

MobileNext Broadband Gateway

Performance and Fault Monitoring with SNMP

Release

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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/>.

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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/> .
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- 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](#)

Performance and Fault Management Overview

This MIBs document is a reference for operators/OSS/NMS tool companies wanting to build any applications/tools for monitoring performance and faults on the MobileNext Broadband Gateway (MBG) configured as a GGSN, PGW, or SGW. The base performance statistics can be collected from the devices using SNMP, while notifications are sent by the device for faults/events alarms using SNMP traps. A 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.

PART 1

Performance Management

- [PDN Gateway Statistics on page 17](#)
- [Serving Gateway Statistics on page 67](#)

CHAPTER 2

PDN Gateway Statistics

- [Authentication, Authorization, and Accounting Services Performance Statistics for GGSN/PGW on page 17](#)
- [GTP Performance Statistics for GGSN/PDN Gateway on page 22](#)
- [Subscriber Manager Performance Statistics for GGSN/PGW on page 56](#)
- [Charging Performance Statistics for GGSN/P-GW on page 60](#)
- [IP Address Pool Management Statistics on page 65](#)
- [Resource Manager Performance Statistics for the GGSN-PGW on page 66](#)

Authentication, Authorization, and Accounting Services Performance Statistics for GGSN/PGW

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 MBG MIB within the Juniper 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 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 anchor instance.
jnxMbgTtlDynAuthTimeouts	Total dyn-req timed out.
jnxMbgTtlDynAuthDelivered	Total dyn-req that were delivered to 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 which 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 Resp have been received from this server. A response could either accept, reject or challenge.
jnxMbgRadiusAuthSvrBadAuthen	Number of Resp 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 Resp received from this RADIUS server with unknown types.
jnxMbgRadiusAuthSvrPacketsDrop	Number of Resp 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 which 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-Resp that have been received from this server.
jnxMbgRadiusAcctSvrMalformResp	Number of Malformed Resp have been received from this server.
jnxMbgRadiusAcctSvrBadAuthen	Number of Resp 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 Resp received from this RADIUS server with unknown types.
jnxMbgRadiusAcctSvrPacketsDrop	Number of Resp 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 which 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 Resp sent to this client.
jnxMbgDynAuthClntCoaNackSent	CoA Nack Resp sent to this client.

Table 7: jnxMbgDynAuthClntTable Statistics (*continued*)

jnxMbgDynAuthClntDmAckSent	DM Ack Resp sent to this client.
jnxMbgDynAuthClntDmNackSent	DM Nack Resp 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 anchor instance.
jnxMbgDynAuthClntTimeouts	Requests received from this client that timed out.
jnxMbgDynAuthClntDelivered	Requests received from this client that were delivered to 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.

GTP Performance Statistics for GGSN/PDN Gateway

GTP is the primary protocol used in a 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 SGSN/SGW to a GGSN/PGW across well defined 3GPP service interfaces such as Gn and S5.

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- [GTP Peer Statistics on page 23](#)
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- [GTP Peer Version 2 Success/Failure Statistics on page 27](#)
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- [GTP Global Version 2 Operational Statistics on page 40](#)
- [GTP Global Version 2 Success/Failure Statistics on page 43](#)
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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 8 on page 23](#) shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**.

Table 8: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPGtpRmtAddr	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 9 on page 23](#) shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP Peer version 2 operational statistics.

Table 9: 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 9: 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 Number of 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 9: 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 Requests received.
jnxMbgPgwPPV2UpdBrReqTx	Number of GTP V2 Update Bearer Requests 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 9: 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	Number of GTP V2 Release Access Bearer Requests received.
jnxMbgPgwPPV2RelAcsBrReqTx	Number of GTP V2 Release Access Bearer Requests sent.
jnxMbgPgwPPV2RelAcsBrRespRx	Number of GTP V2 Release Access Bearer Response received.
jnxMbgPgwPPV2RelAcsBrRespTx	Number of GTP V2 Release Access Bearer Response sent.
jnxMbgPgwPPV2CrIndTunReqRx	Number of GTP V2 Create Indirect Tunnel Forward Requests Received.
jnxMbgPgwPPV2CrIndTunReqTx	Number of GTP V2 Create Indirect Tunnel Forward Requests sent.
jnxMbgPgwPPV2CrIndTunRespRx	Number of GTP V2 Create Indirect Tunnel Forward Responses Received
jnxMbgPgwPPV2CrIndTunRespTx	Number of GTP V2 Create Indirect Tunnel Forward Responses sent
jnxMbgPgwPPV2DelIndTunReqRx	Number of GTP V2 Delete Indirect Tunnel Forward Requests Received
jnxMbgPgwPPV2DelIndTunReqTx	Number of GTP V2 Delete Indirect Tunnel Forward Requests sent.
jnxMbgPgwPPV2DelIndTunRespRx	Number of GTP V2 Delete Indirect Tunnel Forward Responses Received
jnxMbgPgwPPV2DelIndTunRespTx	Number of GTP V2 Delete Indirect Tunnel Forward Responses sent.
jnxMbgPgwPPV2DIDataNotifRx	Number of GTP V2 Downlink Data Notify received.
jnxMbgPgwPPV2DIDataNotifTx	Number of GTP V2 Downlink Data Notify Sent.
jnxMbgPgwPPV2DIDataAckRx	Number of GTP V2 Downlink Data Notify Acknowledgements received.
jnxMbgPgwPPV2DIDataAckTx	Number of GTP V2 Downlink Data Notify Acknowledgements Sent.
jnxMbgPgwPPV2DIDataNotiFlrIndRx	Number of GTP V2 Downlink Data Notification fail received.
jnxMbgPgwPPV2DIDataNotiFlrIndTx	Number of GTP V2 Downlink Data Notification fail Sent.
jnxMbgPgwPPV2StopPagingIndRx	Number of GTP V2 Stop Paging Indication Messages Received.

Table 9: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV2StopPagingIndTx	Number of GTP V2 Stop Paging Indication messages sent.
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GTP Peer Version 2 Success/Failure Statistics

Table 10 on page 27 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 2 success/failure statistics.

Table 10: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV2ICsPageRx	Number of GTP V2 packets received with cause Page.
jnxMbgPgwPPV2ICsPageTx	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.
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.

Table 10: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

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 Symantic Error.
jnxMbgPgwPPV2ICsTFTSMANterTx	Number of GTP V2 packets sent with cause TFT Symantic 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.
jnxMbgPgwPPV2ICsPkFiltManErrRx	Number of GTP V2 packets received with cause Packet Filter Symantic Error.
jnxMbgPgwPPV2ICsPkFiltManErrTx	Number of GTP V2 packets sent with cause Packet Filter Symantic Error.
jnxMbgPgwPPV2ICsPkFiltSynErrRx	Number of GTP V2 packets received with cause Packet Filter Syntax Error.
jnxMbgPgwPPV2ICsPkFiltSynErrTx	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.

Table 10: jnxMbgPgwpGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwpPPV2ICsGREKeyNtFdRx	Number of GTP V2 packets received with cause GRE Key Not Found.
jnxMbgPgwpPPV2ICsGREKeyNtFdTx	Number of GTP V2 packets sent with cause GRE Key Not Found.
jnxMbgPgwpPPV2ICsRelocFailRx	Number of GTP V2 packets received with cause Relocation Failed.
jnxMbgPgwpPPV2ICsRelocFailTx	Number of GTP V2 packets sent with cause Relocation Failed.
jnxMbgPgwpPPV2ICsDeniedINRatRx	Number of GTP V2 packets received with cause Denied in RAT.
jnxMbgPgwpPPV2ICsDeniedINRatTx	Number of GTP V2 packets sent with cause Denied in RAT.
jnxMbgPgwpPPV2ICsPTNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.
jnxMbgPgwpPPV2ICsPTNotSuppTx	Number of GTP V2 packets sent with cause PDN Type Not Supported.
jnxMbgPgwpPPV2ICsAllDynAdOccRx	Number of GTP V2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgPgwpPPV2ICsAllDynAdOccTx	Number of GTP V2 packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgPgwpPPV2ICsNOTFTUECTXRx	Number of GTP V2 packets received with cause UE Context Without TFT Exists.
jnxMbgPgwpPPV2ICsNOTFTUECTXTx	Number of GTP V2 packets sent with cause UE Context Without TFT Exists.
jnxMbgPgwpPPV2ICsProtoNtSupRx	Number of GTP V2 packets received with cause Protocol Not Supported.
jnxMbgPgwpPPV2ICsProtoNtSupTx	Number of GTP V2 packets sent with cause Protocol Not Supported.
jnxMbgPgwpPPV2ICsUENotRespRx	Number of GTP V2 packets received with cause UE Not Responding.
jnxMbgPgwpPPV2ICsUENotRespTx	Number of GTP V2 packets sent with cause UE Not Responding.
jnxMbgPgwpPPV2ICsUERefusesRx	Number of GTP V2 packets received with cause UE Refuses.
jnxMbgPgwpPPV2ICsUERefusesTx	Number of GTP V2 packets sent with cause UE Refuses.
jnxMbgPgwpPPV2ICsServDeniedRx	Number of GTP V2 packets received with cause Service Denied.
jnxMbgPgwpPPV2ICsServDeniedTx	Number of GTP V2 packets sent with cause Service Denied.
jnxMbgPgwpPPV2ICsUnabPageUERx	Number of GTP V2 packets received with cause Unable to Page UE.
jnxMbgPgwpPPV2ICsUnabPageUETx	Number of GTP V2 packets sent with cause Unable to Page UE.
jnxMbgPgwpPPV2ICsNoMemRx	Number of GTP V2 packets received with cause No Memory.

Table 10: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

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.

GTP Peer Version 1 Operational Statistics

Table 11 on page 30 shows the statistics for jnxMbgPgwGtpCPerPeerStatsTable, which show GTP peer version 1 operational statistics.

Table 11: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgPgwPPV1ProtocolErrRx	Number of GTP V1 Protocol Errors Received.
jnxMbgPgwPPV1UnSupportedMsgRx	Number of GTP V1 Unsupported Messages received.

Table 11: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPVIT3RespTmrExpRx	Number of GTP V1 T3 timer expiries Received.
jnxMbgPgwPPVIGlbNumMsgRx	Number of GTP V1 messages received.
jnxMbgPgwPPVIGlbNumMsgTx	Number of GTP V1 messages sent.
jnxMbgPgwPPVIGlbNumBytesRx	Number of GTP V1 bytes received.
jnxMbgPgwPPVIGlbNumBytesTx	Number of GTP V1 bytes sent.
jnxMbgPgwPPVIGlbEchoReqRx	Number of GTP V1 Echo Requests received.
jnxMbgPgwPPVIGlbEchoReqTx	Number of GTP V1 Echo Requests Sent.
jnxMbgPgwPPVIGlbEchoRespRx	Number of GTP V1 Echo Responses received.
jnxMbgPgwPPVIGlbEchoRespTx	Number of GTP V1 Echo Responses Sent.
jnxMbgPgwPPV1VerNotSupRx	Number of GTP V1 Version Not supported messages received
jnxMbgPgwPPV1VerNotSupTx	Number of GTP V1 Number of version not supported messages sent.
jnxMbgPgwPPV1CrtPdpCxtReqRx	Number of GTP V1 Create PDP Context Requests Received.
jnxMbgPgwPPV1CrtPdpCxtReqTx	Number of GTP V1 Create PDP Context Requests Sent.
jnxMbgPgwPPV1CrtPdpCxtRespRx	Number of GTP V1 Create PDP Context Responses Received.
jnxMbgPgwPPV1CrtPdpCxtRespTx	Number of GTP V1 Create PDP Context Responses Sent.
jnxMbgPgwPPV1UpdPdpCxtReqRx	Number of GTP V1 Update PDP Context Requests Received.
jnxMbgPgwPPV1UpdPdpCxtReqTx	Number of GTP V1 Update PDP Context Requests Sent.
jnxMbgPgwPPV1UpdPdpCxtRespRx	Number of GTP V1 Update PDP Context Responses Received.
jnxMbgPgwPPV1UpdPdpCxtRespTx	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.
jnxMbgPgwPPV1DelPdpCxtRespRx	Number of GTP V1 Delete PDP Context Responses Received.
jnxMbgPgwPPV1DelPdpCxtRespTx	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.

Table 11: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPVICrtAAPdpCxtRspRx	Number of GTP V1 Create AA PDP Context Responses Received.
jnxMbgPgwPPVICrtAAPdpCxtRspTx	Number of GTP V1 Create AA PDP Context Responses Sent.
jnxMbgPgwPPVIDelAAPdpCxtReqRx	Number of GTP V1 Delete AA PDP Context Requests Received.
jnxMbgPgwPPVIDelAAPdpCxtReqTx	Number of GTP V1 Delete AA PDP Context Requests Sent.
jnxMbgPgwPPVIDelAAPdpCxtRspRx	Number of GTP V1 Delete AA PDP Context Responses Received.
jnxMbgPgwPPVIDelAAPdpCxtRspTx	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.
jnxMbgPgwPPV1RtInfReqTx	Number of GTP V1 Routing Information Requests Sent.
jnxMbgPgwPPV1RtInfRspRx	Number of GTP V1 Routing Information Responses Received.
jnxMbgPgwPPV1RtInfRspTx	Number of GTP V1 Routing Information Responses Sent.
jnxMbgPgwPPV1FailRptReqRx	Number of GTP V1 Fail Repeat Requests Received.
jnxMbgPgwPPV1FailRptReqTx	Number of GTP V1 Fail Repeat Requests Sent.
jnxMbgPgwPPV1FailRptRspRx	Number of GTP V1 Fail Repeat Responses Received.
jnxMbgPgwPPV1FailRptRspTx	Number of GTP V1 Fail Repeat Responses Sent.
jnxMbgPgwPPV1NotMSPresReqRx	Number of GTP V1 MS Not Present Request Received.

Table 11: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

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/Failure Statistics

Table 12 on page 33 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 1 success/failure statistics.

Table 12: 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.
jnxMbgPgwPPV1CsMSGRPSDetachTx	Number of GTP V1 packets sent with cause MS GPRS 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.

Table 12: jnxMbgPgwPPV1ICsPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV1ICsNoResTx	Number of GTP V1 packets sent with cause No Response.
jnxMbgPgwPPV1ICsServNotSuppRx	Number of GTP V1 packets received with cause Service Not Supported.
jnxMbgPgwPPV1ICsServNotSuppTx	Number of GTP V1 packets sent with cause Service Not Supported.
jnxMbgPgwPPV1ICsManIEIncrRx	Number of GTP V1 packets received with cause Mandatory IE incorrect.
jnxMbgPgwPPV1ICsManIEIncrTx	Number of GTP V1 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwPPV1ICsManIEMissRx	Number of GTP V1 packets received with cause Mandatory IE Missing.
jnxMbgPgwPPV1ICsManIEMissTx	Number of GTP V1 packets sent with cause Mandatory IE Missing.
jnxMbgPgwPPV1ICsOptIEIncrRx	Number of GTP V1 packets received with cause Optional IE incorrect.
jnxMbgPgwPPV1ICsOptIEIncrTx	Number of GTP V1 packets sent with cause Optional IE incorrect.
jnxMbgPgwPPV1ICsSysFailRx	Number of GTP V1 packets received with cause System Failure.
jnxMbgPgwPPV1ICsSysFailTx	Number of GTP V1 packets sent with cause System Failure.
jnxMbgPgwPPV1ICsRoamRestrictRx	Number of GTP V1 packets received with cause Roaming Restricted.
jnxMbgPgwPPV1ICsRoamRestrictTx	Number of GTP V1 packets sent with cause Roaming Restricted.
jnxMbgPgwPPV1ICsPTMSISigMMRx	Number of GTP V1 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwPPV1ICsPTMSISigMMTx	Number of GTP V1 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwPPV1ICsGPRSConnSuppRx	Number of GTP V1 packets received with cause GPRS Connection Supported.
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.

