwSpicActvSessions</code>	Total active sessions per session PIC.
<code>jnxMbgPgwSpicActvBearers</code>	Total active bearers per session PIC.
<code>jnxMbgPgwSpicCPUUtil</code>	Current CPU utilization per session PIC.
<code>jnxMbgPgwSpicMemoryUtil</code>	Current Memory utilization per session PIC.

APN-Based Statistics

Table 33 on page 85 shows the leaf nodes of the type `jnxMbgPgwApnSMStatsTable`, which are indexed by each APN configured on the GGSN/P-GW.

Table 33: `jnxMbgPgwApnSMStatsTable` Statistics

Name	Description
<code>jnxMbgPgwApnName</code>	A string that uniquely identifies the APN.
<code>jnxMbgPgwSessnEstAttempts</code>	Total session establishment attempts made.
<code>jnxMbgPgwApnSuccSessnEst</code>	Total sessions established successfully.
<code>jnxMbgPgwApnPeerInitDeactv</code>	Total MS/peer initiated session deactivation attempts.
<code>jnxMbgPgwApnPeerInitSuccDeactv</code>	Total MS/peer initiated successful session deactivations.
<code>jnxMbgPgwApnGwInitDeactv</code>	Total gateway initiated session deactivation attempts.
<code>jnxMbgPgwApnGwInitSuccDeactv</code>	Total gateway initiated successful session deactivations.
<code>jnxMbgPgwApnGtpStatsGnS5S8InpPkt</code>	Total GTP statistics (Gn/S5/S8) input packets.
<code>jnxMbgPgwApnGtpStatsGnS5S8InpByt</code>	Total GTP statistics (Gn/S5/S8) input bytes.
<code>jnxMbgPgwApnGtpStatsGnS5S8OutPkt</code>	Total GTP statistics (Gn/S5/S8) output packets.
<code>jnxMbgPgwApnGtpStatsGnS5S8OutByt</code>	Total GTP statistics (Gn/S5/S8) output bytes.
<code>jnxMbgPgwApnGtpStatsGnS5S8DiscPkt</code>	Total GTP statistics (Gn/S5/S8) discarded packets.
<code>jnxMbgPgwApnGtpStatsGnS5S8DiscByt</code>	Total GTP statistics (Gn/S5/S8) discarded packets.

Table 33: jnxMbgPgwApnSMStatsTable Statistics (*continued*)

jnxMbgPgwApnGtpStatsGInpPkt	Total GTP statistics (Gn/S5/S8) discarded packets.
jnxMbgPgwApnGtpStatsGInpPkt	Total GTP statistics (Gn/S5/S8) discarded packets.
jnxMbgPgwApnGtpStatsS58DscrdPkts	Total GTP statistics (Gn/S5/S8) discarded packets.
jnxMbgPgwApnGtpStatsGiDscrdPkts	Total GTP statistics (Gi) discarded packets.
jnxMbgPgwApnGtpStatsGInpByt	Total GTP statistics Gi input bytes.
jnxMbgPgwApnGtpStatsGiOutPkt	Total GTP statistics Gi output packets.
jnxMbgPgwApnGtpStatsGiOutByt	Total GTP statistics Gi output bytes.
jnxMbgPgwGtpStatsS58DscrdPkts	Total GTP statistics (Gn/S5/S8) discarded packets.
jnxMbgPgwApnSessnFailSrvUnaval	Total sessions that could not be established due to service unavailability.
jnxMbgPgwApnSessnFailSysFailure	Total sessions that could not be established due to System Failure.
jnxMbgPgwApnSessnFailNoResource	Total sessions that could not be established due to lack of resource.
jnxMbgPgwApnSessnFailNoAddr	Total sessions that could not be established due to lack of address. The address pool assigned to this APN is exhausted.
jnxMbgPgwApnSessnFailSrvcDenied	Total sessions that could not be established due to service denial.
jnxMbgPgwApnSessnFailAuthFailed	Total sessions that could not be established due to authentication failure.
jnxMbgPgwApnSessnFailAccsDenied	Total sessions that could not be established due to APN access denial.
jnxMbgPgwApnMSInitModAttmpts	Total MS initiated modification attempts.
jnxMbgPgwApnSuccMSInitMod	Total Successful MS initiated modifications.
jnxMbgPgwApnPgwGgsnInitMod	Total PGW/GGSN initiated modification attempts.
jnxMbgPgwApnSuccPgwGgsnInitMod	Total PGW/GGSN initiated modification attempts successful.
jnxMbgPgwApnUsrAuthAttmpts	Total User Authentication attempts.
jnxMbgPgwApnSuccUsrAuth	Total User Authentication attempts successful.
jnxMbgPgwApnFailUsrAuth	Total User Authentication attempts failed.

Table 33: jnxMbgPgwApnSMStatsTable Statistics (*continued*)

jnxMbgPgwApnDynIPAllocAttmpts	Total Dynamic IP address allocation attempts.
jnxMbgPgwApnSuccDynIPAlloc	Total Dynamic IP address allocations successful.
jnxMbgPgwApnCdrsAllocd	Total Number of CDRs allocated.
jnxMbgPgwApnPartialCdrsAllocd	Total Number of partial CDRs allocated.
jnxMbgPgwApnCdrsClosed	Total Number of CDRs closed.
jnxMbgPgwApnCdrCnainersClosed	Total Number of CDR containers closed.
jnxMbgPgwApnPktsViolMIFACL	Total packets violating MIF ACL.
jnxMbgPgwApnReDrctMblToMblPkts	Total redirected mobile-to-mobile packets.
jnxMbgPgwApnReDrctMblToMblByts	Total redirected mobile-to-mobile bytes.
jnxMbgPgwApnIpv6RsRcvd	Total IPv6 Router Solicitations received.
jnxMbgPgwApnIpv6RaTxd	Total IPv6 Router Advertisements transmitted.
jnxMbgPgwApnIpv6NsRcvd	Total IPv6 Neighbor Solicitations received.
jnxMbgPgwApnIpv6NaTxd	Total IPv6 Neighbor Advertisements transmitted.
jnxMbgPgwApnSessnFailOther	Total sessions that could not be established due to miscellaneous causes.

CHAPTER 3

Serving Gateway Statistics

- [Charging Performance Statistics for S-GW on page 89](#)
- [GTP Performance Statistics for S-GW on page 93](#)
- [Subscriber Manager Performance Statistics for S-GW on page 121](#)

Charging Performance Statistics for S-GW

Customers must pay for the services they use. In the 3rd Generation Partnership Project (3GPP), there are three distinct aspects to the process that translates service use into a bill for services. These aspects are charging, rating, and billing. Charging gathers statistics about service usage for each customer. Rating is the process of determining how much each service costs each particular customer, based on the services contracted or tariffed. Billing is the process of actually generating the customer's invoice for services.

- [Charging MIB Structure on page 89](#)
- [Charging Local Persistent Storage Statistics on page 89](#)
- [Charging Group Statistics on page 90](#)
- [Charging Gateway Function Server Statistics on page 91](#)
- [Charging Global Statistics on page 92](#)

Charging MIB Structure

The root node for the module is **jnxMbgSgwChargingMib**, which is a child of **jnxMobileGatewaySgw**. **jnxMbgSgwChargingMib** is the Juniper Networks implementation of the Mobility Charging MIB for Serving Gateways(S-GWs) in the 3GPP LTE network. **jnxMobileGatewaySgw** is defined in the Juniper-SMI.

Charging Local Persistent Storage Statistics

[Table 34 on page 89](#) shows the leaf nodes of the type **jnxMbgSgwCgLpsStatsTable**, which list the statistics for all local persistent storage statistics configured on the Serving Gateway.

Table 34: jnxMbgSgwCgLpsStatsTable Statistics

Name	Description
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Table 34: jnxMbgSgwCgLpsStatsTable Statistics (*continued*)

jnxMbgSgwCgFilesOnLcStorage	Number of files containing Charging Data Records (CDRs) present on the local storage device. The number is incremented when a file containing CDRs is closed on the local storage device. The number is decremented when SSH FTP (SFTP) is done and a file is removed from the local storage device.
jnxMbgSgwCgLcStorageAvailSpace	Space available on the local storage device, in MB.

Charging Group Statistics

Table 35 on page 90 shows the leaf nodes of the type **jnxMbgSgwCgCgfGroupsStatsTable**, which are indexed by each Serving Gateway and list the statistics for all charging gateway function (CGF) groups configured on the S-GW.

Table 35: jnxMbgSgwCgCgfGroupsStatsTable Statistics

Name	Description
jnxMbgSgwCgCgfGrpProfId	A string that uniquely identifies the CGF group profile and which is used as secondary key for CGF group table.
jnxMbgSgwCgCgfGrpDRTReqTx	Total number of Detailed Record Time (DRT) requests transmitted for the CGF group.
jnxMbgSgwCgCgfGrpDRTReqTx	Total number of DRT requests received for the CGF group.
jnxMbgSgwCgCgfGrpDRTReqTmout	Total number of DRT request timeouts that occurred for the CGF group.
jnxMbgSgwCgCgfGrpDRTSucRspRx	Total number of DRT success responses received.
jnxMbgSgwCgCgfGrpDRTErrRspRx	Number of Files containing Charging Data Records (CDRs) present on the local storage device. This number is incremented when a file containing CDRs is closed on the local storage device and decremented when SFTP is done and the file is removed from the local storage device.
jnxMbgSgwCgCgfGrpRediReqRx	Total number of redirection responses received for the CGF group.
jnxMbgSgwCgCgfGrpRediRspTx	Total number of redirection responses transmitted for the CGF group.
jnxMbgSgwCgCgfGrpSwitchovers	Total number of switchovers on the CGF group.
jnxMbgSgwCgCgfGrpBatchReqTx	Total number of batch requests transmitted for the CGF group.
jnxMbgSgwCgCgfGrpBatchRspErrors	Total number of batch response errors for the CGF group.
jnxMbgSgwCgCgfGrpBatchCDRsTx	Total number of batch CDRs transmitted for the CGF group.
jnxMbgSgwCgCgfGroupTotalWFA	Total WFA available for the CGF group.
jnxMbgSgwCgCgfGroupProfName	A string that uniquely identifies the TSP profile.

Charging Gateway Function Server Statistics

Table 36 on page 91 shows the leaf nodes of the type **jnxMbgSgwCgCgfStatsTable**, which list the statistics for all charging gateway function servers configured on the S-GW.

Table 36: jnxMbgSgwCgCgfStatsTable Statistics

Name	Description
jnxMbgSgwCgCgfIndex	A number representing each CGF server for which statistics are being generated.
jnxMbgSgwCgCgfIpAddress	CGF server IP address.
jnxMbgSgwCgCgfStatus	State of the CGF server, either UP or DOWN.
jnxMbgSgwCgCgfUpDuration	Total duration, in minutes, for which the CGF server was in the UP state.
jnxMbgSgwCgCgfDownDuration	Total duration, in minutes, for which the CGF server was in the DOWN state.
jnxMbgSgwCgCgfEchoReqTx	Total number of echo requests transmitted to the CGF server.
jnxMbgSgwCgCgfEchoReqRx	Total number of echo requests received from the CGF server.
jnxMbgSgwCgCgfEchoReqTmout	Total number of echo requests to the CGF server that timed out.
jnxMbgSgwCgCgfEchoRespTx	Total number of echo responses transmitted to the CGF server.
jnxMbgSgwCgCgfEchoRespRx	Total number of echo responses received from the CGF server.
jnxMbgSgwCgCgfVerUnsuppTx	Total number of version unsupported messages transmitted to the CGF server.
jnxMbgSgwCgCgfVerUnsuppRx	Total number of version unsupported messages received from the CGF server.
jnxMbgSgwCgCgfNodeAliveReqTx	Total number of node alive requests transmitted to the CGF server.
jnxMbgSgwCgCgfNodeAliveReqRx	Total number of node alive requests received from the CGF server.
jnxMbgSgwCgCgfNodeAliveReqTmout	Total number of node alive requests to the CGF server that timed out.
jnxMbgSgwCgCgfNodeAliveRespTx	Total number of node alive responses transmitted to the CGF server.
jnxMbgSgwCgCgfNodeAliveRespRx	Total number of node alive responses received from the CGF server.
jnxMbgSgwCgCgfRedirectReqRx	Total number of redirect requests received from the CGF server.
jnxMbgSgwCgCgfRedirectRespTx	Total number of redirect responses transmitted to the CGF server.
jnxMbgSgwCgCgfDRTReqTx	Total number of data record transfer requests transmitted to the CGF server. This number includes the retransmission counts.

Table 36: jnxMbgSgwCgCgfStatsTable Statistics (*continued*)

jnxMbgSgwCgCgfDRTReqTmout	Total number of data record transfer requests to the CGF server that timed out after the configured number of retries.
jnxMbgSgwCgCgfDRTSuccRespRx	Total number of data record transfer responses indicating success received from the CGF server.
jnxMbgSgwCgCgfDRTErrRespRx	Total number of data record transfer responses indicating error received from the CGF server.
jnxMbgSgwCgCgfCdrTx	Total number of CDRs transmitted to the CGF server.
jnxMbgSgwCgCgfDRTRTTMean	Mean round-trip time of the data record transfer request and response to and from the CGF server, in seconds. This time is calculated from the average of the minimum and maximum round trip times of the Data Record Transfer Request. This is applicable for CGF servers connected via UDP protocol.
jnxMbgSgwCgCgfDRTRTTMin	Minimum round-trip time of the Data Record Transfer Request and Response to and from the CGF server, in seconds. This time is applicable for CGF servers connected via UDP protocol.
jnxMbgSgwCgCgfDRTRTTMax	Maximum round-trip time of the Data Record Transfer Request and Response to and from the CGF server, in seconds. This time is applicable for CGF servers connected via UDP protocol.
jnxMbgSgwCgCgfTransToDownState	Total number of transitions of the CGF server to the DOWN state.
jnxMbgSgwCgCgfContainers	Total number of closed containers to the CGF server.
jnxMbgSgwCgCgfProfileName	A string that uniquely identifies the CGF peer profile.
jnxMbgSgwCgCgfProfName	A string that uniquely identifies the CGF profile.

Charging Global Statistics

Table 37 on page 92 shows the leaf nodes of the type `jnxMbgSgwCgGlobalStatsTable`, which list the global statistics for charging on the S-GW.

Table 37: jnxMbgSgwCgGlobalStatsTable Statistics

Name	Description
jnxMbgSgwCgCdrSendErrors	Total number of CDR send errors to the charging module.
jnxMbgSgwCgCdrEncodeErrors	Total number of CDR encoding errors.
jnxMbgSgwCgCdrAllocFailures	Total number of CDR memory allocation failures.
jnxMbgSgwCgContFailures	Total number of container failures.
jnxMbgSgwCgCmBearersCreated	Total number of bearers for which charging is enabled.

Table 37: `jnxMbgSgwCgGlobalStatsTable` Statistics (*continued*)

<code>jnxMbgSgwCgCmBearersDeleted</code>	Total number of charging bearers destroyed.
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GTP Performance Statistics for S-GW

GPRS Tunneling Protocol (GTP) is the primary protocol used in a General packet radio service (GPRS) core network and allows users in a 3G or 4G network to move from one location to another while remaining connected to the Internet. The GTP protocol is used to carry signaling and bearer data from a Serving GPRS Support Node (SGSN) or Serving Gateway (S-GW) to a Gateway GPRS Support Node (GGSN) or Packet Data Network Gateway (P-GW) across well-defined 3GPP service interfaces such as Gn and S5.

- [GTP MIB Structure on page 93](#)
- [GTP Peer Version 2 Operational Statistics on page 93](#)
- [GTP Peer Version 2 Success or Failure Statistics on page 97](#)
- [GTP Global Version 2 Operational Statistics on page 102](#)
- [GTP Global Version 2 Success or Failure Statistics on page 106](#)
- [GTP Interface Statistics on page 112](#)

GTP MIB Structure

The root node for the module is `jnxMbgSgwGtpMib`, which is a child of `jnxMobileGatewaySgw`. The `jnxMobileGatewaySgw` is defined in the Juniper-SMI.

GTP Peer Version 2 Operational Statistics

[Table 38 on page 93](#) shows the statistics for `jnxMbgSgwGtpCPerPeerStatsTable`, which show GTP peer version 2 operational statistics.

Table 38: `jnxMbgSgwGtpCPerPeerStatsTable` Statistics

Name	Description
<code>jnxMbgSgwPPGtpRmtAddr</code>	The remote IP address of this GTP peer entry.
<code>jnxMbgSgwPPGtpLclAddr</code>	The local IP address of this GTP peer entry.
<code>jnxMbgSgwPPGtpRtgInst</code>	The routing instance for this peer.
<code>jnxMbgSgwPPRxPacketsDropped</code>	Number of received packets dropped.
<code>jnxMbgSgwPPPpacketAllocFail</code>	Number of packet allocation failures.
<code>jnxMbgSgwPPPpacketSendFail</code>	Number of packet send failures.
<code>jnxMbgSgwPPPIPVerErrRx</code>	Number of IP version error packets received.
<code>jnxMbgSgwPPPIPProtoErrRx</code>	Number of IP protocol error packets received.

Table 38: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGTPPortErrRx	Number of port error packets received.
jnxMbgSgwPPGTPUnknVerRx	Number of unknown version packets received.
jnxMbgSgwPPPcktLenErrRx	Number of packet length error packets received.
jnxMbgSgwPPUnknMsgRx	Number of unknown messages received.
jnxMbgSgwPPPProtocolErrRx	Number of GTPv2 protocol errors received.
jnxMbgSgwPPUnSupportedMsgRx	Number of GTPv2 unsupported messages received.
jnxMbgSgwPPT3RespTmrExpRx	Number of GTPv2 T3 timer expiries received.
jnxMbgSgwPPV2NumMsgRx	Number of GTPv2 messages received.
jnxMbgSgwPPV2NumMsgTx	Number of GTPv2 messages sent.
jnxMbgSgwPPV2NumBytesRx	Number of GTPv2 bytes received.
jnxMbgSgwPPV2NumBytesTx	Number of GTPv2 bytes sent.
jnxMbgSgwPPV2EchoReqRx	Number of GTPv2 echo requests received.
jnxMbgSgwPPV2EchoReqTx	Number of GTPv2 echo requests sent.
jnxMbgSgwPPV2EchoRespRx	Number of GTPv2 echo responses received.
jnxMbgSgwPPV2EchoRespTx	Number of GTPv2 echo responses sent.
jnxMbgSgwPPV2VerNotSupRx	Number of GTPv2 version not supported messages received.
jnxMbgSgwPPV2VerNotSupTx	Number of GTPv2 number of version not supported messages sent.
jnxMbgSgwPPCreateSessReqRx	Number of GTPv2 create session requests received.
jnxMbgSgwPPCreateSessReqTx	Number of GTPv2 create session requests sent.
jnxMbgSgwPPCreateSessRespRx	Number of GTPv2 create session responses received.
jnxMbgSgwPPCreateSessRespTx	Number of GTPv2 create session responses sent.
jnxMbgSgwPPModBrReqRx	Number of GTPv2 modify bearer requests received.
jnxMbgSgwPPModBrReqTx	Number of GTPv2 modify bearer requests sent.
jnxMbgSgwPPModBrRespRx	Number of GTPv2 modify bearer responses received.
jnxMbgSgwPPModBrRespTx	Number of GTPv2 modify bearer responses sent.