Table 12: jnxMbgPgwPPV1ICsPerPeerStatsTable Statistics (*continued*)

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.
jnxMbgPgwPPV1ICsSMANTTFTErr1Rx	Number of GTP V1 packets received with cause Mandatory TFT Error.
jnxMbgPgwPPV1ICsSMANTTFTErr1Tx	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.
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 13 on page 36 shows the statistics for `jnxMbgPgwGtpCPerPeerStatsTable`, which show GTP peer version 0 operational statistics.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics

Name	Description
<code>jnxMbgPgwPPV0ProtocolErrRx</code>	Number of GTP V0 Protocol Errors Received.
<code>jnxMbgPgwPPV0UnsupportedMsgRx</code>	Number of GTP V0 Unsupported Messages received.
<code>jnxMbgPgwPPV0T3RespTmrExpRx</code>	Number of GTP V0 T3 timer expiries Received.
<code>jnxMbgPgwPPV0GlbNumMsgRx</code>	Number of GTP V0 messages received.
<code>jnxMbgPgwPPV0GlbNumMsgTx</code>	Number of GTP V0 messages sent.
<code>jnxMbgPgwPPV0GlbNumBytesRx</code>	Number of GTP V0 bytes received.
<code>jnxMbgPgwPPV0GlbNumBytesTx</code>	Number of GTP V0 bytes sent.
<code>jnxMbgPgwPPV0GlbEchoReqRx</code>	Number of GTP V0 Echo Request received.
<code>jnxMbgPgwPPV0GlbEchoReqTx</code>	Number of GTP V0 Echo Request Sent.
<code>jnxMbgPgwPPV0GlbEchoRespRx</code>	Number of GTP V0 Echo Response received.
<code>jnxMbgPgwPPV0GlbEchoRespTx</code>	Number of GTP V0 Echo Response Sent.
<code>jnxMbgPgwPPV0GlbVerNotSupRx</code>	Number of GTP V0 Version Not supported messages received .
<code>jnxMbgPgwPPV0GlbVerNotSupTx</code>	Number of GTP V0 Number of version not supported messages sent.
<code>jnxMbgPgwPPV0GlbCrtPdpCxtReqRx</code>	Number of GTP V0 Create PDP Context Requests Received.
<code>jnxMbgPgwPPV0GlbCrtPdpCxtReqTx</code>	Number of GTP V0 Create PDP Context Requests Sent.
<code>jnxMbgPgwPPV0GlbCrtPdpCxtRspRx</code>	Number of GTP V0 Create PDP Context Responses Received.
<code>jnxMbgPgwPPV0GlbCrtPdpCxtRspTx</code>	Number of GTP V0 Create PDP Context Responses Sent.
<code>jnxMbgPgwPPV0GlbUpdPdpCxtReqRx</code>	Number of GTP V0 Update PDP Context Requests Received.
<code>jnxMbgPgwPPV0GlbUpdPdpCxtReqTx</code>	Number of GTP V0 Update PDP Context Requests Sent.
<code>jnxMbgPgwPPV0GlbUpdPdpCxtRspRx</code>	Number of GTP V0 Update PDP Context Responses Received.
<code>jnxMbgPgwPPV0GlbUpdPdpCxtRspTx</code>	Number of GTP V0 Update PDP Context Responses Sent.

Table 13: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

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.
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.

Table 13: jnxMbgPgwPPV0GlbRtInfRspTx Statistics (*continued*)

jnxMbgPgwPPV0GlbRtInfRspTx	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.
jnxMbgPgwPPV0GlbFailRptRspRx	Number of GTP V0 Fail Repeat Responses Received.
jnxMbgPgwPPV0GlbFailRptRspTx	Number of GTP V0 Fail Repeat Responses Sent.
jnxMbgPgwPPV0GlbNotMSPresReqRx	Number of GTP V0 MS Not Present Request Received.
jnxMbgPgwPPV0GlbNotMSPresReqTx	Number of GTP V0 MS Not Present Request Sent.
jnxMbgPgwPPV0GlbNotMSPresRspRx	Number of GTP V0 MS Not Present Responses Received.
jnxMbgPgwPPV0GlbNotMSPresRspTx	Number of GTP V0 MS Not Present Responses Sent.

GTP Peer Version 0 Success/Failure Statistics

Table 14 on page 38 shows the statistics for **jnxMbgPgwGtpCPerPeerStatsTable**, which show GTP peer version 0 success/failure statistics.

Table 14: 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.
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.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgPgwPPV0ICsMSNotGRPSRespTx	Number of GTP V0 packets sent with cause MS No GPRS Response.
jnxMbgPgwPPV0ICsMSRefusesRx	Number of GTP V0 packets received with cause MS Refues.
jnxMbgPgwPPV0ICsMSRefusesTx	Number of GTP V0 packets sent with cause MS Refues.
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.
jnxMbgPgwPPV0ICsRoamRestrictTx	Number of GTP V0 packets sent with cause Roaming Restricted.
jnxMbgPgwPPV0ICsPTMSISigMMRx	Number of GTP V0 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwPPV0ICsPTMSISigMMTx	Number of GTP V0 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwPPV0ICsGPRSConnSuppRx	Number of GTP V0 packets received with cause GPRS Connection Supported.
jnxMbgPgwPPV0ICsGPRSConnSuppTx	Number of GTP V0 packets sent with cause GPRS Connection Supported.
jnxMbgPgwPPV0ICsAuthFailRx	Number of GTP V0 packets received with cause Auth Failure.

Table 14: jnxMbgPgwGtpCPerPeerStatsTable Statistics (*continued*)

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 15 on page 40 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 2 operational statistics.

Table 15: 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.
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 Request received.

Table 15: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2GlbEchoReqTx	Number of GTP V2 Echo Request Sent.
jnxMbgPgwV2GlbEchoRespRx	Number of GTP V2 Echo Response received.
jnxMbgPgwV2GlbEchoRespTx	Number of GTP V2 Echo Response 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.
jnxMbgPgwV2CreateSessRespRx	Number of GTP V2 Create Session Responses received.
jnxMbgPgwV2CreateSessRespTx	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.
jnxMbgPgwV2ModBrRespRx	Number of GTP V2 Modify Bearer Responses received.
jnxMbgPgwV2ModBrRespTx	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.
jnxMbgPgwV2DelSessRespRx	Number of GTP V2 Delete Session Responses received.
jnxMbgPgwV2DelSessRespTx	Number of GTP V2 Delete Session Responses Sent.
jnxMbgPgwV2CrtBrReqRx	Number of GTP V2 Create Bearer Requests received.
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 Requests received.
jnxMbgPgwV2UpdBrReqTx	Number of GTP V2 Update Bearer Requests Sent.
jnxMbgPgwV2UpdBrRespRx	Number of GTP V2 Update Bearer Responses received.
jnxMbgPgwV2UpdBrRespTx	Number of GTP V2 Update Bearer Responses Sent.

Table 15: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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 Command received.
jnxMbgPgwV2ModBrCmdTx	Number of GTP V2 Modify Bearer Command Sent.
jnxMbgPgwV2ModBrFlrIndRx	Number of GTP V2 Modify Bearer Failure received.
jnxMbgPgwV2ModBrFlrIndTx	Number of GTP V2 Modify Bearer Failure Sent.
jnxMbgPgwV2DelBrCmdRx	Number of GTP V2 Delete Bearer Command received.
jnxMbgPgwV2DelBrCmdTx	Number of GTP V2 Delete Bearer Command Sent.
jnxMbgPgwV2DelBrFlrIndRx	Number of GTP V2 Delete Bearer Failure received.
jnxMbgPgwV2DelBrFlrIndTx	Number of GTP V2 Delete Bearer Failure Sent.
jnxMbgPgwV2BrResCmdRx	Number of GTP V2 Bearer Response Command received.
jnxMbgPgwV2BrResCmdTx	Number of GTP V2 Bearer Response Command Sent.
jnxMbgPgwV2BrResFlrIndRx	Number of GTP V2 Bearer Resource Failure received.
jnxMbgPgwV2BrResFlrIndTx	Number of GTP V2 Bearer Resource Failure Sent.
jnxMbgPgwV2RelAccsBrReqRx	Number of GTP V2 Release Access Bearer Requests received.

Table 15: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2RelAccBrReqTx	Number of GTP V2 Release Access Bearer Requests Sent.
jnxMbgPgwV2RelAccBrRespRx	Number of GTP V2 Release Access Bearer Responses received.
jnxMbgPgwV2RelAccBrRespTx	Number of GTP V2 Release Access Bearer Responses Sent.
jnxMbgPgwV2CrIndTunReqRx	Number of GTP V2 Create Indirect Tunnel Forward Requests Received
jnxMbgPgwV2CrIndTunReqTx	Number of GTP V2 Create Indirect Tunnel Forward Requests Sent
jnxMbgPgwV2CrIndTunRespRx	Number of GTP V2 Create Indirect Tunnel Forward Responses Received
jnxMbgPgwV2CrIndTunRespTx	Number of GTP V2 Create Indirect Tunnel Forward Responses Sent
jnxMbgPgwV2DelIndTunReqRx	Number of GTP V2 Delete Indirect Tunnel Forward Request Received
jnxMbgPgwV2DelIndTunReqTx	Number of GTP V2 Delete Indirect Tunnel Forward Requests Sent.
jnxMbgPgwV2DelIndTunRespRx	Number of GTP V2 Delete Indirect Tunnel Forward Responses Received
jnxMbgPgwV2DelIndTunRespTx	Number of GTP V2 Delete Indirect Tunnel Forward Responses Sent.
jnxMbgPgwV2DlDataNotifRx	Number of GTP V2 Downlink Data Notify received.
jnxMbgPgwV2DlDataNotifTx	Number of GTP V2 Downlink Data Notify Sent.
jnxMbgPgwV2DlDataAckRx	Number of GTP V2 Downlink Data Notify Acknowledgements received.
jnxMbgPgwV2DlDataAckTx	Number of GTP V2 Downlink Data Notify Acknowledgements Sent.
jnxMbgPgwV2DlDataNotifFlrIndRx	Number of GTP V2 Downlink Data Notification failures received.
jnxMbgPgwV2DlDataNotifFlrIndTx	Number of GTP V2 Downlink Data Notification failures Sent.
jnxMbgPgwV2StopPagingIndRx	Number of GTP V2 Stop Paging Indication Messages Received.
jnxMbgPgwV2StopPagingIndTx	Number of GTP V2 Stop Paging Indication messages Transmitted

GTP Global Version 2 Success/Failure Statistics

Table 16 on page 43 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 2 success/failure statistics.

Table 16: jnxMbgPgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgPgwV2ICsPageRx	Number of GTP V2 packets received with cause Page.

Table 16: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV2ICsPageTx	Number of GTP V2 packets sent with cause Page.
jnxMbgPgwV2ICsReqAcceptRx	Number of GTP V2 packets received with cause Request Accept.
jnxMbgPgwV2ICsReqAcceptTx	Number of GTP V2 packets sent with cause Request Accept messages sent.
jnxMbgPgwV2ICsAcceptPartRx	Number of GTP V2 packets received with cause Accept Partial messages receive.
jnxMbgPgwV2ICsAcceptPartTx	Number of GTP V2 packets sent with cause Accept Partial.
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.

Table 16: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
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 Symantic Error.
jnxMbgPgwV2ICsTFTSMANterTx	Number of GTP V2 packets sent with cause TFT Symantic 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 Symantic Error.
jnxMbgPgwV2ICsPkFltManErrTx	Number of GTP V2 packets sent with cause Packet Filter Symantic 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.
jnxMbgPgwV2ICsPTNNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.

Table 16: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
jnxMbgPgwV2ICsNOTFTUECTXRx	Number of GTP V2 packets received with cause UE Context Without TFT Exists.
jnxMbgPgwV2ICsNOTFTUECTXTx	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.
jnxMbgPgwV2ICsUserAUTHFIRx	Number of GTP V2 packets received with cause User AUTH Failed.
jnxMbgPgwV2ICsUserAUTHFITx	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.

Table 16: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
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 17 on page 47 shows the statistics for jnxMbgPgwGtpCGlbStatsTable, which show GTP global version 1 operational statistics.

Table 17: 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.

Table 17: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
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.

Table 17: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
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 Request Received.
jnxMbgPgwV1NotMSPresReqTx	Number of GTP V1 MS Not Present Request 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/Failure Statistics

Table 18 on page 50 shows the statistics for `jnxMbgPgwGtpCGlbStatsTable`, which show GTP global version 1 success/failure statistics.

Table 18: 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 Existant.
jnxMbgPgwV1ICsNonExistTx	Number of GTP V1 packets sent with cause Non Existant.
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 Refues.
jnxMbgPgwV1ICsMSRefusesTx	Number of GTP V1 packets sent with cause MS Refues.
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.

Table 18: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwV1CsOptIEIncrRx	Number of GTP V1 packets received with cause Optional IE incorrect.
jnxMbgPgwV1CsOptIEIncrTx	Number of GTP V1 packets sent with cause Optional IE incorrect.
jnxMbgPgwV1CsSysFailRx	Number of GTP V1 packets received with cause System Failure.
jnxMbgPgwV1CsSysFailTx	Number of GTP V1 packets sent with cause System Failure.
jnxMbgPgwV1CsRoamRestrictRx	Number of GTP V1 packets received with cause Roaming Restricted.
jnxMbgPgwV1CsRoamRestrictTx	Number of GTP V1 packets sent with cause Roaming Restricted.
jnxMbgPgwV1CsPTMSISigMMRx	Number of GTP V1 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwV1CsPTMSISigMMTx	Number of GTP V1 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwV1CsGPRSConnSuppRx	Number of GTP V1 packets received with cause GPRS Connection Supported.
jnxMbgPgwV1CsGPRSConnSuppTx	Number of GTP V1 packets sent with cause GPRS Connection Supported.
jnxMbgPgwV1CsAuthFailRx	Number of GTP V1 packets received with cause Auth Failure.
jnxMbgPgwV1CsAuthFailTx	Number of GTP V1 packets sent with cause Auth Failure.
jnxMbgPgwV1CsUserAuthFailRx	Number of GTP V1 packets received with cause User Auth Failure.
jnxMbgPgwV1CsUserAuthFailTx	Number of GTP V1 packets sent with cause User Auth Failure.
jnxMbgPgwV1CsCtxNotFndRx	Number of GTP V1 packets received with cause Context Not Found.
jnxMbgPgwV1CsCtxNotFndTx	Number of GTP V1 packets sent with cause Context Not Found.
jnxMbgPgwV1CsAllDynPDPAAdRx	Number of GTP V1 packets received with cause Allow Dynamic PDP Address.
jnxMbgPgwV1CsAllDynPDPAAdTx	Number of GTP V1 packets sent with cause Allow Dynamic PDP Address.
jnxMbgPgwV1CsNoMemRx	Number of GTP V1 packets received with cause No Memory.
jnxMbgPgwV1CsNoMemTx	Number of GTP V1 packets sent with cause No Memory.
jnxMbgPgwV1CsRelocFailRx	Number of GTP V1 packets received with cause Relocation Failed.
jnxMbgPgwV1CsRelocFailTx	Number of GTP V1 packets sent with cause Relocation Failed.
jnxMbgPgwV1CsUnkManExhdrRx	Number of GTP V1 packets received with cause Unknown Mandatory Extension Header.
jnxMbgPgwV1CsUnkManExhdrTx	Number of GTP V1 packets sent with cause Unknown Mandatory Extension Header.

Table 18: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

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.
jnxMbgPgwV1ICsSMNTPkFIErIRx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSMNTPkFIErITx	Number of GTP V1 packets sent with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSYNPkFIErr2Rx	Number of GTP V1 packets received with cause Mandatory Packet Filter Error.
jnxMbgPgwV1ICsSYNPkFIErr2Tx	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 19 on page 52 shows the statistics for **jnxMbgPgwGtpCGlbStatsTable**, which show GTP global version 0 operational statistics.

Table 19: 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.

Table 19: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwVOGlbNumBytesRx	Number of GTP V0 bytes received.
jnxMbgPgwVOGlbNumBytesTx	Number of GTP V0 bytes sent.
jnxMbgPgwVOGlbEchoReqRx	Number of GTP V0 Echo Requests received.
jnxMbgPgwVOGlbEchoReqTx	Number of GTP V0 Echo Requests Sent.
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.
jnxMbgPgwVOGlbCrtPdpCxtRspRx	Number of GTP V0 Create PDP Context Responses Received.
jnxMbgPgwVOGlbCrtPdpCxtRspTx	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.
jnxMbgPgwVOGlbUpdPdpCxtRspRx	Number of GTP V0 Update PDP Context Responses Received.
jnxMbgPgwVOGlbUpdPdpCxtRspTx	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.
jnxMbgPgwVOGlbDelPdpCxtRspRx	Number of GTP V0 Delete PDP Context Responses Received.
jnxMbgPgwVOGlbDelPdpCxtRspTx	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.
jnxMbgPgwVOGlbCrtAAPdpCxtRspRx	Number of GTP V0 Create AA PDP Context Responses Received.
jnxMbgPgwVOGlbCrtAAPdpCxtRspTx	Number of GTP V0 Create AA PDP Context Responses Sent.
jnxMbgPgwVOGlbDelAAPdpCxtReqRx	Number of GTP V0 Delete AA PDP Context Requests Received.

Table 19: jnxMbgPgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwVOGlbDelAAPdpCxtReqTx	Number of GTP V0 Delete AA PDP Context Requests Sent.
jnxMbgPgwVOGlbDelAAPdpCxtRspRx	Number of GTP V0 Delete AA PDP Context Responses Received.
jnxMbgPgwVOGlbDelAAPdpCxtRspTx	Number of GTP V0 Delete AA PDP Context Responses Sent.
jnxMbgPgwVOGlbErrorIndRx	Number of GTP V0 Error Indication messages Received.
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.
jnxMbgPgwVOGlbNotifRspRx	Number of GTP V0 Notify Responses Received.
jnxMbgPgwVOGlbNotifRspTx	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.
jnxMbgPgwVOGlbNotifRejRspRx	Number of GTP V0 Notify Reject Responses Received.
jnxMbgPgwVOGlbNotifRejRspTx	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.
jnxMbgPgwVOGlbRtInfRspRx	Number of GTP V0 Routing Information Responses Received.
jnxMbgPgwVOGlbRtInfRspTx	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.
jnxMbgPgwVOGlbFailRptRspRx	Number of GTP V0 Fail Repeat Responses Received.
jnxMbgPgwVOGlbFailRptRspTx	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.
jnxMbgPgwVOGlbNotMSPresRspRx	Number of GTP V0 MS Not Present Responses Received.
jnxMbgPgwVOGlbNotMSPresRspTx	Number of GTP V0 MS Not Present Responses Sent.

GTP Global V0 Success/Failure Statistics

Table 20 on page 55 shows the statistics for `jnxMbgPgwGtpCGlbStatsTable`, which show GTP global V0 success/failure statistics.

Table 20: jnxMbgPgwGtpCGlbStatsTable Statistics

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

Table 20: jnxMbgPgwpGtpCGlbStatsTable Statistics (*continued*)

jnxMbgPgwpVOICsManIEIncrTx	Number of GTP V0 packets sent with cause Mandatory IE incorrect.
jnxMbgPgwpVOICsManIEMissRx	Number of GTP V0 packets received with cause Mandatory IE Missing.
jnxMbgPgwpVOICsManIEMissTx	Number of GTP V0 packets sent with cause Mandatory IE Missing.
jnxMbgPgwpVOICsOptIEIncrTx	Number of GTP V0 packets received with cause Optional IE incorrect.
jnxMbgPgwpVOICsOptIEIncrTx	Number of GTP V0 packets sent with cause Optional IE incorrect.
jnxMbgPgwpVOICsSysFailRx	Number of GTP V0 packets received with cause System Failure.
jnxMbgPgwpVOICsSysFailTx	Number of GTP V0 packets sent with cause System Failure.
jnxMbgPgwpVOICsRoamRestrictRx	Number of GTP V0 packets received with cause Roaming Restricted.
jnxMbgPgwpVOICsRoamRestrictTx	Number of GTP V0 packets sent with cause Roaming Restricted.
jnxMbgPgwpVOICsPTMSISigMMRx	Number of GTP V0 packets received with cause PTMSI Signature Mismatch.
jnxMbgPgwpVOICsPTMSISigMMTx	Number of GTP V0 packets sent with cause PTMSI Signature Mismatch.
jnxMbgPgwpVOICsGPRSConnSuppRx	Number of GTP V0 packets received with cause GPRS Connection Supported.
jnxMbgPgwpVOICsGPRSConnSuppTx	Number of GTP V0 packets sent with cause GPRS Connection Supported.
jnxMbgPgwpVOICsAuthFailRx	Number of GTP V0 packets received with cause Auth Failure.
jnxMbgPgwpVOICsAuthFailTx	Number of GTP V0 packets sent with cause Auth Failure.
jnxMbgPgwpVOICsUserAuthFailRx	Number of GTP V0 packets received with cause User Auth Failure.
jnxMbgPgwpVOICsUserAuthFailTx	Number of GTP V0 packets sent with cause User Auth Failure.

Subscriber Manager Performance Statistics for GGSSN/PGW

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

- [MIB Structure on page 56](#)
- [Gateway-Level Statistics for GGSN/PDN Gateway on page 57](#)
- [APN-Based Statistics on page 58](#)

MIB Structure

The root node for the module is **jnxMbgPgwpSubscriberManagerMib** which is a child of: **jnxMobileGatewayPgwpGgsn**. The **jnxMobileGatewayPgwpGgsn** is defined in Juniper-SMI.

Gateway-Level Statistics for GGSN/PDN Gateway

Table 21 on page 57 shows the leaf nodes of the type `jnxMbgPgwSMOperStatsTable`, which are indexed by each GGSN or PDN Gateway.

Table 21: jnxMbgPgwSMOperStatsTable Statistics

Name	Description
<code>jnxMbgPgwSessnEstAttmps</code>	Total Session establishment attempts.
<code>jnxMbgPgwSuccSessnEst</code>	Total Sessions established successfully.
<code>jnxMbgPgwPeerInitDeactv</code>	Total MS/peer initiated session deactivation attempts.
<code>jnxMbgPgwPeerInitSuccDeactv</code>	Total MS/peer initiated successful session deactivations.
<code>jnxMbgPgwGwInitDeactv</code>	Total Gateway initiated session deactivation attempts.
<code>jnxMbgPgwGwInitSuccDeactv</code>	Total Gateway initiated successful session deactivations.
<code>jnxMbgPgwGtpStatsGnS5S8InpPkt</code>	Total GTP statistics (Gn/S5/S8) Input packets.
<code>jnxMbgPgwGtpStatsGnS5S8InpByt</code>	Total GTP statistics (Gn/S5/S8) Input bytes.
<code>jnxMbgPgwGtpStatsGnS5S8OutPkt</code>	Total GTP statistics (Gn/S5/S8) Output packets.
<code>jnxMbgPgwGtpStatsGnS5S8OutByt</code>	Total GTP statistics (Gn/S5/S8) Output bytes.
<code>jnxMbgPgwGtpStatsGiInpPkt</code>	Total GTP statistics Gi Input packets.
<code>jnxMbgPgwGtpStatsGiInpByt</code>	Total GTP statistics Gi Input bytes.
<code>jnxMbgPgwGtpStatsGiOutPkt</code>	Total GTP statistics Gi Output packets.
<code>jnxMbgPgwGtpStatsGiOutByt</code>	Total GTP statistics Gi Output bytes.

Table 22 on page 57 shows the leaf nodes of the type `jnxMbgPgwSMStatusTable`, which are indexed by each GGSN or PDN Gateway.

Table 22: jnxMbgPgwSMStatusTable Statistics

Name	Description
<code>jnxMbgPgwActvSubscribers</code>	Total active subscribers.
<code>jnxMbgPgwActvSessions</code>	Total active sessions.
<code>jnxMbgPgwActvBearers</code>	Total active bearers.
<code>jnxMbgPgwIdleSubscribers</code>	Total idle subscribers.

Table 22: jnxMbgPgwSMStatusTable Statistics (*continued*)

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

APN-Based Statistics

Table 23 on page 58 shows the leaf nodes of the type **jnxMbgPgwApnSMStatsTable**, which are indexed by each APN configured on the GGSN or PDN Gateway.

Table 23: jnxMbgPgwApnSMStatsTable Statistics

Name	Description
jnxMbgPgwApnName	A string that uniquely identifies the APN.
jnxMbgPgwSessnEstAttempts	Total Session establishment attempts made.
jnxMbgPgwApnSuccSessnEst	Total Sessions established successfully.
jnxMbgPgwApnPeerInitDeactv	Total MS/peer initiated session deactivation attempts.
jnxMbgPgwApnPeerInitSuccDeactv	Total MS/peer initiated successful session deactivations.
jnxMbgPgwApnGwInitDeactv	Total Gateway initiated session deactivation attempts.
jnxMbgPgwApnGwInitSuccDeactv	Total Gateway initiated successful session deactivations.
jnxMbgPgwApnGtpStatsGnS5S8InpPkt	Total GTP statistics (Gn/S5/S8) Input packets.
jnxMbgPgwApnGtpStatsGnS5S8InpByt	Total GTP statistics (Gn/S5/S8) Input bytes.
jnxMbgPgwApnGtpStatsGnS5S8OutPkt	Total GTP statistics (Gn/S5/S8) Output packets.
jnxMbgPgwApnGtpStatsGnS5S8OutByt	Total GTP statistics (Gn/S5/S8) Output bytes.
jnxMbgPgwApnGtpStatsGiInpPkt	Total GTP statistics Gi Input packets.
jnxMbgPgwApnGtpStatsGiInpByt	Total GTP statistics Gi Input bytes.

Table 23: jnxMbgPgwApnSMStatsTable Statistics (*continued*)

jnxMbgPgwApnGtpStatsGiOutPkt	Total GTP statistics Gi Output packets.
jnxMbgPgwApnGtpStatsGiOutByt	Total GTP statistics Gi Output bytes.
jnxMbgPgwApnSessnFailSrvcUnaval	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.

Table 24 on page 59 shows the leaf nodes of the type **jnxMbgPgwSMStatusTable**, which are indexed by each APN configured on the GGSN or PDN Gateway.

Table 24: jnxMbgPgwSMStatusTable Statistics

Name	Description
jnxMbgPgwActvSubscribers	Total active subscribers at the gateway level.
jnxMbgPgwActvSessions	Total active sessions at the gateway level.
jnxMbgPgwActvBearers	Total active bearers at the gateway level.
jnxMbgPgwIdleSubscribers	Total idle subscribers at the gateway level.
jnxMbgPgwIdleSessions	Total idle sessions at the gateway level.
jnxMbgPgwIdleBearers	Total idle bearers at the gateway level.
jnxMbgPgwSuspSubscribers	Total suspended subscribers at the gateway level.
jnxMbgPgwSuspSessions	Total suspended sessions at the gateway level.
jnxMbgPgwSuspBearers	Total suspended bearers at the gateway level.
jnxMbgPgwCPUUtil	Current CPU usage at the gateway level.
jnxMbgPgwMemoryUtil	Current Memory usage at the gateway level.

Table 25 on page 60 shows the leaf nodes of the type `jnxMbgPgwApnSMStatusTable`, which are indexed by each APN configured on the GGSN or PDN Gateway.

Table 25: jnxMbgPgwApnSMStatusTable Statistics

Name	Description
<code>jnxMbgPgwApnActvSubscribers</code>	Total active subscribers at the APN level.
<code>jnxMbgPgwApnActvSessions</code>	Total active sessions at the APN level.
<code>jnxMbgPgwApnActvBearers</code>	Total active bearers at the APN level.

Related •
Documentation

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 60](#)
- [Charging Group Statistics on page 60](#)
- [Charging Gateway Statistics on page 61](#)
- [Charging Local Storage Statistics on page 63](#)
- [\[xref target has no title\]](#)
- [\[xref target has no title\]](#)

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 PDN gateways in 3GPP LTE network and the Gateway GPRS Support Node (GGSN) in the 3GPP 3G Network. The `jnxMobileGatewayPgwGgsn` is defined in Juniper-SMI.

Charging Group Statistics

Table 26 on page 60 shows the leaf nodes of the type `jnxMbgPgwCgCgfGroupsStatsTable`, which are indexed by each gateway and list the statistics for all Charging Gateway Function (CGF) Groups configured on the P-GW.

Table 26: jnxMbgPgwCgCgfGroupsStatsTable Statistics

Name	Description
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Table 26: jnxMbgPgwCgCgfGroupsStatsTable Statistics (*continued*)

jnxMbgPgwCgCgfGrpProfName	A string that uniquely identifies the CGF group profile.
jnxMbgPgwCgCgfGrpDRTReqTx	Total number of the Detailed Record Time (DRT) requests transmitted for the CGF group.
jnxMbgPgwCgCgfGrpDRTReqRx	Total number of the DRT requests received for the CGF group.
jnxMbgPgwCgCgfGrpDRTReqTmout	Total number of the DRT request timeouts that happened for the CGF group.
jnxMbgPgwCgCgfGrpDRTSucRspRx	Total number of the DRT success responses received.
jnxMbgPgwCgCgfGrpDRTErrRspRx	Total number of the DRT error responses received for the CGF group.
jnxMbgPgwCgCgfGrpRediReqRx	Total number of the redirection responses received for the CGF group.
jnxMbgPgwCgCgfGrpRediRspTx	Total number of the redirection responses transmitted for the CGF group.
jnxMbgPgwCgCgfGrpSwitchovers	Total number of the switch overs on the CGF group.
jnxMbgPgwCgCgfGrpBatchReqTx	Total number of the batch requests transmitted for the CGF group.
jnxMbgPgwCgCgfGrpBatchRspErrors	Total number of the batch response errors for the CGF group.
jnxMbgPgwCgCgfGrpBatchCDRsTx	Total number of the batch Call Data Records (CDRs) transmitted for the CGF group.
jnxMbgPgwCgCgfGroupTotalWFA	Total WFA available for the CGF group.

Charging Gateway Statistics

Table 27 on page 61 shows the leaf nodes of the type **jnxMbgPgwCgCgfStats**, which list the statistics for all Charging Gateway Functions configured on the P-GW.

Table 27: jnxMbgPgwCgCgfStats Statistics

Name	Description
jnxMbgPgwCgCgfProfName	A string that uniquely identifies the CGF Profile.
jnxMbgPgwCgCgfIndex	A number representing each CGF Server whose statistics is being generated.
jnxMbgPgwCgCgfIpAddress	CGF Server IP-address.
jnxMbgPgwCgCgfStatus	This indicates the state of the CGF Server, either UP or DOWN.
jnxMbgPgwCgCgfUpDuration	Total duration in minutes for which the CGF Server was in UP State.
jnxMbgPgwCgCgfDownDuration	Total duration in minutes for which the CGF Server was in DOWN State.

Table 27: jnxMbgPgwCgCgfStats Statistics (*continued*)

jnxMbgPgwCgCgfEchoReqTx	Total number of Echo Requests transmitted to the CGF Server.
jnxMbgPgwCgCgfEchoReqRx	Total number of Echo Requests received from the CGF Server.
jnxMbgPgwCgCgfEchoReqTmout	Total number of Echo Requests to the CGF Server that timed out.
jnxMbgPgwCgCgfEchoRespTx	Total number of Echo Responses transmitted to the CGF Server.
jnxMbgPgwCgCgfEchoRespRx	Total number of Echo Responses received from the CGF Server.
jnxMbgPgwCgCgfVerUnsuppTx	Total number of Version Unsupported messages transmitted to the CGF Server.
jnxMbgPgwCgCgfVerUnsuppRx	Total number of Version Unsupported messages received from the CGF Server.
jnxMbgPgwCgCgfNodeAliveReqTx	Total number of Node Alive Requests transmitted to the CGF Server.
jnxMbgPgwCgCgfNodeAliveReqRx	Total number of Node Alive Requests received from the CGF Server.
jnxMbgPgwCgCgfNodeAliveReqTmout	Total number of Node Alive Requests to the CGF Server that timed out.
jnxMbgPgwCgCgfNodeAliveRespTx	Total number of Node Alive Responses transmitted to the CGF Server.
jnxMbgPgwCgCgfNodeAliveRespRx	Total number of Node Alive Responses received from the CGF Server.
jnxMbgPgwCgCgfRedirectReqRx	Total number of Redirect Requests received from the CGF Server.
jnxMbgPgwCgCgfRedirectRespTx	Total number of Redirect Responses transmitted to the CGF Server.
jnxMbgPgwCgCgfDRTReqTx	Total number of Data Record Transfer Requests transmitted to the CGF Server. This includes the retransmission counts also.
jnxMbgPgwCgCgfDRTReqTmout	Total number of Data Record Transfer Requests to the CGF Server that timed out after the configured number of retries.
jnxMbgPgwCgCgfDRTSuccRespRx	Total number of Data Record Transfer Responses indicating success received from the CGF Server.
jnxMbgPgwCgCgfDRTErrRespRx	Total number of Data Record Transfer Responses indicating error received from the CGF Server.
jnxMbgPgwCgCgfCdrTx	Total number of Call Data Records (CDRs) transmitted to the CGF Server.
jnxMbgPgwCgCgfDRTRTTMean	Mean Round Trip Time of the Data Record Transfer Request and Response to and from the CGF Server in seconds. This 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 which are connected via UDP protocol.
jnxMbgPgwCgCgfDRTRTTMin	Minimum Round Trip Time of the Data Record Transfer Request and Response to and from the CGF Server in seconds. This is applicable for CGF Servers which are connected via UDP protocol.

Table 27: jnxMbgPgwCgCgfStats Statistics (*continued*)

jnxMbgPgwCgCgfDRTTTMax	Maximum Round Trip Time of the Data Record Transfer Request and Response to and from the CGF Server in seconds. This is applicable for CGF Servers which are connected via UDP protocol.
jnxMbgPgwCgCgfTransToDownState	Total number of transitions of the CGF Server to the DOWN state.
jnxMbgPgwCgCgfContainers	Total number of closed containers to the CGF Server.

Charging Local Storage Statistics

Table 28 on page 63 shows the leaf nodes of the type **jnxMbgPgwCgLpsStatsTable**, which list statistics for all Local persistent storage statistics configured on the P-GW.

Table 28: jnxMbgPgwCgLpsStatsTable Statistics

Name	Description
jnxMbgPgwCgLpsFilesOnLcStorage	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. Decmented when sftp is done and a file is removed from the Local storage device.
jnxMbgPgwCgLpsStorageAvailSpace	The space available on the Local Storage Device in MB.

Table 29 on page 63 shows the leaf nodes of the type **jnxMbgPgwCgTspStatsTable**, which list the statistics for all Charging Gateway Function Groups configured on the P-GW.