Table 38: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPDelSessReqRx	Number of GTPv2 delete session requests received.
jnxMbgSgwPPDelSessReqTx	Number of GTPv2 delete session requests sent.
jnxMbgSgwPPDelSessRspRx	Number of GTPv2 delete session responses received.
jnxMbgSgwPPDelSessRspTx	Number of GTPv2 delete session responses sent.
jnxMbgSgwPPCrtBrReqRx	Number of GTPv2 create bearer requests received.
jnxMbgSgwPPCrtBrReqTx	Number of GTPv2 create bearer requests sent.
jnxMbgSgwPPCrtBrRspRx	Number of GTPv2 create bearer responses received.
jnxMbgSgwPPCrtBrRspTx	Number of GTPv2 create bearer responses sent.
jnxMbgSgwPPUpdBrReqRx	Number of GTPv2 update bearer requests received.
jnxMbgSgwPPUpdBrReqTx	Number of GTPv2 update bearer requests sent.
jnxMbgSgwPPUpdBrRspRx	Number of GTPv2 update bearer responses received.
jnxMbgSgwPPUpdBrRspTx	Number of GTPv2 update bearer responses sent.
jnxMbgSgwPPDelBrReqRx	Number of GTPv2 delete bearer requests received.
jnxMbgSgwPPDelBrReqTx	Number of GTPv2 delete bearer requests sent.
jnxMbgSgwPPDelBrRspRx	Number of GTPv2 delete bearer responses received.
jnxMbgSgwPPDelBrRspTx	Number of GTPv2 delete bearer requests sent.
jnxMbgSgwPPDelConnSetReqRx	Number of GTPv2 delete PDN connection set requests received.
jnxMbgSgwPPDelConnSetReqTx	Number of GTPv2 delete PDN connection set requests sent.
jnxMbgSgwPPDelConnSetRspRx	Number of GTPv2 delete PDN connection set responses received.
jnxMbgSgwPPDelConnSetRspTx	Number of GTPv2 delete PDN connection set responses sent.
jnxMbgSgwPPUpdConnSetReqRx	Number of GTPv2 update connection set requests received.
jnxMbgSgwPPUpdConnSetReqTx	Number of GTPv2 update connection set requests sent.
jnxMbgSgwPPUpdConnSetRspRx	Number of GTPv2 update connection set responses received.
jnxMbgSgwPPUpdConnSetRspTx	Number of GTPv2 update connection set responses sent.
jnxMbgSgwPPModBrCmdRx	Number of GTPv2 modify bearer command received.

Table 38: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPModBrCmdTx	Number of GTPv2 modify bearer command sent.
jnxMbgSgwPPModBrFlrIndRx	Number of GTPv2 modify bearer failure received.
jnxMbgSgwPPModBrFlrIndTx	Number of GTPv2 modify bearer failure sent.
jnxMbgSgwPPDelBrCmdRx	Number of GTPv2 delete bearer command received.
jnxMbgSgwPPDelBrCmdTx	Number of GTPv2 delete bearer command sent.
jnxMbgSgwPPDelBrFlrIndRx	Number of GTPv2 delete bearer failure received.
jnxMbgSgwPPDelBrFlrIndTx	Number of GTPv2 delete bearer failure sent.
jnxMbgSgwPPBrResCmdRx	Number of GTPv2 bearer response commands received.
jnxMbgSgwPPBrResCmdTx	Number of GTPv2 bearer response commands sent.
jnxMbgSgwPPBrResFlrIndRx	Number of GTPv2 bearer resource failures received.
jnxMbgSgwPPBrResFlrIndTx	Number of GTPv2 bearer resource failures sent.
jnxMbgSgwPPRelAcsBrReqRx	Number of GTPv2 release access bearer requests received.
jnxMbgSgwPPRelAcsBrReqTx	Number of GTPv2 release access bearer requests sent.
jnxMbgSgwPPRelAcsBrRespRx	Number of GTPv2 release access bearer responses received.
jnxMbgSgwPPRelAcsBrRespTx	Number of GTPv2 release access bearer responses sent.
jnxMbgSgwPPCrIndTunReqRx	Number of GTPv2 create indirect tunnel forward requests received.
jnxMbgSgwPPCrIndTunReqTx	Number of GTPv2 create indirect tunnel forward requests sent.
jnxMbgSgwPPCrIndTunRespRx	Number of GTPv2 create indirect tunnel forward responses received.
jnxMbgSgwPPCrIndTunRespTx	Number of GTPv2 create indirect tunnel forward responses sent.
jnxMbgSgwPPDelIndTunReqRx	Number of GTPv2 delete indirect tunnel forward requests received.
jnxMbgSgwPPDelIndTunReqTx	Number of GTPv2 delete indirect tunnel forward requests sent.
jnxMbgSgwPPDelIndTunRespRx	Number of GTPv2 delete indirect tunnel forward responses received.
jnxMbgSgwPPDelIndTunRespTx	Number of GTPv2 delete indirect tunnel forward responses sent.
jnxMbgSgwPPDIDataNotifRx	Number of GTPv2 downlink data notifies received.
jnxMbgSgwPPDIDataNotifTx	Number of GTPv2 downlink data notifies sent.

Table 38: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPDIDataAckRx	Number of GTPv2 downlink data notify acknowledgements received.
jnxMbgSgwPPDIDataAckTx	Number of GTPv2 downlink data notify acknowledgements sent.
jnxMbgSgwPPDIDataNotiFlrIndRx	Number of GTPv2 downlink data notification fails received.
jnxMbgSgwPPDIDataNotiFlrIndTx	Number of GTPv2 downlink data notification fails sent.
jnxMbgSgwPPStopPagingIndRx	Number of GTPv2 number of stop paging indication messages received.
jnxMbgSgwPPStopPagingIndTx	Number of GTPv2 number of stop paging indication messages sent.

GTP Peer Version 2 Success or Failure Statistics

Table 39 on page 97 shows the statistics for **jnxMbgSgwGtpCPerPeerStatsTable**, which show GTP peer version 2 success or failure statistics.

Table 39: jnxMbgSgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgSgwPPGtpV2ICsPageRx	DEPRECATED. Number of GTPv2 packets received with cause Page.
jnxMbgSgwPPGtpV2ICsPageTx	DEPRECATED. Number of GTP packets sent with cause Page.
jnxMbgSgwPPGtpV2ICsReqAcceptRx	Number of GTPv2 packets received with cause Request Accept.
jnxMbgSgwPPGtpV2ICsReqAcceptTx	Number of GTP packets sent with cause Request Accept.
jnxMbgSgwPPGtpV2ICsAcceptPartRx	Number of GTPv2 packets received with cause Accept Partial.
jnxMbgSgwPPGtpV2ICsAcceptPartTx	Number of GTP packets sent with cause Accept Partial.
jnxMbgSgwPPGtpV2ICsNewPTNPrefRx	Number of GTPv2 packets received with cause New PDN type due to Network Preference.
jnxMbgSgwPPGtpV2ICsNewPTNPrefTx	Number of GTP packets sent with cause New PDN type due to Network Preference.
jnxMbgSgwPPGtpV2ICsNPTSIAdbrRx	Number of GTPv2 packets received with cause New PDN type due to Single Address Bearer.
jnxMbgSgwPPGtpV2ICsNPTSIAdbrTx	Number of GTP packets sent with cause New PDN type due to Single Address Bearer.
jnxMbgSgwPPGtpV2ICsCtxNotFndRx	Number of GTPv2 packets received with cause Context Not Found.
jnxMbgSgwPPGtpV2ICsCtxNotFndTx	Number of GTP packets sent with cause Context Not Found.
jnxMbgSgwPPGtpV2ICsInvMsgFmtRx	Number of GTPv2 packets received with cause Invalid Message Format.

Table 39: jnxMbgSgwPPGtpV2ICsPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsInvMsgFmtTx	Number of GTP packets sent with cause Invalid Message Format.
jnxMbgSgwPPGtpV2ICsVerNotSuppRx	Number of GTPv2 packets received with cause Version Not Supported.
jnxMbgSgwPPGtpV2ICsVerNotSuppTx	Number of GTP packets sent with cause Version Not Supported.
jnxMbgSgwPPGtpV2ICsInvLenRx	Number of GTPv2 packets received with cause Invalid Length.
jnxMbgSgwPPGtpV2ICsInvLenTx	Number of GTP packets sent with cause Invalid Length.
jnxMbgSgwPPGtpV2ICsServNotSupRx	Number of GTPv2 packets received with cause Service Not Supported.
jnxMbgSgwPPGtpV2ICsServNotSupTx	Number of GTP packets sent with cause Service Not Supported.
jnxMbgSgwPPGtpV2ICsManIEIncorRx	Number of GTPv2 packets received with cause Mandatory IE incorrect.
jnxMbgSgwPPGtpV2ICsManIEIncorTx	Number of GTP packets sent with cause Mandatory IE incorrect.
jnxMbgSgwPPGtpV2ICsManIEMissRx	Number of GTPv2 packets received with cause Mandatory IE Missing.
jnxMbgSgwPPGtpV2ICsManIEMissTx	Number of GTP packets sent with cause Mandatory IE Missing.
jnxMbgSgwPPGtpV2ICsOptIEIncorRx	Number of GTPv2 packets received with cause Optional IE Incorrect.
jnxMbgSgwPPGtpV2ICsOptIEIncorTx	Number of GTP packets sent with cause Optional IE Incorrect.
jnxMbgSgwPPGtpV2ICsSysFailRx	Number of GTPv2 packets received with cause System Failure.
jnxMbgSgwPPGtpV2ICsSysFailTx	Number of GTP packets sent with cause System Failure.
jnxMbgSgwPPGtpV2ICsNoResRx	Number of GTPv2 packets received with cause No Resource.
jnxMbgSgwPPGtpV2ICsNoResTx	Number of GTP packets sent with cause No Resource.
jnxMbgSgwPPGtpV2ICsTFTSMANterRx	Number of GTPv2 packets received with cause TFT Semantic Error.
jnxMbgSgwPPGtpV2ICsTFTSMANterTx	Number of GTP packets sent with cause TFT Semantic Error.
jnxMbgSgwPPGtpV2ICsTFTSysErrRx	Number of GTPv2 packets received with cause TFT System Error.
jnxMbgSgwPPGtpV2ICsTFTSysErrTx	Number of GTP packets sent with cause TFT System Error.
jnxMbgSgwPPGtpV2ICsPkFiltManErRx	Number of GTPv2 packets received with cause Packet Filter Semantic Error.
jnxMbgSgwPPGtpV2ICsPkFiltManErTx	Number of GTP packets sent with cause Packet Filter Semantic Error.
jnxMbgSgwPPGtpV2ICsPkFiltSynErRx	Number of GTPv2 packets received with cause Packet Filter Syntax Error.

Table 39: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsPkFltSynErTx	Number of GTP packets sent with cause Packet Filter Syntax Error.
jnxMbgSgwPPGtpV2ICsMisUnknAPNRx	Number of GTPv2 packets received with cause Unknown APN.
jnxMbgSgwPPGtpV2ICsMisUnknAPNTx	Number of GTP packets sent with cause Unknown APN.
jnxMbgSgwPPGtpV2ICsUnexpRptIERx	Number of GTPv2 packets received with cause Unexpected Repeated IE.
jnxMbgSgwPPGtpV2ICsUnexpRptIETx	Number of GTP packets sent with cause Unexpected Repeated IE.
jnxMbgSgwPPGtpV2ICsGREKeyNtFdRx	Number of GTPv2 packets received with cause GRE Key Not Found.
jnxMbgSgwPPGtpV2ICsGREKeyNtFdTx	Number of GTP packets sent with cause GRE Key Not Found.
jnxMbgSgwPPGtpV2ICsRelocFailRx	Number of GTPv2 packets received with cause Relocation Failed.
jnxMbgSgwPPGtpV2ICsRelocFailTx	Number of GTP packets sent with cause Relocation Failed.
jnxMbgSgwPPGtpV2ICsDenINRatRx	Number of GTPv2 packets received with cause Denied in RAT.
jnxMbgSgwPPGtpV2ICsDenINRatTx	Number of GTP packets sent with cause Denied in RAT.
jnxMbgSgwPPGtpV2ICsPTNotSuppRx	Number of GTPv2 packets received with cause PDN Type Not Supported.
jnxMbgSgwPPGtpV2ICsPTNotSuppTx	Number of GTP packets sent with cause PDN Type Not Supported.
jnxMbgSgwPPGtpV2ICsAllDynAdOcRx	Number of GTPv2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgSgwPPGtpV2ICsAllDynAdOcTx	Number of GTP packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgSgwPPGtpV2ICsNOTFTUECTXRx	Number of GTPv2 packets received with cause UE Context without TFT exists.
jnxMbgSgwPPGtpV2ICsNOTFTUECTXTx	Number of GTP packets sent with cause UE Context without TFT exists.
jnxMbgSgwPPGtpV2ICsProtoNtSupRx	Number of GTPv2 packets received with cause Protocol Not Supported.
jnxMbgSgwPPGtpV2ICsProtoNtSupTx	Number of GTP packets sent with cause Protocol Not Supported.
jnxMbgSgwPPGtpV2ICsUENotRespRx	Number of GTPv2 packets received with cause UE Not Responding.
jnxMbgSgwPPGtpV2ICsUENotRespTx	Number of GTP packets sent with cause UE Not Responding.
jnxMbgSgwPPGtpV2ICsUERefusesRx	Number of GTPv2 packets received with cause UE Refuses.
jnxMbgSgwPPGtpV2ICsUERefusesTx	Number of GTP packets sent with cause UE Refuses.

Table 39: jnxMbgSgwPPGtpV2ICsPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsServDeniedRx	Number of GTPv2 packets received with cause Service Denied.
jnxMbgSgwPPGtpV2ICsServDeniedTx	Number of GTP packets sent with cause Service Denied.
jnxMbgSgwPPGtpV2ICsUnabPageUERx	Number of GTPv2 packets received with cause Unable To Page UE.
jnxMbgSgwPPGtpV2ICsUnabPageUETx	Number of GTP packets sent with cause Unable To Page UE.
jnxMbgSgwPPGtpV2ICsNoMemRx	Number of GTPv2 packets received with cause No Memory.
jnxMbgSgwPPGtpV2ICsNoMemTx	Number of GTP packets sent with cause No Memory.
jnxMbgSgwPPGtpV2ICsUserAUTHFlRx	Number of GTPv2 packets received with cause User Auth Failed.
jnxMbgSgwPPGtpV2ICsUserAUTHFlTx	Number of GTP packets sent with cause User Auth Failed.
jnxMbgSgwPPGtpV2ICsAPNAcsDenRx	Number of GTPv2 packets received with cause APN Access Denied.
jnxMbgSgwPPGtpV2ICsAPNAcsDenTx	Number of GTP packets sent with cause APN Access Denied.
jnxMbgSgwPPGtpV2ICsReqRejRx	Number of GTPv2 packets received with cause Request Rejected.
jnxMbgSgwPPGtpV2ICsReqRejTx	Number of GTP packets sent with cause Request Rejected.
jnxMbgSgwPPGtpV2ICsPTMSISigMMRx	Number of GTPv2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgSgwPPGtpV2ICsPTMSISigMMTx	Number of GTP packets sent with cause P-TMSI Signature Mismatch.
jnxMbgSgwPPGtpV2ICsIMSINotKnRx	Number of GTPv2 packets received with cause IMSI Not Known.
jnxMbgSgwPPGtpV2ICsIMSINotKnTx	Number of GTP packets sent with cause IMSI Not Known.
jnxMbgSgwPPGtpV2ICsCondiEMsRx	Number of GTPv2 packets received with cause Conditional IE Missing.
jnxMbgSgwPPGtpV2ICsCondiEMsTx	Number of GTP packets sent with cause Conditional IE Missing.
jnxMbgSgwPPGtpV2ICsAPNResTIncRx	Number of GTPv2 packets received with cause APN Restriction Type Incompatible.
jnxMbgSgwPPGtpV2ICsAPNResTIncTx	Number of GTP packets sent with cause APN Restriction Type Incompatible.
jnxMbgSgwPPGtpV2ICsUnknownRx	Number of GTPv2 packets received with cause Unknown.
jnxMbgSgwPPGtpV2ICsUnknownTx	Number of GTP packets sent with cause Unknown.
jnxMbgSgwPPGtpV2ICsLclDetRx	Number of GTP packets received with cause Local Detach.

Table 39: jnxMbgSgwPPGtpV2ICsPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsLclDetTx	Number of GTP packets sent with cause Local Detach.
jnxMbgSgwPPGtpV2ICsCmpDetRx	Number of GTP packets received with cause Complete Detach.
jnxMbgSgwPPGtpV2ICsCmpDetTx	Number of GTP packets sent with cause Complete Detach.
jnxMbgSgwPPGtpV2ICsRATChgRx	Number of GTP packets received with cause RAT Changed From 3GPP to Non 3GPP.
jnxMbgSgwPPGtpV2ICsRATChgTx	Number of GTP packets sent with cause RAT Changed From 3GPP to Non 3GPP.
jnxMbgSgwPPGtpV2ICsISRDeactRx	Number of GTP packets received with cause ISR Deactivated.
jnxMbgSgwPPGtpV2ICsISRDeactTx	Number of GTP packets sent with cause ISR Deactivated.
jnxMbgSgwPPGtpV2ICsEIFRNCEnRx	Number of GTP packets received with cause Error Indication From RNC eNodeB.
jnxMbgSgwPPGtpV2ICsEIFRNCEnTx	Number of GTP packets sent with cause Error Indication From RNC eNodeB.
jnxMbgSgwPPGtpV2ICsSemErTADRx	Number of GTP packets received with cause Semantic Error in TAD Operation.
jnxMbgSgwPPGtpV2ICsSemErTADTx	Number of GTP packets sent with cause Semantic Error in TAD Operation.
jnxMbgSgwPPGtpV2ICsSynErTADRx	Number of GTP packets received with cause Syntactic Error in TAD Operation.
jnxMbgSgwPPGtpV2ICsSynErTADTx	Number of GTP packets sent with cause Syntactic Error in TAD Operation.
jnxMbgSgwPPGtpV2ICsRMValRcvRx	Number of GTP packets received with cause Reserved Message Value Received.
jnxMbgSgwPPGtpV2ICsRMValRcvTx	Number of GTP packets sent with cause Reserved Message Value Received.
jnxMbgSgwPPGtpV2ICsRPrNtRspRx	Number of GTP packets received with cause Remote Peer Not Responding.
jnxMbgSgwPPGtpV2ICsRPrNtRspTx	Number of GTP packets sent with cause Remote Peer Not Responding.
jnxMbgSgwPPGtpV2ICsColNWReqRx	Number of GTP packets received with cause Collision With Network Initiated Request.
jnxMbgSgwPPGtpV2ICsColNWReqTx	Number of GTP packets sent with cause Collision With Network Initiated Request.
jnxMbgSgwPPGtpV2ICsUnPgUESusRx	Number of GTP packets received with cause Unable to Page UE Due to Suspension.

Table 39: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsUnPgUESusTx	Number of GTP packets sent with cause Unable to Page UE Due to Suspension.
jnxMbgSgwPPGtpV2ICsInvTotLenRx	Number of GTP packets received with cause Invalid Total Len.
jnxMbgSgwPPGtpV2ICsInvTotLenTx	Number of GTP packets sent with cause Invalid Total Len.
jnxMbgSgwPPGtpV2ICsDtForNtSupRx	Number of GTP packets received with cause Data Forwarding Not Supported.
jnxMbgSgwPPGtpV2ICsDtForNtSupTx	Number of GTP packets sent with cause Data Forwarding Not Supported.
jnxMbgSgwPPGtpV2ICsInReFrPrRx	Number of GTP packets received with cause Invalid Reply From Remote Peer.
jnxMbgSgwPPGtpV2ICsInReFrPrTx	Number of GTP packets sent with cause Invalid Reply From Remote Peer.
jnxMbgSgwPPGtpV2ICsInvPrRx	Number of GTP packets received with cause Invalid Peer.
jnxMbgSgwPPGtpV2ICsInvPrTx	Number of GTP packets sent with cause Invalid Peer.
jnxMbgSgwPPGtpV1ProtocolErrRx	Number of GTPv1 protocol errors received.
jnxMbgSgwPPGtpV1UnSupMsgRx	Number of GTPv1 unsupported messages received.
jnxMbgSgwPPGtpV1T3RespTmrExpRx	Number of GTPv1 T3 timer expiries received.
jnxMbgSgwPPGtpV1EndMarkerRx	Number of GTPv1 end marker packets received.
jnxMbgSgwPPGtpV1EndMarkerTx	Number of GTPv1 end marker packets sent.
jnxMbgSgwPPGtpV1EchoReqRx	Number of GTPv1 echo request packets received.
jnxMbgSgwPPGtpV1EchoReqTx	Number of GTPv1 echo request packets sent.
jnxMbgSgwPPGtpV1EchoRespRx	Number of GTPv1 echo response packets received.
jnxMbgSgwPPGtpV1EchoRespTx	Number of GTPv1 echo response packets sent.
jnxMbgSgwPPGtpV1ErrIndRx	Number of GTPv1 error indication packets received.
jnxMbgSgwPPGtpV1ErrIndTx	Number of GTPv1 error indication packets sent.