Table 29: jnxMbgPgwCgTspStatsTable

Name	Description
jnxMbgPgwCgTspProfId	This will identify the CGF Group profile id uniquely and used as secondary key for CGF group table.
jnxMbgPgwCgTspDRTReqTx	Total number of the DRT (Detailed Record Time) request transmitted for the CGF group.
jnxMbgPgwCgTspDRTReqTmout	Total number of the DRT request timeouts happened for the CGF group.
jnxMbgPgwCgTspDRTSucRspRx	Total number of the DRT success responses received.
jnxMbgPgwCgTspDRTErrRspRx	Total number of the DRT error responses received for the CGF group.
jnxMbgPgwCgTspRediReqRx	Total number of the redirection responses received for the CGF group.
jnxMbgPgwCgTspRediRspTx	Total number of the redirection responses transmitted for the CGF group.
jnxMbgPgwCgTspSwitchovers	Total number of the switch overs on the CGF group.
jnxMbgPgwCgTspBatchReqTx	Total number of the batch req transmitted for the CGF group.

Table 29: jnxMbgPgwCgTspStatsTable (*continued*)

jnxMbgPgwCgTspBatchRspErrors	Total number of the batch response errors for the CGF group.
jnxMbgPgwCgTspBatchCDRsTx	Total number of the batch CDRs transmitted for the CGF group.
jnxMbgPgwCgTspTotalWFA	Total WFA available for the CGF group.
jnxMbgPgwCgTspProfName	A string that uniquely identifies the TSP Profile.

Table 30 on page 64 shows the leaf nodes of the type **jnxMbgPgwCgPeerStatsTable**, which list statistics for all Charging Gateway Functions configured on the P-GW.

Table 30: jnxMbgPgwCgPeerStatsTable

Name	Description
jnxMbgPgwCgPeerIndex	A number representing each CGF Server whose statistics is being generated.
jnxMbgPgwCgPeerIpAddress	CGF Server IP-address.
jnxMbgPgwCgPeerStatus	This indicates the state of the CGF Server i.e 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 also.

Table 30: jnxMbgPgwCgPeerStatsTable (*continued*)

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.
jnxMbgPgwCgPeerProfileName	A string that uniquely identifies the CGF Peer Profile.

Related •
Documentation

IP Address Pool Management Statistics

The IP Pool Management Module manages the IP address pools for each APN configured on the GGSN-PGW.

- [IP Pool MIB STRUCTURE on page 65](#)
- [IP Address Pool Statistics on page 65](#)
- [IP Address Pool Range Statistics on page 66](#)

IP Pool MIB STRUCTURE

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

IP Address Pool Statistics

[Table 31 on page 65](#) shows the leaf nodes of the type `jnxMbgIPPoolTable`, which are indexed by logical system, routing instance and IP pool name.

Table 31: IP Address Pool Statistics

Name	Description
jnxMbgIPPoolId	A Pool Id which identifies a pool on the mobile-gateway.
jnxMbgIPPoolLogicalSystem	A name which identifies the logical-system to which the address pool belongs on the mobile gateway.
jnxMbgIPPoolRoutingInstance	A name which identifies the routing instance to which the address pool belongs on the mobile gateway.
jnxMbgIPPoolName	A name which 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.

Table 31: IP Address Pool Statistics (*continued*)

jnxMbgIPPoolUtil	Percentage utilization for this pool.
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IP Address Pool Range Statistics

Table 54 on page 106 shows the leaf nodes of the type **jnxMbgIPPoolTable**, which are indexed by logical system, routing instance, IP pool name, and pool range name. Table 54 on page 106 contains information about local address pools only.

Table 32: 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-PGW

The Resource Manager Module manages Resource Manager clients on the GGSN-PGW.

- [Resource Manager MIB STRUCTURE on page 66](#)
- [GTP Peer Statistics on page 66](#)

Resource Manager MIB STRUCTURE

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

GTP Peer Statistics

Table 33: 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.

CHAPTER 3

Serving Gateway Statistics

- [GTP Management Performance Statistics for Serving Gateway on page 67](#)
- [Subscriber Manager Performance Statistics for the Serving Gateway on page 82](#)
- [Charging Performance Statistics for Serving Gateway on page 84](#)

GTP Management Performance Statistics for Serving Gateway

GTP is the primary protocol used in a 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 SGSN/S-GW to a GGSN/P-GW across well defined 3GPP service interfaces such as Gn/S5.

- [GTP MIB STRUCTURE on page 67](#)
- [GTP Peer Version 2 Operational Statistics on page 67](#)
- [GTP Peer Version 2 Success/Failure Statistics on page 71](#)
- [GTP Global Version 2 Operational Statistics on page 75](#)
- [GTP Global Version 2 Success/Failure Statistics on page 78](#)

GTP MIB STRUCTURE

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

GTP Peer Version 2 Operational Statistics

[Table 34 on page 67](#) shows the statistics for **jnxMbgSgwGtpCPerPeerStatsTable**, which show GTP peer version 2 operational statistics.

Table 34: jnxMbgSgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgSgwPPGtpRmtAddr	The Remote IP address of this GTP peer entry.
jnxMbgSgwPPGtpLclAddr	The Local IP address of this GTP peer entry.
jnxMbgSgwPPGtpRtgInst	The Routing Instance for this Peer.

Table 34: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPRxPacketsDropped	Number of Received Packets Dropped.
jnxMbgSgwPPPacketAllocFail	Number of Packet allocation failures.
jnxMbgSgwPPPacketSendFail	Number of Packet Send failures.
jnxMbgSgwPPIPVerErrRx	Number of IP Version Error Packets Received.
jnxMbgSgwPPIPProtoErrRx	Number of IP Protocol Error packets Received.
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 GTP V2 T3 timer expiries Received.
jnxMbgSgwPPV2NumMsgRx	Number of GTPv2 messages received.
jnxMbgSgwPPV2NumMsgTx	Number of GTP V2 messages sent.
jnxMbgSgwPPV2NumBytesRx	Number of GTPv2 bytes received.
jnxMbgSgwPPV2NumBytesTx	Number of GTP V2 bytes sent.
jnxMbgSgwPPV2EchoReqRx	Number of GTP V2 Echo Request received.
jnxMbgSgwPPV2EchoReqTx	Number of GTP V2 Echo Request Sent.
jnxMbgSgwPPV2EchoRespRx	Number of GTP V2 Echo Response received.
jnxMbgSgwPPV2EchoRespTx	Number of GTP V2 Echo Response Sent.
jnxMbgSgwPPV2VerNotSupRx	Number of GTP V2 Version Not supported messages received
jnxMbgSgwPPV2VerNotSupTx	Number of GTP V2 Number of version not supported messages sent.
jnxMbgSgwPPCreateSessReqRx	Number of GTP V2 Create Session Requests received.
jnxMbgSgwPPCreateSessReqTx	Number of GTP V2 Create Session Requests Sent.
jnxMbgSgwPPCreateSessRspRx	Number of GTP V2 Create Session Responses received.

Table 34: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPCreateSessRspTx	Number of GTP V2 Create Session Responses Sent.
jnxMbgSgwPPModBrReqRx	Number of GTP V2 Modify Bearer Requests received.
jnxMbgSgwPPModBrReqTx	Number of GTP V2 Modify Bearer Requests Sent.
jnxMbgSgwPPModBrRspRx	Number of GTP V2 Modify Bearer Responses received.
jnxMbgSgwPPModBrRspTx	Number of GTP V2 Modify Bearer Responses Sent.
jnxMbgSgwPPDelSessReqRx	Number of GTP V2 Delete Session Requests received.
jnxMbgSgwPPDelSessReqTx	Number of GTP V2 Delete Session Requests Sent.
jnxMbgSgwPPDelSessRspRx	Number of GTP V2 Delete Session Responses received.
jnxMbgSgwPPDelSessRspTx	Number of GTP V2 Delete Session Responses Sent.
jnxMbgSgwPPCrtBrReqRx	Number of GTP V2 Create Bearer Requests received.
jnxMbgSgwPPCrtBrReqTx	Number of GTP V2 Create Bearer Requests Sent.
jnxMbgSgwPPCrtBrRspRx	Number of GTP V2 Create Bearer Response received.
jnxMbgSgwPPCrtBrRspTx	Number of GTP V2 Create Bearer Response Sent.
jnxMbgSgwPPUpdBrReqRx	Number of GTP V2 Update Bearer Request received.
jnxMbgSgwPPUpdBrReqTx	Number of GTP V2 Update Bearer Request Sent.
jnxMbgSgwPPUpdBrRspRx	Number of GTP V2 Update Bearer Response received.
jnxMbgSgwPPUpdBrRspTx	Number of GTP V2 Update Bearer Response Sent.
jnxMbgSgwPPDelBrReqRx	Number of GTP V2 Delete Bearer Request received.
jnxMbgSgwPPDelBrReqTx	Number of GTP V2 Delete Bearer Request Sent.
jnxMbgSgwPPDelBrRspRx	Number of GTP V2 Delete Bearer Response received.
jnxMbgSgwPPDelBrRspTx	Number of GTP V2 Delete Bearer Response Sent.
jnxMbgSgwPPDelConnSetReqRx	Number of GTP V2 Delete PDN connection set Request received.
jnxMbgSgwPPDelConnSetReqTx	Number of GTP V2 Delete PDN connection set Request Sent.
jnxMbgSgwPPDelConnSetRspRx	Number of GTP V2 Delete PDN connection set Response received.
jnxMbgSgwPPDelConnSetRspTx	Number of GTP V2 Delete PDN connection set Response Sent.

Table 34: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPUpdConnSetReqRx	Number of GTP V2 Update Connection set Request received.
jnxMbgSgwPPUpdConnSetReqTx	Number of GTP V2 Update Connection set Request Sent.
jnxMbgSgwPPUpdConnSetRespRx	Number of GTP V2 Update Connection set Response received.
jnxMbgSgwPPUpdConnSetRespTx	Number of GTP V2 Update Connection set Response Sent.
jnxMbgSgwPPModBrCmdRx	Number of GTP V2 Modify Bearer Command received.
jnxMbgSgwPPModBrCmdTx	Number of GTP V2 Modify Bearer Command Sent.
jnxMbgSgwPPModBrFlrIndRx	Number of GTP V2 Modify Bearer Failure received.
jnxMbgSgwPPModBrFlrIndTx	Number of GTP V2 Modify Bearer Failure Sent.
jnxMbgSgwPPDelBrCmdRx	Number of GTP V2 Delete Bearer Command received.
jnxMbgSgwPPDelBrCmdTx	Number of GTP V2 Delete Bearer Command Sent.
jnxMbgSgwPPDelBrFlrIndRx	Number of GTP V2 Delete Bearer Failure received.
jnxMbgSgwPPDelBrFlrIndTx	Number of GTP V2 Delete Bearer Failure Sent.
jnxMbgSgwPPBrResCmdRx	Number of GTP V2 Bearer Response Command received.
jnxMbgSgwPPBrResCmdTx	Number of GTP V2 Bearer Response Command Sent.
jnxMbgSgwPPBrResFlrIndRx	Number of GTP V2 Bearer Resource Failure received.
jnxMbgSgwPPBrResFlrIndTx	Number of GTP V2 Bearer Resource Failure Sent.
jnxMbgSgwPPRelAcsBrReqRx	Number of GTP V2 Release Access Bearer Requests received.
jnxMbgSgwPPRelAcsBrReqTx	Number of GTP V2 Release Access Bearer Requests sent.
jnxMbgSgwPPRelAcsBrRespRx	Number of GTP V2 Release Access Bearer Response received.
jnxMbgSgwPPRelAcsBrRespTx	Number of GTP V2 Release Access Bearer Response sent.
jnxMbgSgwPPCrIndTunReqRx	Number of GTP V2 Create Indirect Tunnel Forward Request Received
jnxMbgSgwPPCrIndTunReqTx	Number of GTP V2 Create Indirect Tunnel Forward Request sent
jnxMbgSgwPPCrIndTunRespRx	Number of GTP V2 Create Indirect Tunnel Forward Response Received
jnxMbgSgwPPCrIndTunRespTx	Number of GTP V2 Create Indirect Tunnel Forward Response sent
jnxMbgSgwPPDelIndTunReqRx	Number of GTP V2 Delete Indirect Tunnel Forward Request Received

Table 34: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPDelIndTunReqTx	Number of GTP V2 Delete Indirect Tunnel Forward Request sent.
jnxMbgSgwPPDelIndTunRespRx	Number of GTP V2 Delete Indirect Tunnel Forward Response Received
jnxMbgSgwPPDelIndTunRespTx	Number of GTP V2 Delete Indirect Tunnel Forward Response sent.
jnxMbgSgwPPDlDataNotifRx	Number of GTP V2 Downlink Data Notify received.
jnxMbgSgwPPDlDataNotifTx	Number of GTP V2 Downlink Data Notify Sent.
jnxMbgSgwPPDlDataAckRx	Number of GTP V2 Downlink Data Notify Acknowledgement received.
jnxMbgSgwPPDlDataAckTx	Number of GTP V2 Downlink Data Notify Acknowledgement Sent.
jnxMbgSgwPPDlDataNotifFlrIndRx	Number of GTP V2 Downlink Data Notification fail received.
jnxMbgSgwPPDlDataNotifFlrIndTx	Number of GTP V2 Downlink Data Notification fail Sent.
jnxMbgSgwPPStopPagingIndRx	Number of GTP V2 Number of Stop Paging Indication Messages Received.
jnxMbgSgwPPStopPagingIndTx	Number of GTP V2 Number of Stop Paging Indication messages sent

GTP Peer Version 2 Success/Failure Statistics

Table 35 on page 71 shows the statistics for **jnxMbgSgwGtpCPerPeerStatsTable**, which show GTP peer version 2 success/failure statistics.

Table 35: jnxMbgSgwGtpCPerPeerStatsTable Statistics

Name	Description
jnxMbgSgwPPGtpV2ICsPageRx	Number of GTP V2 packets received with cause Page.
jnxMbgSgwPPGtpV2ICsPageTx	Number of GTP packets sent with cause Page.
jnxMbgSgwPPGtpV2ICsReqAcceptRx	Number of GTP V2 packets received with cause Request Accept.
jnxMbgSgwPPGtpV2ICsReqAcceptTx	Number of GTP packets sent with cause Request Accept.
jnxMbgSgwPPGtpV2ICsAcceptPartRx	Number of GTP V2 packets received with cause Accept Partial.
jnxMbgSgwPPGtpV2ICsAcceptPartTx	Number of GTP packets sent with cause Accept Partial.
jnxMbgSgwPPGtpV2ICsNewPTNPrefRx	Number of GTP V2 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.

Table 35: jnxMbgSgwPPGtpV2ICsNPTSIAdbrStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsNPTSIAdbrRx	Number of GTP V2 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 GTP V2 packets received with cause Context not found.
jnxMbgSgwPPGtpV2ICsCtxNotFndTx	Number of GTP packets sent with cause Context not found.
jnxMbgSgwPPGtpV2ICsInvMsgFmtRx	Number of GTP V2 packets received with cause Invalid Message Format.
jnxMbgSgwPPGtpV2ICsInvMsgFmtTx	Number of GTP packets sent with cause Invalid Message Format.
jnxMbgSgwPPGtpV2ICsVerNotSuppRx	Number of GTP V2 packets received with cause Version not Supported.
jnxMbgSgwPPGtpV2ICsVerNotSuppTx	Number of GTP packets sent with cause Version not Supported.
jnxMbgSgwPPGtpV2ICsInvLenRx	Number of GTP V2 packets received with cause Invalid Length.
jnxMbgSgwPPGtpV2ICsInvLenTx	Number of GTP packets sent with cause Invalid Length.
jnxMbgSgwPPGtpV2ICsServNotSupRx	Number of GTP V2 packets received with cause Service Not supported.
jnxMbgSgwPPGtpV2ICsServNotSupTx	Number of GTP packets sent with cause Service Not supported.
jnxMbgSgwPPGtpV2ICsManIEIncorRx	Number of GTP V2 packets received with cause Mandatory IE incorrect.
jnxMbgSgwPPGtpV2ICsManIEIncorTx	Number of GTP packets sent with cause Mandatory IE incorrect.
jnxMbgSgwPPGtpV2ICsManIEMissRx	Number of GTP V2 packets received with cause Mandatory IE Missing.
jnxMbgSgwPPGtpV2ICsManIEMissTx	Number of GTP packets sent with cause Mandatory IE Missing.
jnxMbgSgwPPGtpV2ICsOptIEIncorRx	Number of GTP V2 packets received with cause Optional IE Incorrect.
jnxMbgSgwPPGtpV2ICsOptIEIncorTx	Number of GTP packets sent with cause Optional IE Incorrect.
jnxMbgSgwPPGtpV2ICsSysFailRx	Number of GTP V2 packets received with cause System Failure.
jnxMbgSgwPPGtpV2ICsSysFailTx	Number of GTP packets sent with cause System Failure.
jnxMbgSgwPPGtpV2ICsNoResRx	Number of GTP V2 packets received with cause No Resource.
jnxMbgSgwPPGtpV2ICsNoResTx	Number of GTP packets sent with cause No Resource.
jnxMbgSgwPPGtpV2ICsTFTSMANterRx	Number of GTP V2 packets received with cause TFT Symantic Error.
jnxMbgSgwPPGtpV2ICsTFTSMANterTx	Number of GTP packets sent with cause TFT Symantic Error.