GTP Global Version 2 Operational Statistics

Table 40 on page 103 shows the statistics for **jnxMbgSgwGtpCGlbStatsTable**, which show GTP global version 2 operational statistics.

Table 40: jnxMbgSgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgSgwRxPacketsDropped	Number of received packets dropped.
jnxMbgSgwPacketAllocFail	Number of Packet allocation failures.
jnxMbgSgwPacketSendFail	Number of packet send failures.
jnxMbgSgwIPVerErrRx	Number of IP version error packets received.
jnxMbgSgwIPProtoErrRx	Number of IP protocol Error packets received.
jnxMbgSgwGTPPortErrRx	Number of port error Packets received.
jnxMbgSgwGTPUnknVerRx	Number of unknown version packets received.
jnxMbgSgwPcktLenErrRx	Number of packet length error packets received.
jnxMbgSgwUnknMsgRx	Number of unknown messages received.
jnxMbgSgwProtocolErrRx	Number of GTPv2 protocol errors received.
jnxMbgSgwUnSupportedMsgRx	Number of GTPv2 unsupported messages received.
jnxMbgSgwT3RespTmrExpRx	Number of GTPv2 T3 timer expiries received.
jnxMbgSgwV2NumMsgRx	Number of GTPv2 messages received.
jnxMbgSgwV2NumMsgTx	Number of V2 messages sent.
jnxMbgSgwV2NumBytesRx	Number of GTPv2 bytes received.
jnxMbgSgwV2NumBytesTx	Number of V2 bytes sent.
jnxMbgSgwV2EchoReqRx	Number of GTPv2 echo requests received.
jnxMbgSgwV2EchoReqTx	Number of GTPv2 echo requests sent.
jnxMbgSgwV2EchoRespRx	Number of GTPv2 echo responses received.
jnxMbgSgwV2EchoRespTx	Number of GTPv2 echo responses sent.
jnxMbgSgwV2VerNotSupRx	Number of GTPv2 version not supported messages received
jnxMbgSgwV2VerNotSupTx	Number of GTPv2 version not supported messages sent.
jnxMbgSgwCreateSessReqRx	Number of GTPv2 create session requests received.
jnxMbgSgwCreateSessReqTx	Number of GTPv2 create session requests sent.

Table 40: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwCreateSessRspRx	Number of GTPv2 create session responses received.
jnxMbgSgwCreateSessRspTx	Number of GTPv2 create session responses sent.
jnxMbgSgwModBrReqRx	Number of GTPv2 modify bearer requests received.
jnxMbgSgwModBrReqTx	Number of GTPv2 modify bearer requests sent.
jnxMbgSgwModBrRspRx	Number of GTPv2 modify bearer responses received.
jnxMbgSgwModBrRspTx	Number of GTPv2 modify bearer responses sent.
jnxMbgSgwDelSessReqRx	Number of GTPv2 delete session requests received.
jnxMbgSgwDelSessReqTx	Number of GTPv2 delete session requests sent.
jnxMbgSgwDelSessRspRx	Number of GTPv2 delete session responses received.
jnxMbgSgwDelSessRspTx	Number of GTPv2 delete session responses sent.
jnxMbgSgwCrtBrReqRx	Number of GTPv2 create bearer requests received.
jnxMbgSgwCrtBrReqTx	Number of GTPv2 create bearer requests sent.
jnxMbgSgwCrtBrRspRx	Number of GTPv2 create bearer response received.
jnxMbgSgwCrtBrRspTx	Number of GTPv2 create bearer response sent.
jnxMbgSgwUpdBrReqRx	Number of GTPv2 update bearer requests received.
jnxMbgSgwUpdBrReqTx	Number of GTPv2 update bearer requests sent.
jnxMbgSgwUpdBrRspRx	Number of GTPv2 update bearer responses received.
jnxMbgSgwUpdBrRspTx	Number of GTPv2 update bearer responses sent.
jnxMbgSgwDelBrReqRx	Number of GTPv2 delete bearer requests received.
jnxMbgSgwDelBrReqTx	Number of GTPv2 delete bearer requests sent.
jnxMbgSgwDelBrRspRx	Number of GTPv2 delete bearer responses received.
jnxMbgSgwDelBrRspTx	Number of GTPv2 delete bearer responses sent.
jnxMbgSgwDelConnSetReqRx	Number of GTPv2 delete PDN connection set Request received.
jnxMbgSgwDelConnSetReqTx	Number of GTPv2 delete PDN connection set Request sent.
jnxMbgSgwDelConnSetRspRx	Number of GTPv2 delete PDN connection set Response received.

Table 40: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwDelConnSetRspTx	Number of GTPv2 delete PDN connection set Response sent.
jnxMbgSgwUpdConnSetReqRx	Number of GTPv2 update connection set requests received.
jnxMbgSgwUpdConnSetReqTx	Number of GTPv2 update connection set requests sent.
jnxMbgSgwUpdConnSetRspRx	Number of GTPv2 update connection set responses received.
jnxMbgSgwUpdConnSetRspTx	Number of GTPv2 update connection set responses sent.
jnxMbgSgwModBrCmdRx	Number of GTPv2 modify bearer command received.
jnxMbgSgwModBrCmdTx	Number of GTPv2 modify bearer command sent.
jnxMbgSgwModBrFlrIndRx	Number of GTPv2 modify bearer failure received.
jnxMbgSgwModBrFlrIndTx	Number of GTPv2 modify bearer failure sent.
jnxMbgSgwDelBrCmdRx	Number of GTPv2 delete bearer command received.
jnxMbgSgwDelBrCmdTx	Number of GTPv2 delete bearer command sent.
jnxMbgSgwDelBrFlrIndRx	Number of GTPv2 delete bearer failure received.
jnxMbgSgwDelBrFlrIndTx	Number of GTPv2 delete bearer failure sent.
jnxMbgSgwBrResCmdRx	Number of GTPv2 bearer response command received.
jnxMbgSgwBrResCmdTx	Number of GTPv2 bearer response command sent.
jnxMbgSgwBrResFlrIndRx	Number of GTPv2 bearer resource failure received.
jnxMbgSgwBrResFlrIndTx	Number of GTPv2 bearer resource failure sent.
jnxMbgSgwRelAcsBrReqRx	Number of GTPv2 release access bearer requests received.
jnxMbgSgwRelAcsBrReqTx	Number of GTPv2 release access bearer requests sent.
jnxMbgSgwRelAcsBrRespRx	Number of GTPv2 release access bearer response received.
jnxMbgSgwRelAcsBrRespTx	Number of GTPv2 release access bearer response sent.
jnxMbgSgwCrIndTunReqRx	Number of GTPv2 create indirect tunnel forward Request received.
jnxMbgSgwCrIndTunReqTx	Number of GTPv2 create indirect tunnel forward Request sent.
jnxMbgSgwCrIndTunRespRx	Number of GTPv2 create indirect tunnel forward Response received.
jnxMbgSgwCrIndTunRespTx	Number of GTPv2 create indirect tunnel forward Response sent.

Table 40: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwDelIndTunReqRx	Number of GTPv2 Delete Indirect Tunnel Forward Request received.
jnxMbgSgwDelIndTunReqTx	Number of GTPv2 Delete Indirect Tunnel Forward Request sent.
jnxMbgSgwDelIndTunRespRx	Number of GTPv2 Delete Indirect Tunnel Forward Response received.
jnxMbgSgwDelIndTunRespTx	Number of GTPv2 Delete Indirect Tunnel Forward Response sent.
jnxMbgSgwDlDataNotifRx	Number of GTPv2 Downlink Data Notify received.
jnxMbgSgwDlDataNotifTx	Number of GTPv2 Downlink Data Notify sent.
jnxMbgSgwDlDataAckRx	Number of GTPv2 Downlink Data Notify Acknowledgement received.
jnxMbgSgwDlDataAckTx	Number of GTPv2 Downlink Data Notify Acknowledgement sent.
jnxMbgSgwDlDataNotifFlrIndRx	Number of GTPv2 Downlink Data Notification fail received.
jnxMbgSgwDlDataNotifFlrIndTx	Number of GTPv2 Downlink Data Notification fail sent.
jnxMbgSgwStopPagingIndRx	Number of GTPv2 Number of Stop Paging Indication Messages received.
jnxMbgSgwStopPagingIndTx	Number of GTPv2 Number of Stop Paging Indication messages sent.

GTP Global Version 2 Success or Failure Statistics

Table 41 on page 106 shows the statistics for **jnxMbgSgwGtpCGlbStatsTable**, which show GTP global version 2 success or failure statistics.

Table 41: jnxMbgSgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgSgwGtpV2ICsPageRx	DEPRECATED. Number of GTPv2 packets received with cause Page.
jnxMbgSgwGtpV2ICsPageTx	DEPRECATED. Number of GTP packets sent with cause Page.
jnxMbgSgwGtpV2ICsReqAcceptRx	Number of GTPv2 packets received with cause Request Accept.
jnxMbgSgwGtpV2ICsReqAcceptTx	Number of GTP packets sent with cause Request Accept.
jnxMbgSgwGtpV2ICsAcceptPartRx	Number of GTPv2 packets received with cause Accept Partial.
jnxMbgSgwGtpV2ICsAcceptPartTx	Number of GTP packets sent with cause Accept Partial.
jnxMbgSgwGtpV2ICsNewPTNPrefRx	Number of GTPv2 packets received with cause New PDN type due to Network Preference.

Table 41: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsNewPTNPrefTx	Number of GTP packets sent with cause New PDN type due to Network Preference
jnxMbgSgwGtpV2ICsNewPTSIAdbrRx	Number of GTPv2 packets received with cause New PDN type due to Single Address Bearer.
jnxMbgSgwGtpV2ICsNewPTSIAdbrTx	Number of GTP packets sent with cause New PDN type due to Single Address Bearer.
jnxMbgSgwGtpV2ICsCtxNotFndRx	Number of GTPv2 packets received with cause Context Not Found.
jnxMbgSgwGtpV2ICsCtxNotFndTx	Number of GTP packets sent with cause Context Not Found.
jnxMbgSgwGtpV2ICsInvMsgFmtRx	Number of GTPv2 packets received with cause Invalid Message Format.
jnxMbgSgwGtpV2ICsInvMsgFmtTx	Number of GTP packets sent with cause Invalid Message Format.
jnxMbgSgwGtpV2ICsVerNotSuppRx	Number of GTPv2 packets received with cause Version Not Supported.
jnxMbgSgwGtpV2ICsVerNotSuppTx	Number of GTP packets sent with cause Version Not Supported.
jnxMbgSgwGtpV2ICsInvLenRx	Number of GTPv2 packets received with cause Invalid Length.
jnxMbgSgwGtpV2ICsInvLenTx	Number of GTP packets sent with cause Invalid Length.
jnxMbgSgwGtpV2ICsServNotSuppRx	Number of GTPv2 packets received with cause Service Not Supported.
jnxMbgSgwGtpV2ICsServNotSuppTx	Number of GTP packets sent with cause Service Not Supported.
jnxMbgSgwGtpV2ICsManIEIncorrRx	Number of GTPv2 packets received with cause Mandatory IE incorrect.
jnxMbgSgwGtpV2ICsManIEIncorrTx	Number of GTP packets sent with cause Mandatory IE incorrect.
jnxMbgSgwGtpV2ICsManIEMissRx	Number of GTPv2 packets received with cause Mandatory IE Missing.
jnxMbgSgwGtpV2ICsManIEMissTx	Number of GTP packets sent with cause Mandatory IE Missing.
jnxMbgSgwGtpV2ICsOptIEIncorrRx	Number of GTPv2 packets received with cause Optional IE Incorrect.
jnxMbgSgwGtpV2ICsOptIEIncorrTx	Number of GTP packets sent with cause Optional IE Incorrect.
jnxMbgSgwGtpV2ICsSysFailRx	Number of GTPv2 packets received with cause System Failure.
jnxMbgSgwGtpV2ICsSysFailTx	Number of GTP packets sent with cause System Failure.
jnxMbgSgwGtpV2ICsNoResRx	Number of GTPv2 packets received with cause No Resource.
jnxMbgSgwGtpV2ICsNoResTx	Number of GTP packets sent with cause No Resource.

Table 41: jnxMbgSgwGtpV2ICsTFTSMANterRx Statistics (*continued*)

jnxMbgSgwGtpV2ICsTFTSMANterRx	Number of GTPv2 packets received with cause TFT Semantic Error.
jnxMbgSgwGtpV2ICsTFTSMANterTx	Number of GTP packets sent with cause TFT Semantic Error.
jnxMbgSgwGtpV2ICsTFTSysErrRx	Number of GTPv2 packets received with cause TFT System Error.
jnxMbgSgwGtpV2ICsTFTSysErrTx	Number of GTP packets sent with cause TFT System Error.
jnxMbgSgwGtpV2ICsPkFltManErrRx	Number of GTPv2 packets received with cause Packet Filter Semantic Error.
jnxMbgSgwGtpV2ICsPkFltManErrTx	Number of GTP packets sent with cause Packet Filter Semantic Error.
jnxMbgSgwGtpV2ICsPkFltSynErrRx	Number of GTPv2 packets received with cause Packet Filter Syntax Error.
jnxMbgSgwGtpV2ICsPkFltSynErrTx	Number of GTP packets sent with cause Packet Filter Syntax Error.
jnxMbgSgwGtpV2ICsMisUnknAPNRx	Number of GTPv2 packets received with cause Unknown APN.
jnxMbgSgwGtpV2ICsMisUnknAPNTx	Number of GTP packets sent with cause Unknown APN.
jnxMbgSgwGtpV2ICsUnexpRptIERx	Number of GTPv2 packets received with cause Unexpected repeated IE.
jnxMbgSgwGtpV2ICsUnexpRptIETx	Number of GTP packets sent with cause Unexpected repeated IE.
jnxMbgSgwGtpV2ICsGREKeyNtFdRx	Number of GTPv2 packets received with cause GRE Key Not Found.
jnxMbgSgwGtpV2ICsGREKeyNtFdTx	Number of GTP packets sent with cause GRE Key Not Found.
jnxMbgSgwGtpV2ICsRelocFailRx	Number of GTPv2 packets received with cause Relocation Failed.
jnxMbgSgwGtpV2ICsRelocFailTx	Number of GTP packets sent with cause Relocation Failed.
jnxMbgSgwGtpV2ICsDeniedINRatRx	Number of GTPv2 packets received with cause Denied in RAT.
jnxMbgSgwGtpV2ICsDeniedINRatTx	Number of GTP packets sent with cause Denied in RAT.
jnxMbgSgwGtpV2ICsPTNotSuppRx	Number of GTPv2 packets received with cause PDN Type Not Supported.
jnxMbgSgwGtpV2ICsPTNotSuppTx	Number of GTP packets sent with cause PDN Type Not Supported.
jnxMbgSgwGtpV2ICsAllDynAdOccRx	Number of GTPv2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgSgwGtpV2ICsAllDynAdOccTx	Number of GTP packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgSgwGtpV2ICsNOTFTUECTXRx	Number of GTPv2 packets received with cause UE Context without TFT exists.

Table 41: jnxMbgSgwGtpV2ICsNOTFTUECTXTx Statistics (*continued*)

jnxMbgSgwGtpV2ICsNOTFTUECTXTx	Number of GTP packets sent with cause UE Context without TFT exists.
jnxMbgSgwGtpV2ICsProtoNtSupRx	Number of GTPv2 packets received with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsProtoNtSupTx	Number of GTP packets sent with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsUENotRespRx	Number of GTPv2 packets received with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUENotRespTx	Number of GTP packets sent with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUERefusesRx	Number of GTPv2 packets received with cause UE Refuses.
jnxMbgSgwGtpV2ICsUERefusesTx	Number of GTP packets sent with cause UE Refuses.
jnxMbgSgwGtpV2ICsServDeniedRx	Number of GTPv2 packets received with cause Service Denied.
jnxMbgSgwGtpV2ICsServDeniedTx	Number of GTP packets sent with cause Service Denied.
jnxMbgSgwGtpV2ICsUnabPageUERx	Number of GTPv2 packets received with cause Unable To Page UE.
jnxMbgSgwGtpV2ICsUnabPageUETx	Number of GTP packets sent with cause Unable To Page UE.
jnxMbgSgwGtpV2ICsNoMemRx	Number of GTPv2 packets received with cause No Memory.
jnxMbgSgwGtpV2ICsNoMemTx	Number of GTP packets sent with cause No Memory.
jnxMbgSgwGtpV2ICsUserAUTHFIRx	Number of GTPv2 packets received with cause User Auth Failed.
jnxMbgSgwGtpV2ICsUserAUTHFITx	Number of GTP packets sent with cause User Auth Failed.
jnxMbgSgwGtpV2ICsAPNAcsDenRx	Number of GTPv2 packets received with cause APN Access Denied.
jnxMbgSgwGtpV2ICsAPNAcsDenTx	Number of GTP packets sent with cause APN Access Denied.
jnxMbgSgwGtpV2ICsReqRejRx	Number of GTPv2 packets received with cause Request Rejected.
jnxMbgSgwGtpV2ICsReqRejTx	Number of GTP packets sent with cause Request Rejected.
jnxMbgSgwGtpV2ICsPTMSISigMMRx	Number of GTPv2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgSgwGtpV2ICsPTMSISigMMTx	Number of GTP packets sent with cause P-TMSI Signature Mismatch
jnxMbgSgwGtpV2ICsIMSINotKnRx	Number of GTPv2 packets received with cause IMSI Not Known.
jnxMbgSgwGtpV2ICsIMSINotKnTx	Number of GTP packets sent with cause IMSI Not Known.
jnxMbgSgwGtpV2ICsCondiEMsRx	Number of GTPv2 packets received with cause Conditional IE Missing.
jnxMbgSgwGtpV2ICsCondiEMsTx	Number of GTP packets sent with cause Conditional IE Missing.

Table 41: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsAPNResTIncRx	Number of GTPv2 packets received with cause APN Restriction Type Incompatible.
jnxMbgSgwGtpV2ICsAPNResTIncTx	Number of GTP packets sent with cause APN Restriction Type Incompatible.
jnxMbgSgwGtpV2ICsUnknownRx	Number of GTPv2 packets received with cause Unknown.
jnxMbgSgwGtpV2ICsUnknownTx	Number of GTP packets sent with cause Unknown.
jnxMbgSgwGtpV2ICsLclDetRx	Number of GTP packets received with cause Local Detach.
jnxMbgSgwGtpV2ICsLclDetTx	Number of GTP packets sent with cause Local Detach.
jnxMbgSgwGtpV2ICsCmpDetRx	Number of GTP packets received with cause Complete Detach.
jnxMbgSgwGtpV2ICsCmpDetTx	Number of GTP packets sent with cause Complete Detach.
jnxMbgSgwGtpV2ICsRATChgRx	Number of GTP packets received with cause RAT Changed From 3GPP to non 3GPP.
jnxMbgSgwGtpV2ICsRATChgTx	Number of GTP packets sent with cause RAT Changed From 3GPP to non 3GPP.
jnxMbgSgwGtpV2ICsISRDeactRx	Number of GTP packets received with cause ISR Deactivated.
jnxMbgSgwGtpV2ICsISRDeactTx	Number of GTP packets sent with cause ISR Deactivated.
jnxMbgSgwGtpV2ICsEIFRNCEnRx	Number of GTP packets received with cause Error Indication From RNC eNodeB.
jnxMbgSgwGtpV2ICsEIFRNCEnTx	Number of GTP packets sent with cause Error Indication From RNC eNodeB.
jnxMbgSgwGtpV2ICsSemErTADRx	Number of GTP packets received with cause Semantic Error in TAD Operation.
jnxMbgSgwGtpV2ICsSemErTADTx	Number of GTP packets sent with cause Semantic Error in TAD Operation.
jnxMbgSgwGtpV2ICsSynErTADRx	Number of GTP packets received with cause Syntactic Error in TAD Operation.
jnxMbgSgwGtpV2ICsSynErTADTx	Number of GTP packets sent with cause Syntactic Error in TAD Operation.
jnxMbgSgwGtpV2ICsRMValRcvRx	Number of GTP packets received with cause Reserved Message Value Received.
jnxMbgSgwGtpV2ICsRMValRcvTx	Number of GTP packets sent with cause Reserved Message Value Received.
jnxMbgSgwGtpV2ICsRPrNtRspRx	Number of GTP packets received with cause Remote Peer Not Responding.

Table 41: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsRPrNtRspTx	Number of GTP packets sent with cause Remote Peer Not Responding.
jnxMbgSgwGtpV2ICsColNWReqRx	Number of GTP packets received with cause Collision With Network Initiated Request.
jnxMbgSgwGtpV2ICsColNWReqTx	Number of GTP packets sent with cause Collision With Network Initiated Request.
jnxMbgSgwGtpV2ICsUnPgUESusRx	Number of GTP packets received with cause Unable To Page UE Due To Suspension.
jnxMbgSgwGtpV2ICsUnPgUESusTx	Number of GTP packets sent with cause Unable To Page UE Due To Suspension.
jnxMbgSgwGtpV2ICsInvTotLenRx	Number of GTP packets received with cause Invalid Total Len.
jnxMbgSgwGtpV2ICsInvTotLenTx	Number of GTP packets sent with cause Invalid Total Len.
jnxMbgSgwGtpV2ICsDtForNtSupRx	Number of GTP packets received with cause Data Forwarding not Supported.
jnxMbgSgwGtpV2ICsDtForNtSupTx	Number of GTP packets sent with cause Data Forwarding not Supported.
jnxMbgSgwGtpV2ICsInReFRPrRx	Number of GTP packets received with cause Invalid Reply From Remote Peer.
jnxMbgSgwGtpV2ICsInReFRPrTx	Number of GTP packets sent with cause Invalid Reply From Remote Peer.
jnxMbgSgwGtpV2ICsInvPrRx	Number of GTP packets received with cause Invalid Peer.
jnxMbgSgwGtpV2ICsInvPrTx	Number of GTP packets sent with cause Invalid Peer.
jnxMbgSgwGtpV1ProtocolErrRx	Number of GTPv1 protocol errors received.
jnxMbgSgwGtpV1UnSupMsgRx	Number of GTPv1 unsupported messages received.
jnxMbgSgwGtpV1T3RespTmrExpRx	Number of GTPv1 T3 timer expiries received.
jnxMbgSgwGtpV1EndMarkerRx	Number of GTPv1 end marker packets received.
jnxMbgSgwGtpV1EndMarkerTx	Number of GTPv1 end marker packets sent.
jnxMbgSgwGtpV1EchoReqRx	Number of GTPv1 echo request packets received.
jnxMbgSgwGtpV1EchoReqTx	Number of GTPv1 echo request packets sent.
jnxMbgSgwGtpV1EchoRespRx	Number of GTPv1 echo response packets received.
jnxMbgSgwGtpV1EchoRespTx	Number of GTPv1 echo response packets sent.

Table 41: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV1ErrIndRx	Number of GTPv1 error indication packets received.
jnxMbgSgwGtpV1ErrIndTx	Number of GTPv1 error indication packets sent.

GTP Interface Statistics

Table 42 on page 112 shows the statistics for **jnxMbgSgwGtpIfStatsTable**, which show the GTP interface level control statistics.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics

Name	Description
jnxMbgSgwIfIndex	GTP interface index.
jnxMbgSgwIfType	Name of the interface.
jnxMbgSgwIfRxPacketsDropped	Number of received GTP packets dropped by the gateway.
jnxMbgSgwIfPacketAllocFail	Number of packet allocation failures in the gateway.
jnxMbgSgwIfPacketSendFail	Number of GTP packet send failures in the gateway.
jnxMbgSgwIfIPVerErrRx	Number of packets with an unsupported IP version.
jnxMbgSgwIfIPProtoErrRx	Number of non-UDP IP packets received.
jnxMbgSgwIfGTPPortErrRx	Number of packets received on a unknown GTP port number.
jnxMbgSgwIfGTPUnknVerRx	Number of GTP packets with an incorrect GTP version.
jnxMbgSgwIfPcktLenErrRx	Number of GTP packets with an incorrect length in the IP or UDP header.
jnxMbgSgwIfUnknMsgRx	Number of GTP messages received that are not recognized by the gateway.
jnxMbgSgwIfProtocolErrRx	Number of GTPv2 messages received that had protocol errors.
jnxMbgSgwIfUnSupportedMsgRx	Number of unsupported GTPv2 messages received.
jnxMbgSgwIfT3RespTmrExpRx	Number of GTPv2 T3 timer expiries received.
jnxMbgSgwIfV2NumMsgRx	Number of GTPv2 messages received.
jnxMbgSgwIfV2NumMsgTx	Number of GTPv2 messages sent.
jnxMbgSgwIfV2NumBytesRx	Number of GTPv2 bytes received.
jnxMbgSgwIfV2NumBytesTx	Number of GTPv2 bytes sent.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfV2EchoReqRx	Number of GTPv2 echo requests received.
jnxMbgSgwIfV2EchoReqTx	Number of GTPv2 echo requests sent.
jnxMbgSgwIfV2EchoRespRx	Number of GTPv2 echo responses received.
jnxMbgSgwIfV2EchoRespTx	Number of GTPv2 echo responses sent.
jnxMbgSgwIfV2VerNotSupRx	Number of GTPv2 Version Not Supported messages received.
jnxMbgSgwIfV2VerNotSupTx	Number of GTPv2 Version Not Supported messages sent.
jnxMbgSgwIfCreateSessReqRx	Number of GTPv2 Create Session Requests received.
jnxMbgSgwIfCreateSessReqTx	Number of GTPv2 Create Session Requests sent.
jnxMbgSgwIfCreateSessRespRx	Number of GTPv2 Create Session Responses received.
jnxMbgSgwIfCreateSessRespTx	Number of GTPv2 Create Session Responses sent.
jnxMbgSgwIfModBrReqRx	Number of GTPv2 Modify Bearer Requests received.
jnxMbgSgwIfModBrReqTx	Number of GTPv2 Modify Bearer Requests sent.
jnxMbgSgwIfModBrRespRx	Number of GTPv2 Modify Bearer Responses received.
jnxMbgSgwIfModBrRespTx	Number of GTPv2 Modify Bearer Responses sent.
jnxMbgSgwIfDelSessReqRx	Number of GTPv2 Delete Session Requests received.
jnxMbgSgwIfDelSessReqTx	Number of GTPv2 Delete Session Requests sent.
jnxMbgSgwIfDelSessRespRx	Number of GTPv2 Delete Session Responses received.
jnxMbgSgwIfDelSessRespTx	Number of GTPv2 Delete Session Responses sent.
jnxMbgSgwIfCrtBrReqRx	Number of GTPv2 Create Bearer Requests received.
jnxMbgSgwIfCrtBrReqTx	Number of GTPv2 Create Bearer Requests sent.
jnxMbgSgwIfCrtBrRespRx	Number of GTPv2 Create Bearer Responses received.
jnxMbgSgwIfCrtBrRespTx	Number of GTPv2 Create Bearer Responses sent.
jnxMbgSgwIfUpdBrReqRx	Number of GTPv2 Update Bearer Requests received.
jnxMbgSgwIfUpdBrReqTx	Number of GTPv2 Update Bearer Requests sent.
jnxMbgSgwIfUpdBrRespRx	Number of GTPv2 Update Bearer Responses received.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfUpdBrRspTx	Number of GTPv2 Update Bearer Responses sent.
jnxMbgSgwIfDelBrReqRx	Number of GTPv2 Delete Bearer Requests received.
jnxMbgSgwIfDelBrReqTx	Number of GTPv2 Delete Bearer Requests sent.
jnxMbgSgwIfDelBrRspRx	Number of GTPv2 Delete Bearer Responses received.
jnxMbgSgwIfDelBrRspTx	Number of GTPv2 Delete Bearer Responses sent.
jnxMbgSgwIfDelConnSetReqRx	Number of GTPv2 Delete PDN Connection Set Requests received.
jnxMbgSgwIfDelConnSetReqTx	Number of GTPv2 Delete PDN Connection Set Requests sent.
jnxMbgSgwIfDelConnSetRspRx	Number of GTPv2 Delete PDN Connection Set Responses received.
jnxMbgSgwIfDelConnSetRspTx	Number of GTPv2 Delete PDN Connection Set Responses sent.
jnxMbgSgwIfUpdConnSetReqRx	Number of GTPv2 Update Connection Set Requests received.
jnxMbgSgwIfUpdConnSetReqTx	Number of GTPv2 Update Connection Set Requests sent.
jnxMbgSgwIfUpdConnSetRspRx	Number of GTPv2 Update Connection Set Responses received.
jnxMbgSgwIfUpdConnSetRspTx	Number of GTPv2 Update Connection Set Responses sent.
jnxMbgSgwIfModBrCmdRx	Number of GTPv2 Modify Bearer Commands received.
jnxMbgSgwIfModBrCmdTx	Number of GTPv2 Modify Bearer Commands sent.
jnxMbgSgwIfModBrFlrIndRx	Number of GTPv2 Modify Bearer Failures received.
jnxMbgSgwIfModBrFlrIndTx	Number of GTPv2 Modify Bearer Failures sent.
jnxMbgSgwIfDelBrCmdRx	Number of GTPv2 Delete Bearer Commands received.
jnxMbgSgwIfDelBrCmdTx	Number of GTPv2 Delete Bearer Commands sent.
jnxMbgSgwIfDelBrFlrIndRx	Number of GTPv2 Delete Bearer Failures received.
jnxMbgSgwIfDelBrFlrIndTx	Number of GTPv2 Delete Bearer Failures sent.
jnxMbgSgwIfBrResCmdRx	Number of GTPv2 Bearer Response Commands received.
jnxMbgSgwIfBrResCmdTx	Number of GTPv2 Bearer Response Commands sent.
jnxMbgSgwIfBrResFlrIndRx	Number of GTPv2 Bearer Resource Failures received.
jnxMbgSgwIfBrResFlrIndTx	Number of GTPv2 Bearer Resource Failures sent.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfRelAcSBrReqRx	Number of GTPv2 Release Access Bearer Requests received.
jnxMbgSgwIfRelAcSBrReqTx	Number of GTPv2 Release Access Bearer Requests sent.
jnxMbgSgwIfRelAcSBrRespRx	Number of GTPv2 Release Access Bearer Responses received.
jnxMbgSgwIfRelAcSBrRespTx	Number of GTPv2 Release Access Bearer Responses sent.
jnxMbgSgwIfCrIndTunReqRx	Number of GTPv2 Create Indirect Tunnel Forward Requests received.
jnxMbgSgwIfCrIndTunReqTx	Number of GTPv2 Create Indirect Tunnel Forward Requests sent.
jnxMbgSgwIfCrIndTunRespRx	Number of GTPv2 Create Indirect Tunnel Forward Responses received.
jnxMbgSgwIfCrIndTunRespTx	Number of GTPv2 Create Indirect Tunnel Forward Responses sent.
jnxMbgSgwIfDelIndTunReqRx	Number of GTPv2 Delete Indirect Tunnel Forward Requests received.
jnxMbgSgwIfDelIndTunReqTx	Number of GTPv2 Delete Indirect Tunnel Forward Requests sent.
jnxMbgSgwIfDelIndTunRespRx	Number of GTPv2 Delete Indirect Tunnel Forward Responses received.
jnxMbgSgwIfDelIndTunRespTx	Number of GTPv2 Delete Indirect Tunnel Forward Responses sent.
jnxMbgSgwIfDlDataNotifRx	Number of GTPv2 Downlink Data Notifications received.
jnxMbgSgwIfDlDataNotifTx	Number of GTPv2 Downlink Data Notifications sent.
jnxMbgSgwIfDlDataAckRx	Number of GTPv2 Downlink Data Notification acknowledgements received.
jnxMbgSgwIfDlDataAckTx	Number of GTPv2 Downlink Data Notification acknowledgements sent.
jnxMbgSgwIfDlDataNotiFlrIndRx	Number of GTPv2 Downlink Data Notification failure indications received.
jnxMbgSgwIfDlDataNotiFlrIndTx	Number of GTPv2 Downlink Data Notification failure indications sent.
jnxMbgSgwIfStopPagingIndRx	Number of GTPv2 Stop Paging Indication messages received.
jnxMbgSgwIfStopPagingIndTx	Number of GTPv2 Stop Paging Indication messages sent.
jnxMbgSgwIfGtpV2ICsReqAcceptRx	Number of GTPv2 packets received with cause Request Accept.
jnxMbgSgwIfGtpV2ICsReqAcceptTx	Number of GTPv2 packets sent with cause Request Accept.
jnxMbgSgwIfGtpV2ICsAcceptPartRx	Number of GTPv2 packets received with cause Accept Partial.
jnxMbgSgwIfGtpV2ICsAcceptPartTx	Number of GTPv2 packets sent with cause Accept Partial.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfGtpV2ICsNewPTNPrefRx	Number of GTPv2 packets received with cause New PDN Type Due To Network Preference.
jnxMbgSgwIfGtpV2ICsNewPTNPrefTx	Number of GTP packets sent with cause New PDN Type Due To Network Preference.
jnxMbgSgwIfGtpV2ICsNPTSIAddrRx	Number of GTPv2 packets received with cause New PDN Type Due To Single Address Bearer.
jnxMbgSgwIfGtpV2ICsNPTSIAddrTx	Number of GTPv2 packets sent with cause New PDN Type Due To Single Address Bearer.
jnxMbgSgwIfGtpV2ICsCtxNotFndRx	Number of GTPv2 packets received with cause Context Not Found.
jnxMbgSgwIfGtpV2ICsCtxNotFndTx	Number of GTPv2 packets sent with cause Context Not Found.
jnxMbgSgwIfGtpV2ICsInvMsgFmtRx	Number of GTPv2 packets received with cause Invalid Message Format.
jnxMbgSgwIfGtpV2ICsInvMsgFmtTx	Number of GTPv2 packets sent with cause Invalid Message Format.
jnxMbgSgwIfGtpV2ICsVerNotSuppRx	Number of GTPv2 packets received with cause Version Not Supported.
jnxMbgSgwIfGtpV2ICsVerNotSuppTx	Number of GTPv2 packets sent with cause Version Not Supported.
jnxMbgSgwIfGtpV2ICsInvLenRx	Number of GTPv2 packets received with cause Invalid Length.
jnxMbgSgwIfGtpV2ICsInvLenTx	Number of GTPv2 packets sent with cause Invalid Length.
jnxMbgSgwIfGtpV2ICsSrvNotSuppRx	Number of GTPv2 packets received with cause Service Not Supported.
jnxMbgSgwIfGtpV2ICsSrvNotSuppTx	Number of GTPv2 packets sent with cause Service Not Supported.
jnxMbgSgwIfGtpV2ICsManIEIncorRx	Number of GTPv2 packets received with cause Mandatory IE Incorrect.
jnxMbgSgwIfGtpV2ICsManIEIncorTx	Number of GTPv2 packets sent with cause Mandatory IE Incorrect.
jnxMbgSgwIfGtpV2ICsManIEMissRx	Number of GTPv2 packets received with cause Mandatory IE Missing.
jnxMbgSgwIfGtpV2ICsManIEMissTx	Number of GTPv2 packets sent with cause Mandatory IE Missing.
jnxMbgSgwIfGtpV2ICsOptIEIncorRx	Number of GTPv2 packets received with cause Optional IE Incorrect.
jnxMbgSgwIfGtpV2ICsOptIEIncorTx	Number of GTPv2 packets sent with cause Optional IE Incorrect.
jnxMbgSgwIfGtpV2ICsSysFailRx	Number of GTPv2 packets received with cause System Failure.
jnxMbgSgwIfGtpV2ICsSysFailTx	Number of GTPv2 packets sent with cause System Failure.
jnxMbgSgwIfGtpV2ICsNoResRx	Number of GTPv2 packets received with cause No Resource.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfGtpV2ICsNoResTx	Number of GTPv2 packets sent with cause No Resource.
jnxMbgSgwIfGtpV2ICsTFTSMANterRx	Number of GTPv2 packets received with cause TFT Semantic Error.
jnxMbgSgwIfGtpV2ICsTFTSMANterTx	Number of GTPv2 packets sent with cause TFT Semantic Error.
jnxMbgSgwIfGtpV2ICsTFTSysErrRx	Number of GTPv2 packets received with cause TFT System Error.
jnxMbgSgwIfGtpV2ICsTFTSysErrTx	Number of GTPv2 packets sent with cause TFT System Error.
jnxMbgSgwIfGtpV2ICsPkFltManErrRx	Number of GTPv2 packets received with cause Packet Filter Semantic Error.
jnxMbgSgwIfGtpV2ICsPkFltManErrTx	Number of GTPv2 packets sent with cause Packet Filter Semantic Error.
jnxMbgSgwIfGtpV2ICsPkFltSynErrRx	Number of GTPv2 packets received with cause Packet Filter Syntax Error.
jnxMbgSgwIfGtpV2ICsPkFltSynErrTx	Number of GTPv2 packets sent with cause Packet Filter Syntax Error.
jnxMbgSgwIfGtpV2ICsMisUnknAPNRx	Number of GTPv2 packets received with cause Unknown APN.
jnxMbgSgwIfGtpV2ICsMisUnknAPNTx	Number of GTPv2 packets sent with cause Unknown APN.
jnxMbgSgwIfGtpV2ICsUnexpRptIERx	Number of GTPv2 packets received with cause Unexpected Repeated IE.
jnxMbgSgwIfGtpV2ICsUnexpRptIETx	Number of GTPv2 packets sent with cause Unexpected Repeated IE.
jnxMbgSgwIfGtpV2ICsGREKeyNtFdRx	Number of GTPv2 packets received with cause GRE Key Not Found.
jnxMbgSgwIfGtpV2ICsGREKeyNtFdTx	Number of GTPv2 packets sent with cause GRE Key Not Found.
jnxMbgSgwIfGtpV2ICsRelocFailRx	Number of GTPv2 packets received with cause Relocation Failed.
jnxMbgSgwIfGtpV2ICsRelocFailTx	Number of GTPv2 packets sent with cause Relocation Failed.
jnxMbgSgwIfGtpV2ICsDeniNRatRx	Number of GTPv2 packets received with cause Denied In RAT.
jnxMbgSgwIfGtpV2ICsDeniNRatTx	Number of GTPv2 packets sent with cause Denied In RAT.
jnxMbgSgwIfGtpV2ICsPTNotSuppRx	Number of GTPv2 packets received with cause PDN Type Not Supported.
jnxMbgSgwIfGtpV2ICsPTNotSuppTx	Number of GTPv2 packets sent with cause PDN Type Not Supported.
jnxMbgSgwIfGtpV2ICsAlDynAdOccRx	Number of GTPv2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgSgwIfGtpV2ICsAlDynAdOccTx	Number of GTPv2 packets sent with cause Allocated Dynamic Address Occupied.