Table 35: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsTFTSysErrRx	Number of GTP V2 packets received with cause TFT System Error.
jnxMbgSgwPPGtpV2ICsTFTSysErrTx	Number of GTP packets sent with cause TFT System Error.
jnxMbgSgwPPGtpV2ICsPkFltManErrRx	Number of GTP V2 packets received with cause Packet Filter Symantic Error.
jnxMbgSgwPPGtpV2ICsPkFltManErrTx	Number of GTP packets sent with cause Packet Filter Symantic Error.
jnxMbgSgwPPGtpV2ICsPkFltSynErrRx	Number of GTP V2 packets received with cause Packet Filter Syntax Error.
jnxMbgSgwPPGtpV2ICsPkFltSynErrTx	Number of GTP packets sent with cause Packet Filter Syntax Error.
jnxMbgSgwPPGtpV2ICsMisUnknAPNRx	Number of GTP V2 packets received with cause Unknown APN.
jnxMbgSgwPPGtpV2ICsMisUnknAPNTx	Number of GTP packets sent with cause Unknown APN.
jnxMbgSgwPPGtpV2ICsUnexpRptIERx	Number of GTP V2 packets received with cause Unexpected Repeated IE.
jnxMbgSgwPPGtpV2ICsUnexpRptIETx	Number of GTP packets sent with cause Unexpected Repeated IE.
jnxMbgSgwPPGtpV2ICsGREKeyNtFDRx	Number of GTP V2 packets received with cause GRE Key Not Found.
jnxMbgSgwPPGtpV2ICsGREKeyNtFDTx	Number of GTP packets sent with cause GRE Key Not Found.
jnxMbgSgwPPGtpV2ICsRelocFailRx	Number of GTP V2 packets received with cause Relocation Failed.
jnxMbgSgwPPGtpV2ICsRelocFailTx	Number of GTP packets sent with cause Relocation Failed.
jnxMbgSgwPPGtpV2ICsDeniNRatRx	Number of GTP V2 packets received with cause Denied in RAT.
jnxMbgSgwPPGtpV2ICsDeniNRatTx	Number of GTP packets sent with cause Denied in RAT.
jnxMbgSgwPPGtpV2ICsPTNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.
jnxMbgSgwPPGtpV2ICsPTNotSuppTx	Number of GTP packets sent with cause PDN Type Not Supported.
jnxMbgSgwPPGtpV2ICsAllDynAdOcRx	Number of GTP V2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgSgwPPGtpV2ICsAllDynAdOcTx	Number of GTP packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgSgwPPGtpV2ICsNOTFTUECTXRx	Number of GTP V2 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 GTP V2 packets received with cause Protocol Not Supported.

Table 35: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsProtoNtSupTx	Number of GTP packets sent with cause Protocol Not Supported.
jnxMbgSgwPPGtpV2ICsUENotRespRx	Number of GTP V2 packets received with cause UE Not Responding.
jnxMbgSgwPPGtpV2ICsUENotRespTx	Number of GTP packets sent with cause UE Not Responding.
jnxMbgSgwPPGtpV2ICsUERefusesRx	Number of GTP V2 packets received with cause UE Refuses.
jnxMbgSgwPPGtpV2ICsUERefusesTx	Number of GTP packets sent with cause UE Refuses.
jnxMbgSgwPPGtpV2ICsServDeniedRx	Number of GTP V2 packets received with cause Service Denied.
jnxMbgSgwPPGtpV2ICsServDeniedTx	Number of GTP packets sent with cause Service Denied.
jnxMbgSgwPPGtpV2ICsUnabPageUERx	Number of GTP V2 packets received with cause Unable to Page UE.
jnxMbgSgwPPGtpV2ICsUnabPageUETx	Number of GTP packets sent with cause Unable to Page UE.
jnxMbgSgwPPGtpV2ICsNoMemRx	Number of GTP V2 packets received with cause No Memory.
jnxMbgSgwPPGtpV2ICsNoMemTx	Number of GTP packets sent with cause No Memory.
jnxMbgSgwPPGtpV2ICsUserAUTHFlRx	Number of GTP V2 packets received with cause User AUTH Failed.
jnxMbgSgwPPGtpV2ICsUserAUTHFlTx	Number of GTP packets sent with cause User AUTH Failed.
jnxMbgSgwPPGtpV2ICsAPNAcsDenRx	Number of GTP V2 packets received with cause APN Access Denied.
jnxMbgSgwPPGtpV2ICsAPNAcsDenTx	Number of GTP packets sent with cause APN Access Denied.
jnxMbgSgwPPGtpV2ICsReqRejRx	Number of GTP V2 packets received with cause Request Rejected.
jnxMbgSgwPPGtpV2ICsReqRejTx	Number of GTP packets sent with cause Request Rejected.
jnxMbgSgwPPGtpV2ICsPTMSISigMMRx	Number of GTP V2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgSgwPPGtpV2ICsPTMSISigMMTx	Number of GTP packets sent with cause P-TMSI Signature Mismatch.
jnxMbgSgwPPGtpV2ICsIMSINotKnRx	Number of GTP V2 packets received with cause IMSI Not Known.
jnxMbgSgwPPGtpV2ICsIMSINotKnTx	Number of GTP packets sent with cause IMSI Not Known.
jnxMbgSgwPPGtpV2ICsCondiEMsRx	Number of GTP V2 packets received with cause Conditional IE Missing.
jnxMbgSgwPPGtpV2ICsCondiEMsTx	Number of GTP packets sent with cause Conditional IE Missing.
jnxMbgSgwPPGtpV2ICsAPNResTincRx	Number of GTP V2 packets received with cause APN Restriction Type Incompatible.

Table 35: jnxMbgSgwGtpCPerPeerStatsTable Statistics (*continued*)

jnxMbgSgwPPGtpV2ICsAPNResTIncTx	Number of GTP packets sent with cause APN Restriction Type Incompatible.
jnxMbgSgwPPGtpV2ICsUnknownRx	Number of GTP V2 packets received with cause Unknown.
jnxMbgSgwPPGtpV2ICsUnknownTx	Number of GTP packets sent with cause Unknown.

GTP Global Version 2 Operational Statistics

Table 36 on page 75 shows the statistics for **jnxMbgSgwGtpCGlbStatsTable**, which show GTP global version 2 operational statistics.

Table 36: 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 GTP V2 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 GTP V2 Echo Request received.

Table 36: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwV2EchoReqTx	Number of GTP V2 Echo Request Sent.
jnxMbgSgwV2EchoRespRx	Number of GTP V2 Echo Response received.
jnxMbgSgwV2EchoRespTx	Number of GTP V2 Echo Response Sent.
jnxMbgSgwV2VerNotSupRx	Number of GTP V2 Version Not supported messages received
jnxMbgSgwV2VerNotSupTx	Number of GTP V2 version not supported messages sent.
jnxMbgSgwCreateSessReqRx	Number of GTP V2 Create Session Requests received.
jnxMbgSgwCreateSessReqTx	Number of GTP V2 Create Session Requests Sent.
jnxMbgSgwCreateSessRespRx	Number of GTP V2 Create Session Responses received.
jnxMbgSgwCreateSessRespTx	Number of GTP V2 Create Session Responses Sent.
jnxMbgSgwModBrReqRx	Number of GTP V2 Modify Bearer Requests received.
jnxMbgSgwModBrReqTx	Number of GTP V2 Modify Bearer Requests Sent.
jnxMbgSgwModBrRespRx	Number of GTP V2 Modify Bearer Responses received.
jnxMbgSgwModBrRespTx	Number of GTP V2 Modify Bearer Responses Sent.
jnxMbgSgwDelSessReqRx	Number of GTP V2 Delete Session Requests received.
jnxMbgSgwDelSessReqTx	Number of GTP V2 Delete Session Requests Sent.
jnxMbgSgwDelSessRespRx	Number of GTP V2 Delete Session Responses received.
jnxMbgSgwDelSessRespTx	Number of GTP V2 Delete Session Responses Sent.
jnxMbgSgwCrtBrReqRx	Number of GTP V2 Create Bearer Requests received.
jnxMbgSgwCrtBrReqTx	Number of GTP V2 Create Bearer Requests Sent.
jnxMbgSgwCrtBrRespRx	Number of GTP V2 Create Bearer Response received.
jnxMbgSgwCrtBrRespTx	Number of GTP V2 Create Bearer Response Sent.
jnxMbgSgwUpdBrReqRx	Number of GTP V2 Update Bearer Request received.
jnxMbgSgwUpdBrReqTx	Number of GTP V2 Update Bearer Request Sent.
jnxMbgSgwUpdBrRespRx	Number of GTP V2 Update Bearer Response received.
jnxMbgSgwUpdBrRespTx	Number of GTP V2 Update Bearer Response Sent.

Table 36: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwDelBrReqRx	Number of GTP V2 Delete Bearer Request received.
jnxMbgSgwDelBrReqTx	Number of GTP V2 Delete Bearer Request Sent.
jnxMbgSgwDelBrRespRx	Number of GTP V2 Delete Bearer Response received.
jnxMbgSgwDelBrRespTx	Number of GTP V2 Delete Bearer Response Sent.
jnxMbgSgwDelConnSetReqRx	Number of GTP V2 Delete PDN connection set Request received.
jnxMbgSgwDelConnSetReqTx	Number of GTP V2 Delete PDN connection set Request Sent.
jnxMbgSgwDelConnSetRespRx	Number of GTP V2 Delete PDN connection set Response received.
jnxMbgSgwDelConnSetRespTx	Number of GTP V2 Delete PDN connection set Response Sent.
jnxMbgSgwUpdConnSetReqRx	Number of GTP V2 Update Connection set Request received.
jnxMbgSgwUpdConnSetReqTx	Number of GTP V2 Update Connection set Request Sent.
jnxMbgSgwUpdConnSetRespRx	Number of GTP V2 Update Connection set Response received.
jnxMbgSgwUpdConnSetRespTx	Number of GTP V2 Update Connection set Response Sent.
jnxMbgSgwModBrCmdRx	Number of GTP V2 Modify Bearer Command received.
jnxMbgSgwModBrCmdTx	Number of GTP V2 Modify Bearer Command Sent.
jnxMbgSgwModBrFlrIndRx	Number of GTP V2 Modify Bearer Failure received.
jnxMbgSgwModBrFlrIndTx	Number of GTP V2 Modify Bearer Failure Sent.
jnxMbgSgwDelBrCmdRx	Number of GTP V2 Delete Bearer Command received.
jnxMbgSgwDelBrCmdTx	Number of GTP V2 Delete Bearer Command Sent.
jnxMbgSgwDelBrFlrIndRx	Number of GTP V2 Delete Bearer Failure received.
jnxMbgSgwDelBrFlrIndTx	Number of GTP V2 Delete Bearer Failure Sent.
jnxMbgSgwBrResCmdRx	Number of GTP V2 Bearer Response Command received.
jnxMbgSgwBrResCmdTx	Number of GTP V2 Bearer Response Command Sent.
jnxMbgSgwBrResFlrIndRx	Number of GTP V2 Bearer Resource Failure received.
jnxMbgSgwBrResFlrIndTx	Number of GTP V2 Bearer Resource Failure Sent.
jnxMbgSgwRelAcsBrReqRx	Number of GTP V2 Release Access Bearer Requests received.

Table 36: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwRelAcsBrReqTx	Number of GTP V2 Release Access Bearer Requests sent.
jnxMbgSgwRelAcsBrRespRx	Number of GTP V2 Release Access Bearer Response received.
jnxMbgSgwRelAcsBrRespTx	Number of GTP V2 Release Access Bearer Response sent.
jnxMbgSgwCrIndTunReqRx	Number of GTP V2 Create Indirect Tunnel Forward Request Received
jnxMbgSgwCrIndTunReqTx	Number of GTP V2 Create Indirect Tunnel Forward Request sent.
jnxMbgSgwCrIndTunRespRx	Number of GTP V2 Create Indirect Tunnel Forward Response Received.
jnxMbgSgwCrIndTunRespTx	Number of GTP V2 Create Indirect Tunnel Forward Response sent.
jnxMbgSgwDelIndTunReqRx	Number of GTP V2 Delete Indirect Tunnel Forward Request Received.
jnxMbgSgwDelIndTunReqTx	Number of GTP V2 Delete Indirect Tunnel Forward Request sent.
jnxMbgSgwDelIndTunRespRx	Number of GTP V2 Delete Indirect Tunnel Forward Response Received.
jnxMbgSgwDelIndTunRespTx	Number of GTP V2 Delete Indirect Tunnel Forward Response sent.
jnxMbgSgwDlDataNotifRx	Number of GTP V2 Downlink Data Notify received.
jnxMbgSgwDlDataNotifTx	Number of GTP V2 Downlink Data Notify Sent.
jnxMbgSgwDlDataAckRx	Number of GTP V2 Downlink Data Notify Acknowledgement received.
jnxMbgSgwDlDataAckTx	Number of GTP V2 Downlink Data Notify Acknowledgement Sent.
jnxMbgSgwDlDataNotiFlrIndRx	Number of GTP V2 Downlink Data Notification fail received.
jnxMbgSgwDlDataNotiFlrIndTx	Number of GTP V2 Downlink Data Notification fail Sent.
jnxMbgSgwStopPagingIndRx	Number of GTP V2 Number of Stop Paging Indication Messages Received.
jnxMbgSgwStopPagingIndTx	Number of GTP V2 Number of Stop Paging Indication messages sent.

GTP Global Version 2 Success/Failure Statistics

Table 37 on page 78 shows the statistics for **jnxMbgSgwGtpCGlbStatsTable**, which show GTP global version 2 success/failure statistics.

Table 37: jnxMbgSgwGtpCGlbStatsTable Statistics

Name	Description
jnxMbgSgwGtpV2ICsPageRx	Number of GTP V2 packets received with cause Page.

Table 37: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsPageTx	Number of GTP packets sent with cause Page.
jnxMbgSgwGtpV2ICsReqAcceptRx	Number of GTP V2 packets received with cause Request Accept.
jnxMbgSgwGtpV2ICsReqAcceptTx	Number of GTP packets sent with cause Request Accept.
jnxMbgSgwGtpV2ICsAcceptPartRx	Number of GTP V2 packets received with cause Accept Partial.
jnxMbgSgwGtpV2ICsAcceptPartTx	Number of GTP packets sent with cause Accept Partial.
jnxMbgSgwGtpV2ICsNewPTNPrefRx	Number of GTP V2 packets received with cause New PDN type due to Network Preference.
jnxMbgSgwGtpV2ICsNewPTNPrefTx	Number of GTP packets sent with cause New PDN type due to Network Preference.
jnxMbgSgwGtpV2ICsNewPTSIAdbrRx	Number of GTP V2 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 GTP V2 packets received with cause Context not found.
jnxMbgSgwGtpV2ICsCtxNotFndTx	Number of GTP packets sent with cause Context not found.
jnxMbgSgwGtpV2ICsInvMsgFmtRx	Number of GTP V2 packets received with cause Invalid Message Format.
jnxMbgSgwGtpV2ICsInvMsgFmtTx	Number of GTP packets sent with cause Invalid Message Format.
jnxMbgSgwGtpV2ICsVerNotSuppRx	Number of GTP V2 packets received with cause Version not Supported.
jnxMbgSgwGtpV2ICsVerNotSuppTx	Number of GTP packets sent with cause Version not Supported.
jnxMbgSgwGtpV2ICsInvLenRx	Number of GTP V2 packets received with cause Invalid Length.
jnxMbgSgwGtpV2ICsInvLenTx	Number of GTP packets sent with cause Invalid Length.
jnxMbgSgwGtpV2ICsServNotSuppRx	Number of GTP V2 packets received with cause Service Not supported.
jnxMbgSgwGtpV2ICsServNotSuppTx	Number of GTP packets sent with cause Service Not supported.
jnxMbgSgwGtpV2ICsManIEIncorrRx	Number of GTP V2 packets received with cause Mandatory IE incorrect.
jnxMbgSgwGtpV2ICsManIEIncorrTx	Number of GTP packets sent with cause Mandatory IE incorrect.
jnxMbgSgwGtpV2ICsManIEMissRx	Number of GTP V2 packets received with cause Mandatory IE Missing.
jnxMbgSgwGtpV2ICsManIEMissTx	Number of GTP packets sent with cause Mandatory IE Missing.

Table 37: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsOptIEIncorrRx	Number of GTP V2 packets received with cause Optional IE Incorrect.
jnxMbgSgwGtpV2ICsOptIEIncorrTx	Number of GTP packets sent with cause Optional IE Incorrect.
jnxMbgSgwGtpV2ICsSysFailRx	Number of GTP V2 packets received with cause System Failure.
jnxMbgSgwGtpV2ICsSysFailTx	Number of GTP packets sent with cause System Failure.
jnxMbgSgwGtpV2ICsNoResRx	Number of GTP V2 packets received with cause No Resource.
jnxMbgSgwGtpV2ICsNoResTx	Number of GTP packets sent with cause No Resource.
jnxMbgSgwGtpV2ICsTFTSMANterRx	Number of GTP V2 packets received with cause TFT Symantic Error.
jnxMbgSgwGtpV2ICsTFTSMANterTx	Number of GTP packets sent with cause TFT Symantic Error.
jnxMbgSgwGtpV2ICsTFTSysErrRx	Number of GTP V2 packets received with cause TFT System Error.
jnxMbgSgwGtpV2ICsTFTSysErrTx	Number of GTP packets sent with cause TFT System Error.
jnxMbgSgwGtpV2ICsPkFltManErrRx	Number of GTP V2 packets received with cause Packet Filter Symantic Error.
jnxMbgSgwGtpV2ICsPkFltManErrTx	Number of GTP packets sent with cause Packet Filter Symantic Error.
jnxMbgSgwGtpV2ICsPkFltSynErrRx	Number of GTP V2 packets received with cause Packet Filter Syntax Error.
jnxMbgSgwGtpV2ICsPkFltSynErrTx	Number of GTP packets sent with cause Packet Filter Syntax Error.
jnxMbgSgwGtpV2ICsMisUnknAPNRx	Number of GTP V2 packets received with cause Unknown APN.
jnxMbgSgwGtpV2ICsMisUnknAPNTx	Number of GTP packets sent with cause Unknown APN.
jnxMbgSgwGtpV2ICsUnexpRptIERx	Number of GTP V2 packets received with cause Unexpected Repeated IE.
jnxMbgSgwGtpV2ICsUnexpRptIETx	Number of GTP packets sent with cause Unexpected Repeated IE.
jnxMbgSgwGtpV2ICsGREKeyNtFdRx	Number of GTP V2 packets received with cause GRE Key Not Found.
jnxMbgSgwGtpV2ICsGREKeyNtFdTx	Number of GTP packets sent with cause GRE Key Not Found.
jnxMbgSgwGtpV2ICsRelocFailRx	Number of GTP V2 packets received with cause Relocation Failed.
jnxMbgSgwGtpV2ICsRelocFailTx	Number of GTP packets sent with cause Relocation Failed.
jnxMbgSgwGtpV2ICsDeniedINRatRx	Number of GTP V2 packets received with cause Denied in RAT.
jnxMbgSgwGtpV2ICsDeniedINRatTx	Number of GTP packets sent with cause Denied in RAT.

Table 37: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsPTNotSuppRx	Number of GTP V2 packets received with cause PDN Type Not Supported.
jnxMbgSgwGtpV2ICsPTNotSuppTx	Number of GTP packets sent with cause PDN Type Not Supported.
jnxMbgSgwGtpV2ICsAllDynAdOccRx	Number of GTP V2 packets received with cause Allocated Dynamic Address Occupied.
jnxMbgSgwGtpV2ICsAllDynAdOccTx	Number of GTP packets sent with cause Allocated Dynamic Address Occupied.
jnxMbgSgwGtpV2ICsNOTFTUECTXRx	Number of GTP V2 packets received with cause UE Context Without TFT Exists.
jnxMbgSgwGtpV2ICsNOTFTUECTXTx	Number of GTP packets sent with cause UE Context Without TFT Exists.
jnxMbgSgwGtpV2ICsProtoNtSupRx	Number of GTP V2 packets received with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsProtoNtSupTx	Number of GTP packets sent with cause Protocol Not Supported.
jnxMbgSgwGtpV2ICsUENotRespRx	Number of GTP V2 packets received with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUENotRespTx	Number of GTP packets sent with cause UE Not Responding.
jnxMbgSgwGtpV2ICsUERefusesRx	Number of GTP V2 packets received with cause UE Refuses.
jnxMbgSgwGtpV2ICsUERefusesTx	Number of GTP packets sent with cause UE Refuses.
jnxMbgSgwGtpV2ICsServDeniedRx	Number of GTP V2 packets received with cause Service Denied.
jnxMbgSgwGtpV2ICsServDeniedTx	Number of GTP packets sent with cause Service Denied.
jnxMbgSgwGtpV2ICsUnabPageUERx	Number of GTP V2 packets received with cause Unable to Page UE.
jnxMbgSgwGtpV2ICsUnabPageUETx	Number of GTP packets sent with cause Unable to Page UE.
jnxMbgSgwGtpV2ICsNoMemRx	Number of GTP V2 packets received with cause No Memory.
jnxMbgSgwGtpV2ICsNoMemTx	Number of GTP packets sent with cause No Memory.
jnxMbgSgwGtpV2ICsUserAUTHFlRx	Number of GTP V2 packets received with cause User AUTH Failed.
jnxMbgSgwGtpV2ICsUserAUTHFlTx	Number of GTP packets sent with cause User AUTH Failed.
jnxMbgSgwGtpV2ICsAPNAcsDenRx	Number of GTP V2 packets received with cause APN Access Denied.
jnxMbgSgwGtpV2ICsAPNAcsDenTx	Number of GTP packets sent with cause APN Access Denied.
jnxMbgSgwGtpV2ICsReqRejRx	Number of GTP V2 packets received with cause Request Rejected.

Table 37: jnxMbgSgwGtpCGlbStatsTable Statistics (*continued*)

jnxMbgSgwGtpV2ICsReqRejTx	Number of GTP packets sent with cause Request Rejected.
jnxMbgSgwGtpV2ICsPTMSISigMMRx	Number of GTP V2 packets received with cause P-TMSI Signature Mismatch.
jnxMbgSgwGtpV2ICsPTMSISigMMTx	Number of GTP packets sent with cause P-TMSI Signature Mismatch.
jnxMbgSgwGtpV2ICsIMSINotKnRx	Number of GTP V2 packets received with cause IMSI Not Known.
jnxMbgSgwGtpV2ICsIMSINotKnTx	Number of GTP packets sent with cause IMSI Not Known.
jnxMbgSgwGtpV2ICsCondiEMsRx	Number of GTP V2 packets received with cause Conditional IE Missing.
jnxMbgSgwGtpV2ICsCondiEMsTx	Number of GTP packets sent with cause Conditional IE Missing.
jnxMbgSgwGtpV2ICsAPNResTIncRx	Number of GTP V2 packets received with cause APN Restriction Type Incompatible.
jnxMbgSgwGtpV2ICsAPNResTIncTx	Number of GTP packets sent with cause APN Restriction Type Incompatible.
jnxMbgSgwGtpV2ICsUnknownRx	Number of GTP V2 packets received with cause Unknown.
jnxMbgSgwGtpV2ICsUnknownTx	Number of GTP packets sent with cause Unknown.

Related •
Documentation

Subscriber Manager Performance Statistics for the Serving Gateway

Subscriber manager statistics provide information at the Serving gateway level, such as subscriber session establishment/failures, active bearers and subscribers, CPU and memory usage, and GTP packet statistics.

- [MIB Structure on page 82](#)
- [SGW Performance Statistics on page 82](#)

MIB Structure

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

SGW Performance Statistics

[Table 38 on page 82](#) shows leaf nodes of the type **jnxMbgSgwSMStatsTable**, which are indexed by each Serving Gateway.

Table 38: jnxMbgSgwSMStatsTable Statistics

Name	Description
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Table 38: jnxMbgSgwSMStatsTable Statistics (*continued*)

jnxMbgSgwSessnEstAttempts	Total Session establishment attempts.
jnxMbgSgwSuccSessnEst	Total Sessions established successfully.
jnxMbgSgwPeerInitDeactv	Total MS/peer initiated session deactivation attempts.
jnxMbgSgwPeerInitSuccDeactv	Total MS/peer initiated successful session deactivations.
jnxMbgSgwGwInitDeactv	Total Gateway initiated session deactivation attempts.
jnxMbgSgwGwInitSuccDeactv	Total Gateway initiated successful session deactivations.
jnxMbgSgwGtpStatsGnS5S8InpPkt	Total GTP statistics (Gn/S5/S8) Input packets.
jnxMbgSgwGtpStatsGnS5S8InpByt	Total GTP statistics (Gn/S5/S8) Input bytes.
jnxMbgSgwGtpStatsGnS5S8OutPkt	Total GTP statistics (Gn/S5/S8) Output packets.
jnxMbgSgwGtpStatsGnS5S8OutByt	Total GTP statistics (Gn/S5/S8) Output bytes.
jnxMbgSgwGtpStatsS1UInpPkt	Total GTP statistics S1-U Input packets.
jnxMbgSgwGtpStatsS1UInpByt	Total GTP statistics S1-U Input bytes.
jnxMbgSgwGtpStatsS1UOutPkt	Total GTP statistics S1-U Output packets.
jnxMbgSgwGtpStatsS1UOutByt	Total GTP statistics S1-U Output bytes.

[Table 39 on page 83](#) shows leaf nodes of the type **jnxMbgSgwSMStatusTable**, which are indexed by each Serving Gateway.

Table 39: jnxMbgSgwSMStatusTable Statistics

Name	Description
jnxMbgSgwActvSubscribers	Total active subscribers.
jnxMbgSgwActvSessions	Total active sessions.
jnxMbgSgwActvBearers	Total active bearers.
jnxMbgSgwIdleSubscribers	Total idle subscribers.
jnxMbgSgwIdleSessions	Total idle sessions.
jnxMbgSgwIdleBearers	Total idle bearers.
jnxMbgSgwSuspSubscribers	Total suspended subscribers.

Table 39: jnxMbgSgwSMStatusTable Statistics (*continued*)

jnxMbgSgwSuspSessions	Total suspended sessions.
jnxMbgSgwSuspBearers	Total suspended bearers.
jnxMbgSgwCPUUtil	Current CPU usage
jnxMbgSgwMemoryUtil	Current Memory usage

Charging Performance Statistics for Serving Gateway

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 84](#)
- [Charging Local Persistent Storage Statistics on page 84](#)
- [Charging Group Statistics on page 85](#)
- [Charging Gateway Function Server Statistics on page 85](#)

Charging MIB STRUCTURE

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

Charging Local Persistent Storage Statistics

[Table 40 on page 84](#) shows the leaf nodes of the type **jnxMbgSgwCgLpsStatsTable**, which list the statistics for all Local persistent storage statistics configured on the Serving Gateway.

Table 40: jnxMbgSgwCgLpsStatsTable Statistics

Name	Description
jnxMbgSgwCgFilesOnLcStorage	The 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 sftp is done and a file is removed from the Local storage device.
jnxMbgSgwCgLcStorageAvailSpace	The space available on the Local Storage Device in MB.

Charging Group Statistics

Table 41 on page 85 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 41: 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 the Detailed Record Time (DRT) requests transmitted for the CGF group.
jnxMbgSgwCgCgfGrpDRTReqTx	Total number of the DRT requests received for the CGF group.
jnxMbgSgwCgCgfGrpDRTReqTmout	Total number of the DRT request time outs that occurred for the CGF group.
jnxMbgSgwCgCgfGrpDRTSucRspRx	Total number of the DRT success responses received.
jnxMbgSgwCgCgfGrpDRTErrRspRx	Total number of the DRT error responses received for the CGF group.
jnxMbgSgwCgCgfGrpRediReqRx	Total number of the redirection responses received for the CGF group.
jnxMbgSgwCgCgfGrpRediRspTx	Total number of the redirection responses transmitted for the CGF group.
jnxMbgSgwCgCgfGrpSwitchovers	Total number of the switch overs on the CGF group.
jnxMbgSgwCgCgfGrpBatchReqTx	Total number of the batch requests transmitted for the CGF group.
jnxMbgSgwCgCgfGrpBatchRspErrors	Total number of the batch response errors for the CGF group.
jnxMbgSgwCgCgfGrpBatchCDRsTx	Total number of the batch Call Data Records (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 42 on page 85 shows the leaf nodes of the type **jnxMbgSgwCgCgfStatsTable**, which list the statistics for all Charging Gateway Function Server configured on the S-GW.

Table 42: jnxMbgSgwCgCgfStatsTable

Name	Description
jnxMbgSgwCgCgfIndex	A number representing each CGF Server for which statistics are being generated.

Table 42: jnxMbgSgwCgCgfStatsTable (*continued*)

jnxMbgSgwCgCgfIpAddress	The CGF Server IP address.
jnxMbgSgwCgCgfStatus	The state of the CGF Server, either UP or DOWN.
jnxMbgSgwCgCgfUpDuration	Total duration, in minutes, for which the CGF Server was in UP State.
jnxMbgSgwCgCgfDownDuration	Total duration, in minutes, for which the CGF Server was in 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 also.
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 Call Data Records (CDRs) transmitted to the CGF Server.

Table 42: jnxMbgSgwCgCgfStatsTable (*continued*)

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 which are 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 which are 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 which are 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.

PART 2

Fault Monitoring

- [PDN Gateway SNMP Traps on page 91](#)
- [Serving Gateway SNMP Traps on page 109](#)

CHAPTER 4

PDN Gateway SNMP Traps

- [AAA Traps for GGSN/PGW on page 91](#)
- [DHCP Traps for GGSN/PGW on page 94](#)
- [Charging SNMP Traps for GGSN/P-GW on page 95](#)
- [Subscriber Manager SNMP Traps for GGSN/PGW on page 99](#)
- [Resource Manager SNMP Traps for GGSN/PGW on page 104](#)
- [IP Address Pool Traps on page 105](#)

AAA Traps for GGSN/PGW

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 91](#)
- [AAA Traps on page 91](#)
- [AAA NotificationVars on page 93](#)

AAA MIB STRUCTURE

The root of the MBG MIB within the Juniper 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 Juniper-SMI.

AAA Traps

[Table 43 on page 91](#) shows the leaf nodes of the type **jnxMbgrMPSNotifications**.

Table 43: Resource Manager Traps

Name	ID	Description
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Table 43: Resource Manager Traps (*continued*)

	jnxMbgAAANotificationVars 1	The RMPS service status, jnxMbgRMPSServiceStatus , has changed.
jnxMbgAAAServerUp	jnxMbgAAANotifications 1	DEPRECATED. The specified server, jnxMbgAAAServerName , has been marked active. Service PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAAServerDown	jnxMbgAAANotifications 2	DEPRECATED. The specified server, jnxMbgAAAServerName , has been marked dead. Service 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. Service 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. Service 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. Service PIC jnxMbgSPIdentifier originated this notification. jnxMbgPendQWaterMarkType identifies the water mark 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. Service PIC jnxMbgSPIdentifier originated this notification. jnxMbgPendQWaterMarkType identifies the water mark type (High/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. Service PIC jnxMbgSPIdentifier originated this notification.
jnxMbgAAARadiusServerDown	jnxMbgAAANotifications 8	The specified server, jnxMbgAAAServerName , has been marked DOWN. Service PIC jnxMbgSPIdentifier originated this notification.

Table 43: Resource Manager Traps (*continued*)

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

AAA NotificationVars

Table 44 on page 93 shows the leaf nodes of the type **jnxMbgRMPSNotificationVars**.

Table 44: Resource Manager NotificationVars

Name	ID	Description
jnxMbgAAAServerName	jnxMbgAAANotificationVars 1	The name which uniquely identifies the server on the mobile-gateway.
jnxMbgSPIdentifier	jnxMbgAAANotificationVars 2	This identifies the service-pic, in the form sp-a/b/0 , where a is the slot, b is either 0 or 1
jnxMbgAAANetworkElementName	jnxMbgAAANotificationVars 3	The name which uniquely identifies a AAA Network Element on the gateway.
jnxMbgPendQWaterMarkType	jnxMbgAAANotificationVars 4	The type of the pending queue water mark crossed: High or Low.
jnxMbgPendQWaterMarkValue	jnxMbgAAANotificationVars 5	The water mark value for the pending queue.
jnxMbgPendQLength	jnxMbgAAANotificationVars 6	The size of the pending queue.

DHCP Traps for GGSN/PGW

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 client s 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 94](#)
- [DHCP Traps on page 94](#)
- [DHCP Notification Variables on page 94](#)

DHCP MIB STRUCTURE

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

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

DHCP Traps

[Table 45 on page 94](#) shows the leaf nodes of the type **jnxMbgDhcpNotifications**.

Table 45: DHCP Traps

Name	ID	Description
jnxMbgDhcpServerReachability	jnxMbgDhcpNotifications 1	This notification indicates whether the DHCP server is reachable or unreachable.
jnxMbgDhcpAddrPoolExhaust	jnxMbgDhcpNotifications 2	This notification signifies that the addresses from a given address pool have exhausted.

DHCP Notification Variables

[Table 46 on page 94](#) shows the leaf nodes of the type **jnxMbgDhcpNotificationVars**.