Table 42: jnxMbgSgwGtpV2ICsStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsNOTFTUECTXRx	Number of GTPv2 packets received with cause UE Context Without TFT Exists.
jnxMbgSgwGtpV2ICsNOTFTUECTXTx	Number of GTPv2 packets sent with cause UE Context Without TFT Exists.
jnxMbgSgwGtpV2ICsProtoNtSupRx	Number of GTPv2 packets received with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsProtoNtSupTx	Number of GTPv2 packets sent with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsUENotRespRx	Number of GTPv2 packets received with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUENotRespTx	Number of GTPv2 packets sent with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUERefusesRx	Number of GTPv2 packets received with cause UE Refuses.
jnxMbgSgwGtpV2ICsUERefusesTx	Number of GTPv2 packets sent with cause UE Refuses.
jnxMbgSgwGtpV2ICsServDeniedRx	Number of GTPv2 packets received with cause Service Denied.
jnxMbgSgwGtpV2ICsServDeniedTx	Number of GTPv2 packets sent with cause Service Denied.
jnxMbgSgwGtpV2ICsUnabPageUERx	Number of GTPv2 packets received with cause Unable to Page UE.
jnxMbgSgwGtpV2ICsUnabPageUETx	Number of GTPv2 packets sent with cause Unable to Page UE.
jnxMbgSgwGtpV2ICsNoMemRx	Number of GTPv2 packets received with cause No Memory.
jnxMbgSgwGtpV2ICsNoMemTx	Number of GTPv2 packets sent with cause No Memory.
jnxMbgSgwGtpV2ICsUserAUTHFlRx	Number of GTPv2 packets received with cause User Auth Failed.
jnxMbgSgwGtpV2ICsUserAUTHFlTx	Number of GTPv2 packets sent with cause User Auth Failed.
jnxMbgSgwGtpV2ICsAPNAcsDenRx	Number of GTPv2 packets received with cause APN Access Denied.
jnxMbgSgwGtpV2ICsAPNAcsDenTx	Number of GTPv2 packets sent with cause APN Access Denied.
jnxMbgSgwGtpV2ICsReqRejRx	Number of GTPv2 packets received with cause Request Rejected.
jnxMbgSgwGtpV2ICsReqRejTx	Number of GTPv2 packets sent with cause Request Rejected.
jnxMbgSgwGtpV2ICsPTMSISigMMRx	Number of GTPv2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgSgwGtpV2ICsPTMSISigMMTx	Number of GTPv2 packets sent with cause P-TMSI Signature Mismatch.
jnxMbgSgwGtpV2ICsIMSINotKnRx	Number of GTPv2 packets received with cause IMSI Not Known.
jnxMbgSgwGtpV2ICsIMSINotKnTx	Number of GTPv2 packets sent with cause IMSI Not Known.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfGtpV2ICsCondiEMsRx	Number of GTPv2 packets received with cause Conditional IE Missing.
jnxMbgSgwIfGtpV2ICsCondiEMsTx	Number of GTPv2 packets sent with cause Conditional IE Missing.
jnxMbgSgwIfGtpV2ICsAPNResTIncRx	Number of GTPv2 packets received with cause APN Restriction Type Incompatible.
jnxMbgSgwIfGtpV2ICsAPNResTIncTx	Number of GTPv2 packets sent with cause APN Restriction Type Incompatible.
jnxMbgSgwIfGtpV2ICsUnknownRx	Number of GTPv2 packets received with cause Unknown.
jnxMbgSgwIfGtpV2ICsUnknownTx	Number of GTPv2 packets sent with cause Unknown.
jnxMbgSgwIfGtpV2ICsLclDetRx	Number of GTP packets received with cause Local Detach.
jnxMbgSgwIfGtpV2ICsLclDetTx	Number of GTP packets sent with cause Local Detach.
jnxMbgSgwIfGtpV2ICsCmpDetRx	Number of GTP packets received with cause Complete Detach.
jnxMbgSgwIfGtpV2ICsCmpDetTx	Number of GTP packets sent with cause Complete Detach.
jnxMbgSgwIfGtpV2ICsRATChgRx	Number of GTP packets received with cause RAT Changed From 3GPP to non 3GPP.
jnxMbgSgwIfGtpV2ICsRATChgTx	Number of GTP packets sent with cause RAT Changed From 3GPP to non 3GPP.
jnxMbgSgwIfGtpV2ICsISRDeactRx	Number of GTP packets received with cause ISR Deactivated.
jnxMbgSgwIfGtpV2ICsISRDeactTx	Number of GTP packets sent with cause ISR Deactivated.
jnxMbgSgwIfGtpV2ICsEIFRNCEnRx	Number of GTP packets received with cause Error Indication from RNC eNodeB.
jnxMbgSgwIfGtpV2ICsEIFRNCEnTx	Number of GTP packets sent with cause Error Indication from RNC eNodeB.
jnxMbgSgwIfGtpV2ICsSemErTADRx	Number of GTP packets received with cause Semantic Error in TAD Operation.
jnxMbgSgwIfGtpV2ICsSemErTADTx	Number of GTP packets sent with cause Semantic Error in TAD Operation.
jnxMbgSgwIfGtpV2ICsSynErTADRx	Number of GTP packets received with cause Syntactic Error in TAD Operation.
jnxMbgSgwIfGtpV2ICsSynErTADTx	Number of GTP packets sent with cause Syntactic Error in TAD Operation.
jnxMbgSgwIfGtpV2ICsRMValRcvRx	Number of GTP packets received with cause Reserved Message Value Received.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfGtpV2ICsRMValRcvTx	Number of GTP packets sent with cause Reserved Message Value Received.
jnxMbgSgwIfGtpV2ICsRPrNtRspRx	Number of GTP packets received with cause Remote Peer Not Responding.
jnxMbgSgwIfGtpV2ICsRPrNtRspTx	Number of GTP packets sent with cause Remote Peer Not Responding.
jnxMbgSgwIfGtpV2ICsColNWReqRx	Number of GTP packets received with cause Collision With Network Initiated Request.
jnxMbgSgwIfGtpV2ICsColNWReqTx	Number of GTP packets sent with cause Collision With Network Initiated Request.
jnxMbgSgwIfGtpV2ICsUnPgUESusRx	Number of GTP packets received with cause Unable to Page UE Due to Suspension.
jnxMbgSgwIfGtpV2ICsUnPgUESusTx	Number of GTP packets sent with cause Unable to Page UE Due to Suspension.
jnxMbgSgwIfGtpV2ICsInvTotLenRx	Number of GTP packets received with cause Invalid Total Len.
jnxMbgSgwIfGtpV2ICsInvTotLenTx	Number of GTP packets sent with cause Invalid Total Len.
jnxMbgSgwIfGtpV2ICsDtForNtSupRx	Number of GTP packets received with cause Data Forwarding Not Supported.
jnxMbgSgwIfGtpV2ICsDtForNtSupTx	Number of GTP packets sent with cause Data Forwarding Not Supported.
jnxMbgSgwIfGtpV2ICsInReFrPrRx	Number of GTP packets received with cause Invalid Reply From Remote Peer.
jnxMbgSgwIfGtpV2ICsInReFrPrTx	Number of GTP packets sent with cause Invalid Reply from Remote Peer.
jnxMbgSgwIfGtpV2ICsInvPrRx	Number of GTP packets received with cause Invalid Peer.
jnxMbgSgwIfGtpV2ICsInvPrTx	Number of GTP packets sent with cause Invalid Peer.
jnxMbgSgwIfGtpV1ProtocolErrRx	Number of GTPv1 protocol errors received.
jnxMbgSgwIfGtpV1UnSupMsgRx	Number of GTPv1 unsupported messages received.
jnxMbgSgwIfGtpV1T3RespTmrExpRx	Number of GTPv1 T3 timer expiries received.
jnxMbgSgwIfGtpV1EndMarkerRx	Number of GTPv1 end marker packets received.
jnxMbgSgwIfGtpV1EndMarkerTx	Number of GTPv1 end marker packets sent.
jnxMbgSgwIfGtpV1EchoReqRx	Number of GTPv1 echo request packets received.
jnxMbgSgwIfGtpV1EchoReqTx	Number of GTPv1 echo request packets sent.

Table 42: jnxMbgSgwGtpIfStatsTable Statistics (*continued*)

jnxMbgSgwIfGtpV1EchoRespRx	Number of GTPv1 echo response packets received.
jnxMbgSgwIfGtpV1EchoRespTx	Number of GTPv1 echo response packets sent.
jnxMbgSgwIfGtpV1ErrIndRx	Number of GTPv1 error indication packets received.
jnxMbgSgwIfGtpV1ErrIndTx	Number of GTPv1 error indication packets sent.

Subscriber Manager Performance Statistics for S-GW

Subscriber manager statistics provide information at the Serving Gateway (S-GW) level, such as subscriber session establishment or failures, active bearers and subscribers, CPU and memory usage, and GTP packet statistics.

- [MIB Structure on page 121](#)
- [Gateway-Level Statistics for S-GW on page 121](#)

MIB Structure

The root node for the module is **jnxMbgSgwSMMib**, which is a child of **jnxMobileGatewaySgw**. The **jnxMobileGatewaySgw** is defined in the Juniper-SMI.

Gateway-Level Statistics for S-GW

[Table 43 on page 121](#) shows leaf nodes of the type **jnxMbgSgwSMStatsTable**, which are indexed by each S-GW.

Table 43: jnxMbgSgwSMStatsTable Statistics

Name	Description
jnxMbgSgwSessnEstAtmpts	Total number of session establishment attempts.
jnxMbgSgwSuccSessnEst	Total number of sessions established successfully.
jnxMbgSgwPeerInitDeactv	Total number of attempted deactivations initiated by the mobile station (MS) or the GTP peer.
jnxMbgSgwPeerInitSuccDeactv	Total number of deactivations initiated by the mobile station or GTP peer that were successful.
jnxMbgSgwGwInitDeactv	Total number of session deactivation attempts initiated by the gateway.
jnxMbgSgwGwInitSuccDeactv	Total number of session deactivations initiated by the gateway that were successful.
jnxMbgSgwGtpStatsGnS5S8InpPkt	Total number of incoming GTP packets on the Gn, Gp, S5, and S8 interfaces.
jnxMbgSgwGtpStatsGnS5S8InpByt	Total number of bytes of incoming GTP packets on the Gn, Gp, S5, and S8 interfaces.

Table 43: jnxMbgSgwSMStatsTable Statistics (*continued*)

jnxMbgSgwGtpStatsGnS5S8OutPkt	Total number of outgoing GTP packets on the Gn, Gp, S5, and S8 interfaces.
jnxMbgSgwGtpStatsGnS5S8OutByt	Total number of bytes of outgoing GTP packets on the Gn, Gp, S5, and S8 interfaces.
jnxMbgSgwGtpStatsS1InpPkt	Total number of incoming GTP packets on the S1-U interface.
jnxMbgSgwGtpStatsS1InpByt	Total number of bytes of incoming GTP packets on the S1-U interface.
jnxMbgSgwGtpStatsS1uOutPkt	Total number of outgoing GTP packets on the S1-U interface.
jnxMbgSgwGtpStatsS1uOutByt	Total number of bytes of outgoing GTP packets on the S1-U interface.
jnxMbgSgwDedBrCrtAttmpts	Total number of dedicated bearer creation attempts.
jnxMbgSgwSuccDedBrCrt	Total number of dedicated bearers successfully created.
jnxMbgSgwSessnDeActvAttmpts	Total number of session deactivation attempts.
jnxMbgSgwSuccSessnDeActv	Total number of sessions successfully deactivated.
jnxMbgSgwDedBrDeActvAttmpts	Total number of dedicated bearer deactivation attempts.
jnxMbgSgwSuccDedBrDeActv	Total number of dedicated bearers successfully deactivated.
jnxMbgSgwIntrRatHoAttmpts	Total number of inter-RAT handovers attempted.
jnxMbgSgwSuccIntrRatHo	Total number of successful inter-RAT handovers.
jnxMbgSgwX2HoAttmpts	Total number of X2-based handovers attempted.
jnxMbgSgwSuccX2Ho	Total number of successful X2-based handovers.
jnxMbgSgwS1HoAttmpts	Total number of S1-based handovers attempted.
jnxMbgSgwSuccS1Ho	Total number of successful S1-based handovers.
jnxMbgSgwIdlMdTauRauAttmpts	Total number of idle mode Tracking Area Updates (TAUs) and Routing Area Updates (RAUs) attempted.
jnxMbgSgwSuccIdlMdTauRau	Total number of idle mode TAUs and RAUs that were successful.
jnxMbgSgwServReqAttmpts	Total number of service requests attempted.
jnxMbgSgwSuccServReq	Total number of successful service requests.

Table 44 on page 123 shows leaf nodes of the type **jnxMbgSgwSMStatusTable**, which are indexed by each S-GW.

Table 44: jnxMbgSgwSMStatusTable Statistics

Name	Description
jnxMbgSgwActvSubscribers	Total number of active subscribers.
jnxMbgSgwActvSessions	Total number of active sessions.
jnxMbgSgwActvBearers	Total number of active bearers.
jnxMbgSgwIdleSubscribers	Total number of idle subscribers.
jnxMbgSgwIdleSessions	Total number of idle sessions.
jnxMbgSgwIdleBearers	Total number of idle bearers.
jnxMbgSgwSuspSubscribers	Total number of suspended subscribers.
jnxMbgSgwSuspSessions	Total number of suspended sessions.
jnxMbgSgwSuspBearers	Total number of suspended bearers.
jnxMbgSgwCPUUtil	Current CPU usage.
jnxMbgSgwMemoryUtil	Current memory usage.

PART 2

Fault Monitoring

- [PDN Gateway SNMP Traps on page 127](#)
- [Serving Gateway SNMP Traps on page 147](#)

CHAPTER 4

PDN Gateway SNMP Traps

- [AAA Traps for GGSN/P-GW on page 127](#)
- [Charging Traps for GGSN/P-GW on page 130](#)
- [DHCP Traps for GGSN/P-GW on page 134](#)
- [GTP Traps for GGSN/P-GW on page 135](#)
- [IP Address Pool Traps on page 137](#)
- [Resource Manager Traps for GGSN/P-GW on page 140](#)
- [Subscriber Manager Traps for GGSN/P-GW on page 141](#)

AAA Traps for GGSN/P-GW

The MobileNext Broadband Gateway supports a framework for providing authentication, authorization, and accounting (AAA) services to mobile subscribers. The broadband gateway uses groups of external RADIUS servers to provide authentication (verifying a subscriber's username and password), authorization (receiving information about the types of services to deliver to the subscriber), and accounting (accumulating and providing statistics about services delivered to the subscriber).

- [AAA MIB Structure on page 127](#)
- [AAA Traps on page 127](#)
- [AAA Notification Variables on page 129](#)

AAA MIB Structure

The root of the MobileNext Broadband Gateway MIB within the Juniper Networks MIB is defined as **jnxMobileGatewayMibRoot**. All the MobileNext Broadband Gateway MIBs are defined below this as a hierarchy based on software modules.

The root node for the module is **jnxMobileGatewayPgwAAAMib**, which is a child of **jnxMobileGatewayMibRoot**. The **jnxMobileGatewayMibRoot** is defined in the Juniper-SMI.

AAA Traps

[Table 45 on page 128](#) shows the leaf nodes of the type **jnxMbgAAANotifications**.

Table 45: AAA Traps

Name	ID	Description
jnxMbgAAAServerUp	jnxMbgAAANotifications 1	DEPRECATED. The specified server, jnxMbgAAAServerName , has been marked active. The services PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAAServerDown	jnxMbgAAANotifications 2	DEPRECATED. The specified server, jnxMbgAAAServerName , has been marked dead. The services PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAANetworkElementUp	jnxMbgAAANotifications 3	DEPRECATED. A network element, jnxMbgAAANetworkElement , has been marked UP. This could be because at least one server in the network element is active. The services PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAANetworkElementDown	jnxMbgAAANotifications 4	DEPRECATED. A network element, jnxMbgAAANetworkElement , has been marked DOWN. This could be because none of the servers in the network element are active. The services PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAANEPendAuthQStatus	jnxMbgAAANotifications 5	DEPRECATED. A watermark (High or Low) of the pending authentication queue length of network element jnxMbgAAANetworkElement has been crossed. The services PIC jnxMbgSPIdentifier originated this notification. jnxMbgPendQWaterMarkType identifies the watermark type (High or Low). jnxMbgPendQWaterMarkValue is the value that has been crossed over. jnxMbgPendQLength is the size of the queue after crossing over.
jnxMbgAAANEPendAcctQStatus	jnxMbgAAANotifications 6	DEPRECATED. A watermark (High or Low) of the pending accounting queue length of network element jnxMbgAAANetworkElement has been crossed. The services PIC jnxMbgSPIdentifier originated this notification. jnxMbgPendQWaterMarkType identifies the water mark type (High or Low) and jnxMbgPendQWaterMarkValue is the value that has been crossed over. jnxMbgPendQLength is the size of the queue after crossing over.
jnxMbgAAARadiusServerUp	jnxMbgAAANotifications 7	The specified server, jnxMbgAAAServerName , has been marked active. The services PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAARadiusServerDown	jnxMbgAAANotifications 8	The specified server, jnxMbgAAAServerName , has been marked DOWN. The services PIC jnxMbgSPIdentifier originated this notification.

Table 45: AAA Traps (*continued*)

<code>jnxMbgAAARadiusNetworkElementUp</code>	<code>jnxMbgAAANotifications 9</code>	A network element, <code>jnxMbgAAANetworkElement</code> , has been marked UP. This could be because at least one server in the network element is active. The services PIC <code>jnxMbgSPIdentifier</code> originated this notification.
<code>jnxMbgAAARadiusNetworkElementDown</code>	<code>jnxMbgAAANotifications 10</code>	A network element, <code>jnxMbgAAANetworkElement</code> , has been marked DOWN. This could be because at least one server in the network element is active. The services PIC <code>jnxMbgSPIdentifier</code> originated this notification.
<code>jnxMbgAAARadiusNEPendAuthQStatus</code>	<code>jnxMbgAAANotifications 11</code>	A watermark (High or Low) of the pending authentication queue length of network element <code>jnxMbgAAANetworkElement</code> has been crossed. The services PIC <code>jnxMbgSPIdentifier</code> originated this notification. <code>jnxMbgPendQWaterMarkType</code> identifies the watermark type (High or Low). <code>jnxMbgPendQWaterMarkValue</code> is the value that has been crossed over. <code>jnxMbgPendQLength</code> is the size of the queue after crossing over.
<code>jnxMbgAAARadiusNEPendAcctQStatus</code>	<code>jnxMbgAAANotifications 12</code>	A watermark (High or Low) of the pending authentication queue length of network element <code>jnxMbgAAANetworkElement</code> has been crossed. The services PIC <code>jnxMbgSPIdentifier</code> originated this notification. <code>jnxMbgPendQWaterMarkType</code> identifies the watermark type (High or Low). <code>jnxMbgPendQWaterMarkValue</code> is the value that has been crossed over. <code>jnxMbgPendQLength</code> is the size of the queue after crossing over.

AAA Notification Variables

Table 46 on page 129 shows the leaf nodes of the type `jnxMbgRMPSNotificationVars`.