Table 46: DHCP Notification Variables

Name	ID	Description
jnxMbgDhcpServerIP	jnxMbgDhcpNotificationVars 1	The IP address of the DHCP server.
jnxMbgDhcpLogicalSystemName	jnxMbgDhcpNotificationVars 2	A name which identifies the logical-system on the gateway.

Table 46: DHCP Notification Variables (*continued*)

<code>jnxMbgDhcpRoutingInstanceName</code>	<code>jnxMbgDhcpNotificationVars 13</code>	The name which 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.

Related •
Documentation

Charging SNMP 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 95](#)
- [GGSN/P-GW Charging Traps on page 95](#)
- [GGSN/P-GW Charging Notification Variables on page 97](#)

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 PDN gateways in 3GPP LTE network and the Gateway GPRS Support Node (GGSN) in the 3GPP 3G Network. The `jnxMobileGatewayPgwGgsn` is defined in Juniper-SMI.

GGSN/P-GW Charging Traps

Table 47 on page 95 shows the leaf nodes of the type `jnxMbgPgwCgNotifications`.

Table 47: Charging Traps

Name	ID	Description
<code>jnxMbgPgwCgGtpGWUpNotif</code>	<code>jnxMbgPgwCgNotifications 1</code>	DEPRECATED. The server <code>jnxMbgPgwCgServerName</code> has been marked alive. Service PIC <code>jnxMbgPgwCgServicePicName</code> originated this notification.

Table 47: Charging Traps (*continued*)

<code>jnxMbgPgwCgGtpGWDownNotif</code>	<code>jnxMbgPgwCgNotifications</code> 2	DEPRECATED. The server <code>jnxMbgPgwCgServerName</code> has been marked dead. Service PIC <code>jnxMbgPgwCgServicePicName</code> originated this notification.
<code>jnxMbgPgwCgCDRDestNotif</code>	<code>jnxMbgPgwCgNotifications</code> 3	DEPRECATED. The destination of the Charging Data Records (CDRs), <code>jnxMbgPgwCgCDRDest</code> has changed. The new destination is indicated by <code>jnxMbgPgwCgTSPName</code> and <code>jnxMbgPgwCgActiveCgflpAddr</code> .
<code>jnxMbgPgwCgMemThresNotif</code>	<code>jnxMbgPgwCgNotifications</code> 4	DEPRECATED. The Internal memory utilization threshold, <code>jnxMbgPgwCgMemLimit</code> , has been reached or cleared, as indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgLcsThresNotif</code>	<code>jnxMbgPgwCgNotifications</code> 5	DEPRECATED. Local storage memory utilization, <code>jnxMbgPgwCgLcsUtil</code> , has exceeded a configured level, <code>jnxMbgPgwCgLcsSpace</code> .
<code>jnxMbgPgwCgServiceUpNotif</code>	<code>jnxMbgPgwCgNotifications</code> 6	DEPRECATED. The charging daemon is UP on the service 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 server, identified by <code>jnxMbgPgwCgServerName</code> has been marked alive. The Service PIC, identified by <code>jnxMbgPgwCgServicePicName</code> originated this notification.
<code>jnxMbgPgwCgGtpGWDownNotify</code>	<code>jnxMbgPgwCgNotifications</code> 10	The server, identified by <code>jnxMbgPgwCgServerName</code> has been marked alive. The Service PIC, identified by <code>jnxMbgPgwCgServicePicName</code> 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>jnxMbgPgwCgActiveCgflpAddr</code> .
<code>jnxMbgPgwCgServiceUpNotify</code>	<code>jnxMbgPgwCgNotifications</code> 12	The charging daemon is UP on the service PIC, indicated by <code>jnxMbgPgwCgServicePicName</code> .

Table 47: Charging Traps (*continued*)

<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 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 configured medium threshold value. The alarm status (Active or Clear) is indicated by <code>jnxMbgPgwCgAlarmStatus</code> .
<code>jnxMbgPgwCgMemLowThresNotify</code>	<code>jnxMbgPgwCgNotifications</code> 17	An alarm is sent when the internal memory utilization for charging records exceeds or falls below 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 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 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 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 97 shows the leaf nodes of the type `jnxMbgPgwCgNotificationVars`.

Table 48: Charging Notification Variables

Name	ID	Description
<code>jnxMbgPgwCgServerName</code>	<code>jnxMbgPgwCgNotificationVars</code> 1	This identifies the Service Pic, in the form <code>ms-a/b/O</code> , where a is the slot and b could be either 0 or 1.

Table 48: Charging Notification Variables (*continued*)

jnxMbgPgwCgServicePicName	jnxMbgPgwCgNotificationVars 2	This identifies the Service Pic, in the form ms-a/b/0 , where a is the slot and b could be either 0 or 1.
jnxMbgPgwCgCDRDest	jnxMbgPgwCgNotificationVars 3	<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.
jnxMbgPgwCgActiveCgflpAddr	jnxMbgPgwCgNotificationVars 4	CGF Server IP-address.
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, please ftp the charging records immediately. If local storage is not enabled, please 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, please ftp the charging records immediately. If local storage is not enabled, please 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 System reaching Level 2 critical memory threshold condition has been resolved.
jnxMbgPgwCgLcsSpac	jnxMbgPgwCgNotificationVars 7	Water marking for the local storage levels in charged of RE

Table 48: Charging Notification Variables (*continued*)

<code>jnxMbgPgwCgLcsUtil</code>	<code>jnxMbgPgwCgNotificationVars 8</code>	The percentage of the total of Local Storage Space by one the Charged on RE.
<code>jnxMbgPgwCgAlarmStatus</code>	<code>jnxMbgPgwCgNotificationVars 9</code>	Value 1 indicates that the Alarm for a particular condition is present. Value 2 indicates that the Alarm for a particular condition is absent.
<code>jnxMbgPgwCgProfileName</code>	<code>jnxMbgPgwCgNotificationVars 10</code>	DEPRECATED. A string that identifies a charging profile
<code>jnxMbgPgwCgPrevMMState</code>	<code>jnxMbgPgwCgNotificationVars 11</code>	A string that indicates the maintenance-mode state.
<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.

Subscriber Manager SNMP Traps for GGSN/PGW

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

- [Subscriber Manager MIB Structure on page 99](#)
- [Subscriber Manager Traps on page 99](#)
- [Subscriber Manager NotificationVars on page 103](#)

Subscriber Manager MIB Structure

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

Subscriber Manager Traps

[Table 49 on page 99](#) shows the leaf nodes of the type `jnxMbgRMPSNotifications`.

Table 49: Resource Manager Traps

Name	ID	Description
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Table 49: Resource Manager Traps (*continued*)

jnxMbgPgwQosBearersThresStatus	jnxMbgPgwSMNotifications 1	DEPRECATED: This notification indicates whether the configured bearer high and low 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.
jnxMbgPgwQosCPUPhresholdStatus	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, jnxMbgPgwSMAalarmThreshld , for subscribers has been reached or cleared, as indicated by jnxMbgPgwSMAalarmState .
jnxMbgPgwSMSSubscribersThresPerSPNotif	jnxMbgPgwSMNotifications 7	DEPRECATED: Subscriber threshold, jnxMbgPgwSMAalarmThreshld , for a service PIC, jnxMbgPgwSMSPICName , has been reached or cleared, as indicated by jnxMbgPgwSMAalarmState .

Table 49: Resource Manager Traps (*continued*)

<code>jnxMbgPgwSMSessionEstFailThresPerSPNotif</code>	<code>jnxMbgPgwSMNotifications</code> 8	DEPRECATED: The configured global threshold for session establishment failures, <code>jnxMbgPgwSMAAlarmThreshld</code> , for a specific reason, <code>jnxMbgPgwSMSessionEstFailReason</code> , for a service PIC, <code>jnxMbgPgwSMSPICName</code> , has been reached or cleared, as indicated by <code>jnxMbgPgwSMAAlarmState</code> .
<code>jnxMbgPgwSMSessionEstFailThresPerTCNotif</code>	<code>jnxMbgPgwSMNotifications</code> 9	DEPRECATED: The configured session establishment failure threshold, <code>jnxMbgPgwSMAAlarmThreshld</code> , for a specific reason, <code>jnxMbgPgwSMSessionEstFailReason</code> , for a traffic class (GTPv1) has been reached or cleared, as indicated by <code>jnxMbgPgwSMAAlarmState</code> .
<code>jnxMbgPgwSMSessionEstFailThresPerQCINotif</code>	<code>jnxMbgPgwSMNotifications</code> 10	DEPRECATED: The configured session establishment failure threshold, <code>jnxMbgPgwSMAAlarmThreshld</code> , for a specific reason, <code>jnxMbgPgwSMSessionEstFailReason</code> , and QoS class identifier, <code>jnxMbgPgwSMQCIName</code> , has been reached or cleared, as indicated by <code>jnxMbgPgwSMAAlarmState</code> .
<code>jnxMbgPgwSMBearersThresGblNotif</code>	<code>jnxMbgPgwSMNotifications</code> 11	DEPRECATED: The global threshold for bearers, <code>jnxMbgPgwSMAAlarmThreshld</code> , has been reached or cleared, as indicated by <code>jnxMbgPgwSMAAlarmState</code> .
<code>jnxMbgPgwSMBearersThresPerSPNotif</code>	<code>jnxMbgPgwSMNotifications</code> 12	DEPRECATED: The global threshold for bearers, <code>jnxMbgPgwSMAAlarmThreshld</code> , for a specific service PIC, <code>jnxMbgPgwSMSPICName</code> , has been reached or cleared, as indicated by <code>jnxMbgPgwSMAAlarmState</code> .
<code>jnxMbgPgwGatewayMMStateChange</code>	<code>jnxMbgPgwSMNotifications</code> 13	The gateway identified by <code>nxMbgPgwMMGatewayName</code> has undergone a change in its maintenance mode state. The previous state, <code>jnxMbgPgwPrevGatewayMMState</code> , and current state, <code>jnxMbgPgwNewGatewayMMState</code> , are shown.
<code>jnxMbgPgwAPNMMStateChange</code>	<code>jnxMbgPgwSMNotifications</code> 14	The APN identified by <code>jnxMbgPgwAPNMMGatewayName</code> and <code>jnxMbgPgwAPNMMAPNName</code> has undergone a change in its maintenance mode state.
<code>jnxMbgPgwQosBrThreshStatusHi</code>	<code>jnxMbgPgwSMNotifications</code> 15	This notification signifies that the configured high threshold for bearers is reached at the gateway level. <code>jnxMbgPgwTrapGwName</code> and <code>jnxMbgPgwTrapGwIndex</code> identify the notifying PDN gateway.

Table 49: Resource Manager Traps (*continued*)

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 PDN gateway.
jnxMbgPgwQosBrThreshStatusClear	jnxMbgPgwSMNotifications 17	This notification signifies that the normal threshold for bearers at gateway level are reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
jnxMbgPgwQosCPUTHreshStatusHi	jnxMbgPgwSMNotifications 18	This notification signifies that the configured high threshold for CPU Utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
PgwQosCPUTHreshStatusLow	jnxMbgPgwSMNotifications 19	This notification signifies that the configured low threshold for CPU is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
jnxMbgPgwQosCPUTHreshStatusClear	20	This notification signifies that the normal threshold for CPU Utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
jnxMbgPgwQosMemThreshStatusHi	jnxMbgPgwSMNotifications 21	This notification signifies that the configured high threshold for Memory utilization is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
jnxMbgPgwQosMemThreshStatusLow	jnxMbgPgwSMNotifications 22	This notification signifies that the configured low threshold for Memory is reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.
jnxMbgPgwQosMemThreshStatusClear	jnxMbgPgwSMNotifications 23	This notification signifies that the normal threshold for Memory Utilization has been reached. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway. jnxMbgPgwQosAPNName identifies the notifying APN.
jnxMbgPgwSMGtpEvntNotif	jnxMbgPgwSMNotifications 24	Subscriber Management GTP Event Notify. jnxMbgPgwTrapGwName and jnxMbgPgwTrapGwIndex identify the notifying PDN gateway.

Subscriber Manager NotificationVars

Table 50 on page 103 shows the leaf nodes of the type `jnxMbgPgwSMNotificationVars`.

Table 50: Subscriber Manager NotificationVars

Name	ID	Description
<code>jnxMbgPgwGatewayName</code>	<code>jnxMbgPgwSMNotificationVars 1</code>	A string that uniquely identifies the gateway.
<code>jnxMbgPgwQosAPNName</code>	<code>jnxMbgPgwSMNotificationVars 2</code>	A string that uniquely identifies an APN.
<code>jnxMbgPgwQosThreshold1Status</code>	<code>jnxMbgPgwSMNotificationVars 3</code>	"False" indicates threshold not crossed. "True" indicates threshold crossed.
<code>jnxMbgPgwQosThreshold2Status</code>	<code>nxMbgPgwSMNotificationVars 4</code>	"False" indicates threshold not crossed. "True" indicates threshold crossed.
<code>jnxMbgPgwSMGTPEventType</code>	<code>nxMbgPgwSMNotificationVars 5</code>	Subscriber Management GTP Event Type.
<code>jnxMbgPgwSMGTPEventCause</code>	<code>nxMbgPgwSMNotificationVars 6</code>	Subscriber Management GTP Event Cause Value.
<code>jnxMbgPgwSMAAlarmThrshld</code>	<code>nxMbgPgwSMNotificationVars 7</code>	Alarm threshold: THRESHOLD_LOW/THRESHOLD_HIGH"
<code>jnxMbgPgwSMAAlarmState</code>	<code>nxMbgPgwSMNotificationVars 8</code>	"Alarm state: CLEARED/RAISED"
<code>jnxMbgPgwSMSPICName</code>	<code>nxMbgPgwSMNotificationVars 9</code>	Identifies the service-pic.
<code>jnxMbgPgwSMTCCName</code>	<code>nxMbgPgwSMNotificationVars 10</code>	Identifies the traffic class (gtpv1)
<code>jnxMbgPgwSMQCIName</code>	<code>nxMbgPgwSMNotificationVars 11</code>	Identifies the QCI
<code>jnxMbgPgwSMSessionEstFailReason</code>	<code>nxMbgPgwSMNotificationVars 12</code>	Reason for Session Establishment Failure.
<code>jnxMbgPgwMMGatewayName</code>	<code>nxMbgPgwSMNotificationVars 13</code>	A string that uniquely identifies a gateway.
<code>jnxMbgPgwPrevGatewayMMState</code>	<code>nxMbgPgwSMNotificationVars 14</code>	A string that indicates the maintenance-mode state.
<code>jnxMbgPgwNewGatewayMMState</code>	<code>nxMbgPgwSMNotificationVars 15</code>	A string that indicates the maintenance-mode state.
<code>jnxMbgPgwAPNMMGatewayName</code>	<code>nxMbgPgwSMNotificationVars 16</code>	A string that uniquely identifies a gateway.
<code>jnxMbgPgwAPNMMAPNName</code>	<code>nxMbgPgwSMNotificationVars 17</code>	A string that uniquely identifies an APN.
<code>jnxMbgPgwPrevAPNMMState</code>	<code>nxMbgPgwSMNotificationVars 18</code>	A string that indicates the maintenance-mode state.

Table 50: Subscriber Manager NotificationVars (*continued*)

jnxMbgPgwNewAPNMMState	nxMbgPgwSMNotificationVars 19	A string that indicates the maintenance-mode state.
jnxMbgPgwTrapGwIndex	nxMbgPgwSMNotificationVars 20	The gateway index.
jnxMbgPgwTrapGwName	nxMbgPgwSMNotificationVars 21	The gateway name.
jnxMbgPgwSpicName	nxMbgPgwSMNotificationVars 22	This identifies the service-pic.

Resource Manager SNMP Traps for GGSN/PGW

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

- [Resource Manager MIB STRUCTURE on page 104](#)
- [Resource Manager Traps on page 104](#)
- [Resource Manager NotificationVars on page 104](#)

Resource Manager MIB STRUCTURE

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

Resource Manager Traps

[Table 51 on page 104](#) shows the leaf nodes of the type **jnxMbgRMPSNotifications**.

Table 51: Resource Manager Traps

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

Resource Manager NotificationVars

[Table 52 on page 104](#) shows the leaf nodes of the type **jnxMbgRMPSNotificationVars**.

Table 52: Resource Manager NotificationVars

Name	ID	Description
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Table 52: Resource Manager NotificationVars (*continued*)

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

IP Address Pool Traps

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

- [IP Address Pool MIB STRUCTURE on page 105](#)
- [IP Address Pool Traps on page 105](#)
- [IP Address Pool Notification Variables on page 106](#)

IP Address Pool MIB STRUCTURE

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

IP Address Pool Traps

[Table 31 on page 65](#) shows the leaf nodes of the type **jnxMbgSMIPPoolNotifications**, 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, please refer to the MIB.