Table 46: AAA Notification Variables

Name	ID	Description
<code>jnxMbgAAAServerName</code>	<code>jnxMbgAAANotificationVars 1</code>	The name that uniquely identifies the server on the mobile gateway.
<code>jnxMbgSPIdentifier</code>	<code>jnxMbgAAANotificationVars 2</code>	This identifies the services PIC, in the form <code>sp-a/b/0</code> , where a is the slot, b is either 0 or 1.
<code>jnxMbgAAANetworkElementName</code>	<code>jnxMbgAAANotificationVars 3</code>	The name that uniquely identifies a AAA network element on the gateway.
<code>jnxMbgPendQWaterMarkType</code>	<code>jnxMbgAAANotificationVars 4</code>	The type of the pending queue watermark crossed: High or Low.
<code>jnxMbgPendQWaterMarkValue</code>	<code>jnxMbgAAANotificationVars 5</code>	The watermark value for the pending queue.
<code>jnxMbgPendQLength</code>	<code>jnxMbgAAANotificationVars 6</code>	The size of the pending queue.

Charging Traps for GGSN/P-GW

Customers must pay for the services they use. In the 3rd Generation Partnership Project (3GPP), there are three distinct processes that translate service use into a bill for services. These processes are charging, rating, and billing. Charging gathers statistics about service usage for each customer. Rating is the process that determines how much each service costs each particular customer, based on the services contracted or tariffed. Billing is the process that generates the customer's invoice for services.

- [Charging MIB Structure on page 130](#)
- [GGSN/P-GW Charging Traps on page 130](#)
- [GGSN/P-GW Charging Notification Variables on page 132](#)

Charging MIB Structure

The root node for the module is **jnxMbgPgwChargingMib**, which is a child of **jnxMobileGatewayPgwGgsn**. **jnxMbgPgwChargingMib** is the Juniper Networks implementation of the Mobility Charging MIB for the P-GW in the 3GPP LTE network and the Gateway GPRS Support Node (GGSN) in the 3GPP 3G Network. The **jnxMobileGatewayPgwGgsn** is defined in the Juniper-SMI.

GGSN/P-GW Charging Traps

[Table 47 on page 130](#) shows the leaf nodes of the type **jnxMbgPgwCgNotifications**.

Table 47: Charging Traps

Name	ID	Description
jnxMbgPgwCgGtpGWUpNotif	jnxMbgPgwCgNotifications 1	DEPRECATED. The server jnxMbgPgwCgServerName has been marked alive. The Service PIC jnxMbgPgwCgServicePicName originated this notification.
jnxMbgPgwCgGtpGWDownNotif	jnxMbgPgwCgNotifications 2	DEPRECATED. The server jnxMbgPgwCgServerName has been marked dead. The services PIC jnxMbgPgwCgServicePicName originated this notification.
jnxMbgPgwCgCDRDestNotif	jnxMbgPgwCgNotifications 3	DEPRECATED. The destination of the Charging Data Records (CDRs), jnxMbgPgwCgCDRDest has changed. The new destination is indicated by jnxMbgPgwCgTSPName and jnxMbgPgwCgActiveCgflpAddr .
jnxMbgPgwCgMemThresNotif	jnxMbgPgwCgNotifications 4	DEPRECATED. The Internal memory utilization threshold, jnxMbgPgwCgMemLimit , has been reached or cleared, as indicated by jnxMbgPgwCgAlarmStatus .
jnxMbgPgwCgLcsThresNotif	jnxMbgPgwCgNotifications 5	DEPRECATED. Local storage memory utilization, jnxMbgPgwCgLcsUtil , has exceeded a configured level, jnxMbgPgwCgLcsSpace .

Table 47: Charging Traps (*continued*)

<code>jnxMbgPgwCgServiceUpNotif</code>	<code>jnxMbgPgwCgNotifications</code> 6	DEPRECATED. The charging daemon is UP on the services PIC indicated by <code>jnxMbgPgwCgServicePicName</code> .
<code>jnxMbgPgwCgMMStateChange</code>	<code>jnxMbgPgwCgNotifications</code> 7	DEPRECATED. The charging profile, <code>jnxMbgPgwCgProfileName</code> , underwent a change in maintenance mode state. The previous state, <code>jnxMbgPgwCgPrevMMState</code> , and current state, <code>jnxMbgPgwCgNewMMState</code> , are shown.
<code>jnxMbgPgwCgTMMStateChange</code>	<code>jnxMbgPgwCgNotifications</code> 8	DEPRECATED. The transport profile <code>jnxMbgPgwCgTProfileName</code> underwent a change in maintenance mode state. The previous state, <code>jnxMbgPgwCgTPrevMMState</code> , and the current state, <code>jnxMbgPgwCgTNewMMState</code> , are shown.
<code>jnxMbgPgwCgGtpGWUpNotify</code>	<code>jnxMbgPgwCgNotifications</code> 9	The <code>ServerName</code> identifies the server and the <code>SPIdentifier</code> identifies the session-pic which originated this notification.
<code>jnxMbgPgwCgGtpGWDownNotify</code>	<code>jnxMbgPgwCgNotifications</code> 10	The <code>ServerName</code> identifies the server and the <code>SPIdentifier</code> identifies the session-pic which originated this notification.
<code>jnxMbgPgwCgCDRDestNotify</code>	<code>jnxMbgPgwCgNotifications</code> 11	The destination of the Charging Data Records (CDRs), <code>jnxMbgPgwCgCDRDest</code> has changed. The new destination is indicated by <code>jnxMbgPgwCgPeerProfName</code> and <code>jnxMbgPgwCgActiveCgIpAddr</code> .
<code>jnxMbgPgwCgServiceUpNotify</code>	<code>jnxMbgPgwCgNotifications</code> 12	The charging daemon is UP on the services PIC, indicated by <code>jnxMbgPgwCgServicePicName</code> .
<code>jnxMbgPgwCgMMStateChangeNotify</code>	<code>jnxMbgPgwCgNotifications</code> 13	The charging profile, <code>jnxMbgPgwCgPeerProfName</code> , underwent a change in maintenance mode state. The previous state, <code>jnxMbgPgwCgPrevMMState</code> and current state, <code>jnxMbgPgwCgNewMMState</code> , are shown.
<code>jnxMbgPgwCgTMMStateChangeNotify</code>	<code>jnxMbgPgwCgNotifications</code> 14	The transport profile <code>jnxMbgPgwCgPeerProfName</code> underwent a change in maintenance mode state. The previous state, <code>jnxMbgPgwCgTPrevMMState</code> , and the current state, <code>jnxMbgPgwCgTNewMMState</code> , are shown.
<code>jnxMbgPgwCgMemHighThresNotify</code>	<code>jnxMbgPgwCgNotifications</code> 15	An alarm is sent when the internal memory utilization for charging records exceeds or falls below the configured high threshold value. The alarm status (active or clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgMemMediumThresNotify</code>	<code>jnxMbgPgwCgNotifications</code> 16	An alarm is sent when the internal memory utilization for charging records exceeds or falls below the configured medium threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .

Table 47: Charging Traps (*continued*)

<code>jnxMbgPgwCgMemLowThresNotify</code>	<code>jnxMbgPgwCgNotifications</code> 17	An alarm is sent when the internal memory utilization for charging records exceeds or falls below the configured low threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgLcsThresHighNotify</code>	<code>jnxMbgPgwCgNotifications</code> 18	An alarm is sent when the internal memory utilization high threshold for local storage exceeds or falls below the configured low threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgLcsThresMediumNotify</code>	<code>jnxMbgPgwCgNotifications</code> 19	An alarm is sent when the internal memory utilization medium threshold for local storage exceeds or falls below the configured low threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgLcsThresLowNotify</code>	<code>jnxMbgPgwCgNotifications</code> 20	An alarm is sent when the internal memory utilization low threshold for local storage exceeds or falls below the configured low threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .

GGSN/P-GW Charging Notification Variables

Table 48 on page 132 shows the leaf nodes of the type `jnxMbgPgwCgNotificationVars`.

Table 48: Charging Notification Variables

Name	ID	Description
<code>jnxMbgPgwCgServerName</code>	<code>jnxMbgPgwCgNotificationVars 1</code>	This identifies the services PIC, in the form ms-a/b/O , where a is the slot and b can be either 0 or 1.
<code>jnxMbgPgwCgServicePicName</code>	<code>jnxMbgPgwCgNotificationVars 2</code>	This identifies the services PIC, in the form ms-a/b/O , where a is the slot and b can be either 0 or 1.
<code>jnxMbgPgwCgCDRDest</code>	<code>jnxMbgPgwCgNotificationVars 3</code>	<p>This indicates any transitions in the state of the CGF:</p> <ul style="list-style-type: none"> Value 1 indicates one of the CGF for the group came up; redirecting CDRs to the Active CGF. Value 2 indicates the last active CGF for the group went down; CDRs being written to backup local storage device Value 3 indicates the last active CGF for the group went down; backup local storage device not configured.
<code>jnxMbgPgwCgActiveCgflpAddr</code>	<code>jnxMbgPgwCgNotificationVars 4</code>	CGF server IP address.

Table 48: Charging Notification Variables (*continued*)

jnxMbgPgwCgTSPName	jnxMbgPgwCgNotificationVars 5	DEPRECATED. A string that uniquely identifies the transport profile.
jnxMbgPgwCgMemLimit	jnxMbgPgwCgNotificationVars 6	<p>This indicates any transitions in the state of the CGF:</p> <ul style="list-style-type: none"> Value 1 indicates system has reached Level 1 critical memory threshold. Action - Check the CGF server connections. If local storage is enabled, FTP the charging records immediately. If local storage is not enabled, enable it so the charging records can be stored in local persistent storage. Risk - No new sessions will be allowed. Value 2 indicates system reaching Level 1 critical memory threshold condition has been resolved. Value 3 indicates system has reached Level 2 critical memory threshold. Action - Check the CGF server connections. If local storage is enabled, FTP the charging records immediately. If local storage is not enabled, enable it so the charging records can be stored in local persistent storage. Risk - New and existing sessions will not be allowed. Value 4 indicates system reaching Level 2 critical memory threshold condition has been resolved.
jnxMbgPgwCgLcsSpac	jnxMbgPgwCgNotificationVars 7	Specifies the trap level raised, which can be localstoragememlevel1 , localstoragememlevel2 , or localstoragememlevel3). The values of these levels are configured on the router. For example, if localstoragememlevel1 is configured at 10 percent, a level 1 trap is generated when the utilization exceeds 10 percent.
jnxMbgPgwCgLcsUtil	jnxMbgPgwCgNotificationVars 8	Specifies the space that is currently utilized on the routing engine.
jnxMbgPgwCgAlarmStatus	jnxMbgPgwCgNotificationVars 9	Value 1 indicates that the alarm for a particular condition is present. Value 2 indicates that the alarm for a particular condition is absent.
jnxMbgPgwCgProfileName	jnxMbgPgwCgNotificationVars 10	DEPRECATED. A string that identifies a charging profile.
jnxMbgPgwCgPrevMMState	jnxMbgPgwCgNotificationVars 11	A string that indicates the maintenance-mode state.

Table 48: Charging Notification Variables (*continued*)

<code>jnxMbgPgwCgNewMMState</code>	<code>jnxMbgPgwCgNotificationVars 12</code>	A string that indicates the maintenance-mode state.
<code>jnxMbgPgwCgTProfileName</code>	<code>jnxMbgPgwCgNotificationVars 13</code>	DEPRECATED. A string that identifies a charging profile.
<code>jnxMbgPgwCgTPrevMMState</code>	<code>jnxMbgPgwCgNotificationVars 14</code>	DEPRECATED. A string that indicates the maintenance-mode state.
<code>jnxMbgPgwCgTNewMMState</code>	<code>jnxMbgPgwCgNotificationVars 15</code>	DEPRECATED. A string that indicates the maintenance-mode state.
<code>jnxMbgPgwCgPeerProfName</code>	<code>jnxMbgPgwCgNotificationVars 16</code>	A string that uniquely identifies the CGF profile.

DHCP Traps for GGSN/P-GW

DHCP is based on a bootstrap protocol (BOOTP) that allows clients to allocate their own IP address, the IP address of a server host, and the name of a bootstrap file. DHCP servers can serve request from BOOTP clients and provide additional capabilities beyond BOOTP, such as automatic allocation of reusable IP addresses and additional configuration options.

DHCP provides the following primary functions:

- Allocate temporary or permanent IP addresses to clients and subscribers
- Provide, store, and manage provide client configuration parameters
- [DHCP MIB Structure on page 134](#)
- [DHCP Traps on page 134](#)
- [DHCP Notification Variables on page 135](#)

DHCP MIB Structure

The root node for the module is `jnxMbgDhcpMib`, which is a child of `jnxMobileGatewayMibRoot`. The `jnxMobileGatewayMibRoot` is defined in the Juniper-SMI.

This module defines objects related to DHCP Services on the MobileNext Broadband Gateway.

DHCP Traps

[Table 49 on page 134](#) shows the leaf nodes of the type `jnxMbgDhcpNotifications`.

Table 49: DHCP Traps

Name	ID	Description
<code>jnxMbgDhcpServerReachability</code>	<code>jnxMbgDhcpNotifications 1</code>	This notification indicates whether the DHCP server is reachable or unreachable.

Table 49: DHCP Traps (*continued*)

<code>jnxMbgDhcpAddrPoolExhaust</code>	<code>jnxMbgDhcpNotifications 2</code>	This notification signifies that the addresses from a given address pool have been exhausted.
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DHCP Notification Variables

[Table 50 on page 135](#) shows the leaf nodes of the type `jnxMbgDhcpNotificationVars`.

Table 50: DHCP Notification Variables

Name	ID	Description
<code>jnxMbgDhcpServerIP</code>	<code>jnxMbgDhcpNotificationVars 1</code>	The IP address of the DHCP server.
<code>jnxMbgDhcpLogicalSystemName</code>	<code>jnxMbgDhcpNotificationVars 2</code>	A name that identifies the logical system on the gateway.
<code>jnxMbgDhcpRoutingInstanceName</code>	<code>jnxMbgDhcpNotificationVars 3</code>	The name that identifies the routing instance on the mobile gateway.
<code>jnxMbgDhcpProfileName</code>	<code>jnxMbgDhcpNotificationVars 4</code>	The configured DHCP profile name.
<code>jnxMbgDhcpPoolName</code>	<code>jnxMbgDhcpNotificationVars 5</code>	The configured DHCP pool name in a DHCP profile.
<code>jnxMbgDhcpReachability</code>	<code>jnxMbgDhcpNotificationVars 6</code>	“True” indicates the server is reachable. “False” indicates the server is unreachable.

GTP Traps for GGSN/P-GW

GPRS Tunneling Protocol (GTP) is the primary protocol used in a General packet radio service (GPRS) core network and allows users in a 3G or 4G network to move from one location to another while remaining connected to the Internet. The GTP protocol is used to carry signaling and bearer data from a Serving GPRS Support Node (SGSN) or Serving Gateway (S-GW) to a GGSN Gateway GPRS Support Node (GGSN) or PDN Gateway (P-GW) across well-defined 3GPP service interfaces such as Gn and S5.

- [GTP MIB Structure on page 135](#)
- [GGSN/P-GW GTP Traps on page 135](#)
- [GGSN/P-GW GTP Notification Variables on page 136](#)

GTP MIB Structure

The root node for the module is `jnxMbgPgwGtpMib`, which is a child of `jnxMobileGatewayPgwGgsn`. The `jnxMobileGatewaySgw` is defined in the Juniper-SMI.

GGSN/P-GW GTP Traps

[Table 51 on page 136](#) shows the leaf nodes of the type `jnxMbgPgwGtpNotifications`.

Table 51: GTP Traps for GGSN/P-GW

Name	ID	Description
jnxMbgPgwGtpPeerGWUpNotif	jnxMbgPgwGtpNotifications 1	DEPRECATED. GTPC peer up notification.
jnxMbgPgwGtpPeerDownNotif	jnxMbgPgwGtpNotifications 2	DEPRECATED. GTPC peer down notification.
jnxMbgPgwGtpPeerDNThresPerPeerNotif	jnxMbgPgwGtpNotifications 3	DEPRECATED. Per peer threshold for the number of GTP peers down.
jnxMbgPgwGtpPeerGwUpNotify	jnxMbgPgwGtpNotifications 4	GTPC peer up notification. This trap is sent when a new peer is added or an existing peer goes down and comes back up.
jnxMbgPgwGtpPeerGwDnNotify	jnxMbgPgwGtpNotifications 5	GTPC peer down notification. This trap is sent when a peer connection goes down.
jnxMbgPgwGtpPrDnTPerPrAlrmActv	jnxMbgPgwGtpNotifications 6	Peer down threshold trap active. This is sent when a peer connection flaps for more than a higher threshold number of times with in a monitor interval.
jnxMbgPgwGtpPrDnTPerPrAlrmClr	jnxMbgPgwGtpNotifications 7	Peer down threshold trap cleared. This is sent when the number of times a peer connection flaps in a monitor interval come down below the lower threshold.

GGSN/P-GW GTP Notification Variables

Table 52 on page 136 shows the leaf nodes of the type `jnxMbgPgwGtpNotificationVars`.

Table 52: GTP Notification Variables

Name	ID	Description
jnxMbgPgwGtpPeerName	jnxMbgPgwGtpNotificationVars 1	GTP peer name/IP.
jnxMbgPgwGtpAlarmThreshld	jnxMbgPgwGtpNotificationVars 2	DEPRECATED. Alarm threshold: <ul style="list-style-type: none"> 0:MOBILED_ALARM_THRESHOLD_LOW 1:MOBILED_ALARM_THRESHOLD_HIGH
jnxMbgPgwGtpAlarmState	jnxMbgPgwGtpNotificationVars 3	DEPRECATED. Alarm state: <ul style="list-style-type: none"> 0:MOBILED_ALARM_CLEARED 1:MOBILED_ALARM_RAISED
jnxMbgPgwGtpAlarmStatCounter	jnxMbgPgwGtpNotificationVars 4	Current value of (alarm) statistics counter, for example, in <code>jnxMbgPgwGtpPrDnTPerPrAlrmActv</code> , it specifies the number of times a peer is down within the monitoring interval.

Table 52: GTP Notification Variables (*continued*)

<code>jnxMbgPgwGtpInterfaceType</code>	<code>jnxMbgPgwGtpNotificationVars 5</code>	GTP interface type which is gn, gp, S5, or S8.
<code>jnxMbgPgwGtpGwName</code>	<code>jnxMbgPgwGtpNotificationVars 6</code>	A string that indicates the gateway name.
<code>jnxMbgPgwGtpGwIndex</code>	<code>jnxMbgPgwGtpNotificationVars 7</code>	Current gateway ID value.

IP Address Pool Traps

The IP Pool Management Module manages the IP address pools for each APN configured on the GGSN/P-GW. Because IP pools are shared resources, IP pool statistics are aggregated across all configured gateways.

- [IP Address Pool MIB Structure on page 137](#)
- [IP Address Pool Traps on page 137](#)
- [IP Address Pool Notification Variables on page 138](#)

IP Address Pool MIB Structure

The root node for the module is `jnxMobileGatewayPgwSMIPPoolMib`, which is a child of `jnxMobileGatewayMibRoot`. The `jnxMobileGatewayMibRoot` is defined in the Juniper-MBG-SMI.

IP Address Pool Traps

[Table 53 on page 137](#) shows the leaf nodes of the type `jnxMbgSMIPPoolNotifications`.

Table 53: IP Address Pool Traps

Name	ID	Description
<code>jnxMbgSMIPPoolThresholdExceeded</code>	<code>jnxMbgSMIPPoolNotifications 1</code>	DEPRECATED. This notification signifies that the number of addresses allocated from a given address pool has exceeded a preconfigured threshold value.
<code>jnxMbgSMIPPoolMMStateChange</code>	<code>jnxMbgSMIPPoolNotifications 2</code>	This notification indicates that the pool name indicated by LS-name, RI-name, and pool-name undergoes a change in the maintenance-mode state.
<code>jnxMbgSMIPRangeHighThresExcd</code>	<code>jnxMbgSMIPPoolNotifications 3</code>	This notification indicates the range name that exceeded higher threshold.
<code>jnxMbgSMIPRangeLowThresRchd</code>	<code>jnxMbgSMIPPoolNotifications 4</code>	This notification indicates the range name that reached lower threshold.
<code>jnxMbgSMIPPoolHighThresExcd</code>	<code>jnxMbgSMIPPoolNotifications 5</code>	This notification signifies that the number of addresses allocated from a given address pool has exceeded a preconfigured threshold value.

Table 53: IP Address Pool Traps (*continued*)

<code>jnxMbgSMIPPoolLowThresRchd</code>	<code>jnxMbgSMIPPoolNotifications 6</code>	This notification signifies that the number of addresses allocated from a given address pool has reached the lower threshold value.
<code>jnxMbgIPPoolExhausted</code>	<code>jnxMbgSMIPPoolNotifications 7</code>	This notification signifies that the given pool has exhausted all its addresses and there are no free addresses left.

IP Address Pool Notification Variables

Table 54 on page 138 shows the leaf nodes of the type `jnxMbgSMIPPoolNotificationVars`, and lists the attributes that might be included as part of the trap. For details about which of these attributes are included in the trap, please refer to the MIB.

Table 54: IP Address Pool Notification Variables

Name	ID	Description
<code>jnxMbgSMIPPoolThresholdPoolName</code>	<code>jnxMbgSMIPPoolNotificationVars 1</code>	The name that identifies the address pool on the mobile gateway for which the threshold was exceeded.
<code>jnxMbgSMIPPoolThresholdLSName</code>	<code>jnxMbgSMIPPoolNotificationVars 2</code>	The name that identifies the logical system on the mobile gateway in which the address pool threshold was exceeded.
<code>jnxMbgSMIPPoolThresholdRName</code>	<code>jnxMbgSMIPPoolNotificationVars 3</code>	The name that identifies the routing instance on the mobile gateway in which the address pool threshold was exceeded.
<code>jnxMbgSMIPPoolConfiguredThreshold</code>	<code>jnxMbgSMIPPoolNotificationVars 4</code>	DEPRECATED. The threshold value configured for an address pool on the mobile gateway that was exceeded
<code>jnxMbgSMIPPoolCurrentThreshold</code>	<code>jnxMbgSMIPPoolNotificationVars 5</code>	DEPRECATED. The current threshold value for an address pool on the mobile gateway. This can be equal to or greater than the configured threshold value.
<code>jnxMbgSMIPPoolIMMPoolName</code>	<code>jnxMbgSMIPPoolNotificationVars 6</code>	The name that identifies the address pool on the mobile gateway which underwent a change in the maintenance-mode state.
<code>jnxMbgSMIPPoolMMLSName</code>	<code>jnxMbgSMIPPoolNotificationVars 7</code>	The name that identifies the logical system on the mobile gateway which underwent a change in the maintenance-mode state.
<code>jnxMbgSMIPPoolMMRName</code>	<code>jnxMbgSMIPPoolNotificationVars 8</code>	The name that identifies the routing instance on the mobile gateway which underwent a change in the maintenance-mode state.

Table 54: IP Address Pool Notification Variables (*continued*)

jnxMbgSMIPPoolPrevMMState	jnxMbgSMIPPoolNotificationVars 9	A string that indicates the maintenance-mode state.
jnxMbgSMIPPoolNewMMState	jnxMbgSMIPPoolNotificationVars 10	A string that indicates the maintenance-mode state.
jnxMbgSMIPRangeHiThresRangeName	jnxMbgSMIPPoolNotificationVars 11	The name that identifies the address pool range on the mobile gateway for which the threshold was exceeded.
jnxMbgSMIPRangeHiThresPoolName	jnxMbgSMIPPoolNotificationVars 12	The name that identifies the address pool on the mobile gateway, whose range threshold was exceeded.
jnxMbgSMIPRangeHiLSName	jnxMbgSMIPPoolNotificationVars 13	The name that identifies the logical system on the mobile gateway in which the address range threshold was exceeded.
jnxMbgSMIPRangeHiRIName	jnxMbgSMIPPoolNotificationVars 14	The name that identifies the routing instance on the mobile gateway in which the address range threshold was exceeded.
jnxMbgSMIPRangeHiCfgThres	jnxMbgSMIPPoolNotificationVars 15	The threshold value configured for an address pool range on the mobile gateway was exceeded.
jnxMbgSMIPRangeHiCurrUtil	jnxMbgSMIPPoolNotificationVars 16	The current threshold value for an address pool range on the mobile gateway. This can be equal to or greater than the configured threshold value.
jnxMbgSMIPRangeLowThresRangeName	jnxMbgSMIPPoolNotificationVars 17	The name that identifies the address pool's range on the mobile gateway for which the low threshold was reached.
jnxMbgSMIPRangeLowThresPoolName	jnxMbgSMIPPoolNotificationVars 18	The name that identifies the address pool on the mobile gateway, whose range low threshold was reached.
jnxMbgSMIPRangeLowLSName	jnxMbgSMIPPoolNotificationVars 19	The name that identifies the logical system on the mobile gateway in which the address range low threshold was reached.
jnxMbgSMIPRangeLowRIName	jnxMbgSMIPPoolNotificationVars 20	The name that identifies the routing instance on the mobile gateway in which the address range low threshold was reached.
jnxMbgSMIPRangeLowCfgThres	jnxMbgSMIPPoolNotificationVars 21	The threshold value configured for an address pool range on the mobile gateway was reached.

Table 54: IP Address Pool Notification Variables (*continued*)

<code>jnxMbgSMIPRangeLowCurrUtil</code>	<code>jnxMbgSMIPPoolNotificationVars 22</code>	The current threshold value for an address pool range on the mobile gateway. This can be equal to or greater than the configured threshold value.
<code>jnxMbgSMIPPoolHTCfgThres</code>	<code>jnxMbgSMIPPoolNotificationVars 23</code>	The threshold value configured for an address pool on the mobile gateway was reached.
<code>jnxMbgSMIPPoolCurrUtil</code>	<code>jnxMbgSMIPPoolNotificationVars 24</code>	The current utilization value for an address pool on the mobile gateway. This can be equal to or greater than the configured threshold value.
<code>jnxMbgSMIPPoolLTCfgThres</code>	<code>jnxMbgSMIPPoolNotificationVars 25</code>	The threshold value configured for an address pool on the mobile gateway was reached.

Resource Manager Traps for GGSN/P-GW

The RMPS module manages resources on the GGSN/P-GW and is responsible for allocation of TEIDs, address pools, memory, and so forth to individual services PICs.

- [Resource Manager MIB Structure on page 140](#)
- [Resource Manager Traps on page 140](#)
- [Resource Manager Notification Variables on page 141](#)

Resource Manager MIB Structure

The root node for the module is `jnxMbgRMPSMib`, which is a child of `jnxMobileGatewayMibRoot`. The `jnxMobileGatewayMibRoot` is defined in the Juniper-SMI.

Resource Manager Traps

[Table 55 on page 140](#) shows the leaf nodes of the type `jnxMbgRMPSNotifications`.

Table 55: Resource Manager Traps

Name	ID	Description
<code>jnxMbgRMPSServiceStatusChange</code>	<code>jnxMbgRMPSNotifications 1</code>	The RMPS service status, <code>jnxMbgRMPSServiceStatus</code> , has changed.
<code>jnxMbgRMPSClientStatusChange</code>	<code>jnxMbgRMPSNotifications 2</code>	DEPRECATED. The status, <code>jnxMbgRMPSClientStatus</code> , of the RMPS client, <code>jnxMbgRMPSClientIdentifier</code> , has changed.
<code>jnxMbgRMPSClientInfo</code>	<code>jnxMbgRMPSNotifications 3</code>	The status, <code>jnxMbgRMPSClientStatus</code> , of the RMPS client, <code>jnxMbgRMPSClientIdentifier</code> with its current redundancy role, <code>jnxMbgRMPSClientRedundancyRole</code> has changed.

Resource Manager Notification Variables

Table 56 on page 141 shows the leaf nodes of the type `jnxMbgRMPSNotificationVars`.

Table 56: Resource Manager Notification Variables

Name	ID	Description
<code>jnxMbgRMPSClientIdentifier</code>	<code>jnxMbgRMPSNotificationVars 1</code>	This identifies the client, in the form <code>ms-a/b/c</code> or <code>apfe-a/b/c</code> , where <code>a</code> is the fpc slot, <code>b</code> is pic slot, and <code>c</code> is the port.
<code>jnxMbgRMPSClientStatus</code>	<code>jnxMbgRMPSNotificationVars 2</code>	Specifies the status of a Resource Manager client.
<code>jnxMbgRMPSServiceStatus</code>	<code>jnxMbgRMPSNotificationVars 3</code>	Specifies the status of the Resource Manager service.
<code>jnxMbgRMPSClientRedundancyRole</code>	<code>jnxMbgRMPSNotificationVars 4</code>	Specifies the redundancy role of the Resource Manager client.

Subscriber Manager Traps for GGSN/P-GW

Subscriber management describes various GGSN/P-GW statistics related to subscriber session establishment or failures, attach and detach at the global and APN level.

- [Subscriber Manager MIB Structure on page 141](#)
- [Subscriber Manager Traps on page 141](#)
- [Subscriber Manager Notification Variables on page 145](#)

Subscriber Manager MIB Structure

The root node for the module is `jnxMbgPgwSubscriberManagerMib`, which is a child of `jnxMobileGatewayPgwGgsn`. The `jnxMobileGatewayPgwGgsn` is defined in the Juniper-SMI.

Subscriber Manager Traps

Table 57 on page 141 shows the leaf nodes of the type `jnxMbgPgwSMNotifications`.

Table 57: Subscriber Manager Traps

Name	ID	Description
<code>jnxMbgPgwQosBearersThresStatus</code>	<code>jnxMbgPgwSMNotifications 1</code>	DEPRECATED: This notification indicates whether the configured bearer high and low load thresholds have been reached or cleared for the notifying gateway <code>jnxMbgPgwGatewayName</code> . <code>jnxMbgPgwQosThreshold1Status</code> indicates the status of the low threshold, and <code>jnxMbgPgwQosThreshold2Status</code> indicates the status of the high threshold.

Table 57: Subscriber Manager Traps (*continued*)

jnxMbgPgwQosCPUThresholdStatus	jnxMbgPgwSMNotifications 2	DEPRECATED: This notification indicates whether the configured CPU load thresholds have been reached or cleared for the notifying gateway, jnxMbgPgwGatewayName . jnxMbgPgwQosThreshold1Status indicates the status of the low threshold, and jnxMbgPgwQosThreshold2Status indicates the status of the high threshold.
jnxMbgPgwQosMemThresholdStatus	jnxMbgPgwSMNotifications 3	DEPRECATED: This notification indicates whether the configured memory load thresholds have been reached or cleared for the notifying gateway, jnxMbgPgwGatewayName . jnxMbgPgwQosThreshold1Status indicates the status of the low threshold, and jnxMbgPgwQosThreshold2Status indicates the status of the high threshold.
jnxMbgPgwAPNQosBearersThreStatus	jnxMbgPgwSMNotifications 4	DEPRECATED: This notification indicates whether configured APN thresholds for bearers have been reached or cleared for an APN, jnxMbgPgwQosAPNName . jnxMbgPgwQosThreshold1Status indicates the status of the low threshold, and jnxMbgPgwQosThreshold2Status indicates the status of the high threshold.
jnxMbgPgwSMGtpEventNotif	jnxMbgPgwSMNotifications 5	DEPRECATED: An important GTP event has occurred. jnxMbgPgwSMGtpEventType indicates the type of event, and jnxMbgPgwSMGtpEventCause indicates the cause of the event.
jnxMbgPgwSMSSubscribersThresGblNotif	jnxMbgPgwSMNotifications 6	DEPRECATED: The configured global threshold, jnxMbgPgwSMAAlarmThrshld , for subscribers has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwSMSSubscribersThresPerSPNotif	jnxMbgPgwSMNotifications 7	DEPRECATED: Subscriber threshold, jnxMbgPgwSMAAlarmThrshld , for a services PIC, jnxMbgPgwSMSPICName , has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwSMSSessionEstFailThresPerSPNotif	jnxMbgPgwSMNotifications 8	DEPRECATED: The configured global threshold for session establishment failures, jnxMbgPgwSMAAlarmThrshld , for a specific reason, jnxMbgPgwSMSSessionEstFailReason , for a services PIC, jnxMbgPgwSMSPICName , has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .

Table 57: Subscriber Manager Traps (*continued*)

jnxMbgPgwSMSessionEstFailThresPerTCNotif	jnxMbgPgwSMNotifications 9	DEPRECATED: The configured session establishment failure threshold, jnxMbgPgwSMAAlarmThreshld , for a specific reason, jnxMbgPgwSMSessionEstFailReason , for a traffic class (GTPv1) has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwSMSessionEstFailThresPerQCINotif	jnxMbgPgwSMNotifications 10	DEPRECATED: The configured session establishment failure threshold, jnxMbgPgwSMAAlarmThreshld , for a specific reason, jnxMbgPgwSMSessionEstFailReason , and QoS class identifier, jnxMbgPgwSMQCIName , has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwSMBearersThresGblNotif	jnxMbgPgwSMNotifications 11	DEPRECATED: The global threshold for bearers, jnxMbgPgwSMAAlarmThreshld , has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwSMBearersThresPerSPNotif	jnxMbgPgwSMNotifications 12	DEPRECATED: The global threshold for bearers, jnxMbgPgwSMAAlarmThreshld , for a specific services PIC, jnxMbgPgwSMSPICName , has been reached or cleared, as indicated by jnxMbgPgwSMAAlarmState .
jnxMbgPgwGatewayMMStateChange	jnxMbgPgwSMNotifications 13	The gateway identified by nxMbgPgwMMGatewayName undergoes a change in its maintenance mode state. The previous state, jnxMbgPgwPrevGatewayMMState , and current state, jnxMbgPgwNewGatewayMMState , are shown.
jnxMbgPgwAPNMMStateChange	jnxMbgPgwSMNotifications 14	The APN identified by jnxMbgPgwAPNMMGatewayName and jnxMbgPgwAPNMMAPNName undergoes a change in its maintenance mode state.
jnxMbgPgwQosBrThreshStatusHi	jnxMbgPgwSMNotifications 15	This notification signifies that the configured high threshold for bearers is reached at the gateway level. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosBrThreshStatusLow	jnxMbgPgwSMNotifications 16	This notification signifies that the configured low threshold for bearers is reached at the gateway level. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.

Table 57: Subscriber Manager Traps (*continued*)

jnxMbgPgwQosBrThreshStatusClear	jnxMbgPgwSMNotifications 17	This notification signifies that the normal threshold for bearers at gateway level are reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosCPUTHreshStatusHi	jnxMbgPgwSMNotifications 18	This notification signifies that the configured high threshold for CPU utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
PgwQosCPUTHreshStatusLow	jnxMbgPgwSMNotifications 19	This notification signifies that the configured low threshold for CPU is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosCPUTHreshStatusClear	20	This notification signifies that the normal threshold for CPU utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosMemThreshStatusHi	jnxMbgPgwSMNotifications 21	This notification signifies that the configured high threshold for memory utilization is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosMemThreshStatusLow	jnxMbgPgwSMNotifications 22	This notification signifies that the configured low threshold for memory is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwQosMemThreshStatusClear	jnxMbgPgwSMNotifications 23	This notification signifies that the normal threshold for memory utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW. jnxMbgPgwQosAPNName identifies the notifying APN.
jnxMbgPgwSMGtpEvntNotif	jnxMbgPgwSMNotifications 24	Subscriber management GTP event notify. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying P-GW.
jnxMbgPgwPFEMMStateChange	jnxMbgPgwSMNotifications 25	This notification indicates change in the maintenance mode state for a PFE. The gateway name, PFE interface name, interface previous state, and new state information are included in the trap.

Table 57: Subscriber Manager Traps (*continued*)

jnxMbgPgwMSMMStateChange	jnxMbgPgwSMNotifications 26	This notification indicates change in the maintenance mode state for a Session PIC. The gateway name, interface name, interface previous state and new state information are included in the trap
jnxMbgPgwAPFEMMStateChange	jnxMbgPgwSMNotifications 27	This notification indicates a change in the maintenance mode state for an Anchor PFE. The gateway name, interface name, interface previous state and new state information are included in the trap.
jnxMbgPgwAMSMMStateChange	jnxMbgPgwSMNotifications 28	This notification indicates a change in the maintenance mode state for an AMS. The gateway name, interface name, interface previous state and new state information are included in the trap.

Subscriber Manager Notification Variables

Table 58 on page 145 shows the leaf nodes of the type **jnxMbgPgwSMNotificationVars**.

Table 58: Subscriber Manager Notification Variables

Name	ID	Description
jnxMbgPgwGatewayName	jnxMbgPgwSMNotificationVars 1	A string that uniquely identifies the gateway.
jnxMbgPgwQosAPNName	jnxMbgPgwSMNotificationVars 2	A string that uniquely identifies an APN.
jnxMbgPgwQosThreshold1Status	jnxMbgPgwSMNotificationVars 3	"False" indicates threshold not crossed. "True" indicates threshold crossed.
jnxMbgPgwQosThreshold2Status	jnxMbgPgwSMNotificationVars 4	"False" indicates threshold not crossed. "True" indicates threshold crossed.
jnxMbgPgwSMGTPEventType	jnxMbgPgwSMNotificationVars 5	Subscriber management GTP event type.
jnxMbgPgwSMGTPEventCause	jnxMbgPgwSMNotificationVars 6	Subscriber management GTP event cause value.
jnxMbgPgwSMAAlarmThrshld	jnxMbgPgwSMNotificationVars 7	Alarm: threshold: THRESHOLD_LOW or THRESHOLD_HIGH
jnxMbgPgwSMAAlarmState	jnxMbgPgwSMNotificationVars 8	Alarm state: CLEARED or RAISED
jnxMbgPgwSMSPICName	jnxMbgPgwSMNotificationVars 9	Identifies the Session PIC.
jnxMbgPgwSMTCTCName	jnxMbgPgwSMNotificationVars 10	Identifies the traffic class (gtpv1).
jnxMbgPgwSMQCIName	jnxMbgPgwSMNotificationVars 11	Identifies the QCI.

Table 58: Subscriber Manager Notification Variables (*continued*)

jnxMbgPgwSMSessionEstFailReason	jnxMbgPgwSMNotificationVars 12	Reason for session establishment failure.
jnxMbgPgwMMGatewayName	jnxMbgPgwSMNotificationVars 13	A string that uniquely identifies a gateway.
jnxMbgPgwPrevGatewayMMState	jnxMbgPgwSMNotificationVars 14	A string that indicates the maintenance-mode state.
jnxMbgPgwNewGatewayMMState	jnxMbgPgwSMNotificationVars 15	A string that indicates the maintenance-mode state.
jnxMbgPgwAPNMMGatewayName	jnxMbgPgwSMNotificationVars 16	A string that uniquely identifies a gateway.
jnxMbgPgwAPNMMAPNName	jnxMbgPgwSMNotificationVars 17	A string that uniquely identifies an APN.
jnxMbgPgwPrevAPNMMState	jnxMbgPgwSMNotificationVars 18	A string that indicates the maintenance-mode state.
jnxMbgPgwNewAPNMMState	jnxMbgPgwSMNotificationVars 19	A string that indicates the maintenance-mode state.
jnxMbgPgwTrapGwIndex	jnxMbgPgwSMNotificationVars 20	The gateway index.
jnxMbgPgwTrapGwName	jnxMbgPgwSMNotificationVars 21	The gateway name.
jnxMbgPgwSpicName	jnxMbgPgwSMNotificationVars 22	Identifies the Session PIC.
jnxMbgPgwSMInterfaceName	jnxMbgPgwSMNotificationVars 23	A string that uniquely identifies PGW interface.
jnxMbgPgwPrevMMState	jnxMbgPgwSMNotificationVars 24	A string that indicates the maintenance-mode previous state.
jnxMbgPgwNewMMState	jnxMbgPgwSMNotificationVars 25	A string that indicates the maintenance-mode new state.