Table 53: IP Address Pool Traps

Name	ID	Description
jnxMbgSMIPPoolThresholdExceeded	jnxMbgSMIPPoolNotifications 1	DEPRECATED. This notification signifies that the number of addresses allocated from a given address pool has exceeded a pre-configured threshold value.
jnxMbgSMIPPoolMMStateChange	jnxMbgSMIPPoolNotifications 2	This notification indicates that the pool name indicated by LS-name, RI-name and pool-name undergoes a change in the maintenance-mode state.
jnxMbgSMIPRangeHighThresExcd	jnxMbgSMIPPoolNotifications 3	This notification indicates that the range name that exceeded higher threshold.

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

jnxMbgSMIPRangeLowThresRchd	jnxMbgSMIPPoolNotifications 4	This notification indicates that the range name that reached lower threshold.
jnxMbgSMIPPoolHighThresExcd	jnxMbgSMIPPoolNotifications 5	This notification signifies that the number of addresses allocated from a given address pool has exceeded a pre-configured threshold value.
jnxMbgSMIPPoolLowThresRchd	jnxMbgSMIPPoolNotifications 6	This notification signifies that the number of addresses allocated from a given address pool has reached the lower threshold value.
jnxMbgIPPoolExhausted	jnxMbgSMIPPoolNotifications 7	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 106 shows the leaf nodes of the type `jnxMbgSMIPPoolNotificationVars`.

Table 54: IP Address Pool Notification Variables

Name	ID	Description
jnxMbgSMIPPoolThresholdPoolName	jnxMbgSMIPPoolNotificationVars 1	The name which identifies the address pool on the mobile-gateway for which the threshold was exceeded.
jnxMbgSMIPPoolThresholdLSName	jnxMbgSMIPPoolNotificationVars 2	The name which identifies the logical-system on the mobile-gateway in which the address pool threshold was exceeded.
jnxMbgSMIPPoolThresholdRName	jnxMbgSMIPPoolNotificationVars 3	The name which identifies the routing instance on the mobile-gateway in which the address pool threshold was exceeded.
jnxMbgSMIPPoolConfiguredThreshold	jnxMbgSMIPPoolNotificationVars 4	DEPRECATED. The threshold value configured for an address pool on the mobile gateway exceeding which a notification is generated.
jnxMbgSMIPPoolCurrentThreshold	jnxMbgSMIPPoolNotificationVars 5	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.
jnxMbgSMIPPoolIMMPoolName	jnxMbgSMIPPoolNotificationVars 6	The name which identifies the address pool on the mobile-gateway which underwent a change in the maintenance-mode state.

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

jnxMbgSMIPPoolMMLSName	jnxMbgSMIPPoolNotificationVars 7	The name which identifies the logical-system on the mobile-gateway which underwent a change in the maintenance-mode state.
jnxMbgSMIPPoolIMMRName	jnxMbgSMIPPoolNotificationVars 8	The name which identifies the routing instance on the mobile-gateway which underwent a change in the maintenance-mode state.
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 which identifies the address pool's range on the mobile-gateway for which the threshold was exceeded.
jnxMbgSMIPRangeHiThresPoolName	jnxMbgSMIPPoolNotificationVars 12	The name which identifies the address pool on the mobile-gateway, whose range threshold was exceeded.
jnxMbgSMIPRangeHiLSName	jnxMbgSMIPPoolNotificationVars 13	The name which identifies the logical-system on the mobile-gateway in which the address range threshold was exceeded.
jnxMbgSMIPRangeHiRIName	jnxMbgSMIPPoolNotificationVars 14	The name which 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 exceeding which a notification is generated.
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 which identifies the address pool's range on the mobile-gateway for which the low threshold was reached.
jnxMbgSMIPRangeLowThresPoolName	jnxMbgSMIPPoolNotificationVars 18	The name which identifies the address pool on the mobile-gateway, whose range low threshold was reached.

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

jnxMbgSMIPRangeLowLSName	jnxMbgSMIPPoolNotificationVars 19	The name which identifies the logical-system on the mobile-gateway in which the address range low threshold was reached.
jnxMbgSMIPRangeLowRIName	jnxMbgSMIPPoolNotificationVars 20	The name which 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 reaching which a notification is generated.
jnxMbgSMIPRangeLowCurrUtil	jnxMbgSMIPPoolNotificationVars 22	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.
jnxMbgSMIPPoolHTCfThres	jnxMbgSMIPPoolNotificationVars 23	The threshold value configured for an address pool on the mobile gateway exceeding which a notification is generated.
jnxMbgSMIPPoolCurrUtil	jnxMbgSMIPPoolNotificationVars 24	The current utilization value for an address pool on the mobile gateway. This can be equal to or greater than the configured threshold value.
jnxMbgSMIPPoolLTCfThres	jnxMbgSMIPPoolNotificationVars 25	The threshold value configured for an address pool on the mobile gateway reaching which a notification is generated.

CHAPTER 5

Serving Gateway SNMP Traps

- [Subscriber Manager SNMP Traps for Serving Gateway on page 109](#)
- [Charging SNMP Traps for S-GW on page 110](#)
- [GTP SNMP Traps for Serving Gateway on page 114](#)
- [Mobile Packet Forwarding Traps for Serving Gateway on page 115](#)

Subscriber Manager SNMP Traps for Serving Gateway

Subscriber management describes various Serving gateway statistics related to subscriber session establishment/failures, attach and detach.

- [Subscriber Manager MIB Structure on page 109](#)
- [Subscriber Manager Traps on page 109](#)
- [Subscriber Manager Notifications Variables on page 110](#)

Subscriber Manager MIB Structure

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

Subscriber Manager Traps

[Table 38 on page 82](#) shows the leaf nodes of the type **jnxMbgSgwSMNotifications**.

Table 55: Subscriber Manager Traps

Name	ID	Description
jnxMbgSgwCpuThrStatusHi	jnxMbgSgwSMNotifications 1	The configured high threshold for CPU Utilization at the serving gateway level has been exceeded.
jnxMbgSgwCpuThrStatusLow	jnxMbgSgwSMNotifications 2	The configured low threshold for CPU Utilization at the serving gateway level has been reached.
jnxMbgSgwCpuThrStatusClear	jnxMbgSgwSMNotifications 3	The configured normal threshold for CPU Utilization at the serving gateway level has been reached.

Table 55: Subscriber Manager Traps (*continued*)

jnxMbgSgwMemThrStatusHi	jnxMbgSgwSMNotifications 4	The configured high threshold for Memory Utilization at the serving gateway level has been exceeded.
jnxMbgSgwMemThrStatusLow	jnxMbgSgwSMNotifications 5	The configured low threshold for Memory Utilization at the serving gateway level has been reached.
jnxMbgSgwMemThrStatusClear	jnxMbgSgwSMNotifications 6	The configured normal threshold for Memory Utilization at the serving gateway level has been reached.
jnxMbgSgwQosBearerThrStatusHi	jnxMbgSgwSMNotifications 7	The configured high threshold for bearers at the serving gateway level has been exceeded.
jnxMbgSgwQosBearerThrStatusLow	jnxMbgSgwSMNotifications 8	The configured low threshold for bearers at the serving gateway level has been reached.
jnxMbgSgwQosBearerThrStatusClear	jnxMbgSgwSMNotifications 9	The normal threshold for bearers at the serving gateway level has been reached.

Subscriber Manager Notifications Variables

Table 39 on page 83 shows the leaf nodes of the type `jnxMbgSgwSMNotificationVars`.

Table 56: Subscriber Manager Notifications Variables

Name	ID	Description
jnxMbgGwSpicName	jnxMbgSgwSMNotificationVars 1	Identifies the service-pic
jnxMbgSgwTrapGwIndex	jnxMbgSgwSMNotificationVars 2	The gateway index.
jnxMbgSgwTrapGwName	jnxMbgSgwSMNotificationVars 3	The gateway name.

Charging SNMP 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 111](#)
- [Serving Gateway Charging Traps on page 111](#)
- [Charging Notification Variables on page 112](#)

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 in 3GPP LTE network. The **jnxMbgSgwChargingMib** is defined in Juniper-SMI.

Serving Gateway Charging Traps

Table 40 on page 84 shows the leaf nodes of the type **jnxMbgSgwCgNotifications**.

Table 57: Serving Gateway Charging Traps

Name	ID	Description
jnxMbgSgwCgGtpGWUpNotify	jnxMbgSgwCgNotifications 1	This notification signifies that the specified server has been marked alive. The ServerName identifies the server and the SPIdentifier identifies the Service Pic which originated this notification.
jnxMbgSgwCgGtpGWDownNotify	jnxMbgSgwCgNotifications 2	The server jnxMbgSgwCgServerName has been marked dead. Service PIC jnxMbgSgwCgServicePicName originated this notification.
jnxMbgSgwCgCDRDestNotify	jnxMbgSgwCgNotifications 3	The destination of the Charging Data Records (CDRs), jnxMbgSgwCgCDRDest has changed. The new destination is indicated by jnxMbgSgwCgPeerProfName and jnxMbgSgwCgActiveCgflpAddr .
jnxMbgSgwCgServiceUpNotify	jnxMbgSgwCgNotifications 4	The charging daemon is UP on the service PIC indicated by jnxMbgSgwCgServicePicName .
jnxMbgSgwCgMMStateChangeNotify	jnxMbgSgwCgNotifications 5	The charging profile, jnxMbgSgwCgPeerProfName , underwent a change in maintenance mode state. The previous state, jnxMbgSgwCgPrevMMState and current state, jnxMbgSgwCgNewMMState , are shown.
jnxMbgSgwCgTMMStateChangeNotify	jnxMbgSgwCgNotifications 6	The transport profile jnxMbgSgwCgPeerProfName underwent a change in maintenance mode state. The previous state, jnxMbgSgwCgTPrevMMState , and the current state, jnxMbgSgwCgTNewMMState , are shown.
jnxMbgSgwCgMemHighThresNotify	jnxMbgSgwCgNotifications 7	The Internal memory utilization high threshold, jnxMbgSgwCgMemLimit , has been reached or cleared, as indicated by jnxMbgSgwCgAlarmStatus .
jnxMbgSgwCgMemMediumThresNotify	jnxMbgSgwCgNotifications 8	The Internal memory utilization medium threshold, jnxMbgSgwCgMemLimit , has been reached or cleared, as indicated by jnxMbgSgwCgAlarmStatus .
jnxMbgSgwCgMemLowThresNotify	jnxMbgSgwCgNotifications 9	The Internal memory utilization low threshold, jnxMbgSgwCgMemLimit , has been reached or cleared, as indicated by jnxMbgSgwCgAlarmStatus .

Table 57: Serving Gateway Charging Traps (*continued*)

<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 configured low threshold of available disk space. The alarm status (Active/Clear) is indicated by the <code>jnxMbgSgwCgAlarmStatus</code> variable.

Charging Notification Variables

Table 41 on page 85 shows the leaf nodes of the type `jnxMbgPgwCgNotificationVars`.

Table 58: Serving Gateway Charging Notification Variables

Name	ID	Description
<code>jnxMbgSgwCgServerName</code>	<code>jnxMbgSgwCgNotificationVars</code> 1	This identifies the Service Pic, in the form ms-a/b/O , where a is the slot and b can be either 0 or 1.
<code>jnxMbgSgwCgServicePicName</code>	<code>jnxMbgSgwCgNotificationVars</code> 2	This identifies the Service Pic, in the form ms-a/b/O , where a is the slot and b can be either 0 or 1.
<code>jnxMbgSgwCgCDRDest</code>	<code>jnxMbgSgwCgNotificationVars</code> 3	<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>jnxMbgSgwCgTSPName</code>	<code>jnxMbgSgwCgNotificationVars</code> 4	A string that uniquely identifies the Transport Profile.

Table 58: Serving Gateway Charging Notification Variables (*continued*)

jnxMbgSgwCgMemLimit	jnxMbgSgwCgNotificationVars 5	<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, please ftp the charging records immediately. If local storage is not enabled, please 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, please ftp the charging records immediately. If local storage is not enabled, please 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 System reaching Level 2 critical memory threshold condition has been resolved.
jnxMbgSgwCgLcsSpace	jnxMbgSgwCgNotificationVars 6	Water marking for the local storage levels in charged of RE.
jnxMbgSgwCgLcsUtil	jnxMbgPgwCgNotificationVars 7	The percentage of the total of Local Storage Space by one the Charged on RE.
jnxMbgSgwCgAlarmStatus	jnxMbgSgwCgNotificationVars 8	Value 1 indicates that the Alarm for a particular condition is present. Value 2 indicates that the Alarm for a particular condition is absent.
jnxMbgSgwCgProfileName	jnxMbgSgwCgNotificationVars 9	A string that identifies a charging profile
jnxMbgSgwCgPrevMMState	jnxMbgSgwCgNotificationVars 10	A string that indicates the maintenance-mode state.
jnxMbgSgwCgNewMMState	jnxMbgPgwCgNotificationVars 11	A string that indicates the maintenance-mode state.
jnxMbgSgwCgTProfileName	jnxMbgSgwCgNotificationVars 12	A string that identifies a charging profile.
jnxMbgSgwCgTPrevMMState	jnxMbgSgwCgNotificationVars 13	A string that indicates the maintenance-mode state.

Table 58: Serving Gateway Charging Notification Variables (*continued*)

<code>jnxMbgSgwCgTNewMMState</code>	<code>jnxMbgSgwCgNotificationVars 14</code>	A string that indicates the 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 SNMP Traps for Serving Gateway

GTP is the primary protocol used in a 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 SGSN/S-GW to a GGSN/P-GW across well defined 3GPP service interfaces such as Gn/S5.

- [GTP MIB STRUCTURE on page 114](#)
- [Serving Gateway GTP Traps on page 114](#)
- [Serving Gateway GTP Notification Variables on page 115](#)

GTP MIB STRUCTURE

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

Serving Gateway GTP Traps

Table 59 on page 114 shows the leaf nodes of the type `jnxMbgSgwGtpNotifications`.

Table 59: GTP Traps

Name	ID	Description
<code>jnxMbgSgwGtpPeerGwUpNotif</code>	<code>jnxMbgSgwGtpNotifications 1</code>	GTPC Peer UP Notification. This trap is sent when a new peer is added, or an existing peer goes down and comes back up.
<code>jnxMbgSgwGtpPeerGwDnNotif</code>	<code>jnxMbgSgwGtpNotifications 2</code>	GTPC 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 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 is sent when the number of times a peer connection flaps in a monitor interval come down below the lower threshold.

Serving Gateway GTP Notification Variables

Table 60 on page 115 shows the leaf nodes of the type **jnxMbgSgwGtpNotifications**.

Table 60: GTP Notification Variables

Name	ID	Description
jnxMbgSgwGtpPeerName	jnxMbgSgwGtpNotificationVars 1	GTP Peer Name/IP.
jnxMbgSgwGtpAlarmStatCounter	jnxMbgSgwGtpNotificationVars 2	Current Value of (Alarm) Statistics Counter. For example, in jnxMbgSgwGtpPrDNTPerPrAlrmActv it specifies the number of times peer is down within the monitoring interval.
jnxMbgSgwGtpInterfaceType	jnxMbgSgwGtpNotificationVars 3	GTP Interface Type, which can be S5, S8, S11, S1U, S12, or S4
jnxMbgSgwGtpGwName	jnxMbgSgwGtpNotificationVars 4	A string that indicates the gateway name.
jnxMbgSgwGtpGwIndex	jnxMbgSgwGtpNotificationVars 5	Current Gateway ID value.

Mobile Packet Forwarding Traps for Serving Gateway

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

- [Mobile Packet Forwarding MIB STRUCTURE on page 115](#)
- [Mobile Packet Forwarding Traps on page 115](#)
- [Mobile Packet Forwarding Notification Variables on page 116](#)

Mobile Packet Forwarding MIB STRUCTURE

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

Mobile Packet Forwarding Traps

Table 61 on page 115 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, please refer to the MIB.

Table 61: Mobile Packet Forwarding Traps

Name	ID	Description
jnxMbgSgwMfwdBufMemThresRaise	jnxMbgSgwMfwdNotifications 1	This notification signifies that the high memory buffering threshold for the Mobile Packet Forwarding Daemon (MFWD) has reached at the Service PIC level. The gateway name, Service PIC name and memory buffer threshold are displayed.

Table 61: Mobile Packet Forwarding Traps (*continued*)

<code>jnxMbgSgwMfwdBufMemThresClear</code>	<code>jnxMbgSgwMfwdNotifications 2</code>	This notification signifies that the low memory buffering threshold for Mobile Packet Forwarding Daemon (MFWD) has reached at the SPIC level. The gateway name, SPIC name and memory buffer threshold are displayed."
--	---	---

Mobile Packet Forwarding Notification Variables

Table 62 on page 116 shows the leaf nodes of the type `jnxMbgSgwMfwdNotificationVars`.

Table 62: Mobile Packet Forwarding Notification Variables

Name	ID	Description
<code>jnxMbgSgwMfwdServicePicName</code>	<code>jnxMbgSgwMfwdNotificationVars 1</code>	Identifies the Service Pic, in the form ms-a/b/0 , 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.

PART 2

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