CHAPTER 5

Serving Gateway SNMP Traps

- [Charging Traps for S-GW on page 147](#)
- [GTP Traps for S-GW on page 151](#)
- [Mobile Packet Forwarding Traps for S-GW on page 152](#)
- [Subscriber Manager Traps for S-GW on page 153](#)

Charging Traps for S-GW

Customers must pay for the services they use. In the 3rd Generation Partnership Project (3GPP), there are three distinct processes that translate service use into a bill for services. These processes are charging, rating, and billing. Charging gathers statistics about service usage for each customer. Rating is the process that determines how much each service costs each particular customer, based on the services contracted or tariffed. Billing is the process that generates the customer's invoice for services.

- [Charging MIB Structure on page 147](#)
- [S-GW Charging Traps on page 147](#)
- [Charging Notification Variables on page 148](#)

Charging MIB Structure

The root node for the module is **jnxMbgSgwChargingMib**, which is a child of **jnxMbgSgwChargingMib**. **jnxMbgSgwChargingMib** is Juniper Networks implementation of Mobility Charging MIB for Serving Gateways (S-GWs) in the 3GPP LTE network. The **jnxMbgSgwChargingMib** is defined in the Juniper-SMI.

S-GW Charging Traps

[Table 59 on page 147](#) shows the leaf nodes of the type **jnxMbgSgwCgNotifications**.

Table 59: S-GW Charging Traps

Name	ID	Description
jnxMbgSgwCgGtpGWUpNotify	jnxMbgSgwCgNotifications 1	The specified server has been marked Alive. The ServerName identifies the server and the SPIdentifier identifies the session PIC which originated this notification.

Table 59: S-GW Charging Traps (*continued*)

<code>jnxMbgSgwCgGtpGWDownNotify</code>	<code>jnxMbgSgwCgNotifications</code> 2	The server <code>jnxMbgSgwCgServerName</code> has been marked Dead. Session PIC <code>jnxMbgSgwCgServicePicName</code> originated this notification.
<code>jnxMbgSgwCgCDRDestNotify</code>	<code>jnxMbgSgwCgNotifications</code> 3	The destination of the Charging Data Records (CDRs), <code>jnxMbgSgwCgCDRDest</code> has changed. The new destination is indicated by <code>jnxMbgSgwCgPeerProfName</code> and <code>jnxMbgSgwCgActiveCgIpAddr</code> .
<code>jnxMbgSgwCgServiceUpNotify</code>	<code>jnxMbgSgwCgNotifications</code> 4	The charging daemon is UP on the session PIC indicated by <code>jnxMbgSgwCgServicePicName</code> .
<code>jnxMbgSgwCgMMStateChangeNotify</code>	<code>jnxMbgSgwCgNotifications</code> 5	The charging profile, <code>jnxMbgSgwCgPeerProfName</code> , underwent a change in maintenance mode state. The previous state, <code>jnxMbgSgwCgPrevMMState</code> , and current state, <code>jnxMbgSgwCgNewMMState</code> , are shown.
<code>jnxMbgSgwCgTMMStateChangeNotify</code>	<code>jnxMbgSgwCgNotifications</code> 6	The transport profile <code>jnxMbgSgwCgPeerProfName</code> underwent a change in maintenance mode state. The previous state, <code>jnxMbgSgwCgTPrevMMState</code> , and the current state, <code>jnxMbgSgwCgTNewMMState</code> , are shown.
<code>jnxMbgSgwCgMemHighThresNotify</code>	<code>jnxMbgSgwCgNotifications</code> 7	The internal memory utilization high threshold, <code>jnxMbgSgwCgMemLimit</code> , has been reached or cleared, as indicated by <code>jnxMbgSgwCgAlarmStatus</code> .
<code>jnxMbgSgwCgMemMediumThresNotify</code>	<code>jnxMbgSgwCgNotifications</code> 8	The internal memory utilization medium threshold, <code>jnxMbgSgwCgMemLimit</code> , has been reached or cleared, as indicated by <code>jnxMbgSgwCgAlarmStatus</code> .
<code>jnxMbgSgwCgMemLowThresNotify</code>	<code>jnxMbgSgwCgNotifications</code> 9	The internal memory utilization low threshold, <code>jnxMbgSgwCgMemLimit</code> , has been reached or cleared, as indicated by <code>jnxMbgSgwCgAlarmStatus</code> .
<code>jnxMbgSgwCgLcsThresHighNotify</code>	<code>jnxMbgSgwCgNotifications</code> 10	High memory utilization in the local storage; <code>jnxMbgSgwCgLcsUtil</code> , has exceeded a configured level.
<code>jnxMbgSgwCgLcsThresMediumNotify</code>	<code>jnxMbgSgwCgNotifications</code> 11	Medium memory utilization in the local storage; <code>jnxMbgSgwCgLcsUtil</code> , has exceeded a configured level.
<code>jnxMbgSgwCgLcsThresLowNotify</code>	<code>jnxMbgSgwCgNotifications</code> 12	This trap indicates the alarm status on the node associated with the utilization of local storage space for charging records. This alarm is sent out when the utilization exceeds or falls below the configured low threshold of available disk space. The alarm status (Active or Clear) is indicated by the <code>jnxMbgSgwCgAlarmStatus</code> variable.

Charging Notification Variables

Table 60 on page 149 shows the leaf nodes of the type `jnxMbgPgwCgNotificationVars`.

Table 60: S-GW Charging Notification Variables

Name	ID	Description
jnxMbgSgwCgServerName	jnxMbgSgwCgNotificationVars 1	A string that uniquely identifies the charging gateway function (CGF) server name.
jnxMbgSgwCgServicePicName	jnxMbgSgwCgNotificationVars 2	Identifies the session PIC, in the form ms-a/b/0 , where a is the slot and b can be either 0 or 1.
jnxMbgSgwCgCDRDest	jnxMbgSgwCgNotificationVars 3	<p>Indicates transitions in the state of the CGF:</p> <ul style="list-style-type: none"> • Value 1 indicates that one of the CGFs for the group came up; CDRs are redirected to the active CGF. • Value 2 indicates the last active CGF for the group is down; CDRs are written to backup local storage device • Value 3 indicates the last active CGF for the group is down; the backup local storage device is not configured.
jnxMbgSgwCgTSPName	jnxMbgSgwCgNotificationVars 4	A string that uniquely identifies the transport profile.

Table 60: S-GW Charging Notification Variables (*continued*)

<code>jnxMbgSgwCgMemLimit</code>	<code>jnxMbgSgwCgNotificationVars 5</code>	<p>Indicates transitions in the state of the CGF:</p> <ul style="list-style-type: none"> Value 1 indicates system has reached Level 1 critical memory threshold. <ul style="list-style-type: none"> Action—Check the CGF server connections. If local storage is enabled, transfer the charging records (using FTP) immediately. If local storage is not enabled, enable it, so that the charging records can be stored in local persistent storage. Risk—No new sessions will be allowed. Value 2 indicates that the system reaching Level 1 critical memory threshold condition has been resolved. Value 3 indicates that the system has reached Level 2 critical memory threshold. <ul style="list-style-type: none"> Action—Check the CGF server connections. If local storage is enabled, transfer the charging records (using FTP) immediately. If local storage is not enabled, enable it so the charging records can be stored in local persistent storage. Risk—New and existing sessions will be not be allowed. Value 4 indicates that the system reaching Level 2 critical memory threshold condition has been resolved.
<code>jnxMbgSgwCgLcsSpace</code>	<code>jnxMbgSgwCgNotificationVars 6</code>	<p>Specifies the trap level raised, which can be <code>localstoragememlevel1</code>, <code>localstoragememlevel2</code>, or <code>localstoragememlevel3</code>. The values of these levels are configured on the router. For example, if <code>localstoragememlevel1</code> is configured at 10 percent, a level 1 trap is generated when the utilization exceeds 10 percent.</p>
<code>jnxMbgSgwCgLcsUtil</code>	<code>jnxMbgPgwCgNotificationVars 7</code>	<p>Specifies the percentage of local storage space that is currently utilized on the routing engine.</p>
<code>jnxMbgSgwCgAlarmStatus</code>	<code>jnxMbgSgwCgNotificationVars 8</code>	<p>Value 1 indicates that the alarm for a particular condition is present.</p> <p>Value 2 indicates that the alarm for a particular condition is absent.</p>
<code>jnxMbgSgwCgProfileName</code>	<code>jnxMbgSgwCgNotificationVars 9</code>	<p>A string that identifies a charging profile.</p>

Table 60: S-GW Charging Notification Variables (*continued*)

<code>jnxMbgSgwCgPrevMMState</code>	<code>jnxMbgSgwCgNotificationVars 10</code>	A string that indicates the previous maintenance mode state.
<code>jnxMbgSgwCgNewMMState</code>	<code>jnxMbgPgwCgNotificationVars 11</code>	A string that indicates the new maintenance mode state.
<code>jnxMbgSgwCgTProfileName</code>	<code>jnxMbgSgwCgNotificationVars 12</code>	A string that identifies a charging profile.
<code>jnxMbgSgwCgTPrevMMState</code>	<code>jnxMbgSgwCgNotificationVars 13</code>	A string that indicates the previous maintenance mode state.
<code>jnxMbgSgwCgTNewMMState</code>	<code>jnxMbgSgwCgNotificationVars 14</code>	A string that indicates the new maintenance mode state.
<code>jnxMbgSgwCgSGwName</code>	<code>jnxMbgSgwCgNotificationVars 15</code>	A string that indicates the gateway name.
<code>jnxMbgSgwCgCgfProfName</code>	<code>jnxMbgSgwCgNotificationVars 16</code>	A string that uniquely identifies the CGF profile.

GTP Traps for S-GW

GPRS Tunneling Protocol (GTP) is the primary protocol used in a General packet radio service (GPRS) core network and allows users in a 3G or 4G network to move from one location to another while remaining connected to the Internet. The GTP protocol is used to carry signaling and bearer data from a Serving GPRS Support Node (SGSN) or Serving Gateway (S-GW) to a Gateway GPRS Support Node (GGSN) or Packet Data Network Gateway (P-GW) across well-defined 3GPP service interfaces such as Gn and S5.

- [GTP MIB Structure on page 151](#)
- [GTP Traps for S-GW on page 151](#)
- [GTP Notification Variables for S-GW on page 152](#)

GTP MIB Structure

The root node for the module is `jnxMbgSgwGtpMib`, which is a child of `jnxMobileGatewaySgw`. The `jnxMobileGatewaySgw` is defined in the Juniper-SMI.

GTP Traps for S-GW

Table 61 on page 151 shows the leaf nodes of the type `jnxMbgSgwGtpNotifications`.

Table 61: GTP Traps

Name	ID	Description
<code>jnxMbgSgwGtpPeerGwUpNotif</code>	<code>jnxMbgSgwGtpNotifications 1</code>	GTP-C peer up notification. This trap is sent when a new peer is added, or when an existing peer goes down and comes back up.

Table 61: GTP Traps (*continued*)

<code>jnxMbgSgwGtpPeerGwDnNotif</code>	<code>jnxMbgSgwGtpNotifications 2</code>	GTP-C peer down notification. This trap is sent when a peer connection goes down.
<code>jnxMbgSgwGtpPrDnTPerPrAlrmActv</code>	<code>jnxMbgSgwGtpNotifications 3</code>	Peer down threshold trap active. This trap is sent when a peer connection flaps for more than a higher threshold number of times within a monitored interval.
<code>jnxMbgSgwGtpPrDnTPerPrAlrmClr</code>	<code>jnxMbgSgwGtpNotifications 4</code>	Peer down threshold trap cleared. This trap is sent when the number of times a peer connection flaps in a monitor interval comes down below the lower threshold.

GTP Notification Variables for S-GW

Table 62 on page 152 shows the leaf nodes of the type `jnxMbgSgwGtpNotificationVars`.

Table 62: GTP Notification Variables

Name	ID	Description
<code>jnxMbgSgwGtpPeerName</code>	<code>jnxMbgSgwGtpNotificationVars 1</code>	GTP peer name/IP.
<code>jnxMbgSgwGtpAlarmStatCounter</code>	<code>jnxMbgSgwGtpNotificationVars 2</code>	Current value of (alarm) statistics counter. For example, in <code>jnxMbgSgwGtpPrDnTPerPrAlrmActv</code> , it specifies the number of times the peer is down within the monitoring interval.
<code>jnxMbgSgwGtpInterfaceType</code>	<code>jnxMbgSgwGtpNotificationVars 3</code>	GTP interface type, which can be S5, S8, S11, S1U, S12, or S4.
<code>jnxMbgSgwGtpGwName</code>	<code>jnxMbgSgwGtpNotificationVars 4</code>	A string that indicates the gateway name.
<code>jnxMbgSgwGtpGwIndex</code>	<code>jnxMbgSgwGtpNotificationVars 5</code>	Current gateway ID value.

Mobile Packet Forwarding Traps for S-GW

This module defines objects for the Serving Gateway Mobile Packet Forwarding Daemon.

- [Mobile Packet Forwarding MIB Structure on page 152](#)
- [Mobile Packet Forwarding Traps on page 153](#)
- [Mobile Packet Forwarding Notification Variables on page 153](#)

Mobile Packet Forwarding MIB Structure

The root node for the module is `jnxMbgSgwMfwdMib`, which is a child of `jnxMobileGatewaySgw`. The `jnxMobileGatewaySgw` is defined in the Juniper-MBG-SMI.

Mobile Packet Forwarding Traps

Table 63 on page 153 shows the leaf nodes of the type `jnxMbgSgwMfwdNotifications`, which lists the attributes that might be included as part of the trap. For details about which of these attributes are included in the trap, see the MIB.

Table 63: Mobile Packet Forwarding Traps

Name	ID	Description
<code>jnxMbgSgwMfwdBufMemThresRaise</code>	<code>jnxMbgSgwMfwdNotifications 1</code>	This notification signifies that the high memory buffering threshold for the Mobile Packet Forwarding daemon (MFWD) has reached the services PIC level. The gateway name, services PIC name and memory buffer threshold are displayed.
<code>jnxMbgSgwMfwdBufMemThresClear</code>	<code>jnxMbgSgwMfwdNotifications 2</code>	This notification signifies that the low memory buffering threshold for the Mobile Packet Forwarding daemon (MFWD) has reached the services PIC level. The gateway name, services PIC name, and memory buffer threshold are displayed.

Mobile Packet Forwarding Notification Variables

Table 64 on page 153 shows the leaf nodes of the type `jnxMbgSgwMfwdNotificationVars`.

Table 64: Mobile Packet Forwarding Notification Variables

Name	ID	Description
<code>jnxMbgSgwMfwdServicePicName</code>	<code>jnxMbgSgwMfwdNotificationVars 1</code>	Identifies the services PIC, in the form <code>ms-a/b/0</code> , where a is the slot, and b is either 0 or 1.
<code>jnxMbgSgwMfwdBufMemLimit</code>	<code>jnxMbgSgwMfwdNotificationVars 2</code>	Indicates the percentage of total buffer memory in use.

Subscriber Manager Traps for S-GW

Subscriber management describes various Serving Gateway (S-GW) statistics related to subscriber session establishment or failures, attach and detach.

- [Subscriber Manager MIB Structure on page 153](#)
- [Subscriber Manager Traps on page 154](#)
- [Subscriber Manager Notification Variables on page 155](#)

Subscriber Manager MIB Structure

The root node for the module is `jnxMbgSgwSMMib`, which is a child of `jnxMobileGatewaySgw`. The `jnxMobileGatewaySgw` is defined in the Juniper-SMI.

Subscriber Manager Traps

Table 65 on page 154 shows the leaf nodes of the type `jnxMbgSgwSMNotifications`.

Table 65: Subscriber Manager Traps for S-GW

Name	ID	Description
<code>jnxMbgSgwCpuThrStatusHi</code>	<code>jnxMbgSgwSMNotifications</code> 1	This notification indicates that the configured high threshold for CPU utilization at the S-GW level has been exceeded.
<code>jnxMbgSgwCpuThrStatusLow</code>	<code>jnxMbgSgwSMNotifications</code> 2	This notification indicates that the configured low threshold for CPU utilization at the S-GW level has been reached.
<code>jnxMbgSgwCpuThrStatusClear</code>	<code>jnxMbgSgwSMNotifications</code> 3	This notification indicates that the configured normal threshold for CPU utilization at the S-GW level has been reached.
<code>jnxMbgSgwMemThrStatusHi</code>	<code>jnxMbgSgwSMNotifications</code> 4	This notification indicates that the configured high threshold for memory utilization at the S-GW level has been exceeded.
<code>jnxMbgSgwMemThrStatusLow</code>	<code>jnxMbgSgwSMNotifications</code> 5	This notification indicates that the configured low threshold for memory utilization at the S-GW level has been reached.
<code>jnxMbgSgwMemThrStatusClear</code>	<code>jnxMbgSgwSMNotifications</code> 6	This notification indicates that the configured normal threshold for memory utilization at the S-GW level has been reached.
<code>jnxMbgSgwPFEMMStateChange</code>	<code>jnxMbgSgwSMNotifications</code> 7	This notification indicates the gateway name, Packet Forwarding Engine interface name, and the previous and current state information for the interface when the Packet Forwarding Engine interface is in maintenance mode.
<code>jnxMbgSgwMSMMStateChange</code>	<code>jnxMbgSgwSMNotifications</code> 8	This notification indicates the gateway name, multiservices interface name, and the previous and current state information for the interface when the multiservices interface is in maintenance mode.
<code>jnxMbgSgwAPFEMMStateChange</code>	<code>jnxMbgSgwSMNotifications</code> 9	This notification indicates the gateway name, aggregated Packet Forwarding Engine interface name, and the previous and current state information for the interface when the aggregated Packet Forwarding Engine interface is in maintenance mode.
<code>jnxMbgSgwAMSMMStateChange</code>	<code>jnxMbgSgwSMNotifications</code> 10	This notification indicates the gateway name, aggregated multiservices interface name, and the previous and current state information for the interface when the aggregated multiservices interface is in maintenance mode.

Table 65: Subscriber Manager Traps for S-GW (*continued*)

jnxMbgSgwQosBearerThrStatusHi	jnxMbgSgwSMNotifications 11	This notification indicates that the configured high threshold for bearers at the S-GW level has been exceeded.
jnxMbgSgwQosBearerThrStatusLow	jnxMbgSgwSMNotifications 12	This notification indicates that the configured low threshold for bearers at the S-GW level has been reached.
jnxMbgSgwQosBearerThrStatusClear	jnxMbgSgwSMNotifications 13	This notification indicates that the normal threshold for bearers at the S-GW level has been reached.

Subscriber Manager Notification Variables

Table 66 on page 155 shows the leaf nodes of the type `jnxMbgSgwSMNotificationVars`.

Table 66: Subscriber Manager Notification Variables for S-GW

Name	ID	Description
jnxMbgGwSpicName	jnxMbgSgwSMNotificationVars 1	Identifies the session PIC.
jnxMbgSgwTrapGwIndex	jnxMbgSgwSMNotificationVars 2	Gateway index.
jnxMbgSgwTrapGwName	jnxMbgSgwSMNotificationVars 3	Gateway name.
jnxMbgSgwSMInterfaceName	jnxMbgSgwSMNotificationVars 4	A string that uniquely identifies the S-GW interface.
jnxMbgSgwPrevMMState	jnxMbgSgwSMNotificationVars 5	A string that indicates the previous maintenance mode state.
jnxMbgSgwNewMMState	jnxMbgSgwSMNotificationVars 6	A string that indicates the new maintenance mode state.

PART 2

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